IBM WEBSPHERE 6.0 - LAB EXERCISE

Monitoring Processes Modeled with WebSphere Integration Developer

What this exercise is about	1
Lab Requirements	
What you should be able to do	
Introduction	
Exercise Instructions	2
Part 1: Enable Event Monitoring	
Part 2: Export from WebSphere Integration Developer or Modeler	
Part 3: Install the BPEL Process on WebSphere Process Server 6.0.1	12
Part 4: Run Schema Generator in WebSphere Monitor Server	17
Part 5: Import the Business Measures Model and Run Process Instances	
Part 6: Import Cubes in the Dashboard Server	
Part 7: Configure Dashboards	
What you did in this exercise	
Solution Instructions	

What this exercise is about

The objective of this lab is to import an existing BPEL process into WebSphere Integration Developer, add CEI events and use Monitor export, which is the plug in capability that WebSphere Integration Developer picks up from Modeler, to export a default business measures model and monitor it with WebSphere Business Monitor.

Lab Requirements

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

- WebSphere Business Modeler V6
- WebSphere Integration Developer V6.0
- WebSphere Process Server V6.0.0 for Monitor Server
- WebSphere Process Server V6.0.1 for Runtime Server
- WebSphere Business Monitor V6 Dashboard Server and Monitor Server
 What you should be able to do

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

- Use WebSphere Integration Developer to import a project, enable CEI events and export the EAR file from WebSphere Integration Developer
- Export the EAR file from WebSphere Integration Developer.
- Use WebSphere Business Modeler to create the default business measures model based on the EAR exported from WebSphere Integration Developer.
- Use the WebSphere Process Server administrative console to install the EAR
- Use the WebSphere Process Server administrative console to run Monitor schema generation
- Run Monitor scripts to create the Monitor Server tables, replication manager artifacts, and start replication manager daemons
- Use the WebSphere Process Server administrative console to import the business measures model

- Use the WebSphere Business Process Choreography Explorer to run process instances
- Use Cube Views OLAP Center on the Dashboard Server to import the cubes
- Use Alphablox on the Dashboard Server to define the cubes
- Use Portal to define a Dashboard and to view process data

Introduction

In this lab you will learn how to deploy an existing BPEL process. 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. This lab shows you how to enable the CEI events to an existing process imported into WebSphere Integration Developer. Then it will show you how to use the plug in capability, Monitor Export, which WebSphere Integration Developer picks up from the Modeler and generates default business measures model. Then it will guide you to install the EAR file into Process Server. Then it will show you how to import the business measures model into Monitor Process Server and finally will show you how to monitor and view results in different views using WebSphere Business Monitor.

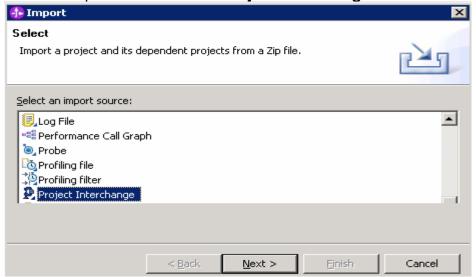
Exercise Instructions

Some instructions in this lab may be Windows operating-system specific. If you plan on running the lab on an operating-system other than Windows, you will need to run the appropriate commands, and use appropriate files (.sh vs. .bat) for your operating system. The directory locations are specified in the lab instructions using symbolic references, as follows:

Reference Variable	Windows Location	AIX/UNIX Location
<lab_files></lab_files>	C:\Labfiles60	/tmp/Labfiles60

Part 1: Enable Event Monitoring

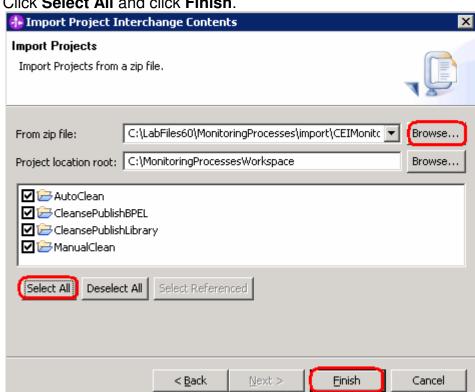
- 1. Import the Model into WebSphere Integration Developer.
 - _ a. Select **File > Import** from the IBM WebSphere Integration Developer.
 - b. From the Import window select **Project Interchange** and click **Next**.



Import Project Interchange Contents window will be opened.

__ a. Click **Browse...** and select

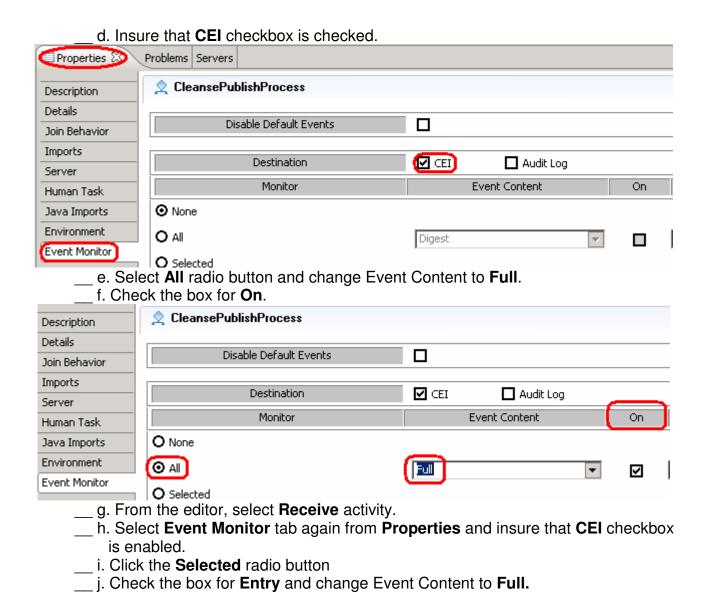
C:\<LabFiles60>\MonitoringProcesses\import\CEIMonitorStart_Pl.zip as source zipped file.



b. Click **Select All** and click **Finish**.

- 2. Set CEI/CBE event generation for the CleansePublishBPEL process.
 - __ a. In the Business Integration view, select CleansePublishBPEL > Business **Logic > Processes**. Double-click to open **CleansePublishProcess**.
 - b. Click on any open area in the Assembly editor and select Properties.
- c. Select **Event Monitor** tab.

There are two destinations for events for business processes. CEI is an event framework which is a core component of WebSphere Process Server and available to capture CBE events generated throughout the different components running on the server. The Audit Log is a specific framework which also accepts events and audit information generated by business process components and human tasks only



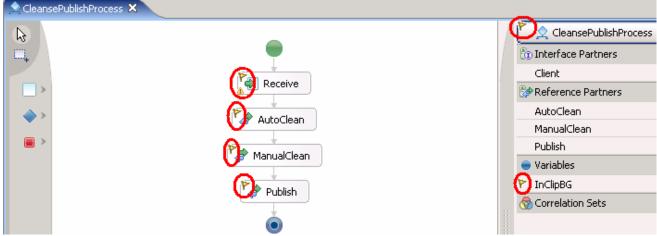
k. Check the **On** box.



- _ I. Now, set all the events to be generated for the AutoClean, ManualClean and Publish invoke activities. Set the Event Content to Full and Check the On box.
- m. Select **inClipBG** variable.
- __ n. Click the **Selected** radio button and check the box for **Changed**.
- o. Select **Full** for the **Event Content** and check the **On** box.
 - $_{\rm }$ p. Save the process (Ctrl+S).

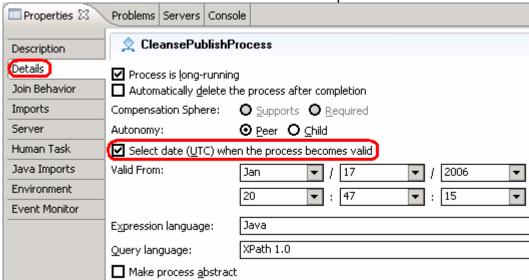
Note: You might see some warnings but, you should not see any errors at this time.

Notice the icon markers added to the activities to indicate monitoring is enabled.



- 3. Enable the date when process becomes valid.
 - __ a. Click on the empty space of the CleansePublishProcess and select **Properties**.

__ b. Select **Details** tab and check **Select date** (<u>U</u>TC) when the process becomes valid and ensure that the Valid From date is past date.

