IBM Business Monitor V7.5

Business space dashboards

What this exercise is about

The objective of this lab is to show you how to use IBM Business Monitor dashboards in business space.

Lab requirements

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

- IBM Integration Designer V7.5.
- IBM Business Monitor V7.5 – Toolkit Installation including the Monitor Model editor and Monitor Server
    - o Cognos is an option during the installation of the Monitor toolkit. If you choose not to install it, then you will not be able to use the report widgets in the dashboard.

What you should be able to do

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

- Import the ClipsAndTacks model into a new workspace
- Create a new dashboard and add widgets to the dashboard
- Configure dashboard widgets

Introduction

Similar to the dashboard of an automobile that provides easy access to your odometer and check-engine light, IBM Business Monitor offers a browser-based dashboard that can provide easy access to important information about the current state of your business.

Business Space is the browser-based dashboard that is provided with IBM Business Monitor and other IBM BPM products. IBM Business Monitor also provides portlet-based dashboards for WebSphere Portal users. Business Space and portlet-based dashboards provide the same functionality.

This lab shows you how to use business space dashboards.

Widgets: Alert manager, alerts, instances, KPI manager, KPIs, KPI history and prediction, diagrams, human tasks, export values

Cognos based widgets: Report designer, report viewer

For more information about export values, see the lab for Clips and Tacks BPEL, BPM_BusinessMonitor_ClipsAndTacksLab_BPEL.pdf.

For more information about the KPI history and prediction widget, see the lab for KPI history and prediction, BPM_BusinessMonitor_KPIHistoryPredictionLab.pdf.

Prerequisite: For displaying the SVG diagrams in the report widgets, ensure that the following is installed:

- Adobe SVG Viewer 3.0.3 – http://www.adobe.com/svg

Part 1: Import the Clips and Tacks visual monitor model

In this section, you will import the supplied project interchange into the workspace.

____ 1. Start Rational Application Developer or IBM Integration Designer and setup the environment

__ a. Start Rational Application Developer or IBM Integration Designer, and when prompted point to a new workspace such as c:\workspaces\ClipsAndTacks

__ b. Click **OK**

__ c. Close the Welcome tab

__ d. Open the Business Monitoring perspective. From the main menu select **Window → Open Perspective → Business Monitoring**

__ e. If prompted for Confirm Enablement, click **OK**

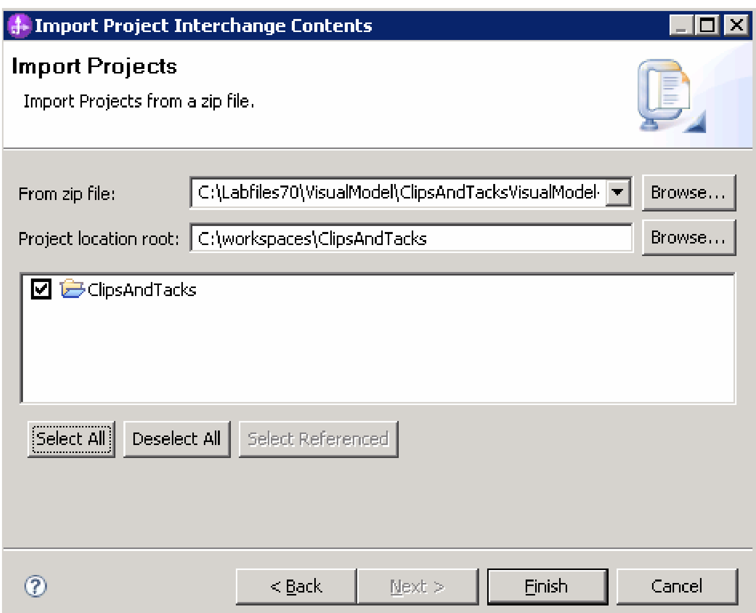
____ 2. Import the project interchange file

__ a. Right click the Project Explorer, then select **Import…** from the pop-up menu

__ b. Select **Other > Project Interchange**, then click **Next**

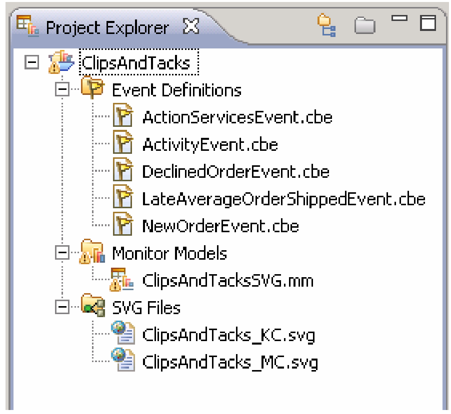
__ c. Click the **Browse** button to locate the .zip file, for example, **c:\labfiles75\VisualModel\ClipsAndTacksVisualModel-Solution-PI.zip**

__ d. Click **Select All**

__ e. 

__ f. Click **Finish**. You will see the new project in the Project Explorer view

____ 3. 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. Expand the SVG files and you will see the SVG files listed.



Project Explorer
ClipsAndTacks
Event Definitions
ActionServicesEvent.cbe
ActivityEvent.cbe
DeclinedOrderEvent.cbe
LateAverageOrderShippedEvent.cbe
NewOrderEvent.cbe
Monitor Models
ClipsAndTacksSVG.mm
SVG Files
ClipsAndTacks_KC.svg
ClipsAndTacks_MC.svg

Part 2: Publish the model to the server

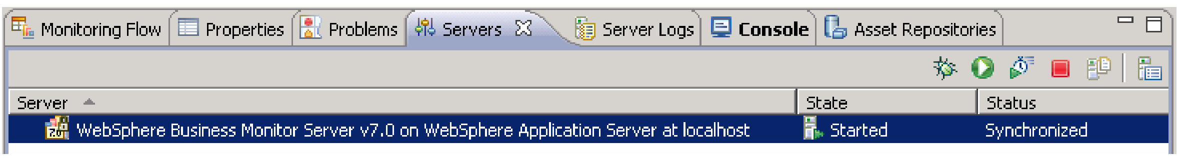
In this section you will use Rational Application Developer or IBM Integration Designer to publish the monitor model to the monitor server.

____ 1. In Project Explorer, expand ClipsAndTacks → Monitor models → ClipsAndTacksSVG.mm. Right click over ClipsAndTacksSVG.mm and then select Generate Monitor JEE Projects from the pop-up menu

____ 2. If you have already generated the ClipsAndTacks model for another lab, then you may need to select 'overwrite existing projects'. Then click **Finish**.

