

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

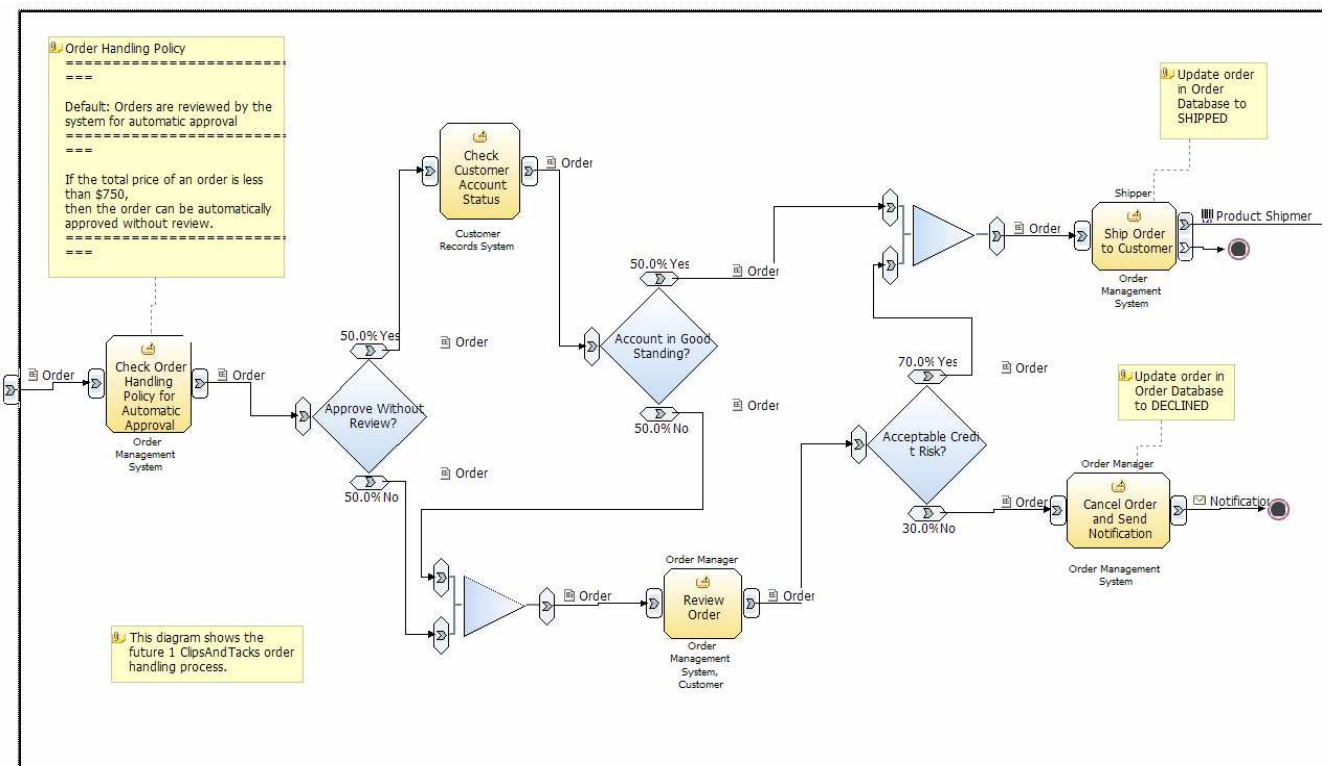
You also create situation events if Declined Orders is greater than or equal to 5, so in support of that there is an additional KPI:

- 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.

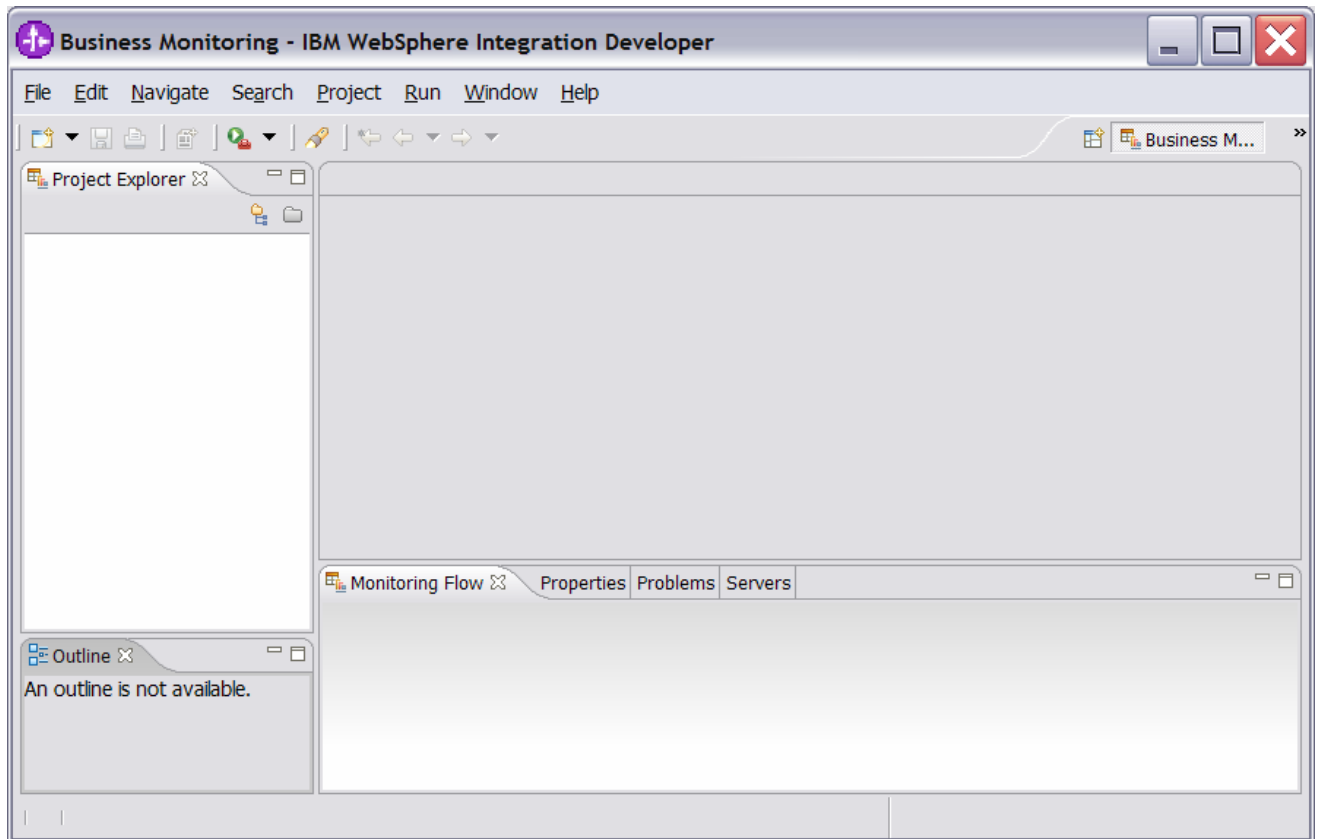
Part 1: Create the monitoring model

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

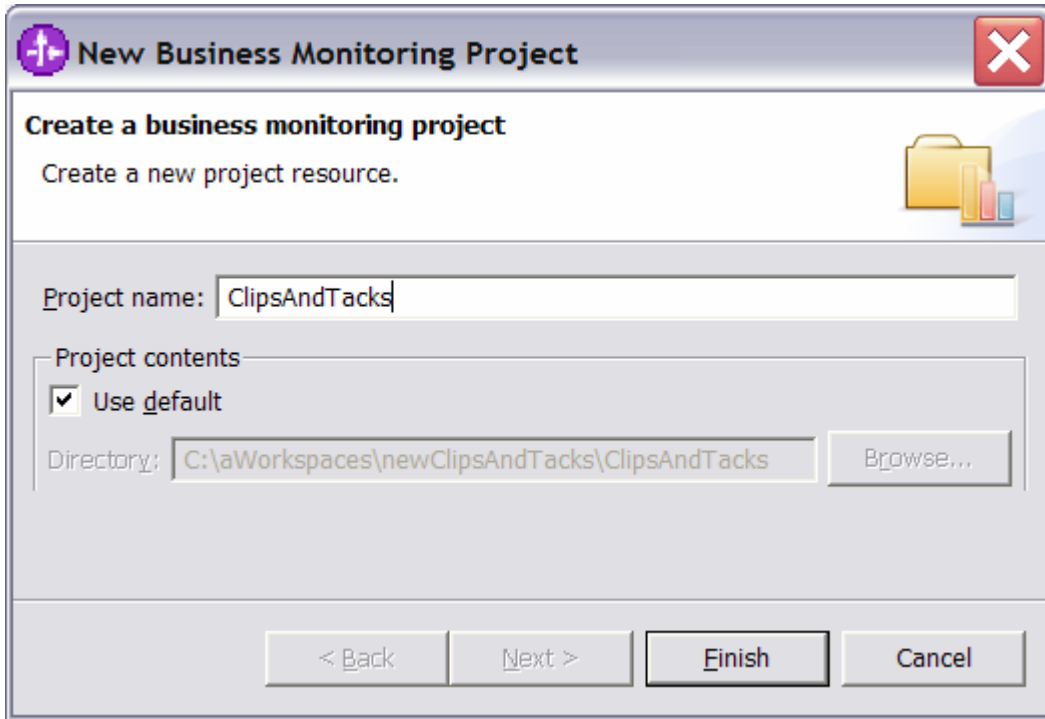
Note that there is a Problems tab that displays errors concerning the model. Periodically, you should check this view to see if you have any problems that need to be addressed.

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.

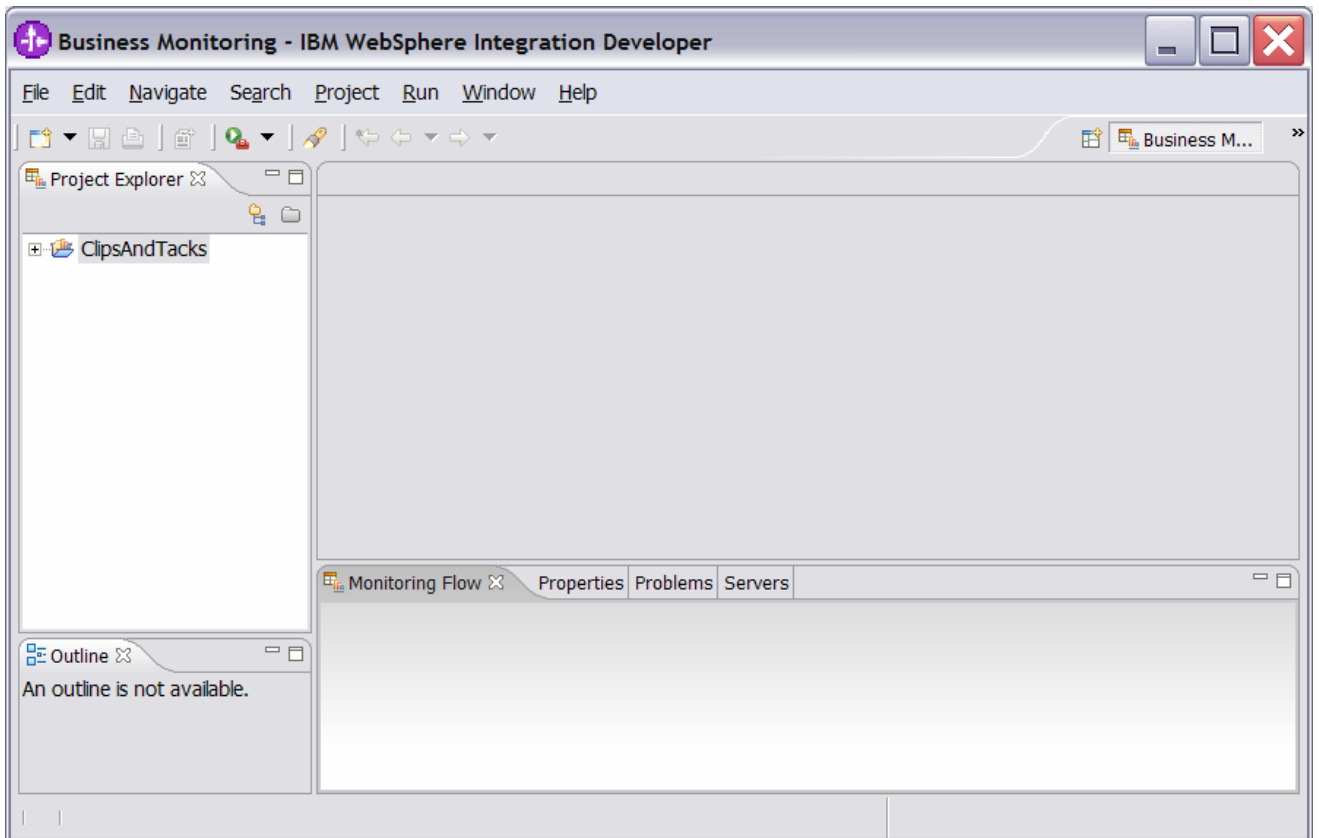
- ___ 1. Start WebSphere Integration Developer and setup the environment.
 - ___ a. Start WebSphere Integration Developer V 6.0.2, and when prompted point to a new workspace such as c:\workspaces\ClipsAndTacks
 - ___ b. Close the Welcome tab.
 - ___ c. Select **Window > Close Perspective**
 - ___ d. 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.



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

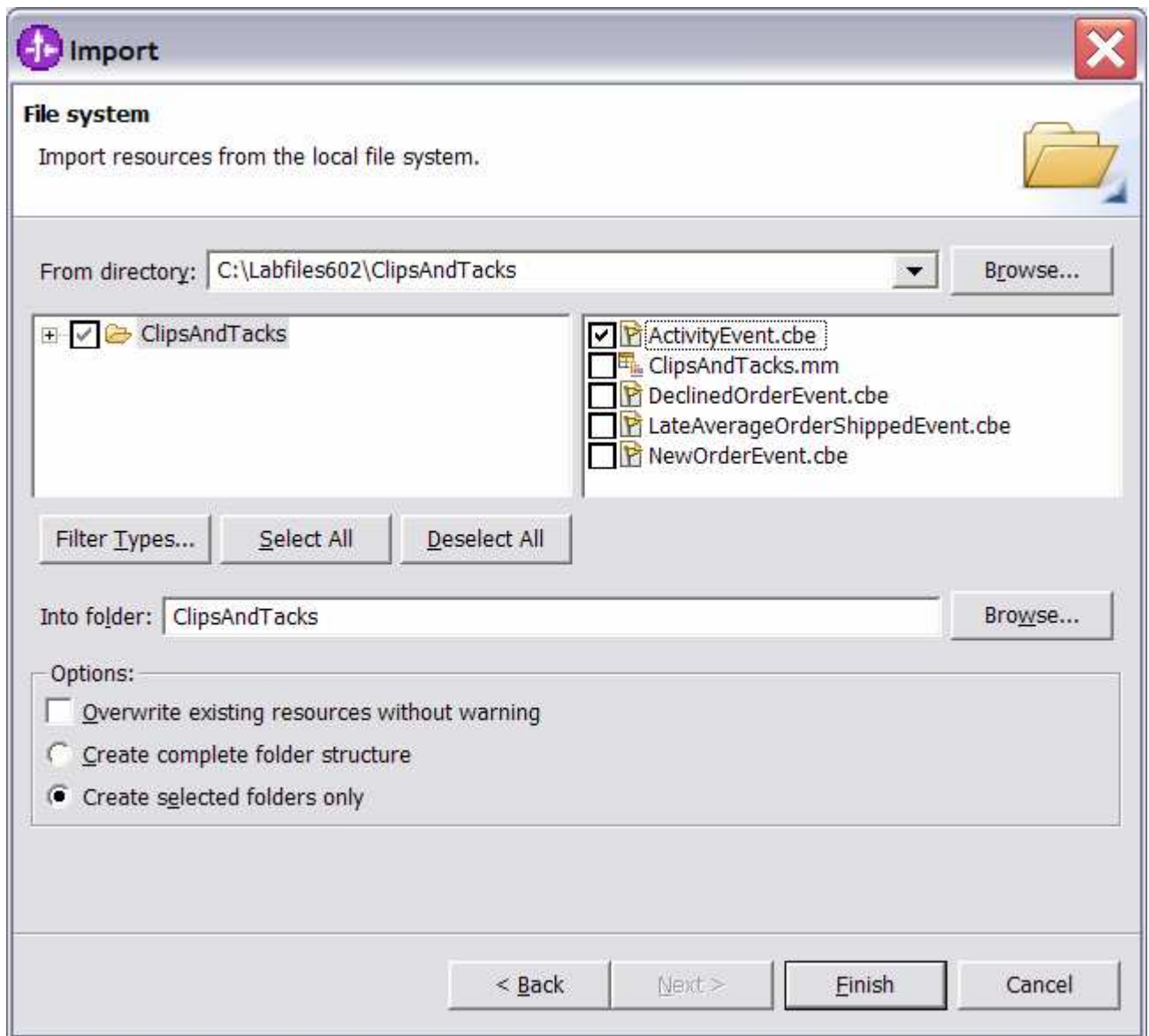


___ c. Click Finish. You will see the new project in the Project Explorer view.

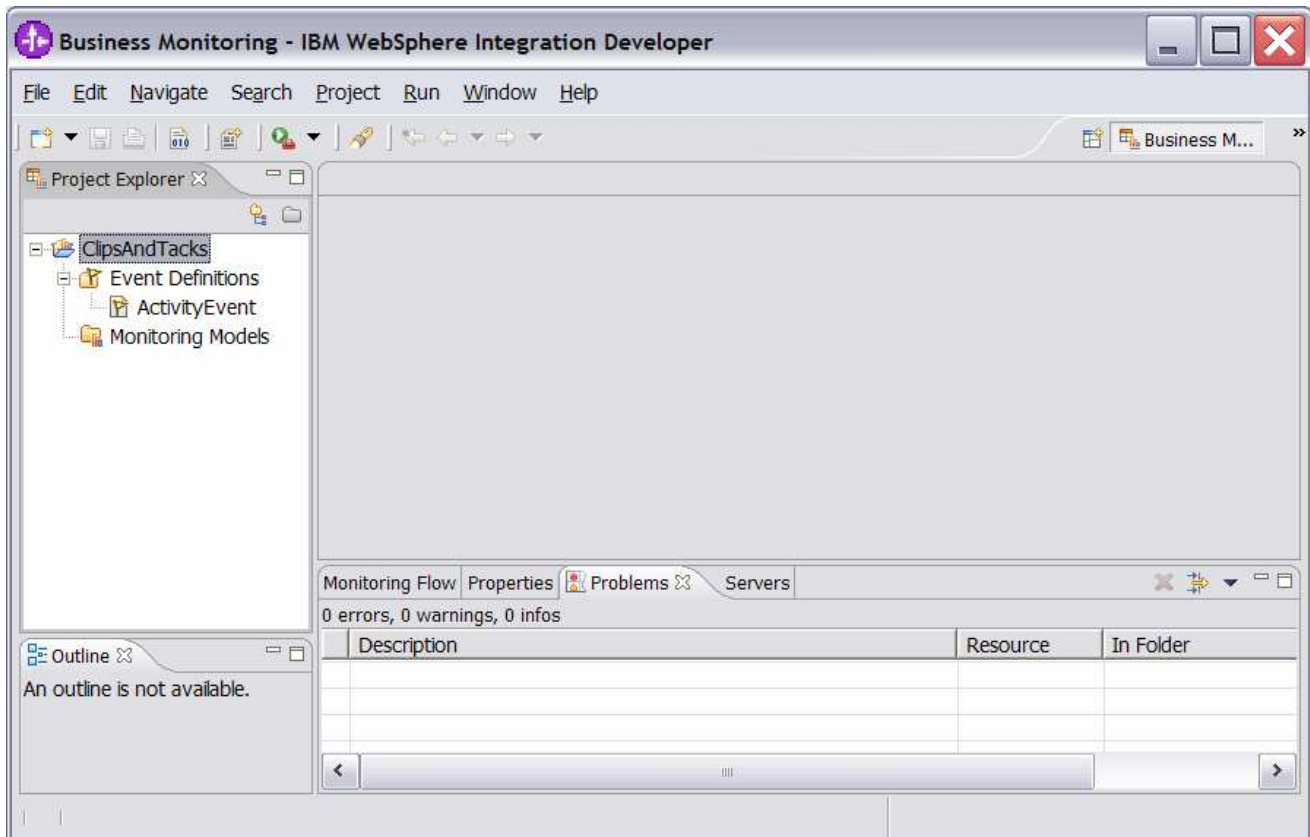


___ 3. There is already a common base event definition created for you that represents the event layout for events processed in this model. Import the supplied common base event for ActivityEvent.

- __ 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:

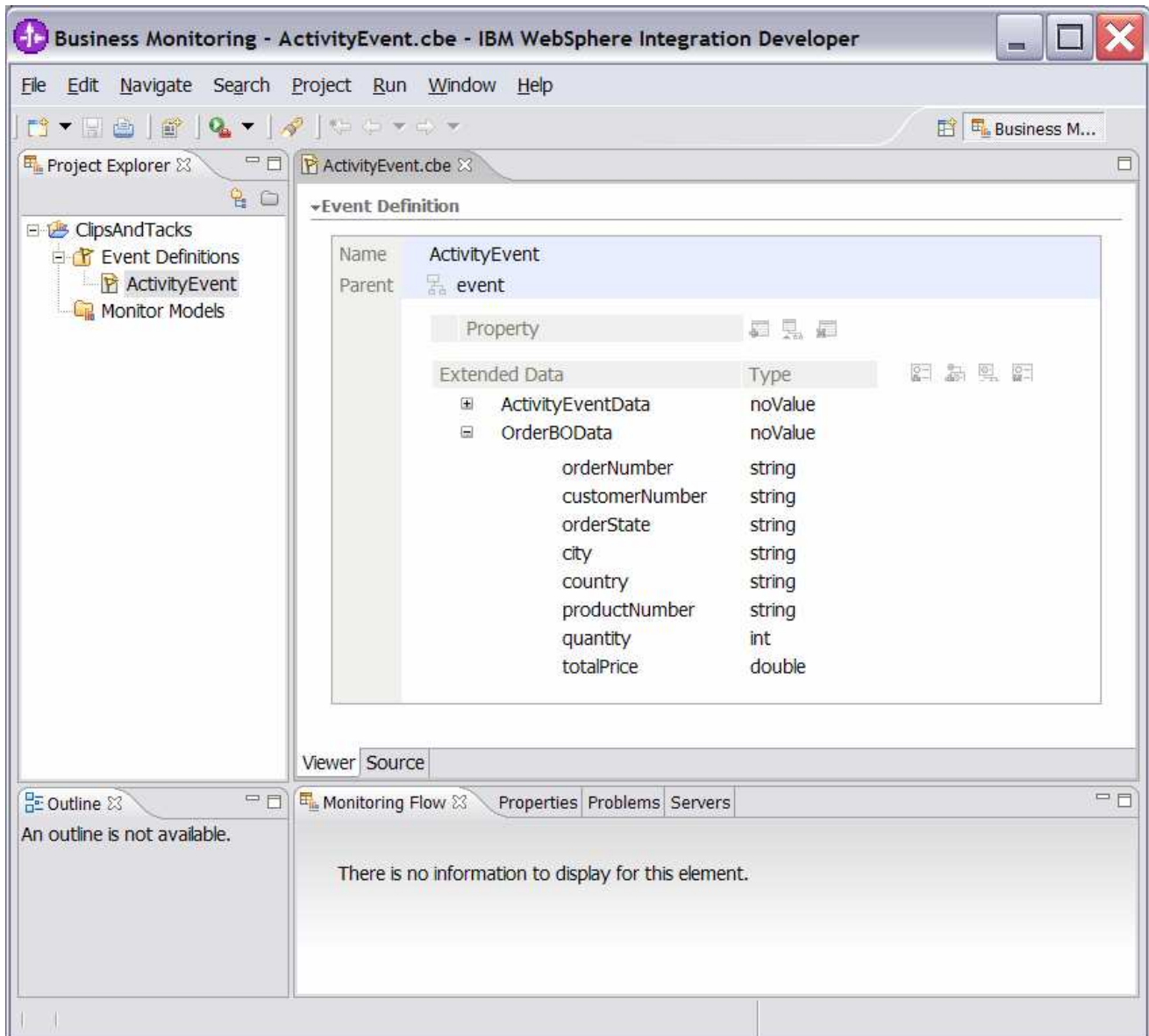


- __ e. Click **Finish**.
- __ f. Expand the project in the Project Explorer view, then expand the Event Definitions and you will see the new event listed.



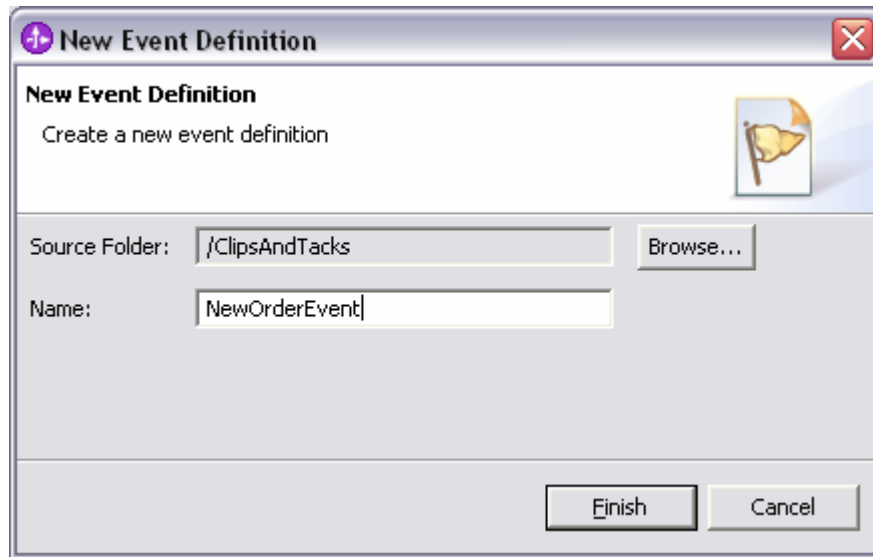
___ g. Double click **ActivityEvent** to open the event editor. Browse the extended data elements to familiarize yourself with the event data for this model.

- 1) 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.



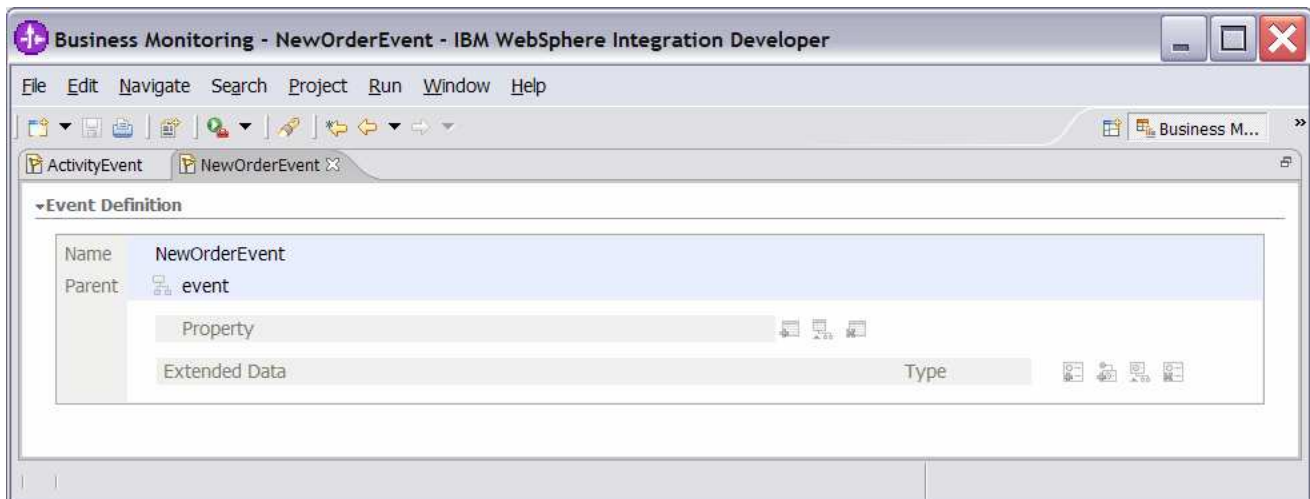
- ___ h. WebSphere Business Monitor 6.0.2 has improved support for concurrent versions of monitoring models. In order to take advantage of the Monitor Server's version handling capabilities, each monitoring context must have a unique common base event definition that is the single Inbound Event that 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 for version handling, you will create a simple common base event definition now.

- 1) Right mouse on Event Definitions and select **New > Event Definition...**
- 2) Enter **NewOrderEvent** for the Name



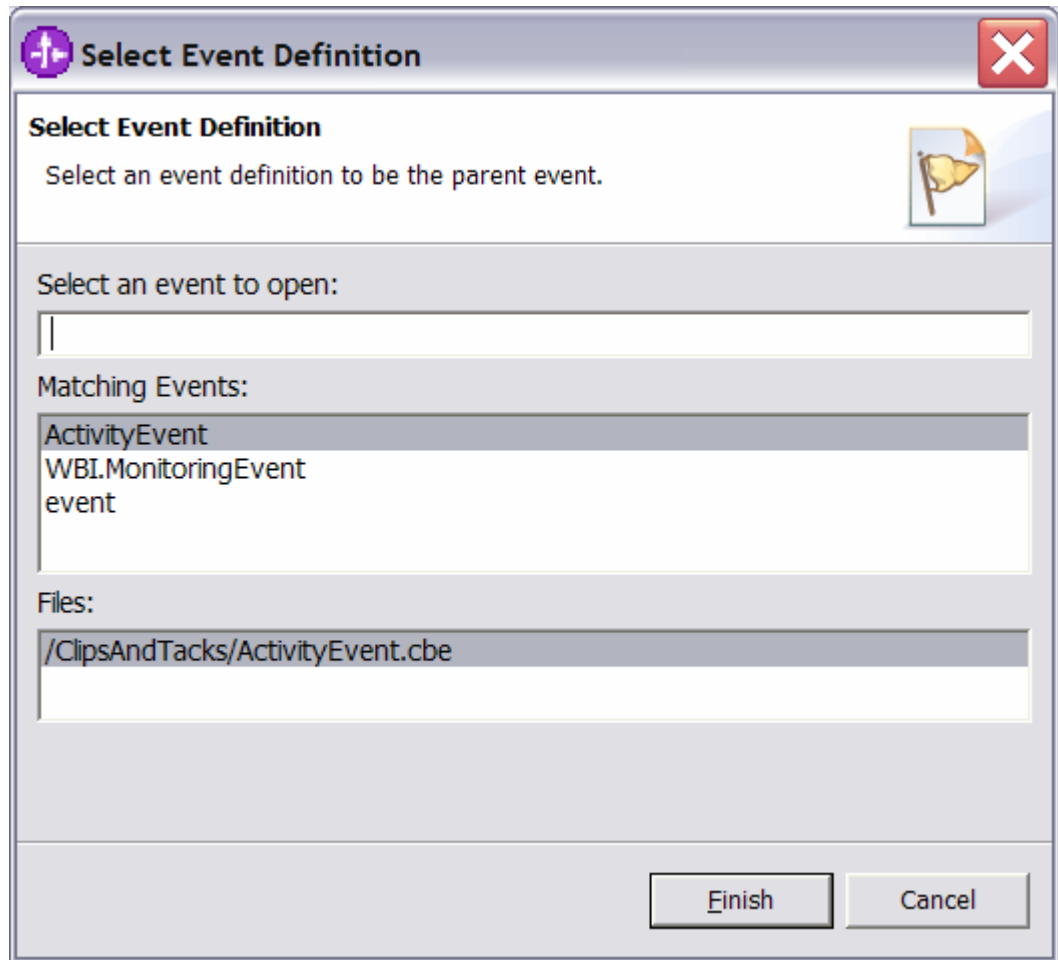
3) Click **Finish**.

4) The Event Definition Editor for NewOrderEvent opens.

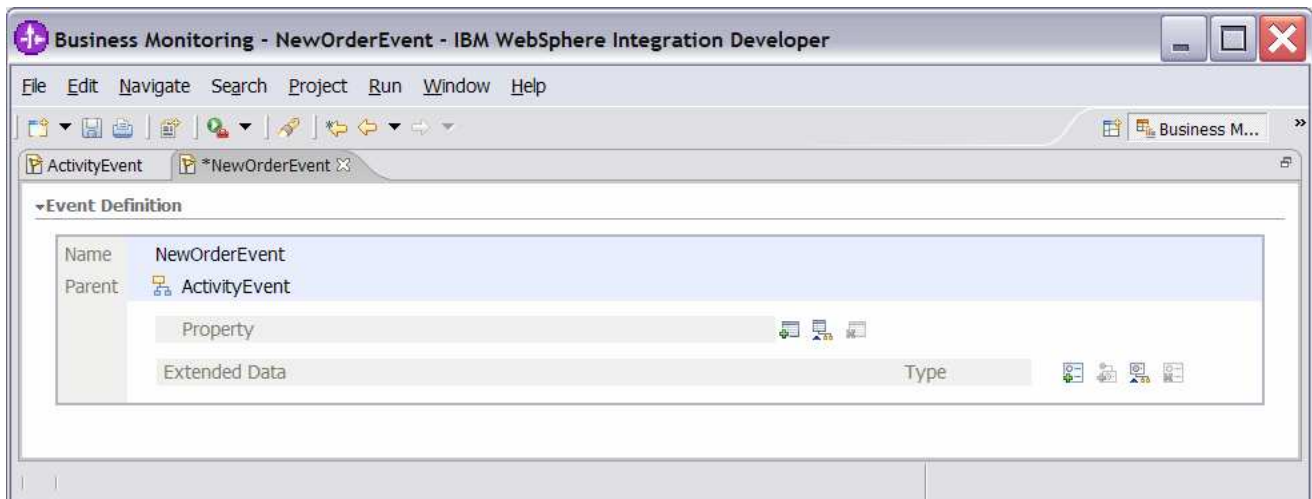


5) Double click the hierarchical icon between the label **Parent** and **event**.

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



7) **ActivityEvent** is now shown as the parent of **NewOrderEvent**

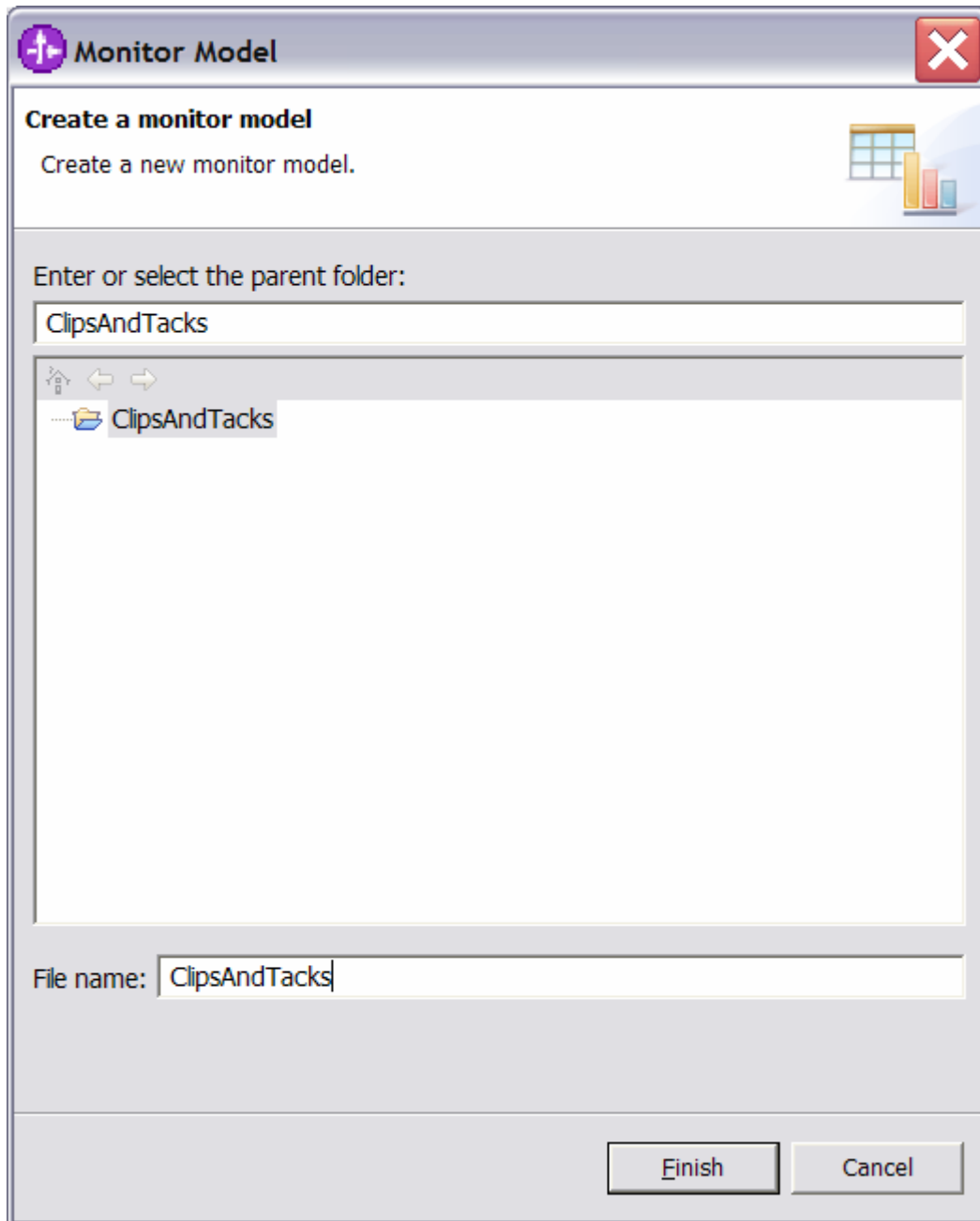


8) Press **Ctrl-S** to save your work.

___ 4. Create a new monitor model ClipsAndTacks.

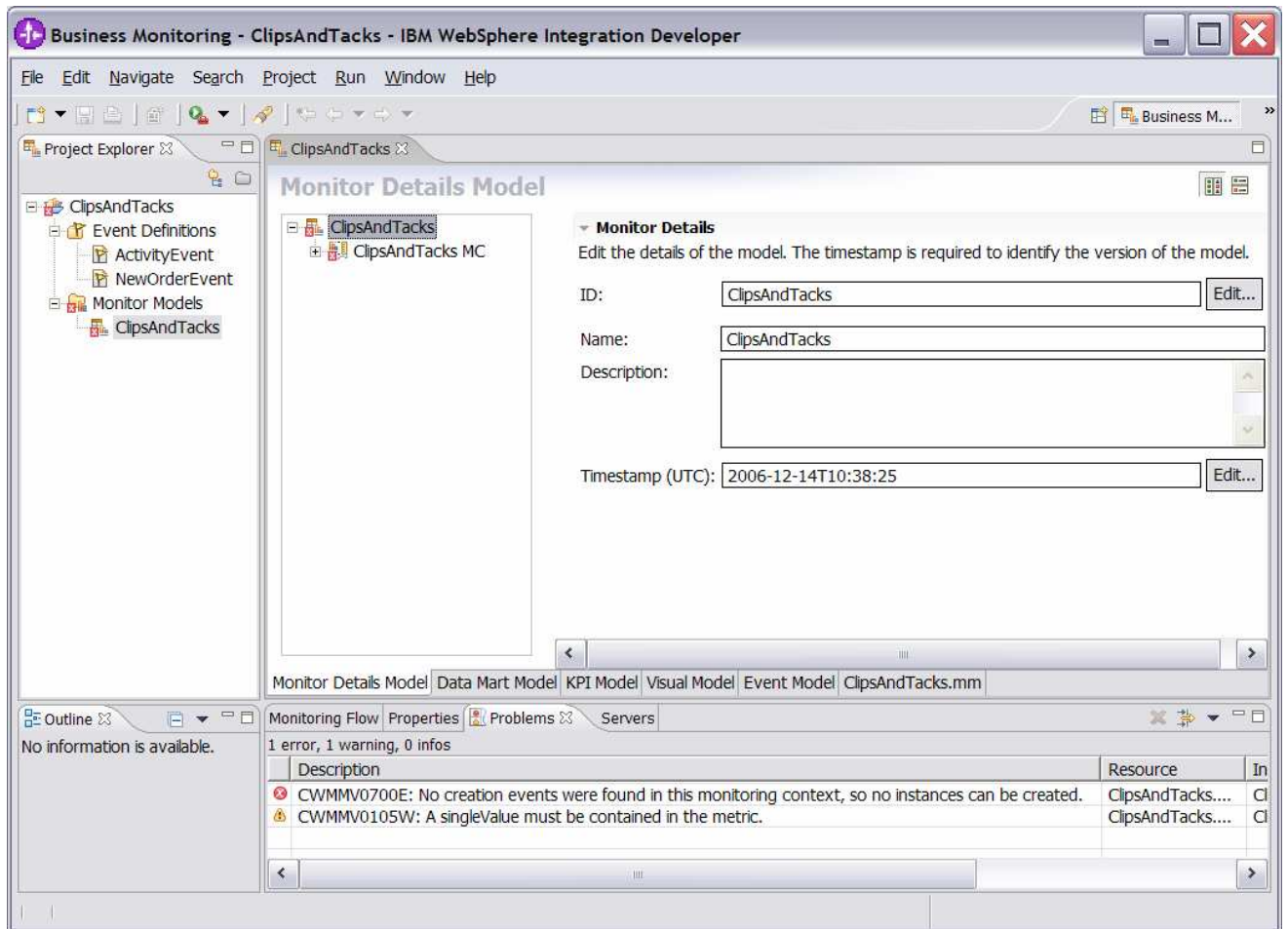
___ a. Right click in the Project Explorer view, then select **New > Monitor Model...**

__ b. For File name, enter **ClipsAndTacks**.

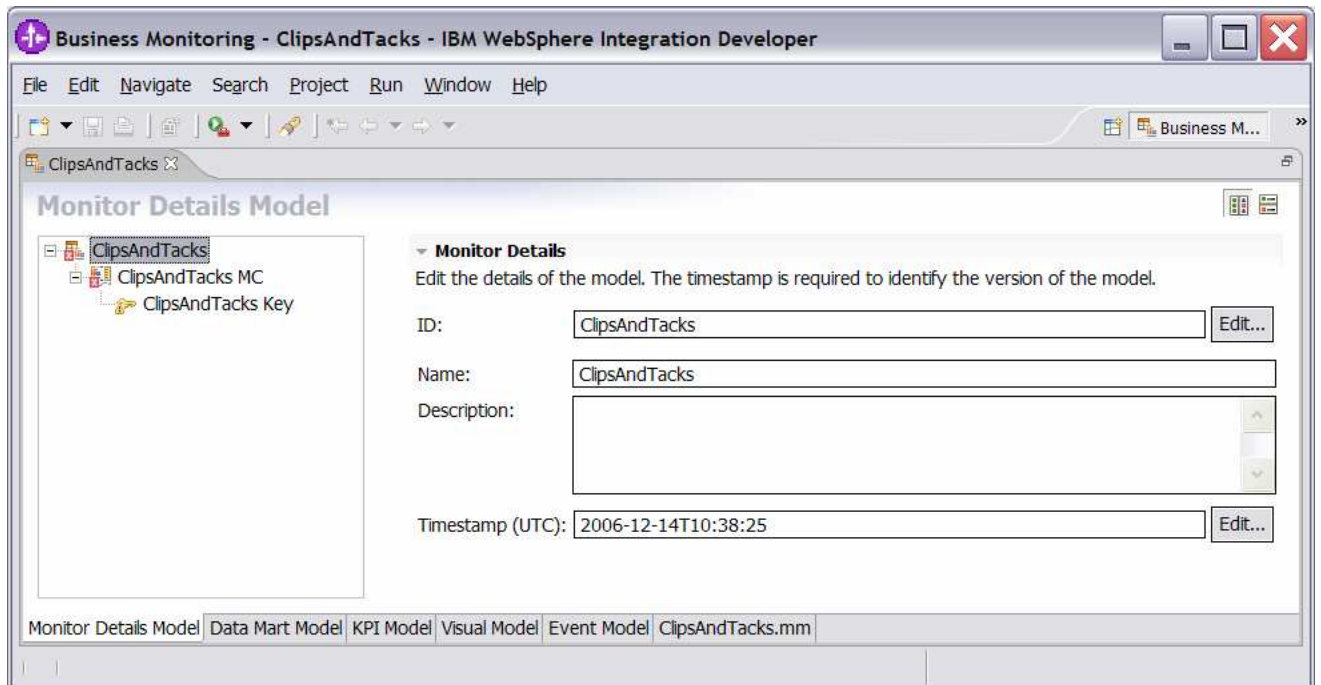


__ c. Click **Finish**. The model editor is opened as follows:

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.

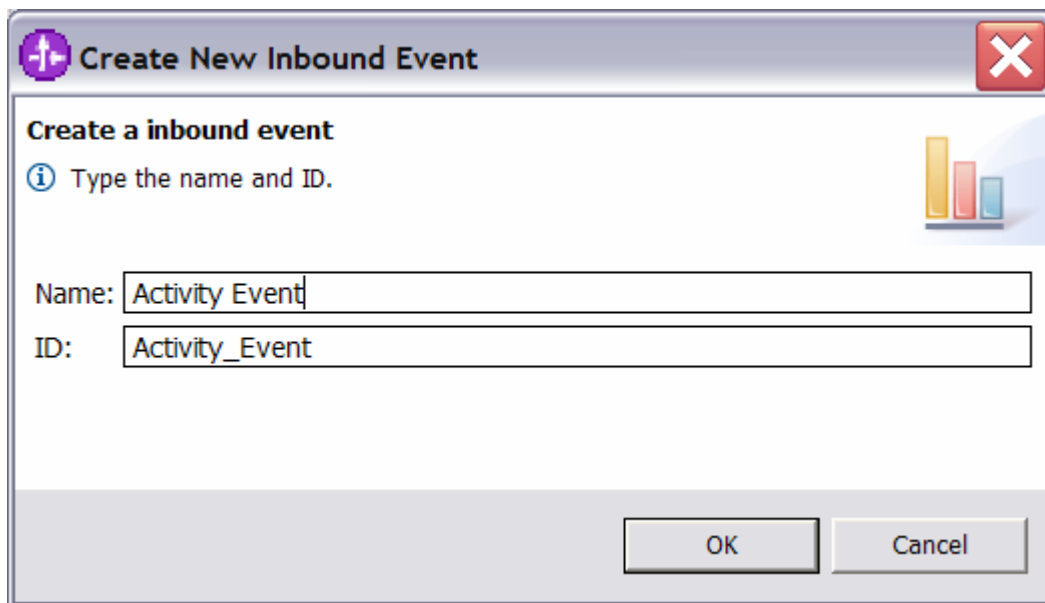


5. Notice in the Monitor Details Model navigator that a new model is created (ClipsAndTacks) along with a monitoring context (ClipsAndTacks MC). Now you need to specify the inbound events that will be processed by this model. You need to indicate which event will create a new monitoring context instance 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.



__ 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**).



__ d. Click **OK**.

__ e. For Type, navigate to ClipsAndTacks > ActivityEvent.cbe > ActivityEvent

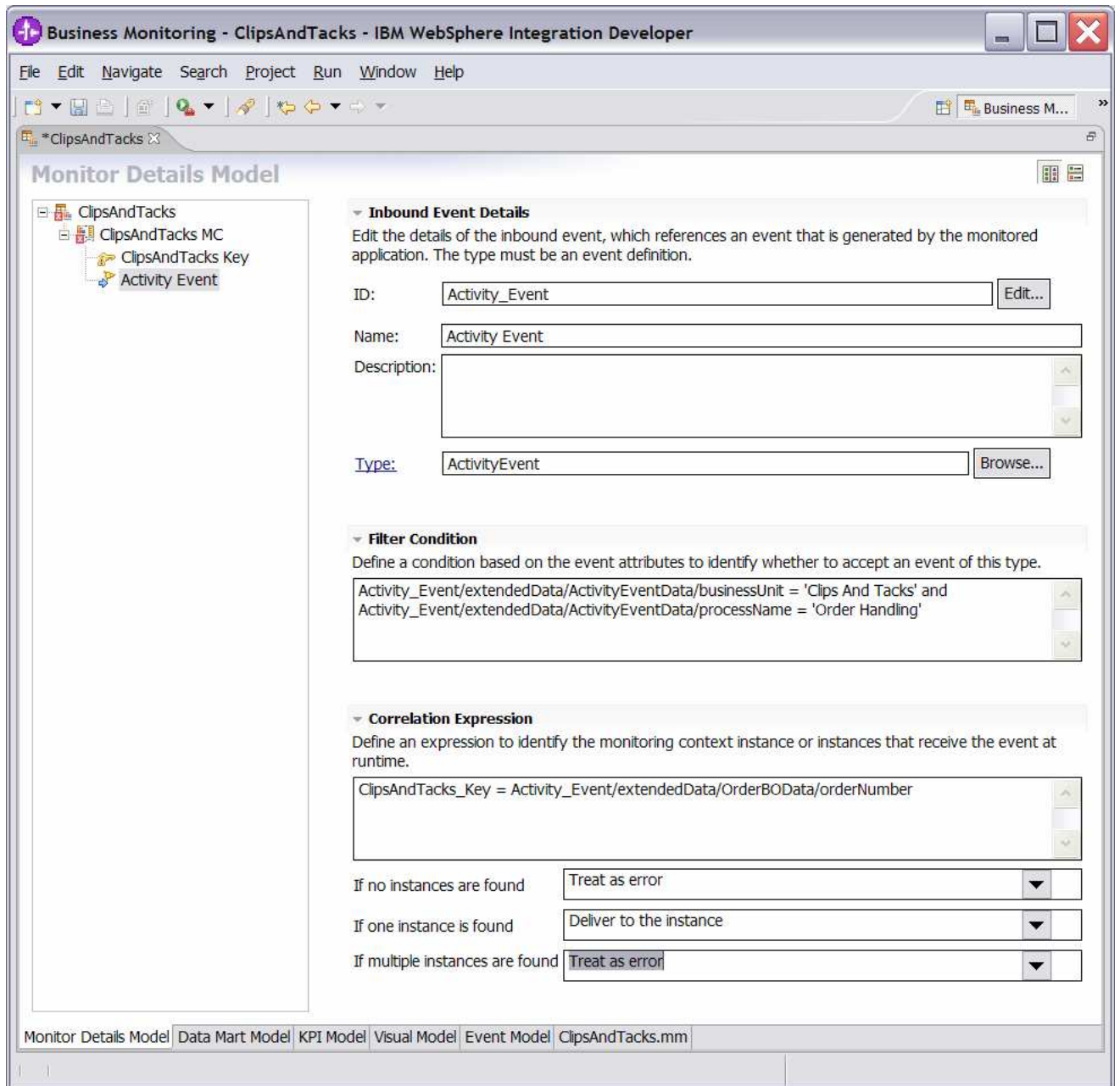
__ f. To enter the Filter Condition, you can use Content Assist using the keys Ctrl-Space, or you can type the expression directly into the expression window. When complete the expression should be as follows. Note the single quotes used for string handling.

