Process Automation Guide for Automation for SAP BOBJ Accelerator

Release 3.0
December 2013

Americas Headquarters
Cisco Systems, Inc.
170 West Tasman Drive
San Jose, CA 95134-1706
USA
http://www.cisco.com
Tel: 408 526-4000
800 553-NETS (6387)
Fax: 408 527-0883

Text Part Number: OL-30852-01

THE SPECIFICATIONS AND INFORMATION REGARDING THE PRODUCTS IN THIS MANUAL ARE SUBJECT TO CHANGE WITHOUT NOTICE. ALL STATEMENTS, INFORMATION, AND RECOMMENDATIONS IN THIS MANUAL ARE BELIEVED TO BE ACCURATE BUT ARE PRESENTED WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED. USERS MUST TAKE FULL RESPONSIBILITY FOR THEIR APPLICATION OF ANY PRODUCTS.

THE SOFTWARE LICENSE AND LIMITED WARRANTY FOR THE ACCOMPANYING PRODUCT ARE SET FORTH IN THE INFORMATION PACKET THAT SHIPPED WITH THE PRODUCT AND ARE INCORPORATED HEREIN BY THIS REFERENCE. IF YOU ARE UNABLE TO LOCATE THE SOFTWARE LICENSE OR LIMITED WARRANTY, CONTACT YOUR CISCO REPRESENTATIVE FOR A COPY.

The Cisco implementation of TCP header compression is an adaptation of a program developed by the University of California, Berkeley (UCB) as part of UCB's public domain version of the UNIX operating system. All rights reserved. Copyright © 1981, Regents of the University of California.

NOTWITHSTANDING ANY OTHER WARRANTY HEREIN, ALL DOCUMENT FILES AND SOFTWARE OF THESE SUPPLIERS ARE PROVIDED "AS IS" WITH ALL FAULTS. CISCO AND THE ABOVE-NAMED SUPPLIERS DISCLAIM ALL WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING, WITHOUT LIMITATION, THOSE OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT OR ARISING FROM A COURSE OF DEALING, USAGE, OR TRADE PRACTICE.

IN NO EVENT SHALL CISCO OR ITS SUPPLIERS BE LIABLE FOR ANY INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES, INCLUDING, WITHOUT LIMITATION, LOST PROFITS OR LOSS OR DAMAGE TO DATA ARISING OUT OF THE USE OR INABILITY TO USE THIS MANUAL, EVEN IF CISCO OR ITS SUPPLIERS HAVE BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

Cisco and the Cisco logo are trademarks or registered trademarks of Cisco and/or its affiliates in the U.S. and other countries. To view a list of Cisco trademarks, go to this URL: www.cisco.com/go/trademarks. Third-party trademarks mentioned are the property of their respective owners. The use of the word partner does not imply a partnership relationship between Cisco and any other company. (1110R)

Any Internet Protocol (IP) addresses and phone numbers used in this document are not intended to be actual addresses and phone numbers. Any examples, command display output, network topology diagrams, and other figures included in the document are shown for illustrative purposes only. Any use of actual IP addresses or phone numbers in illustrative content is unintentional and coincidental.

Process Automation Guide for Automation for SAP BOBJ Accelerator
© 2013 Cisco Systems, Inc. All rights reserved.

CONTENTS

New and Changed Information

New and changed information for the most recent releases of the Process Automation Guide for Automation for SAP BOBJ Accelerator is as follows:

Latest Release

Table 1 December 2013—Process Automation Guide for Automation for SAP BOBJ Accelerator 3.0 Changes

Feature	Location
Revised Text Part Number (-01 to -02).	Front cover, footers
Updated Trademark and Copyright date	Inside cover page
Rebranded the Product Name	All chapters

Previous Releases

Table 2 April 2012—Cisco TEO Process Automation Guide for Automation for SAP BOBJ Accelerator 2.3 Changes

Feature	Location
Revised Text Part Number (-01 to -02).	Front cover, footers
Updated Trademark and Copyright date	Inside cover page
Renamed appendix based on automation pack name	Appendix A, “Core Automation for SAP BW, BOBJ and In-Memory Computing Automation Pack Content”

Table 2 April 2012—Cisco TEO Process Automation Guide for Automation for SAP BOBJ Accelerator 2.3 Changes

Feature	Location
Updated “Defining an Activity” section	Appendix A, “Core Automation for SAP BW, BOBJ and In-Memory Computing Automation Pack Content”
Added new appendix	Appendix B, “Common Activities Automation Pack Content”

Preface

The SAP automation pack files are a collection of Cisco Process Orchestrator (CPO) processes (workflows) authored by subject matter experts that work out-of-the-box to automate best practices for a particular technology. The automation pack files also include configuration objects that are used in the processes, such as variables, categories, target groups and knowledge base articles.

The SAP Automation Pack for Automation for SAP BOBJ Accelerator contains the content used to automate monitoring Business Objects XI Data Services content. This guide is intended to provide information on importing and using the Automation for SAP BOBJ Accelerator automation pack in Cisco Process Orchestrator.

Organization

This guide includes the following sections:

Chapter 1	Importing Automation Packs	Provides instructions for installing the automation packs during or after the initial installation of Cisco Process Orchestrator.
Chapter 2	Understanding Automation Pack Objects	Provides information on the objects included in the Automation for SAP BOBJ Accelerator automation pack.
Chapter 3	Getting Started Using the Automation Pack	Provides information on configuring the objects in Cisco Process Orchestrator that are referenced by or included in the automation pack, such as runtime users, targets, task rules, target properties, and global variables.
Chapter 4	Managing Automation for SAP BOBJ Accelerator Processes	Provides information on using and managing the Automation for SAP BOBJ Accelerator processes.
Appendix A	Core Automation for SAP BW, BOBJ and In-Memory Computing Automation Pack Content	Provides information on the objects included in the Core Automation for SAP BW, BOBJ and In-Memory Computing automation pack.
Appendix B	Understanding the Common Activities Content	Provides information on the objects included in the Common Activities.

Conventions

This guide uses the following conventions:

Convention	Indication
bold font	Commands and keywords and user-entered text appear in **bold** font.
italic font	Document titles, new or emphasized terms, and arguments for which you supply values are in *italic* font.
[ ]	Elements in square brackets are optional.
{x | y | z }	Required alternative keywords are grouped in braces and separated by vertical bars.
[x | y | z]	Optional alternative keywords are grouped in brackets and separated by vertical bars.
string	A nonquoted set of characters. Do not use quotation marks around the string or the string will include the quotation marks.
`courier` font	Terminal sessions and information the system displays appear in `courier` font.
< >	Nonprinting characters such as passwords are in angle brackets.
[ ]	Default responses to system prompts are in square brackets.
!, #	An exclamation point (!) or a pound sign (#) at the beginning of a line of code indicates a comment line.

Note Means *reader take note*.

Tip Means *the following information will help you solve a problem*.

Caution Means *reader be careful*. In this situation, you might perform an action that could result in equipment damage or loss of data.

Timesaver Means *the described action saves time*. You can save time by performing the action described in the paragraph.

Warning **Means *reader be warned*. In this situation, you might perform an action that could result in bodily injury.**

Product Documentation

Documentation Formats

Documentation is provided in the following electronic formats:

- Adobe® Acrobat® PDF files
- Online help

You must have Adobe® Reader® installed to read the PDF files. Adobe Reader installation programs for common operating systems are available for free download from the Adobe Web site at www.adobe.com.