____ 3. A progress dialog shows the status of the operation and it closes when the operation is complete. Check for errors in the Problems view. There may be warnings, but there should not be any errors. If you see errors, then try to perform a clean to see if the errors can be removed: Project > Clean… > select 'Clean all projects', then click OK.

____ 4. Click the Servers tab, then right click and select the **Start** option to start the server IBM Business Monitor Server V7.5. This may take a few minutes to complete.



____ 5. Right click in the servers view and then select **Add and Remove Projects…**

____ 6. Click Add to move the ClipsAndTacksSVGApplication from the list of available projects to the list of configured projects. Click Finish. Note: If the application is already in the list of configured projects, then you may have run another lab that published this application already, so in that case, cancel this window and select the 'Publish' option from the server menu.

____ 7. A progress message is displayed in the lower right corner of the window.

____ 8. In the servers view, right click, then select **Administration > Run administrative console**. You should see it open in a separate tab. It will prompt you for user ID and password.

____ 9. Click **Log in**

____ 10. Click **Applications > Monitor Models**. The application should show green status if it started successfully.

Select	Model	Version	Deployment	Application	Data Security	Status
	ClipsAndTacks	2007-09-11T12:07:30	OK	ClipsAndTacksSVGApplication	Members assigned	

____ 11. 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.

____ 12. If you are using the integrated server within IBM Integration Designer or Rational Application Developer, then you do not need to setup Monitor data security, since the administrative user is automatically authorized to all models. If you are using a different server, then you should open the administrative console, navigate to **Security > Monitor Data Security,** then add the model, role and user information to a resource group.

Part 3: Run events to exercise the model

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

The supplied program is 'BatchCBEWriter61' and it will submit the events to the Common Event Infrastructure. Look for the program in \labfiles75\BatchCBEWriter. This program reads XML files which represent the common base events for the model.

____ 1. Update BatchCBEWriter61.bat to point WAS_HOME to the monitor server home, for example 'set WAS_HOME=C:\IBM\WebSphere\AppServer'. If you are using the integrated monitor server in IBM Integration Designer, the path would be <WID_WTE_HOME>\runtimes\bi_v7. If you are using the integrated monitor server in Rational Application Developer, the path would be <RAD_WTE_HOME>\runtimes\base_v7.

____ 2. Update config.properties, setting the serverName and portNumber. You can find the port number by browsing the server log and finding 'bootstrap port'. For example, check for the log at C:\IBM\WebSphere\AppServer\profiles\WBMon01\logs\server1\SystemOut.log . For the integrated server in IBM Integration Designer, the path would be <WID_WTE_HOME>\runtimes\bi_v7\profiles\qmwps\logs\server1\SystemOut.log. For the integrated server in Rational Application Developer, the path would be <RAD_WTE_HOME>\runtimes\base_v7\profiles\WBMonSrv\logs\server1\SystemOut.log. Here is an example of the config.properties settings:

__ a. `connect.serverName = localhost`

__ b. `connect.portNumber = 2809`

____ 3. Open a command window, then change directory to the folder containing BatchCBEWriter61, for example, type this command

__ a. cd \labfiles75\BatchCBEWriter

____ 4. Run commands to load the common base events to the server.

__ a. batchcbewriter61 -Dsource.filename=allevents.xml

__ b. It prompts you for user identity and password

____ 5. When you run BatchCBEWriter61, you should see results such as:

```
C:\Labfiles70\BatchCBEWriter>batchcbewriter61 -Dsource.filename=allevents.xml
Getting CBEs.
Getting Emitter.
Removing GlobalInstanceIds.
Setting missing values.
Changing Instance Ids.
Updating timestamps.
Validating CBEs.
Sending CBEs.
START=12:42:18.953
Sending cbe[10].
Sending cbe[20].
Sending cbe[30].
Sending cbe[40].
Sending cbe[50].
Sending cbe[60].
END=12:42:24.546
TotalTime=5593 milliseconds.

C:\Labfiles70\BatchCBEWriter>_
```

Part 4: Create a dashboard in business space

In this section you will build a dashboard in business space.

____ 1. Create the dashboard.

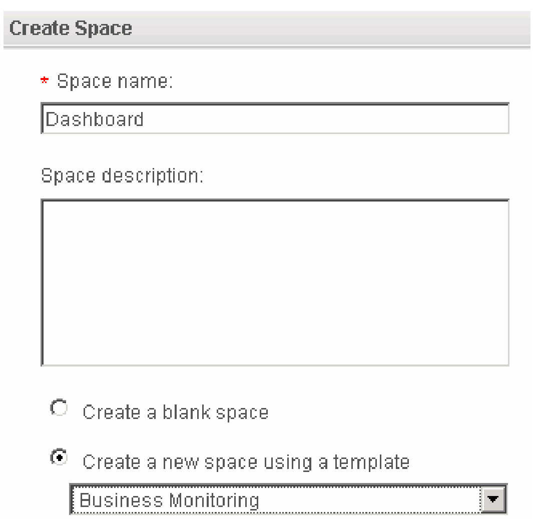
__ a. The default browser is 'Internal Web Browser', but you should not use this one since some standard functions are not provided that you may need. Select Window > Preferences > General > Web browser > select 'Use external Web browser'. Select an external browser. Click OK.

__ b. In IBM Integration Designer, in the servers view, right click and select **Launch > Business Space**

__ c. When prompted, enter **admin** for the user ID and enter **admin** for the password. You must log in with 'admin' so that you can view the alerts which were setup in action manager to be sent to this particular user ID. Also, in the toolkit environment, this is the user ID that is automatically defined on the secured server.

__ d. Click in the Actions menu to create a new space

__ e. Enter a name such as Dashboard, and select the Business Monitoring template.



__ f. Click Save.

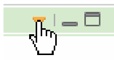

Home
Go to Spaces
Manage Spaces
Actions
Dashboard
Analysis
Operational
KPIs
Export Values
Alert Manager
KPI Manager
Report Designer
Viewers

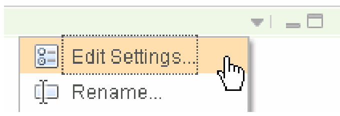
Part 5: Instances widget

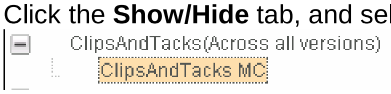
____ 1. Configure the instances widget and configure it to cooperate with other widgets.

__ a. On the new space, click the Operational tab.

__ b. Click the 'Edit Page' link to enter edit mode. 

__ c. To configure the Instances widget, hover the mouse over the right corner of the widget  and then click the down arrow. Select 'Edit Settings…'.