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

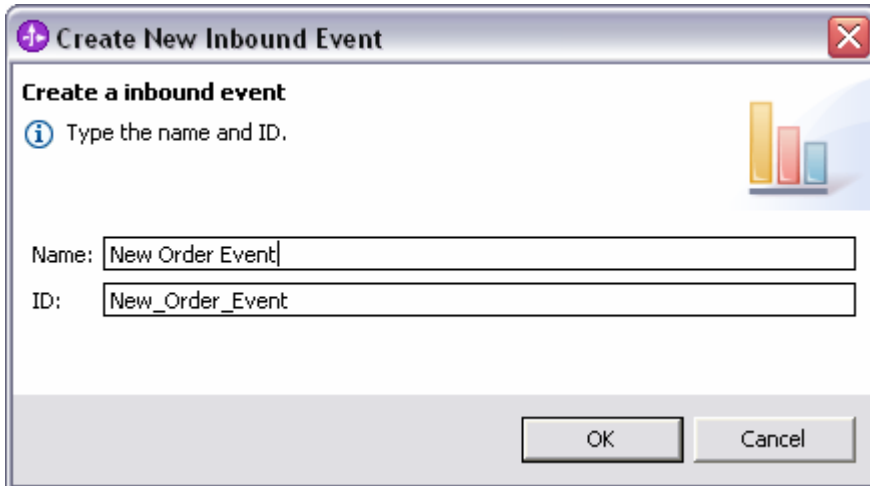
- ___ h. For If no instances are found, select Treat as error
- ___ i. For If one instance is found, select Deliver to the instance
- ___ j. For If multiple instances are found, select Treat as error
- ___ k. Here is a sample:



__ l. Press **Ctrl-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**).



__ 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

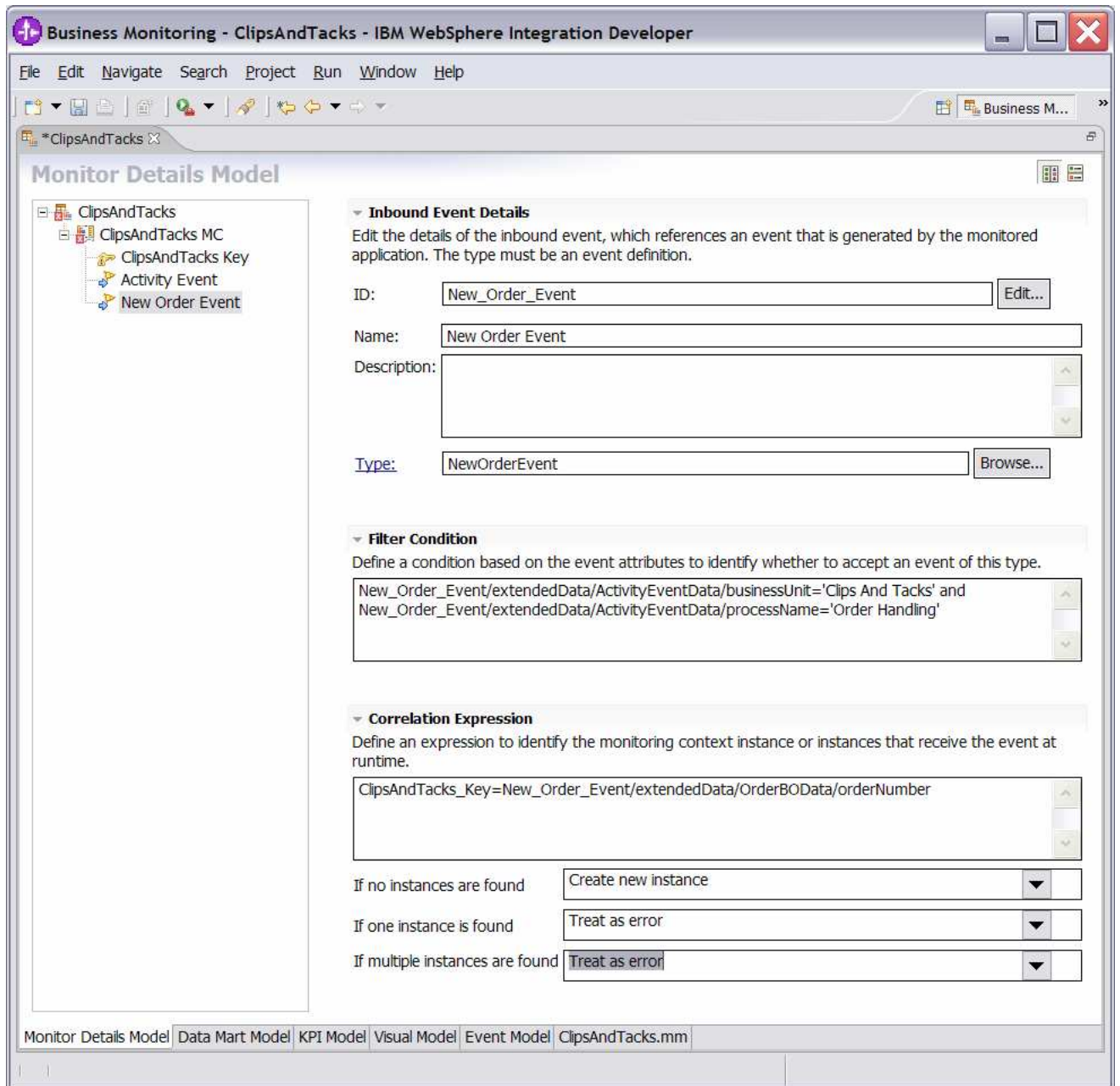
ClipsAndTacks_Key=New_Order_Event/extendedData/OrderBOData/orderNumber

__ 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:



__ w. Press **Ctrl-S** to save your work.

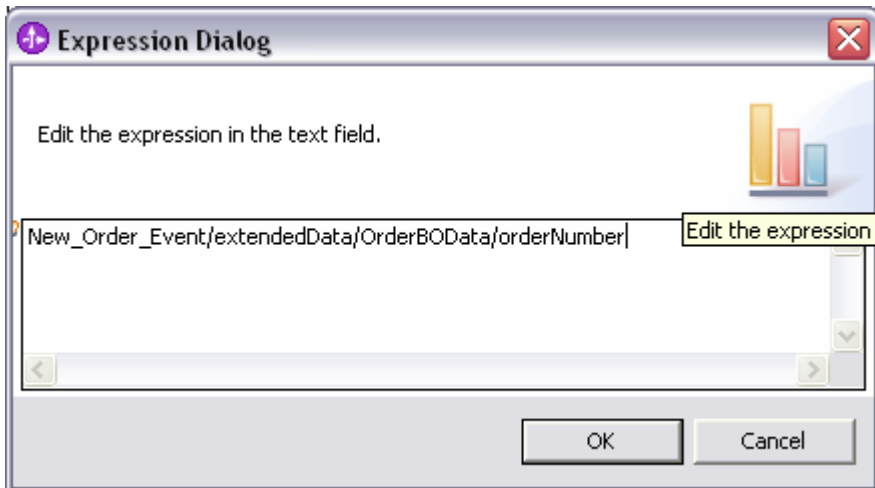
__ x. In the model navigation view, double click **ClipsAndTacks Key**, to open the key in the editor.

__ y. For Key Value Maps, click Add...

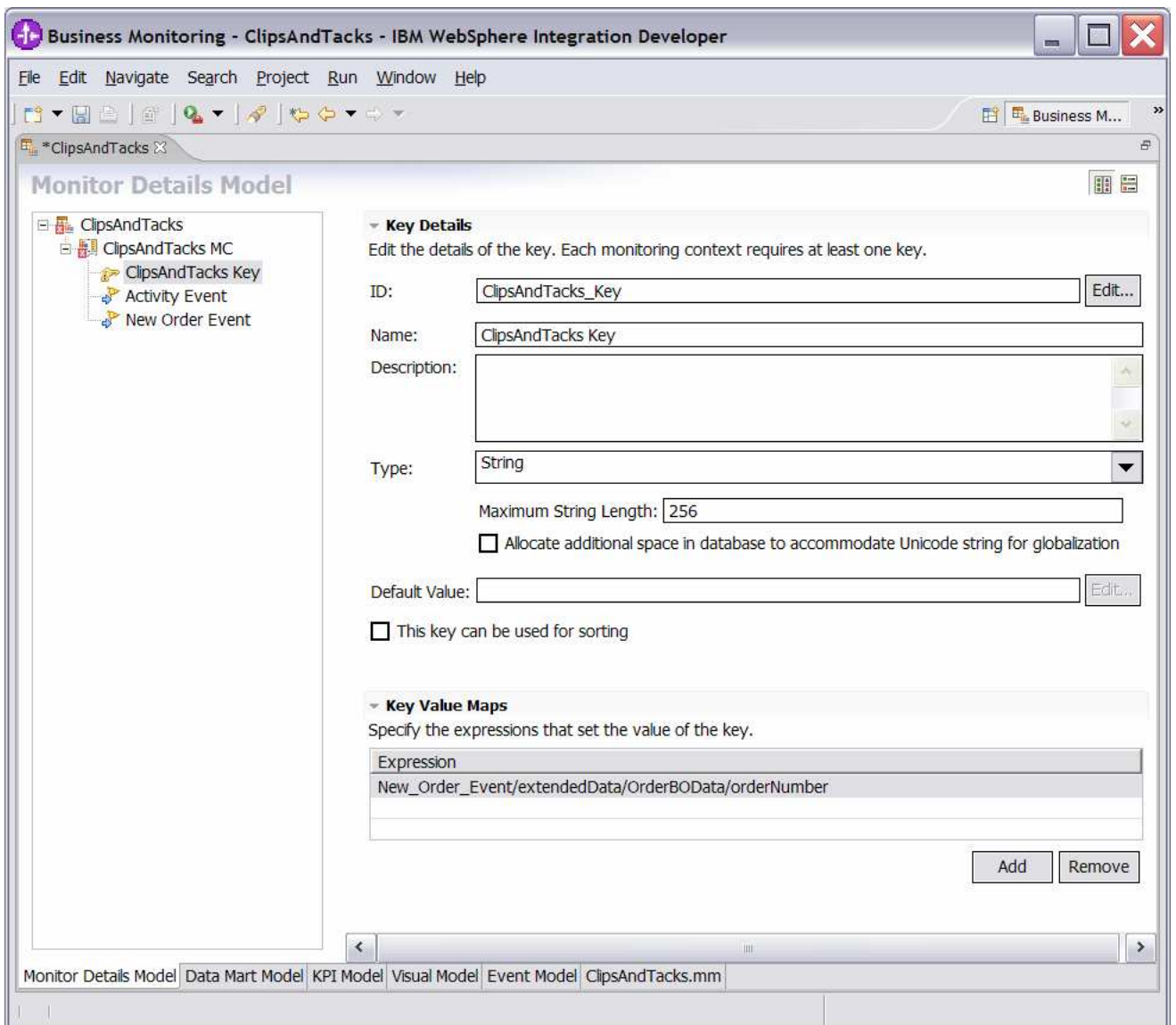
__ z. A row is added to the table and in the expression cell it shows << No expression specified >>. Click on this cell of the table, then a button is displayed. Click on this button and the expression editor is displayed. You can use Content Assist, or type this expression directly into the window:

New_Order_Event/extendedData/OrderBOData/orderNumber

__ aa. Here is a sample:



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



__ 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

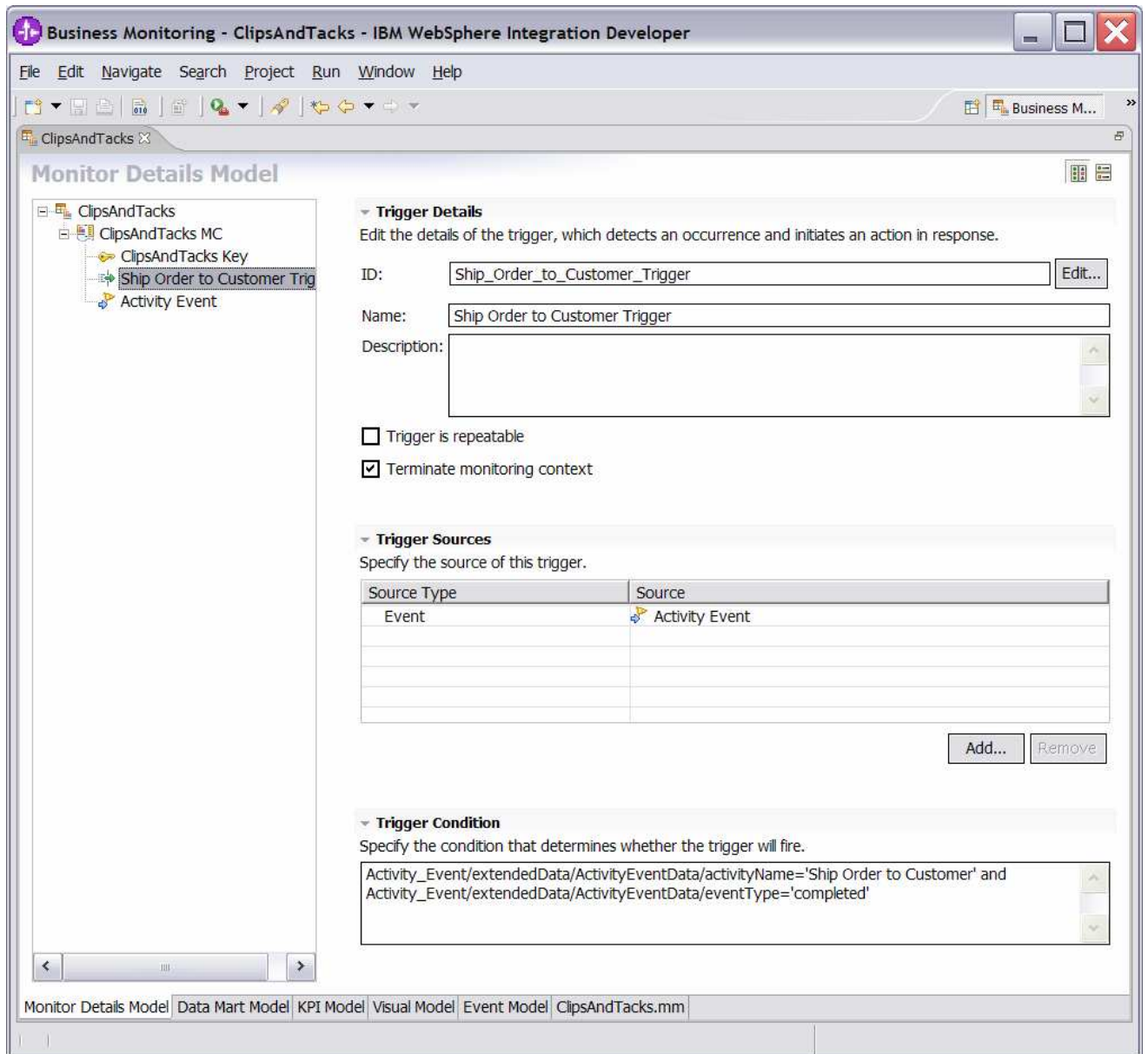
4) For Trigger Sources, click Add, then select Other source type > Activity Event, then click OK.

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:



___ 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
- 4) 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:

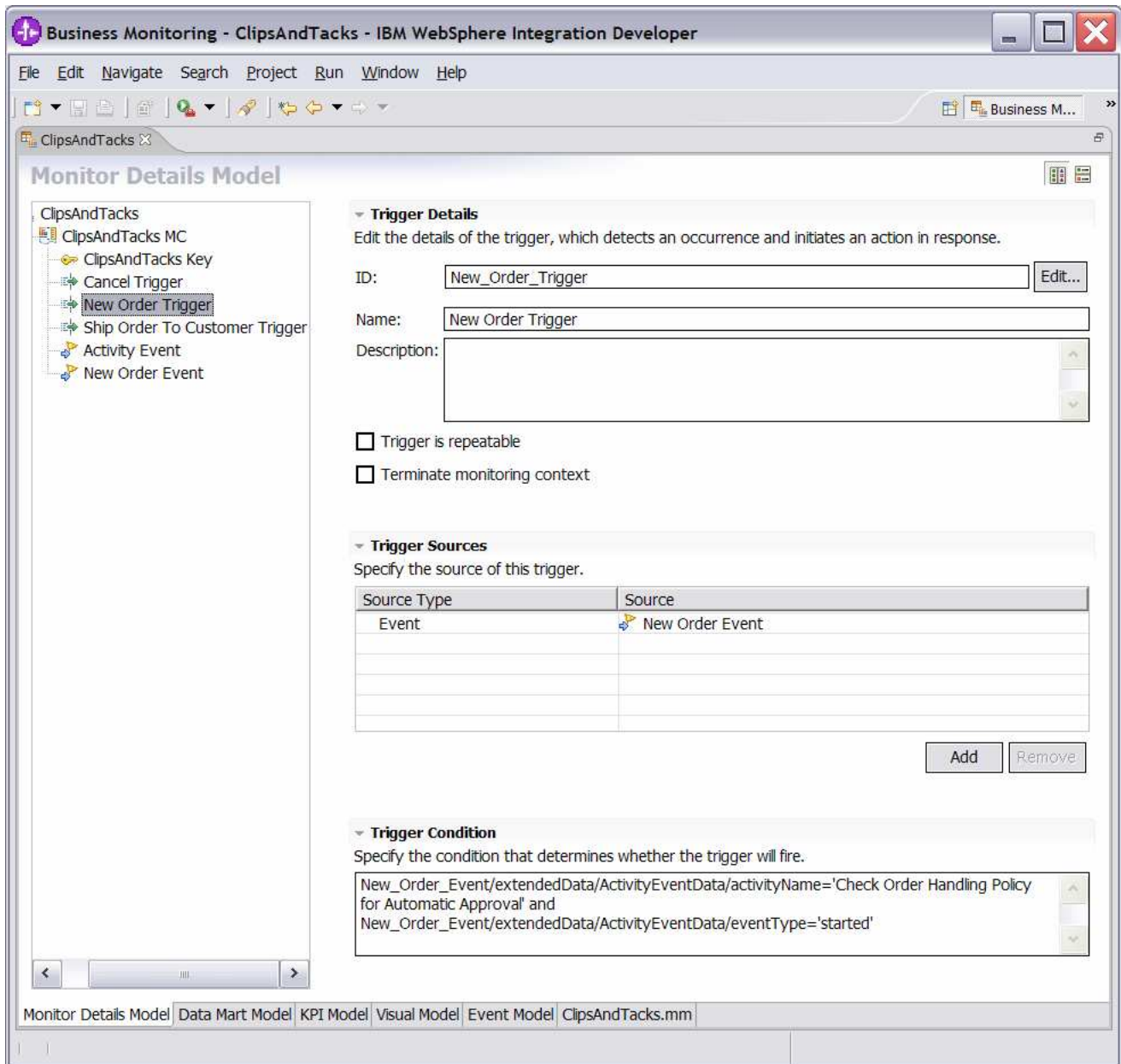
1) Name – New Order Trigger

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.



___ 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

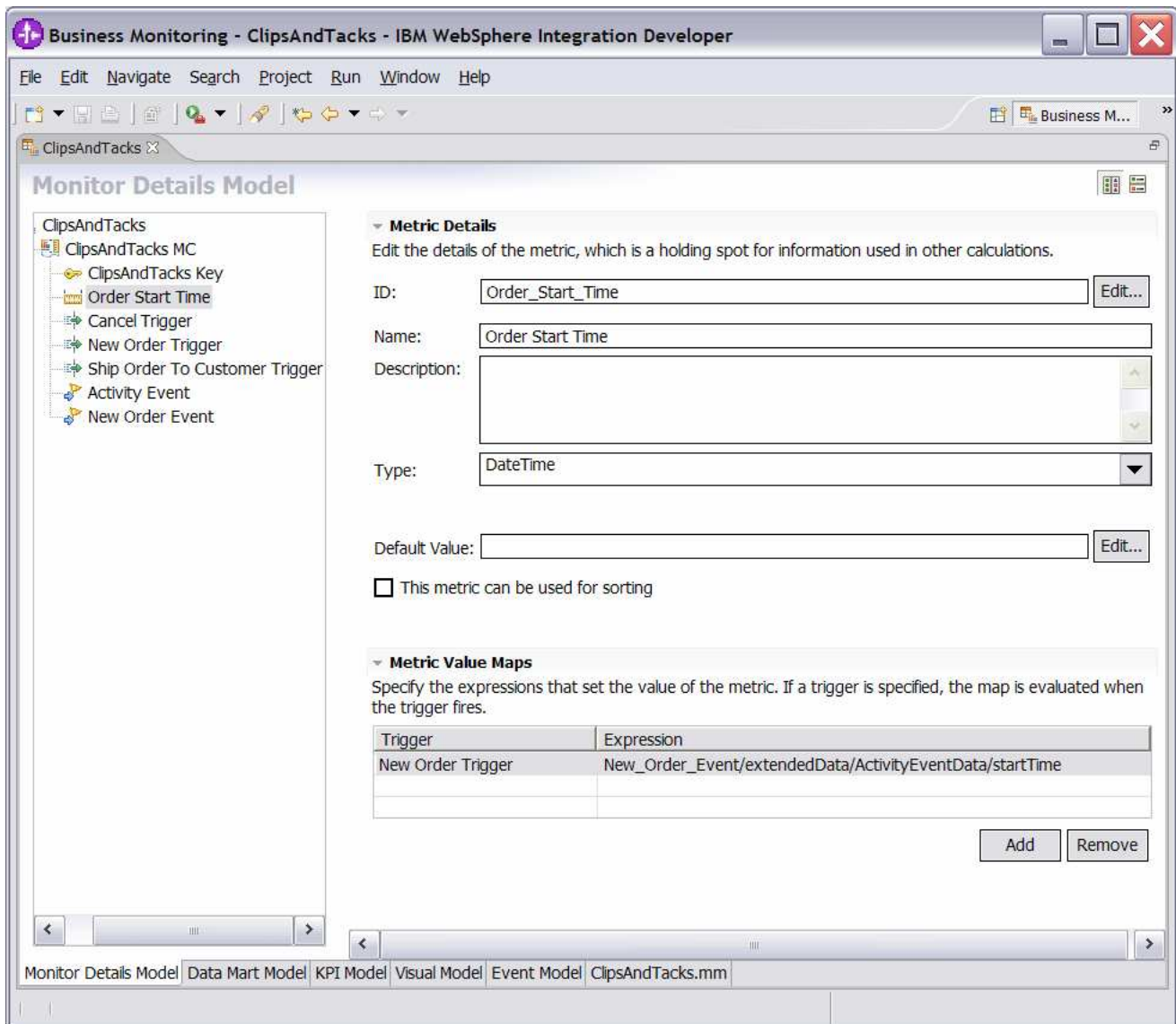
5) In the first row of the Metric Value Maps table, select the cell under column Trigger, then a button is shown, then click the button and select Trigger type > ClipsAndTacks MC > New Order Trigger, click OK

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.



___ 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

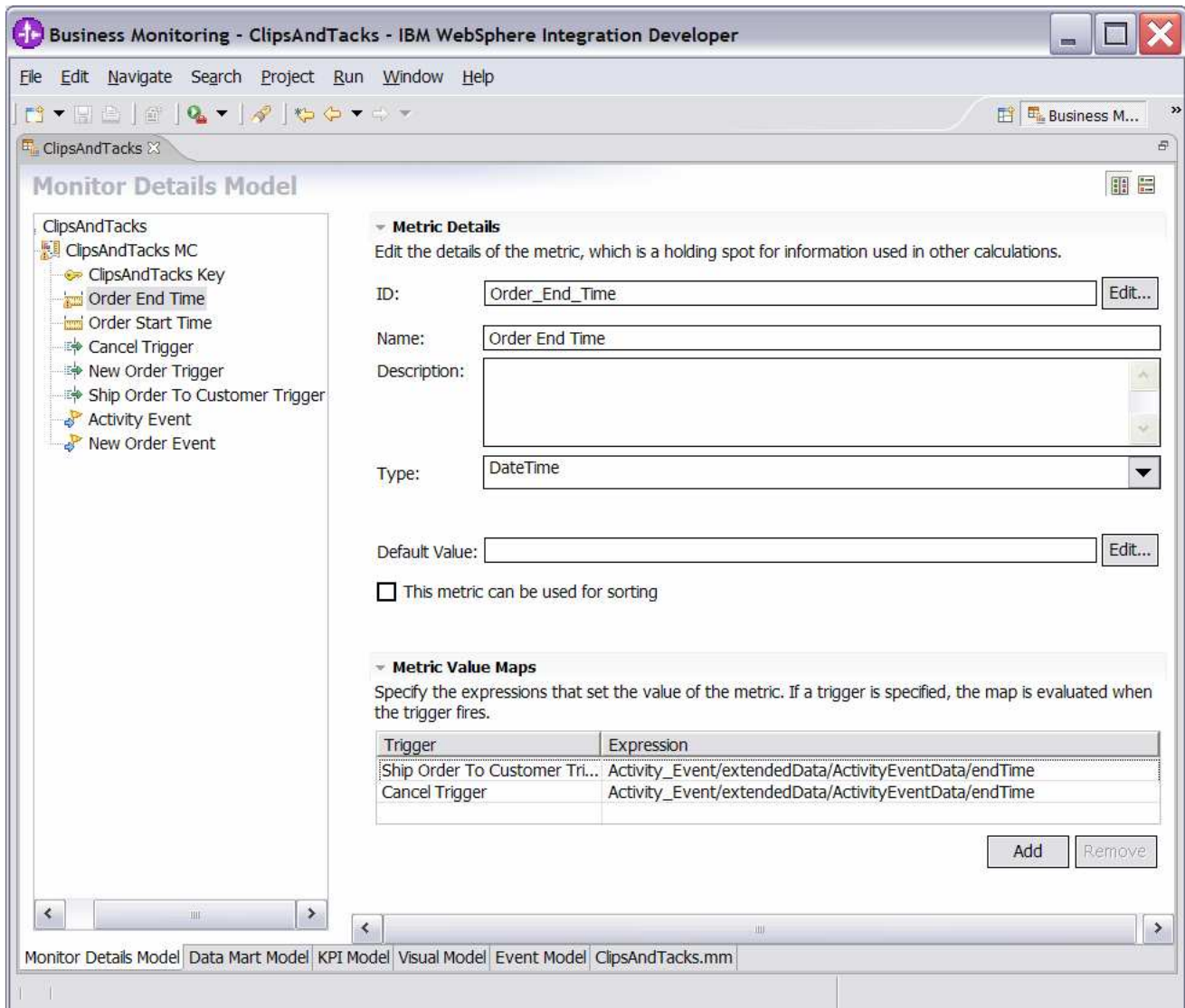
9) In the second row of the Metric Value Maps table, select the cell under column Trigger, then a button is shown, then click the button and select Trigger type > ClipsAndTacks MC > Cancel Trigger, click OK

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.



___ 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

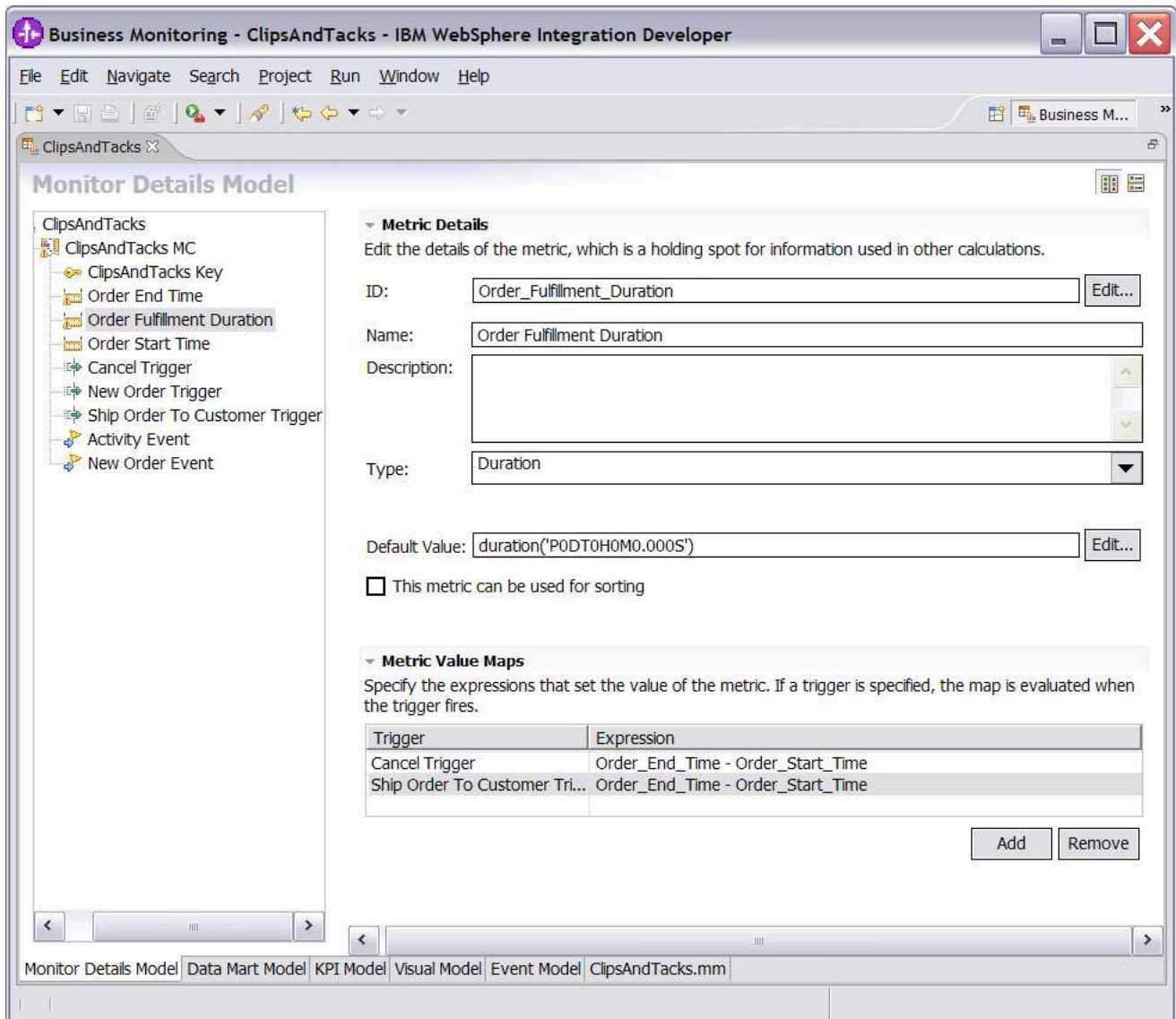
- 11) In the second row of the Metric Value Maps table, select the cell under column Trigger, then a button is shown, then click the button and select Trigger type > ClipsAndTacks MC > Cancel Trigger, click OK

- 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

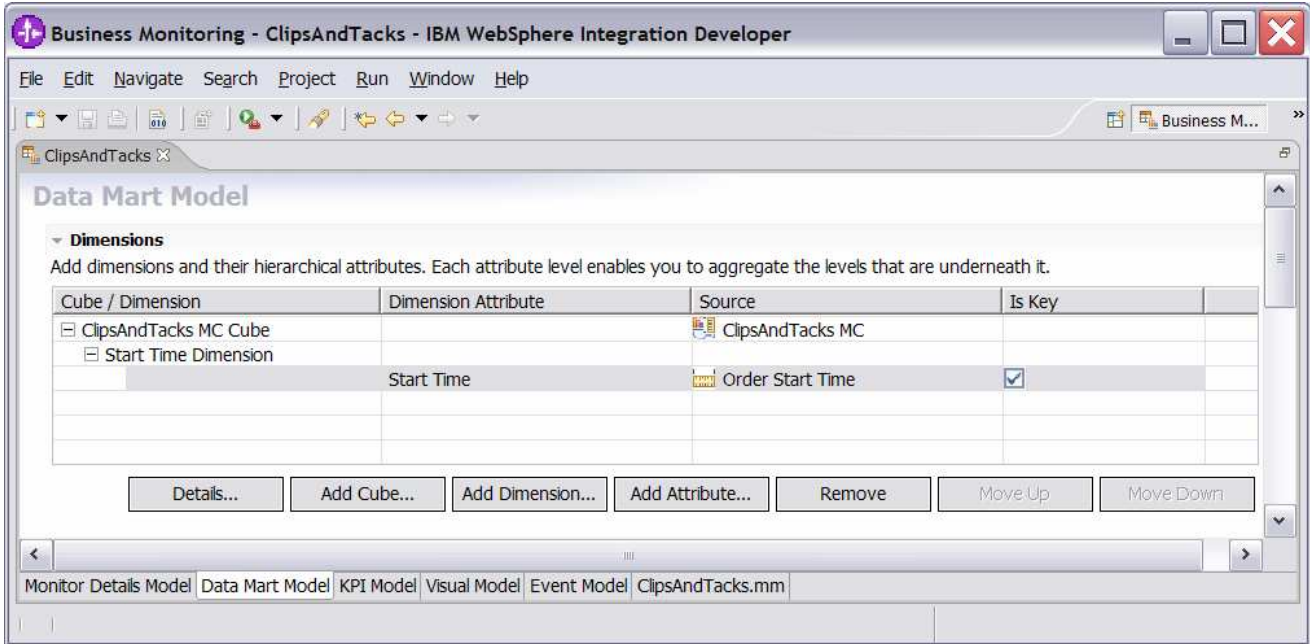
- 13) Click OK.

__ f. Press **Ctrl-S** to save your work.



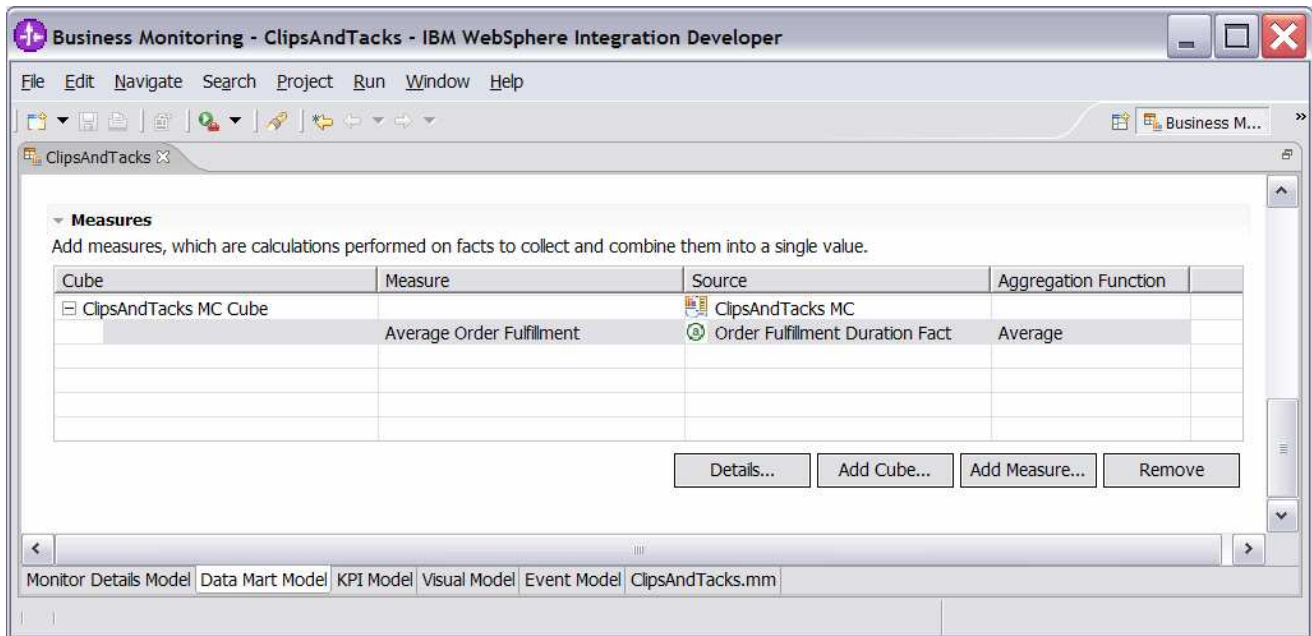
- ___ g. Click on the **Data Mart Model** tab.
- ___ h. Add Start Time as a dimension to the Data Mart Model. This will be used later on when you create the definition of the KPI.
 - 1) In the Dimensions table, click on ClipsAndTacks MC Cube
 - 2) Click **Add Dimension...**
 - a) Name – Start Time Dimension
 - 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.



___ 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.



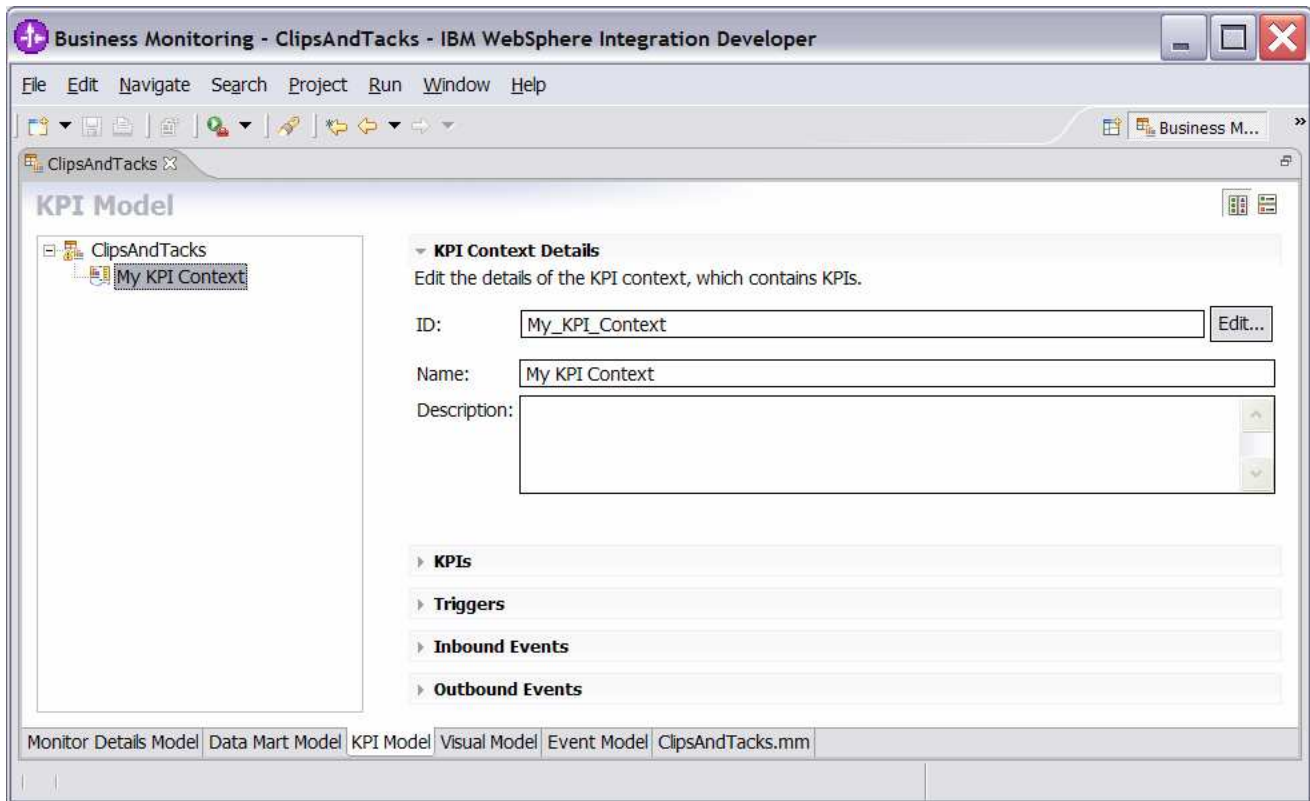
___ j. Ensure that the **KPI Model tab** is selected.

___ 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



___ I. Create the average order fulfillment KPI.

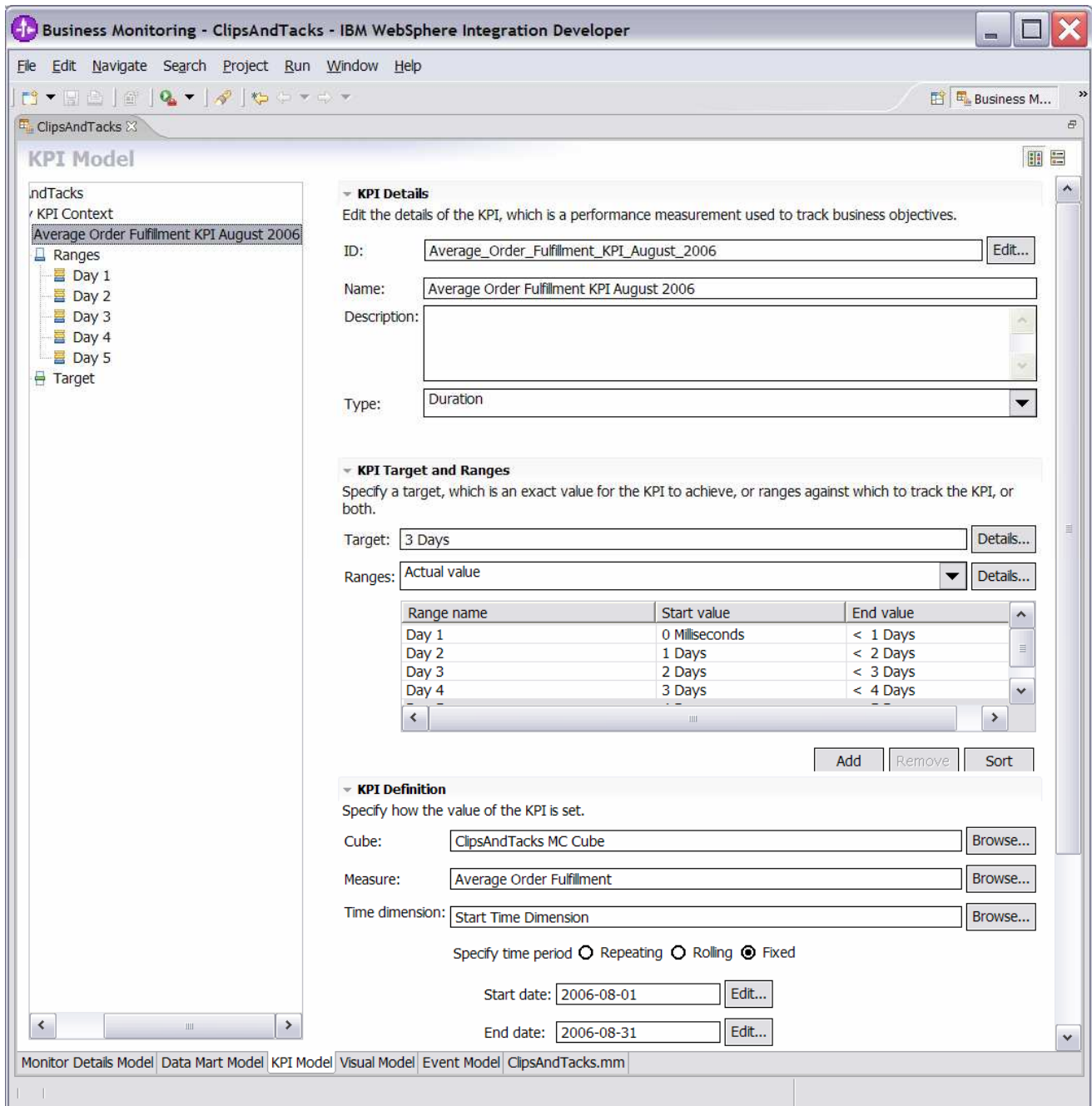
Note that you will create the KPI based on events for August 2006. This will work for you no matter what month or year that you run this lab because the timestamps in the test data are based on August 2006, so your results will be the same as in these lab instructions.

- 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.



___ 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.

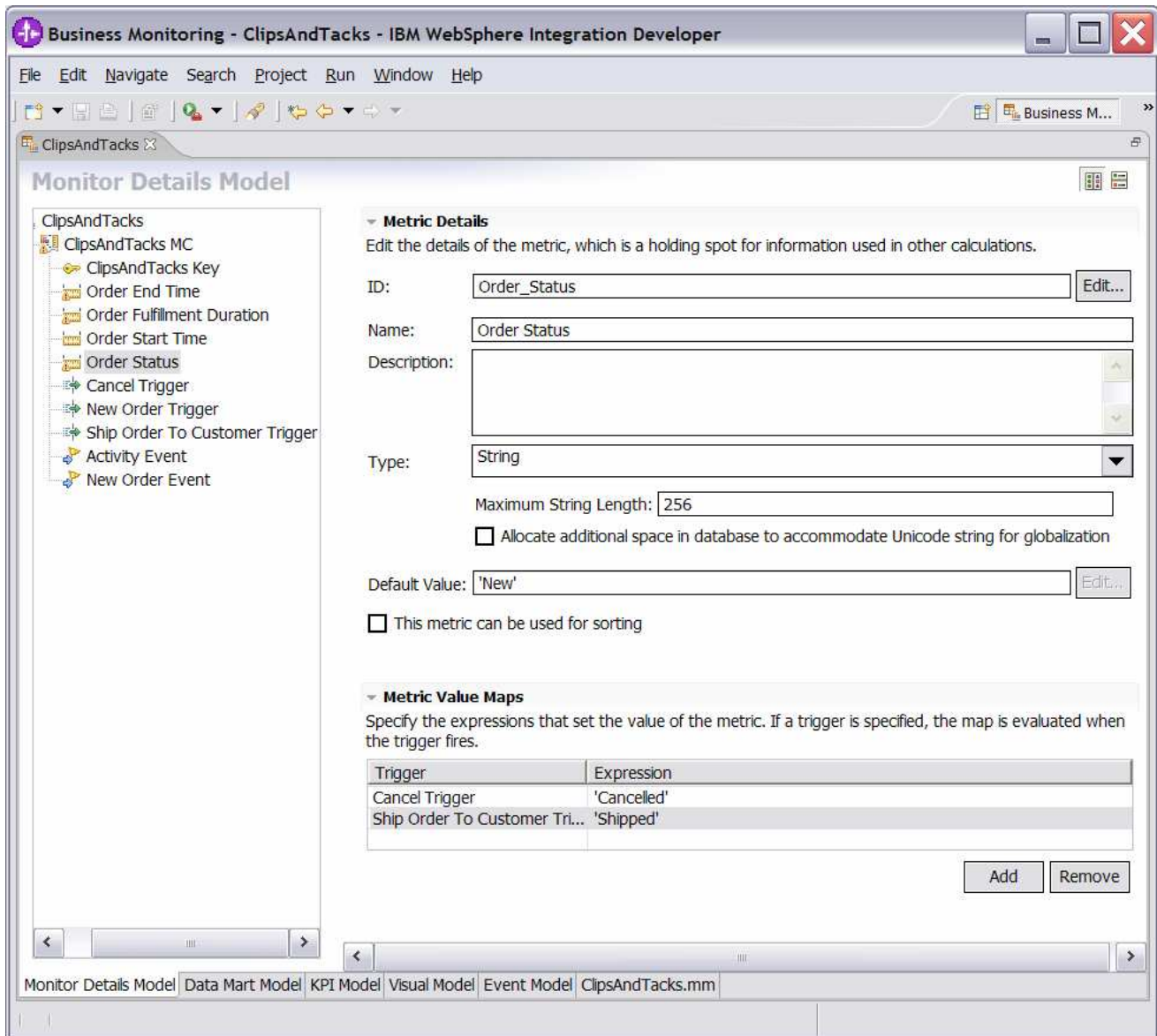
___ o. In the Monitor Details Model navigation view, right click on ClipsAndTacks MC, then select **New > Metric**. Enter these values:

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



__ p. Click on the **Data Mart Model** tab.

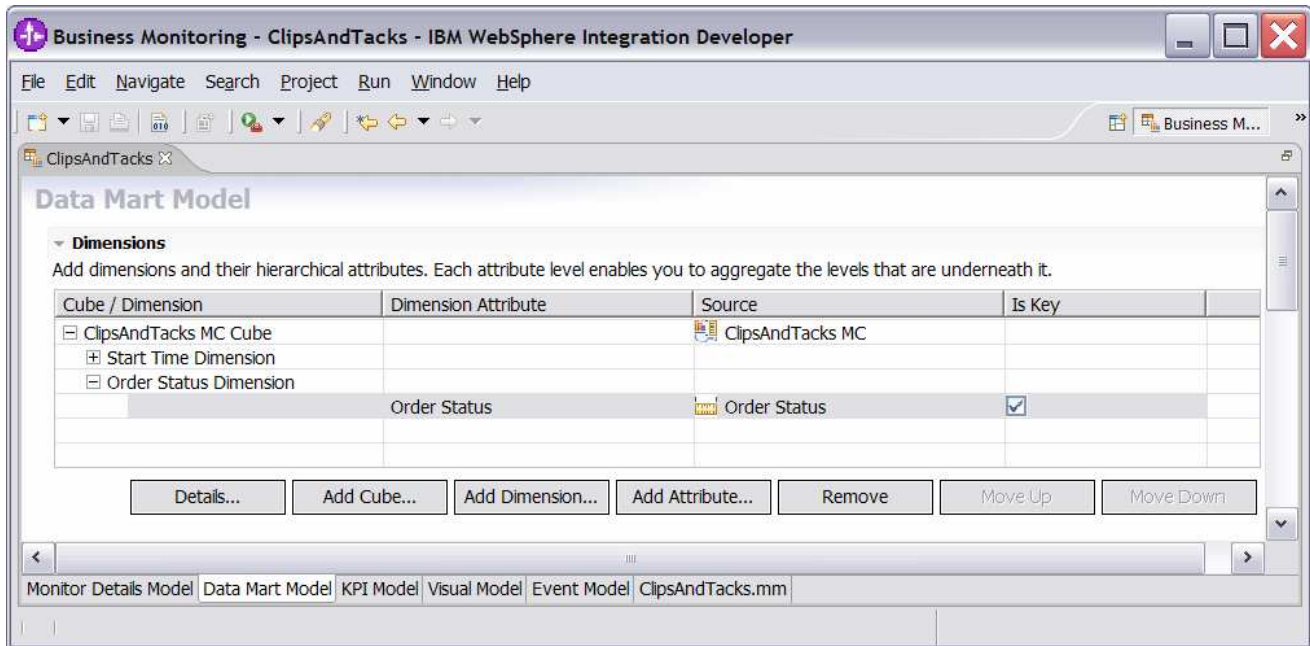
__ q. Add order status as a dimension to the Data Mart Model.

- 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

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.

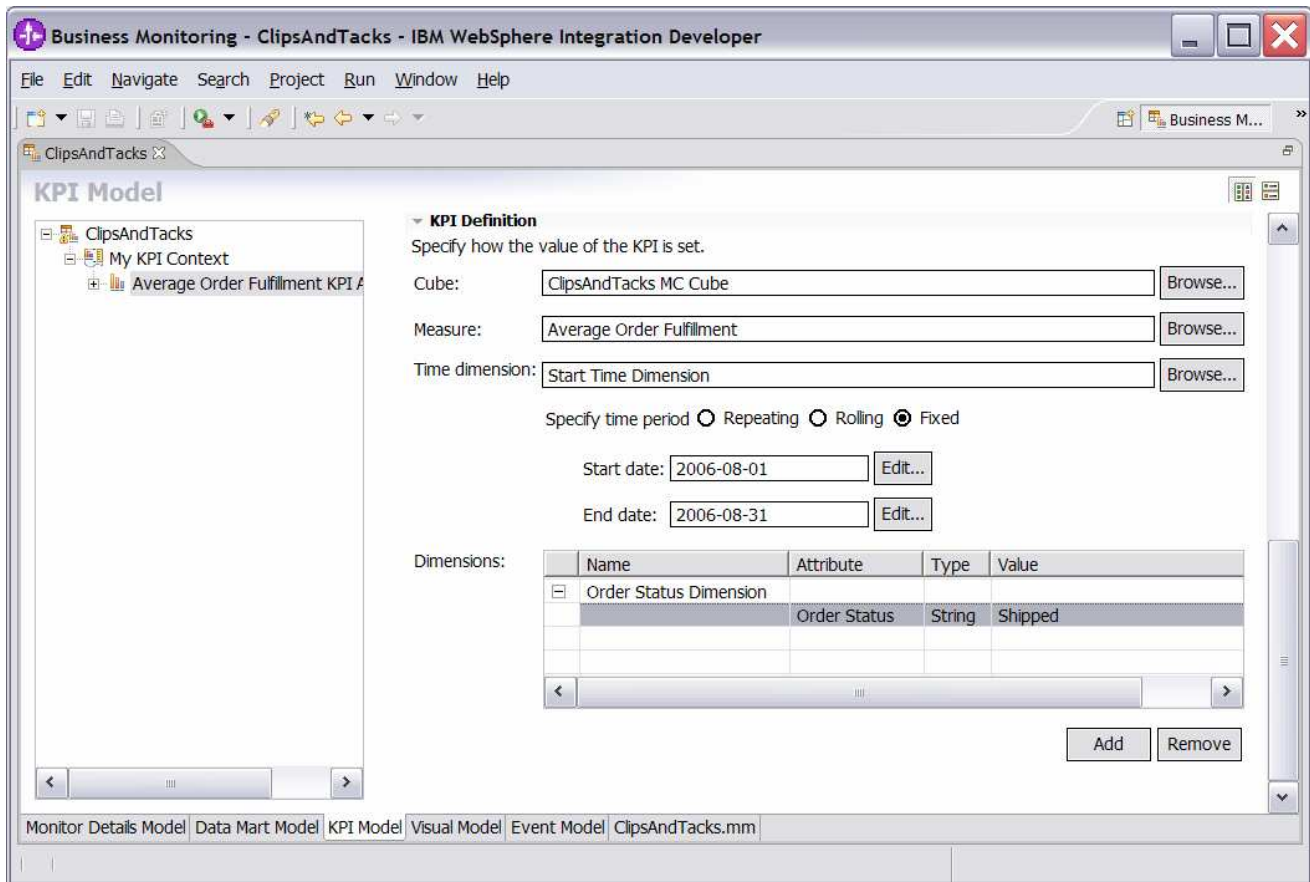


__ r. Update the order fulfillment KPI to use the order status dimension as a filter.

- 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
- 4) 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.



