

Monitoring Oracle® Java CAPS Business Processes

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Monitoring Java CAPS Business Processes

Enterprise Manager allows you to monitor Business Processes and identify problems with components or systems. From Enterprise Manager, you can double-click Business Process components to go directly to a problem. The following topics provide links to task, conceptual and reference information for monitoring a Java CAPS Business Process (BP).

- [“Business Process Instance Monitor Overview”](#) on page 5
- [“Monitoring Business Processes”](#) on page 8
- [“Changing the Status of a Business Process Instance”](#) on page 11
- [“Configuring the Business Process Instance Display”](#) on page 11
- [“Monitoring Load-Balanced Business Process Instances”](#) on page 15

Business Process Instance Monitor Overview

After you have configured BPM persistence, you can use Enterprise Manager to monitor your Business Process instances. The procedures in this section help ensure that Business Processes appear in Enterprise Manager as expected. From Enterprise Manager, you can:

- Filter the list of displayed instances to identify exceptions.
- Navigate to particular versions of a Business Process to monitor the progress of instances.
- Use a web-based interface to securely access the monitoring environment over the internet.

Before you connect to Enterprise Manager, verify that the Adobe SVG Plug-in for Enterprise Manager is installed. Before you begin monitoring Business Processes, you must deploy and manage any necessary application servers in Enterprise Manager.

From the Enterprise Manager’s Business Process Instance Monitor tab, you can suspend, resume, and terminate Business Process instances. You can also refresh the Business Process instance lists, change monitoring options, filter Business Process instances, and view the Business Process instances and their associated Business Process instances in various ways.

The Business Process Instance Monitor page provides a set of toolbars for viewing and evaluating Business Process instances. Before you start monitoring Business Process instances, be sure to acquaint yourself with these tools.

Display Toolbar

The icons at the upper left of the Business Process Instance Monitor toolbar control the graphic display of Business Process instances as well as Business Process instance lists. The following table describes each icon.

TABLE 1 Business Process Instance Monitor: Display Icons

Name	Description
Show Business Process Model	Displays the image of a Business Process instance in the Details window.
Hide Business Process Model	Hides the image of a Business Process instance in the Details window.
Show List of Business Process Instances	Displays the attributes of the current Business Process instance in list format, and adds the tools described in “Business Process Model Toolbar” on page 6 . You can only view information about a Business Process that has been configured for persistence.
Hide List of Business Process Instances	Hides the attributes of the current Business Process instances and removes the instance tools from the interface.

Business Process Model Toolbar

When Show Business Process Model is selected, a toolbar appears in the upper right of the Business Process Instance Monitor just beneath the main toolbar. This toolbar allows you to control the display of the graphic model of the Business Process instance. The following tables lists and describes the icons on the Business Process Model toolbar.

TABLE 2 Business Process Instance Monitor: Business Process Model Toolbar

Name	Description
Alert to Enable Monitoring	Alerts you to enable monitoring in the BPM Engine Configuration Properties in order to see Business Process activity status and details in the Business Process Instance Monitor.
Enable Zoom and Pan	Enables zooming and panning of the Business Process instance view.
Disable Zoom and Pan	Disables zooming and panning of the Business Process instance view.
Zoom Out	Zooms out to a lower percentage view of the Business Process instance.

TABLE 2 Business Process Instance Monitor: Business Process Model Toolbar *(Continued)*

Name	Description
Zoom In	Zooms in to a higher percentage view of the Business Process instance.
100%	Changes the percentage of the view to 100%.
Fit All	Changes the percentage of the view so the entire Business Process instance fits in the Show Business Process Model panel.
Fit Width	Changes the percentage of the view so that the width of the Business Process instance fits in the Show Business Process Model panel.
Fit Height	Changes the percentage of the view so that the height of the Business Process instance fits in the Show Business Process Model panel.

Business Process Instance Toolbar

When **Show list of Business Process Instances** is selected, you can manipulate the view of Business Process instance data using the icons described in the following table. These icons are located at the right of the Business Process Instance Monitor toolbar.

TABLE 3 Business Process Instance Monitor: Business Process Instance Toolbar

Name	Description
Refresh list of Business Process Instances	Refreshes the entire Business Process instance list.
Refresh Filtered list of Business Process Instances	Refreshes a filtered list of Business Process instances.
Choose Preferences	Allows you to add, move, and sort the columns in the Business Process instance.
Change Attribute Display Names	Allows you to change the display name of Business Process instance attributes.
Suspend	Suspends a Business Process instance.
Resume	Resumes a suspended Business Process instance.
Terminate	Terminates a Business Process instance.
Filter Business Process Instances	Allows you to set criteria to display a specific instance or group of instances.
Business Process Instance Attributes	Displays the XML content of each Business Process instance attribute.