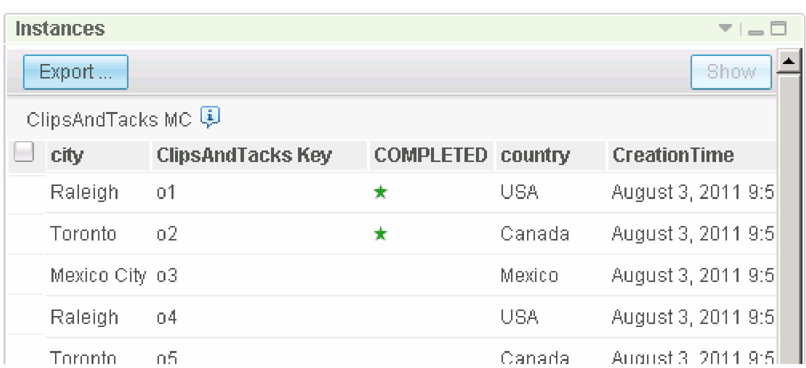


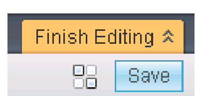
__ d. Click the **Show/Hide** tab, and select monitoring context 'ClipsAndTacks MC'. 

Click button >> to move all the fields to the Selected box. Also, click button 'Set as default' which will make this the default monitoring context to display.

__ e. Click the **Wiring** tab, then select 'Enable this widget to send events over wires.' This will allow you to link this widget to other widgets such as diagrams or KPIs.

__ f. Then click **OK**. You should see a list of monitoring context instances for the events that you just processed.



__ g. Click 'Save' to save your changes. 

Part 6: Diagrams widget and cooperation with instances widget

____ 1. Configure the diagrams widget and configure it to cooperate with other widgets.

__ a. On the Operational tab, if you are not in edit mode already, click the 'Edit Page' link to enter edit

mode.

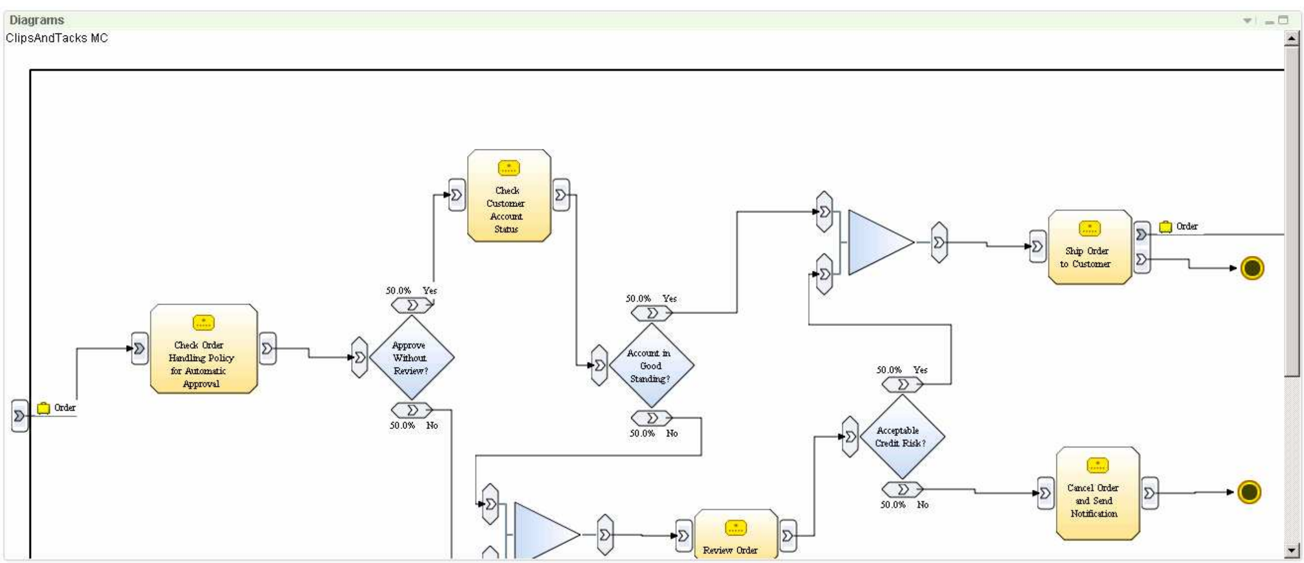
__ b. Click **Edit Settings…** on the Diagrams widget menu.

__ c. Select the model and monitoring context.

- Select model **ClipsAndTacks (Version <timestamp>)**
- Select radio button “**Monitoring context**”
- Select “**ClipsAndTacks MC"**

__ b. Click the **Wiring** tab, then select 'Enable this widget to send events over wires.’

__ c. Then click **OK**. You should see the diagram displayed in the view. This is the generic diagram without any visual actions displayed.

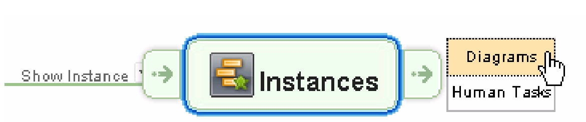


____ 2. Wire the diagram widget to the instances widget using the ‘Edit Wiring’ menu option.

__ a. In the instances widget menu select ‘Edit Wiring…’

__ b. You should see the instances widget wired to alerts.

__ c. Click ‘Add outgoing wire’.



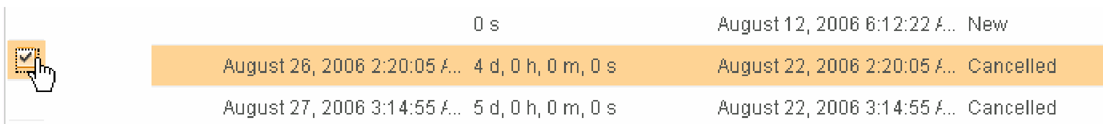
__ d. Select Diagrams in the popup menu.

__ e. It is automatically wired to the diagrams widget.

__ f. Click OK on the wiring page.

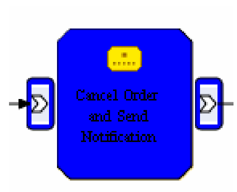
____ 3. Select an instance and click ‘Show’ to see the diagram for a specific instance.

__ a. In the dashboard in the instances widget, find one of the monitoring contexts that show 'Cancelled' in the order status column. Select the check box for it.