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

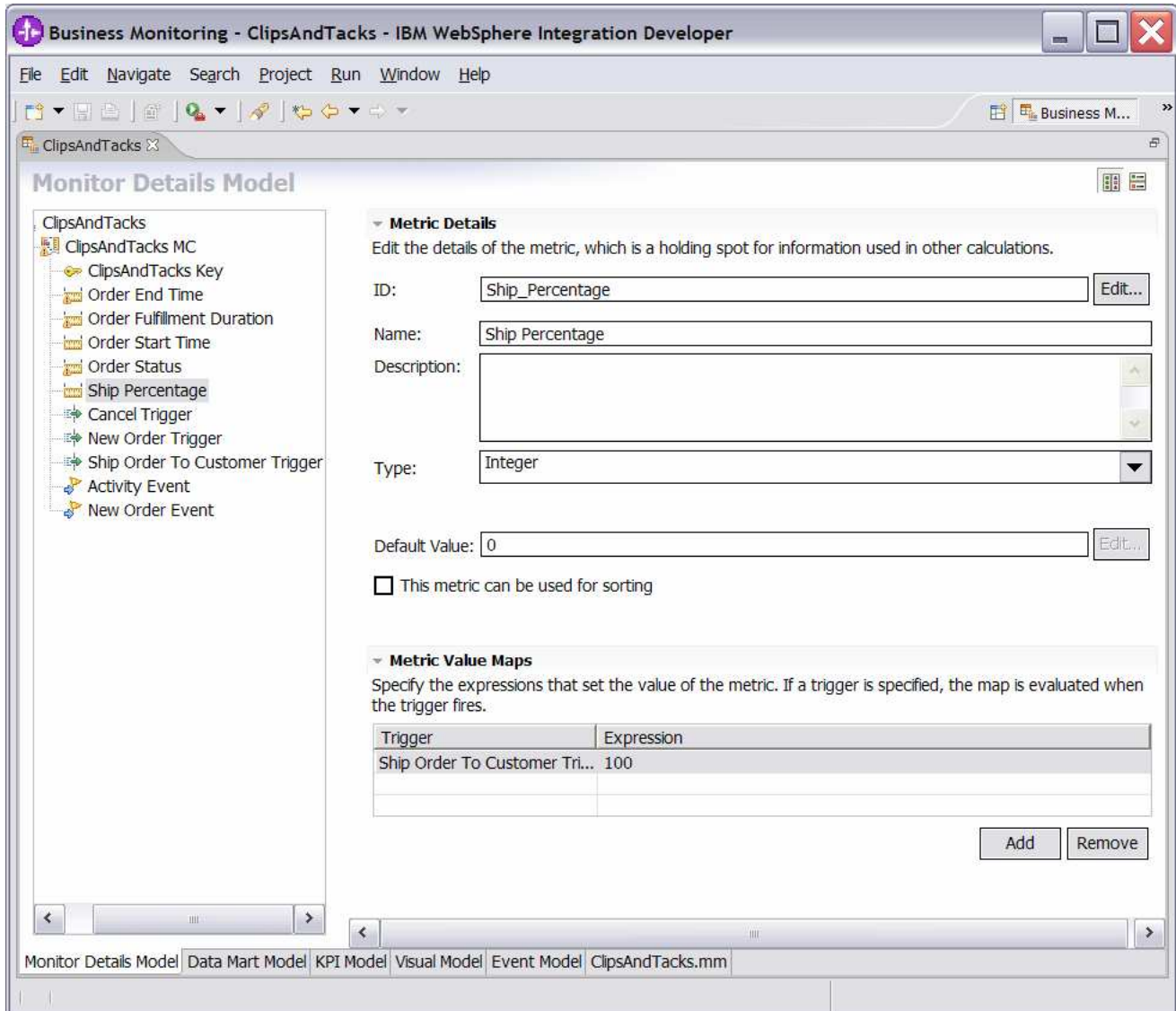
6) In the first row of the Metric Value Maps table, select the cell under column Trigger, then a button is shown, then click the button and select Trigger type > ClipsAndTacks MC > Ship Order to Customer Trigger, click OK

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



___ 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...**

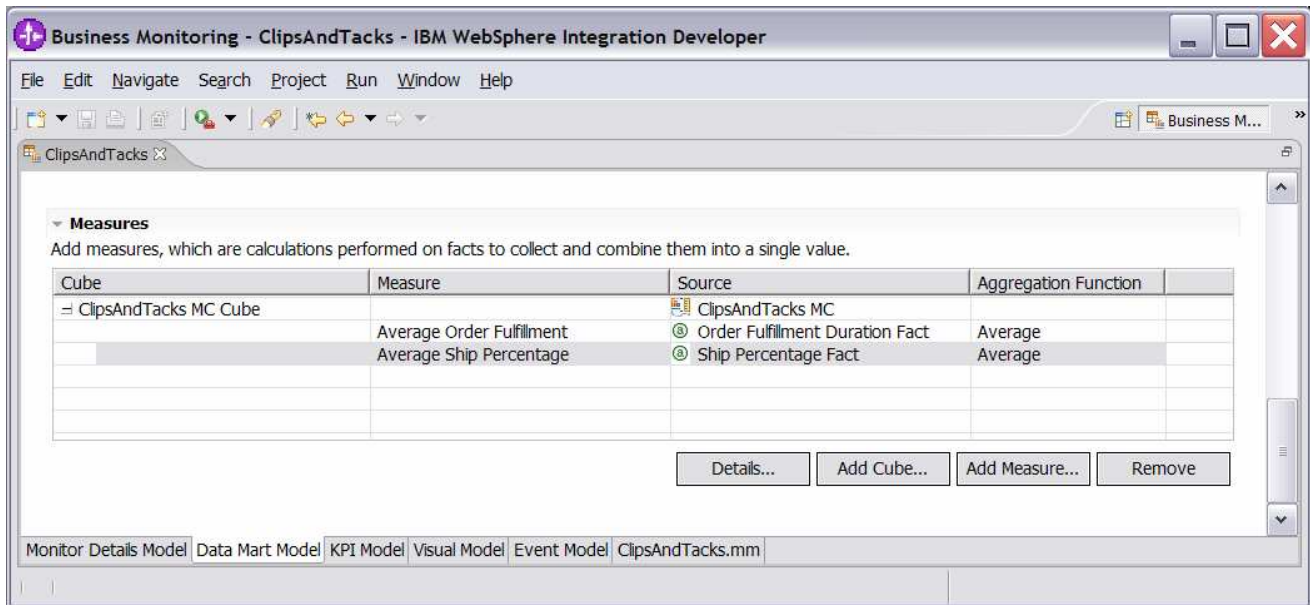
a) Name – Average Ship Percentage

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.

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

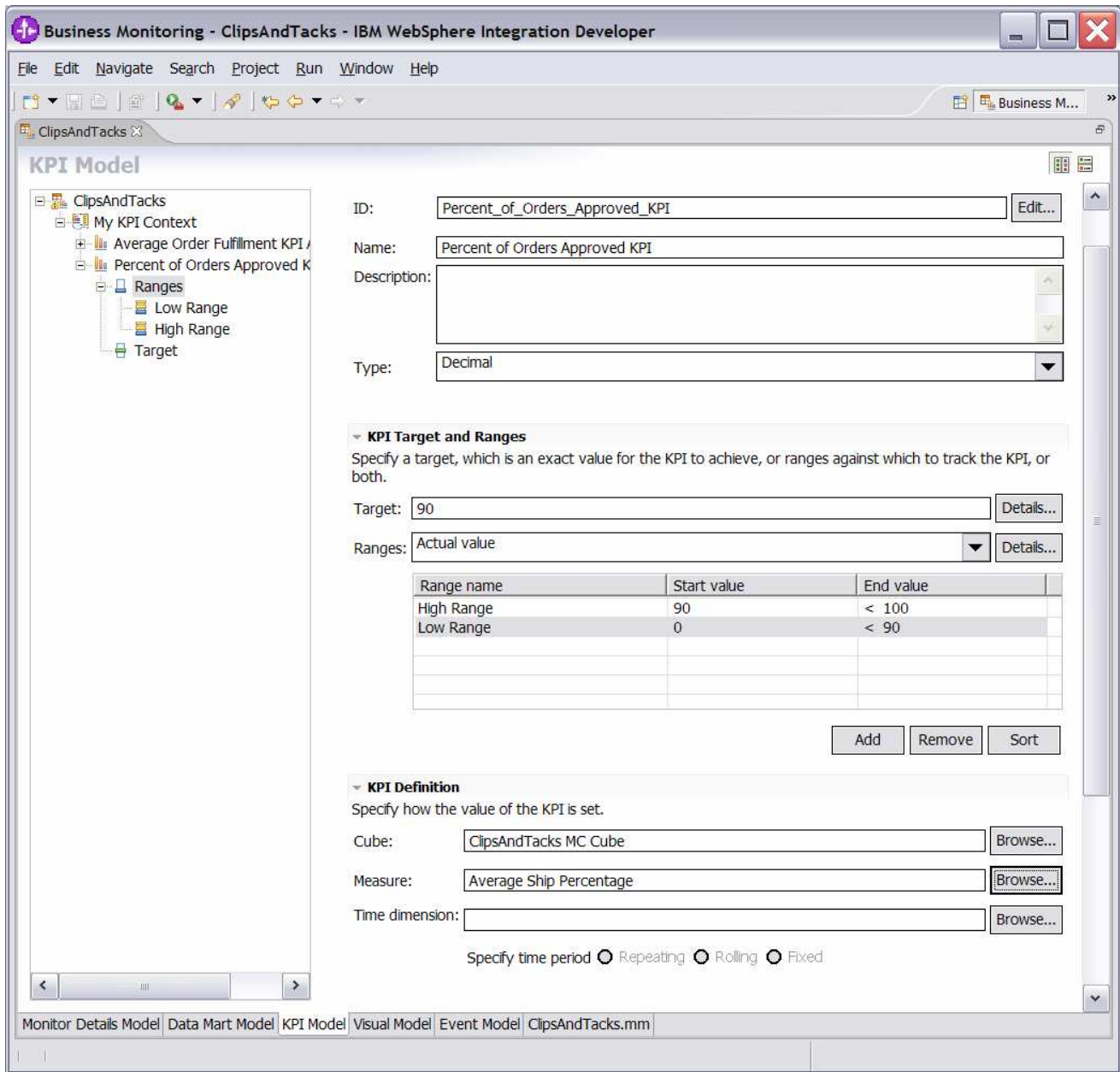
c) A row is created in the Range table with a range name High Range.

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.

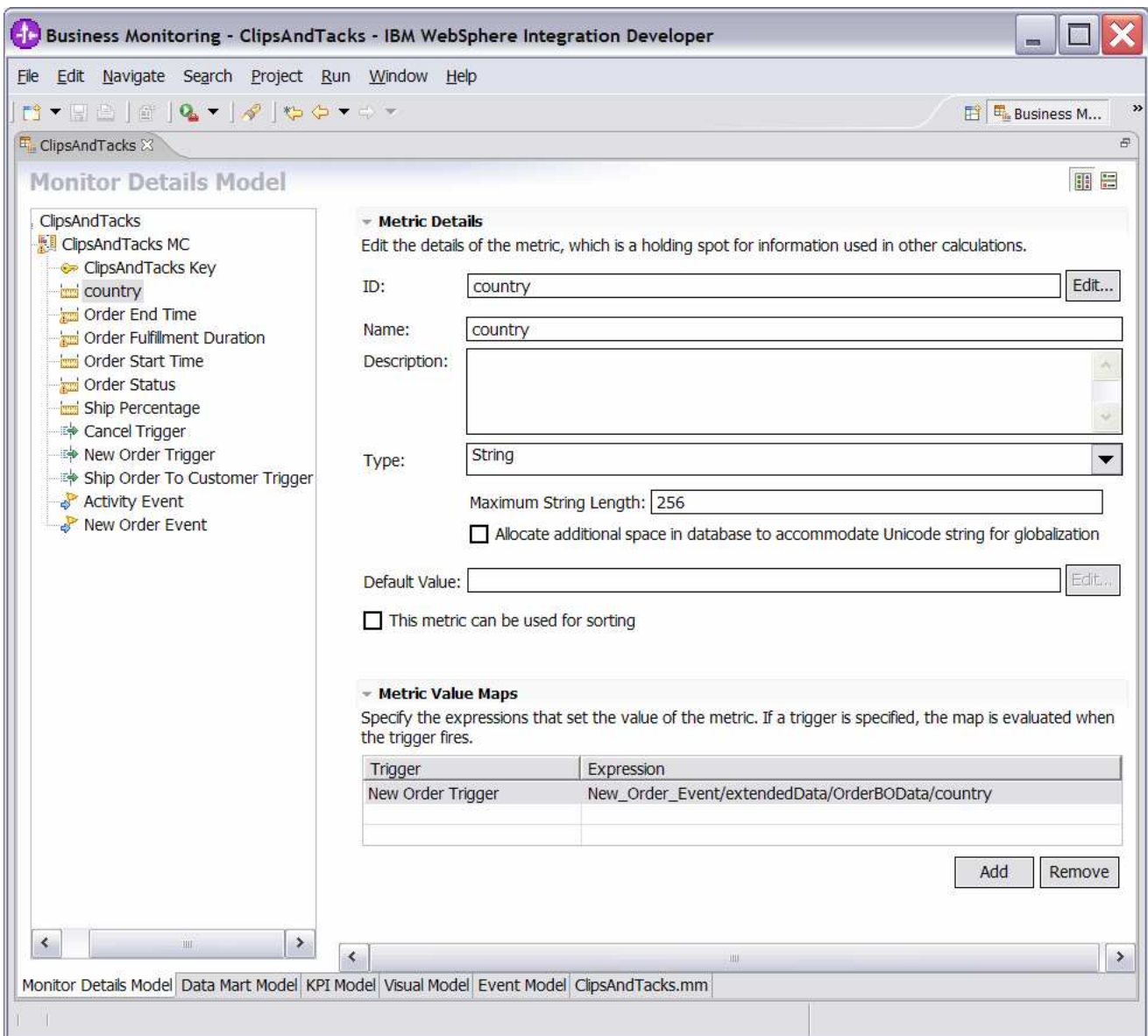
Note that the Start Time Dimension is based on the startTime from the common base event. If you want to add a time dimension, then you should check the values of startTime in the common base events to determine what range is appropriate for your testing.

- 9) Press **Ctrl-S** to save your work.



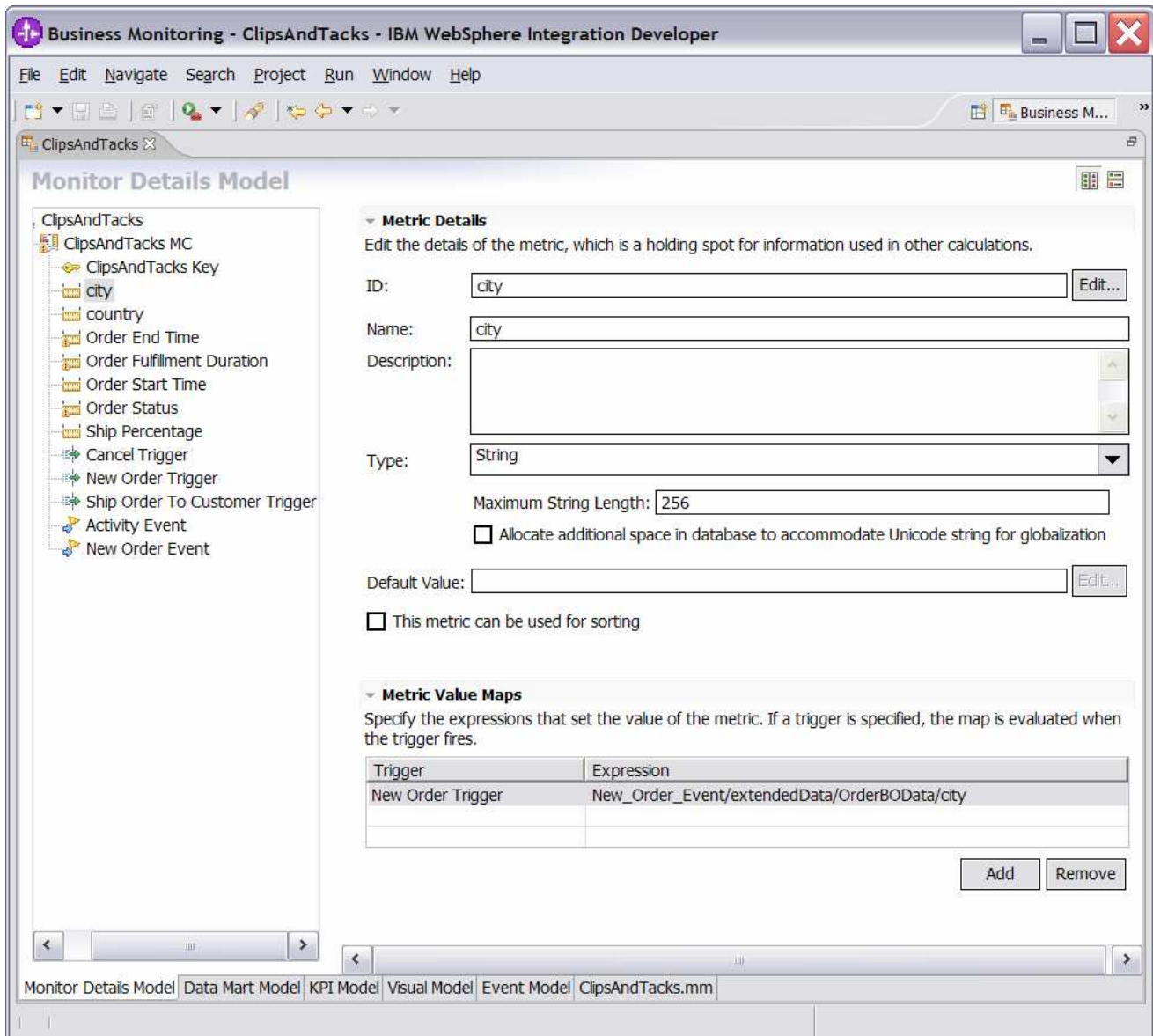
9. You might like to see the total order price, the average order price and the total number of orders. And you might be interested in seeing this information by country and city. So now you will create dimensions and measures that allow you to see this information. In order to see the country and city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



___ c. In the Monitor Details Model navigation view, right click on ClipsAndTacks MC, then select **New > Metric**. Enter these values:

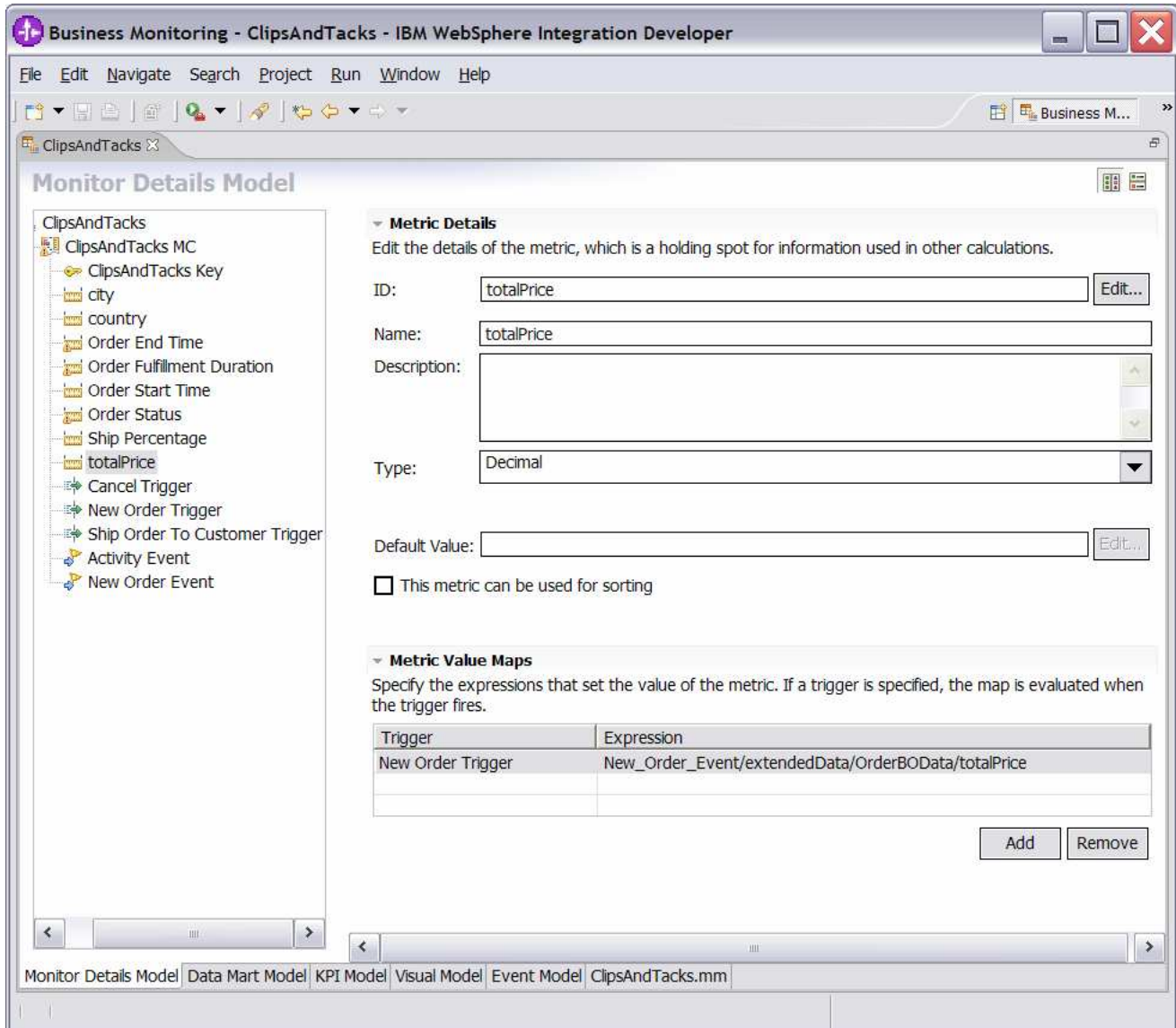
- 1) Name – city
- 2) ID – city
- 3) Type – String
- 4) For Metric Value Maps, click Add
- 5) In the first row of the Metric Value Maps table, select the cell under column Trigger, then a button is shown, then click the button and select Trigger type > ClipsAndTacks MC > New Order Trigger, click OK
- 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



___ d. In the Monitor Details Model navigation view, right click on ClipsAndTacks MC, then select **New > Metric**. Enter these values:

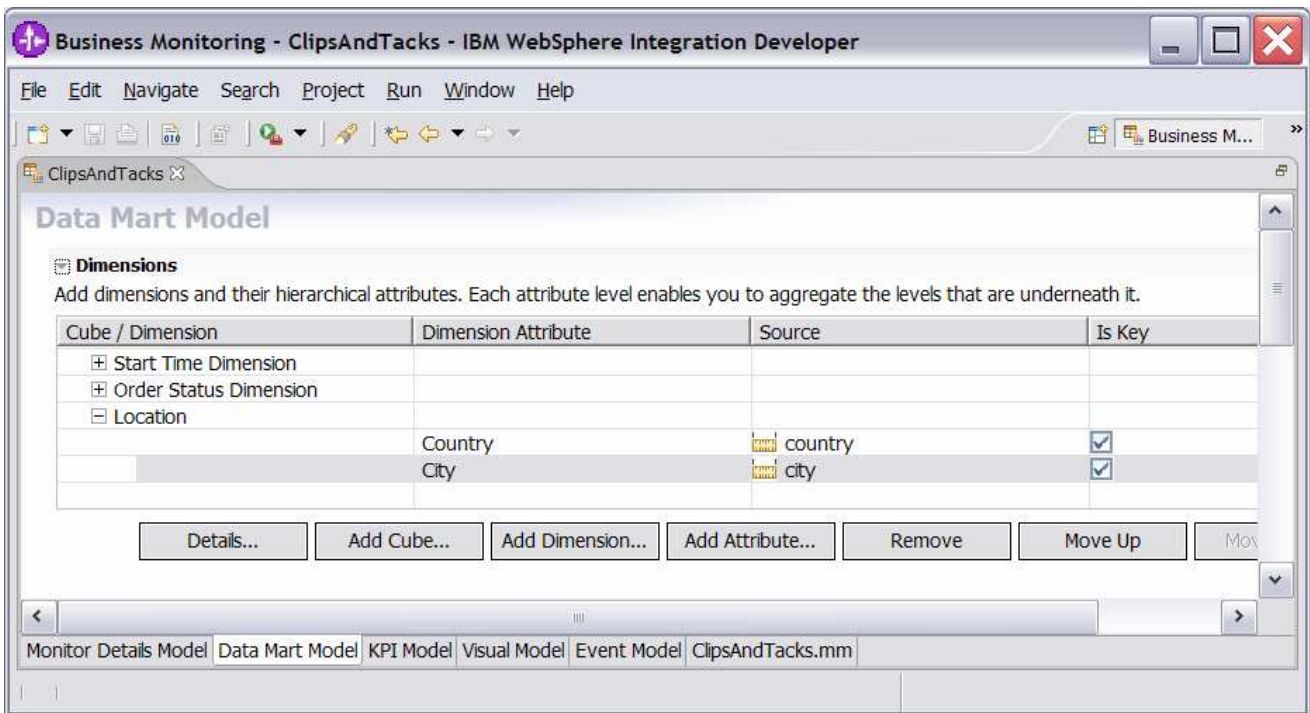
- 1) Name – totalPrice
- 2) ID – totalPrice
- 3) Type – Decimal
- 4) For Metric Value Maps, click Add
- 5) In the first row of the Metric Value Maps table, select the cell under column Trigger, then a button is shown, then click the button and select Trigger type > ClipsAndTacks MC > New Order Trigger, 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



- ___ 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...**

- 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.



- __ 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.

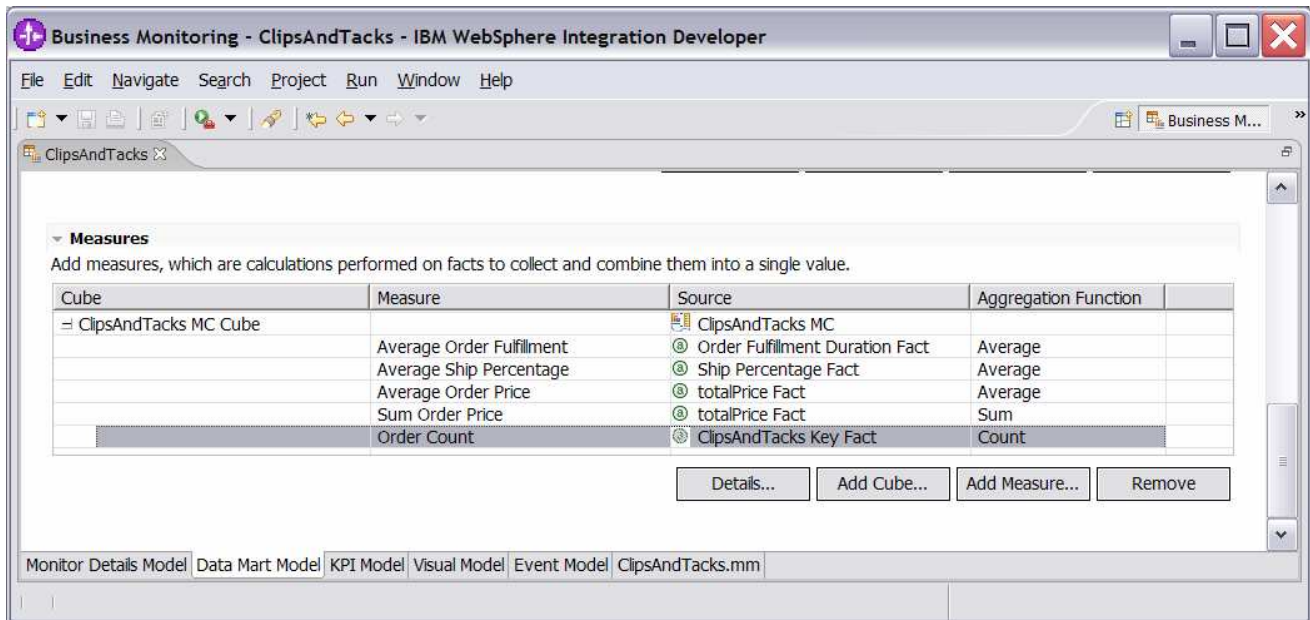
___ i. In the Data Mart Model, add a measure for sum of order price.

- 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.



____ 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.

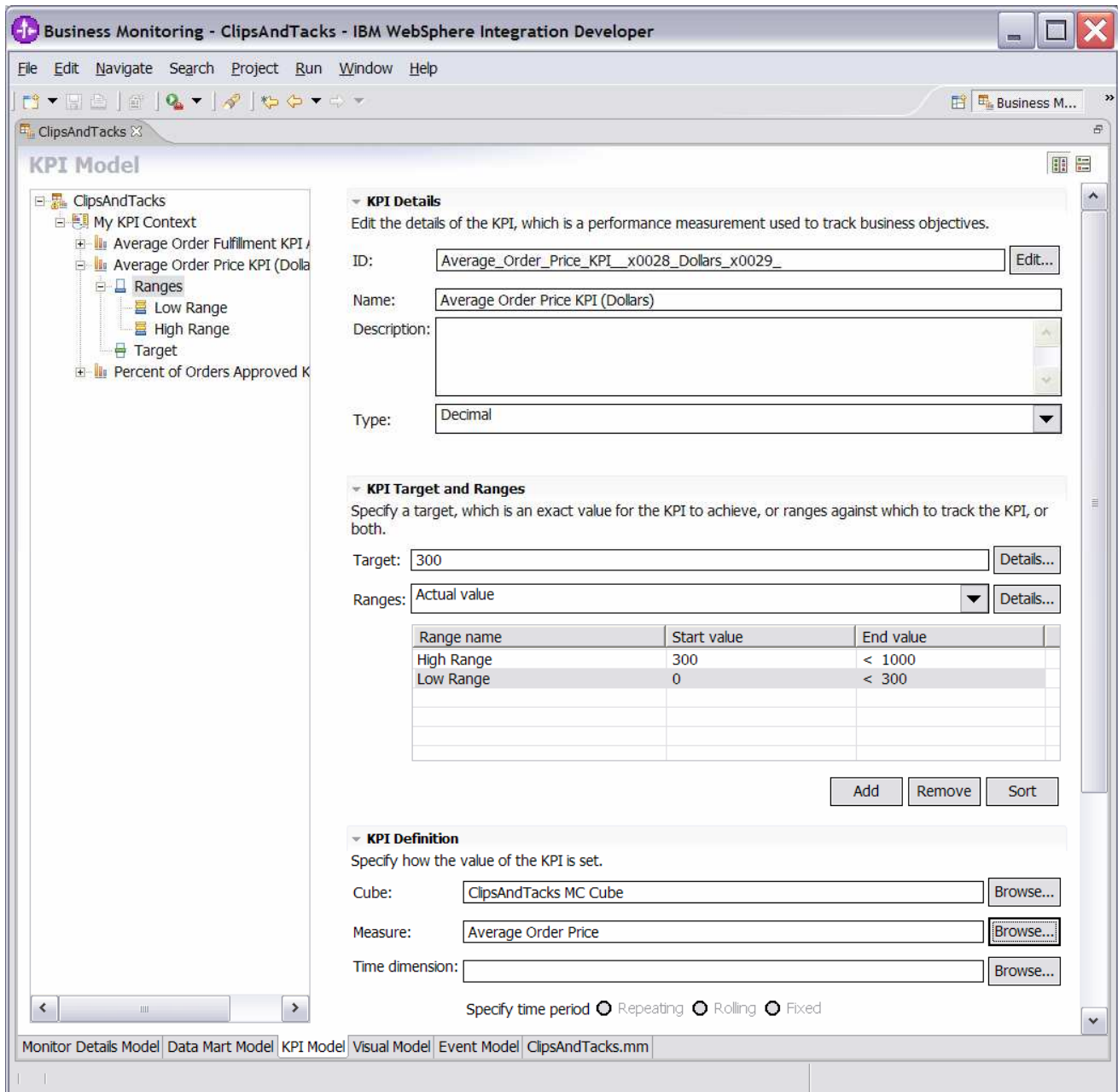
5) Now you have created one range called High Range. Repeat the above step to create another range:

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.

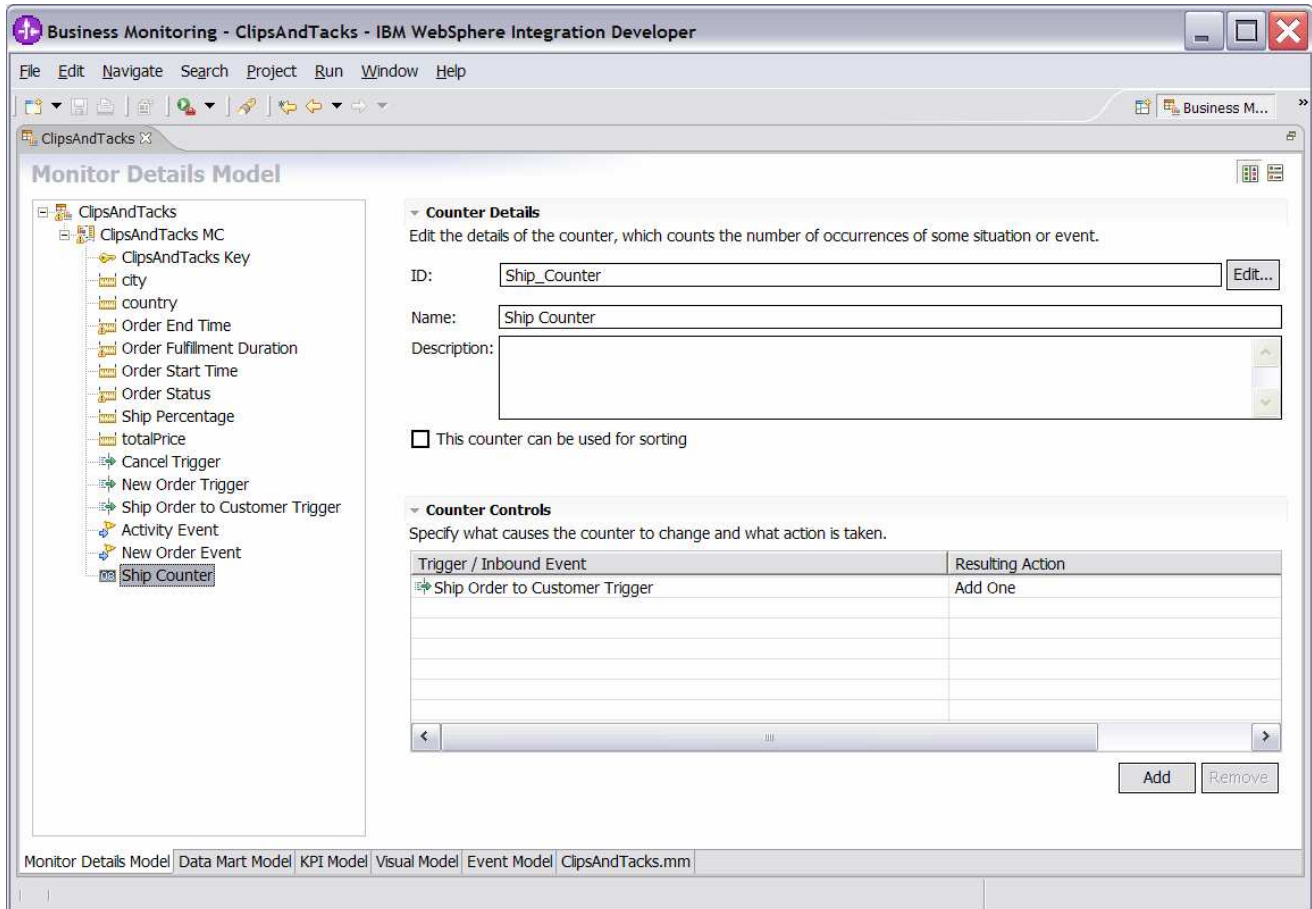
- 9) Press **Ctrl-S** to save your work.



(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

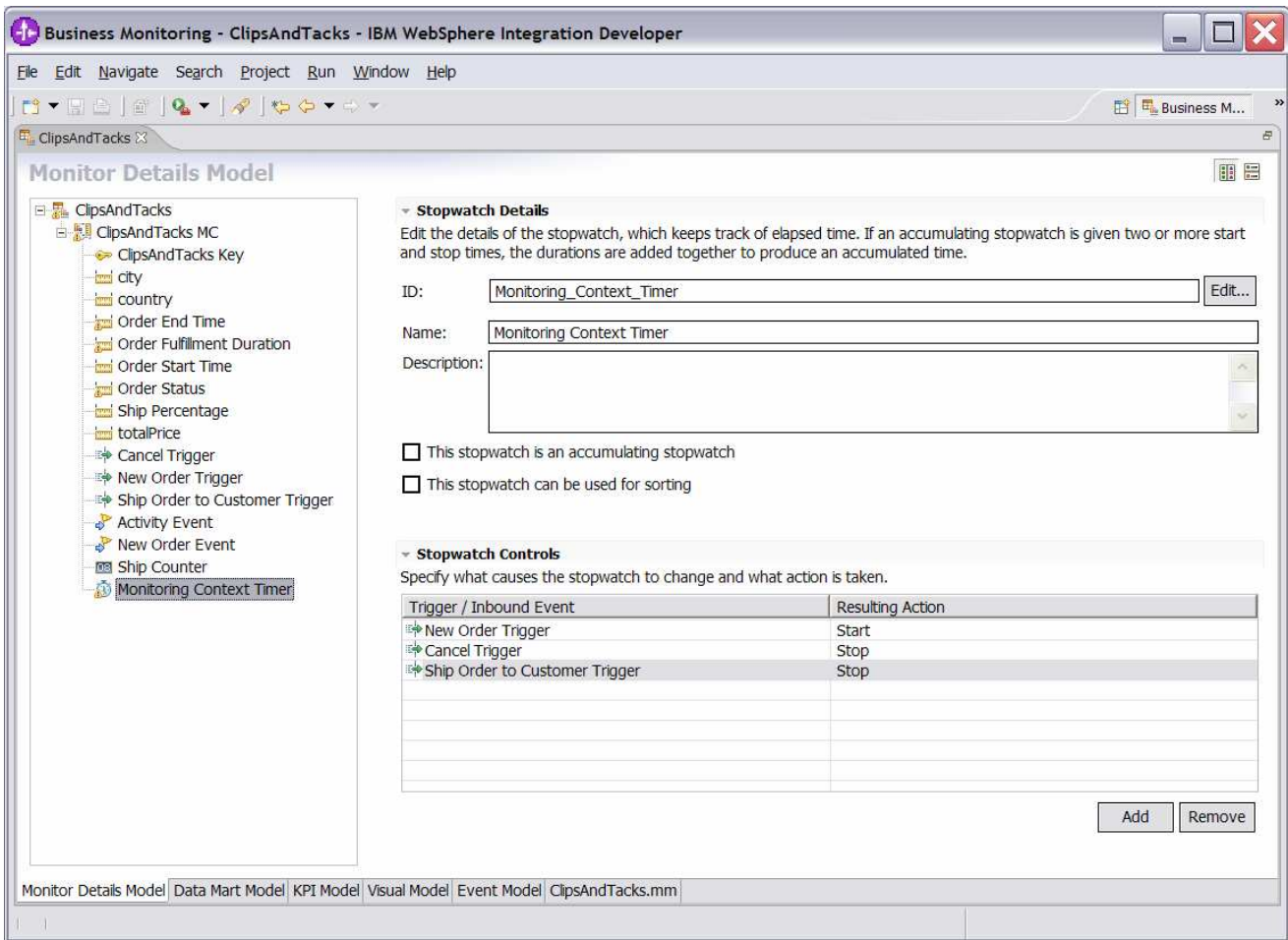
- ___ c. For Counter Controls, click Add, then select ClipsAndTacks MC > Ship Order to Customer Trigger, click OK
- ___ d. Note that the Resulting Action defaults to Add One, which is correct.
- ___ e. Click OK.
- ___ f. Press **Ctrl-S** to save your work



(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.

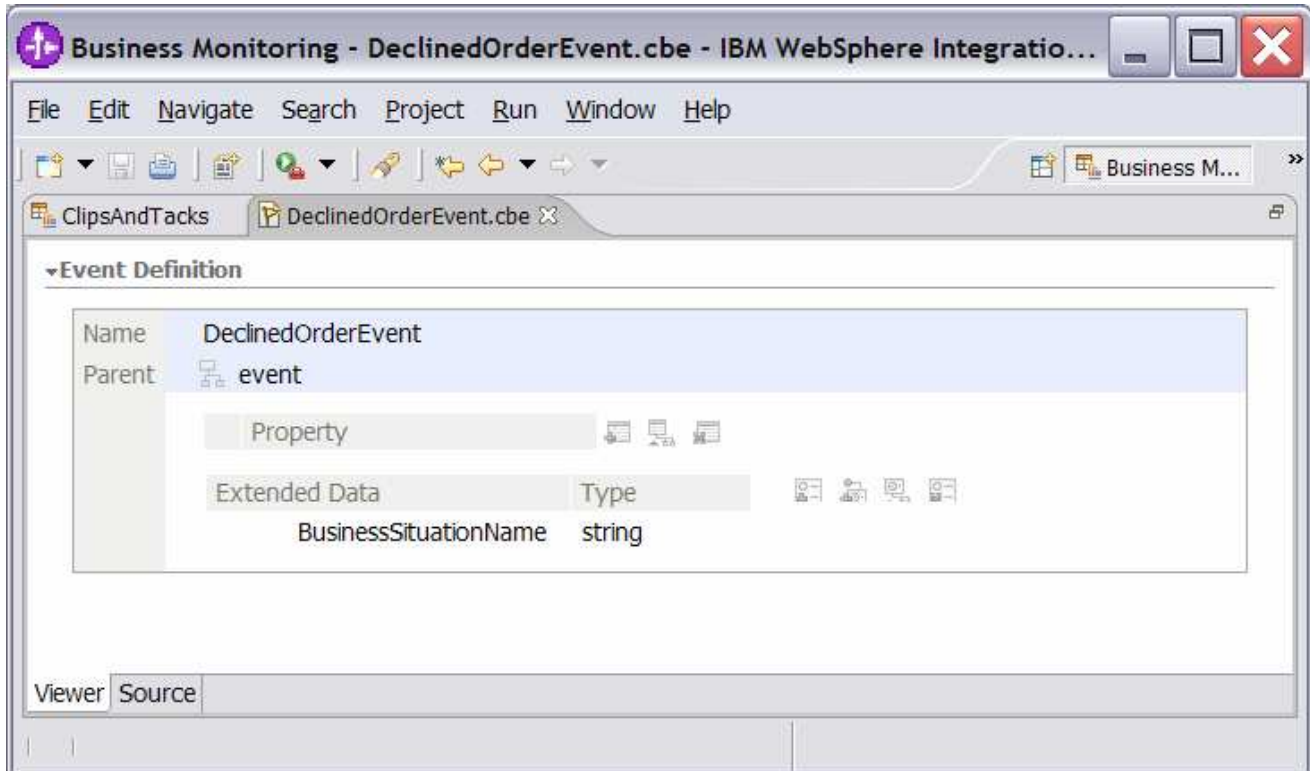
- ___ 12. **(Optional)** In the model navigation view, right click on ClipsAndTacks MC, then select **New > Stopwatch**. Enter these values:
 - ___ a. Name – Monitoring Context Timer
 - ___ b. ID – Monitoring_Context_Timer
 - ___ c. For Stopwatch Controls, click Add, then select ClipsAndTacks MC > New 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.



- ___ 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.



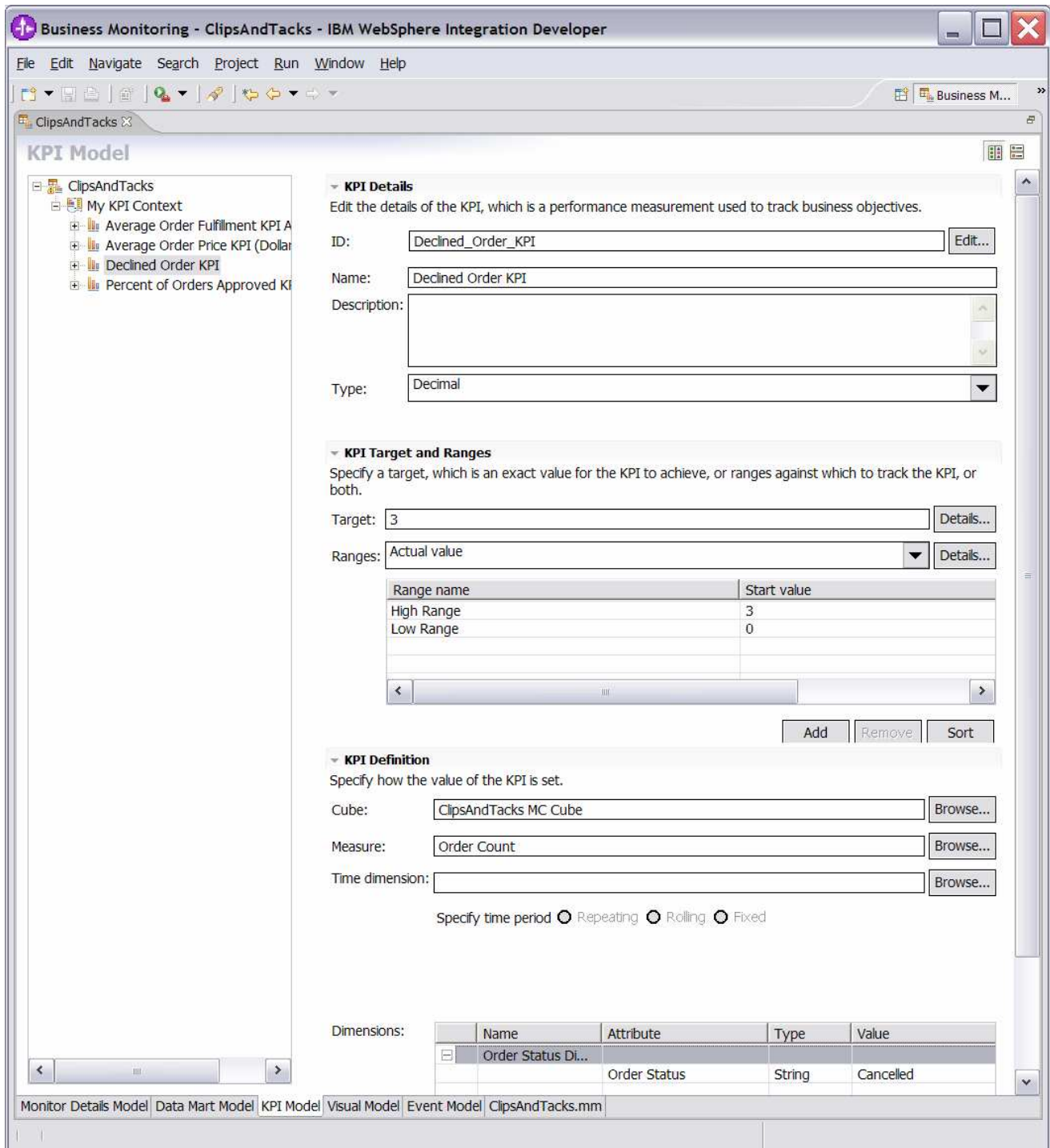
- ___ h. Click the **KPI Model tab** for the ClipsAndTacks model.
- ___ i. In the navigation view of the KPI Model, right click on My KPI Context, then select **New > KPI**
 - 1) Name – Declined Order KPI
 - 2) ID - Declined_Order_KPI
- ___ j. Enter these values:
 - 1) Type – Decimal
 - 2) Target – 3
 - 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.

- 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
- 6) 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
- 10) 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.



___ 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

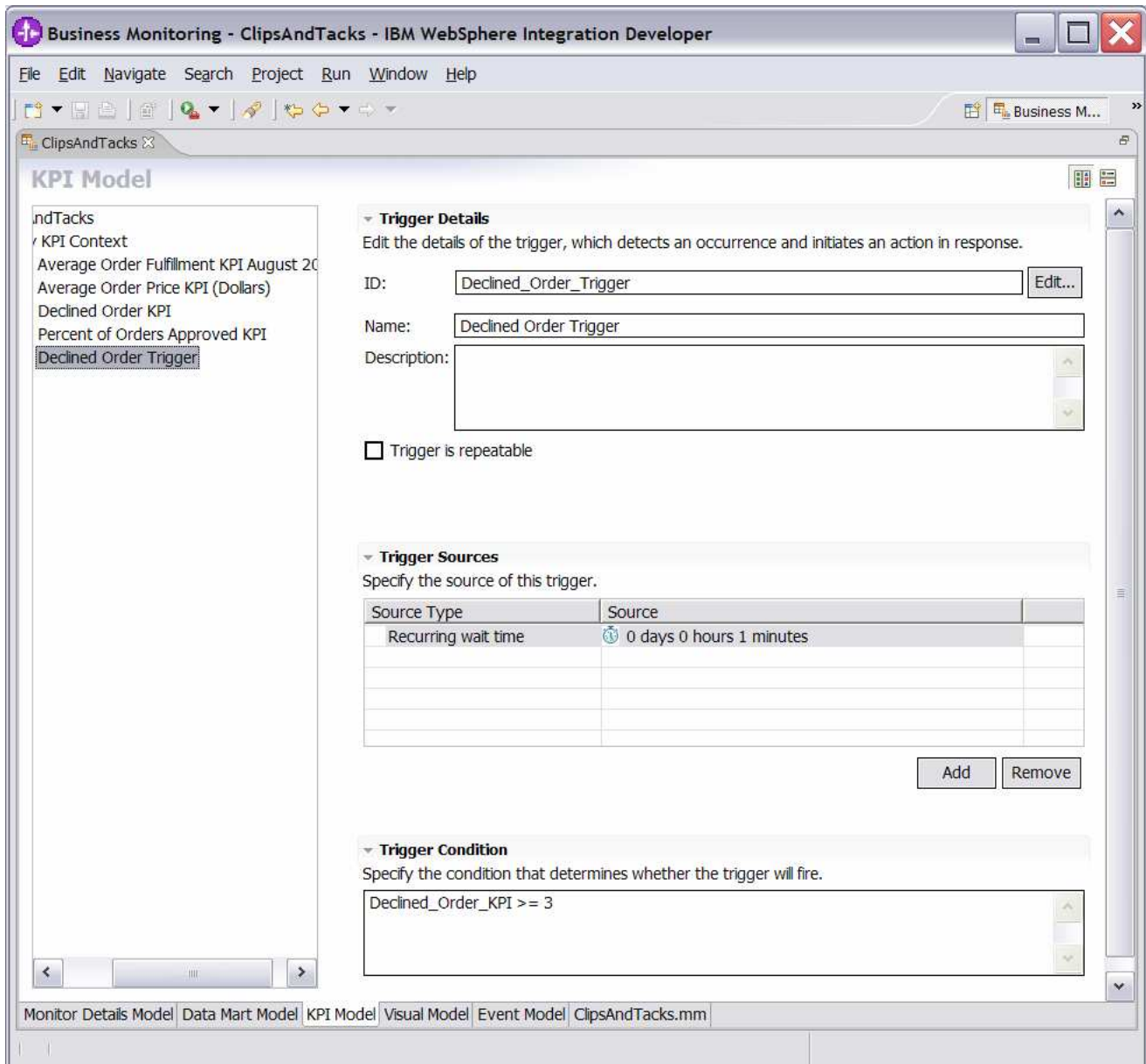
___ l. Enter these values:

- 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.