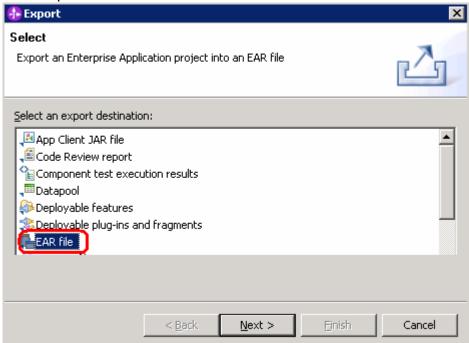


IBM WebSphere 6.0 – Lab Exercise

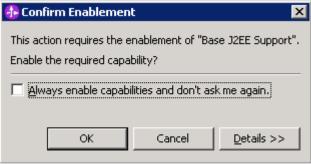
- __ c. Save the process (Ctrl+S).
- ___ d. Close the process editor.

Part 2: Export from WebSphere Integration Developer or Modeler

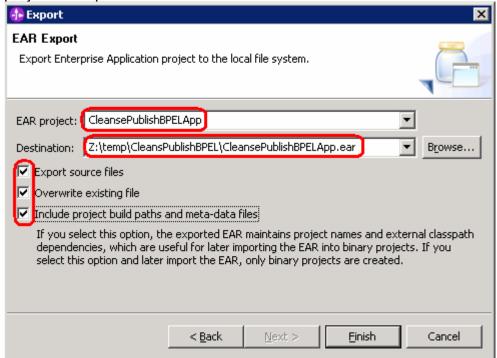
- Export EAR file.
 - _ a. Right click in the Business Integration view, and then select **Export.**
 - b. From Export window select **EAR file** and Click **Next**.



__ c. On the 'Confirm Enablement' window, click **OK**.

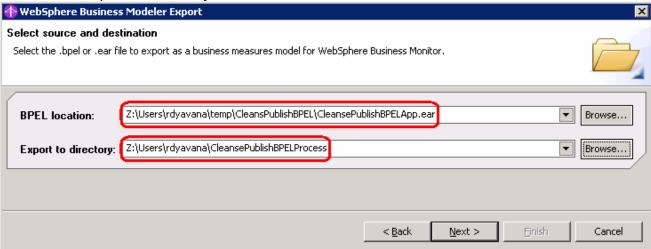


__ d. On the following window, specify the EAR project as CleansePublishBPEL, set the destination to Z:\temp\ProjectScenario\CleansePublishBPELApp.ear, and check all three options – Export source files, Overwrite existing file, and include project build paths and meta-data files.

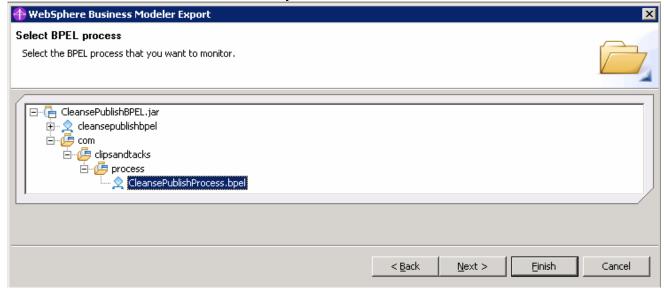


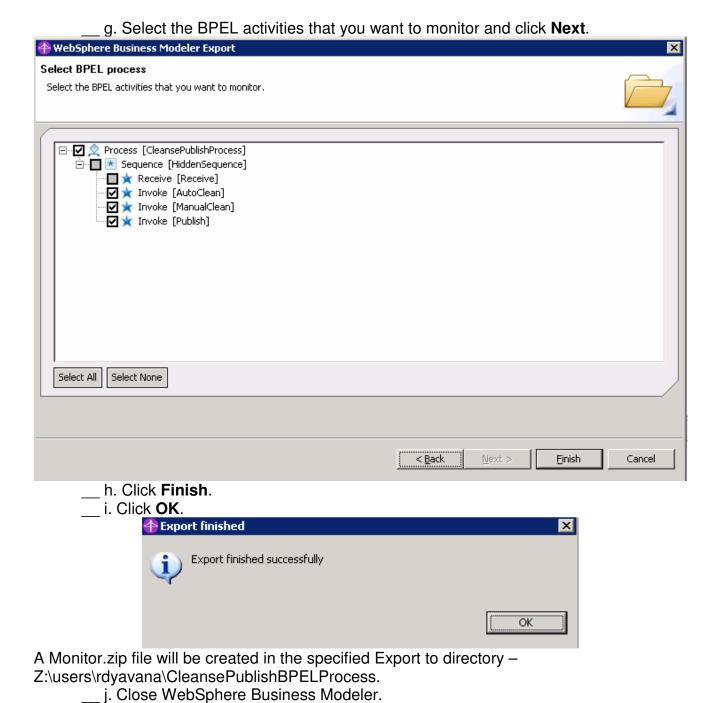
- e. Click **Finish**.
 - f. Close WebSphere Integration Developer.
- 2. Use WebSphere Business Modeler to generate default business measures model for the EAR exported from WebSphere Integration Developer in the previous step.
 - __ a. From modeler, select **File > Export**.
 - __ b. Select **WebSphere Business Modeler Export** from Export window and click **Next**.
 - __ c. Select **WebSphere Business monitor (from BPEL process)** from WebSphere Business Modeler Export window and click **Next**.
 - __ d. Specify the location of the EAR file which you exported from WebSphere Integration Developer as the BPEL location.

 e. Specify the location for Monitor.zip which will be exported from Modeler as Export to directory and click **Next**.



_ f. Select CleansePublishBPEL.jar > com > dipsandtacks > process > CleansePublishProcess.bpel.





CleansePublishBPELApp.ear.

Preparing for the application installation

Specify the EAR, WAR or JAR module to upload and install.

Path to the new application.

Local file system

Specify path

Z:\Users\rdyavana\temp Browse...

C Remote file system

Specify path

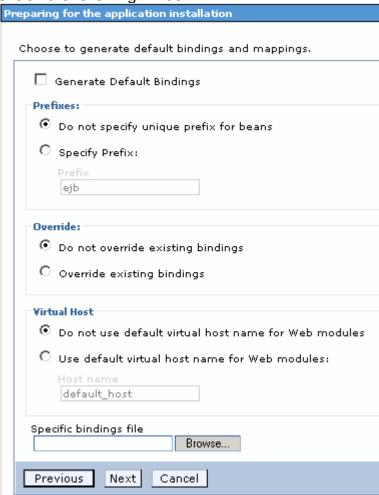
Browse...

Context root

Used only for standalone Web modules (.war files)