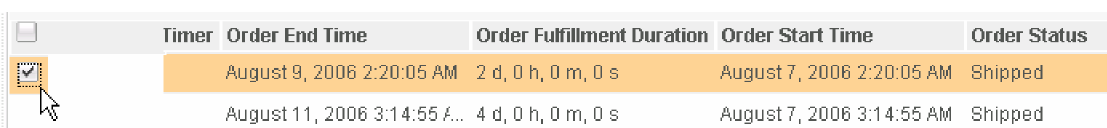
	0 s	August 12, 2006 6:12:22 A...	New
August 26, 2006 2:20:05 A...	4 d, 0 h, 0 m, 0 s	August 22, 2006 2:20:05 A...	Cancelled
August 27, 2006 3:14:55 A...	5 d, 0 h, 0 m, 0 s	August 22, 2006 3:14:55 A...	Cancelled

__ b. Click the ‘Show’ button in the upper right corner of the instances widget. This will cause the diagram view to be updated for this specific monitoring context. The visual model in the monitor model is designed to color code the shapes in the diagram based on the status of the order. Since this particular order is cancelled, the diagram should show the task 'Cancel Order and Send Notification' as blue in color.



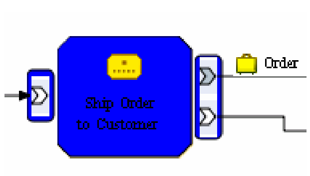
__ c. Click 'Restore Original Context' at bottom of this diagram to return this diagram to the generic diagram.

__ d. In the dashboard in the instances view, find one of the monitoring contexts that show 'Shipped' in the order status column. Select it and click the ‘Show’ button.



Timer	Order End Time	Order Fulfillment Duration	Order Start Time	Order Status
	August 9, 2006 2:20:05 AM	2 d, 0 h, 0 m, 0 s	August 7, 2006 2:20:05 AM	Shipped
	August 11, 2006 3:14:55 A...	4 d, 0 h, 0 m, 0 s	August 7, 2006 3:14:55 AM	Shipped

__ e. This will cause the diagram view to be updated for this specific monitoring context. Since this particular order is shipped, the diagram should show the task 'Ship Order to Customer' as blue in color.



__ f. Click 'Save' to save your changes. 

Part 7: KPIs widget

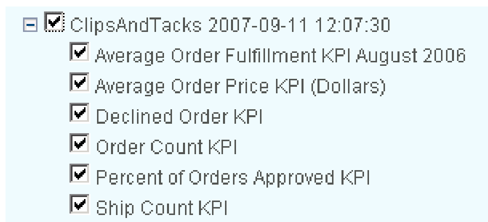
____ 1. Configure the **KPIs** widget

__ a. Click the KPIs tab.

__ b. Click the 'Edit Page' link to enter edit mode.

__ c. Click **Edit Settings…** on the KPIs widget menu.

__ d. On the KPIs tab, click the ( ) icon to expand the ClipsAndTacks model's available KPI metrics

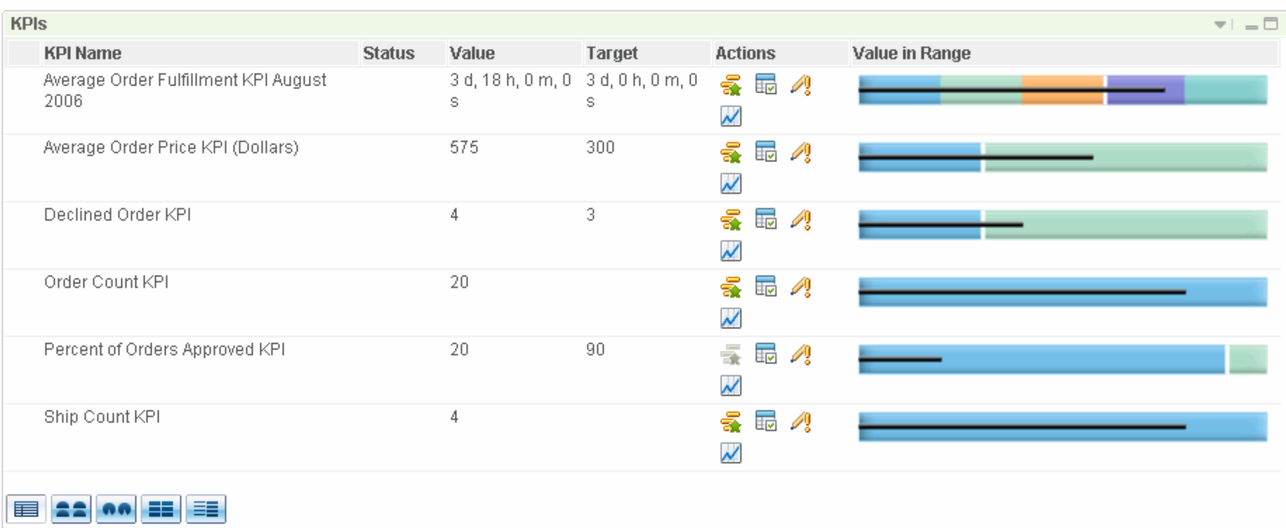


__ e. Select the check boxes next to the KPIs you want to monitor.

__ f. Click the **Wiring** tab, then select 'Enable this widget to send events over wires.'

__ g. Click **OK**

__ h. The KPIs are displayed in the default table view as shown below:


KPIs

KPI Name	Status	Value	Target	Actions	Value in Range
Average Order Fulfillment KPI August 2006		3 d, 18 h, 0 m, 0 s	3 d, 0 h, 0 m, 0 s		
Average Order Price KPI (Dollars)		575	300		
Declined Order KPI		4	3		
Order Count KPI		20			
Percent of Orders Approved KPI		20	90		
Ship Count KPI		4			

__ i. The status column shows icons for the range that is associated with the current value. In this case, the icons have not been defined. You can define the icons for the ranges by opening the KPI properties, and clicking the Range tab. The KPI properties can be accessed in the Actions column of the KPI table.

__ j. This widget shows for each KPI the current value, target value and a bar chart that depicts the current value, target value and ranges.

__ k. On the widget menu you can select 'Send Widget…' to send a screen capture of the KPIs as an attachment to a human task. Note that you must exit out of edit mode to see this menu item.

__ l. In the Actions column, you can click icons to perform various functions:

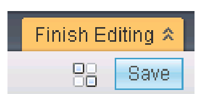
1)  Show instances in the instances widget for this KPI. For this to work, you need to click the **Wiring** tab on both the instances widget and the KPIs widget, and select 'Enable this widget to send events over wires.'

2)  Show KPI properties for this KPI.

3)  Show alerts for this KPI. This will open the Alert Manager and show only alerts for this KPI.