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

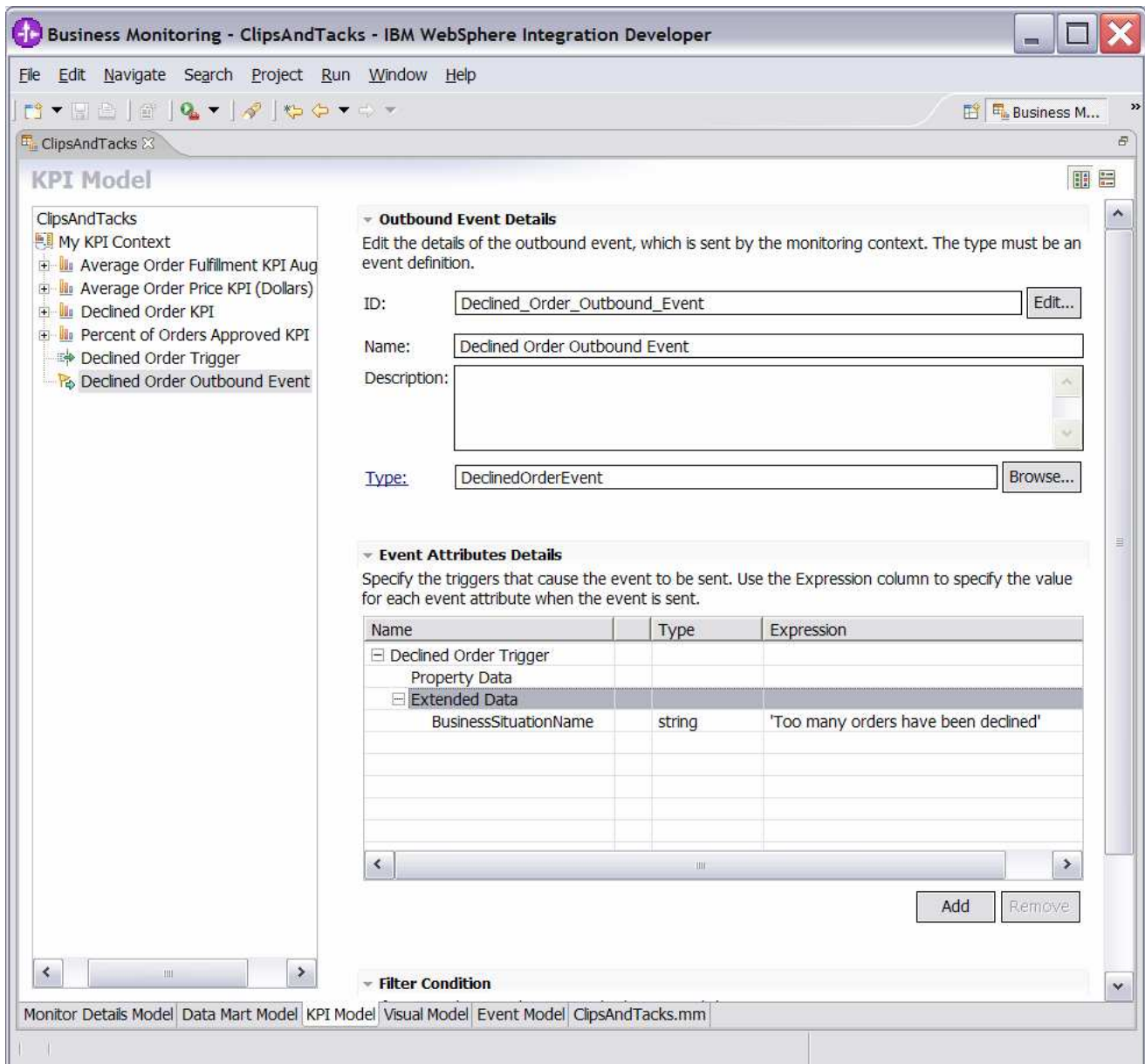
- 1) Name – Declined Order Outbound Event
- 2) ID - Declined_Order_Outbound_Event

___ 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
- 4) In the table, on the same row as BusinessSituationName, set Expression to (include the quotes):

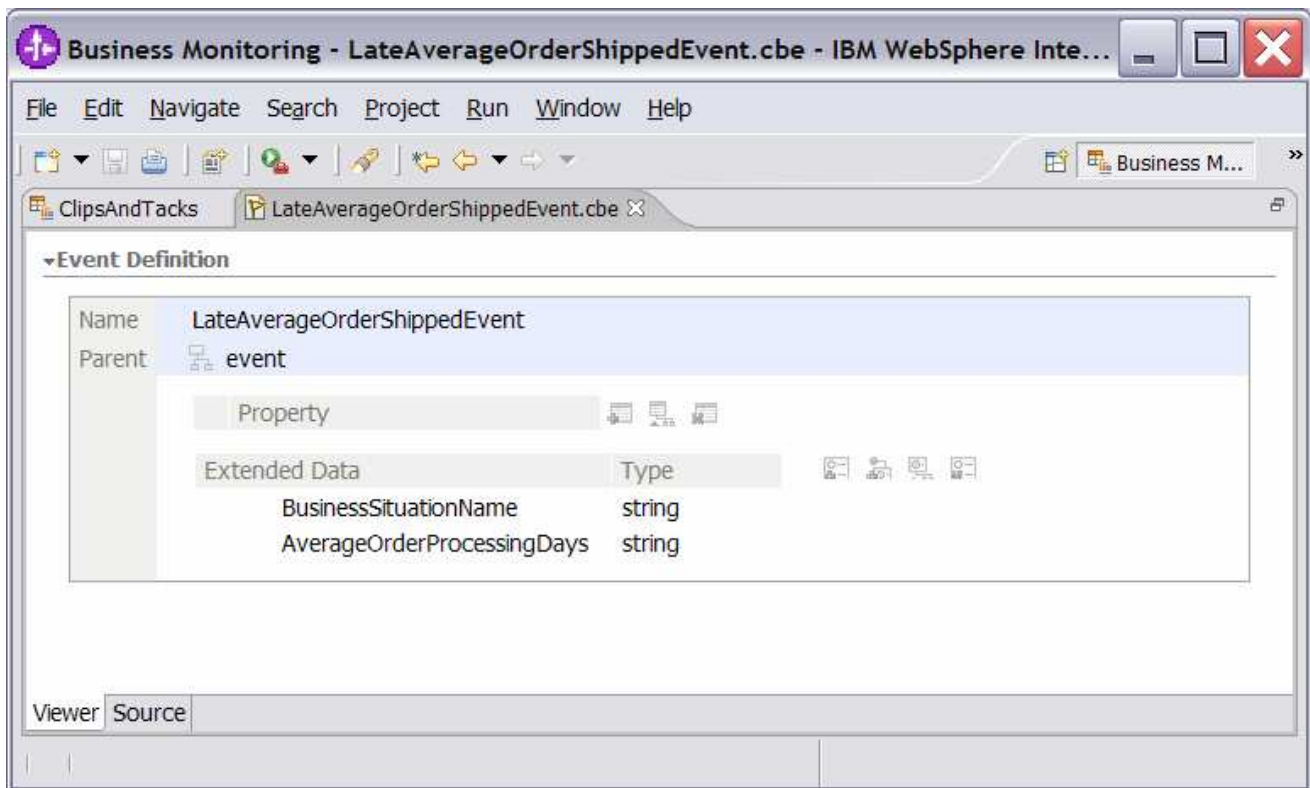
'Too many orders have been declined'

___ p. Press **Ctrl-S** to save your work.



___ 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.

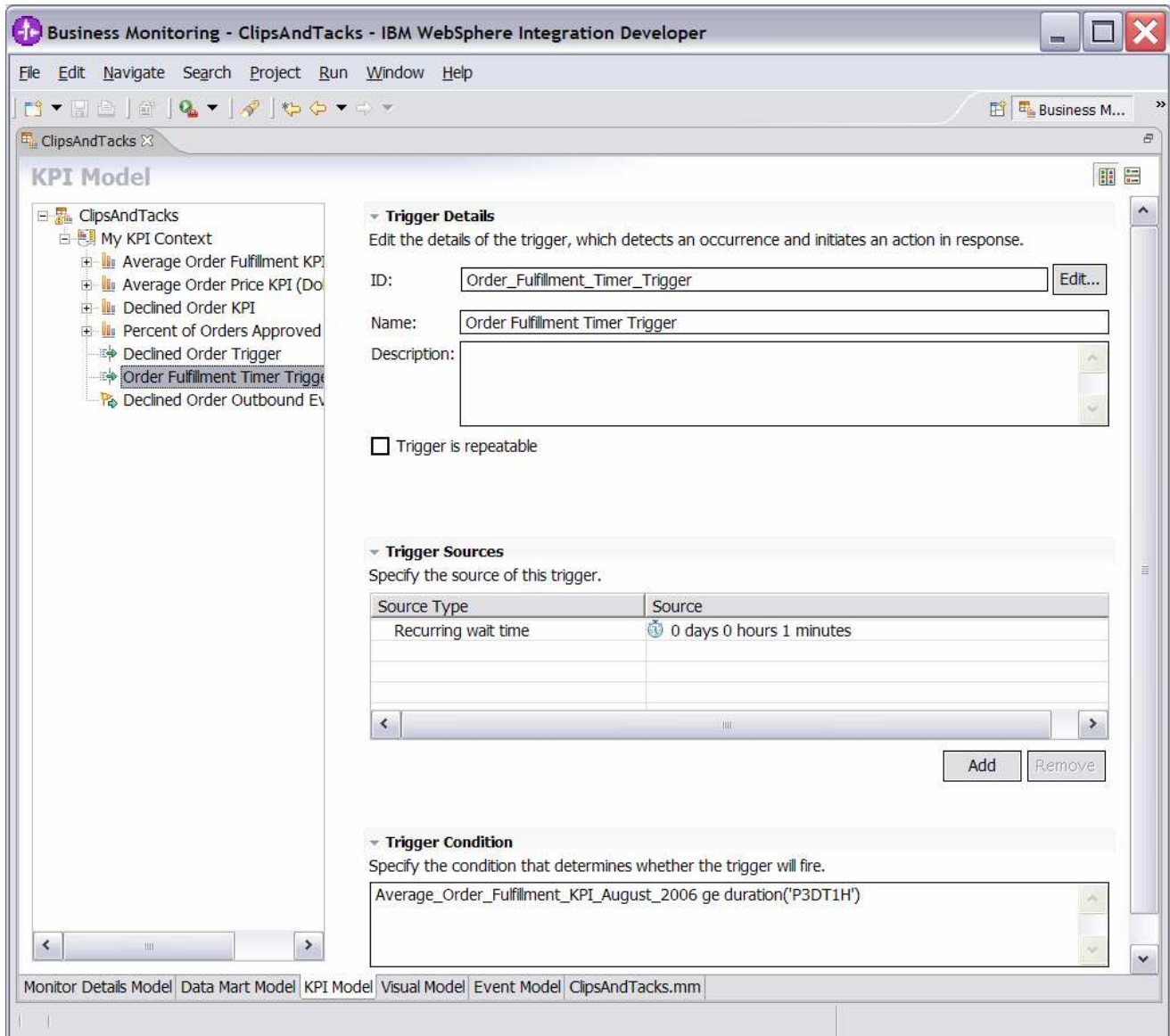


- ___ k. In the navigation view of the KPI Model, right click on My KPI Context, then select **New > Trigger**
 - 1) Name – Order Fulfillment Timer Trigger
 - 2) ID - Order_Fulfillment_Timer_Trigger
- ___ l. Enter these values:

- 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.



__ 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
- 4) In the table, on the same row as BusinessSituationName, set Expression to (include the single quotes):

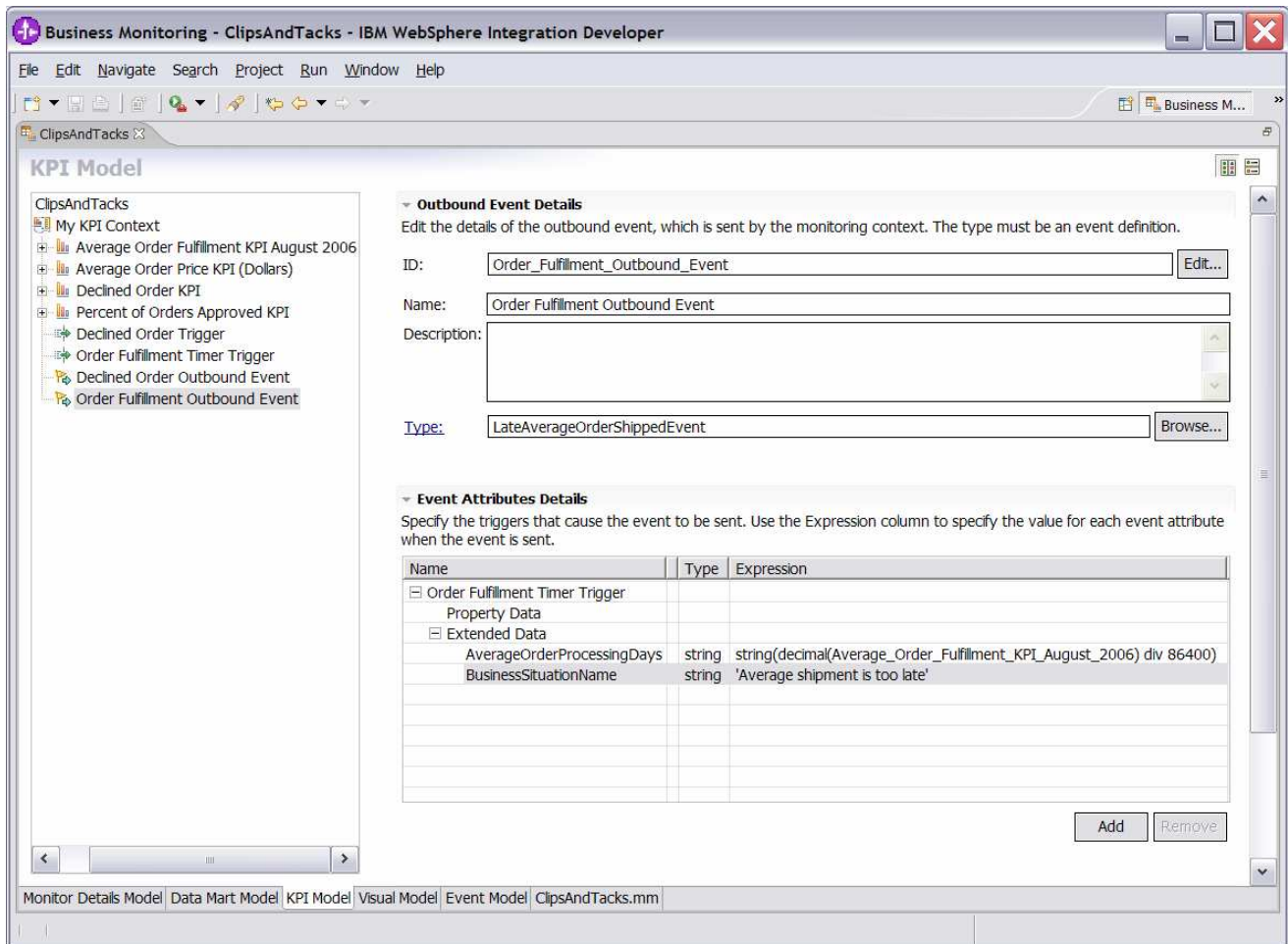
'Average shipment is too late'

- 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.

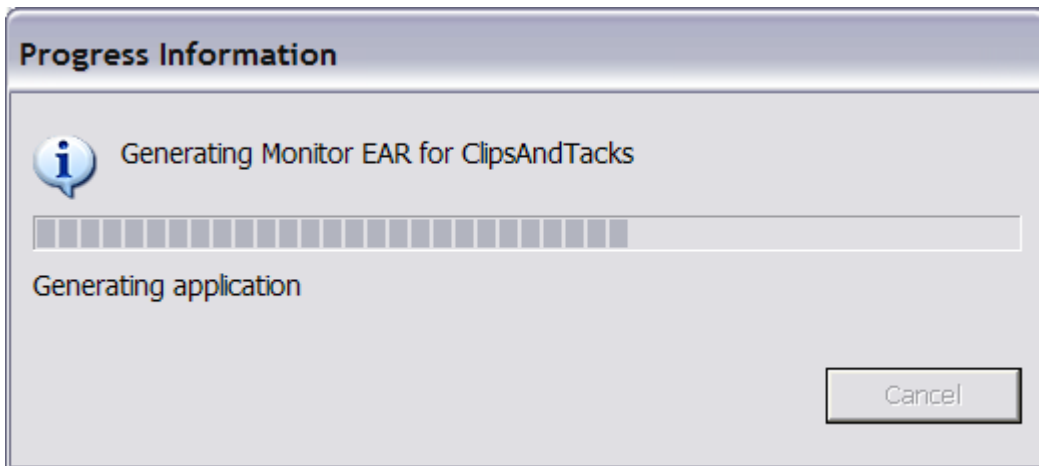


____ 15. Check for any errors in the Problems view. You should resolve any errors before continuing.

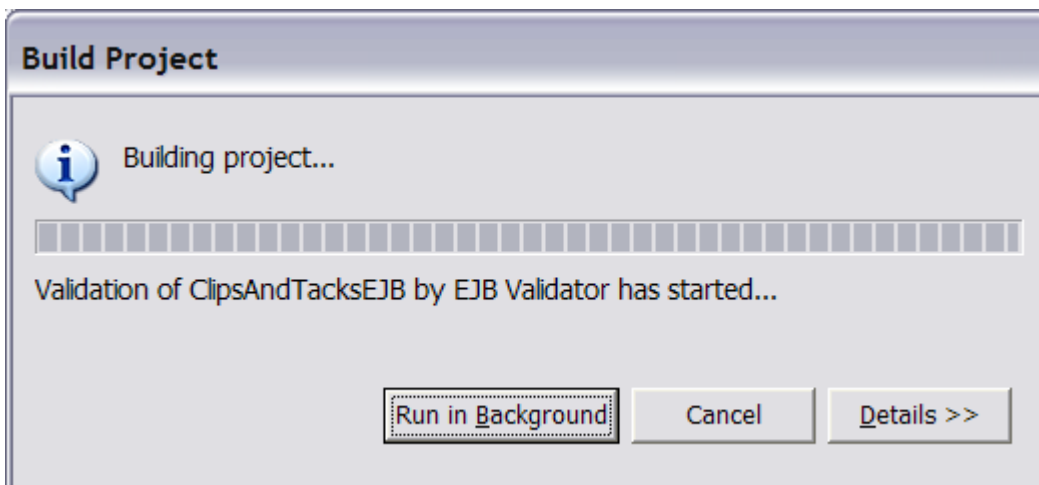
Part 2: Generate the EAR for the monitoring model

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

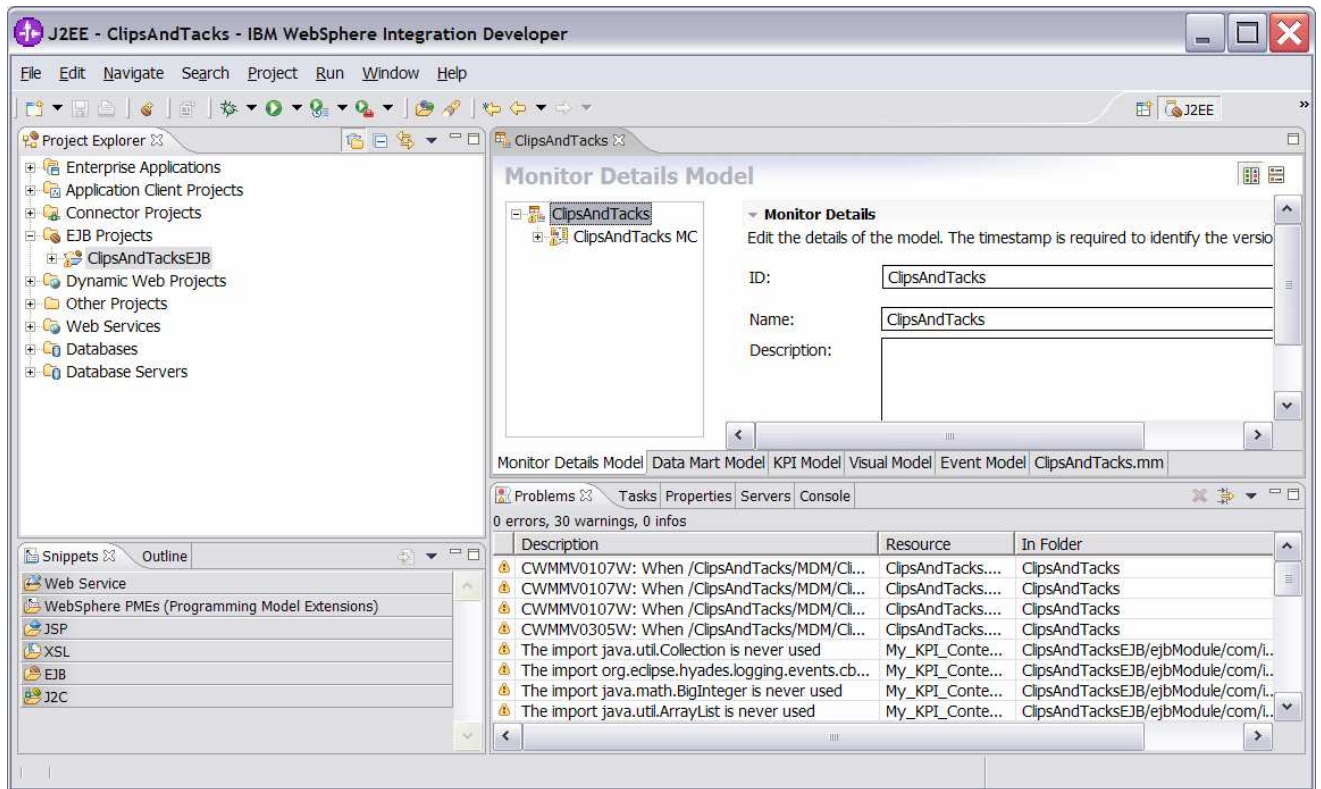
- ___ 1. In Project Explorer, right click ClipsAndTacks > Monitoring Models > ClipsAndTacks, then select Generate Monitor EAR
- ___ 2. Select Overwrite existing projects, then select Finish
- ___ 3. A progress dialog shows the status of the operation and it closes when the operation is complete:



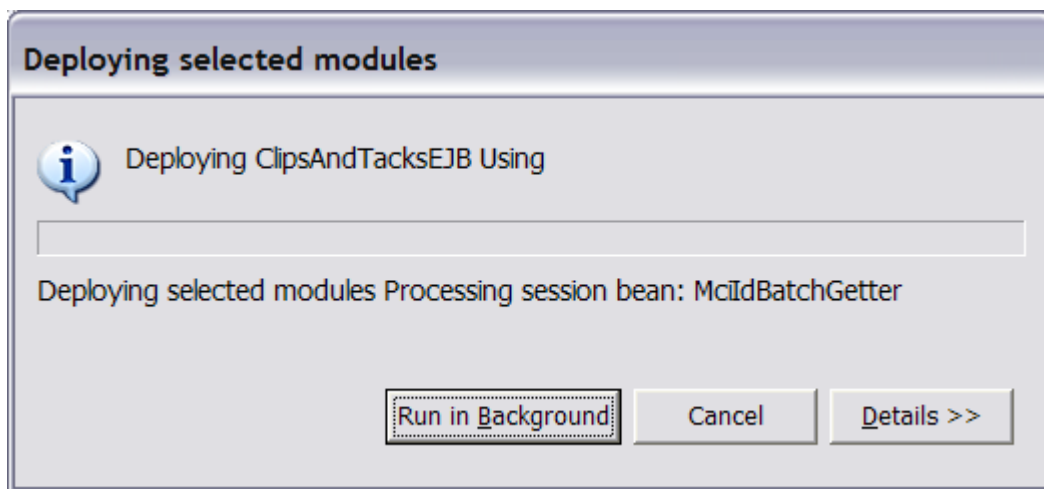
- ___ 4. Select Window > Open Perspective > Other..., then select J2EE
- ___ 5. In Project Explorer, right click **EJB Projects > ClipsAndTacksEJB**, then select **Build Project** (If **Project > Build Automatically** is selected, then Build Project is not shown in the context menu nor enabled in the **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:



- ___ 7. Check for errors in the Problems view. There may be warnings, but there should not be any errors:



- ___ 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:

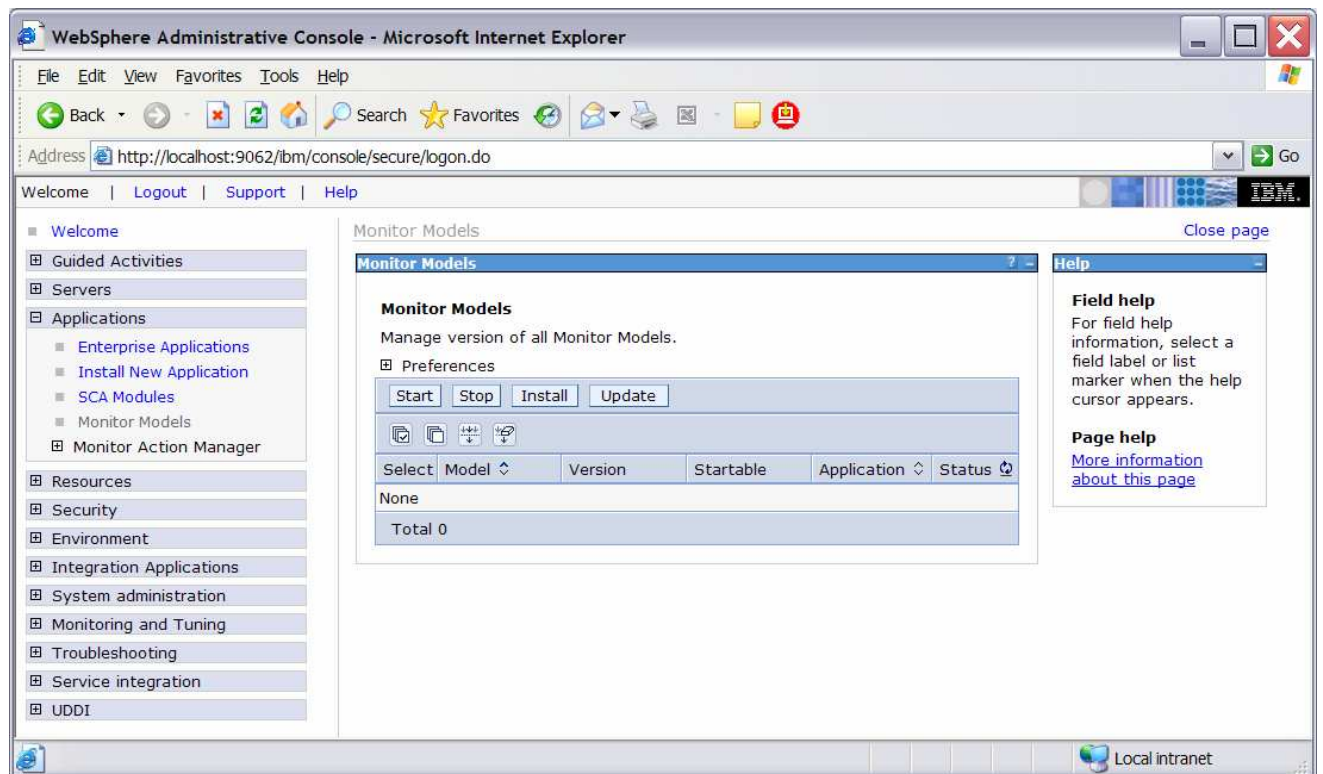


- ___ 10. In Project Explorer, right click **Enterprise Applications > ClipsAndTacksEAR**, then select **Export... > EAR file**
- ___ 11. Enter a destination folder, and then click **Finish**. **ClipsAndTacksEAR.ear** will be created in this folder.

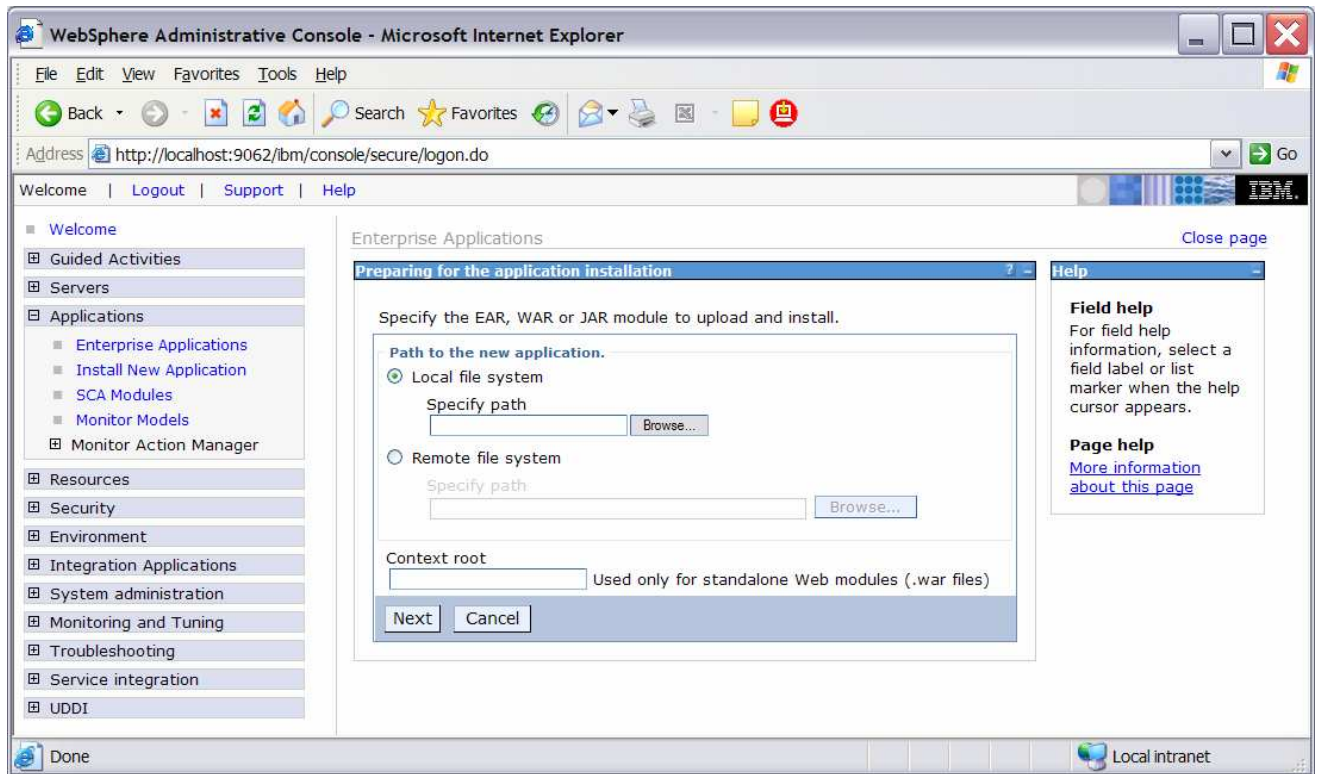
Part 3: Deploy the monitoring model

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

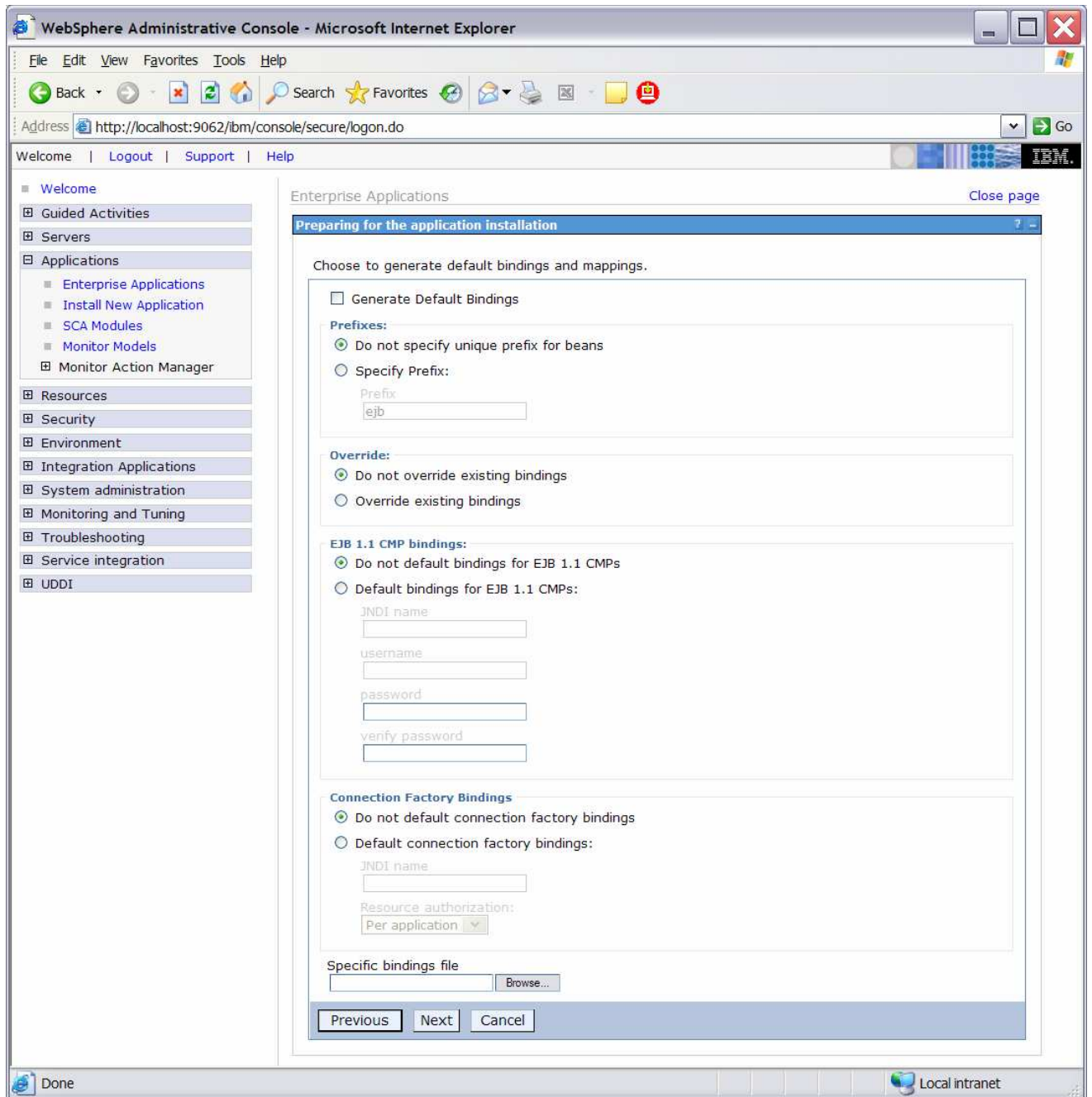
- ___ 1. Start the Monitor server and bring up the administrative console
 - ___ a. In Windows, select **Start > All Programs > IBM WebSphere > Process Server 6.0 > Profiles > wbmonitor > Start the server**
 - ___ b. In Windows, select **Start > All Programs > IBM WebSphere > Process Server 6.0 > Profiles > wbmonitor > Administrative console**
- ___ 2. Install the monitor model
 - ___ a. In the administrative console menu, select **Applications > Monitor Models**



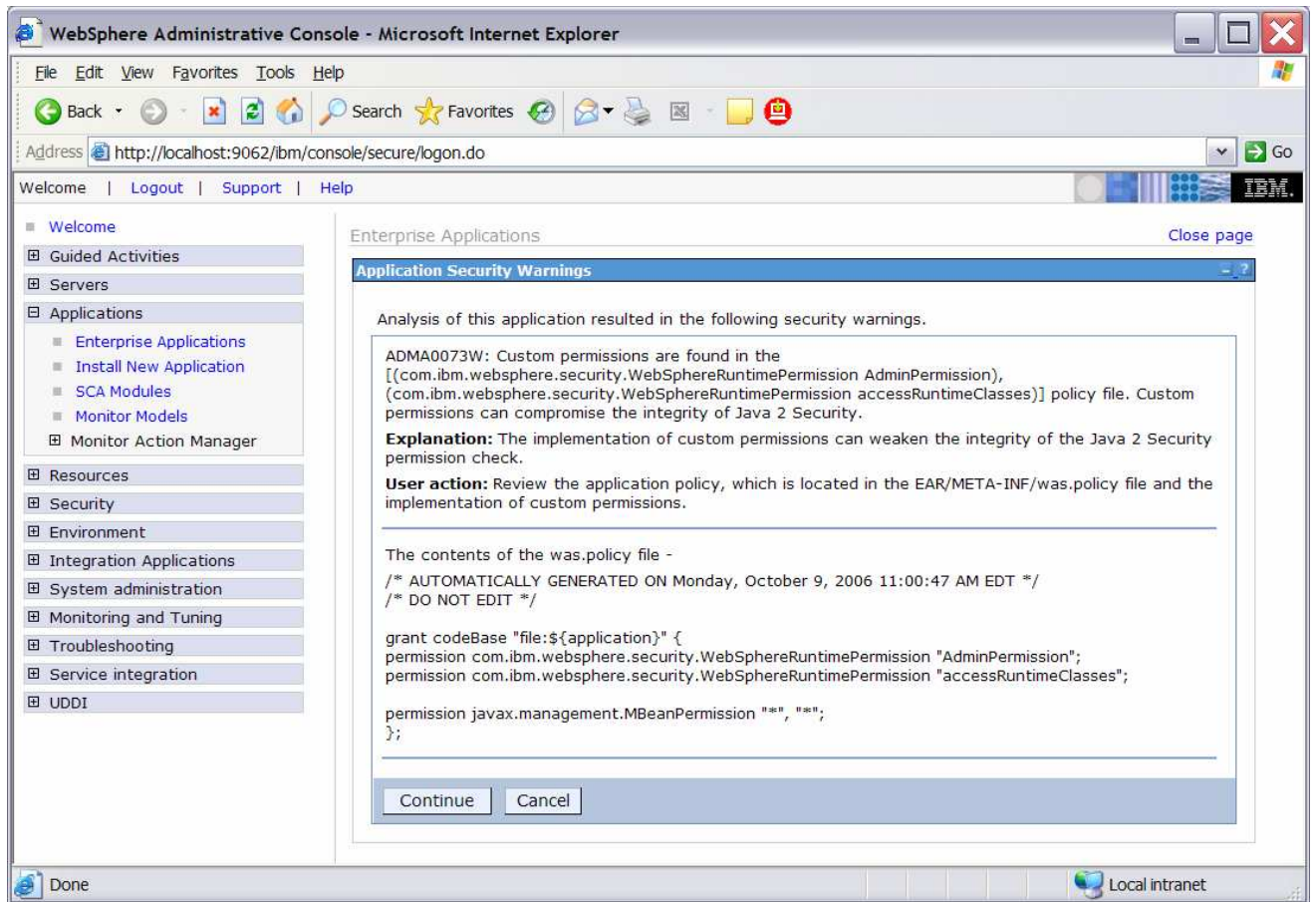
- ___ b. Click **Install**



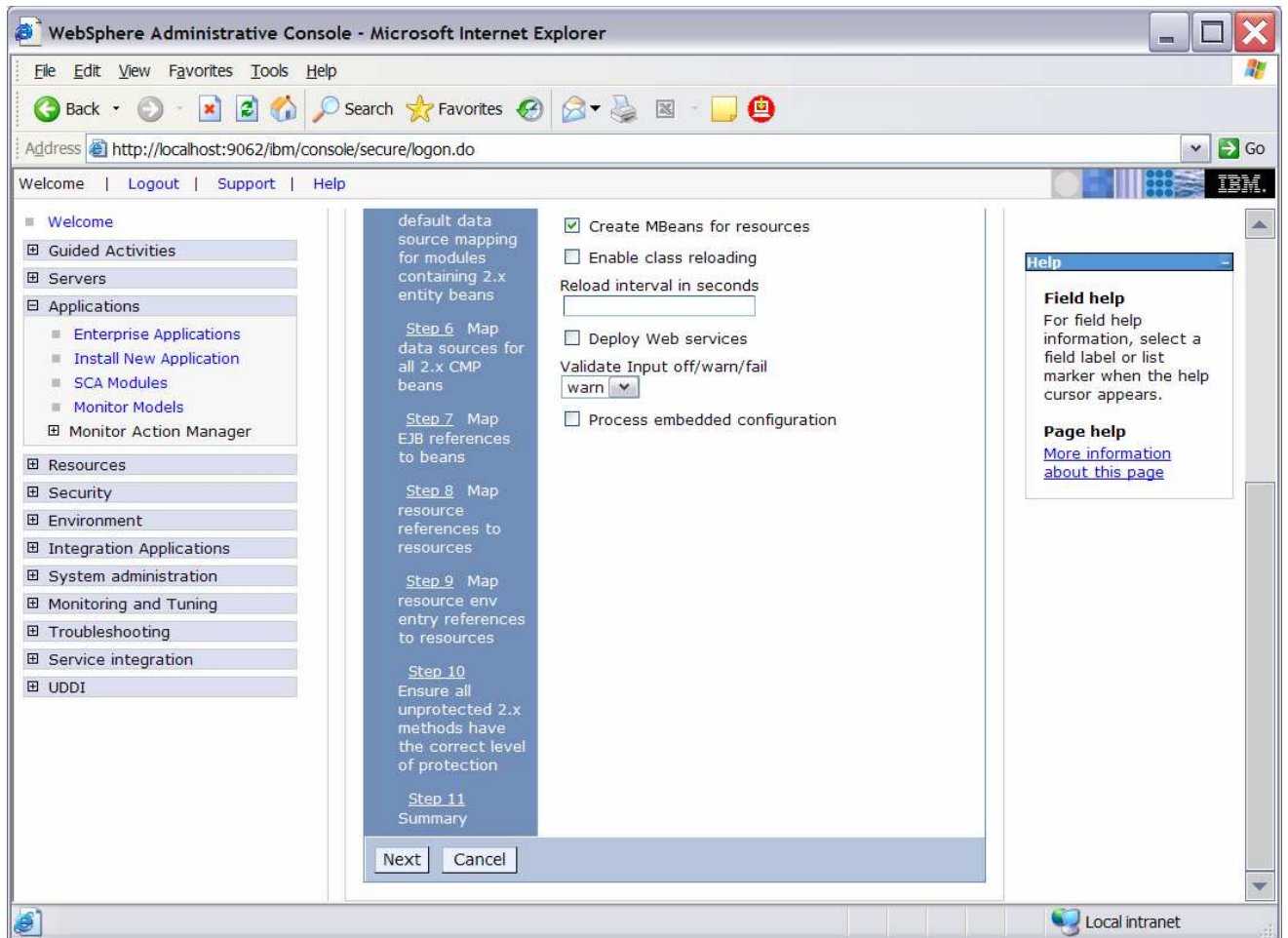
- ___ c. Browse to **ClipsAndTacksEAR.ear**. This is the EAR file that you created in WebSphere Integration Developer.
- ___ d. Click **Next**



__ e. Click **Next**



___ f. Click **Continue**



___ g. Take the defaults for the installation, so just click **Step 11**

WebSphere Administrative Console - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Address http://localhost:9062/ibm/console/secure/logon.do

Welcome | Logout | Support | Help

- Welcome
- Guided Activities
- Servers
- Applications
 - Enterprise Applications
 - Install New Application
 - SCA Modules
 - Monitor Models
- Monitor Action Manager
- Resources
- Security
- Environment
- Integration Applications
- System administration
- Monitoring and Tuning
- Troubleshooting
- Service integration
- UDDI

Step 4 Provide JNDI Names for Beans

Step 5 Provide default data source mapping for modules containing 2.x entity beans

Step 6 Map data sources for all 2.x CMP beans

Step 7 Map EJB references to beans

Step 8 Map resource references to resources

Step 9 Map resource env entry references to resources

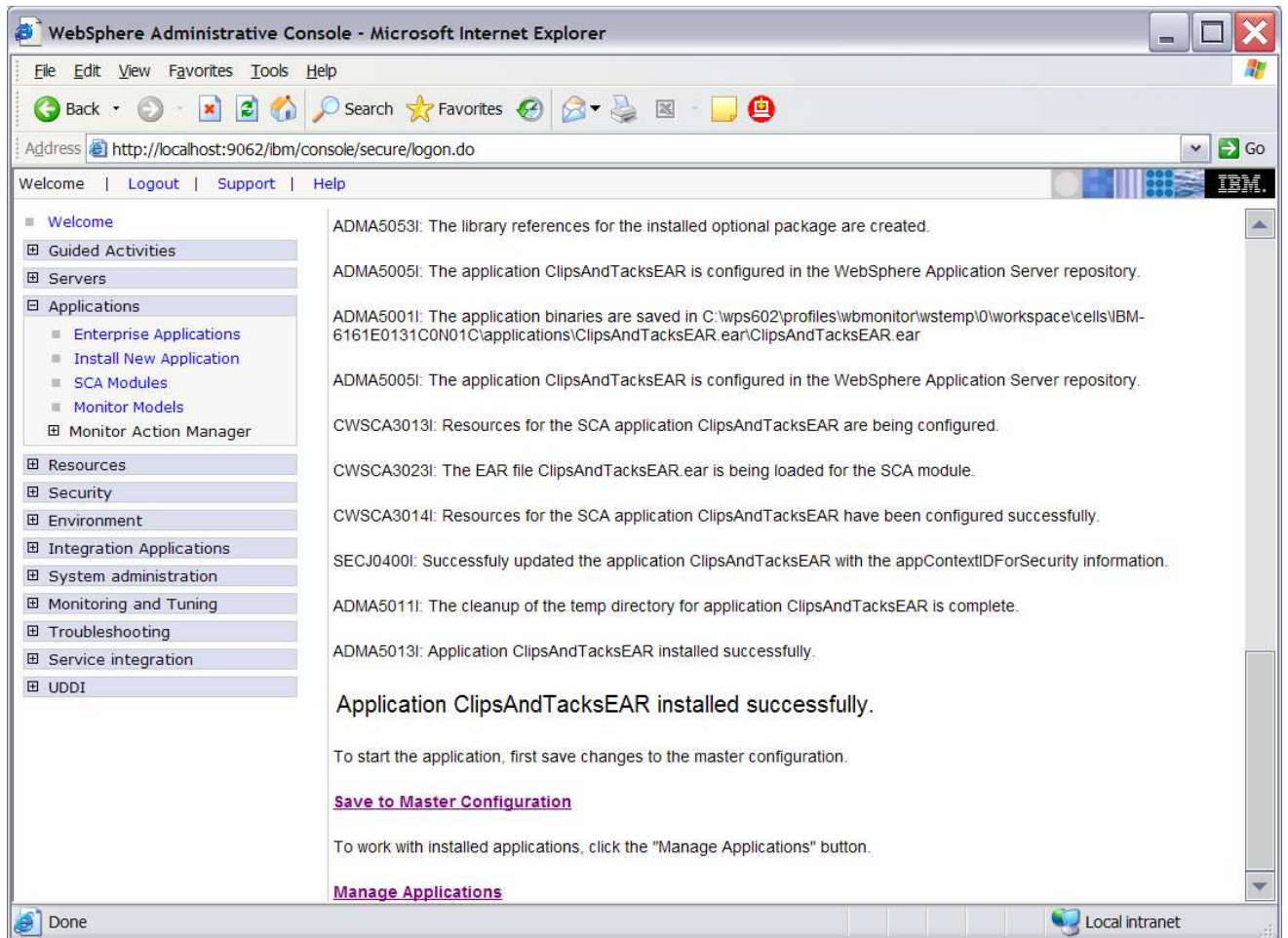
Step 10 Ensure all unprotected 2.x methods have the correct level of protection

→ Step 11: Summary

Cell/Node/Server	Click here
Reload interval in seconds	
Enable class reloading	No
Process embedded configuration	No
Application name	ClipsAndTacksEAR
Validate Input off/warn/fail	warn
Directory to install application	
Distribute application	Yes
Deploy Web services	No
Pre-compile JSP	No
Deploy enterprise beans	No

Done Local intranet

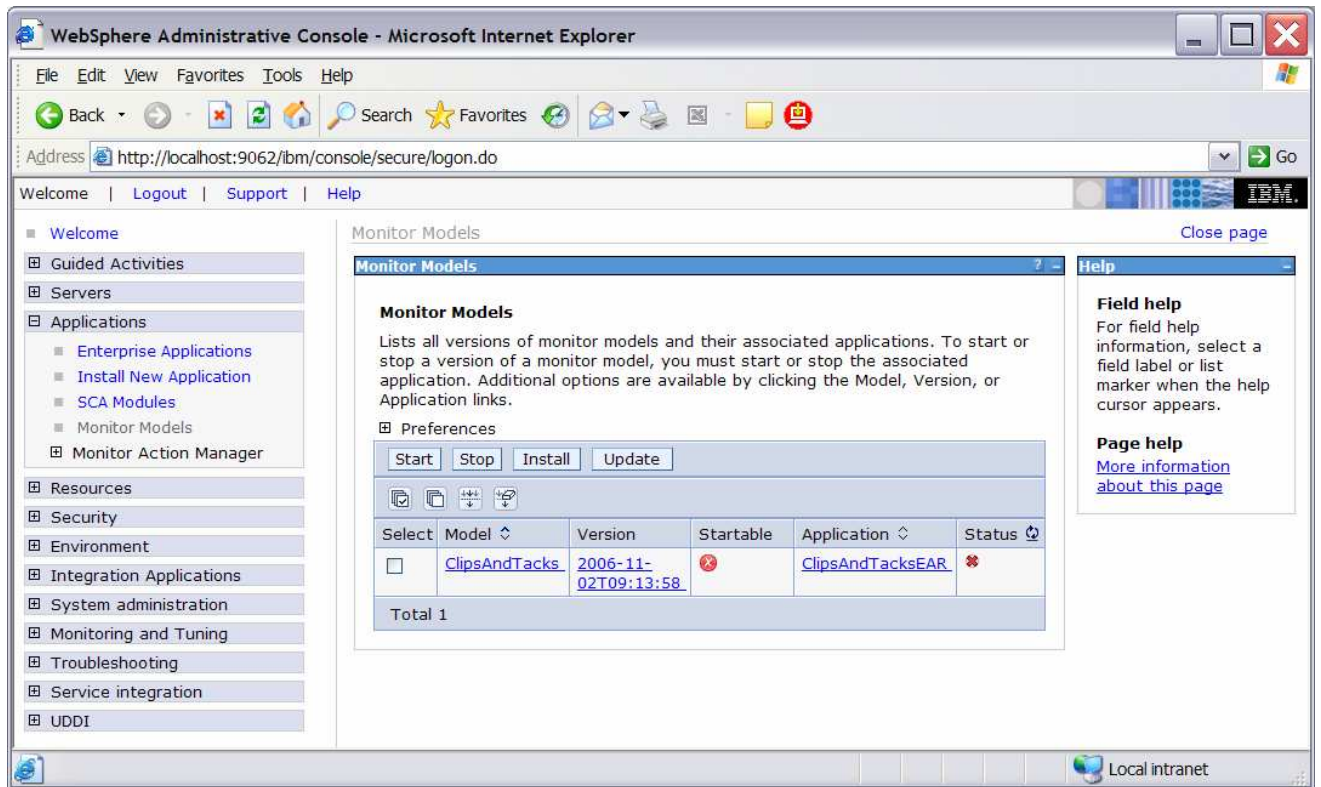
___ h. Click **Finish**



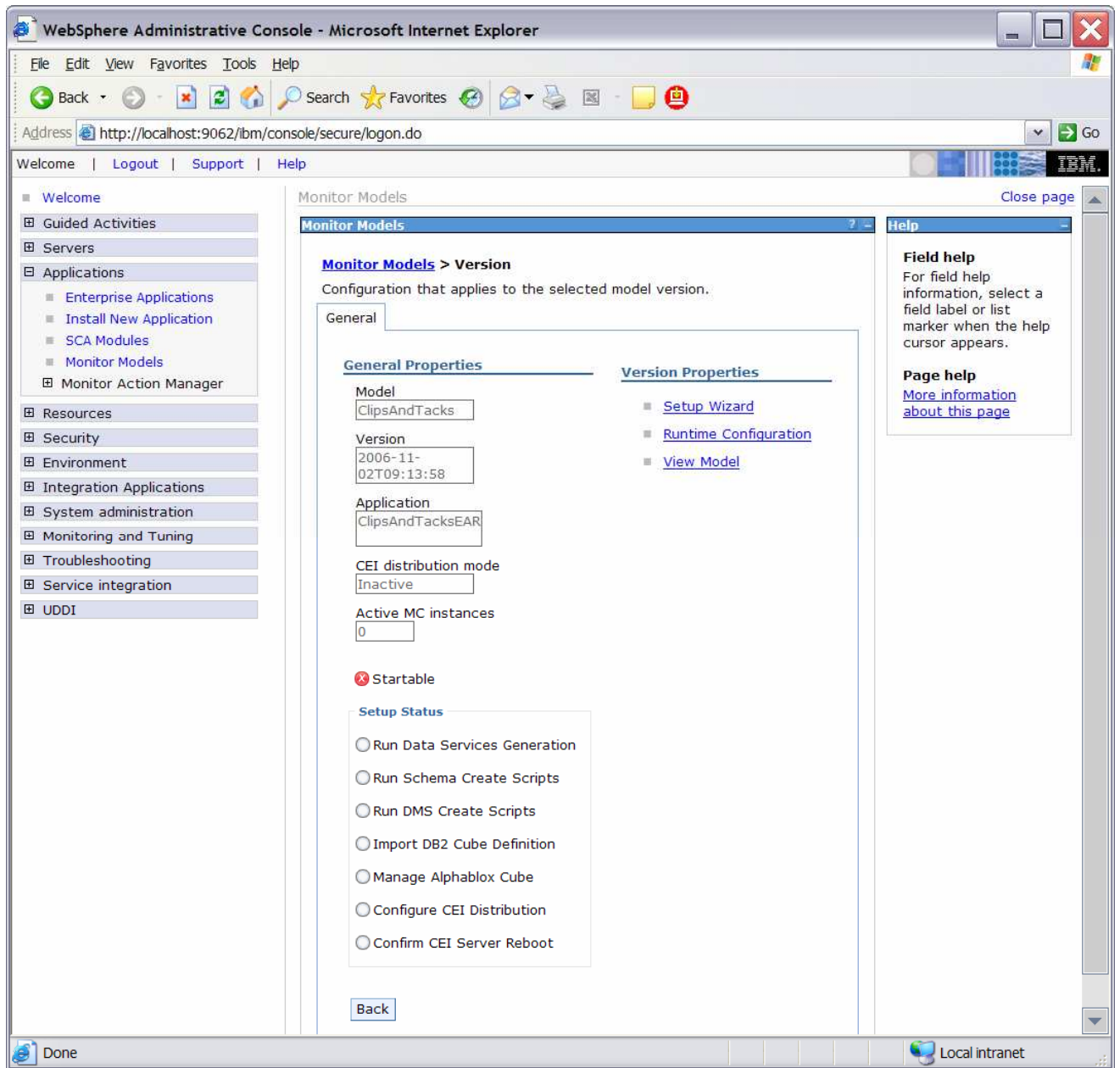
___ i. Click **Save to Master Configuration**, then click **Save**