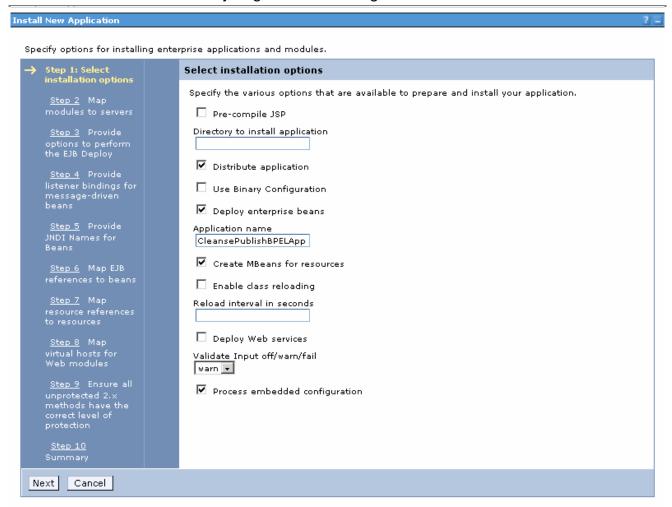
Next Cancel

__ f. Click **Next** on the following window.

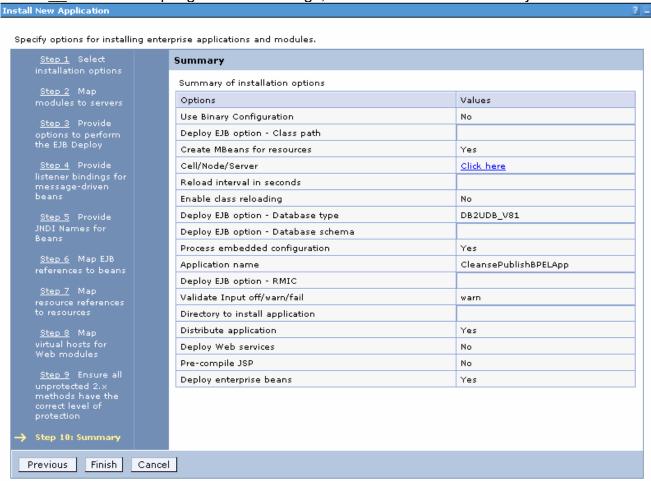


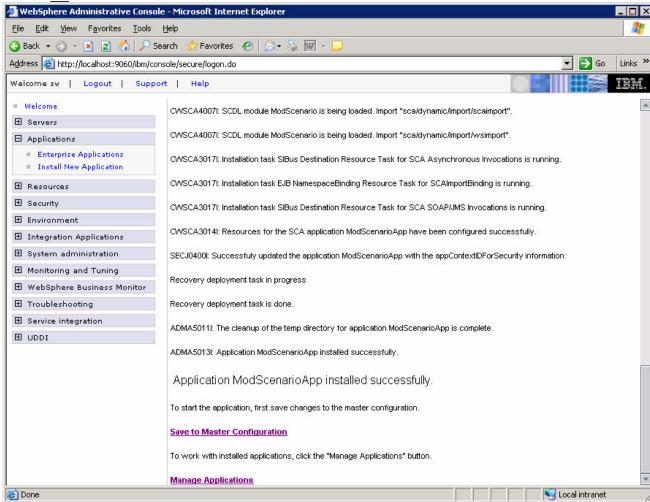
__ g. Click **Next** to continue installing the application, accepting all the default step settings.

Note: Click on continue when you get some warnings.



h. After accepting 9 default settings, click Finish for the summary.





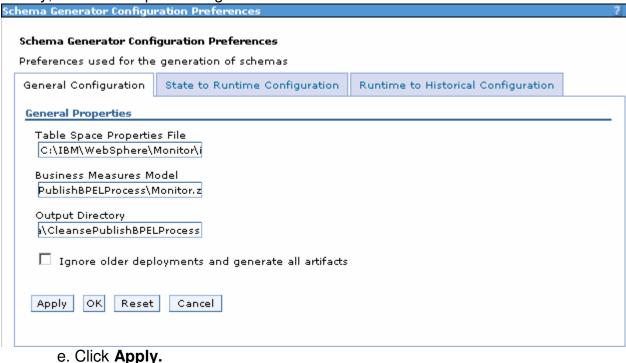
i. This window shows a successful install.

- __ j. Save the configuration by clicking **Save to Master Configuration** and then clicking **Save** on the following window.
- __ k. Select **Applications > Enterprise Applications**.
- I. Select the application CleanseProcessBPELApp and click Start to start the application and observer the arrow that indicated that the application is started.

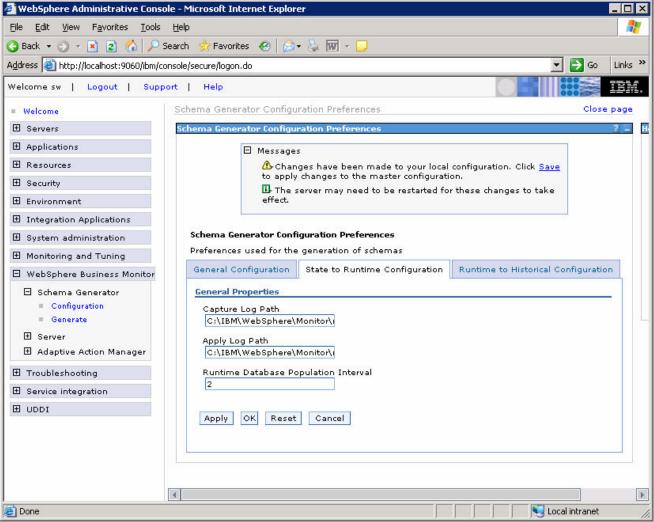
Part 4: Run Schema Generator in WebSphere Monitor Server

- 1. Run the schema generator.
 - __ a. From WebSphere Monitor Server, Select **Start > All Programs > IBM WebSphere > Process Server 6.0 > Profiles > monitor > Start the server** to start the server.
 - b. From WebSphere Monitor Server, Select Start > All Programs > IBM WebSphere > Process Server 6.0 > Profiles > monitor > Administrative console to open administrative console.
 - __ c. In the Monitor Process Server administrative console, select **WebSphere Business Monitor > Schema Generator > Configuration**.
 - __ d. For the Business Measures Model, enter the directory path where monitor.zip was exported from WebSphere Business Modeler -
 - Z:\users\rdyavana\CleansPublishBPELProcess\Monitor.zip. For the output directory, enter Z:\users\rdyavana\CleansPublishBPELProcess.

When you run schema generator, it will create a folder called 'schemagen' in this output directory, and it will place the generated artifacts there.

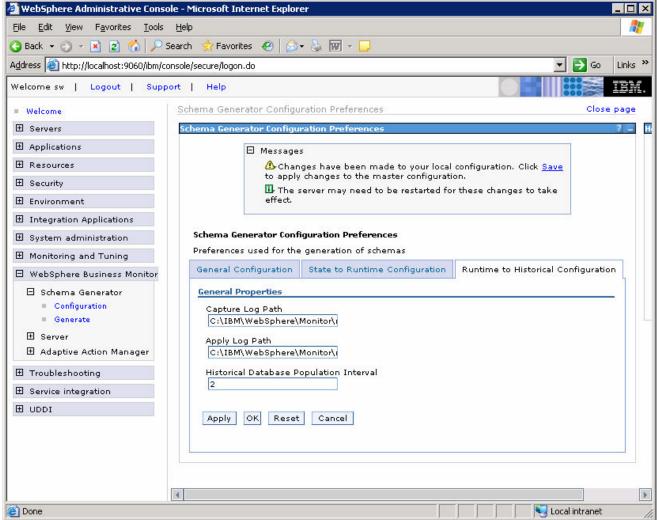


__ f. Click tab 'State to Runtime Configuration', and set your 'Runtime database population interval' to 2. This sets the replication interval to 2 minutes.



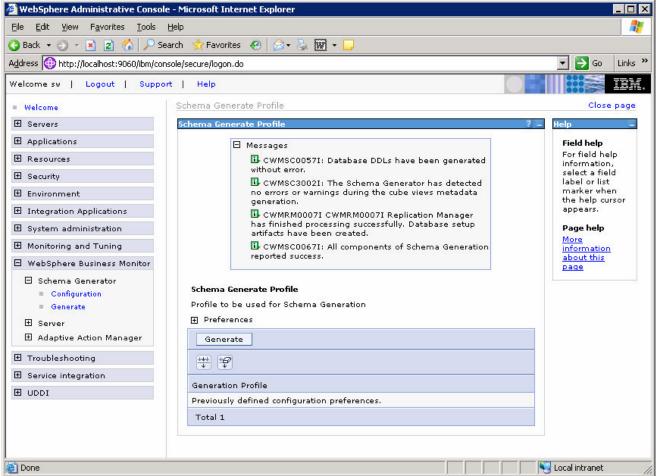
__ g. Click Apply.





- __ i. Click Apply.
- __ j. Save the configuration by clicking on **Save** near the top of the administrative console, and then click the **Save** button when it appears.





- 2. Run the batch files and run the generated scripts.
 - __ a. Refer to WBMonitorV6_EndToEndScenario lab for the instructions and complete the steps 2 through 10 of part 3: Run Schema Generator and run the generated scripts.

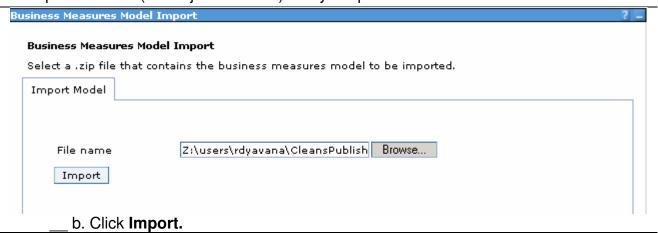
Note: Replace C:\ProjectScenario with Z:\users\rdyavana\CleansPublishBPELProcess (schemagen folder location) while going through the steps from the WBMonitorV6 EndToEndScenario lab.

Part 5: Import the Business Measures Model and Run Process Instances

- 1. Import the business measures model.
 - ___ a. In the Monitor Server administrative console, navigate to **WebSphere Business Monitor > Server > Business Measures Model > Model Import**.