4)  Open the KPI history and prediction configuration for this KPI.

__ m. To view the KPIs in a different layout, click one of the icons in the lower left corner of the widget. For example, here is the widget after selecting the half gauge format:

____ 2. Click 'Save' to save your changes. 

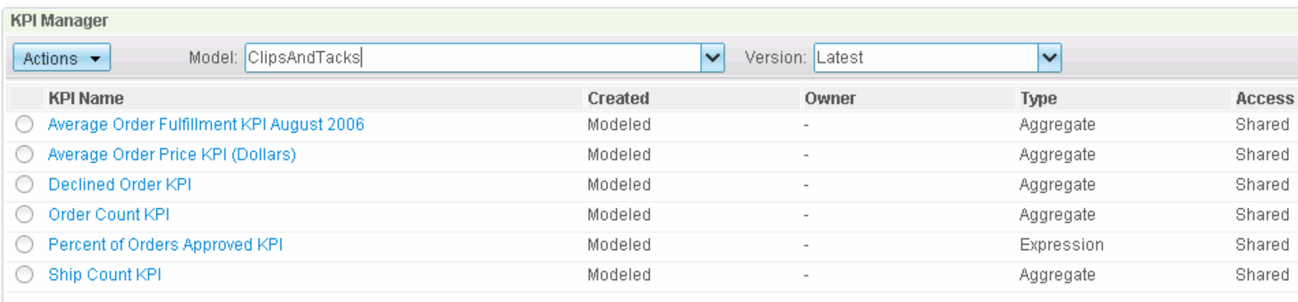
Part 8: KPI manager

You can use the KPI manager to view existing KPIs and to create, copy, and delete KPIs.

____ 1. Click the KPI Manager tab.

____ 2. Select **ClipsAndTacks** from the drop down list for the **Model** field

____ 3. You see a list of the existing KPIs that were defined using the Monitor Model Editor. You can click the KPI Name to edit a KPI, or you can use the Actions button to create, edit, copy, or delete KPIs. Note that for KPIs that were created in the monitor model editor, you can only update the target, and the remainder of the settings including ranges are not modifiable. If you need to update these settings, you could make a copy of the KPI, and then update the copy.



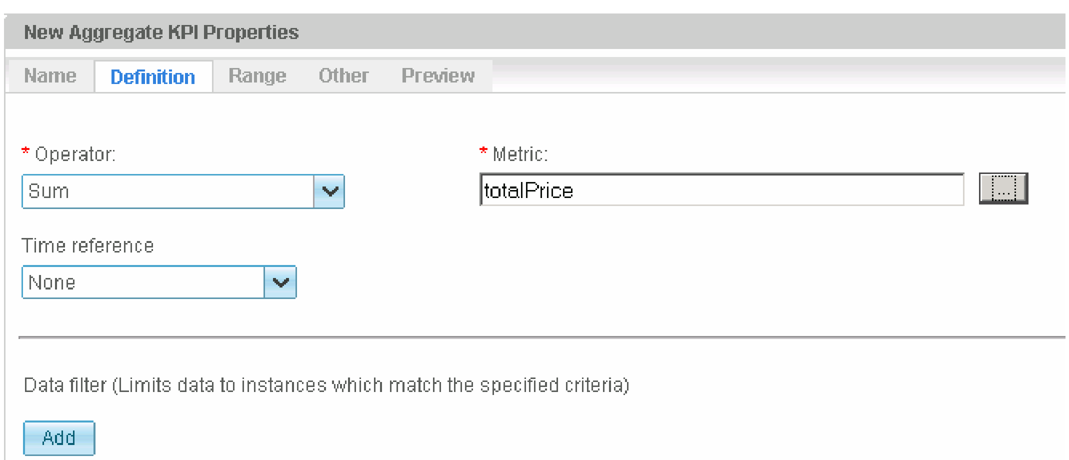
____ 4. To create a new KPI, click the **Actions** button. You can create an aggregate KPI that performs a function against a metric. You can also create a calculated KPI that uses calculations that reference other KPIs. For this example, select **New Aggregate KPI**.

____ 5. Create a KPI that sums the total price of orders. Select the Name tab and enter the following information:

__ a. KPI Name : **Total Price KPI**

__ b. Select the Definition tab and enter this information:

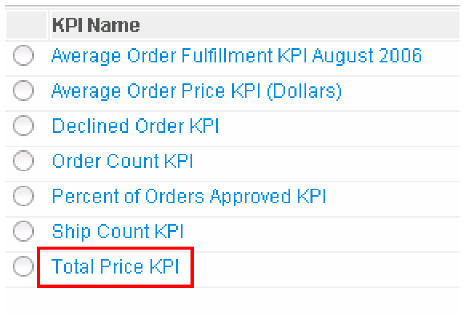
- Operator: Sum
- Metric: Browse to ClipsAndTacks MC > totalPrice



__ c. Take a look at the other tabs to see that you can enter target values, ranges, data filters, and many other preferences. You can also click the Preview tab to see how the KPI will look on the dashboard.

__ d. Click **OK**

__ e. The new KPI has been added to the list of KPIs, and now it can be displayed in the KPI view of your dashboard.



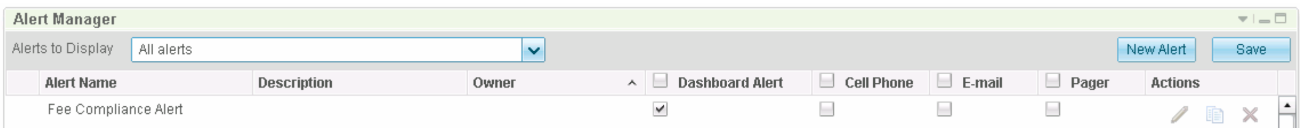
Part 9: Alert manager widget and subscriptions

Using the Alert Manager dashboard widget, you can subscribe or unsubscribe to predefined alert notifications and have the notification sent to your dashboard, email inbox, pager, or cell phone. From the Alert Manager, you can also create new alerts.

____ 1. View the alert manager widget

__ a. Click the Alert Manager tab.

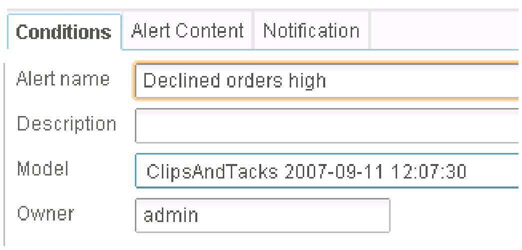
__ b. In the alert manager widget you will see existing alerts listed, so you can edit, copy or delete them. You can also change your subscription information or create new alerts.