___ 3. Run Step 1 of the model life cycle

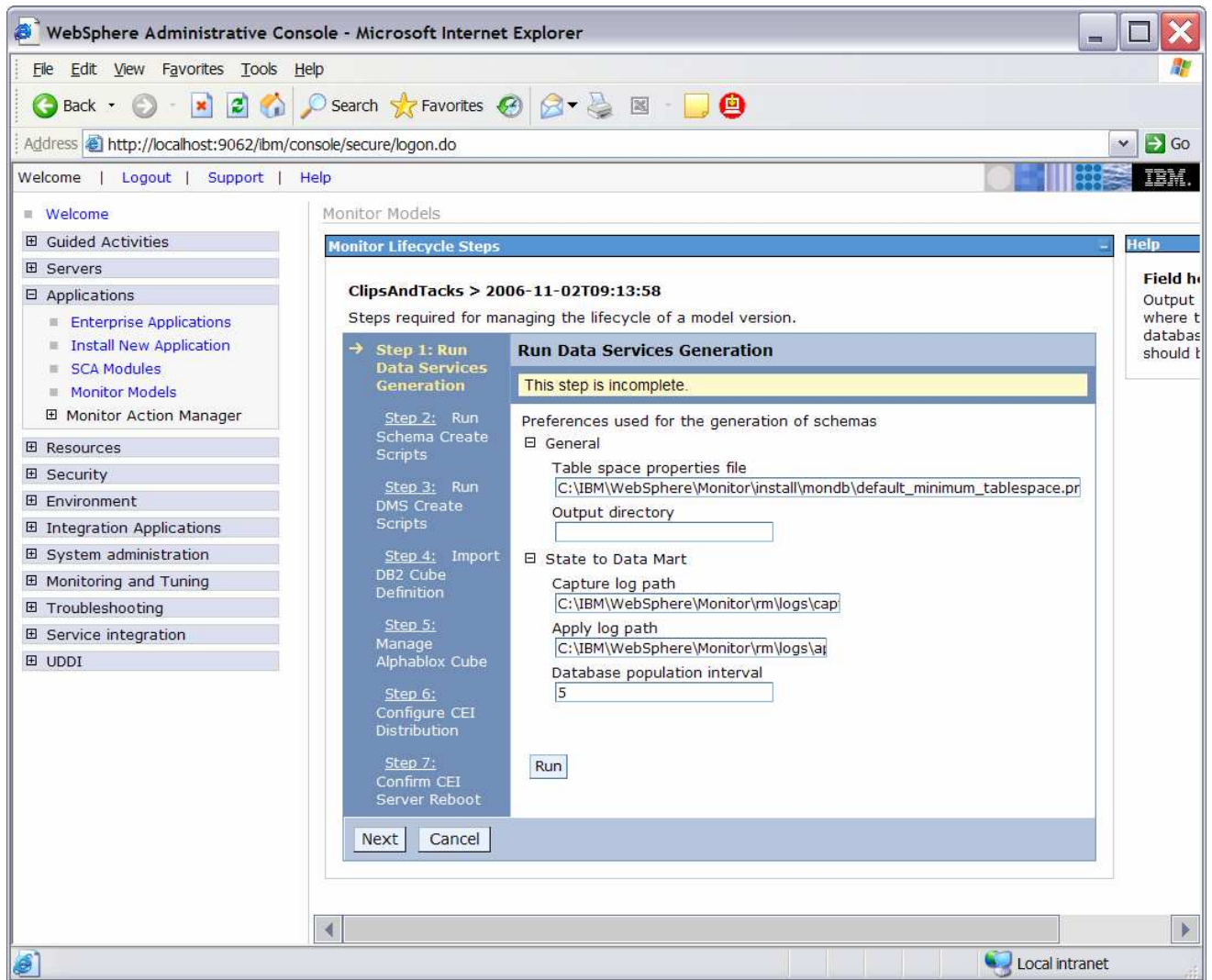
___ a. In the administrative console menu, select **Applications > Monitor Models**



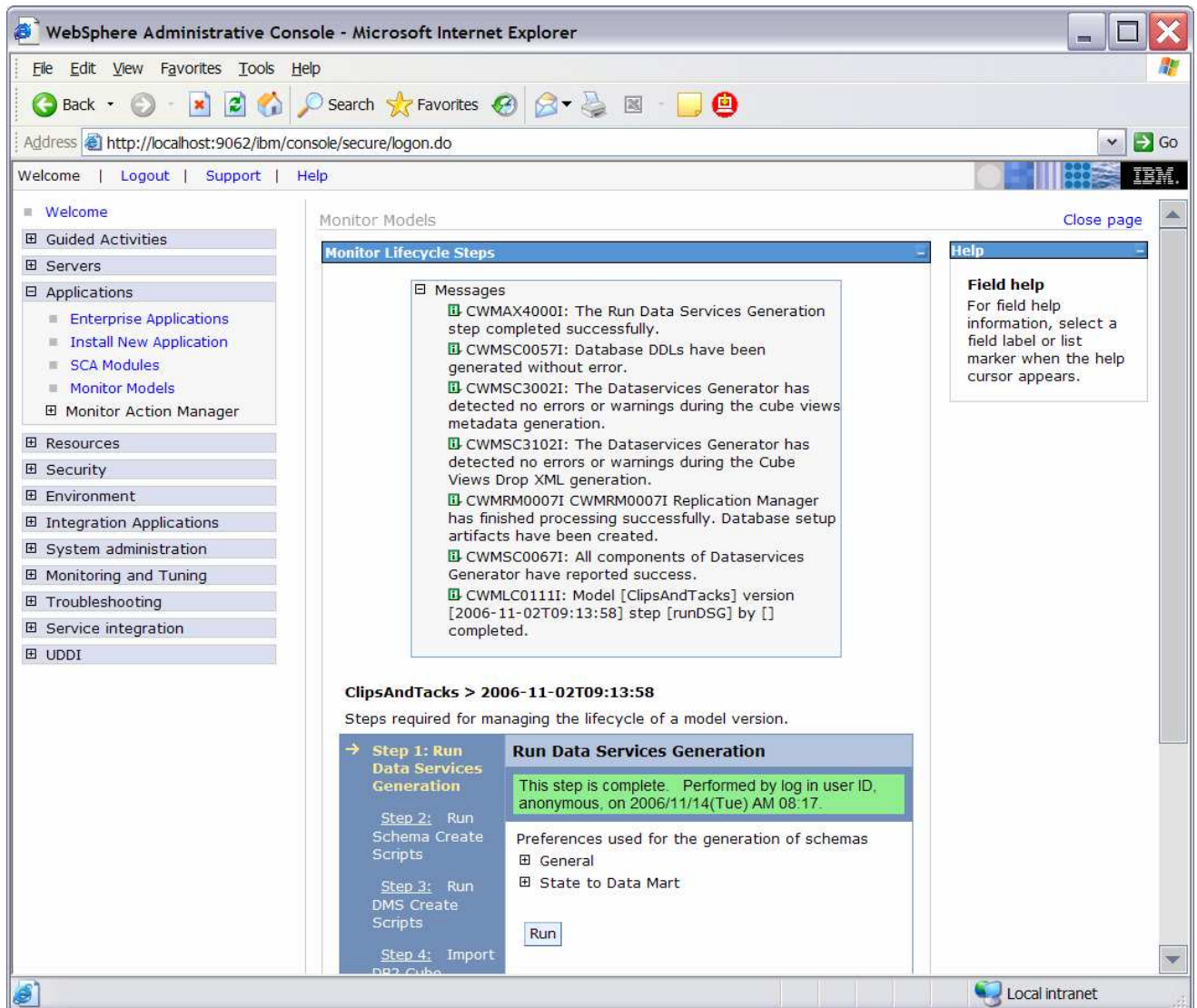
__ b. Click the **timestamp** that is listed in the Version column



___ c. Click **Setup Wizard**

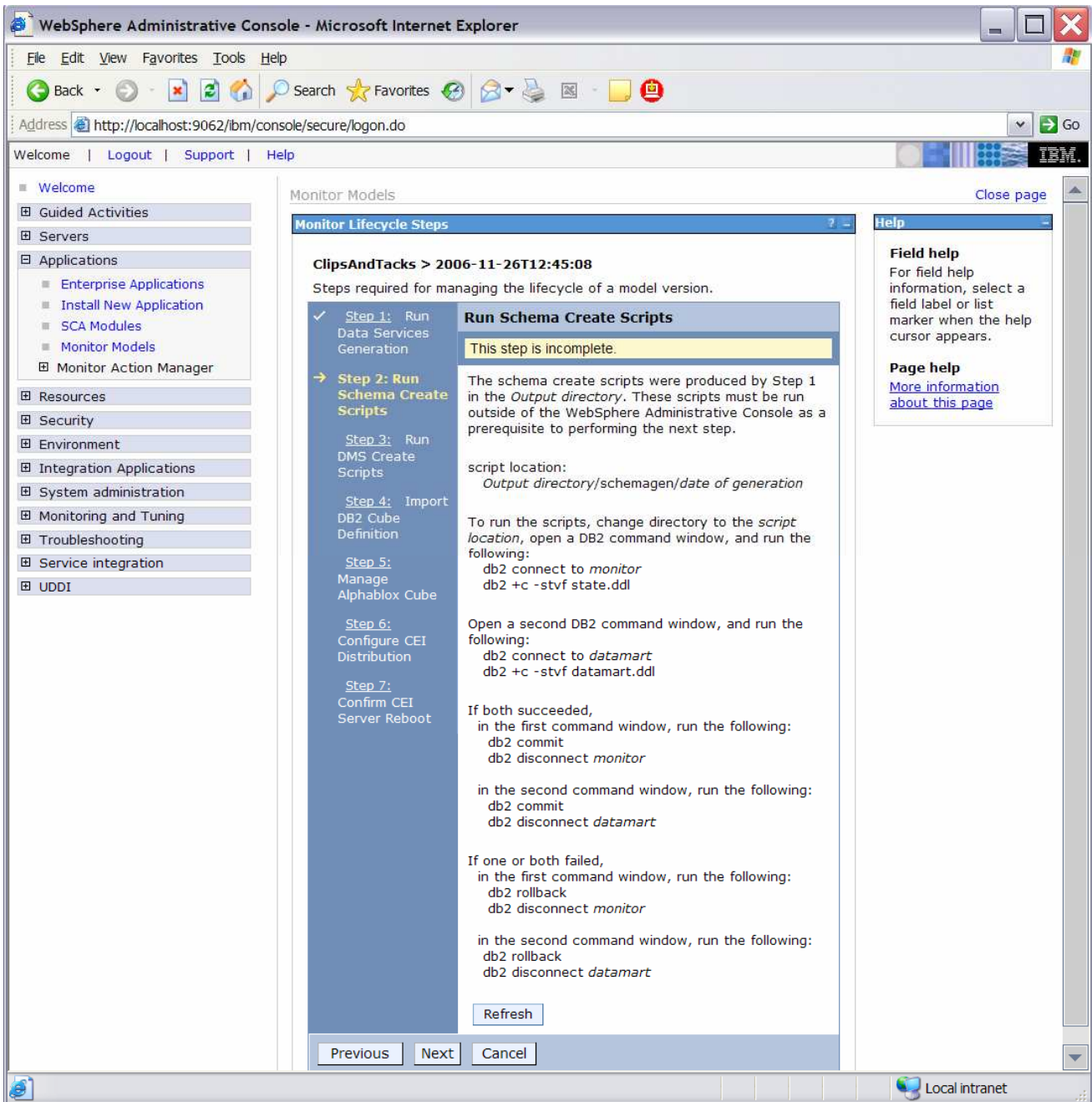


- ___ d. Enter the output directory, such as **C:\ClipsAndTacks**. The result of running the data services generation is a folder called schemagen which will be created in the specified output directory.
- ___ e. Change the Database population interval to **2**. For development purposes you want replication 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**

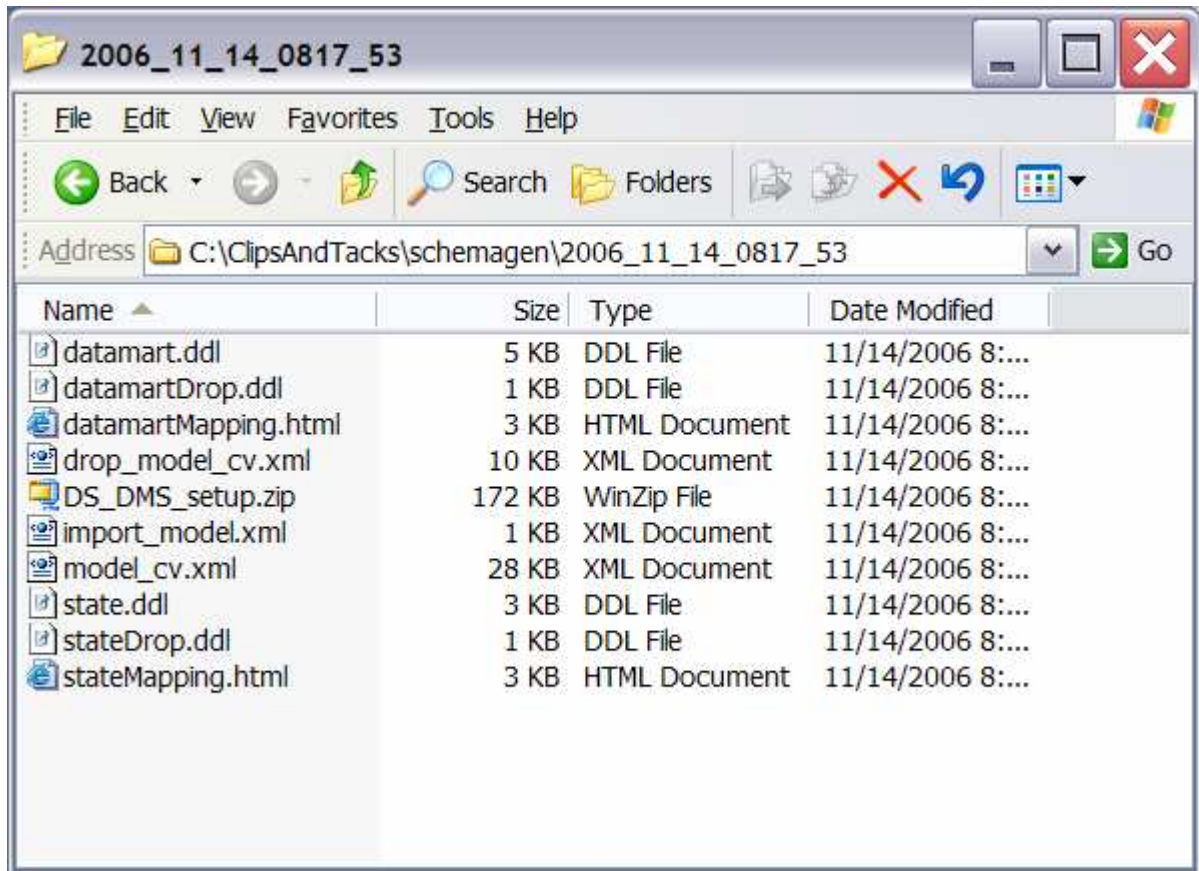


___ g. Click **Next**

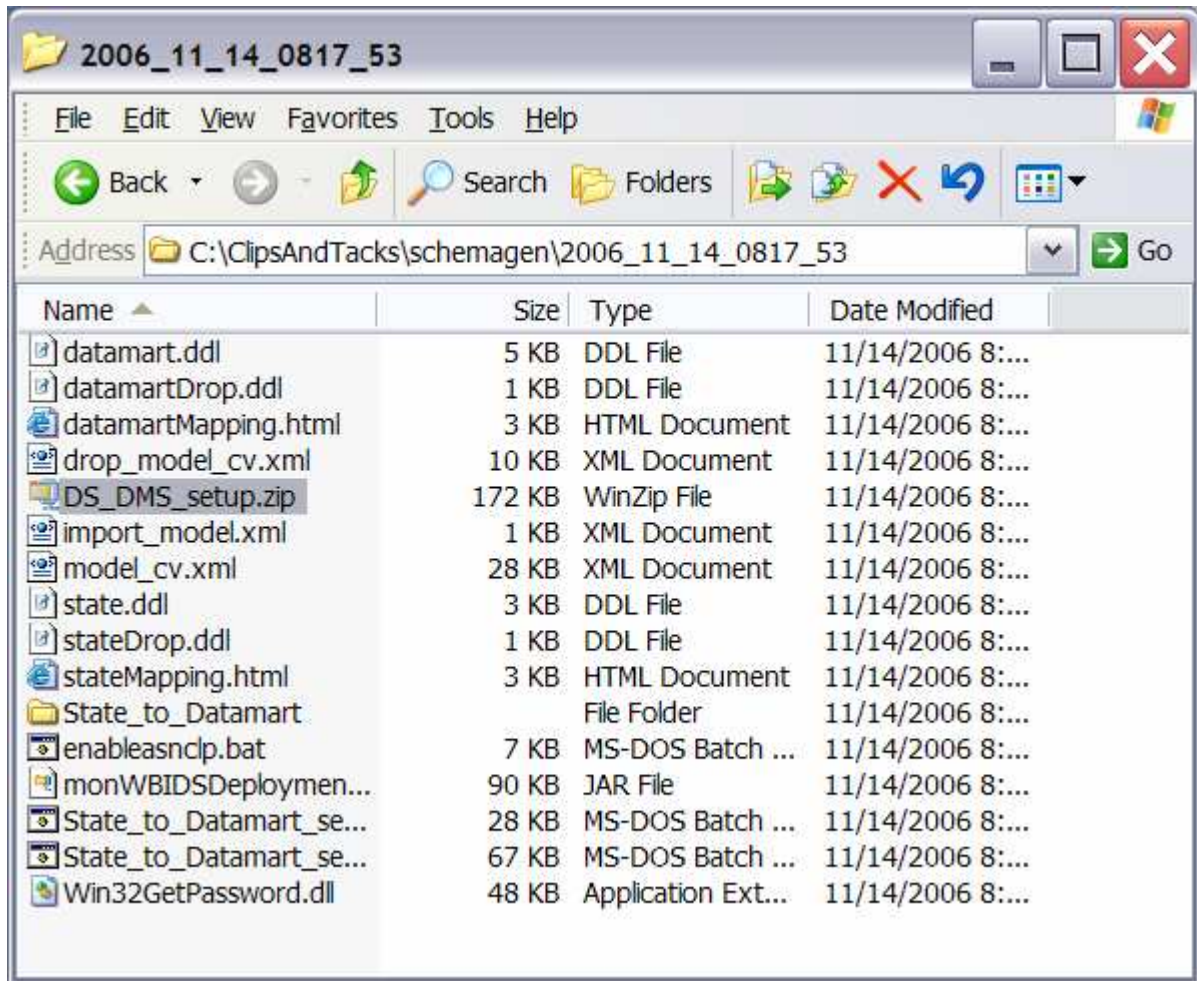
___ h. Here you see a panel indicating the commands used to run the schema scripts.



- ___ 4. Run Step 2 and Step 3 of the model life cycle.
 - ___ a. In Windows File Explorer, browse to **C:\ClipsAndTacks\schemagen\<timestamp>**



__ b. Extract **DS_DMS_setup.zip** into this same folder



___ 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.

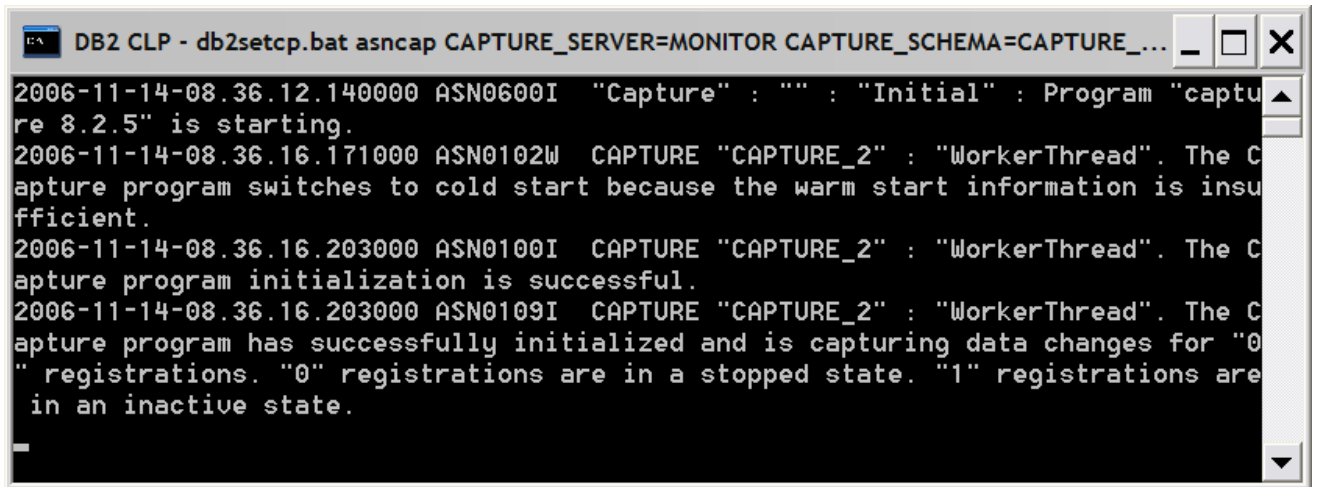
- 1) Open a **DB2 command window**
 - a) Select Start > Run...
 - b) Enter this command: db2cmd
- 2) Enter these commands into the DB2 command window:
 - a) cd \ClipsAndTacks\schemagen\ - b) db2 connect to MONITOR
 - c) db2 +c -stvf state.ddl > state.log
- 3) Open a second **DB2 command window**
 - a) Select Start > Run...

- b) Enter this command: db2cmd
- 4) Enter these commands into the second DB2 command window:
 - a) cd \ClipsAndTacks\schemagen\ - 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\
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.
 - 3) 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\
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.

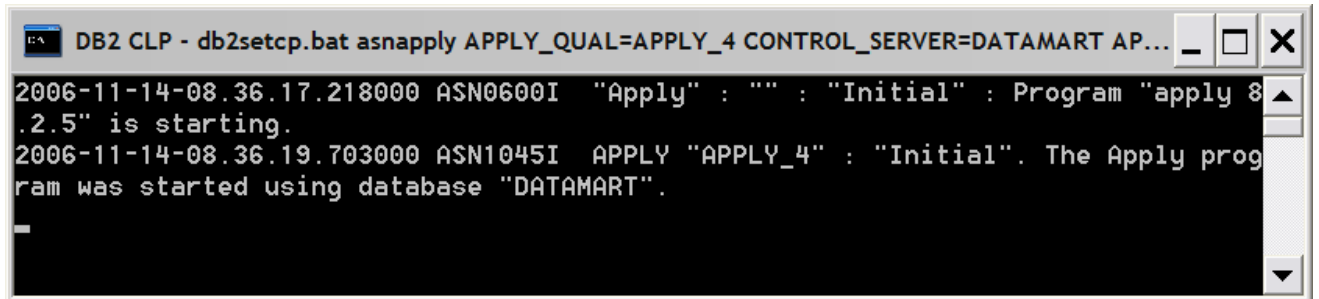
___ f. Start the replication daemons.

- 1) In the same DB2 command window, you should still be in folder \ClipsAndTacks\schemagen\ - 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.



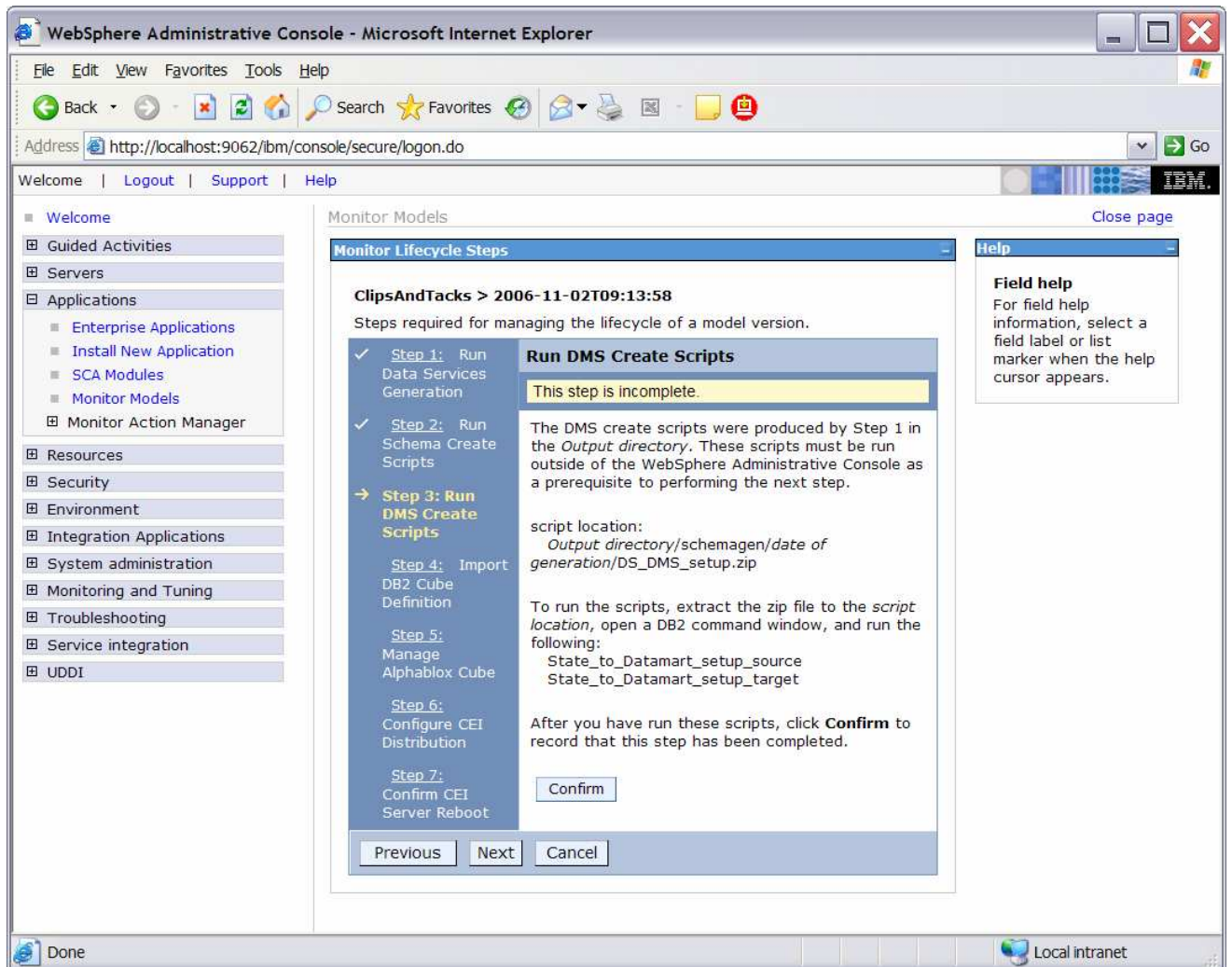
```
DB2 CLP - db2setcp.bat asncap CAPTURE_SERVER=MONITOR CAPTURE_SCHEMA=CAPTURE_...
2006-11-14-08.36.12.140000 ASN0600I "Capture" : "" : "Initial" : Program "capture
re 8.2.5" is starting.
2006-11-14-08.36.16.171000 ASN0102W CAPTURE "CAPTURE_2" : "WorkerThread". The C
apture program switches to cold start because the warm start information is insu
fficient.
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 "0
" registrations. "0" 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".
```

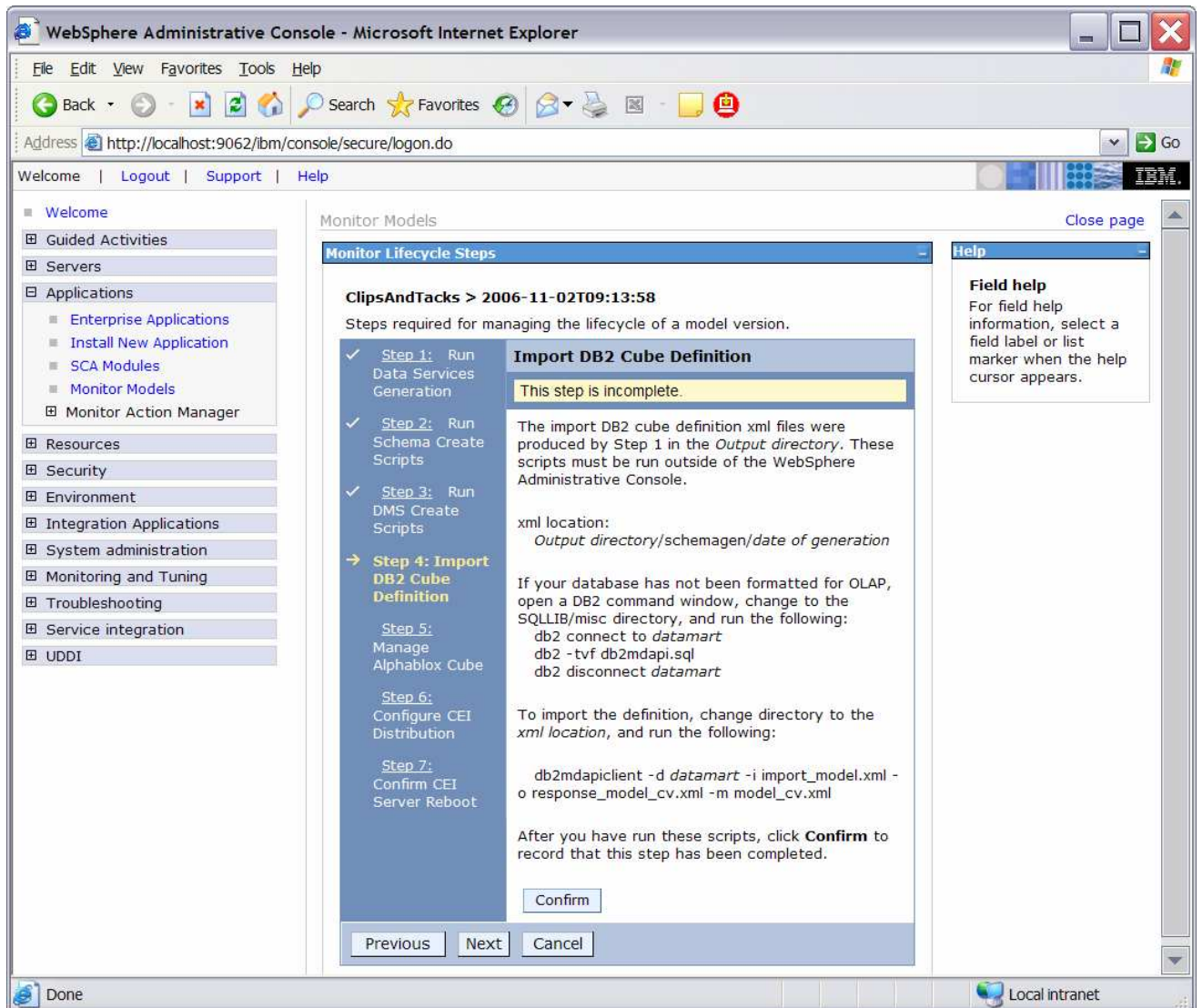
- ___ g. You should now have three command windows open. You can close the original DB2 command window where you have been typing the commands.
- ___ h. In the administrative console menu, select **Applications > Monitor Models**
- ___ i. Click the **timestamp** in the version column
- ___ j. Click **Setup 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\

f) db2mdapiclient -d DATAMART -i import_model.xml -o response_model_cv.xml -m model_cv.xml

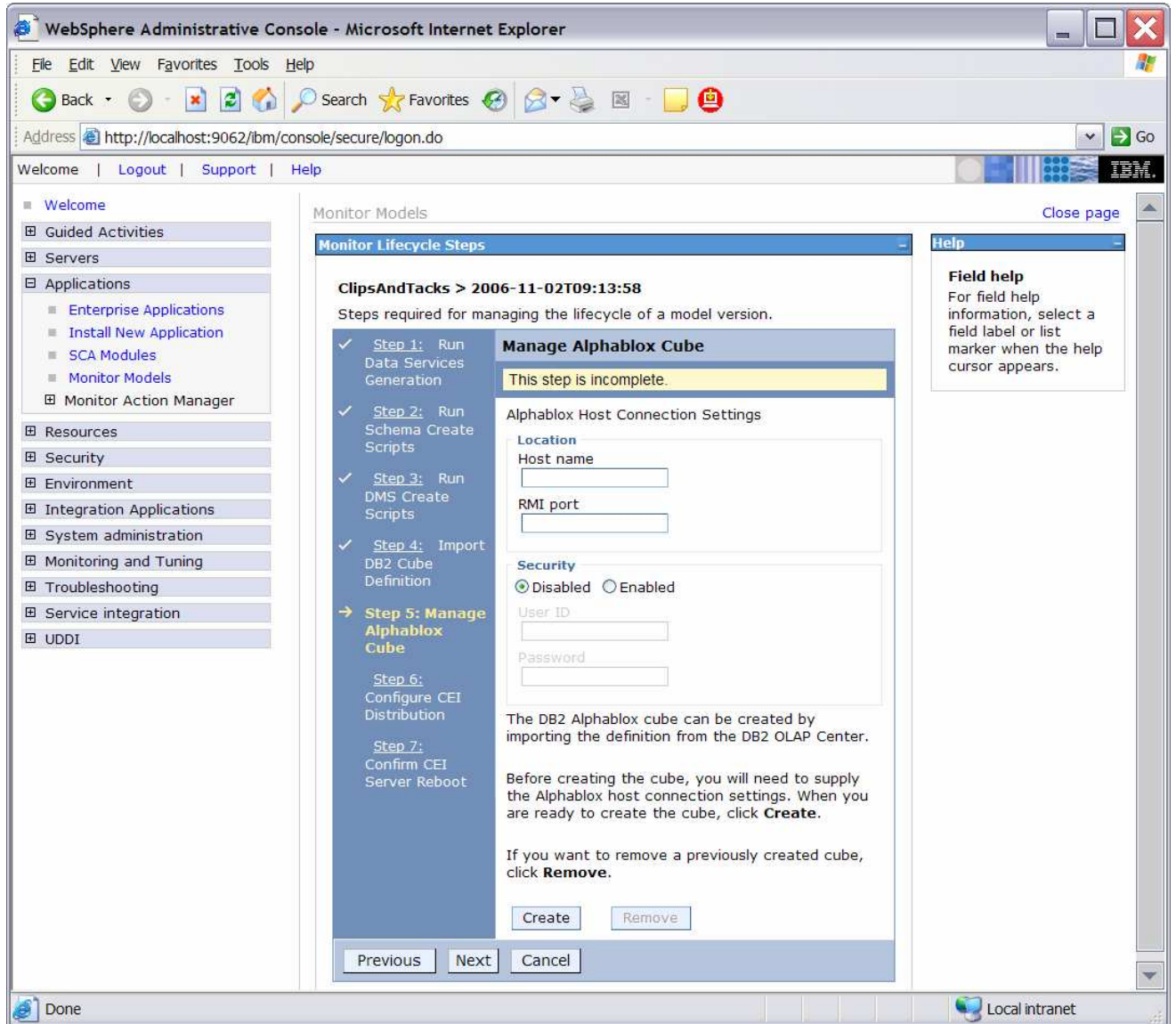
3) Close the command window

___ 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**



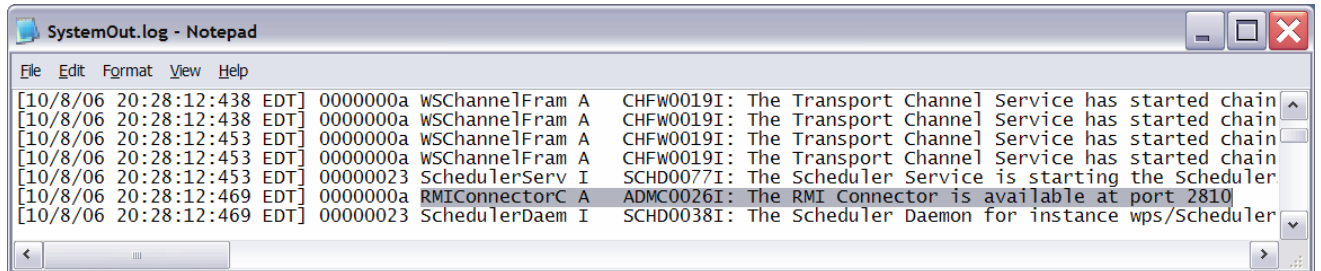
___ b. Start Portal Server

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

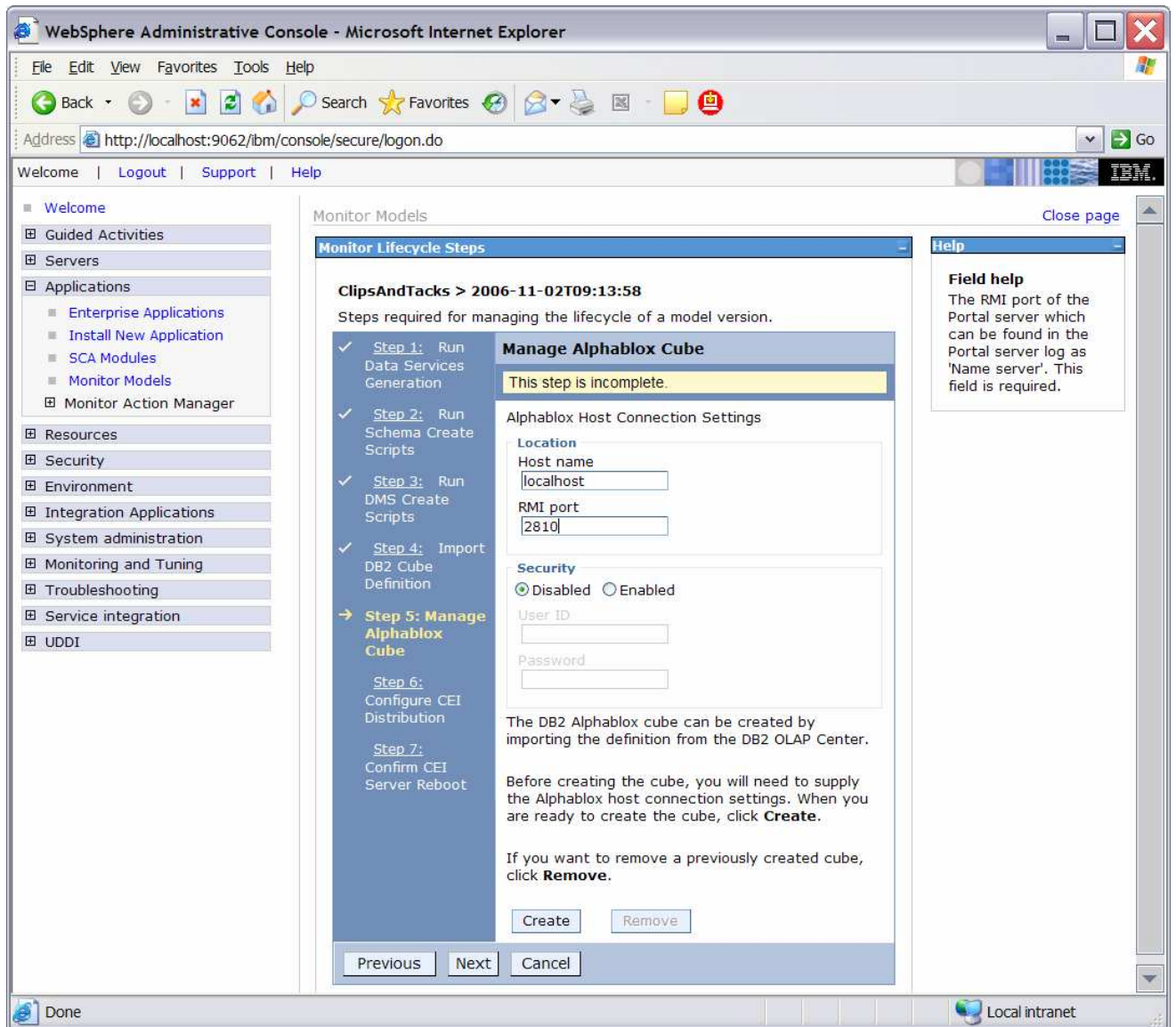
1) Browse the Portal log, for example, C:\IBM\PortalServer\log\SystemOut.log

2) Search for 'RMI Connector', for example, in the following screen capture you see that Portal RMI is port 2810.



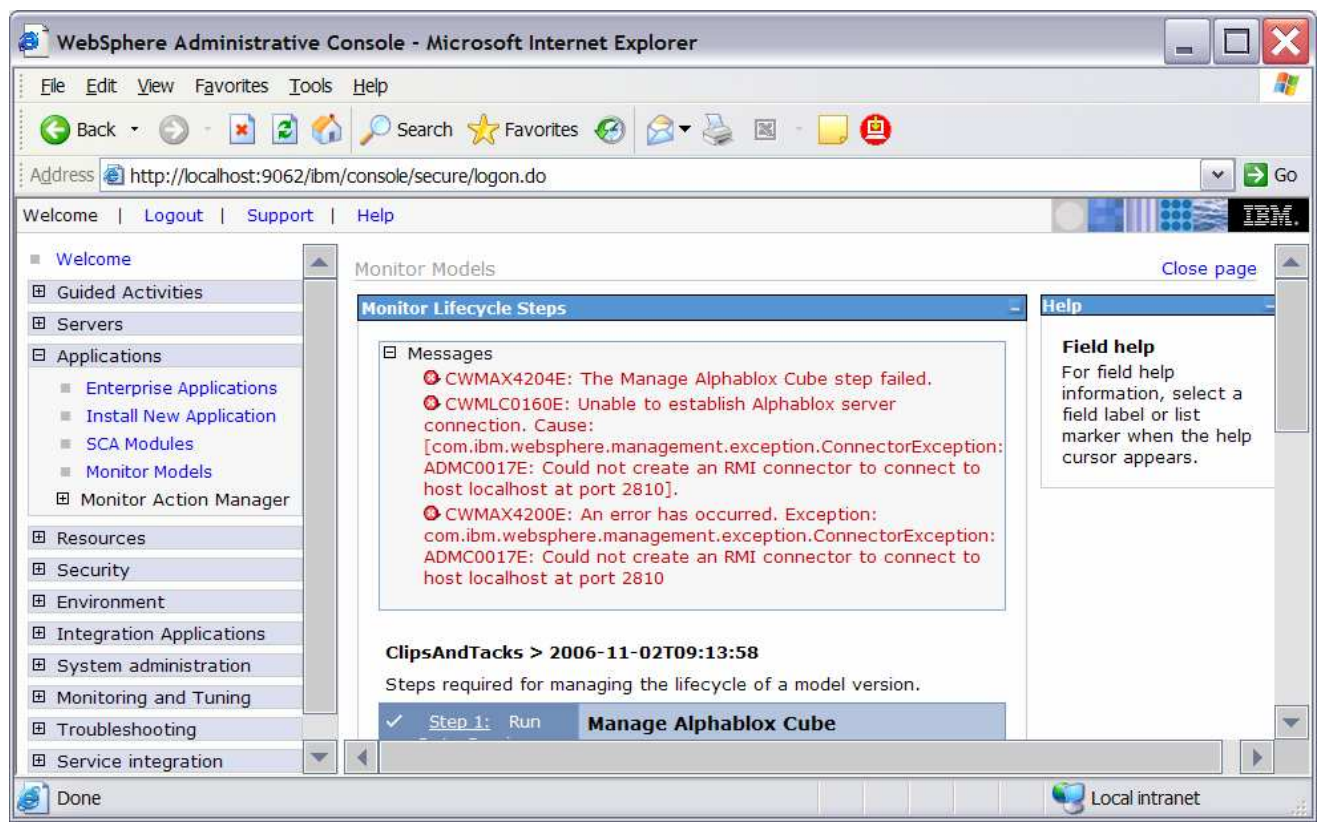
___ d. Back in the administrative console, in Step 5 of the model Life cycle, enter 'localhost' for Host name

___ e. Enter your RMI Port that you found in the Portal log, for example:

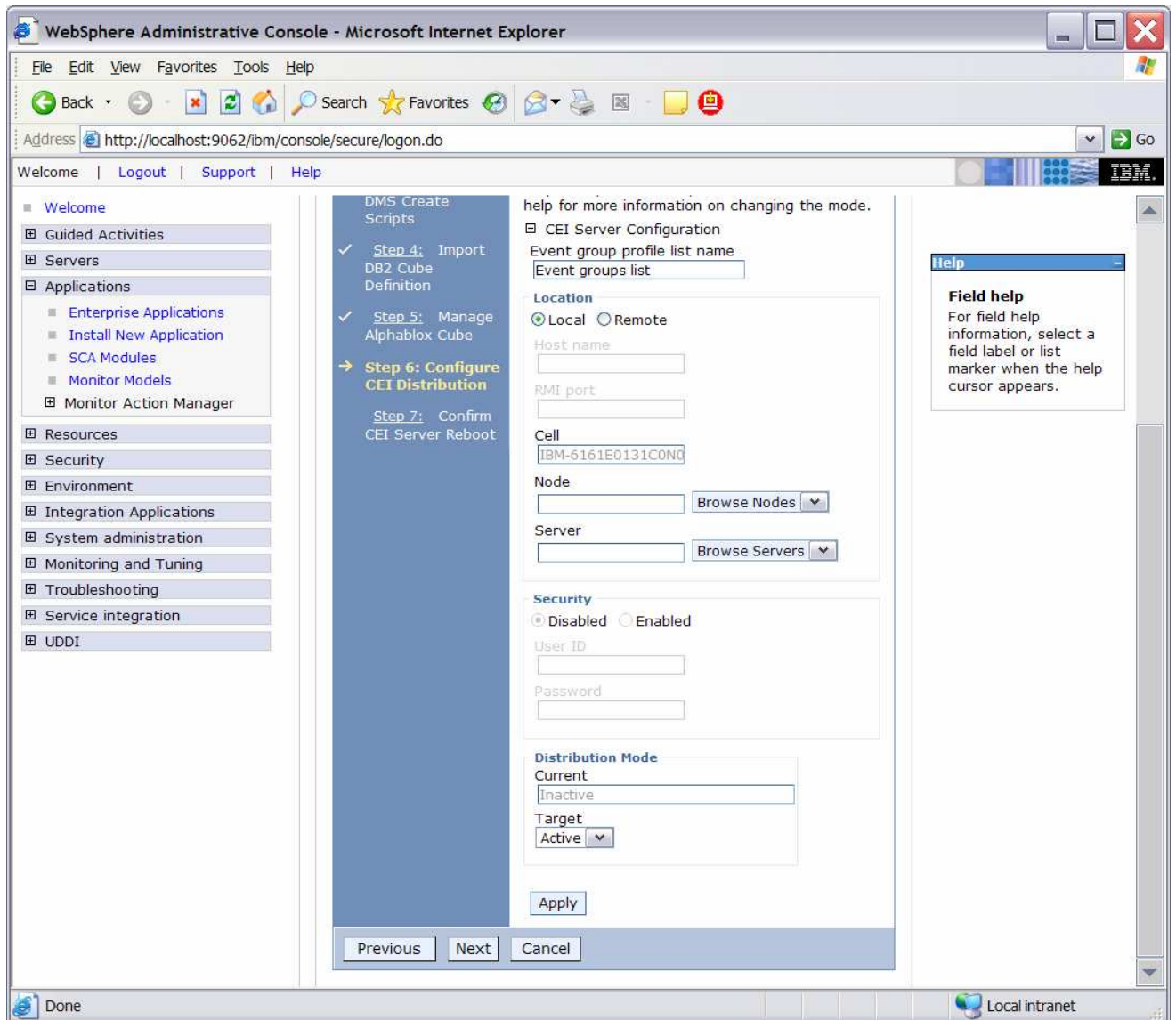


___ f. Click **Create**

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:



- ___ 7. Run step 6 of the model life cycle
 - ___ a. Click **Step 6**



___ 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.

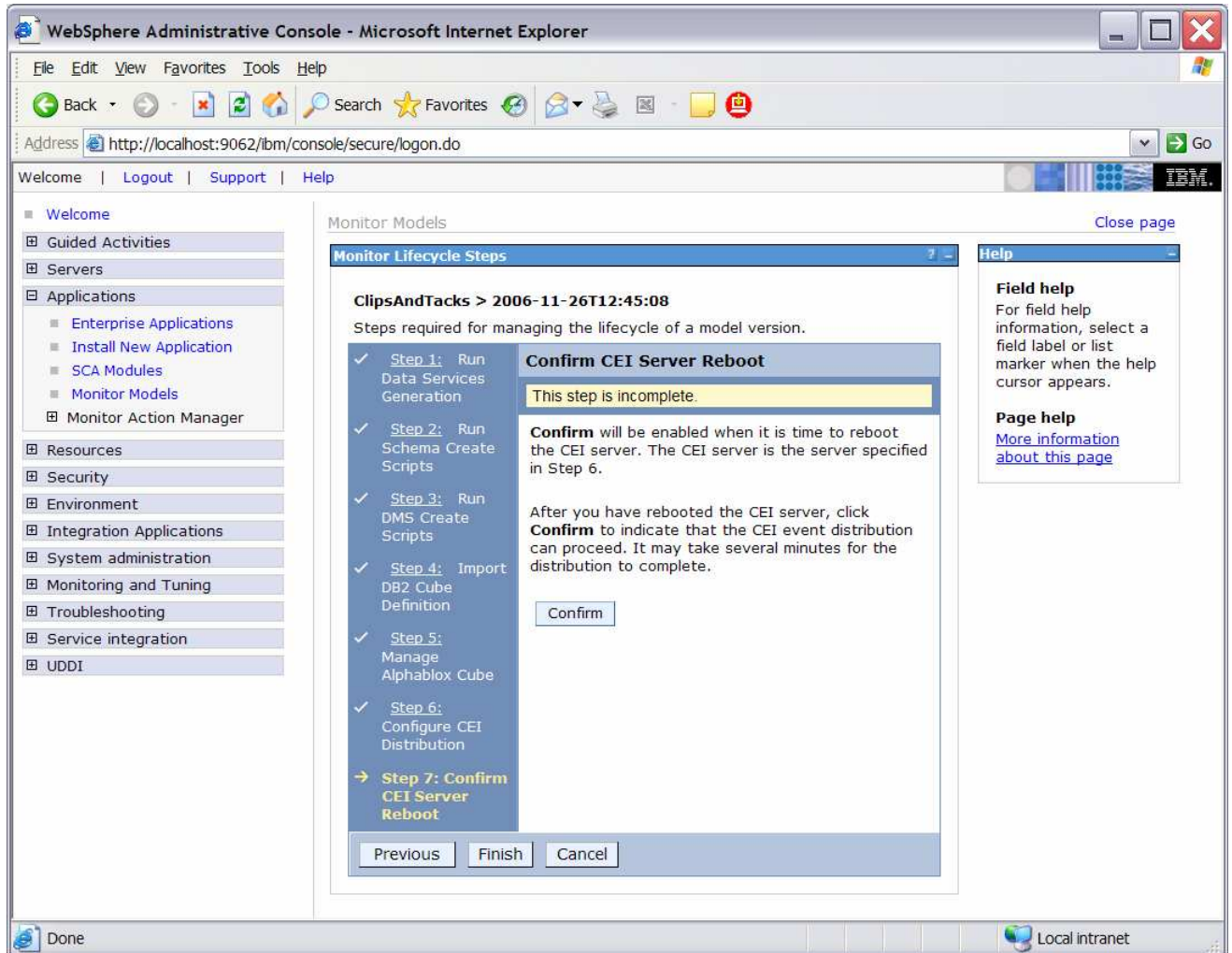
___ c. In the administrative console navigation pane, select **System administration > Save Changes to Master Repository**, then click **Save**

___ d. Recycle the Process Server

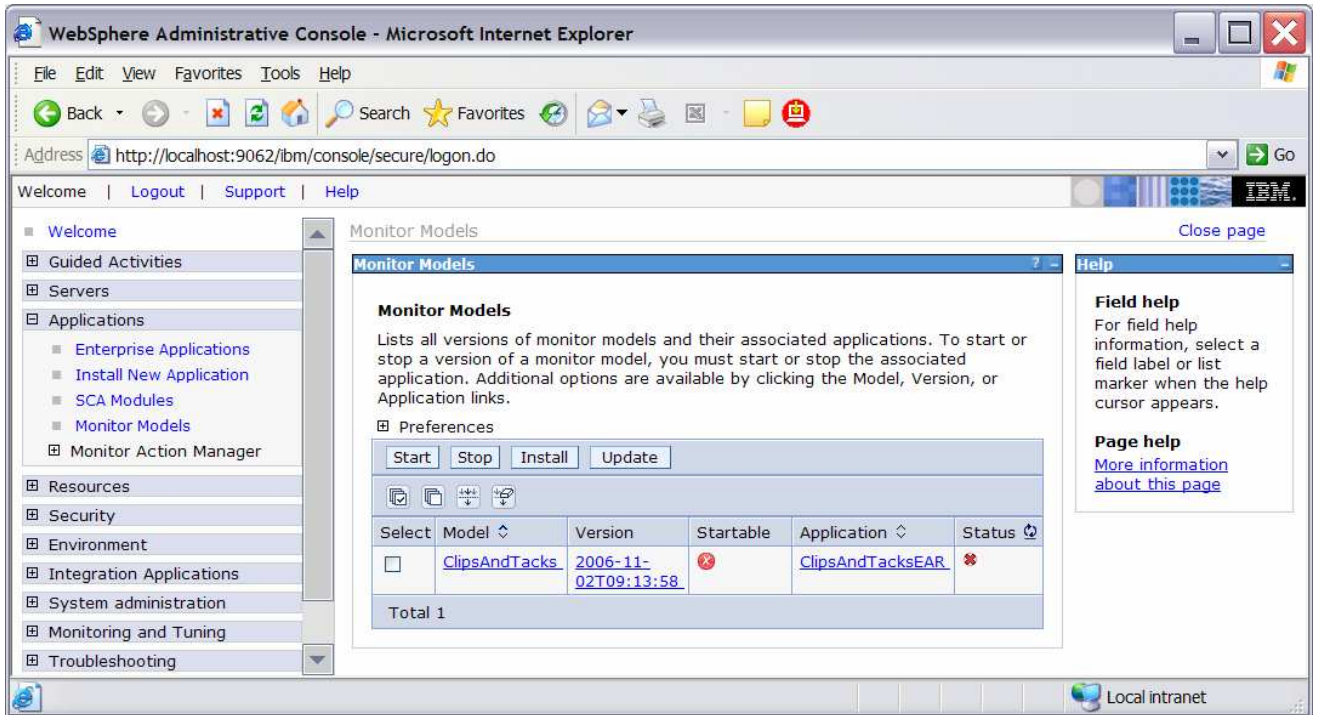
1) In Windows, select **Start > All Programs > IBM WebSphere > Process Server 6.0 > Profiles > wbmonitor > Stop the server**

2) In Windows, select **Start > All Programs > IBM WebSphere > Process Server 6.0 > Profiles > wbmonitor > Start the server**

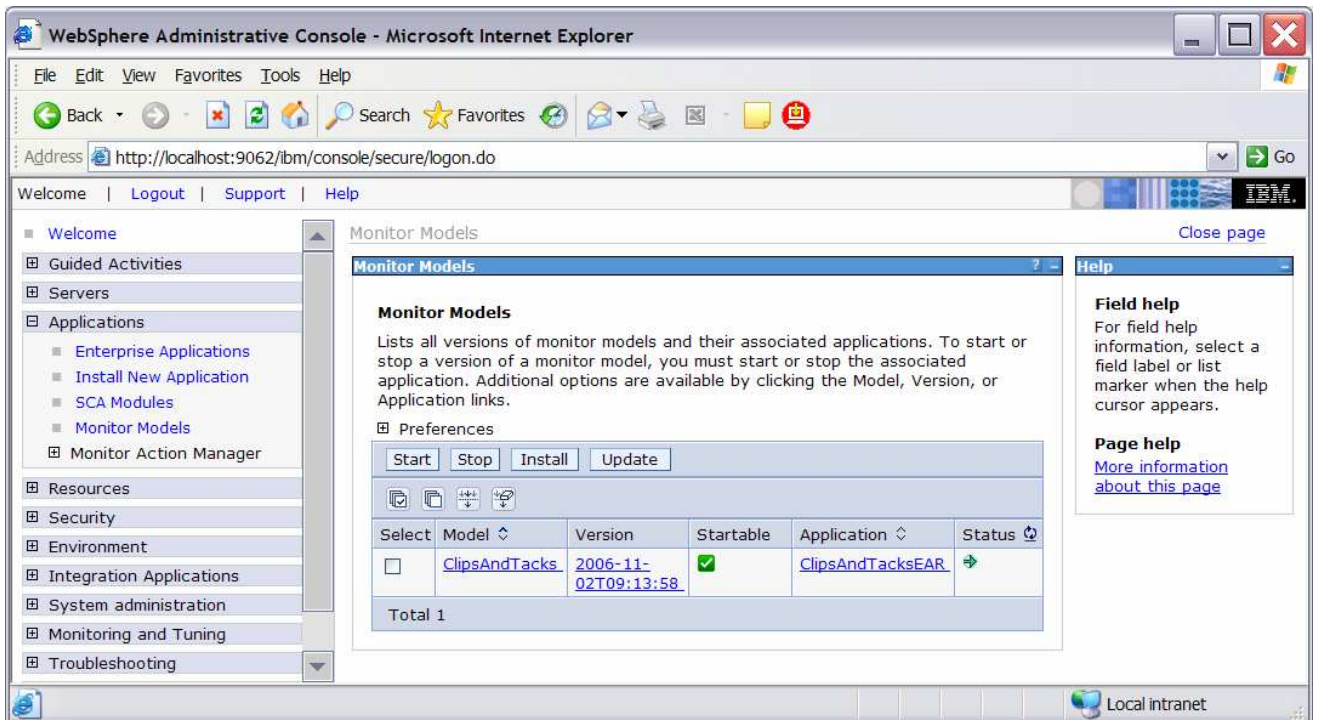
- ___ e. Re-open the administrative console for Process Server.
- ___ f. In the administrative console menu, click **Applications > Monitor Models**
- ___ g. Click the **timestamp** in the version column
- ___ h. Click **Setup Wizard**
- ___ i. It should detect that Step 6 is complete and automatically move to step 7 as follows



- ___ j. Click **Confirm**
- ___ k. Click **Finish** and you will return to the Monitor Models screen.