 Navigate to Z:\users\rdyavana\CleansPublishBPELProcess
 \schemagen\Monitor.zip

Note: You must specify the path to the Monitor.zip file in the **schemagen** folder, not the one in the parent folder (C:\ProjectScenario) that you specified earlier.



Note: This may take some time.

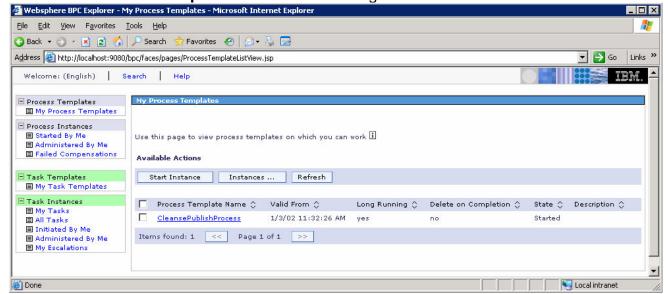
WebSphere Administrative Console - Microsoft Internet Explorer <u>File Edit View Favorites Tools Help</u> 🔾 Back 🔻 🕘 🔻 🙎 🐔 🔑 Search 🛚 🐈 Favorites 🛮 🥙 🕞 🥡 🔻 🥛 Links >> Address Addres Welcome sw | Logout | Support | Help Welcome Business Measures Model Import ⊞ Servers Business Measures Model Import Field help ☐ Messages For field help ⊞ Resources L CWMAX0305I: The import operation has information, completed successfully. select a field **⊞** Security label or list marker when **⊞** Environment the help Business Measures Model Import cursor appears. Select a .zip file that contains the business measures model to be imported. Configuration Page help H Monitoring and Tuning More information ☐ WebSphere Business Monitor about this page ⊞ Schema Generator File name Browse... ☐ Server Import ⊞ Configuration ☐ Business Measures Model ■ Model Import Model Unload Adaptive Action Manager ☐ Troubleshooting ⊞ Service integration ⊞ UDDI

c. You should see a successful message when it completes:

Done

Local intranet

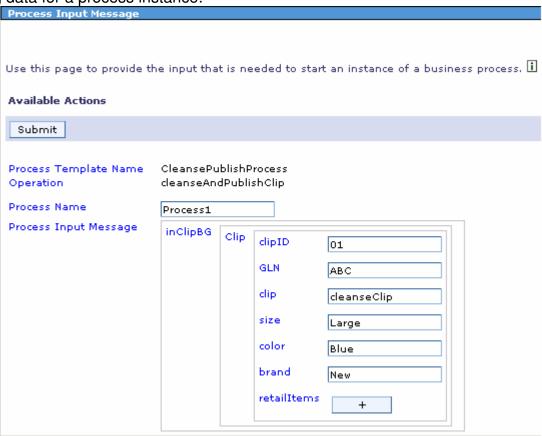
- 2. Run some process instances.
 - a. Start the BPC Explorer on the Runtime Server (by default this is accessible at http://localhost:9080/bpc), and run several instances of the ProcessScenario template. The process template window will be opened. Click on the My Process Templates to see the following window:



b. Click on **Start Instance** and enter the values for all the fields.

Note that the process instances are deleted when they are complete, so you will not see them listed in the Process Instances list after completion. This shows the window for

entering data for a process instance:

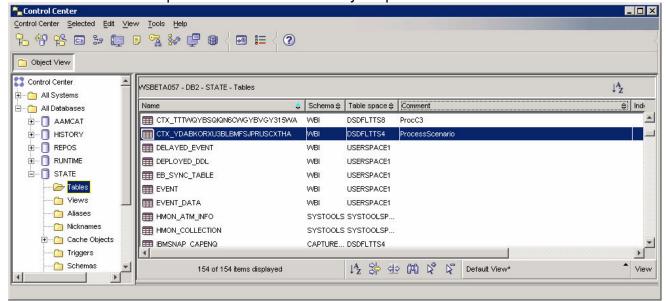


c. Click Submit.

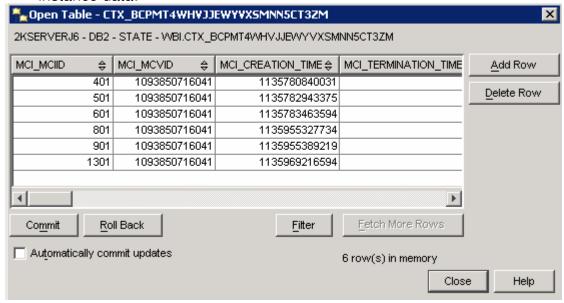
You should run several processes like this.

_ 3. Verify that the process instance data is being stored in the Monitor State database and the Monitor Runtime database. Note that the process instance data is deleted from the State database after it has been moved to the Runtime database. So, if you delay in checking this, then the tables may show empty in the State database, but then there should be data in the Runtime database.

a. Start the DB2 Control Center on the Monitor Server. Select Start > Programs > IBM DB2 > General Administration Tools > Control Center. In the State database look for a table name like CTX_*, and the comment ProcessScenario. This is the process instance data for your process.



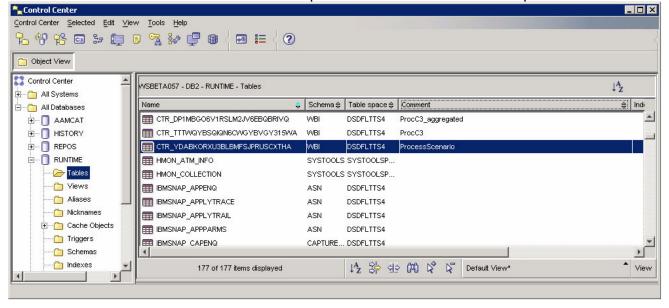
_ b. Double click on this table and you should see several rows showing process instance data:



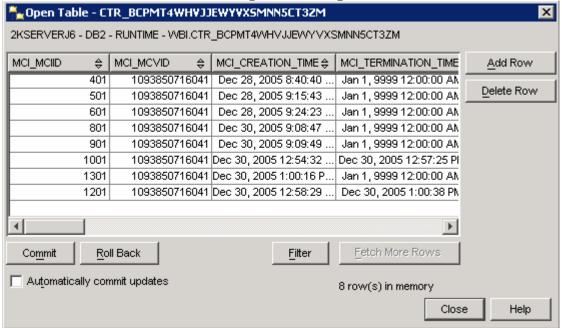
__ c. In the State database look for a table name like Al_*, and the comment 'Task instance table for business measure group ProcessScenario'. This is the task instance data for your process.



_ d. In the **Runtime** database look for a table name like **CTR_***, and the comment **ProcessScenario**. This is the process instance data for completed instances.



e. You should see some rows in this table. But note that you set the replication frequency to 2 minutes, so this information will not show up in this table until the time period has elapsed following the completion of the process instance. You may need to wait a few minutes, and then click View > Refresh in the DB2 Control Center before checking the table again.



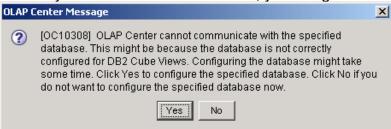
- _ f. If you do not see data in the State database nor the Runtime database, then something is wrong.
 - 1) Ensure that CEI logging is turned on in the Runtime Server -Administrative Console > Servers > Application servers > server1 >
 Business process container settings > Business process container >
 Enable Common Event Infrastructure logging.
 - 2) Turn on the Monitor trace in the Monitor Server, run a few more process instances and check for errors in the trace log. To get trace details, Monitor Server Administrative Console > Troubleshooting > Logs and Trace > server1 > Change Log Detail Levels. Specify log level for subcomponents of com.ibm.wbimonitor. Then the trace is stored with the Process Server logs as trace.log.

Part 6: Import Cubes in the Dashboard Server

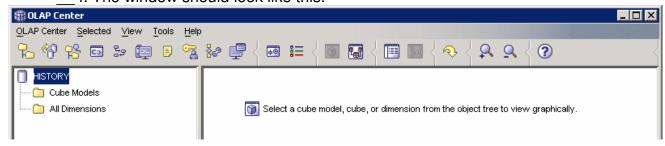
- 1. Import the cube models into DB2 Cube Views. Note that the remainder of the lab will happen on the Dashboard Server.
 - __ a. Copy the file Z:\users\rdyavana\CleansPublishBPELProcess \schemagen\model_cv.xml from the Monitor Server to the Dashboard server.
 - _ b. On the Dashboard Server, select **Start > Programs > IBM DB2 > Business**Intelligence Tools > **OLAP Center.**
 - __ c. When prompted, use userid: db2admin, password: monPa55w0rd.