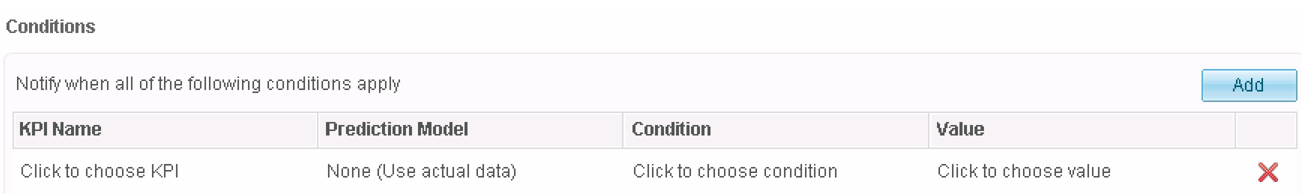
____ 2. Create a business user alert when the declined orders are greater than the target.

__ a. Click the New Alert button.

__ b. Enter an alert name and optionally a description and select the Clips And Tacks model.



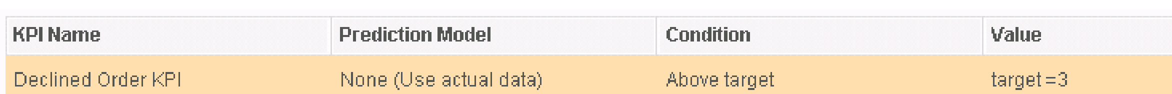
__ c. In the Conditions section, click Add, which will add a row to the conditions table.



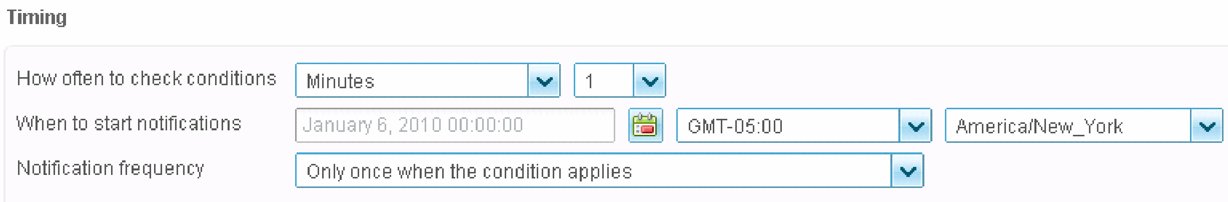
__ d. For KPI Name, click to choose Declined Order KPI.

__ e. For Condition, click to choose 'above target'.

__ f. Value is automatically set to 3.



__ g. In the timing section, set the timing to one minute, and set the notification frequency to 'Only once when the condition applies'. So this means that the condition will be checked every minute, but the alert will be created only once.



__ h. Click the Alert Content tab, and view the default message that is created.

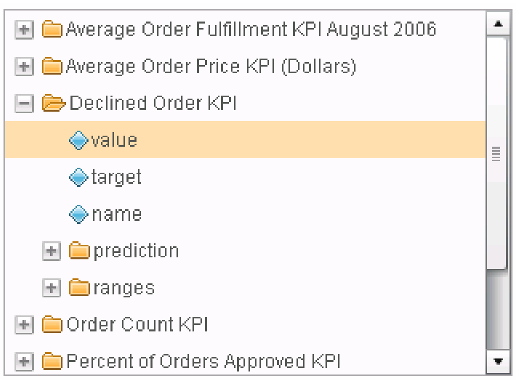
__ i. Update the body to include the KPI value.

1) Select 'Define your own content'

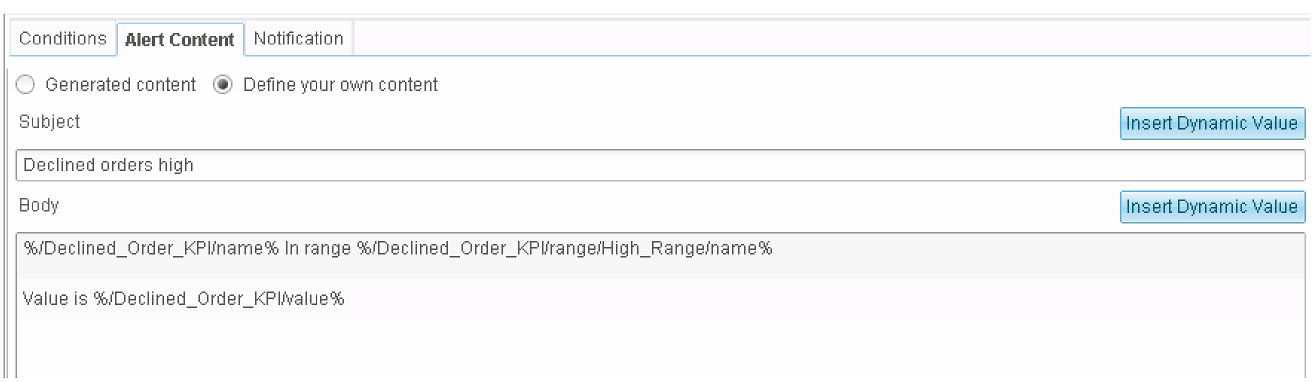
2) Add a blank line and put text 'Value is ' on the third line.

3) Click 'Insert dynamic value' in the body section

4) Navigate to Declined Order KPI > value

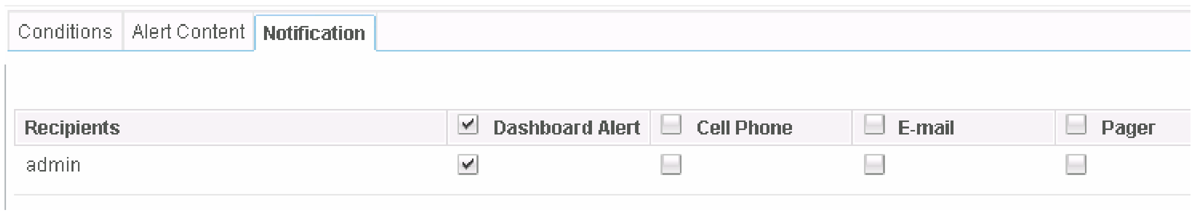


5) Click OK and you will see the dynamic value added to the body on the third line.