TABLE 3 Business Process Instance Monitor: Business Process Instance Toolbar *(Continued)*

Name	Description
Activity Details	<p>Displays a dialog box with the details of the activity that is selected in the Business Process model, including the following information:</p> <ul style="list-style-type: none"> ▪ Start Time ▪ End Time ▪ Status ▪ Message input/output (XML viewer) ▪ Exception content <p>Each activity represents a step within the Business Process.</p>
Go To Caller	Takes you to the calling Business Process instance, such as a parent Business Process.
Go To Callee	Takes you to a called Business Process instance, such as a child Business Process.
Legend	Displays a window with a legend of the colors used to show the status of a Business Process instance, as shown below.

Monitoring Business Processes

In order to monitor Business Processes, you must perform a series of steps to configure individual Business Processes for monitoring. If you do not perform these steps, you can still view the Business Process on the Business Process Instance Monitor, but you cannot perform all the functions of the monitor and cannot view detailed information about each Business Process instance. Information about the Project components is available whether you configure the Business Process for persistence or not.

Before you can monitor a Business Process, you need to configure the BPM Engine for monitoring, and you need to create the monitoring and recovery database.

Monitoring New Business Processes

The following procedure provides the steps for monitoring a new Business Process in Enterprise Manager.

▼ To Monitor a New Business Process

- 1 In the NetBeans Projects window, open the Business Process.
- 2 In the Business Process properties, set the Persistence for Reporting property to Yes.
- 3 Save the Business Process.

- 4 In the Projects window, expand the Business Process and then expand Database Scripts.
- 5 Define the database connection properties and run the scripts against the database.
- 6 Open the Deployment Profile and build and deploy the Project.
- 7 In a web browser, connect to Enterprise Manager and log in.
- 8 In the Enterprise Manager Explorer, navigate to the correct Server, Project, Deployment Profile, and Connectivity Map containing the Business Process you want to monitor, and then click the Business Process name.
- 9 In the Business Process Instance Monitor toolbar, click Show list of Business Process Instances.

Monitoring Modified Business Processes

The following procedure provides the steps for monitoring a modified Business Process in Enterprise Manager.

Note – This process involves rerunning the database script for the Business Process, which creates a new database table for the Business Process. After you perform these steps, the Business Process instance list only displays information about events that occurred after you redeployed the application.

▼ To Monitor a Modified Business Process

- 1 In the NetBeans Projects window, check out the Business Process.
- 2 Modify the Business Process as necessary.
- 3 Save all changes.
- 4 Check in the Business Process.
- 5 Check out the Business Process.
- 6 Run the database script again for the Business Process.
- 7 Open the Deployment Profile, and rebuild and redeploy the Project.
- 8 In a web browser, connect to Enterprise Manager and log in.

- 9 In the Enterprise Manager Explorer, navigate to the correct Server, Project, Deployment Profile, and Connectivity Map containing the Business Process you want to monitor, and then click the Business Process name.
- 10 In the Business Process Instance Monitor toolbar, click Show List of Business Process Instances.

Monitoring Business Processes in an Imported Project

The following procedure provides the steps for monitoring Business Processes in an imported Project.

▼ To Monitor Business Processes in an Imported Project

- 1 Import the Project into NetBeans using the CAPS Repository Import feature.
- 2 Check out any Business Processes.
- 3 Open and save each Business Process.

Note – If a Business Process has user activities or special OTDs, open and close each of them to ensure that they register with the monitor.

- 4 Check in each Business Process.
- 5 Check out each Business Process.
- 6 Run the database script again for each Business Process.
- 7 Open the Deployment Profile, and rebuild and redeploy the Project.
- 8 In a web browser, connect to Enterprise Manager and log in.
- 9 In the Enterprise Manager Explorer, navigate to the correct Server, Project, Deployment Profile, and Connectivity Map containing the Business Process you want to monitor, and then click the Business Process name.
- 10 In the Business Process Instance Monitor toolbar, click Show List of Business Process Instances.

Changing the Status of a Business Process Instance

From the Business Process Instance Monitor, you can suspend, resume, and terminate current Business Process instances.

▼ To Change the Status of a Business Process Instance

- 1 In the list of Business Process instances, select the instance you want to modify.
- 2 To pause the Business Process instance, click Suspend.
- 3 To restart the Business Process instance, click Resume.
- 4 To terminate the Business Process instance, click Terminate.

Terminated instances cannot be restarted.

Configuring the Business Process Instance Display

When Business Processes are configured for reporting persistence, you can configure the display of the Business Process information, and suspend, resume, and terminate a Business Process.