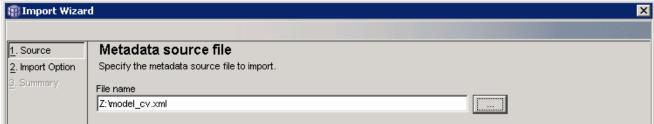
d. The first time you connect to the database, you will get this message.



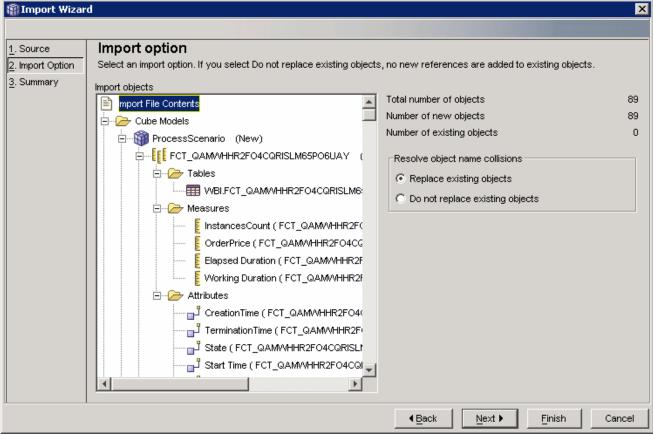
- e. Click Yes.
- f. The window should look like this.



__ g. Select **OLAP Center > Import.** For file name, browse (the ... button) to the file **model cv.xml.**

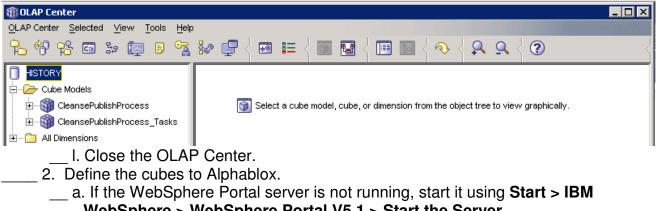


- h. Click Next.
- i. You should see a window like this.



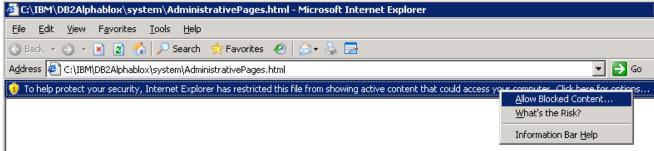
j. Click Finish.

k. Now you will see three models listed in the OLAP Center as follows.

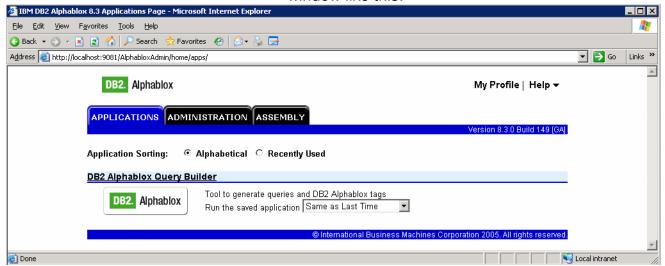


- **WebSphere** > **WebSphere Portal V5.1** > **Start the Server**.
- b. Start Alphablox in a browser Start > All Programs > IBM DB2 Alphablox 8.3 > Alphablox Analytics > DB2 Alphablox Administrative Pages.

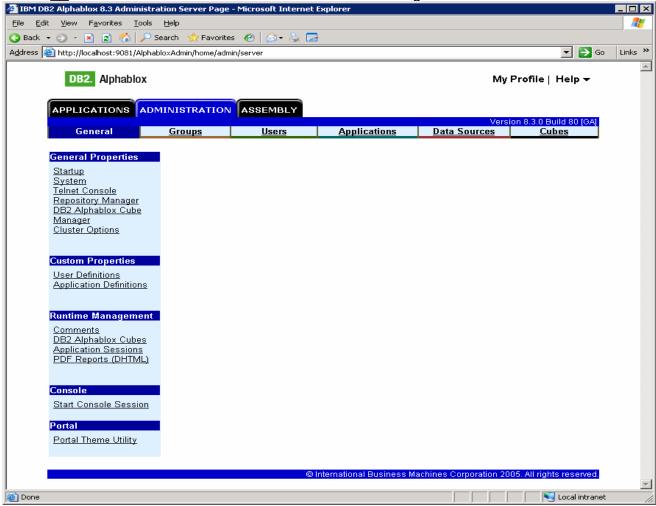
Note: You may find that Windows will block your attempt to access the page and you should see this in the Internet Explorer window in a yellow information bar at the top. Click on this bar and select Allow Blocked Content... to continue:



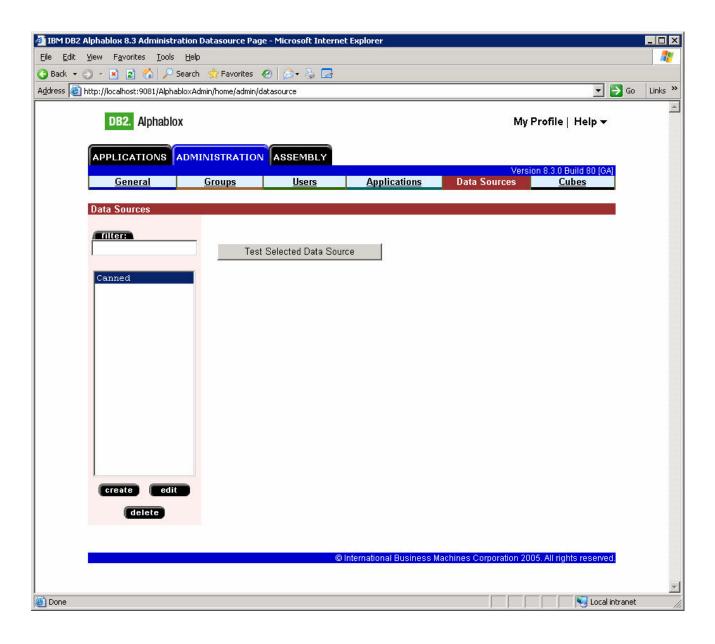
__ c. When it prompts for it, enter userid: admin, password: password. You should see a window like this:



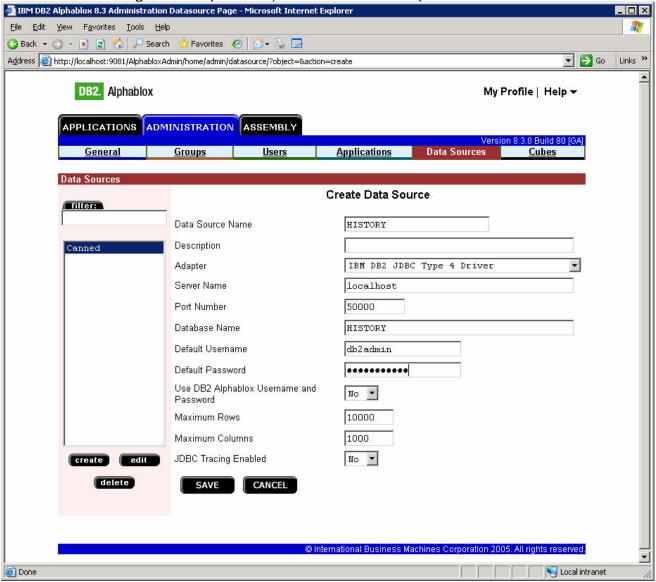
d. Click on Administration tab to see the following window:



_ e. The first time you use Alphablox, you will need to setup data sources. So, click on the tab 'Data Sources' at the top of the Alphablox window.