6) Click OK

__ j. Click the Notification tab, and you see that the user ‘admin’ is notified using a dashboard alert.



__ k. Click OK.

__ l. Click OK. You should see the new alert in the list.

____ 3. Subscribe to an alert

__ a. In the alert manager widget, you can select the check box next to the alerts you want to subscribe to and click **Save**. When new alerts are sent, you will be notified using the mechanism that you choose: dashboard alert, cell phone, email, or pager. Telephone, pager, and email information is configured by the administrator using the administrative console pages for action services configuration in conjunction with user registry information. The pager and telephone fields typically reference an email address for a telephone and pager service that handles the routing of the messages.

Part 10: Alerts widget

____ 1. Configure the **Alerts** widget.

__ a. On the Operational tab, click the 'Edit Page' link to enter edit mode. 

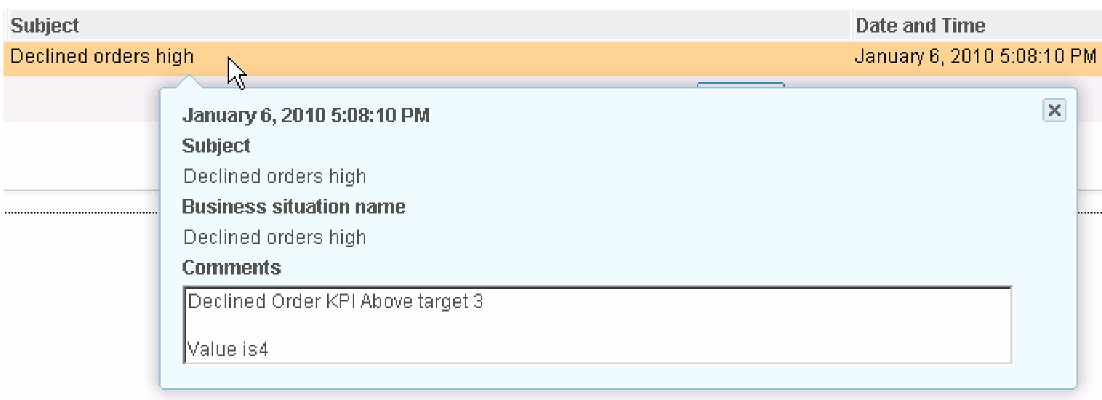
__ b. Click **Edit Settings…** on the Alerts widget menu.

__ c. Click the **Wiring** tab, then select 'Enable this widget to send events over wires.'

__ d. The alerts view is added to your dashboard. You should see the alert that you defined using the Alert Manager.

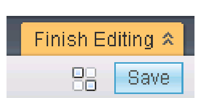
__ e. There are buttons to mark an alert as read or unread. There are also buttons to forward the alert or remove an alert.

__ f. You can click an alert in the list, then you will get a pop-up showing the details of the alert.



__ g. The column **Alert Source** can be used to show the instance for the alert. Notice that in this case, the alert source icon shows gray in color so they are disabled; that is because these alerts were based on KPIs rather than on monitoring context instances. If you have alerts based on instances and you setup the wiring mode on the widgets, then you can click the alert source to see the corresponding instance data or diagram instance information.

__ h. Click **Edit Settings…** on the widget menu and you can customize the view including changing the color of the read and unread alerts.

____ 2. Click 'Save' to save your changes. 

Part 11: Report designer and report viewer widgets

The report widgets uses Cognos for displaying multi-dimensional data in graph form, where the data can be displayed and analyzed using dimensions which are defined in the model.

____ 1. Create a report to display the location dimension, order status dimension, instance count measure.

__ a. On the **Report Designer** tab, in the report designer widget, enter a **Name** such as 'Orders by location and order status'

__ b. For **package**, click Select, then navigate to **ClipsAndTacks > ClipsAndTacks MC**, then select it and click **OK**.

__ c. For **dimensions**, select **Order Status Dimension** and **Location**

__ d. For **measures**, select **InstancesCount**

__ e. Click the **Save** button in the upper left corner of the screen.

__ f. Click **OK**.

____ 2. Display the report in the report viewer widget.

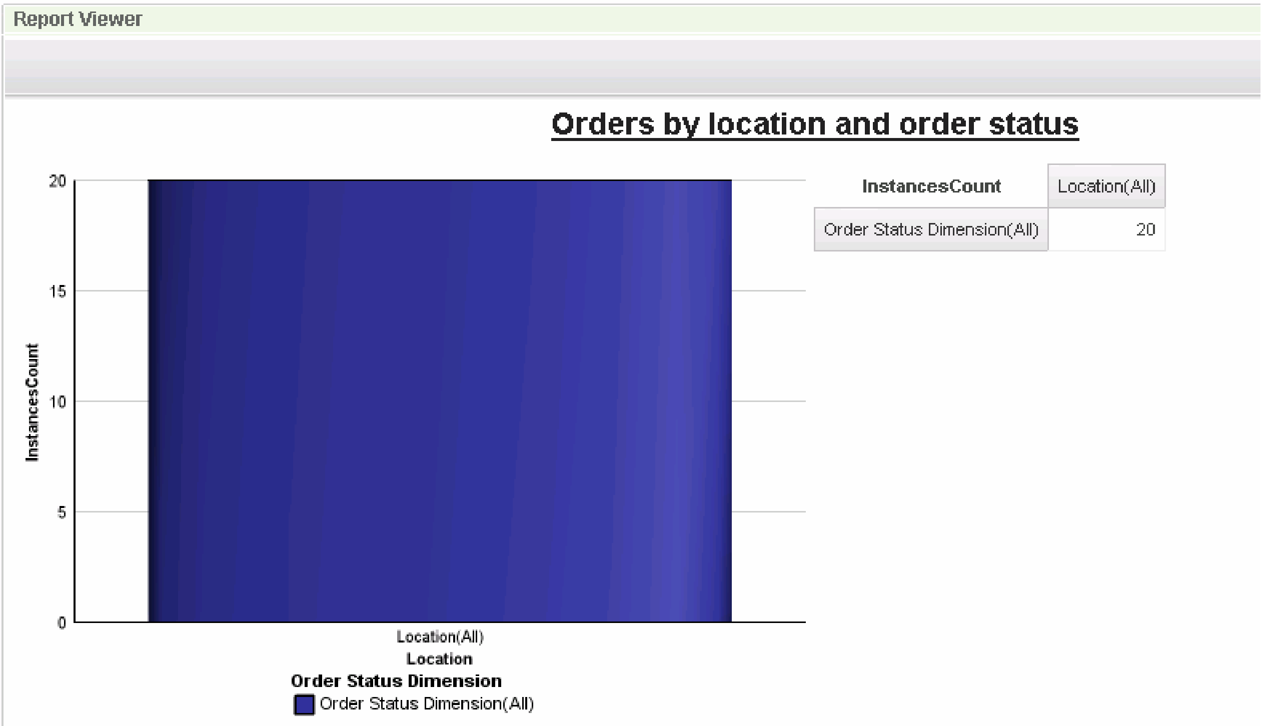
__ a. On the **Analysis** tab, click the **Edit Page** button.