Guides and Release Notes

You can download the Cisco Process Orchestrator product documentation from Cisco.com. Release Notes can be found on Cisco.com and the product CD.

Online Help

Online help is available and can be accessed using the following methods:

- Click the **Help** button on any dialog in the application to open the help topic in a pane to the right of the dialog.
- In the Process Orchestrator console:
  - Click the **Help Pane**  tool on the toolbar to open the help topic in a pane to the right of the console results pane.
  - Click **Help** on the menu bar.

Open Source License Acknowledgements

Licenses and notices for open source software used in Cisco Process Orchestrator can be found in the Open Source License Acknowledgements found on Cisco.com. If you have any questions about the open source contained in this product, please email external-opensource-requests@cisco.com.

Obtaining Documentation and Submitting a Service Request

For information on obtaining documentation, submitting a service request, and gathering additional information, see the monthly *What's New in Cisco Product Documentation*, which also lists all new and revised Cisco technical documentation, at:

http://www.cisco.com/en/US/docs/general/whatsnew/whatsnew.html

Subscribe to the *What's New in Cisco Product Documentation* as a RSS feed and set content to be delivered directly to your desktop using a reader application. The RSS feeds are a free service and Cisco currently supports RSS Version 2.0.

CHAPTER 1

Importing Automation Packs

The *Cisco Process Orchestrator Installation Guide* provides instructions for installing Cisco Process Orchestrator (CPO) and the core components. During the initial installation of Cisco Process Orchestrator, you can choose to import the automation packs, or import them later from within the Console.

The SAP Automation Pack for Automation for SAP BOBJ Accelerator has a dependency on other automation packs so these automation packs must be installed prior to installing the Automation for SAP BOBJ Accelerator automation pack.

This chapter guides you through importing the automation packs. It contains the following sections:

Note It is recommended that you review the system requirements and prerequisites before importing automation packs. *See* the *Cisco Process Orchestrator Installation Guide*.

Accessing the Automation Pack Import Wizard

You use the Automation Pack Import Wizard to import the automation packs (tap files). You can either open the wizard immediately after installing Cisco Process Orchestrator or from within the Console.

Opening the Import Wizard After Running Setup Wizard

Step 1 After running the Setup wizard to install the product, ensure that the **Launch automation pack import wizard now** check box is checked before closing the wizard.

The Select Automation Packs dialog box displays the available automation packs. All automation packs are checked by default.

Step 2 Ensure that the following check boxes are checked and then click **OK** to launch the Automation Pack Import Wizard:

- Assessment for SAP BWA
- Automation for SAP BW and BWA
- Common Activities (*dependency*)
- Core Automation for SAP BW, BOBJ and In-Memory Computing (*dependency*)
- Automation for SAP BOBJ Accelerator

Note *See* the *Cisco Process Orchestrator Installation Guide* for instructions on importing and configuring the Core components for the product.

Proceed to Importing the Core Automation for SAP BW, BOBJ and In-Memory Computing.tap, page 1-4.

Opening the Import Wizard in Console

You can open the Automation Pack Import Wizard from within the Console after installing the product. When importing automation packs from within the Console, you must re-open the Automation Pack Import Wizard for each automation pack that you are importing.

Because the Automation for SAP BOBJ Accelerator automation pack has a dependency on the Core Automation for SAP BW, BOBJ and In-Memory Computing automation pack, you must import this automation pack first.

Step 1 In the Administration workspace on the Console, click **Automation Packs** in the navigation pane.

Step 2 Use one of the following methods to open the Automation Pack Import Wizard:

- In the navigation pane, right-click **Automation Packs** and choose **Import**.
- On the Menu bar, choose **Actions > Import**.

Step 3 On the Windows Open dialog box, select the **Core Automation for SAP BW, BOBJ and In-Memory Computing.tap** file and click **Open** to open the Automation Pack Import Wizard.

Proceed to Importing the Core Automation for SAP BW, BOBJ and In-Memory Computing.tap, page 1-4.

Importing the Core Automation for SAP BW, BOBJ and In-Memory Computing.tap

The Automation Pack Import Wizard guides you through importing the automation packs. If you opened the Automation Pack Import Wizard from the Setup Completed panel, the wizard will guide you through importing each automation pack.

Step 1 On the Automation Pack Import Wizard Welcome panel, click **Next**.

Note If you do not want to display the Welcome panel the next time the wizard is opened, check the **Do not show this page next time** check box.

Step 2 On the General Information panel, review the information about the automation pack.

Step 3 If you want to disable all the processes that are imported with the automation pack, check the **Disable all imported processes** check box.

Note If you disable the imported processes, you will need to manually enable the processes in the Console before they can execute.

Step 4 Click **Next** to continue.

The Data Extraction panel is used to specify the destination where the BWA Script files will be extracted. The script files are used in the direct TREX monitoring processes and must be copied to the TREX server.

Note If you uncheck the BWA Scripts check box, the files will not be extracted.

Step 5 Accept the default location or click the **Browse** ... tool to specify a different location to extract the files and then click **Next**.

The Review Prerequisites panel displays the prerequisites for the automation pack being imported. The green check mark indicates that the prerequisite was found on the computer.

The red X indicates that the prerequisite was not found on the computer. When this occurs, the import process is stopped and cannot continue until all prerequisites have been met.

If all prerequisites are passed, the wizard automatically continues to the next panel.

Note If you opened the Automation Pack Import Wizard from the Setup Completed panel, the wizard displays the General Information panel for the next automation pack.

Step 6 CAfter the objects have been imported, review the information on the Completing the Automation Pack Import Wizard panel to verify that it is correct and then click **Close** to exit the wizard.

Importing the Common Activities.tap

If you are importing the automation packs from within the Console, you must re-open the Automation Pack Import Wizard to import the Common Activities automation pack.

Step 1 Use one of the following methods to open the Import Automation Pack Wizard:

- In the navigation pane, right-click **Automation Packs** and choose **Import**.
- On the Menu bar, choose **Actions > Import**.

Step 2 On the Windows Open dialog box, select the **Common Activities.tap** file and click **Open** to launch the Automation Pack Import Wizard.

Step 3 On the Welcome panel, click **Next**.

Step 4 On the General Information panel, review the information about the automation pack.

Step 5 If you want to disable all the processes that are imported with the automation pack, check the **Disable all imported processes** check box.

Note If you disable the imported processes, you will need to manually enable the processes in the Console before they can execute.

Step 6 Click **Next** to continue.

If all prerequisites are passed, the wizard automatically continues to the next panel.

Step 7 After the objects have been imported, review the information on the Completing the Automation Pack Import Wizard panel to verify that it is correct and then click **Close** to exit the wizard.

Importing the Automation for SAP BOBJ Accelerator.tap

If you are importing the automation packs from within the Console, you must re-open the Automation Pack Import Wizard to import the Automation for SAP BOBJ Accelerator automation pack.

Step 1 Use one of the following methods to open the Import Automation Pack Wizard:

- In the navigation pane, right-click **Automation Packs** and choose **Import**.
- On the Menu bar, choose **Actions > Import**.

Step 2 On the Windows Open dialog box, select the **Automation for SAP BOBJ Accelerator.tap** file and click **Open** to launch the Automation Pack Import Wizard.

Step 3 On the Welcome panel, click **Next**.

Step 4 On the General Information panel, review the information about the automation pack.

Step 5 If you want to disable all the processes that are imported with the automation pack, check the **Disable all imported processes** check box.

Note If you disable all the imported processes, you will need to manually enable the processes in the Console before they can execute.