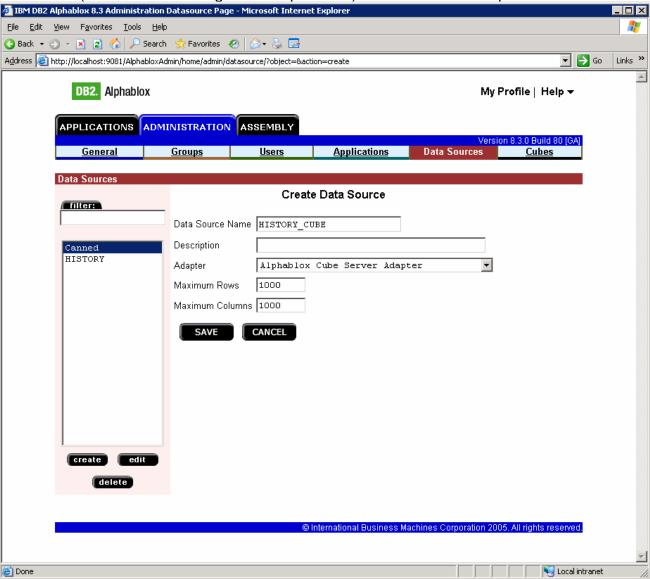


__ f. Click Create to create a data source called HISTORY using values (remember to change the adapter field) as in this screen capture:



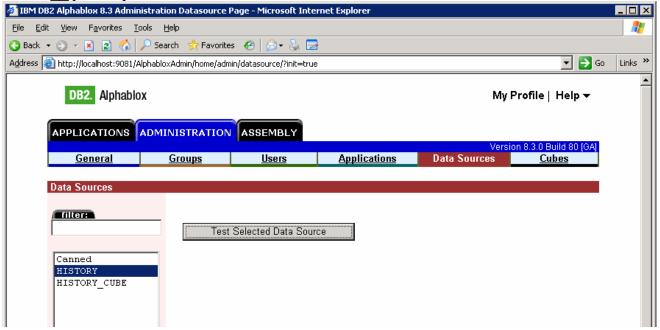
g. Click Save.

__ h. Click **Create** to create a data source called **HISTORY_CUBE** using values (remember to change the adapter field) as in this screen capture.

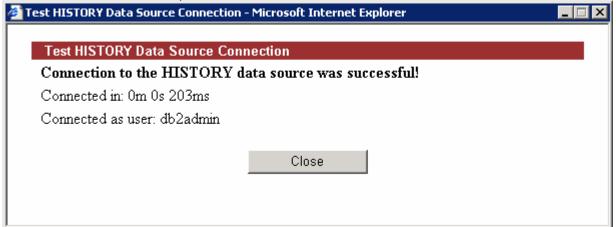


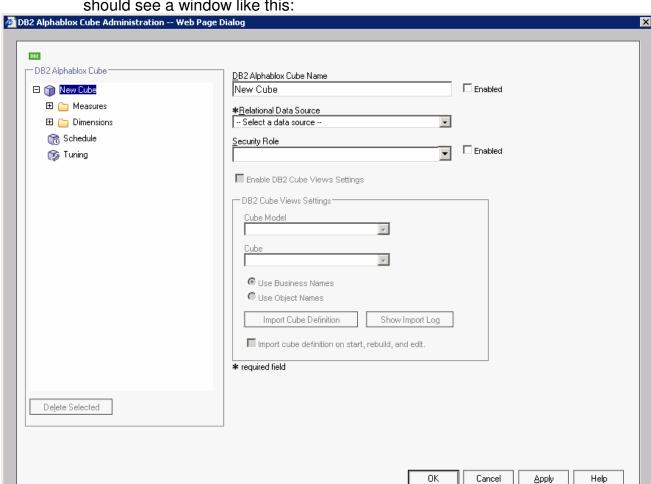
i. Click Save.

j. Now you should see both data sources defined as follows:



__ k. Use button '**Test selected data source**' to test each of the two data sources. Here is an example of a successful test:

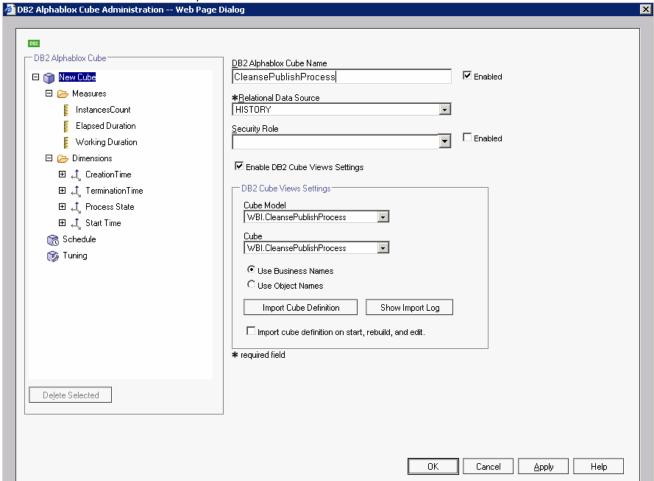




__ I. Click on tab '**Cubes**' at the top of the Alphablox window. Click **Create**. You should see a window like this:

- m. Click the checkbox **Enabled** next to the **DB2 Alphablox Cube Name**.
- n. Select **HISTORY** for the Relational Data Source.
- o. Click the checkbox **Enable DB2 Cube Views Settings**.
- __ p. Select **WBI.CleansePublishProcess** for the Cube Model, then click button **Import Cube Definition**.

__ q. Type CleansePublishProcess for the DB2 Alphablox Cube Name (do not include the WBI). You should have a screen like this:



APPLICATIONS ADMINISTRA General Groups DB2 Alphablox Cubes filter: CleansePublishProcess create edit delete

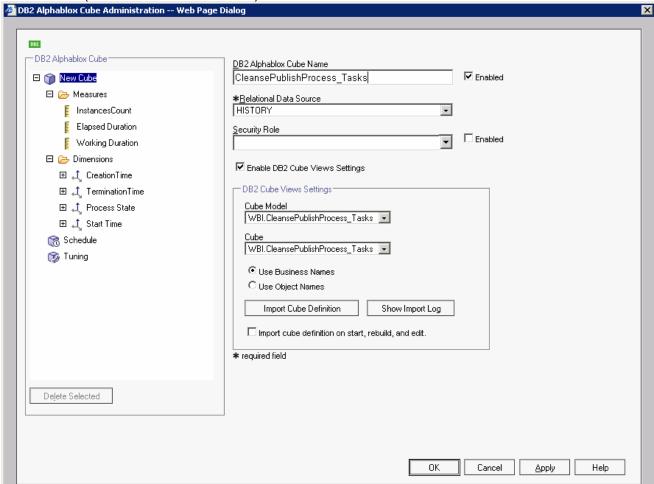
__ r. Click **OK** to save the definition. Then you will see it added to the list as follows:

You will repeat this for each cube in the model. In this case there are tow cubes, and they are listed in the pull down for Cube Model.

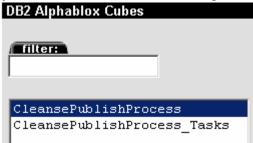
You have defined ProcessScenario and ProcessScenario aggregates, now you will define ProcessScenario Tasks.

- __ s. Click on **create** to create the cube definition.
- __ t. Click the checkbox **Enabled** next to the **DB2 Alphablox Cube Name**.
- __ u. Select **HISTORY** for the Relational Data Source and click the checkbox **Enable DB2** Cube Views Settings.
- ___ v. Select WBI.CleansePublishProcess_Tasks for the Cube Model, then click button Import Cube Definition.

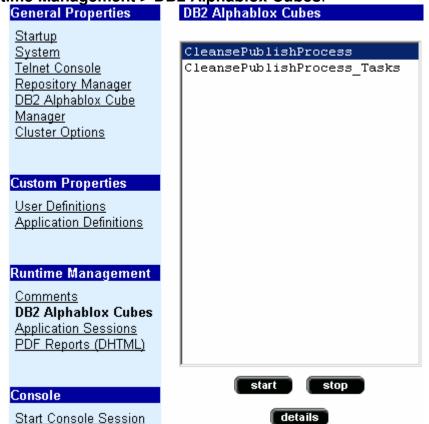
__ w. Type CleansePublishProcess_Tasks for the DB2 Alphablox Cube Name (do not include the WBI.) You should have a screen like this:



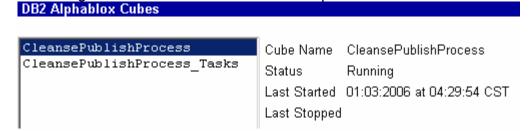
__ x. Click **OK**. Then you will see a window showing the two cubes in the list.