__ b. In the **Report Viewer** menu, click **Edit Settngs**.

__ c. Click the **Select** button and navigate to **All Folders > Public Folders > ClipsAndTacks > Orders by location and order status**, select it and click **OK**

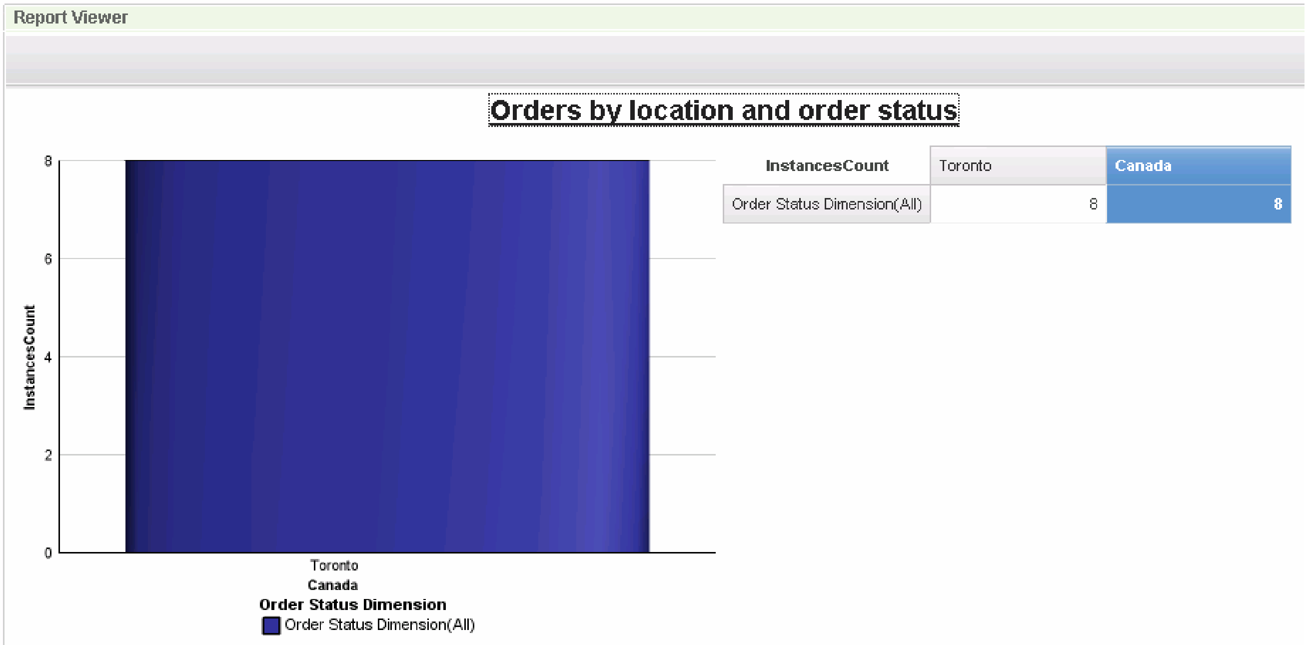
__ d. Click **OK**

__ e. The report displays the instances count based on location and order status.



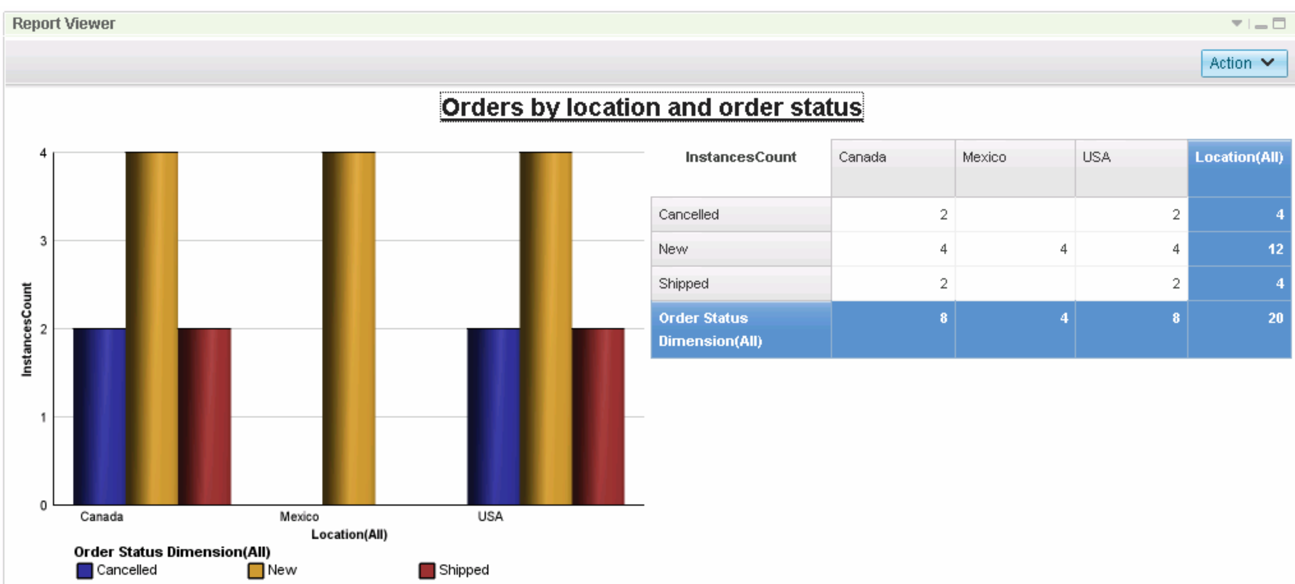
____ 2. In the table, click **Location(All)** to drill down on location.

____ 3. You can click **Canada** to drill down on a specific country.

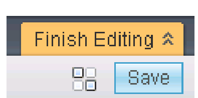


____ 4. Right click **Canada** and select **Drill up** to reset the display.

____ 5. You can double click **Order Status Dimension(All)** to drill down on order status. Now you see the orders grouped by order status and location.



____ 6. Click 'Save' to save your changes.



What you did in this exercise

In the lab, you imported the ClipsAndTacks model to a new workspace and published it to the Monitor Test Environment

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

You created a new dashboard and added widgets to the dashboard and configured them.

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