Step 6 Click **Next** to continue.

If all prerequisites are passed, the wizard automatically continues to the next panel.

Step 7 After the objects have been imported, review the information on the Completing the Automation Pack Import Wizard panel to verify that it is correct and then click **Close** to exit the wizard.

Installing TREX Script Files

After you have completed importing the automation packs, you must install the script files to the TREX server. These script files are used in the direct TREX monitoring and corrective actions processes.

Note SAP BWA TREX Scripting is supported only on SAP BWA v7.20, Release 8 or later.

The script files are imported to the following location on the Process Orchestrator server by default:

Microsoft Windows Server 2003:

C:\Documents and Settings\local_user\My Documents\Cisco\Cisco Process Orchestrator\Extracted Data\BWA Scripts

Microsoft Windows Server 2008:

C:\Users\local_user\Documents\Cisco\Cisco Process Orchestrator\Extracted Data\BWA Scripts

Copy the BWA Scripts folder to the BWA host filesystem and run the *install.sh* command from the Bash shell to install the script files.

Note Both the *install.sh* and *cisco_teo_python.tar* files need to be copied to the server prior to running the *install.sh* command.

The script files are copied to the **$DIR_INSTANCE\exe\python_support** directory.

CHAPTER 2

Understanding Automation Pack Objects

The Automation for SAP BOBJ Accelerator automation packs contain the content used to automate monitoring SAP BWA and Business Objects XI Data Services content. This chapter provides information on the objects included in the Automation for SAP BOBJ Accelerator automation pack. It contains the following sections:

Accessing Automation Pack Properties

You can access the automation pack properties from the Administration—Automation Packs view in the console. The automation pack properties dialog box displays general information about the content provided by the automation pack, version number, publish date, the provided objects, the dependencies of the automation pack, and the history of changes made to the automation pack.

Step 1 On the Administration workspace, click **Automation Packs** in the navigation pane to display the installed automation packs in the Automation Packs pane.

Information about the automation packs display in the following columns:

Column	Description
Company Name	Name of the company that released the automation pack.
Publish Date	Date the automation pack was created or exported to a file.
Version	Version number of the automation pack.
Display Name	Name of the automation pack.
ID	Identification number of the automation pack.
Import Date	Date the automation pack was imported into the product.
Licensed	Indicates whether the automation is a licensed product in Process Orchestrator.
Description	Text description of the automation pack.

Step 2 Select the automation pack in the Automation Packs pane, right-click and choose **Properties**.

Step 3 On the Properties dialog box, select the appropriate tab to view the automation pack properties:

Tab	Description
General	Displays general information about the automation pack.
Objects	Display a list of objects contained in the automation pack.
Dependencies	Display a list of automation packs and adapters referenced by the objects in the automation pack.
History	Displays when the automation pack was created or modified, and audit log entries that are relevant to the automation pack.

Step 4 Click **Close** to close the dialog box.

Viewing Automation Pack Content and Dependencies

Use the automation pack Properties dialog box to view the objects contained in the automation packs and the dependencies associated with the automation pack.

Note *See* Appendix A, "Core Automation for SAP BW, BOBJ and In-Memory Computing Automation Pack Content"for information on the content included in the dependent automation pack.

See Appendix B, "Understanding the Common Activities Content"for information on the content included in the dependent automation pack.

Viewing Automation Pack Content

Step 1 On the Administration—Automation Packs view, select **Automation for SAP BOBJ Accelerator**, right-click and choose **Properties**.

Step 2 On the Automation for SAP BOBJ Accelerator Properties dialog box, click the **Objects** tab.

Step 3 On the Objects tab, review the information about the objects provided by the Automation for SAP BOBJ Accelerator automation pack.

Columns	Description
Display Name	Name of the object (processes, global variables, knowledge base).
Type	Object type.
Action Required	Action required to successfully import or export the objects.
Description	Text description of the object.
Version	Object version.

Automation for SAP BOBJ Accelerator Processes

The following table contains the processes that are imported by the Automation for SAP BOBJ Accelerator automation pack.

Process Name	Description
BOBJ Data Services Availability	This process tests the web services connection to the BOBJ XI Data Services server and alerts if the server is unavailable.
BOBJ Data Services Job Duration Monitoring	This process monitors the duration of selected data services jobs.
BOBJ Data Services Job Error Monitoring	This process monitors all or selected (global variable wildcard) data services jobs for warning or error status and returns error, monitor, and trace logs. An approval request with corrective action to restart job allows the user to restart failed jobs.
BOBJ Resolve Long Running Background Jobs	This process is triggered by an incident from the BOBJ Data Services Job Duration Monitoring process; it attempts to resolve the incident by stopping the background job.
BWA TREX Alert Monitoring	This process monitors BWA alerts.
BWA TREX Automate Actions	This process automates the execution of recommended BWA actions.
BWA TREX Checklist	This process is a monitoring checklist for BWA TREX.
BWA TREX Execute Index Query	This process monitors the execution response time of custom defined TREX against the TREX index schema.
BWA TREX Monitor Load Statistics	This process monitors BWA TREX load statistics.
BWA TREX Status Check	This process monitors BWA TREX status.
Search TREX Trace Logs	The process executes a search of the TREX trace logs and returns the results and response time.

Automation for SAP BOBJ Accelerator Target Properties

The following table contains the target properties that are imported by the Automation for SAP BOBJ Accelerator automation pack.The target properties that do not have a value defined must be configured by the user prior to using them in processes.

Target Property Name	Description	Value Defined?
BOBJ DS Database Target	This property is used to create a PO database target for each BOBJ DS and add references to them in this property.	No
BOBJ DS Job Duration Monitoring	This property contains a list of BOBJ Data Services jobs to monitor and the maximum duration (in seconds) the jobs took to complete. **Note** The Job Name column does not accept wildcards and is case sensitive.	No
BOBJ DS Jobs to Monitor for Errors	This property monitors the BOBJ Data Services jobs (wildcard) for errors. Enter * in the BOBJ Server column if the same job is to be monitored in all servers.	No
BOBJ DS Repository	This property is used to enter the name of the BOBJ repository to be used in the Web Services calls.	No
BOBJ DS Web Target	This property is used to create a PO web target for each BOBJ DS and add references to them in this property.	No
BOBJ DS Web Service Account	This property contains the name of the account to be used to connect to the BOBJ Web Service. The user account and password are entered as WSDL parameter.	No
BOBJ DS Web Service Password	This property contains the password to be used to connect to the BOBJ Web Service.	No
BWA TREX Alert Monitoring	This property is used for BWA alert monitoring.	No
BWA.TREX.Alert Monitoring – Actions	This property is used for BWA alert monitoring problem resolution.	No

Automation for SAP BOBJ Accelerator Task Rules

The following task rules are imported with the Automation for SAP BOBJ Accelerator automation pack:

Target Group Name	Description
BOBJ Default Incident Assignment	Default assignment for BOBJ incidents.

Automation for SAP BOBJ Accelerator Target Groups

The following target groups are imported with the Automation for SAP BOBJ Accelerator automation pack:

Target Group Name	Description
BOBJ DS Targets	Contains all BOBJ Data Services targets.

Viewing Automation Pack Dependencies

Step 1 On the Administration—Automation Packs view, select **Automation for SAP BOBJ Accelerator**, right-click and choose **Properties**.

Step 2 On the Automation for SAP BOBJ Accelerator Properties dialog box, click the **Dependencies** tab.

Step 3 Review the list of automation packs and adapters referenced by the Automation for SAP BOBJ Accelerator automation pack.