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



_ z. For each of the cubes listed, click the **Start** button. The status should show as 'Running' for each cube. Here is an example:



Part 7: Configure Dashboards

__ 3. Make copies of the portlets that you want to use: Active Instances and Reports. 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.

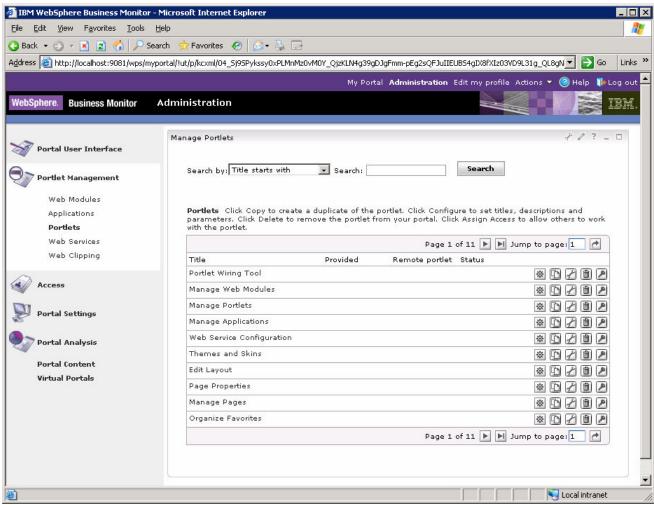
a. Start Portal: http://localhost:9081/wps/portal.



__ b. Click 'Log in' in the upper right-hand corner. When prompted, enter userid: wpsadmin password: wpsadmin.

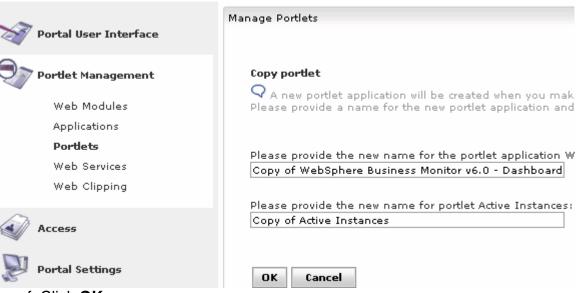


__ c. Click on **Administration** at the top of the page, and then select **Portlet Management > Portlets**.



__ d. **Browse to page 11** by clicking on the arrow icons. This page should show the portlets for Active Instances and Reports.

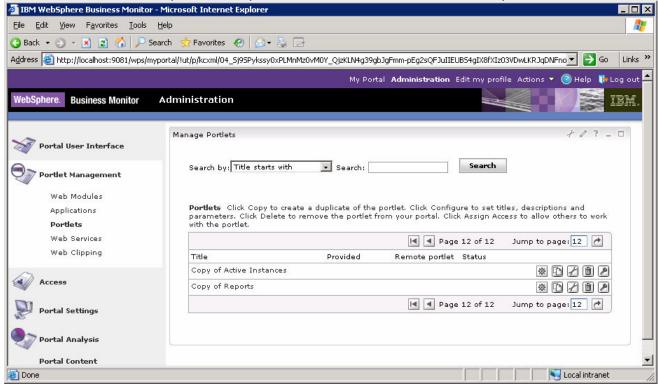
___ e. On the row containing **Active Instances**, click the icon for **Copy portlet** (You should see this window:



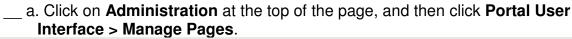
f. Click **OK**.

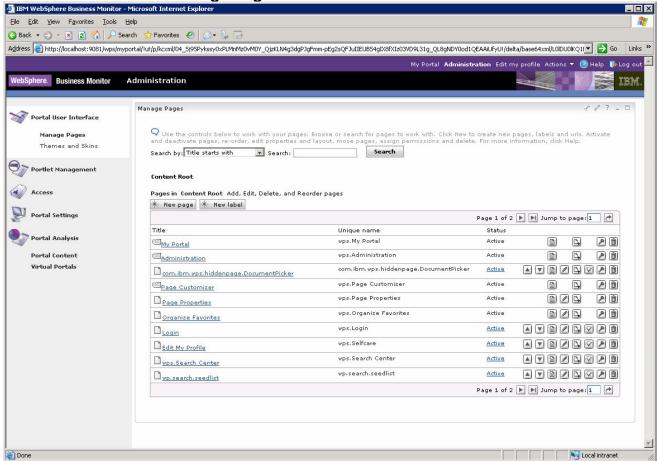
__ g. On the row containing **Reports**, click the icon for **Copy portlet** (On the next window, click **OK**.

__ h. Now **Browse to page 12** by clicking on the arrow icons. This page should show the copies of the portlets for Active Instances and Reports.



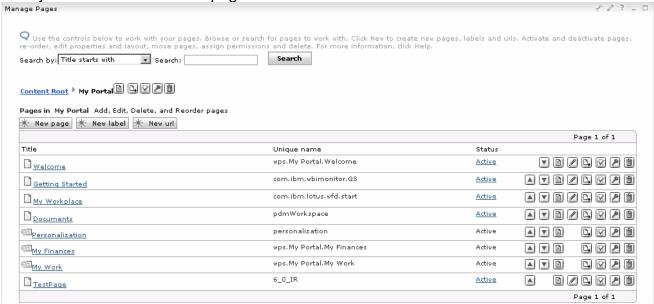
4. Create a page containing two views: Active Instances and Reports.



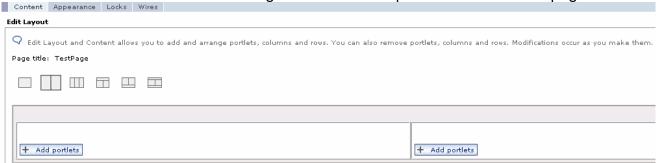


- __ b. Click **My Portal**, then click tab **New Page**. Enter a page title **TestPage**, click **OK.**
- __ c. On the next window you will get successful page creation message, click **OK**.

Now you should see the new page in the list as follows:



__ d. Click on the **Edit Page Layout** icon for TestPage. You will find it to the right side of the row for TestPage: ___ . This will open the editor for this page.

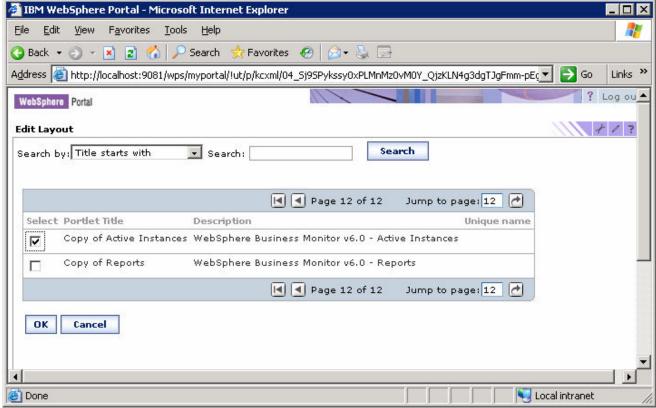


___ e. Click button **Add portlets** on the left side of the screen. You will see a list of portlets. There are multiple pages of these and you can use the navigation at the bottom of the list to look at them.

IBM WebSphere 6.0 - Lab Exercise

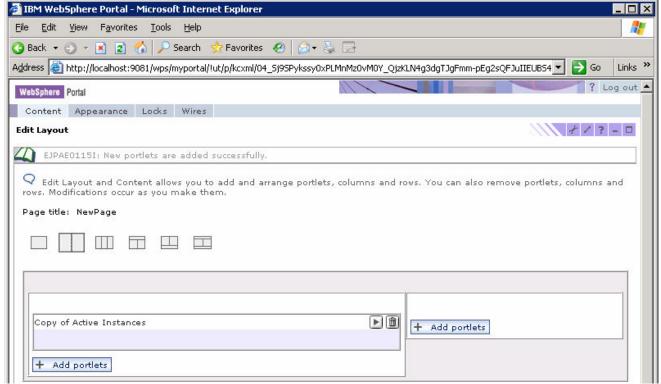
Monitoring Processes Modeled With WebSphere Integration Developer

Find Copy of Active Instances (it is on the last page), check it.