Choosing Business Process Attributes to Display

In the list of Business Process instances, you can change the following options:

- Columns to show
- Columns to hide
- Column order
- Maximum rows per page
- Instance list refresh rate
- Total number of Business Process instances allowed

The following procedure provides the steps for choosing Business Process attributes to display in the list of Business Process instances.

▼ To Choose Business Process Attributes to Display

- 1 In the Business Process Instance Monitor toolbar, click Choose Preferences.
The Choose Business Process Attributes to Display dialog box appears.

- 2 To hide columns that are currently visible in the list of Business Process instances, do the following:
- 3 In the Chosen Columns list, select the columns you want to hide.
- 4 Click the double left arrow button to move the selected columns to the Available Columns list.
- 5 To display columns that currently do not appear in the list of Business Process instances, do the following:
- 6 In the Available Columns list, select the columns you want to show.
- 7 Click the double right arrow button to move the selected columns to the Chosen Columns list.
- 8 In the Maximum Rows Per Page field, enter the number of rows you want to display on each page of the list of Business Process instances.
- 9 In the Instance List Refresh Rate field, enter the number of seconds you want to pass between refreshes of the list of Business Process instances.
- 10 In the Number of Business Process Instances field, enter the maximum number of Business Process instances you want to monitor.
- 11 Click Change Preferences.

Changing the Display Name of an Attribute

If you prefer to monitor Business Process instance attributes using shortened names, you can change the display names of the attributes you want to include in the list of Business Process instances. The following procedure provides the steps for changing the display names of Business Process instance attributes.

▼ To Change the Display Name of an Attribute

- 1 In the Business Process Instance Monitor toolbar, click Change Attribute Display Names. The Change Attribute Display Name dialog box appears.
- 2 In an attribute display name field, edit the text of the attribute display name.
- 3 Continue editing these text fields as necessary.
- 4 Click Submit.

- 5 To return the attribute display names to their default settings, click **Change Attribute Display Names** again, and then click **Reset** on the dialog box.

Filtering Business Process Instances

You can filter the list of Business Process instances in order to see only Business Process instances that meet a specific set of criteria. The Filter Business Process Instance dialog box provides the following filters.

- Business Process instance status
- Start date range
- Update date range
- Business Process attribute

▼ To Filter the List of Business Process Instances

- 1 In the Business Process Instance Monitor toolbar, click **Filter Business Process Instances**. The Filter Business Process Instances dialog box appears.
- 2 In the **Status** field, select a Business Process status.
- 3 In the **Time Stamp** field, select a time stamp type.
- 4 In the **From** field, click **Select Date and/or Time** and select the date or time.
- 5 In the **To** field, click **Select Date and/or Time** and select the date or time.
- 6 In the **Business Process Attribute** field, select the attribute and filter criteria operator and text.
- 7 Click **Filter**.

Viewing the Content of a Business Process Attribute

The Business Process Instance Attributes tool allows you to view the XML content of all the attributes in a Business Process.

▼ To View the Content of a Business Process Attribute

- 1 In the Business Process Instance Monitor toolbar, click **Business Process Instance Attributes**. The Business Process Instance Attributes dialog box appears with a list of each attribute and its XML content.

- 2 To see the XML content in a structured XML viewer, click View XML.

Viewing Activity Details

The Activity Details tool allows you to view details of the selected activity, including the following information:

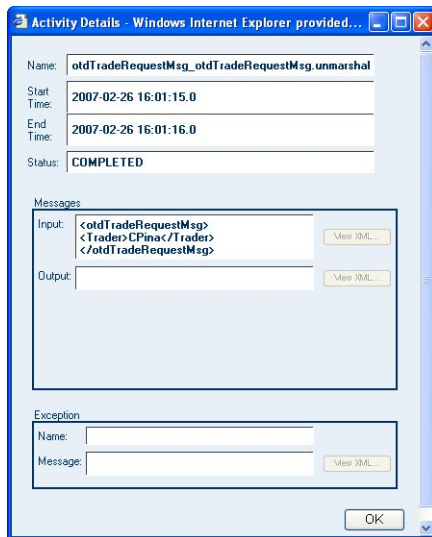
- Name
- Start time
- End time
- Status
- Message input and output (XML viewer)
- Exception content

▼ To View Activity Details

- 1 In the Business Process, select the activity for which you want to view details.
- 2 In the Business Process Instance Monitor toolbar, click Activity Details.

The Activity Details dialog box appears.

FIGURE 1 Activity Details Dialog Box



- 3 To see the XML content of the input, output, or exception message in a structured XML viewer, click View XML.

Monitoring Load-Balanced Business Process Instances

When you are monitoring load-balanced Business Process instances in recovery mode, single Business Process instances appear to be multiple Business Process instances on multiple BPM Engines. This is a normal result of load balancing a Business Process across multiple BPM Engines.