Object Type	Dependency
Automation Packs	• Core • Core Automation for SAP BW, BOBJ and In-Memory Computing • Common Activities
Adapters	• Core Functions Adapter • Terminal Adapter • Oracle Database Adapter • Web Service Adapter • Microsoft SQL Server Database Adapter • IBM DB2 Database Adapter

Step 4 Click **Close** to close the dialog box.

CHAPTER 3

Getting Started Using the Automation Pack

Before you begin using the content that ships with the automation pack, you must create the objects in Process Orchestrator that are referenced in the processes. These objects include targets, runtime users, task rules for assignments and notifications, and target properties.

This chapter provides basic information on defining the objects. It includes the following sections:

For additional information about the objects discussed in this chapter, refer to the following documentation:

Document	Description
Cisco Process Orchestrator User Guide	General information about Core product features.
Cisco Process Orchestrator Online Help	Information about the objects specific to the Web Services Adapter (runtime user, target, and activities).

Creating a Runtime User

The Runtime User is the account that will be used to connect to the Web or Database target that is referenced in the BOBJ DS target properties.

Note For additional information on creating and managing runtime users, *see* the *Cisco Process Orchestrator User Guide*.

Step 1 In the Definitions workspace, right-click **Runtime Users** and choose **New > Runtime User** to open the New Runtime User Properties dialog box.

Step 2 On the General tab, specify the following information:

Note The **Required Value** icon displayed on a tab or page indicates that the field is required and is either missing a value or contains an invalid value.

Field	Description
Display name	Name for the user account. This field can populated with the information specified in the Domain and User name text fields, or you can enter a different name to display for the user account.
User name	User name assigned to the user account that connects to the Remedy Server target.
Password	Check the check box and enter the password assigned to the user account. **Note** No password verification is done for the simple (generic) runtime user.
Description	A description of the user account.

Note The Used By tab displays objects used by the runtime user and will remain blank until used by an object.

The History tab displays the history of actions taken against the runtime user and will remain blank until after the initial creation.

Step 3 Click **OK** to close the dialog box.

Creating and Configuring Targets

The Automation for SAP BOBJ Accelerator automation pack includes a BOBJ DS Target Template that can be used to create service targets for the BOBJ DS environment. The service target will hold the reference to all of the connections to BOBJ DS that are needed for automation. Once the service target is created, you then create the Web and Database targets, and reference them in the BOBJ DS service target using the Target Properties feature.

In addition, you must create a BWA Unix/Linux target if you want to use the BWA TREX atomic processes that are included in the Core Automation for SAP BW, BOBJ and In-Memory Computing automation pack.

This section guides you through creating the targets and then configuring the target properties.

Creating BOBJ DS Target

Use the BOBJ DS Target Template as a basis for creating a BOBJ DS service target specific to your environment. You must first create a copy of the template target and then rename it.

Step 1 On the Definitions workspace, right-click **Targets** and choose **New > BOBJ DS** to open the BOBJ DS Properties dialog box.

Step 2 In the Display name text field, enter a name for the BOBJ DS target.

Step 3 Click **OK** to save the target and close the dialog box.

Step 4 In the Targets pane, right-click the newly created BOBJ DS target and choose **Enable** to enable the target.

Creating Web Target

To monitor the BOBJ DS server, you need to go to a Web target and then reference it in the BOBJ DS service target properties.

Use the New Web Target Properties dialog box to create the Web target.

Step 1 On the Definitions workspace, right-click **Targets** and choose **New > Web Target** to open the New Web Target Properties dialog box.

Step 2 On the General tab, enter the information in the following text fields:

Field	Description
Display name	Name for the target. This is the name that will display in the Targets pane.
Type	*Display only.* Type of target.
Owner	User name of the owner of the target. This is typically the person who created the target.
Status	*Display only.* Status of the target.
Status information	*Display only.* Detailed information regarding the target status.
Organization	Name of the company that supports the target.
Description	Optional field to enter a description for the target.

Step 3 Click the **Connection** tab.

Note The **Required Value** icon displayed on a tab or page indicates that the field is required and is either missing a value or contains an invalid value.

Step 4 On the Connection tab, specify the following connection information for the target:

Field	Description
Base Url	Enter the appropriate target URL to use as a base for the execution. **For example:** `http://doc-bobj-xidev.domain.local:8080/BOE/CMC`

Field	Description
Runtime User	Click one of the following radio buttons to indicate which runtime user account to use to connect to the target: • No runtime user—Select this radio button to indicate that no runtime user is required to execute a process or activity against the target. • Default runtime user—Select this radio button and then choose the default runtime user account that contains the credentials to connect to the target. **Note** To view the properties for the selected runtime user, click the **Properties** tool. To create a new runtime user account, click **New** and then choose **Runtime User** or **Windows User**.
Ignore certificate errors	Check or uncheck the check box to indicate whether the target should ignore any certificate errors on the specified web site. If the check box is checked, all errors will be ignored.

Step 5 Click **OK** to close the dialog box and complete the procedure.

The Web target displays in the Targets pane.

Creating BOBJ DS Database Target

Use the New Database Properties dialog box to create the BOBJ DS Database target.

Note The screens in this section will differ depending on the type of database you are creating. See the appropriate *Cisco Process Orchestrator Online Help* for additional information on creating database targets.

Step 1 On the Definitions workspace, right-click **Targets** and choose **New > [Database Type]** to open the New Database Properties dialog box.

Step 2 On the General tab, specify the following information:

Field	Description
Display name	Enter a name for the Database target. This is the name that will display in the Targets pane.
Type	*Display only.* Type of target.
Owner	User name of the owner of the target. This is typically the person who created the target. Click the **Browse** tool to change the owner.

Field	Description
Status	*Display only.* Status of the target.
Status information	*Display only.* Detailed information regarding the target status.
Organization	Name of the company or business unit that supports the target.
Description	Optional field to enter a description for the target.
Enabled	Check or uncheck the check box to enable or disable the target. The check box is checked by default.

Step 3 Click the **Connection** tab.

Note The **Required Value** icon displayed on a tab or page indicates that the field is required and is either missing a value or contains an invalid value.

Step 4 Specify the connection information for connecting to the database:

Field	Description
Server	Name or the IP address for the database server.
Database name	Name of the database.
Database owner	Principal owner of the database.
Default timeout for activities (seconds)	Length of time to wait before a command is complete.
Default runtime user	Choose the user account that contains the credentials to connect to the target from the drop-down list. • To view the properties for the selected runtime user, click the **Properties** tool. • To create a new Runtime User, click **New > Runtime User**.
Connection string	Check the check box to enter the connection string for connecting to the database.

Step 5 Click **OK** to close the dialog box.

The database target displays in the Targets pane.

Creating BWA Unix/Linux Target

If you want to run the BWA TREX atomic processes that are included in the Core Automation for SAP BW, BOBJ and In-Memory Computing automation pack, you must create the BWA Unix/Linux System target.

Note For additional information on creating and managing Unix/Linux System targets, *see* the *Cisco Process Orchestrator Online Help*.

Step 1 On the Definitions workspace, right-click **Targets** and choose **New > Unix/Linux System** to open the New Unix/Linux System Properties dialog box.

Step 2 On the General tab, specify the following information:

Field	Description
Display name	Enter a name for the Database target. This is the name that will display in the Targets pane.
Type	*Display only.* Type of target.
Owner	User name of the owner of the target. This is typically the person who created the target. Click the **Browse** tool to change the owner.
Status	*Display only.* Status of the target.
Status information	*Display only.* Detailed information regarding the target status.
Organization	Name of the company or business unit that supports the target.
Description	Optional field to enter a description for the target.
Enabled	Check or uncheck the check box to enable or disable the target. The check box is checked by default.