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.



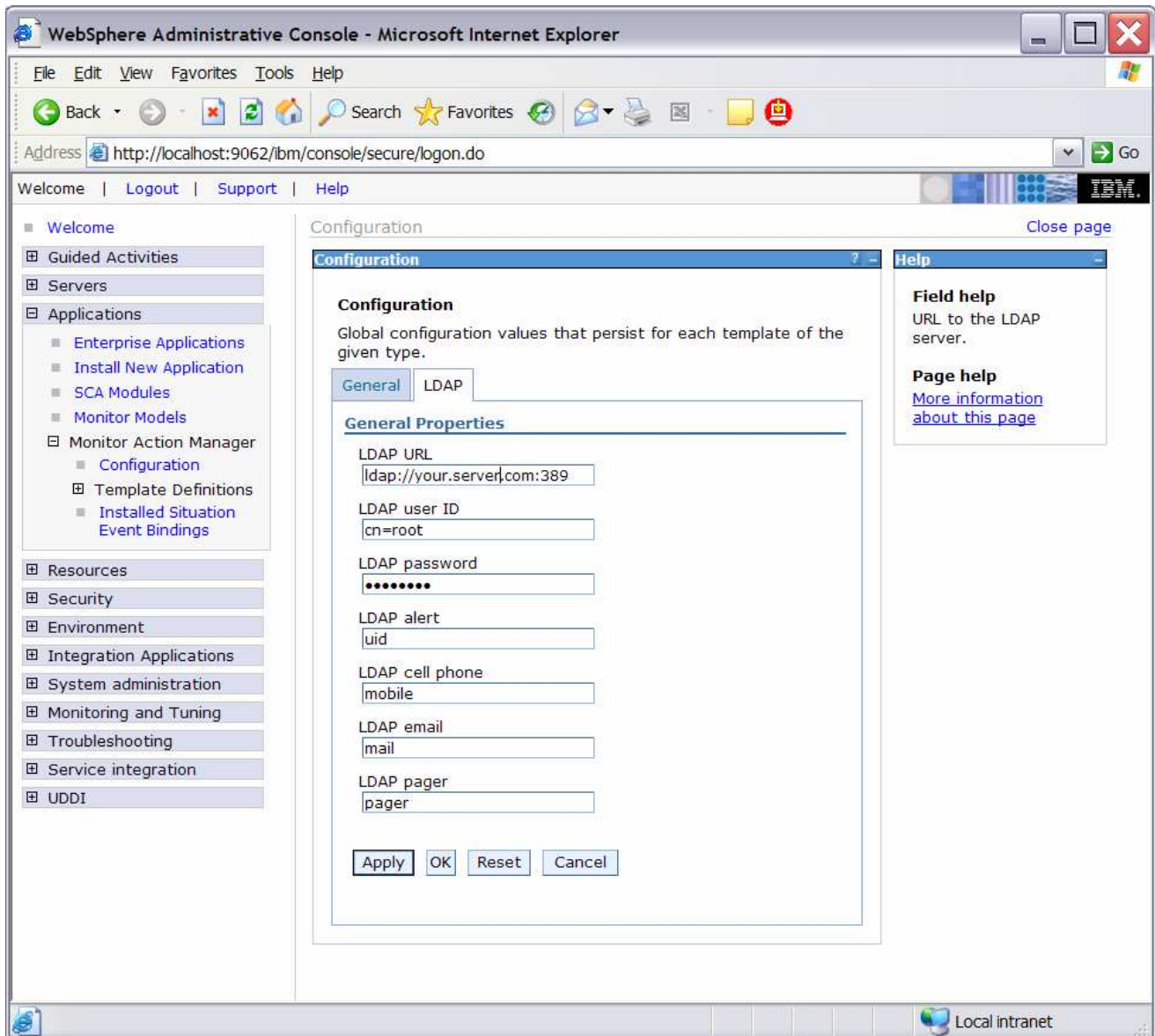
10. Check the Process Server log to ensure there are no problems. For example, check `C:\IBM\WebSphere\ProcServer\profiles\wbmonitor\logs\server1\SystemOut.log`

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.

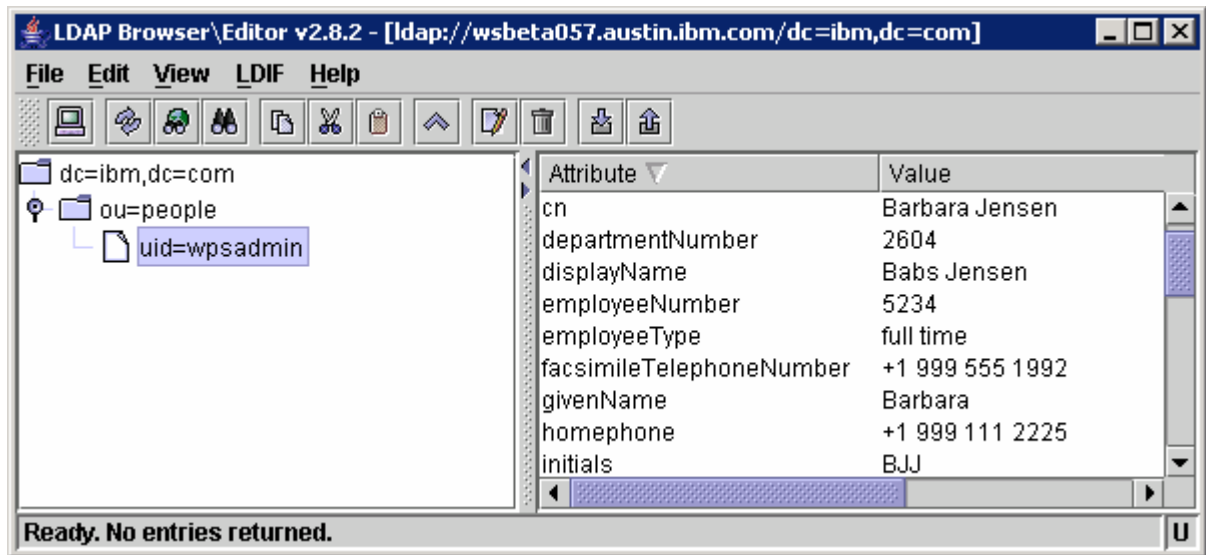
If you do not have an LDAP server, then you can skip this section. The outgoing events will be created for the business situations, but they will not result in entries in the Alert view on your dashboard.

- ___ 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:



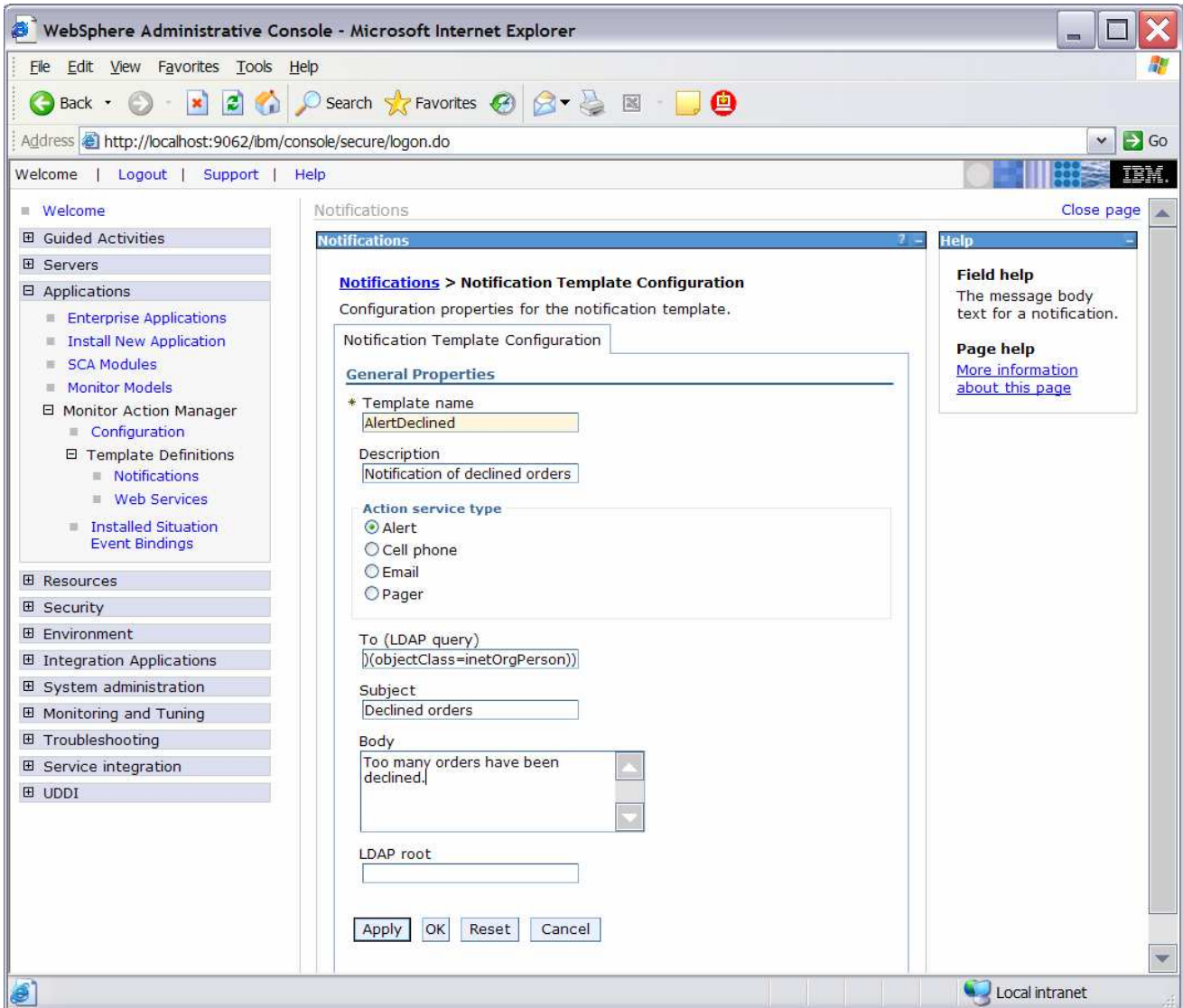
___ d. You are going to setup an Alert in this lab, so make sure the LDAP Alert field is set to the identifier for the user ID that you want to use from your directory server. You also need a user defined in Portal on the Dashboard Server which matches this user ID. For this example, **uid = wpsadmin** 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:



- ___ 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.



__ 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**.

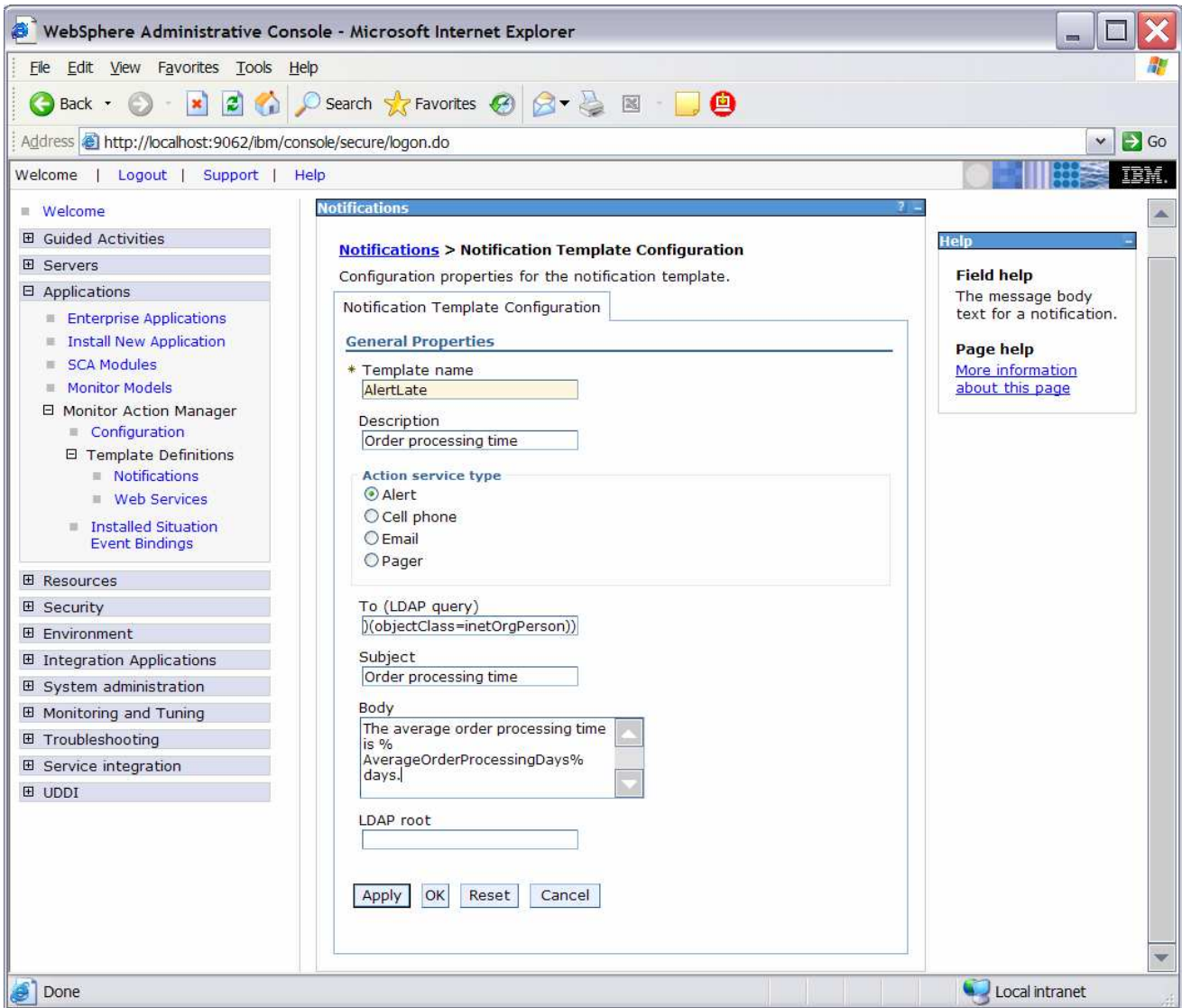
__ c. Enter a name for the template and a description.

__ 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.



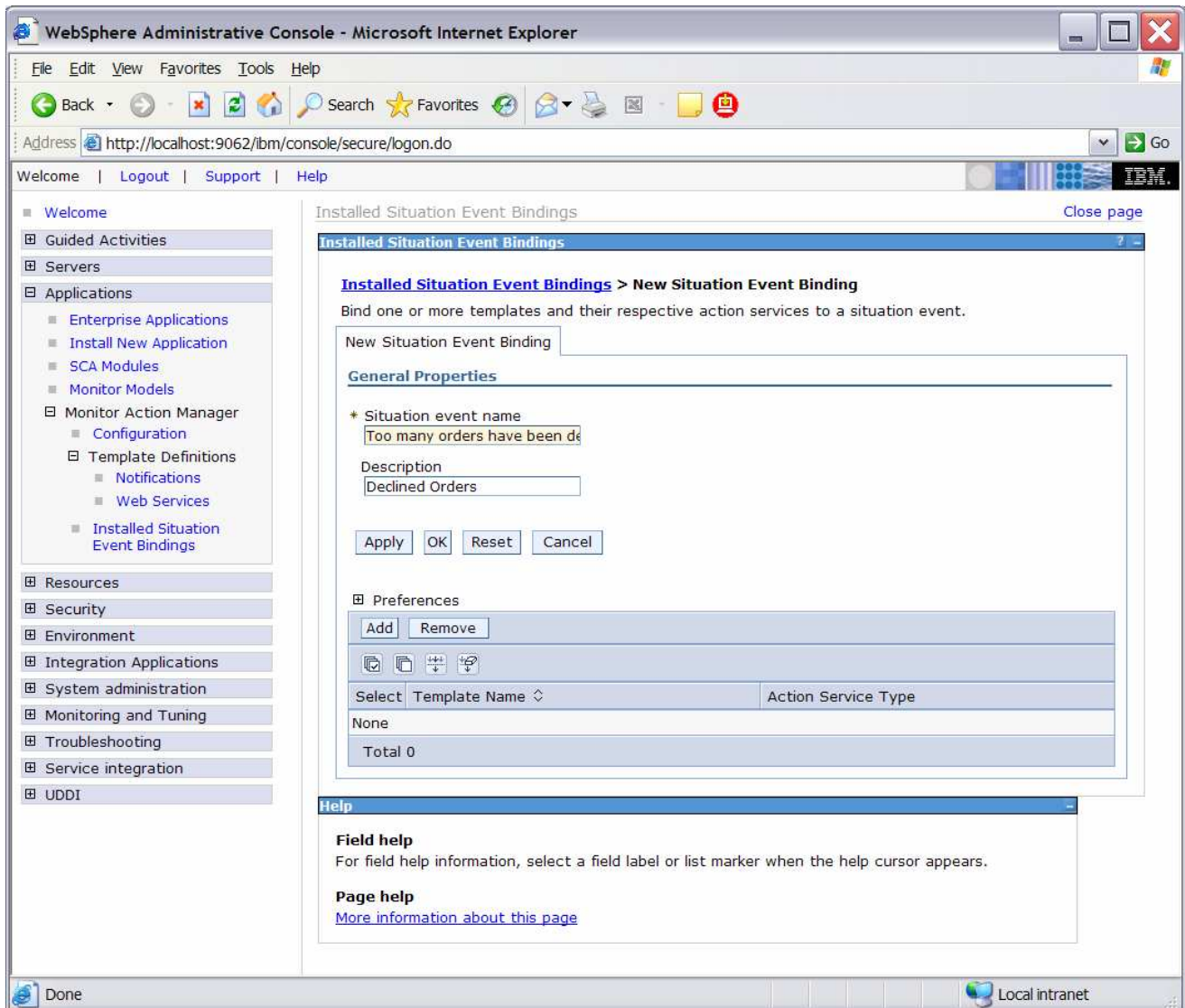
- ___ h. Click **OK**.

- ___ 5. Add the binding from the situation event to the action type for declined orders.

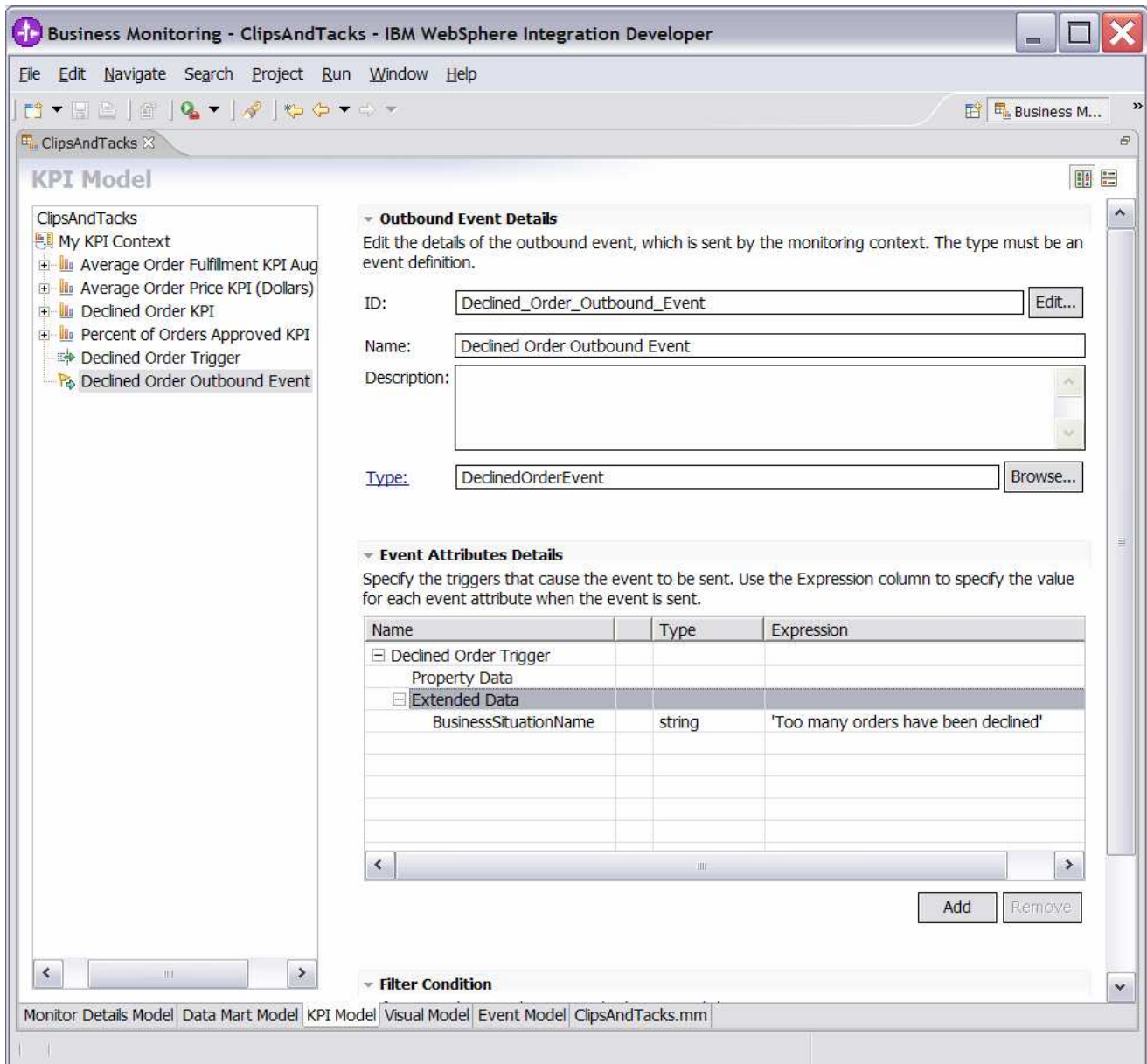
- ___ a. In the administrative console, navigate to **Applications > Monitor Action Manager > Installed Situation Event Bindings**.

- ___ 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**.



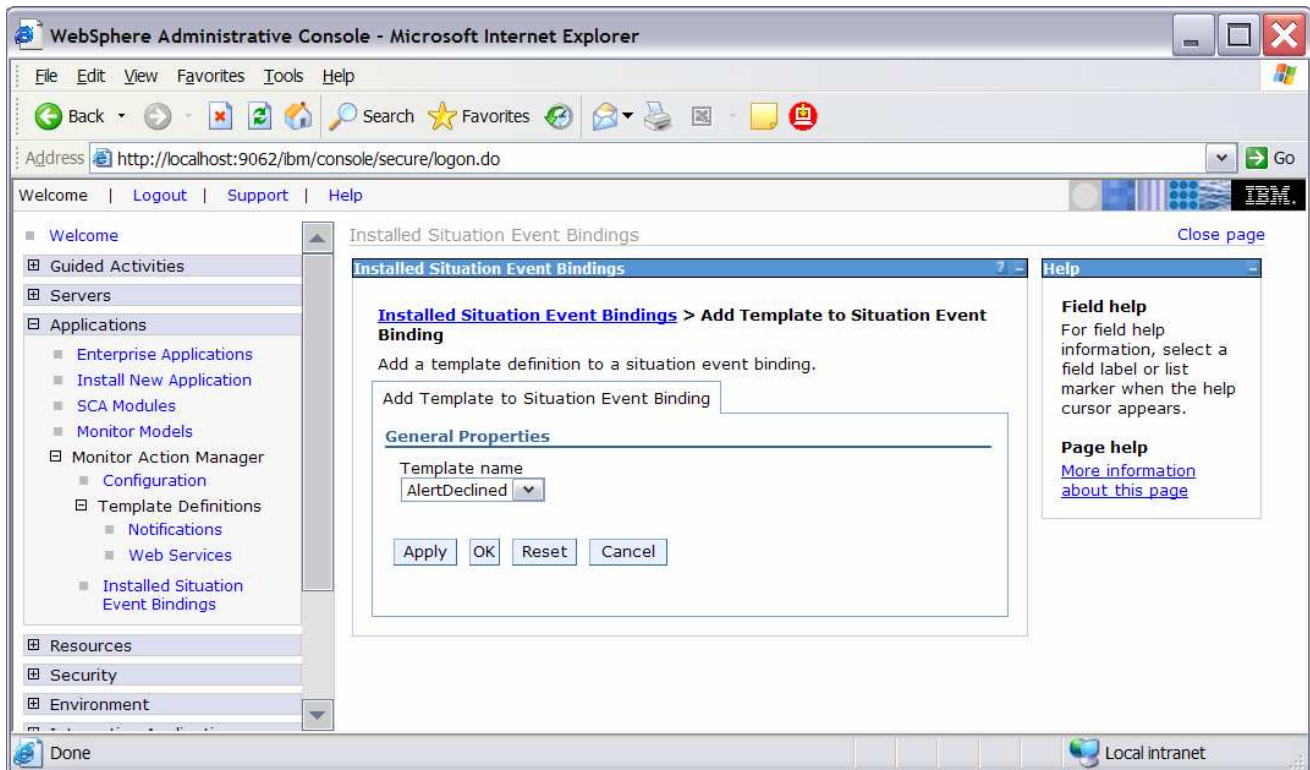
- ___ d. This must match exactly the value in the BusinessSituationName field in the outbound event. You may want to copy/paste from the model. Here is a screen capture from the model showing the Declined Order Outbound Event:



__ e. Enter a description, then click **Apply**.

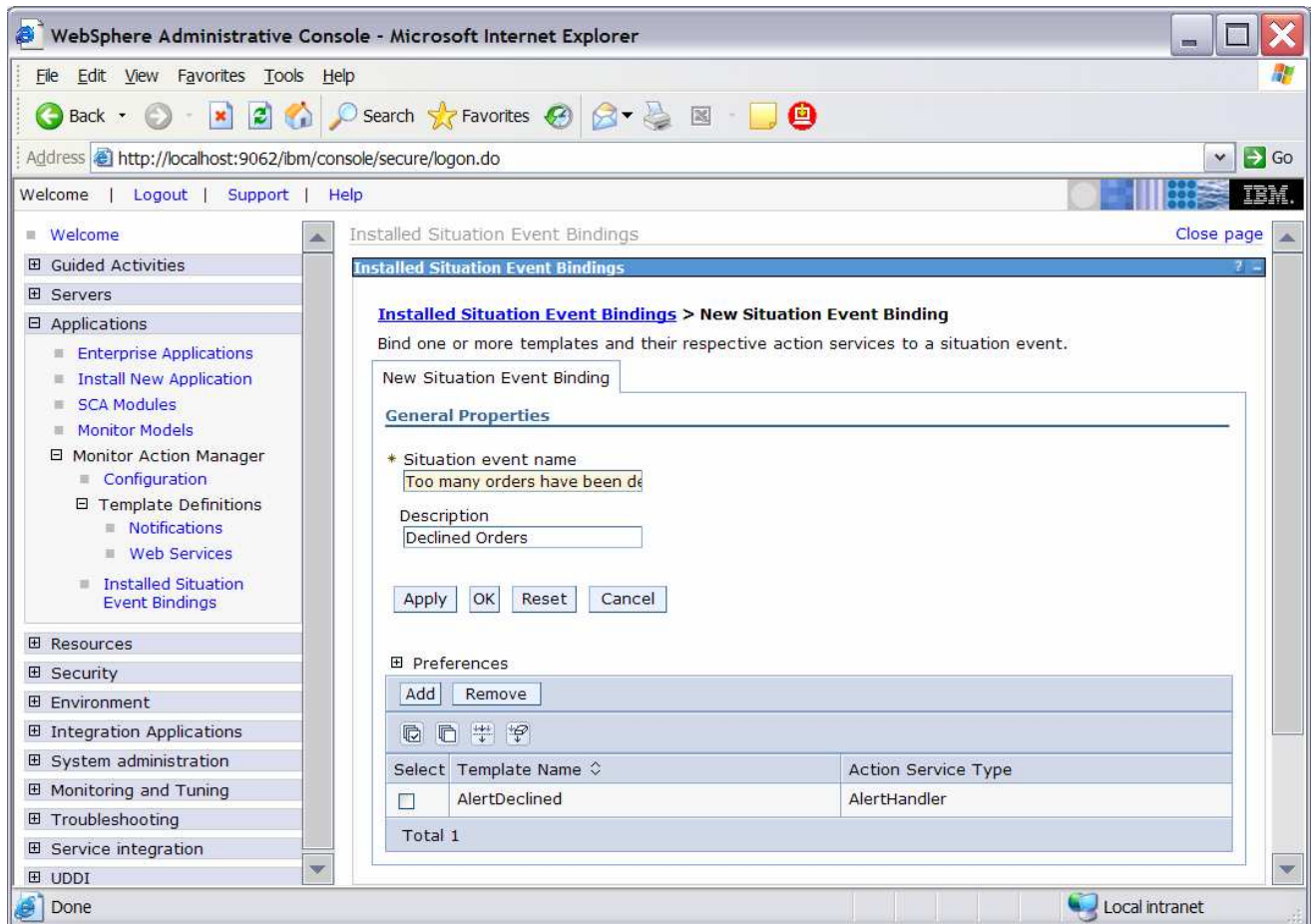
__ f. Click **Add**.

__ g. Select the template **AlertDeclined**.

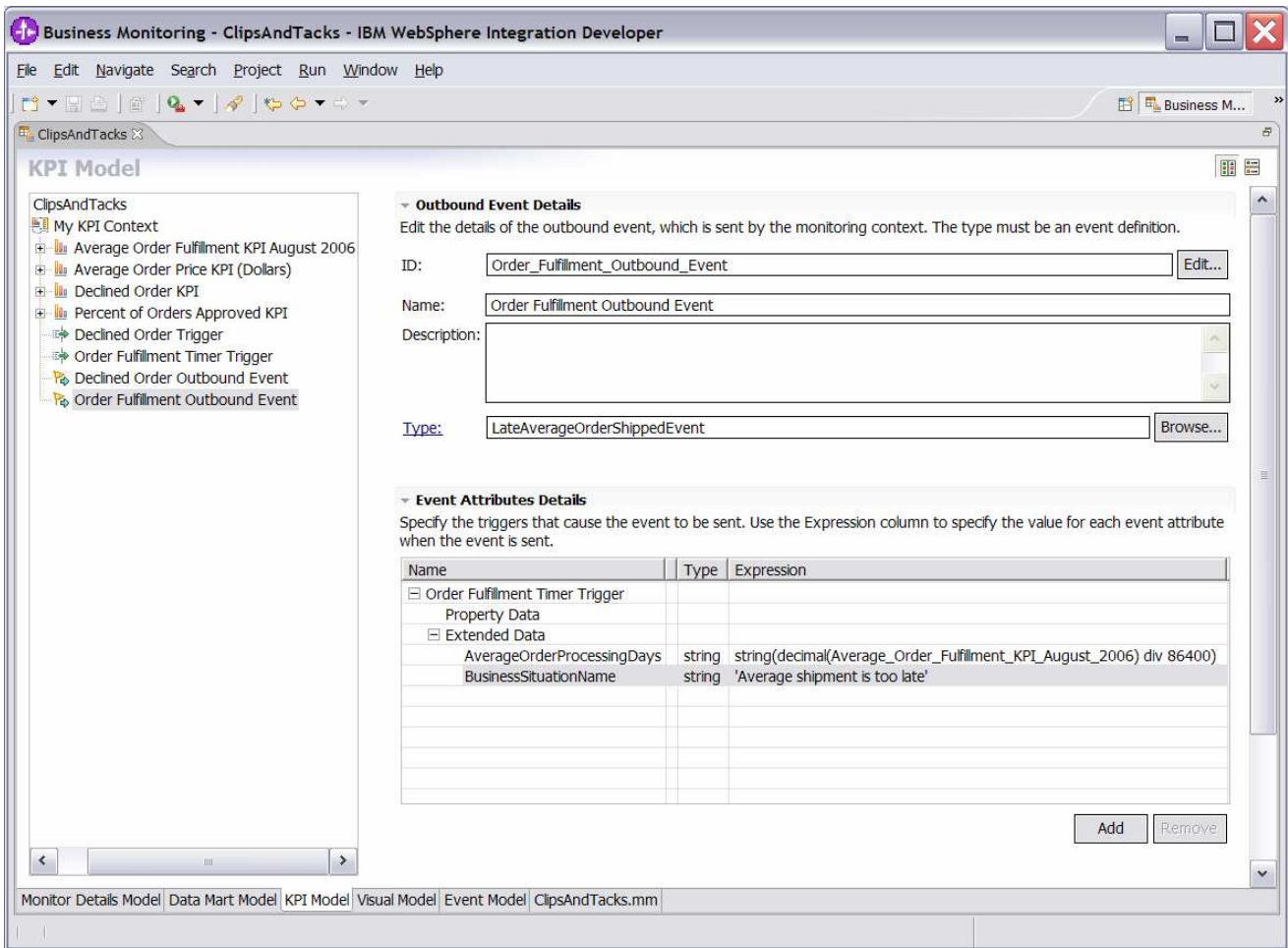


- ___ h. Click **OK**.

- ___ 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.



- ___ 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:

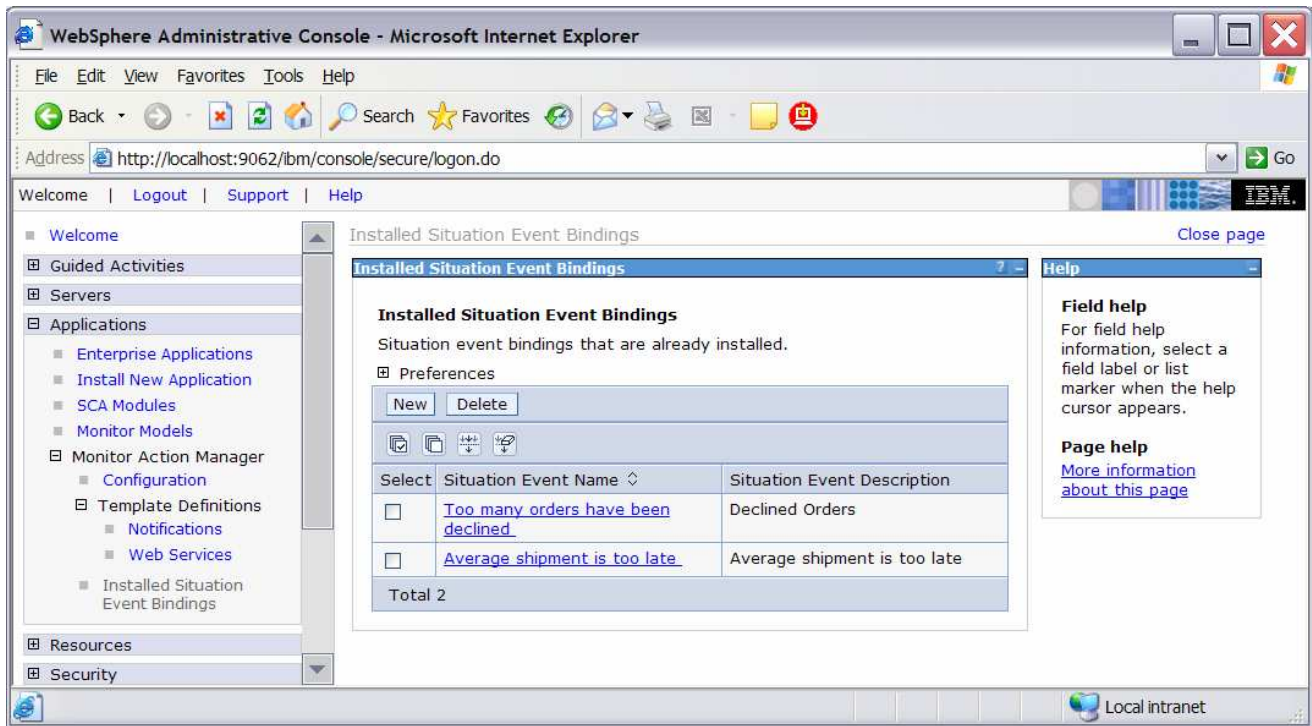


___ d. Enter a description, then click **Apply**.

___ 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:



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 PROCSEV_HOME to the Process Server home, for example 'set PROCSEV_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:

```

Command Prompt

C:\ClipsAndTacks\batchCBEWriter>batchcbewriter -Dsource.filename=c:\clipsandtack
s\cbe\flow1_1.xml
Getting CBEs.
Getting Emitter.
Oct 9, 2006 5:04:02 PM com.ibm.ws.naming.util.Helpers
WARNING: jndiNamingException
Removing GlobalInstanceIds.
Setting missing values.
Changing Instance Ids.
Updating timestamps.
Validating CBEs.
Sending CBEs.
START=17:04:02.188
END=17:04:06.688
TotalTime=4500 milliseconds.
    
```

- ___ 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.

MCI_MCIID	MCI_MCVID	MCI_CREATION_TIME	MCI_TERMINATION_TIME	READY_FOR_DELETE	PARENT_MCIID	M_ORDER
13	1159868127	Oct 9, 2006 5:16:01 PM...				o14
14	1159868127	Oct 9, 2006 5:16:06 PM...				o15
2	1159868127	Oct 9, 2006 5:04:19 PM...				o3
3	1159868127	Oct 9, 2006 5:04:24 PM...				o4
4	1159868127	Oct 9, 2006 5:04:32 PM...				o5
7	1159868127	Oct 9, 2006 5:15:32 PM...				o8

- ___ 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.

Open Table - FCT_CLIPSANDTACKS_MC

IBM-6161E0131C0 - DB2 - DATAMART - WBI.FCT_CLIPSANDTACKS_MC

MCI_MCIID	PARENT_MCIID	MCI_MCVID	M_ORDER_KEY	SK_STARTTIMEDIMENSION	M_ORDE
0		1159868127	o1	4237	Aug 7, 2007
1		1159868127	o2	4237	Aug 7, 2007
5		1159868127	o6	4252	Aug 22, 2007
6		1159868127	o7	4252	Aug 22, 2007
10		1159868127	o11	4253	Aug 23, 2007
11		1159868127	o12	4253	Aug 23, 2007
15		1159868127	o16	4254	Aug 24, 2007
16		1159868127	o17	4254	Aug 24, 2007

Commit Roll Back Filter Fetch More Rows

Automatically commit updates

8 row(s) in memory

Close Help

___ c. Close the DB2 Control Center.

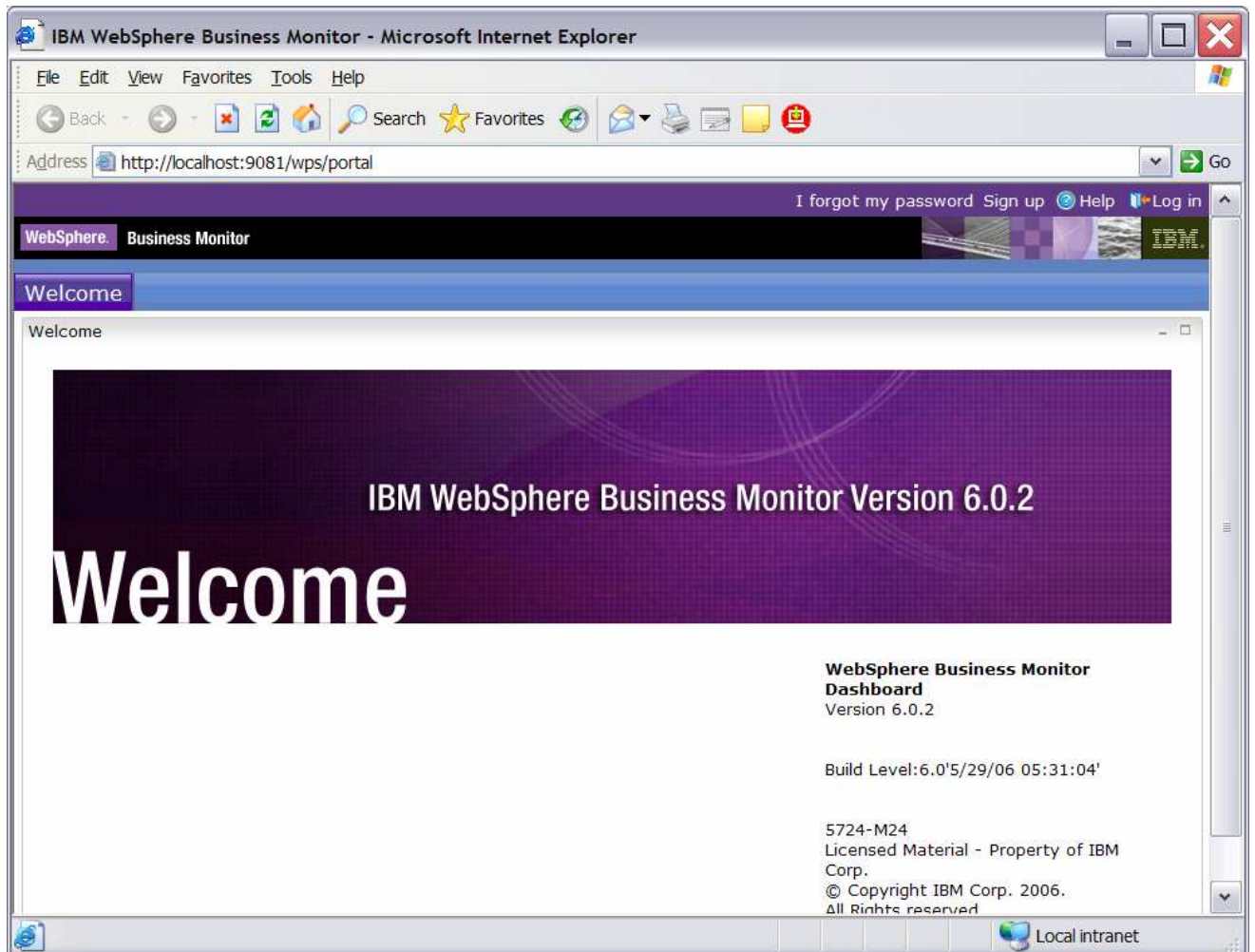
Part 6: Create a dashboard

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.