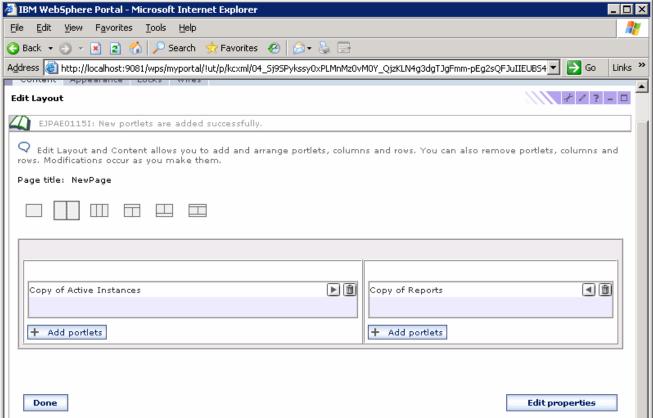
f. Click **OK.**

__ g. This shows that the **Copy of Active Instances** view has been added to the page:



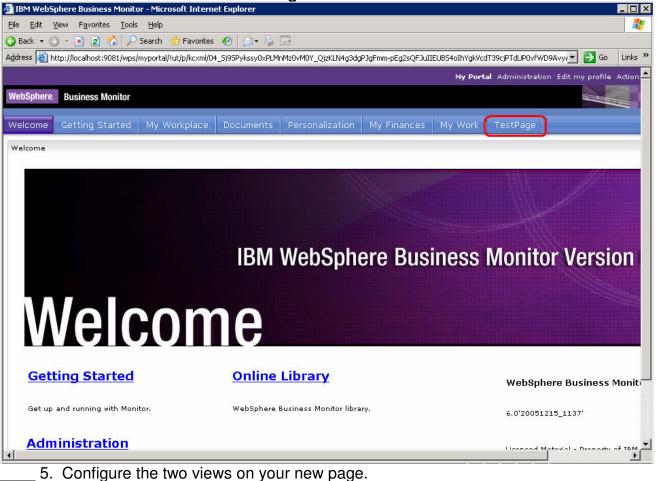
- _ h. Click button 'Add portlets' on the right side of the screen. Find 'Copy of Reports' on the last page, check it.
- __ i. Click **OK**.

j. This shows that both views have been configured on the page:



k. Click **Done**.

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

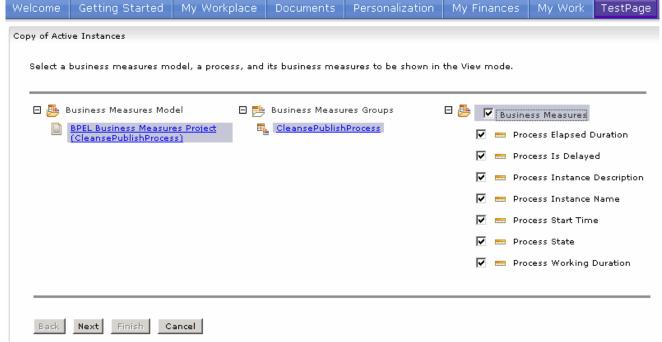


__ a. Click on the tab for **TestPage**. This window shows the two views, but they need to be configured:



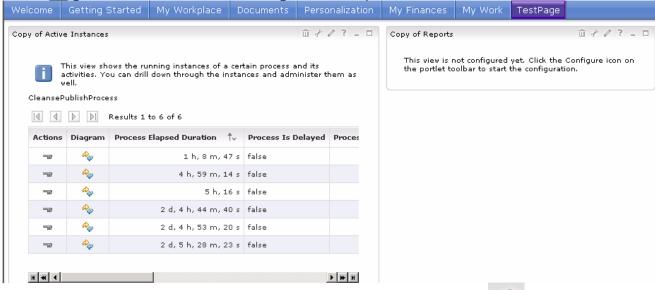
__ c. Click on Business Measures Model > BPEL Business Measures Project (CleansePublishProcess).

- _ d. Click on Business Measures Groups > CleansePublishProcess.
 - e. Click the checkbox next to Business Measures to select all of the measures.

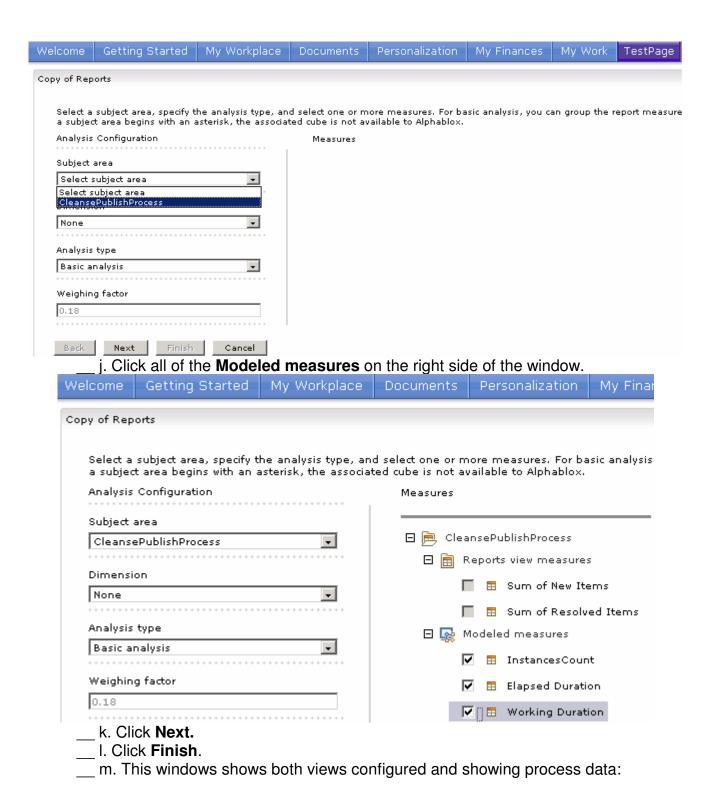


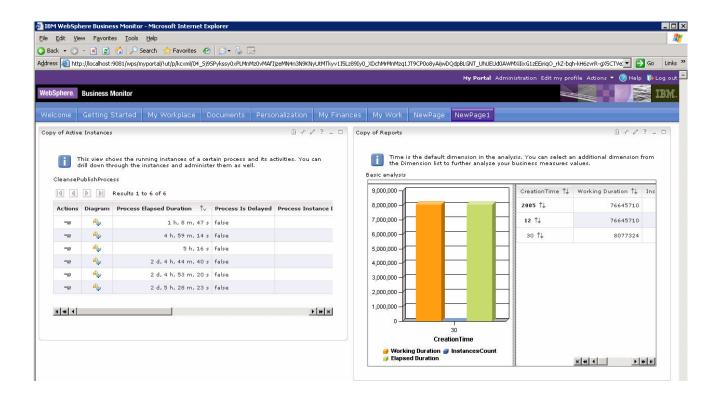
f. Click Next, Next, Next, Finish.

g. Here is the window showing the active process instances in the view:



- __ h. Click the **Configure** icon on the **Copy of Reports** view.
- __ i. Click **Subject area** and select **ProcessScenario** on the left side of the window.





What you did in this exercise

In the lab, you imported a project into WebSphere Integration Developer, enabled CEI events and exported the EAR from WebSphere Integration Developer. Then used Monitor export feature of WebSphere Business Modeler to generate default business measures and export BPEL process.

Then you deployed the process (EAR file) to WebSphere Process Server.

You ran schema generation, created Monitor database and replication manager artifacts.

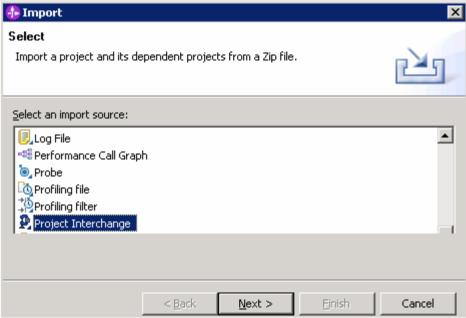
You started the replication manager daemons.

You imported the cubes to Cube Views and Alphablox.

You configured Dashboards and viewed process data in two different types of views.

Solution Instructions

- 1. Import the Model to WebSphere Integration Developer.
 - _ a. Select **File > Import** from the IBM WebSphere Integration Developer.
- __ b. From the **Import** window select **Project Interchange** and click **Next**.



Import Project Interchange Contents window will be opened.

- __ c. Click Browse and select
 - <LabFiles60>\MonotoringProcess\Solution\WIDExport.zip as source zipped
 file
- d. Click Select All and click Finish.

This page is left intentionally blank.