Step 3 Click the **Connection** tab.

Note The **Required Value** icon displayed on a tab or page indicates that the field is required and is either missing a value or contains an invalid value.

Step 4 On the Connection tab, specify the connection information to connect to the Unix/Linux server:

Field	Description
Host name	Host name or IP address of server.
Port	Port number used to access the server.

Field	Description
Prompt prefix	Enter the command prompt prefix that will be used by the device type configurations and expects when issuing commands and connecting to the device. Adding a regex character, such as `$`, `>`, and `#`, at the end of a prompt in the Prompt Prefix field invalidates the command prompt prefix. Regular expressions should be placed in the appropriate Terminal Interaction Pattern fields. See Step 9 to customize the interaction patterns on the Advanced tab. **Example:** Unix system prompt prefix is defined by the user default login script. it usually contains username, node name or current directory name. If the user does not define anything, the prompt prefix is empty. If you connect to the terminal, and the prompt is `jsmith@TBD-SH03-IT ~$`, enter the regular expression that will match the entire prefix (before #) using any of the following expressions: • .*TBD-SH03-IT.* • \[\w+@TBD-SH03-IT.*\]
Default runtime user	Choose the default runtime user account that contains the credentials to connect to the target from the drop-down list. To view the properties for the selected runtime user, click the **Properties** tool. To create a new runtime user account, click **New > [Runtime User Type]** to create a new Runtime User account.
Enable code injection prevention	Check this check box to enable the protection which prevents code that is injected to exploit the security vulnerability.
Maximum allowed concurrent sessions	Enter the maximum allowed open sessions to run concurrently (default value is 3). If the user tries to open new session via Open Session activity, it will wait in a queue until there is a session available to open.

Step 5 Click the **Authentication** tab to indicate whether the target should allow authentication based on the host system.

Users can define default host public and private keys on the Terminal Adapter settings. This tab allows users to select a specific private key for the target. The private key will be used for host-based authentication if a target does not specify its own keys.

Step 6 On the Authentication tab, specify the following information:

Field	Description
Use host-based authentication	Check this check box to indicate that host-based authentication will be used with this target. If this check box is unchecked, then host-based authentication will not be used.
Use the default host keys	This check box becomes enabled after the *Use host-based authentication* check box is checked. Check this check box to indicate the host keys defined on the Terminal Adapter property page will be used for this target. If this check box is unchecked, then the user will need to load the appropriate private key to be used to validate this target.
Private key	This box becomes enabled only if the *Use the default host keys* check box is unchecked. To the right of the *display-only* field, click the **Browse** tool to launch the Load Private Key dialog box and select a private key.

Step 7 Click the **Advanced** tab.

Step 8 On the Advanced tab, configure the interaction patterns for the target.

Field	Description
Use patterns common for the following device	Click the radio button *one* of the pre-defined device targets from the drop-down list. • Cisco IOS Device—Select this option to use the default pattern values used by the device during the completion of a session command. • Unix/Linux System—Select this option to use the default pattern values indicated for a Unix or Linux system during the completion of a session command. To view the properties for the selected device, click the **Properties** tool. To create a new device, click **New > Expect Template** to create a new expect template.
Customize patterns for this target	Select this radio button to enable the display-only sections in order to customize the default values for the selected device type.

Step 9 To customize the interaction patterns, complete the following fields, as necessary.

Note Click the **Reference** tool to select a defined variable or reference an object within the process from the Insert Variable Reference dialog box.

Click the **Expression** tool to add a regular expression in the field.

Field	Description
Prompt	Enter the system prompt pattern in regular expression.
Error	Enter the error message pattern in regular expression.
Admin prompt	Enter the admin prompt pattern in regular expression.

Step 10 To modify the list of login expects, click the following buttons, as necessary.

Button	Description
Add	Click **Add** to launch the Expect dialog box to configure the expect parameters to be added to the list.
Edit	Highlight the appropriate item and click **Remove** to remove the item from the list.
Remove	Highlight the appropriate item and click **Edit** to launch the Expect dialog box to modify the expect parameters in the list.
Up and Down Arrows	Highlight the appropriate item and then click the up or down arrow to move the item up or down in the list.

Step 11 To elevate the privilege command for login expects:

Field	Description
Elevating Privilege command	Check this check box and in the text field, enter the command or select the reference variable containing the command to elevate the privilege for the expect.
Elevating Privilege expects	Use this section to view and/or define the login expect sequence for the elevating privilege command expects.

Step 12 Click **OK** to close the dialog box.

The new target displays in the list of targets on the Definitions—Targets view.

Configuring References to Targets

You must now configure the BOBJ DS target to reference the Web target and Database target. Use the Target Properties feature to reference the targets.

Creating Reference to BOBJ DS Web Target

Step 1 On the Definitions workspace, click **Targets**.

Step 2 Right-click the **BOBJ DS** target and choose **Properties**.

Step 3 On the BOBJ DS Service Target Properties dialog box, click the **Properties** tab.

Step 4 Select the **BOBJ DS Web Target** property and click **Edit**.

Step 5 On the Target Property Value dialog box, click the **Browse** tool next to the Value field.

Step 6 On the Select Target dialog box, select the **BOBJ DS Web** target and click **OK**.

Step 7 Click **OK** to close the Target Property Value dialog box.

Step 8 If you have completed adding target references, click **OK** to close the BOBJ DS Target Properties dialog box.

Creating Reference to BOBJ DS Database Target

Step 1 On the Definitions workspace, click **Targets**.

Step 2 Right-click the **BOBJ DS** target and choose **Properties**.

Step 3 On the BOBJ DS Service Target Properties dialog box, click the **Properties** tab.

Step 4 Select the **BOBJ DS Database Target** property and click **Edit**.

Step 5 On the Target Property Value dialog box, click the **Browse** tool next to the Value field.

Step 6 On the Select Target dialog box, select the **Web** target and click **OK**.

Step 7 Click **OK** to close the Target Property Value dialog box.

Step 8 If you have completed adding target references, click **OK** to close the BOBJ DS Target Properties dialog box.

Managing Target Properties

The BOBJ Accelerator processes use target properties to specify the values to be used for certain target properties. This section provides information on configuring the target properties that ship with the Automation for SAP BOBJ Accelerator automation pack.

Accessing Target Properties

The target properties that ship with the Automation for SAP BOBJ Accelerator automation pack can be accessed from the Definitions—Target Properties view.

Step 1 On the Console, select the Definitions workspace and click **Target Properties** in the navigation pane. By default, all the properties display in the Target Properties pane.

The following information about the target properties displays by default:

Column	Description
Display Name	Name of the target property.
Description	Text description of the target property.
Value	Value assigned to the target property.
Data Type	Type of value being used for the target property (Boolean, Encrypted String, Identity, Numeric, String, Table).
Automation Pack	Name of the automation pack that provides the target property.
Customizable	Indicates the customization setting for the target property in the automation pack.
Target Types	Indicates the targets associated with the target property.
Last Modified Time	Date and time the variable was last modified.
Last Modified By	Name of the user who last modified the target property.
Id	Unique ID of the target property.
Owner	User name of the owner of the target property. This is typically the person who created the target property.
Created Time	Date and time the target property was created.
Created By	User name of the person who created the target property.