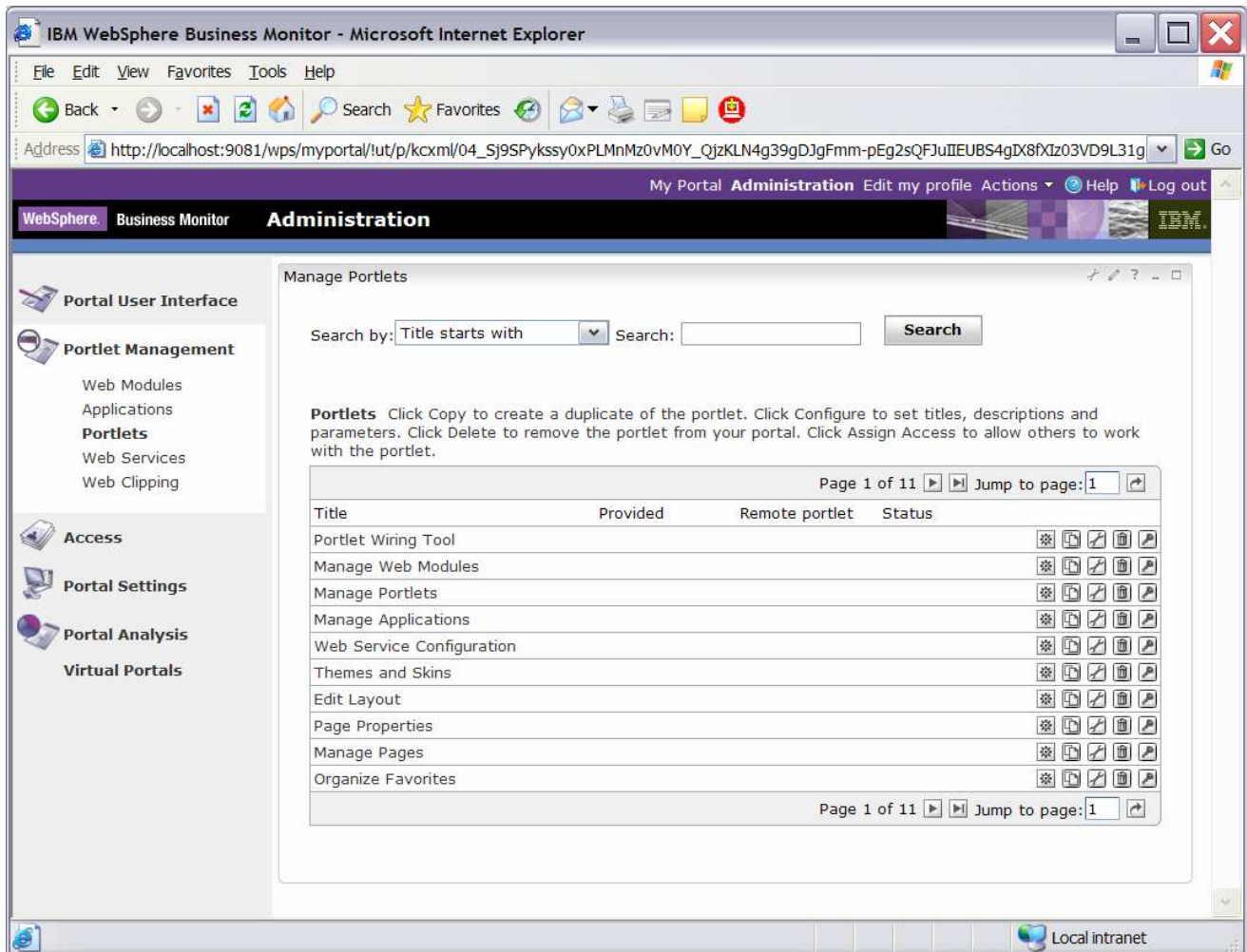
- a. Open the Portal page, <http://localhost:9081/wps/portal>




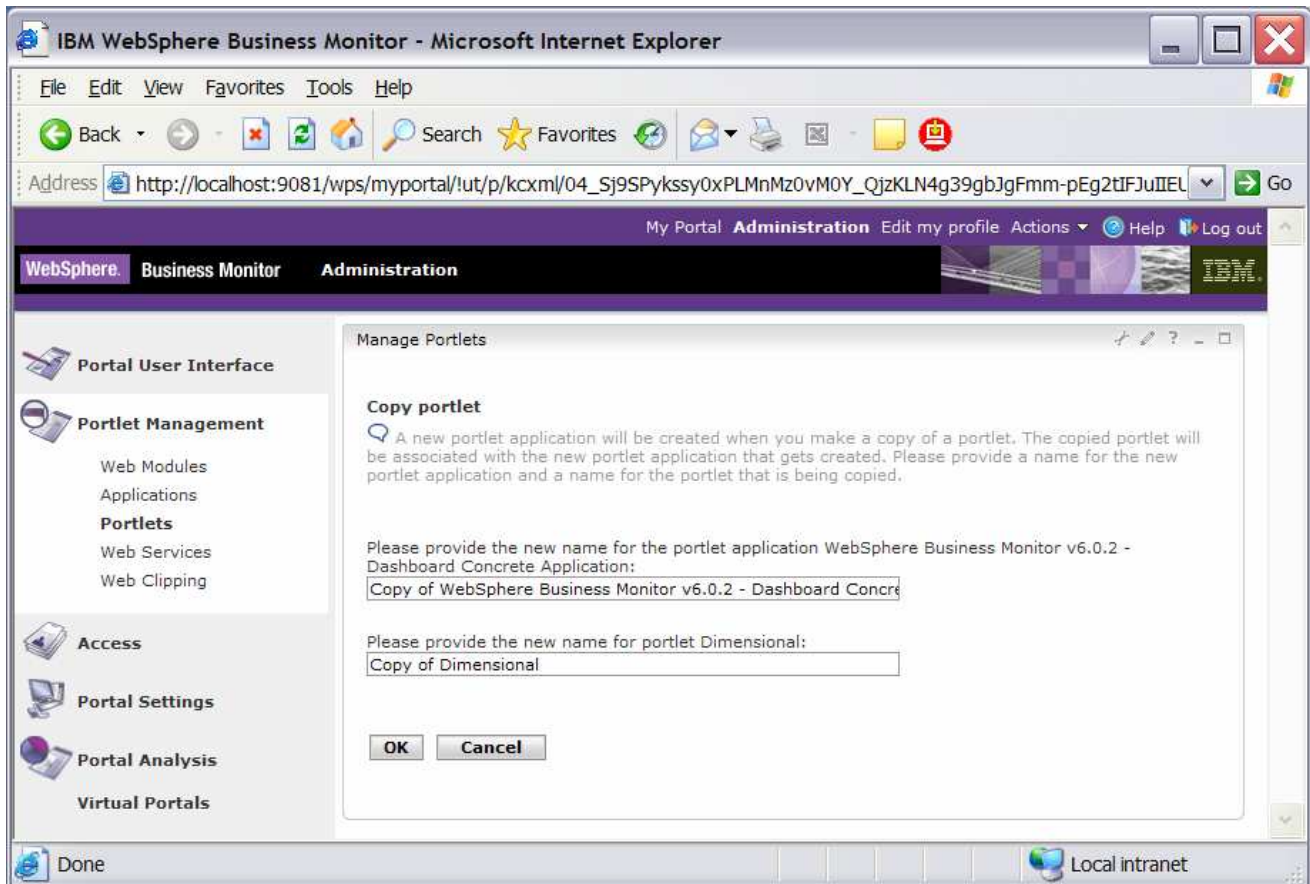
- b. Click Log in, then enter your Portal administrative user ID and password (commonly wpsadmin/wpsadmin).




2. Create copies of the Monitor portlets.

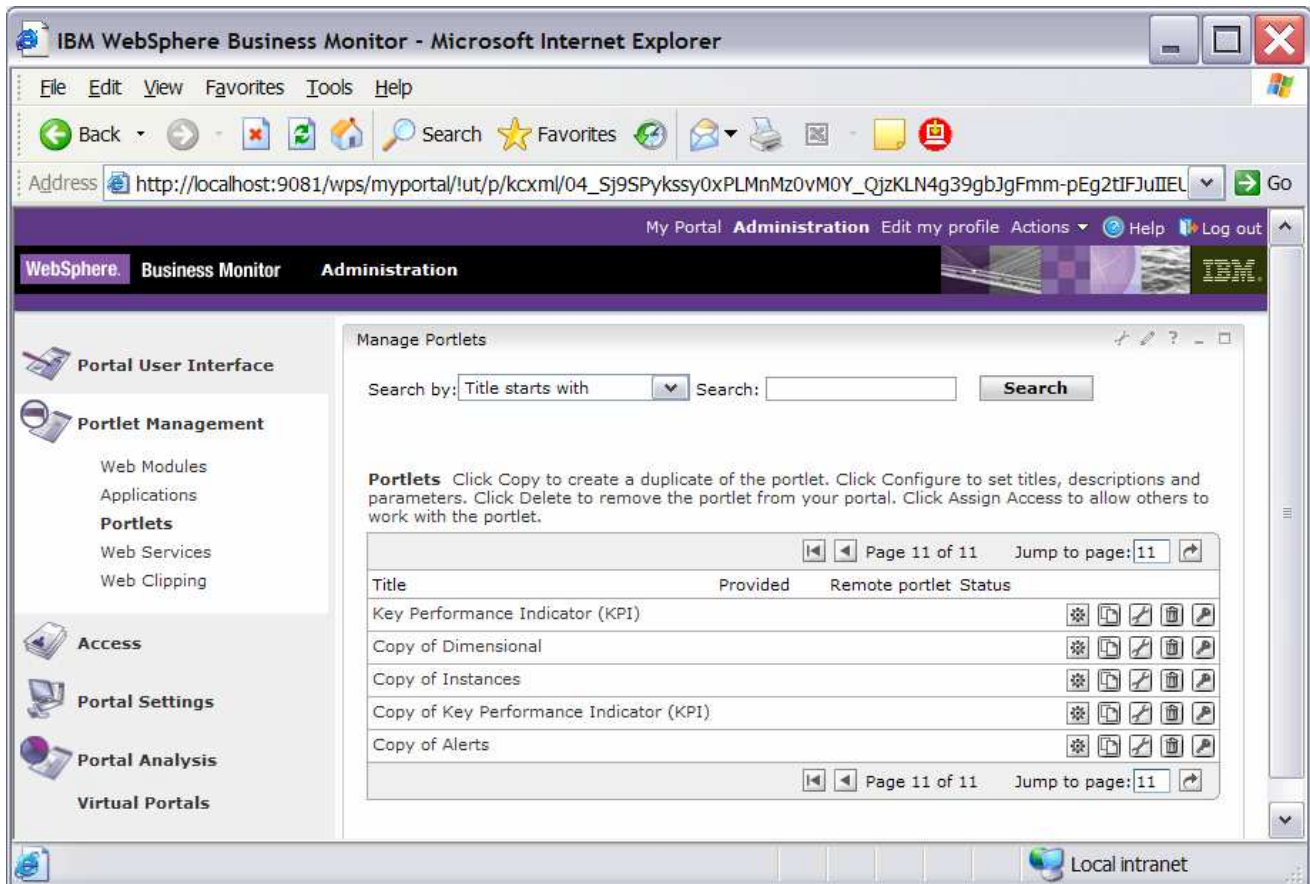
- a. Click on **Administration** at the top of the page, and then click **Portlet Management > Portlets**.



- ___ 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:

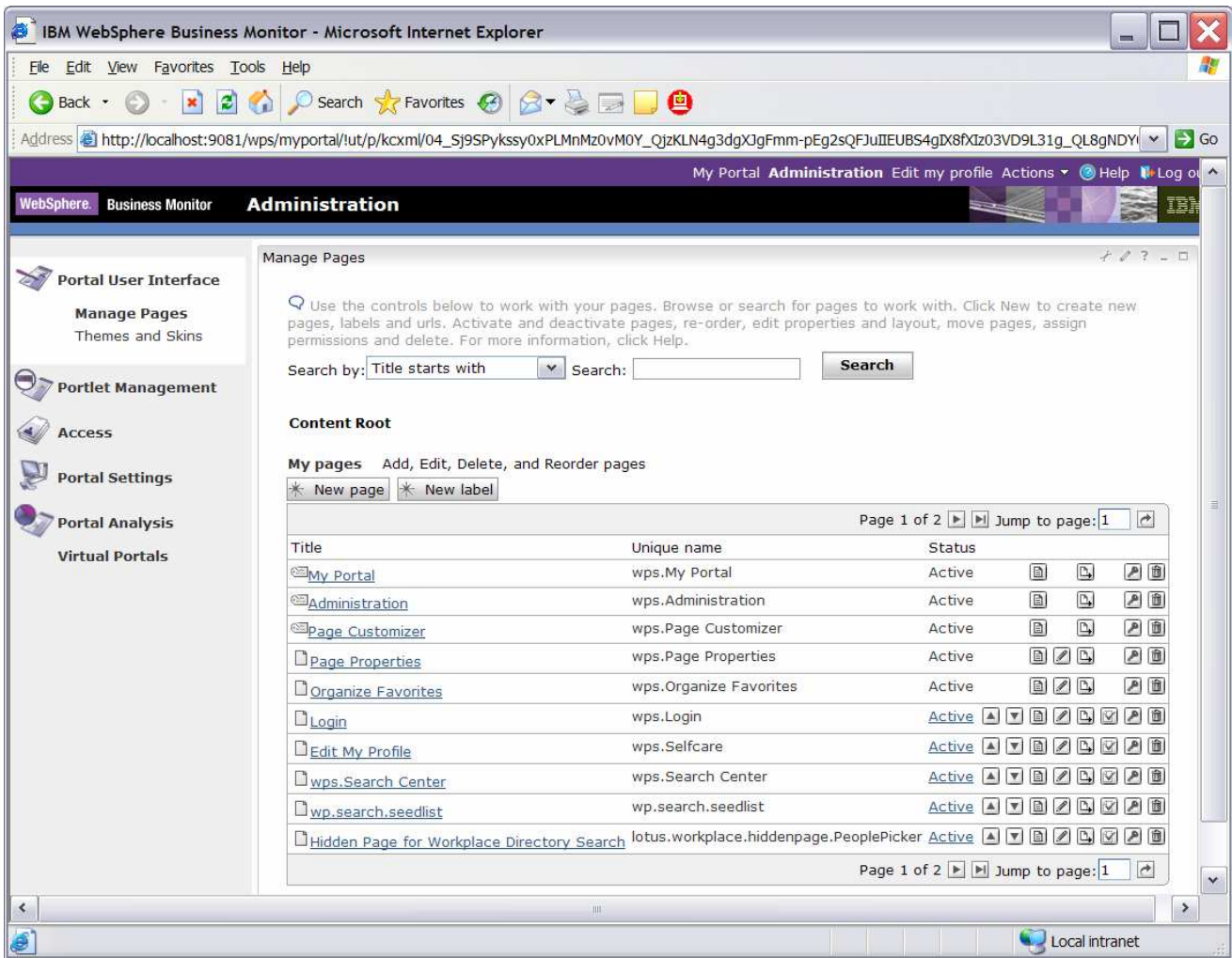


- ___ d. Click **OK**.
- ___ e. On the row containing **Instances**, click the icon for **Copy portlet** (). On the next window, click **OK**.
- ___ f. Now **Browse to page 11** by clicking on the arrow icons. This page should show the portlet Key Performance Indicator (KPI) plus the copies of the portlets 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.

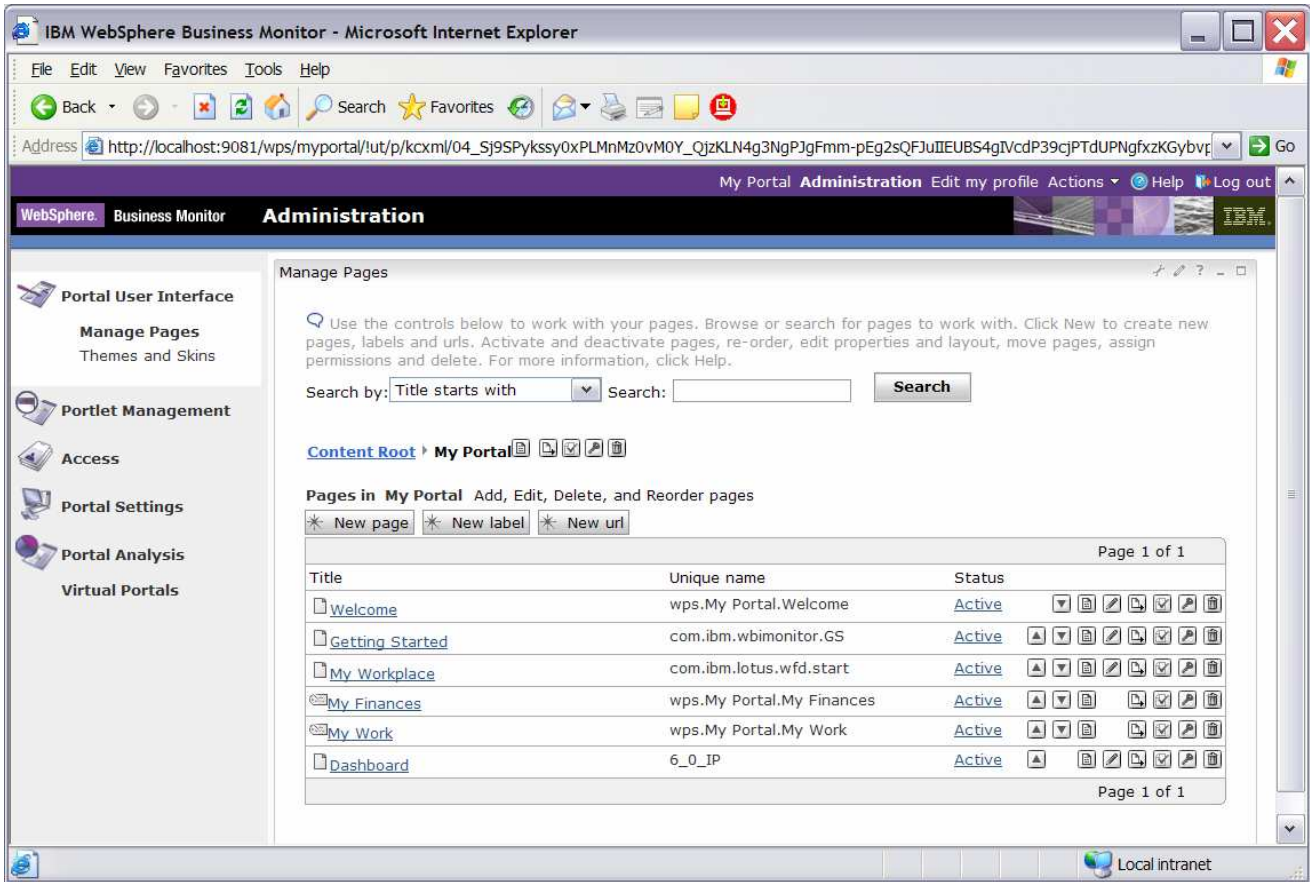



___ 3. Create a page containing four views: Instances, Dimensional, Key Performance Indicator (KPI), Alerts.

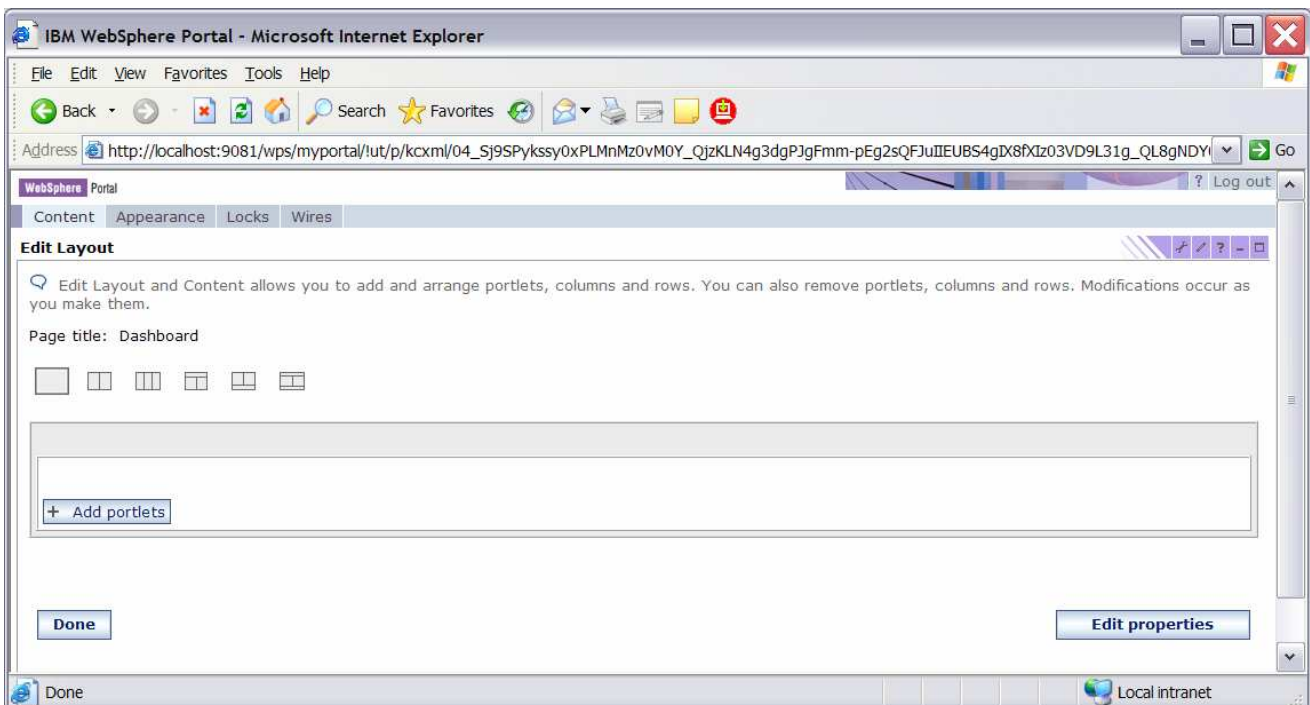
___ a. Click on **Administration** at the top of the page, and then click **Portal User Interface > Manage Pages**.



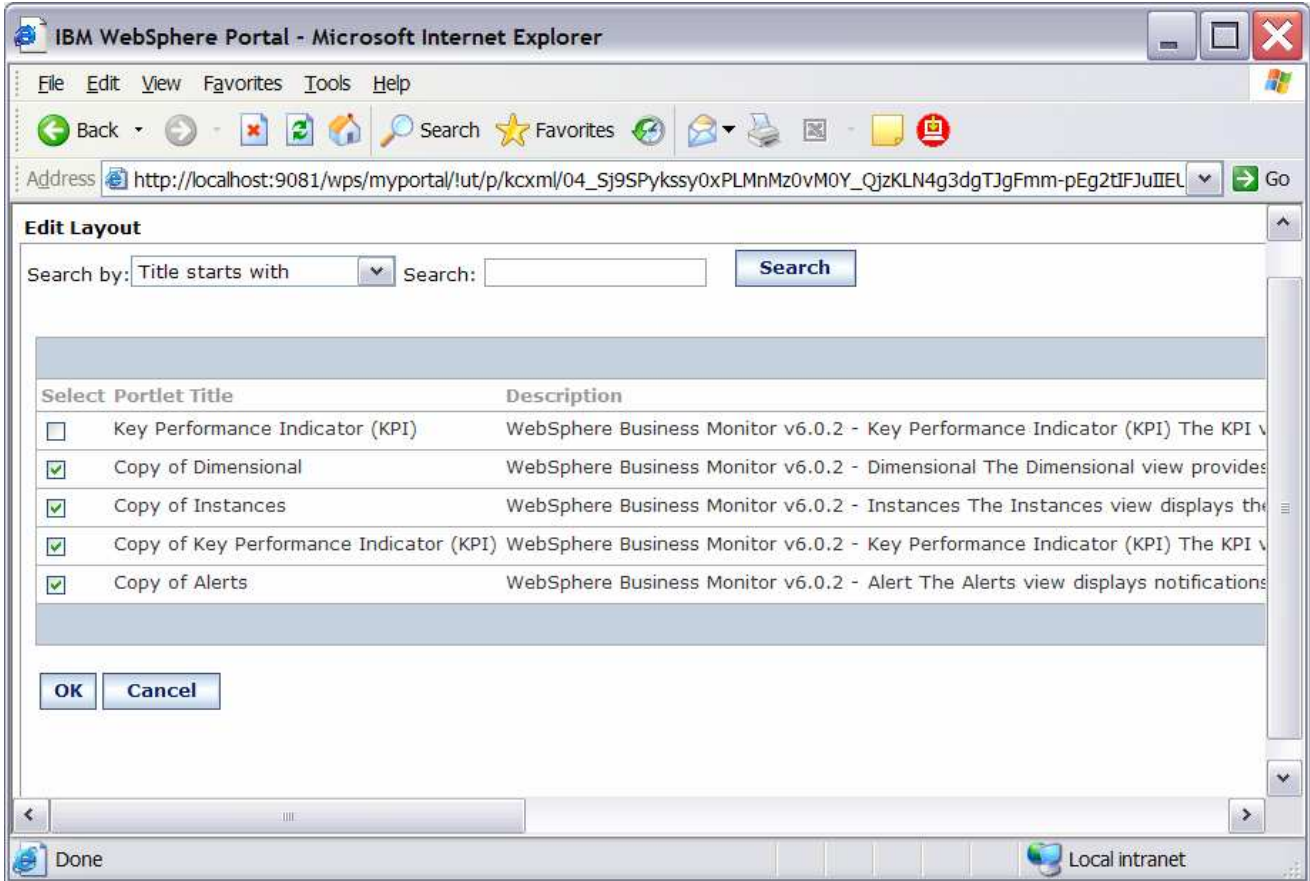
- ___ b. Click **My Portal**, then click the button '**New Page**'. Enter a page title 'Dashboard'. For Type of Page, it defaults to a two column layout, but click the radio button on the far left to select the one column layout. Click **OK**, click **OK**. Now you should see the new page in the list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



__ 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.

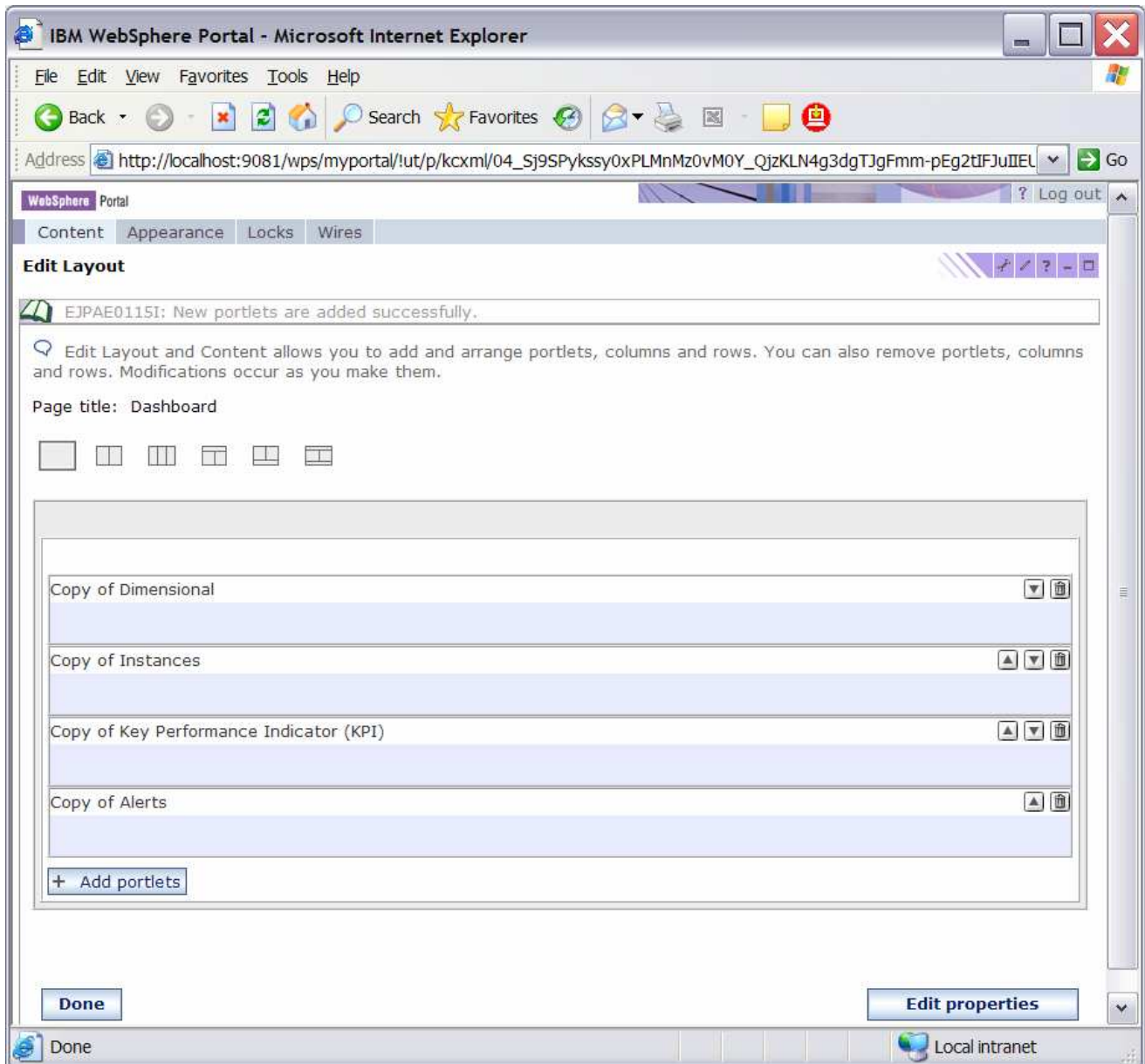


- ___ d. Click button **'Add portlets'**. You will see a list of portlets. There are multiple pages of these and you can use the navigation at the bottom of the list to look at them. Find **'Copy of Dimensional'**, **'Copy of Instances'**, **'Copy of Key Performance Indicator (KPI)'**, **'Copy of Alerts'**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



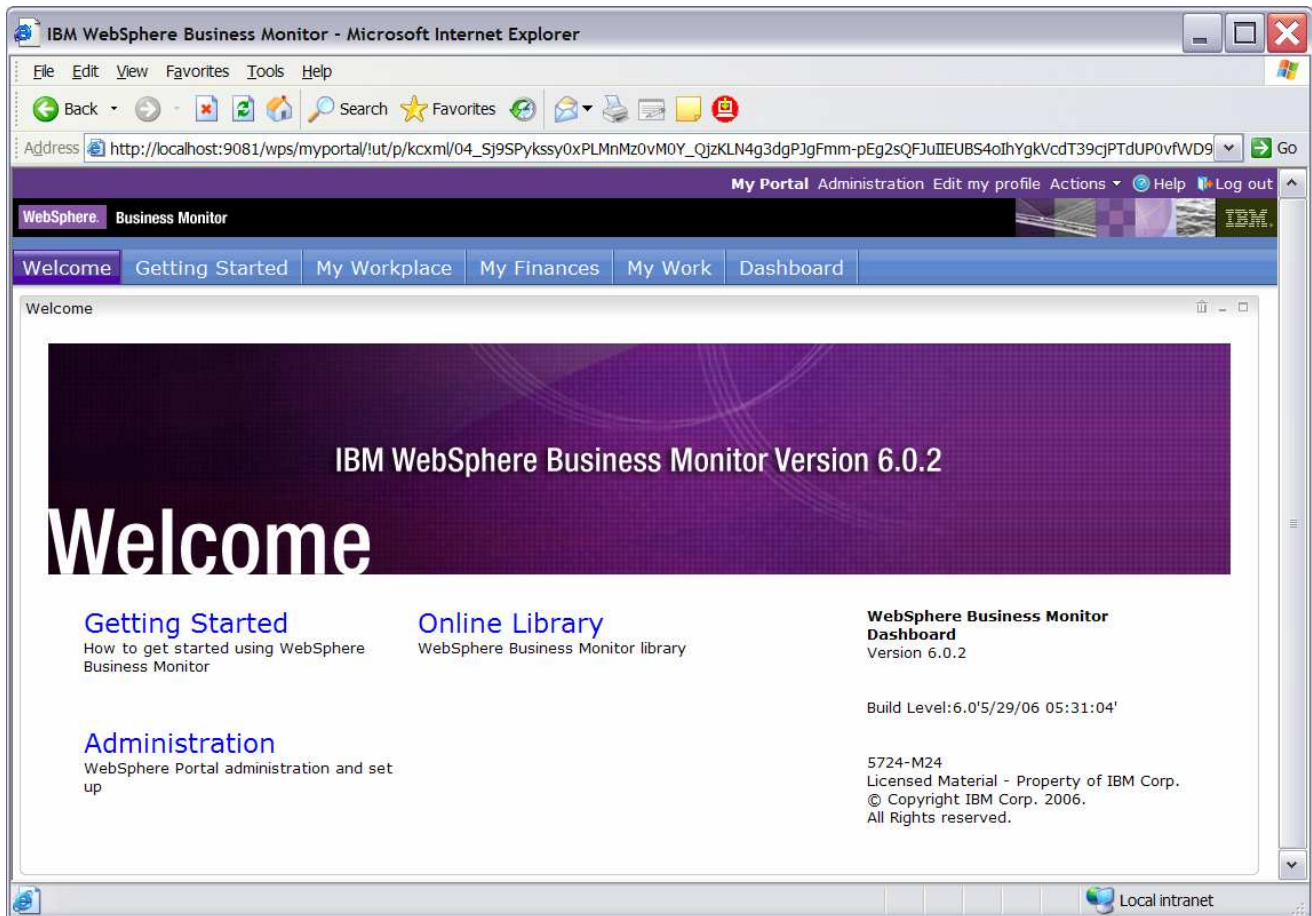
- ___ e. Click **OK**.

- ___ f. This shows that the views have been added to the page:



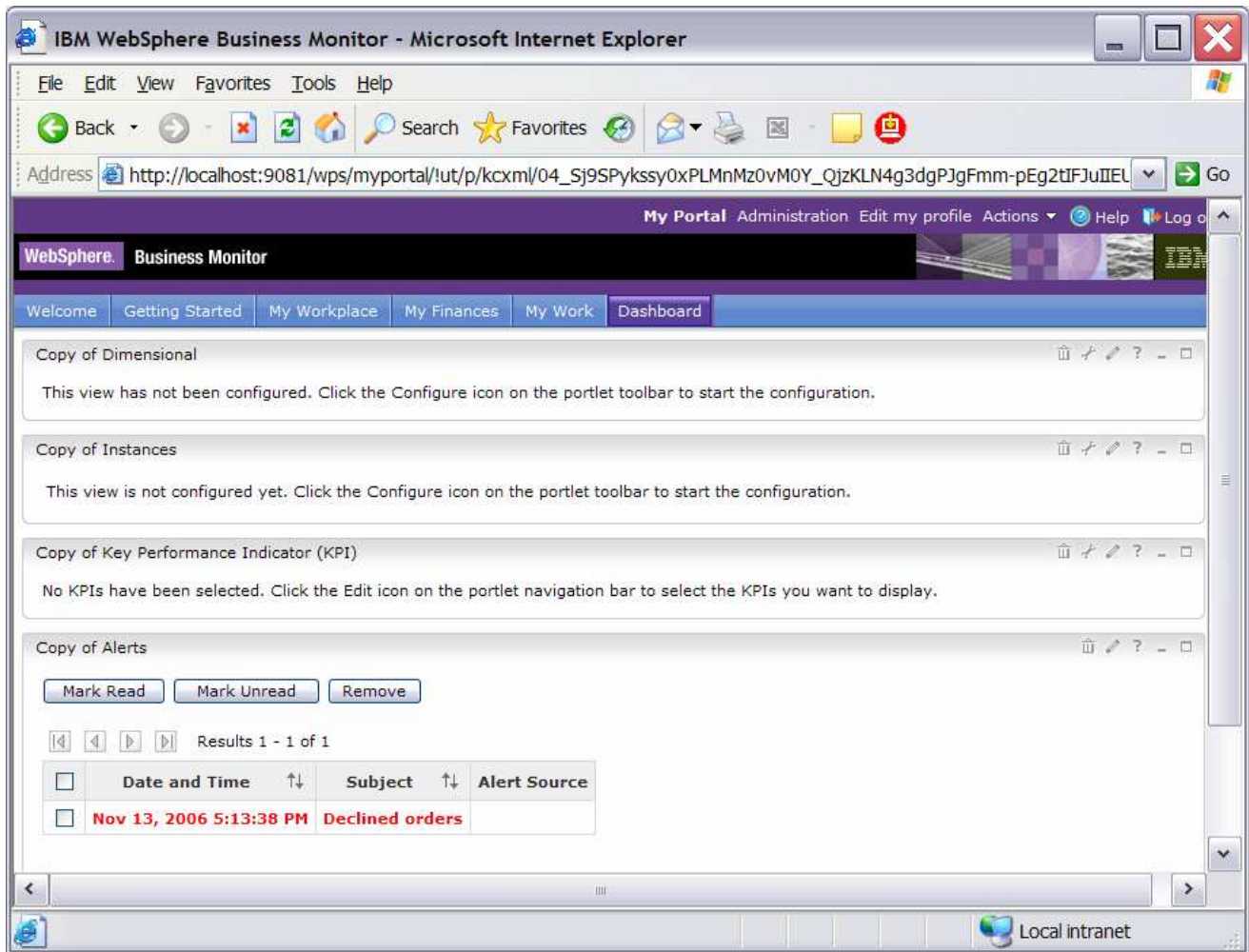
___ g. Click **Done**.

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



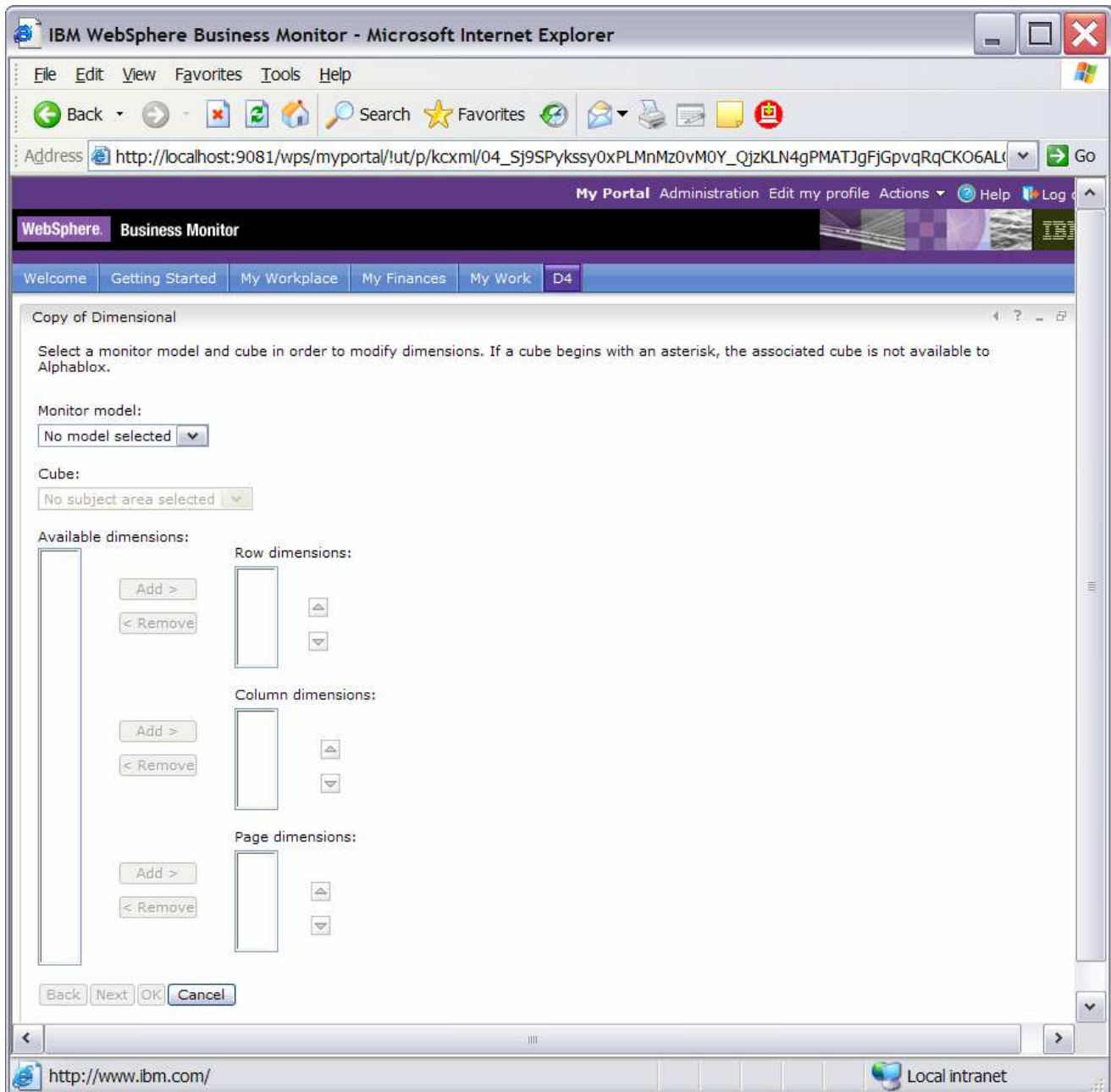
___ 4. Configure the views on your new page.

___ a. Click on the tab for **Dashboard**. You can use the Alert view immediately, but the other views need to be configured:

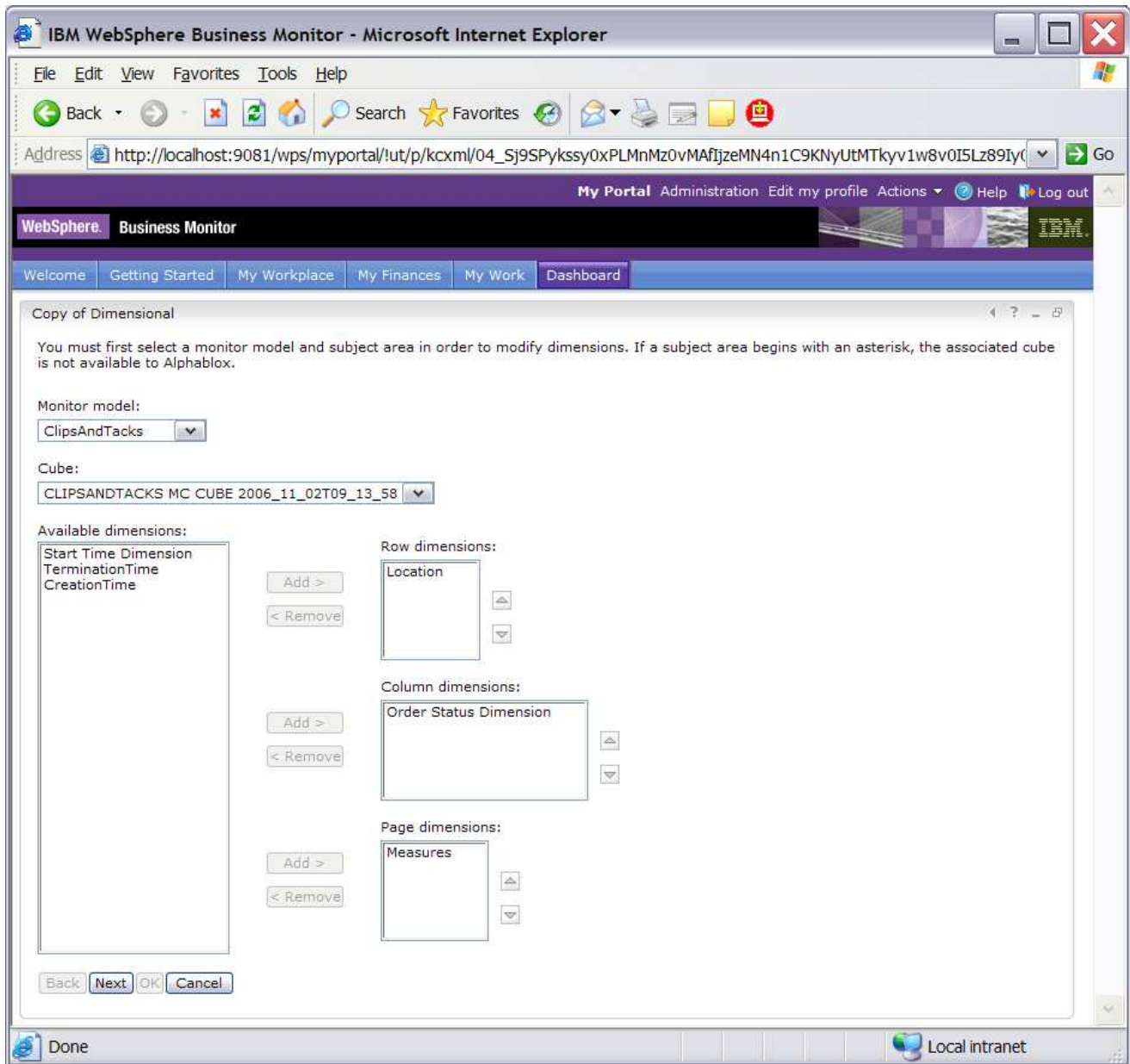


___ b. Click the **Configure** icon on the **Copy of Dimensional** portlet.





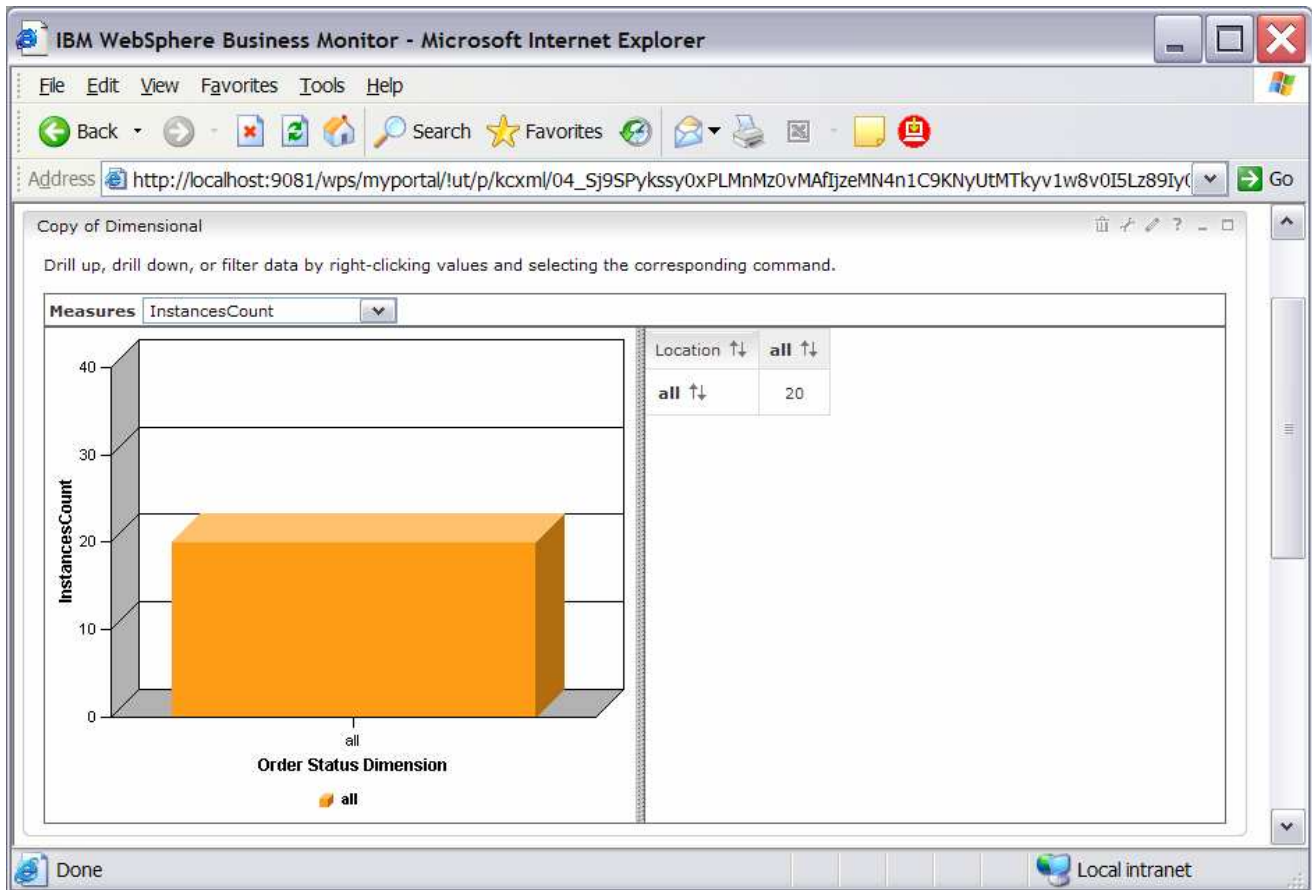
- ___ c. For Monitor model, select **ClipsAndTacks**.
- ___ d. For Cube, select **CLIPSANDTACKS MC CUBE <timestamp>**
- ___ e. In Available dimensions, select **Measures**, then next to Page dimensions, click **Add**.
- ___ f. In Available dimensions, select **Location**, then next to Row dimensions, click **Add**.
- ___ g. In Available dimensions, select **Order Status Dimension**, then next to Column dimensions, click **Add**.
- ___ h. The screen should look like this:



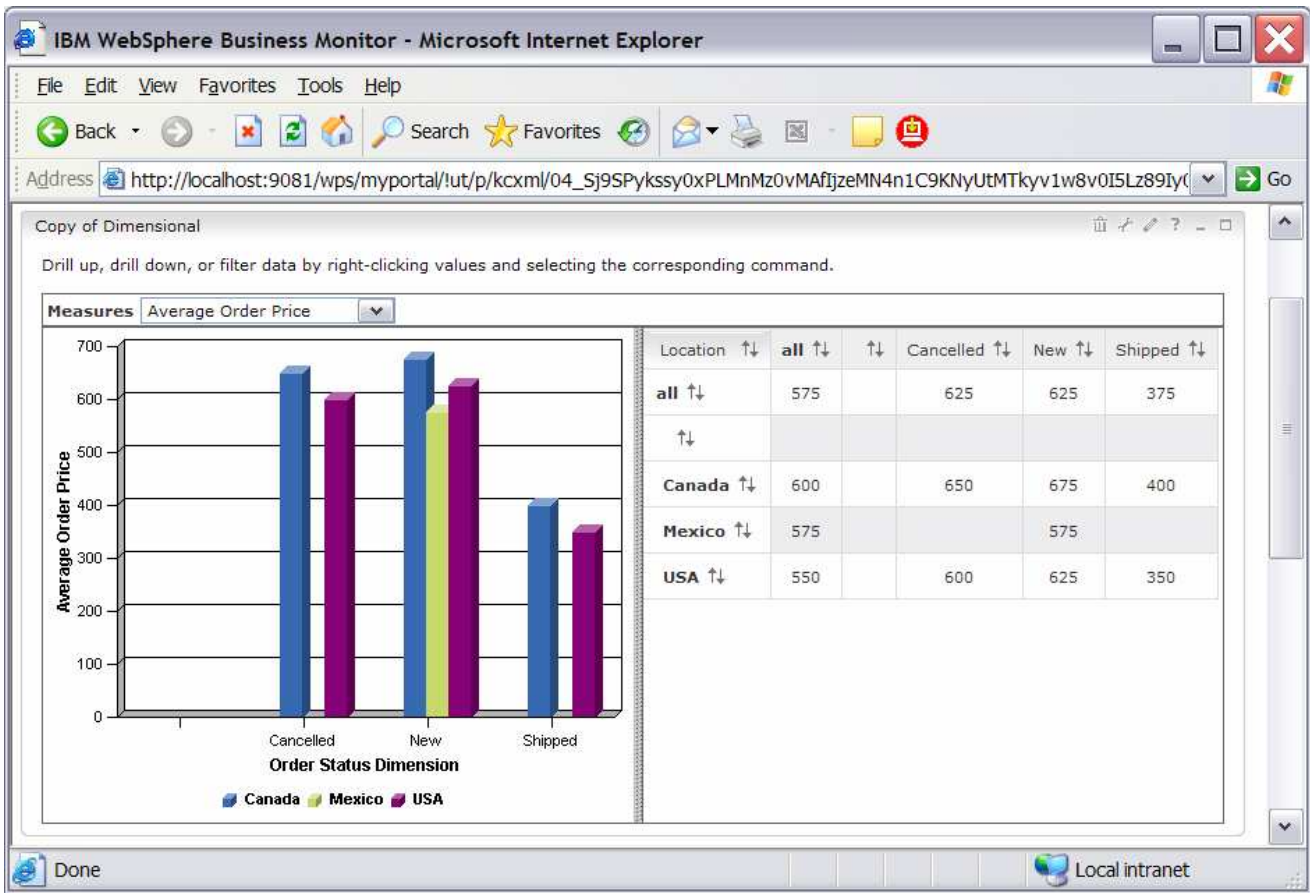
___ i. Click **Next**.