Step 2 Click the **Filter by** link and choose **Automation Pack > Automation for SAP BOBJ Accelerator** to filter for only the target properties that ship with the specific automation pack.

Configuring Target Properties

You use the Target Properties dialog box to view or modify the target property. You access the properties from the Definitions—Target Properties view.

The following section provides information on configuring target properties that ship with the Automation for SAP BOBJ Accelerator automation pack.

Step 1 On the Target Properties pane, right-click **[Target Property]** and choose **Properties**.

Step 2 On the General tab, review the information in the Description field to determine the values that need to be specified for the target property.

Step 3 Click the **Value** tab to view or modify the default value for all targets.

Note The tab in the second position will depend on the variable type. *See* the *Cisco Process Orchestrator User Guide* for instructions on configuring the different types of target properties.

Step 4 Click in the cell to specify the default value or change the default value for all targets.

Step 5 Click the **Target Values** tab to specify the targets that should be used to override the default value.

Step 6 Click **New** to add a new target override.

Step 7 On the Target Property Value dialog box, click **Add** to choose the target to be used for the override value. This is the target that will be monitored for a value other than the default value.

Step 8 Select the target and click **OK**.

Step 9 On the Target Property Value dialog box, enter the information in the Value area to be used for the specified target and then click **OK**.

The target override displays on the Target Values tab.

Step 10 Click **OK** to close the dialog box and save your changes.

Note The Target Types tab is only available if you have explicit rights to the object. *See* the *Cisco Process Orchestrator User Guide* for information on using this property page.

Using Task Rules for Assignments and Notifications

Task rules are used to manage task assignments and notifications for tasks, such as incidents and alerts, that are generated from processes. The Core Automation for SAP BW, BOBJ and In-Memory Computing automation pack ships with a default assignment task rule that must be configured if you want a specific person or group to receive assignments for BOBJ incidents.

Note If you do not want to create task rules for email notifications, you can use the default notification based on assignment processes that ship with the Core automation pack. These processes are disabled by default and must be enabled if you want notifications to be sent (*see* Enabling Notification Based on Assignment Processes, page 3-23).

Accessing Task Rules View

Use the Definitions—Task Rules workspace to access task rules.

Step 1 On the Console, select the Definitions workspace and click **Task Rules** in the navigation pane. By default, all the rules display in the Task Rules pane.

Step 2 Click the **Filter by** link and choose **Automation Pack > [Automation Pack Name]** to filter for only the task rules that ship with a specific automation pack.

The following information about the task rules displays by default:

Column	Description
Display Name	The name assigned to the task rule.
Enabled	Indicates whether the task rule is enabled (*True*) or disabled (*False*). A disabled task rule is unavailable for execution.
Type	Type of task.
Owner	User name of the person or group who assigned the task rule.
Last Modified Time	The date and time the task rule was last modified.
Last Modified By	The object or user name that last modified the task rule.
Id	Unique ID of the task rule.
Description	Brief description of the task rule.
Type Description	Brief overview of the task rule type.
Created Time	Time at which the task rule was created.
Created Date	Date the task rule was created.
Automation Pack	Name of the automation pack associated with the task rule.

Configuring Task Rules

Use the Task Rules view to configure the task rule that ships with the Core Automation for SAP BW, BOBJ and In-Memory Computing automation pack.

BOBJ Default Incident Assignment

The BOBJ Default Incident Assignment task rules is used to specify the default user or group who will be assigned all BOBJ-related incidents unless otherwise specified in task rules.

Step 1 In the Definitions workspace, click **Task Rules** in the navigation pane to display the task rules in the results pane.

Step 2 Click the **Filter by** link and choose **Automation Pack**, and then choose **Core Automation for SAP BW, BOBJ and In-Memory Computing** from the drop-down list to display the task rules that ship with the automation pack.

Step 3 Right-click the **BOBJ Default Incident Assignment** task rule and choose **Properties** to open the BOBJ Default Incident Assignment Properties dialog box.

Step 4 Click the **Assign** tab to specify the user or group that should receive assignments for incidents and alerts generated by the processes.

Step 5 On the Assign tab, click **Add** to open the Select Assignee to Add dialog box.

Step 6 On the Select Assignee to Add dialog box, specify the assignees using one of the following methods:

- Click the **Reference** tool to select the appropriate variable reference containing the assignee or list of assignees from the Insert Variable Reference dialog box.
- Click the **Browse** tool to launch the Select User or Group dialog box to add user to the list of assignees.

Step 7 Click **OK** to add the assignee to the task rule.

Step 8 When you have completed adding assignees to the task rule, click **OK** to close the dialog box.

Creating Task Rules

Use the Task Rules view to create a new task rule. The procedure is the same for all types of task rules with the exception of the task-specific tab (Assign, Notify, Update) for the type of task rule you are creating.

Note Only users with administrative rights can create task rules in Process Orchestrator.

You can create the following types of task rules:

Task Rules	Description
Assign Task Rule	Assigns users to a task.
Notify Task Rule	Notifies users that a task has been created.
Update Task Rule	Specifies the properties to be updated in a task..

Step 1 In the Definitions workspace, right-click **Task Rules** and choose **New > [Task Rule Type]** to open the New Rule Properties dialog box.

Step 2 On the General tab, enter the following information:

Field	Description
Display Name	Name of the task.
Type	*Display only.* Shows the type of object.
Trigger	*Display only.* Type of trigger associated with the task rule.
Owner	User name of the owner of the task rule. This is typically the person who created the task rule. Click the **Browse** tool to launch the Select User or Group dialog box to change the owner.
Description	A brief description of the task rule.
Enabled	The check box is checked by default to indicate that the task rule is available for execution. Uncheck the check box to disable the task rule. If the check box is unchecked, the task rule is disabled and will be unavailable for execution.

Step 3 Click the **Task Types** tab to specify the types of tasks to be executed by the rule.

Step 4 Check the check box for the type of task that will execute the rule.

Task Type	Description
Alert	Alerts reflect potential problems that a user may want to investigate and possibly diagnose the problem.
Approval Request	Specifies the message and choices for the assignee who is approving the task.
Guided Operation	Details the steps a user takes to complete an assigned task.

Task Type	Description
Incident	Task requires an operator to take action in order to resolve an issue.
Input Request	Task requires input from an individual or group.
Review	Task assigns a document for review.

Step 5 Click the **Conditions** tab to specify the conditions of when the task rule action is to be taken based on an evaluation of the defined conditions.

Note The **Required Value** icon displayed on a tab or page indicates that the field is required and is either missing a value or contains an invalid value.

Step 6 On the Conditions tab, define the conditions that must be met for the rule to execute.

Defining a Basic Condition:

a. On the Basic page, click **New** to add a new property for the condition that must be met.

b. In the Property text field, click the **Reference** tool to choose a defined variable or reference an object on the Insert Variable Reference dialog box.

c. Choose the condition expression from the drop-down list.

d. Enter the condition description in the text box or click the **Reference** tool to choose a defined variable or reference an object on the Insert Variable Reference dialog box.

e. Click **New** to define additional properties, if necessary.

Defining an Advanced Condition:

a. Click the **Advanced** tab to define a specific type of condition (Compound, Prior Process Instance, Time, or Variable).

b. Click the link to modify the option for the condition equation.

Option	Description
AND condition (all conditions must be met)	Click this option if an action is to be taken only when all conditions in the list are *true*.
OR condition (one condition must be met)	Click this option if an action is to be taken when one condition in the list is *true*.

c. Click **New** and choose the type of condition from the drop-down list.

d. Specify the relevant information for the type of condition selected.

Note Click New. Click the **Reference** tool to choose a defined variable or reference an object on the Insert Variable Reference dialog box.

e. Click **New** to define additional properties, if necessary.

Step 7 Click the task rule specific tab (**Assign**, **Notify**, or **Update**) and specify the relevant information for the specific type of rule.

Assign Task Rule

If you are creating an Assign Task Rule, the Assign tab displays on the New Rule Properties dialog box.

On the Assign tab, specify the assignees for task rule.

Field	Description
Add	Click this button to launch the Select Assignee to Add dialog box to specify the assignees. On the Select Assignee to Add dialog box, use one of the following methods to specify the assignee: • Click the **Reference** tool to select the appropriate variable reference containing the assignee or list of assignees from the Insert Variable Reference dialog box. • Click the **Browse** tool to launch the Select User or Group dialog box and add user to the list of assignees.
Edit	Select the appropriate assignee in the list and click this button to view or modify the assignee of the task rule.
Remove	Select the appropriate assignee and click this button to remove the assignee from the list.
Remove All	Click this button to remove all specified assignees from the list.

Notify Task Rule

If you are creating a Notify Task Rule, the Notify tab displays on the New Rule Properties dialog box.

On the Notify tab, specify the recipients of the notification that the task rule has executed. You can add individual recipients or include a notification recipient list.

Field	Description
Add notification recipients	Displays list of users to be notified by the task rule. • Add—Click this button to launch the Select Notification Recipient to Add dialog box to specify the recipients. On the dialog box, enter the email address for the recipient or click the **Reference** tool to select the appropriate variable reference containing the recipient or list of recipients from the Insert Variable Reference dialog box and then click **OK**. • Edit—Select the appropriate recipient in the list and click this button to view or modify the recipient of the task rule. • Remove—Select the appropriate recipient in the list and click this button to remove the recipient from the list. • Remove All—Click this button to remove all specified recipients from the list.
Add notification recipient list	Click the **Reference** tool to select the appropriate variable reference containing list of recipients from the Insert Variable Reference dialog box.

Update Task Rule

If you are creating an Update Task Rule, the Update tab displays on the New Rule Properties dialog box.

On the Update tab, specify the properties to be updated after the task rule has executed.

Field	Description
Add	Click this button to add a new property to the Properties to update area.
Remove	Click this button to remove the last property added to the Properties to update area.
Property	From the Property drop-down list, choose the item to update within the task. The properties displayed depend on the selected item.
List action	Choose the appropriate item from the drop-down list to determine which action to take with the selected property: • Add Item—Adds item to task. • Remove item—Removes item from task. • Clear—Removes property value from task.
Value	Enter new value for the property.

Step 8 Click **OK** to save the task rule definition and close the dialog box.

Managing Task Rule Definitions

This section provides instructions on modifying task rules in the Definitions—Task Rule view. Only users with administrative rights can modify task rules in Process Orchestrator.

Note For additional information on managing task rules, see the *Cisco Process Orchestrator User Guide*.

Enabling a Task Rule

A task rule is enabled by default. If a task rule is manually disabled, the task rule must be enabled before it is available for execution.

On the Definitions—Task Rules view, select the task rule and then use one of the following methods to enable it:

- On the Results pane, right-click and choose **Enable**.

  -or-

- On the Details pane, select **Click here to enable**.

The Enabled column on the Results pane changes to True. If necessary, click the **Refresh** tool to update the view.

Disabling a Task Rule

Disabling a task rule prevents the item from being available for execution. The disabled task rule is not removed from the list of task rules on the Definitions—Task Rules Results pane.

On the Definitions—Task Rule view, select the task rule and then use one of the following methods to disable it:

- On the Results pane, right-click and choose **Disable**.

  -or-

- On the Details pane, select **Click here to disable**.

The Enabled column on the results pane changes to False. If necessary, click the **Refresh** tool to update the view.

Creating a Copy of a Task Rule

The copy option is used when the user wants to leverage an existing task rule to define a new task rule using existing properties.

Step 1 On the Definitions—Task Rules view, select the appropriate task rule, right-click and choose **Copy**.

Step 2 On the Results pane, right-click and choose **Paste**.

A copy of the defined task rule is pasted onto the Results pane.

Step 3 To rename the copied task rule or other properties, right-click and choose **Properties**.

Step 4 Modify the task rule name, as appropriate, and click **OK** to close the dialog box.

Sorting Task Rules

The task rules are executed according to the order they are listed on the Definitions—Task Rules view. You should sort the task rules based on the order in which you want them to execute.

Note All task rules will execute even if there is more than one task rule assigned for the same condition. For example, if you have two assignment rules for the same incident, both rules will be executed in the order listed in the Task Rules view.

On the Definitions—Task Rules view, select the task rule and use one of the following methods to move it to the desired position in the list:

- Drag and drop the task rule into the appropriate position in the list.
- On the Actions toolbar, click **Move Up** or **Move Down**.
- Click the Actions menu and choose **Move Up** or **Move Down**.
- Right-click and choose **Move Up** or **Move Down**.

The list of task rules are sorted according to the selected action.

Deleting a Task Rule

Use the Definitions—Task Rules view to delete task rules that are no longer used.

Step 1 On the Definitions—Task Rules view, select the task rule, right-click and choose **Delete**.

Step 2 On the Confirm Delete dialog box, click **Yes** to confirm the deletion.

Enabling Notification Based on Assignment Processes

If you want to have emails sent to whoever is assigned to a task but do not want to create notification task rules, you can enable the processes that ship with the Core automation pack that send emails based on assignment.

When these processes are enabled, the user or user group who was assigned to tasks will receive the email notification.

Step 1 In the Definitions workspace, click **Processes**.

Step 2 Click the **Filter by** link and choose **Automation Pack > Core** to filter for the processes that ship with the Core automation pack.

Step 3 Right-click the appropriate **Notification Based on Assignment** process and choose **Enable**.

The following processes are for notification based on assignment:

Process Name	Description
Default Alert Notification Based on Assignment	Sends email when an alert gets assigned.
Default Approval Request Notification Based on Assignment	Sends email when an approval request gets assigned.
Default Change Request Notification Based on Assignment	Sends email when an change requests gets assigned.
Default Guided Operation Request Notification Based on Assignment	Sends email when a guide operation request gets assigned.
Default Incident Notification Based on Assignment	Sends email when an incident gets assigned.
Default Input Request Notification Based on Assignment	Sends email when an input request gets assigned.
Default Review Request Notification Based on Assignment	Send email when a review request gets assigned.

CHAPTER 4

Managing Automation for SAP BOBJ Accelerator Processes

This chapter provides information on using the product, specific to the Automation for SAP BOBJ Accelerator automation pack. It includes information on accessing the Automation for SAP BOBJ Accelerator processes and filtering for specific processes, managing the processes, starting a process, and viewing a running process, its results, and the automation summary generated by the process.

It includes the following sections:

Note Before you can run the Automation for SAP BOBJ Accelerator processes, you must configure the objects that are referenced by the processes and activities. *See* Chapter 3, "Getting Started Using the Automation Pack" for information on configuring the objects in Process Orchestrator.

Accessing Automation for SAP BOBJ Accelerator Processes

The processes that ship with the product can be accessed from the Definitions—Processes view.

Step 1 On the Console, select the Definitions workspace and click **Processes** in the navigation pane. By default, all the processes display in the Processes pane.