___ j. Click **OK**.

___ k. This shows the configured portlet:

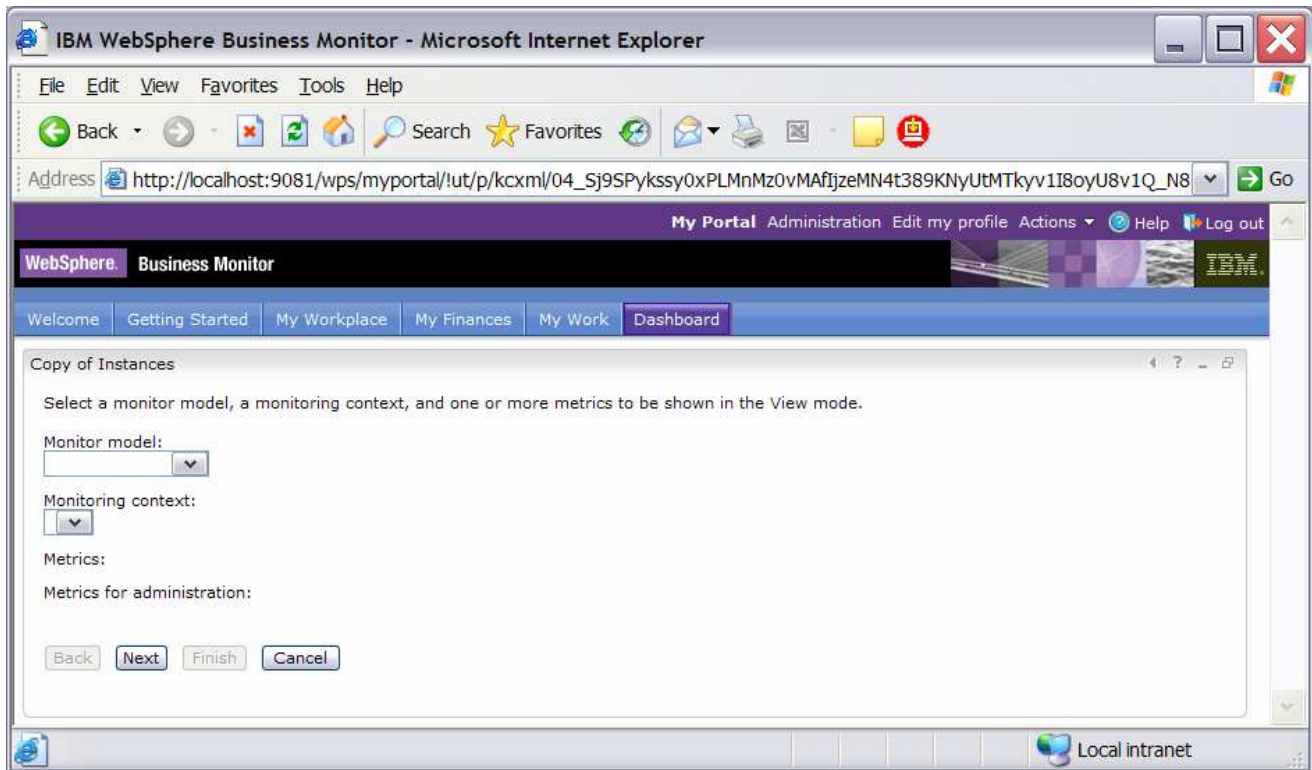


- ___ l. You are currently looking at the instances count. To see other measures, click on the **Measures** drop down list. Select **Average Order Price**.
- ___ m. Currently you are seeing data at the top level. In the tabular view on the right, double click on **all** in the column to drill down on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

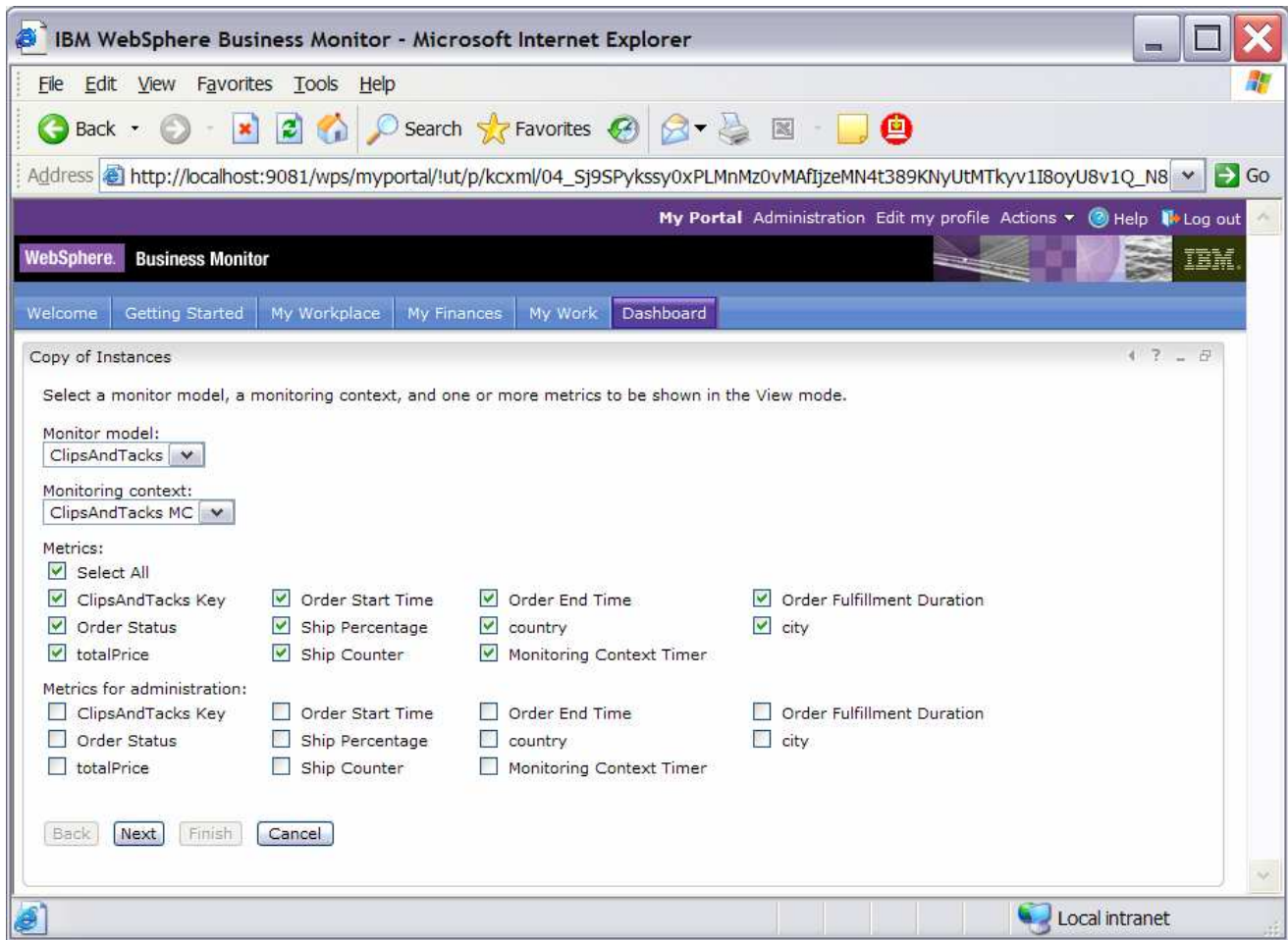


___ n. Click on the **Configure** icon for the **Copy of Instances** portlet.



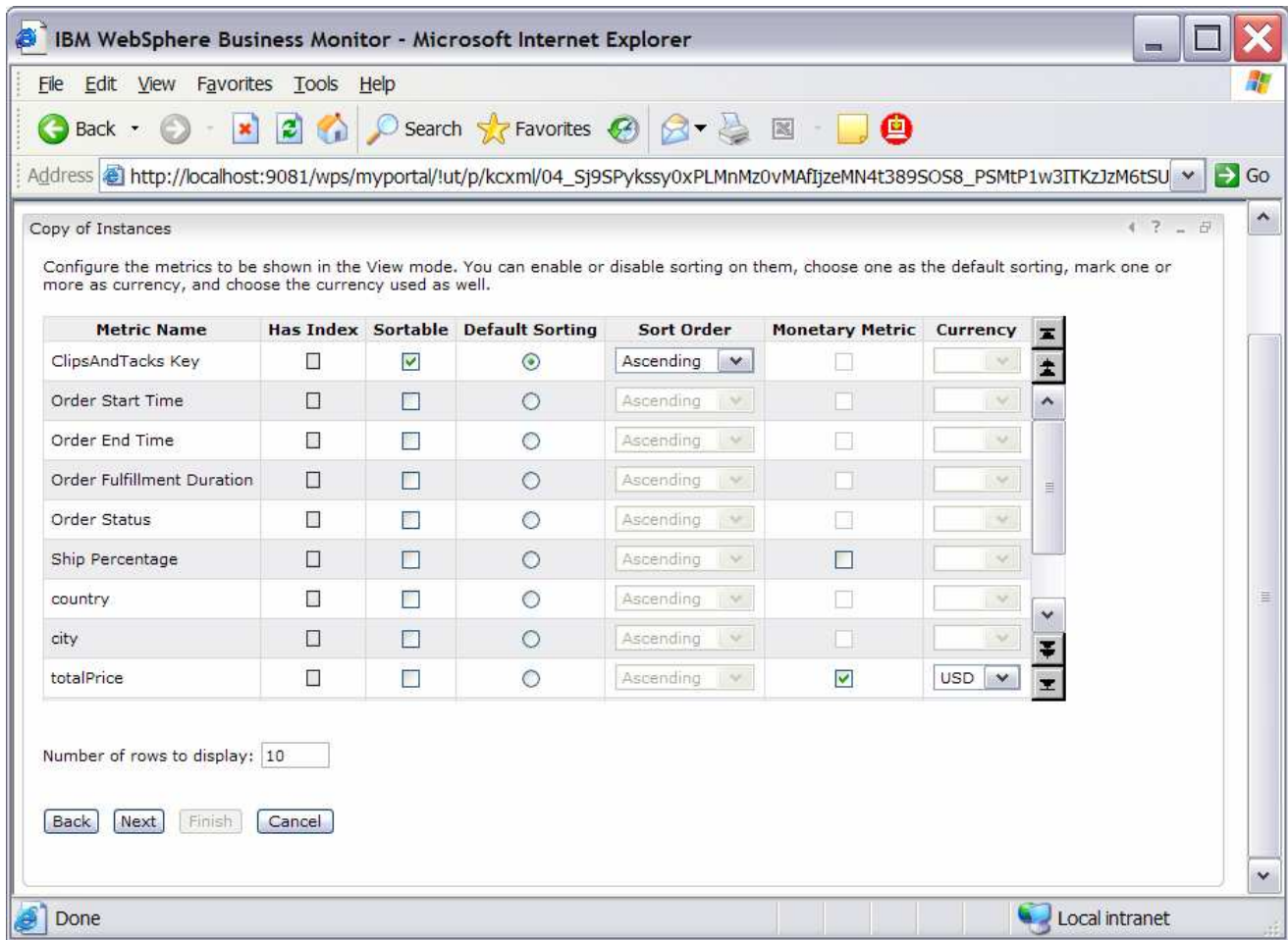


- ___ o. For model, select **ClipsAndTacks**.
- ___ p. For monitoring context, choose **ClipsAndTacks MC**.
- ___ q. For metrics, check **Select All**.



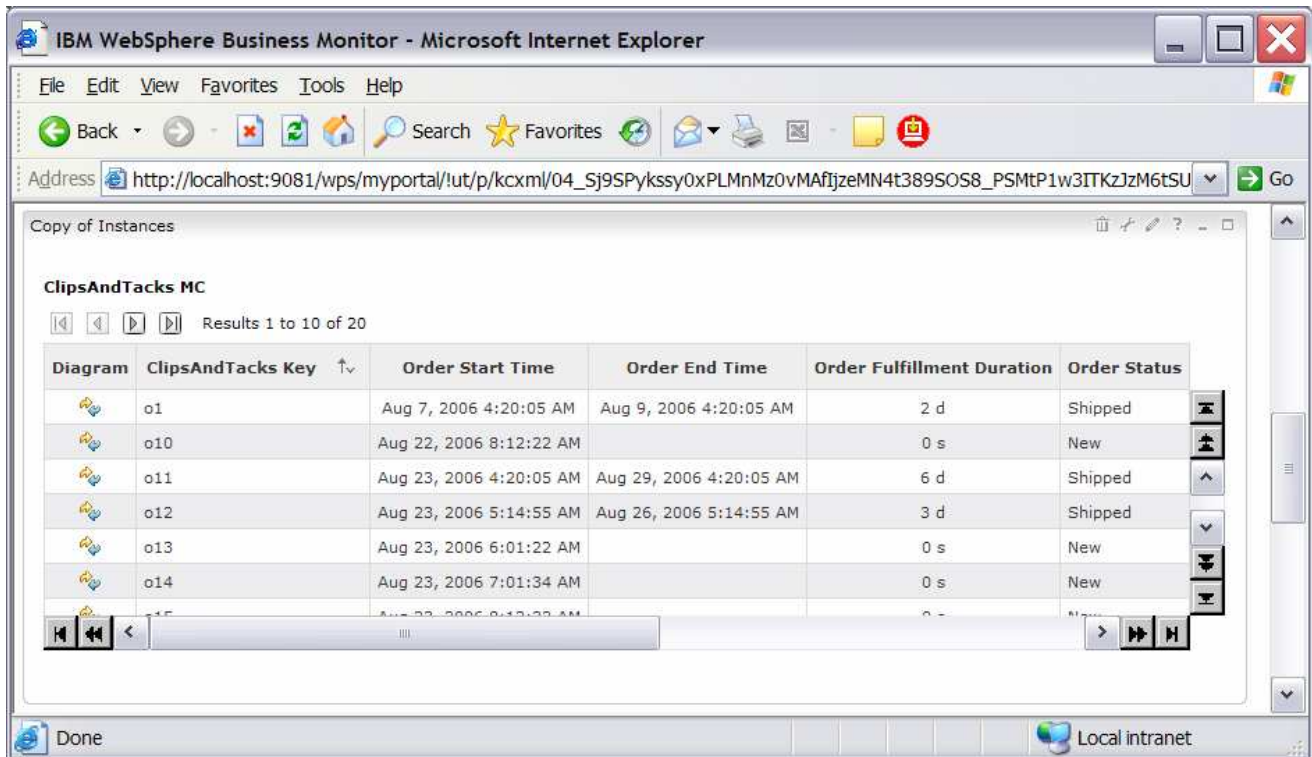
___ r. Click **Next**.

___ 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:

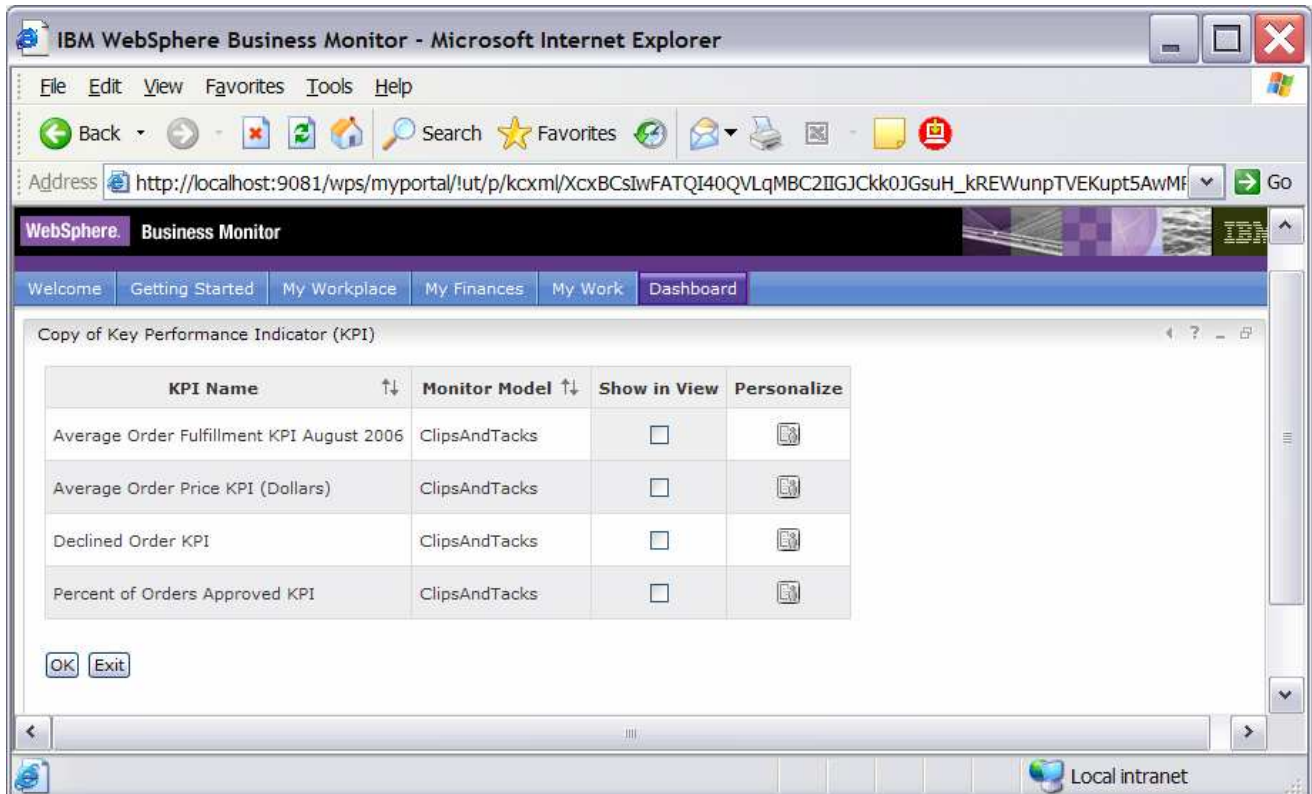


__ t. Click **Next, Next, Finish.**

__ u. By taking the defaults, you configured the view to show both active instances and completed instances.

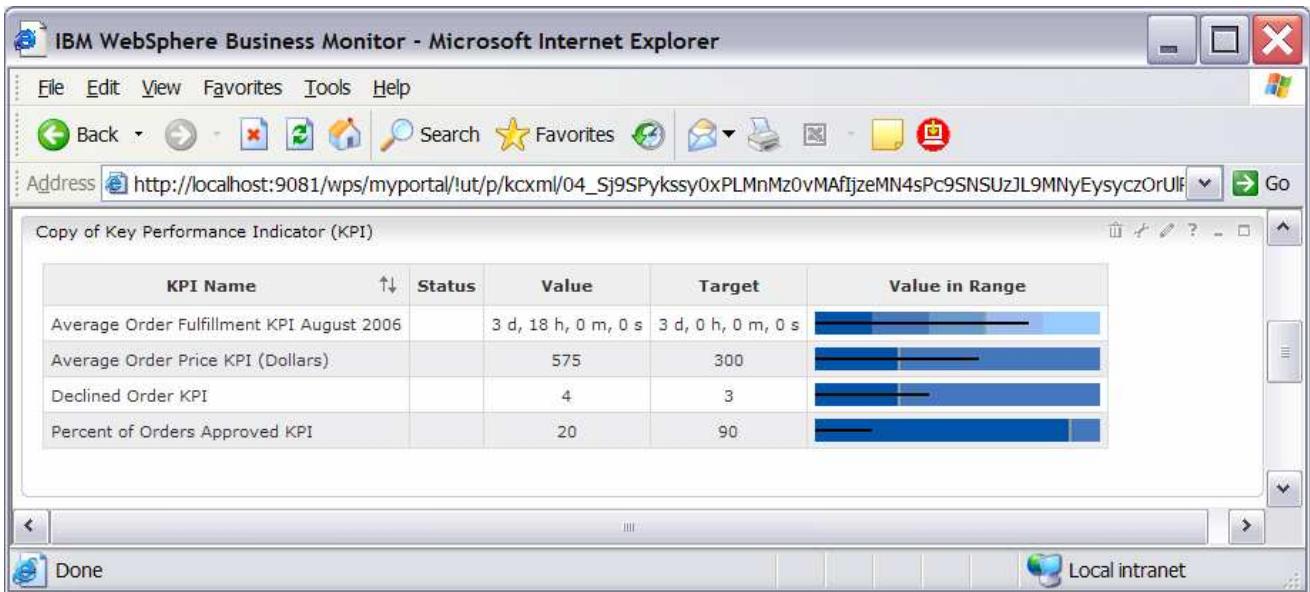


___ v. Click on the **Edit** icon for the **Copy of Key Performance Indicator (KPI)** portlet.

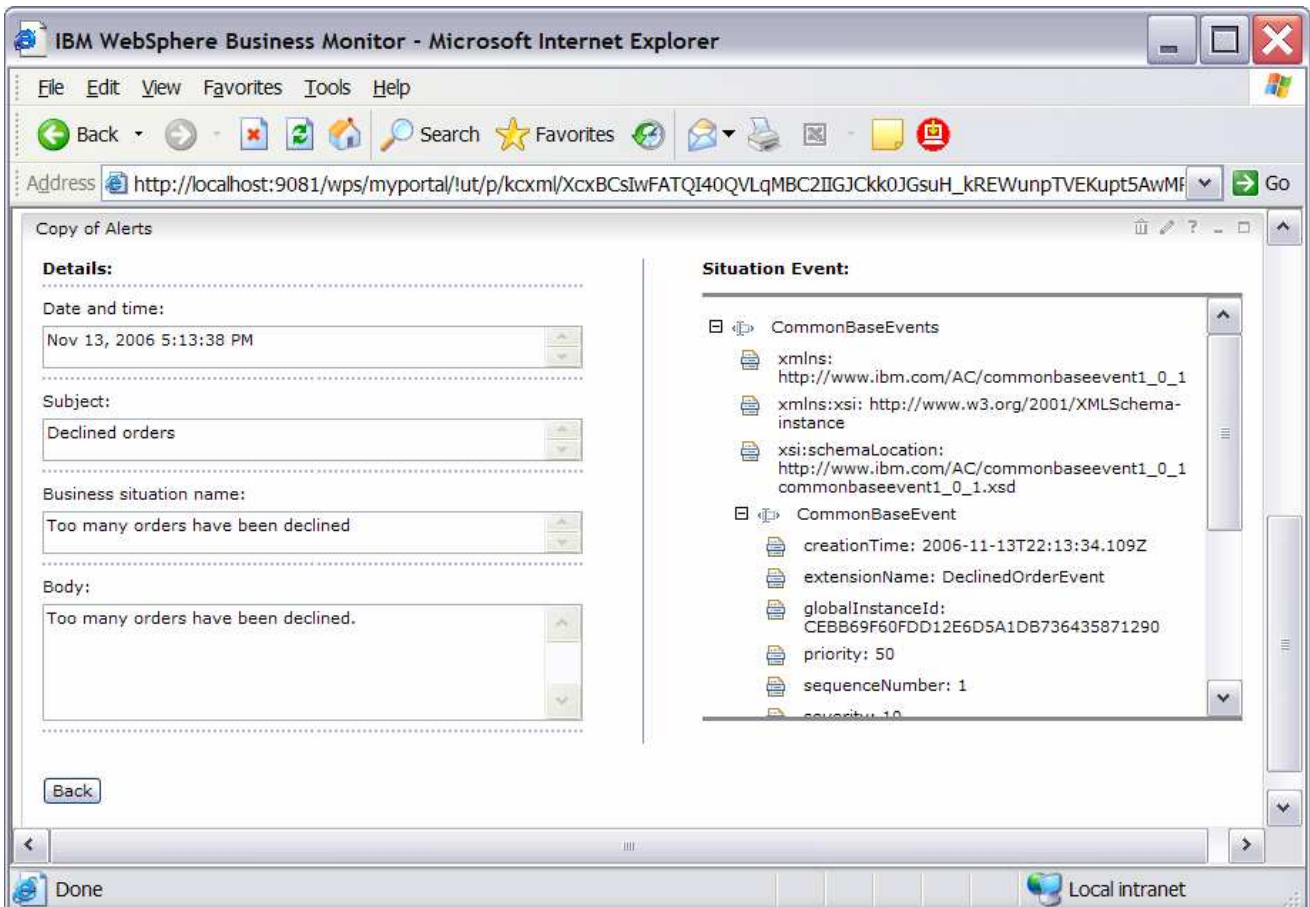


___ w. In column **Show in View**, check all four check boxes.

__ x. Click **OK**.



__ 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.



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

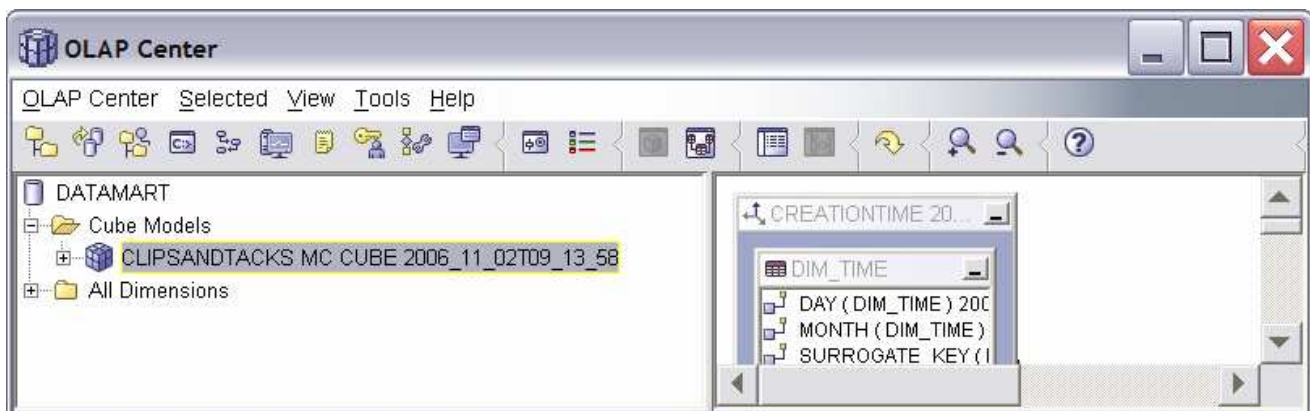
A solution has been provided so that you do not have to build the model from scratch. This section shows you how to import the monitoring model into WebSphere Integration Developer. After importing the model then you can proceed to generate the EAR and deploy the model.

- ___ 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.

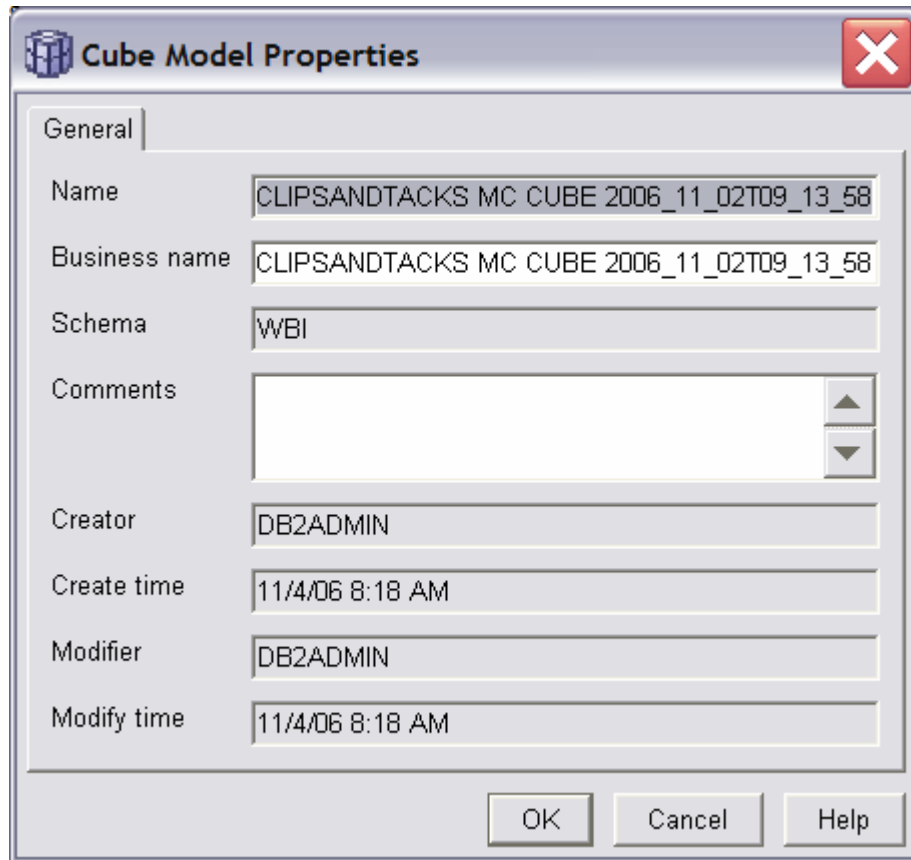
Appendix 2 – Workaround for step 5: Manage Alphablox cube

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:



- ___ 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:



__ f. Then press Ctrl-C keys to copy the text to the clipboard.

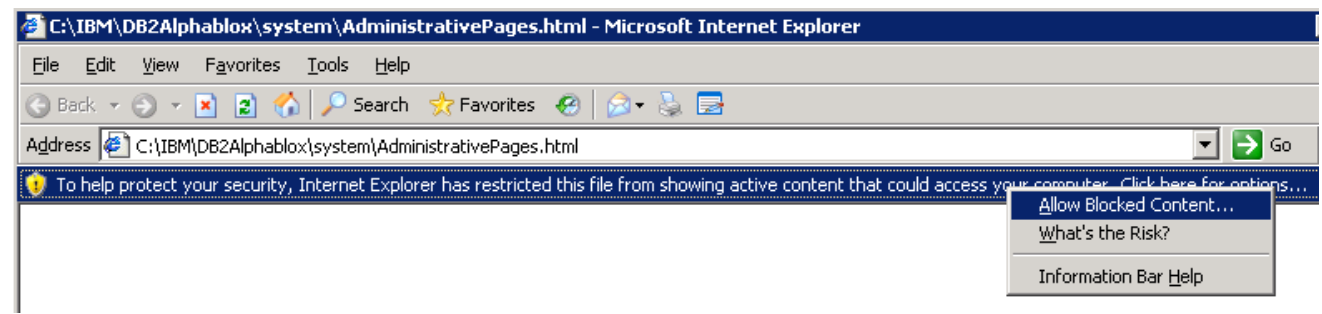
__ g. Click Cancel, then close the OLAP Center.

___ 2. Define the cube to Alphablox.

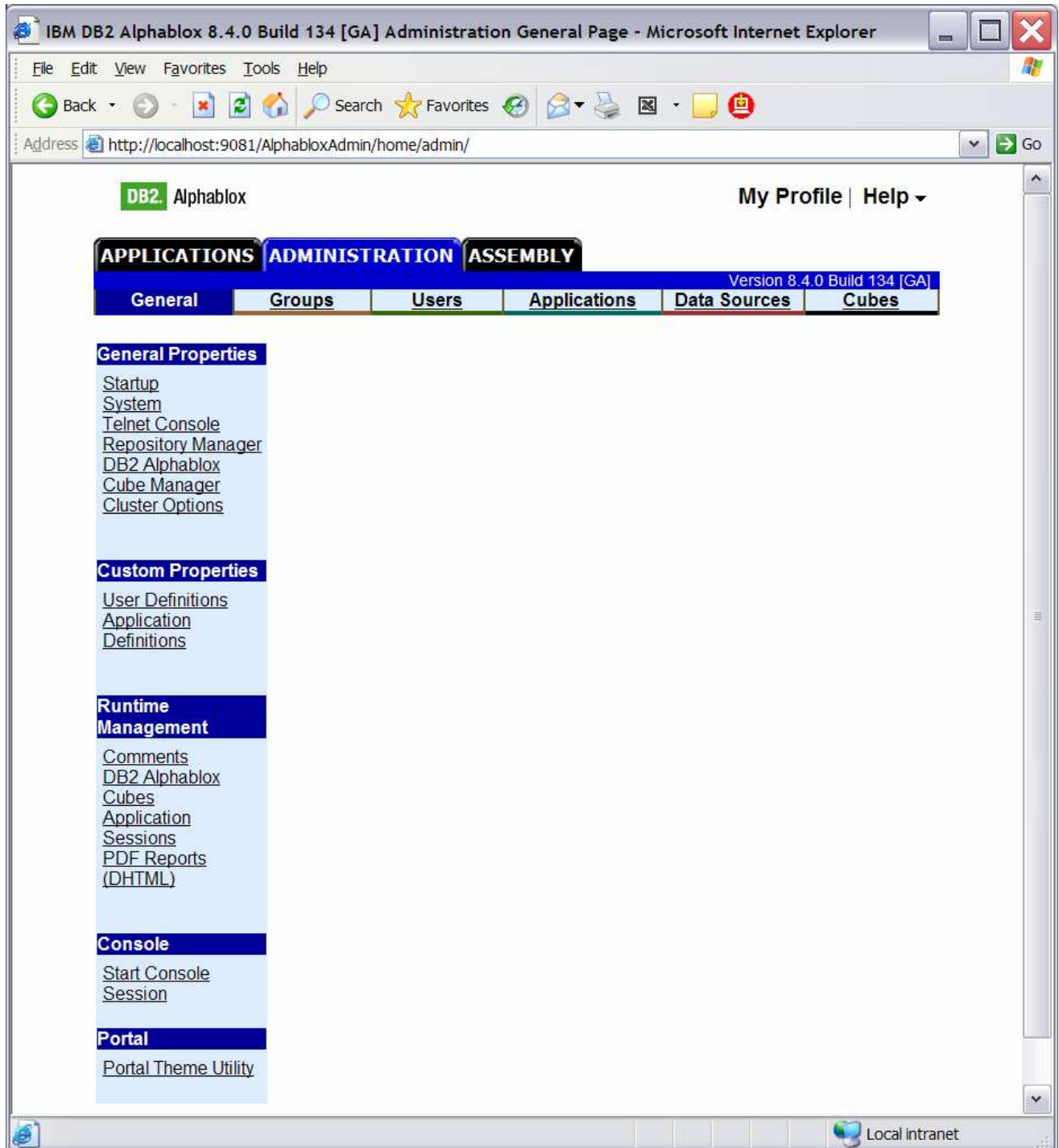
__ a. If the WebSphere Portal server is not running, start it using **Start > All Programs > IBM WebSphere > WebSphere Portal V5.1 > Start the Server.**

__ b. Start Alphablox in a browser **Start > All Programs > IBM DB2 Alphablox 8.4 > AlphabloxAnalytics > DB2 Alphablox Administrative Pages.**

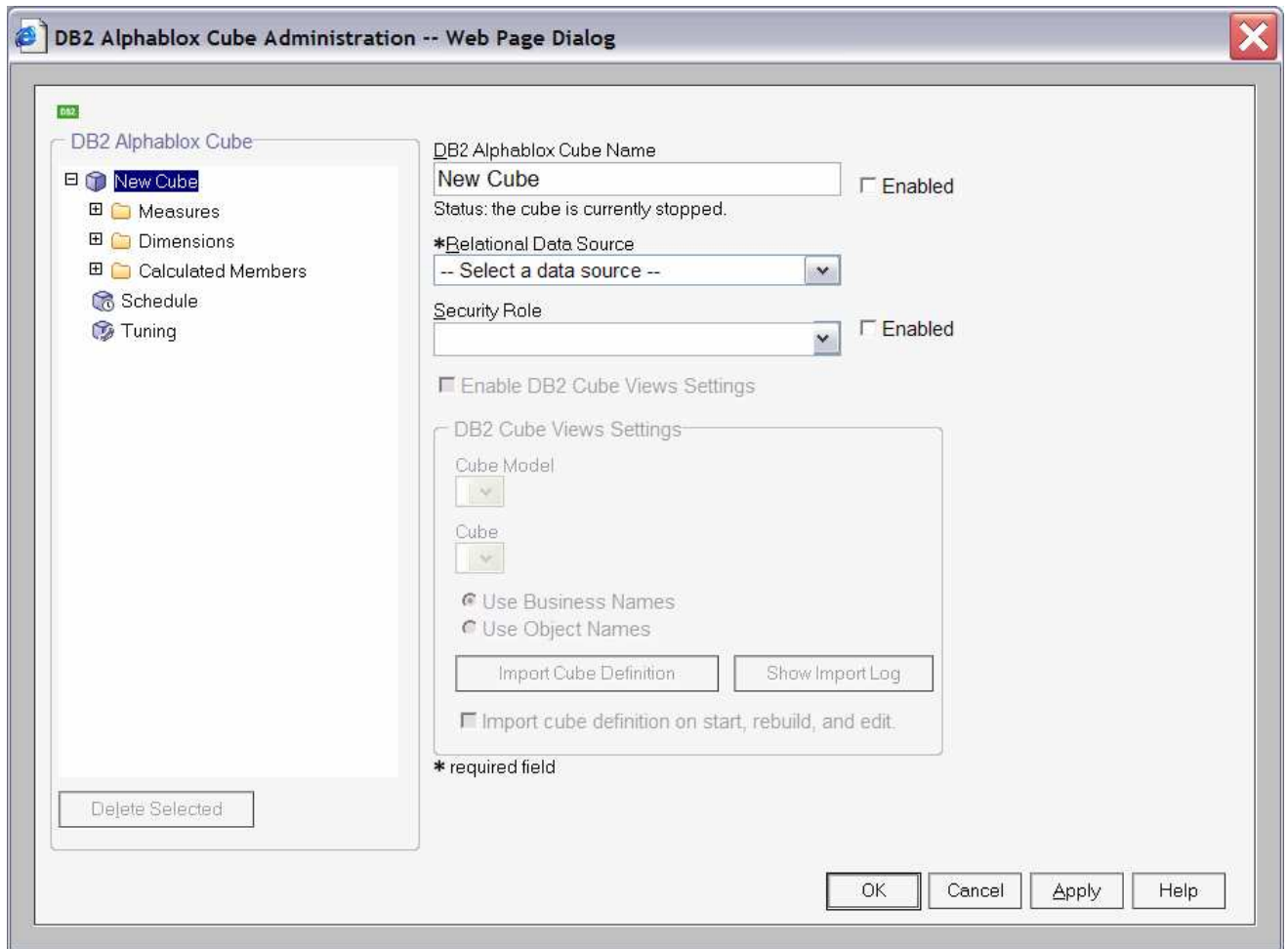
Note: You may find that Windows will block your attempt to access the page and you should see this in the Internet Explorer window in a yellow information bar at the top. Click on this bar and select Allow Blocked Content... to continue:



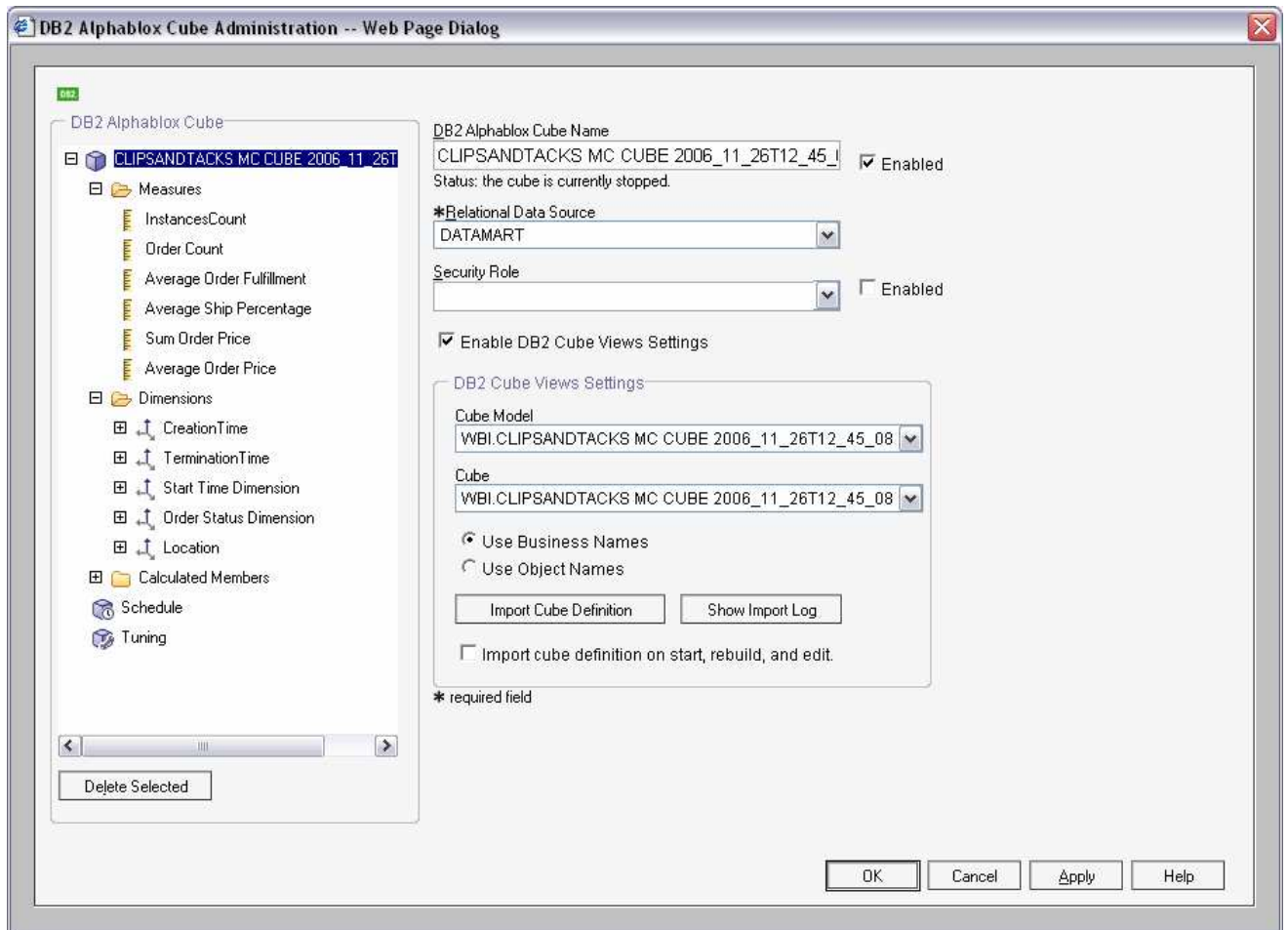
___ c. When it prompts for it, enter user ID: admin, password: password. You should see a window like this:



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

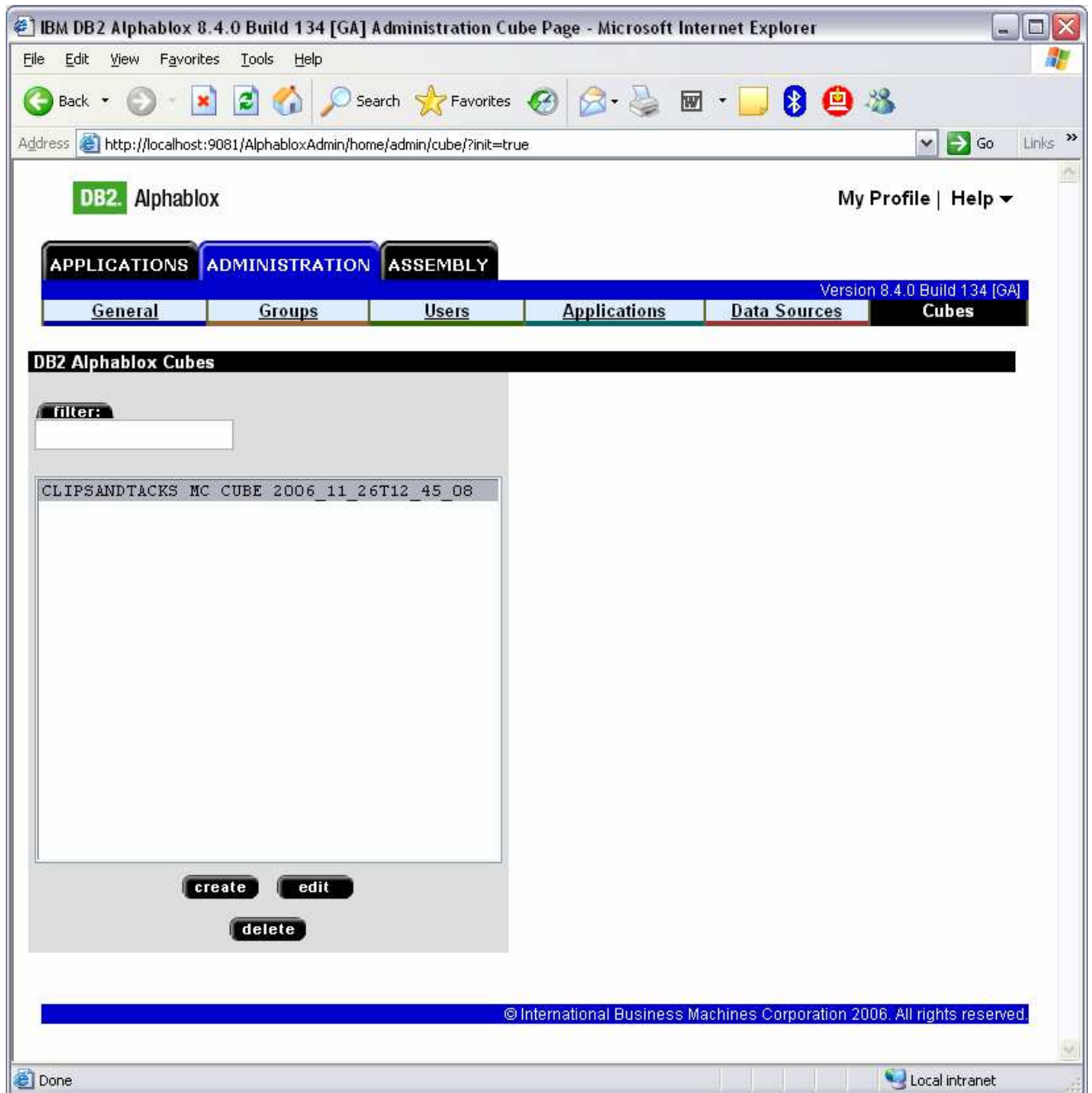


- __ e. Click the check box '**Enabled**' next to the **DB2 Alphablox Cube Name**.
- __ f. Use keys Ctrl-V to replace New Cube with the correct cube name.
- __ g. Select **DATAMART** for the Relational Data Source.
- __ h. Click the check box '**Enable DB2 Cube Views Settings**'.
- __ i. Select the model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

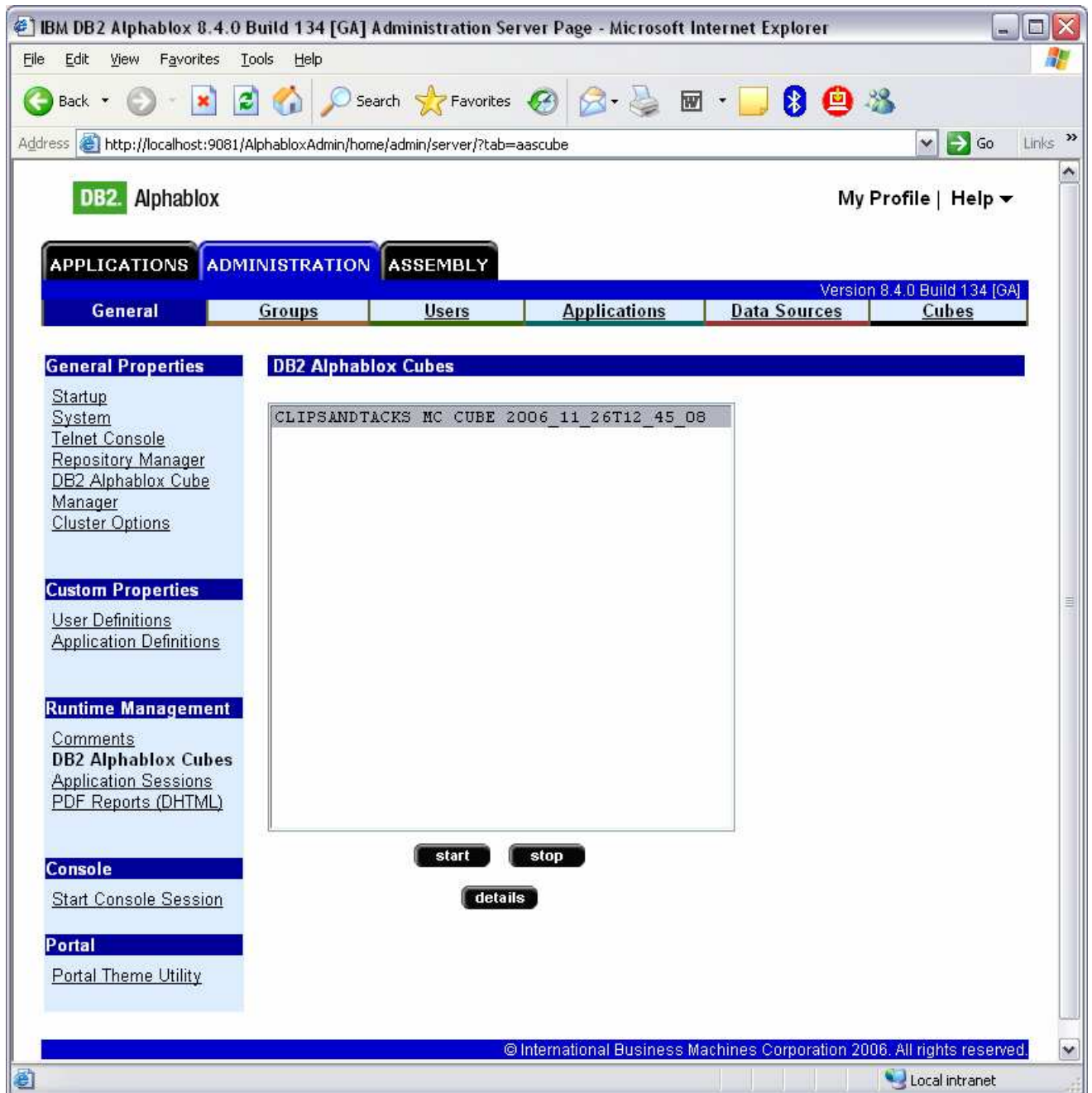


___ k. Note that the DB2 Alphablox Cube Name must match exactly the Cube Model name, except the 'WBI.' prefix is removed from the DB2 Alphablox Cube Name.

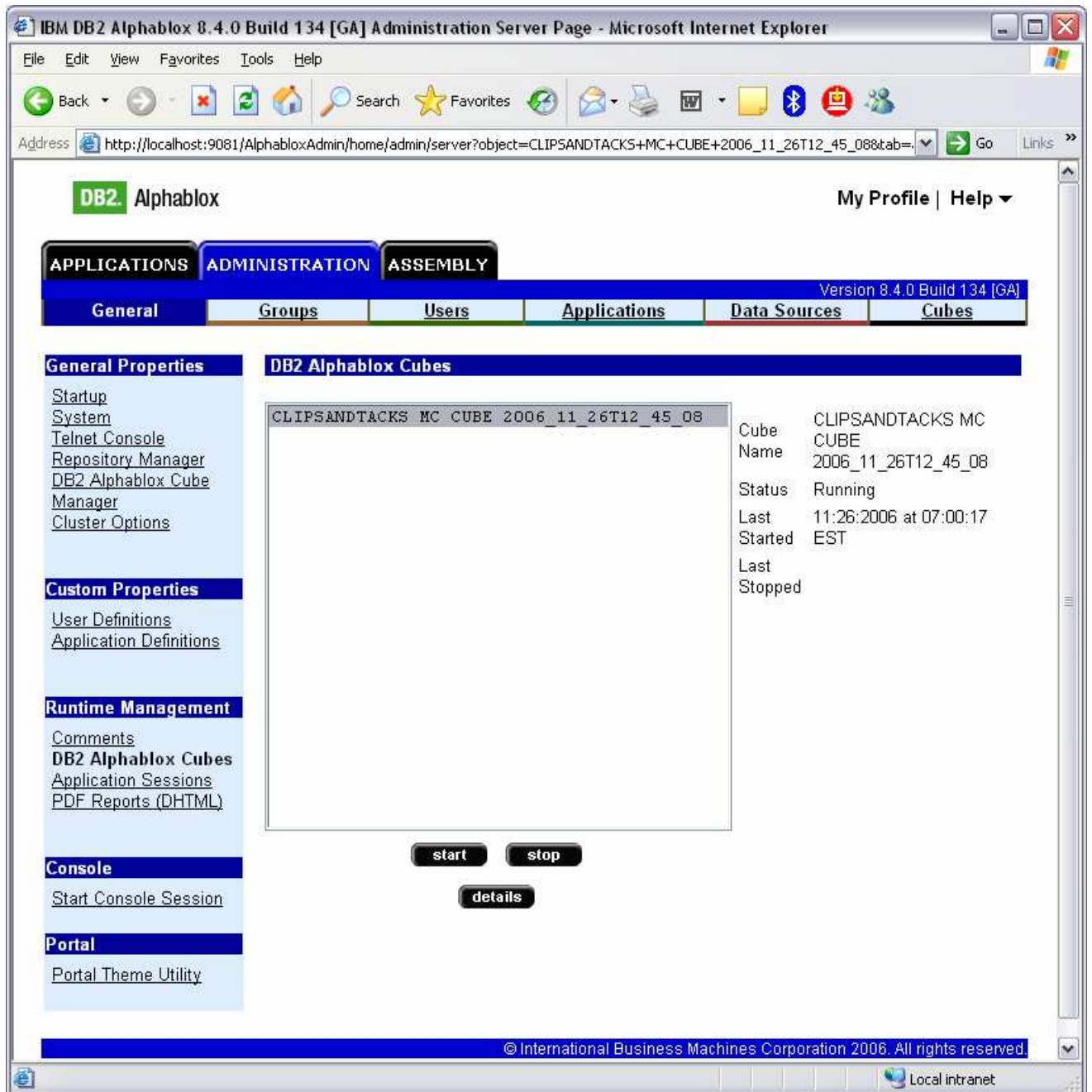
___ l. Click **OK** to save the definition. Then you will see it added to the list as follows:



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



___ 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:

Open Table - LC_STEP

IBM-6161E0131C0 - DB2 - MONITOR - REPOS.LC_STEP

MODELID	VERSIONDATE	STEPNAME	LASTSUCCESSRUNTIME	LASTFAILRUNTIME	ISCOMPLETE	USER
ClipsAndTacks	1162458838	register	Nov 4, 2006 8:12:45 AM 06...		1	anony
ClipsAndTacks	1162458838	install	Nov 4, 2006 8:12:51 AM 28...		1	anony
ClipsAndTacks	1162458838	runDSG	Nov 4, 2006 8:13:50 AM 71...		1	
ClipsAndTacks	1162458838	createSchema				
ClipsAndTacks	1162458838	createDMS	Nov 4, 2006 8:16:56 AM 10...		1	
ClipsAndTacks	1162458838	importDB2Cube	Nov 4, 2006 8:25:14 AM 43...		1	
ClipsAndTacks	1162458838	createAbxCube		Nov 4, 2006 9:58:22 ...	1	
ClipsAndTacks	1162458838	updateCEIConfig				
ClipsAndTacks	1162458838	configCEIDist				
ClipsAndTacks	1162458838	enableDashboards				
ClipsAndTacks	1162458838	rebootCEI				
ClipsAndTacks	1162458838	disableDashboards				
ClipsAndTacks	1162458838	update				
ClipsAndTacks	1162458838	updateModelProps				
ClipsAndTacks	1162458838	updateVersionPro...				
ClipsAndTacks	1162458838	removeAbxCube				
ClipsAndTacks	1162458838	uninstall				
ClipsAndTacks	1162458838	unregister				
ClipsAndTacks	1162458838	purge				

Commit Roll Back Filter Fetch More Rows

Automatically commit updates 19 row(s) in memory

Close 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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