If you have multiple automation packs installed, you can filter the processes to display the processes specific to the automation pack.

Step 2 In the upper portion of the Processes pane, click the **Filter by** link and choose **Automation Pack**.

Step 3 In the drop-down list, choose **Automation for SAP BOBJ Accelerator**.

The processes display in the Processes pane.

Managing Automation for SAP BOBJ Accelerator Processes

This section provides information on managing the Automation for SAP BOBJ Enterprise processes, including:

- Enabling and disabling processes
- Enabling and disabling the process archival feature
- Modifying a process schedule

Enabling a Process

Some of the processes that ship with the automation packs are disabled by default to reduce the load on the server or because they require user configuration.

Perform the following steps to enable a process.

Step 1 In the Processes view, navigate to the process that you want to enable (disabled processes appear dimmed).

Step 2 Use one of the following methods to enable the process:

- Right-click the process and choose **Enable** from the submenu.
- In the Process Editor, click the **General** tab and then check the **Enabled** check box. Click the **Save** tool to save your changes to the process and close the Process Editor.

Disabling a Process

Disabling a process prevents the process from executing. You may want to disable some processes to reduce the load on your server or while you are modifying the process definition.

Perform the following steps to disable a process.

Step 1 In the Processes view, navigate to the process that you want to disable.

Step 2 Use one of the following methods to disable the process:

- Right-click the process and choose **Disable** from the submenu.
- In the Process Editor, click the **General** tab and then uncheck the **Enabled** check box. Click the **Save** tool to save your changes to the process and close the Process Editor.

Modifying Process Instance Archival

Process Orchestrator provides an option in the process definition that allows you to choose whether or not to archive process and activity execution in the Process OrchestratorProcess database. Disabling the archive option helps improve performance and minimizes the size of the database. It is also useful when debugging the execution of processes.

If you want to view the execution of a process and its activities, or view the process instances after a process has completed, you must enable the archival functionality in the process definition.

Perform the following steps to enable or disable the archival feature.

Step 1 In the Processes view, navigate to the process you want to flag for archival.

Step 2 Right-click the process and choose **Edit** from the submenu.

Step 3 On the process Properties dialog box, click the **Options** tab.

Step 4 On the **Options** tab, click one of the following radio buttons to indicate how you want to archive the process instance.

Field	Description
Never archive any instances	Click this radio button to indicate that the process should not be stored upon completion.
Only archive failed instances	Click this radio button to indicate that only failed instances should be archived.
Archive all completed instances	Click this radio button to indicate that the process should be stored upon completion.
Archive based on condition	Click this radio button to indicate that the process should be stored based on the condition (True/False) selected. Click the **Browse** ... tool to launch the Archive Condition dialog box and select the condition.

Modifying a Process Schedule

Many of the processes that ship with the automation packs are triggered by a schedule. You can modify when the process will be executed by disabling the existing schedule and then creating a new schedule for the process. You use the process Properties dialog box to modify the process schedule.

Perform the following steps to assign a new schedule to a process.

Step 1 In the Processes view, navigate to the process that you want to modify.

Step 2 Right-click the process and choose **Edit** from the submenu.

Step 3 On the process Properties dialog box, click the **Triggers** tab.

Step 4 On the Triggers tab, right-click the current **Schedule** and choose **Disable** from the submenu.

Step 5 Click **New > Schedule** to open the Schedule Properties dialog box to create a new schedule for this process.

Step 6 On the Schedule Properties dialog box, specify the criteria for the new schedule and click **OK**.

Note For information on creating schedules, *see* "Managing Triggers" in the *Cisco Process Orchestrator User Guide*.

The newly created schedule displays on the Triggers tab and is enabled.

Step 7 Click the **Save** tool to save your changes to the process and close the Process Editor.

Running Processes

The processes that ship with the product will run based on the trigger that was defined in the process definition. For processes that are triggered by a schedule, you can also manually start the process at any time (adhoc). This section guides you through starting a process and viewing its progress as it runs.

Note You can only view a running process and the process instances for processes that have the Archive all completed instances option enabled. *See* Modifying Process Instance Archival, page 4-4 for information on enabling the archival feature on a specific process.

Starting a Process

Step 1 In the Processes view, right-click the process and choose **Start Process**.

The Confirm Start Process dialog box displays.

This process is defined to run on all targets in the BOBJ DS target group. In this example, we will override the default target and choose a specific target on which to run the process.

Step 2 On the Confirm Start Process dialog box, check the **Override target (All BOBJ DS Targets)** check box to expand the fields on the dialog box.

Step 3 Click the **Target** radio button and then click the **Browse** tool to open the Select Target dialog box.

Step 4 Select the target in the list and then click **OK**.

Step 5 On the Confirm Start Process dialog box, click **OK** to start the process.

The Start Process Results dialog box displays. Proceed to Viewing Running Process, page 4-7.

Viewing Running Process

After starting the process, you can use the Process Viewer to view the process as it runs through each activity.

Note You can only view a running process and the process instances for processes that have the Archive all completed instances option enabled. *See* Modifying Process Instance Archival, page 4-4 for information on enabling the archival feature on a specific process.

Step 1 On the Start Process Results dialog box, right-click the process and choose **Observe**.

The Process Viewer displays the process workflow.

Step 2 View the process as it proceeds through the workflow.

The activities within the process workflow will change to green as they complete (succeed). If an activity fails, an incident is created.

Step 3 When the process completes, close the Process Viewer and proceed to Viewing Process Results, page 4-8.

Viewing Process Results

After a process completes, you can view the results in the Operations workspace. This section guides you through viewing the results from running the process.

Note You can only view a running process and the process instances for processes that have the Archive all completed instances option enabled. See Modifying Process Instance Archival, page 4-4 for information on enabling the archival feature on a specific process.

Accessing Process View

Step 1 On the Console, select the Operations workspace.

Step 2 In the navigation pane, expand **Process Views** and click **View Adhoc** (since the process was manually executed).

Step 3 Using the **Filter by** link, choose **Automation Pack** and then choose **Automation for SAP BOBJ Accelerator** from the drop-down list.

Step 4 Scroll to the process and select it.

Step 5 In the View Results pane, expand the process to view each activity in the process workflow.

Step 6 Review the status of the process and each activity within the process to verify that it has succeeded.

Viewing Activity Results

You can view the results of a specific activity within the process using the Activity Instance Properties dialog box.

Step 1 In the View Results pane, scroll to the activity.

Step 2 Right-click the activity and choose **Properties**.

Step 3 On the activity Properties dialog box, click the **Results** tab.

Step 4 Click **Close** to close the dialog box.

Viewing Incidents

When a process detects an issue that requires action, an incident is generated. If you have configured the product to send notifications to a specific person in your organization, that person will receive an email notification whenever an incident is generated. You can also view these incidents in the Task Views on the Operations workspace.

Step 1 On the Operations workspace, expand **Task Views** in the navigation pane and click **View Incidents**.

Step 2 In the View Incidents pane, choose **View all tasks** from the Task Assignee drop-down list to display all the incidents in the View Results pane.

Step 3 To view a specific incident, right-click the incident and choose **Open**.

The Incident Report displays in your web browser.

Viewing Automation Summary

When incidents are generated, Process Orchestrator delivers an online Automation Summary that details the analysis that was performed to identify a situation that may require action.

You can access the Automation Summary from the Tasks View on the Operations workspace.

Step 1 On the Operations workspace, expand **Task Views** in the navigation pane and click **View Incidents**.

Step 2 In the View Incidents pane, click the **View all tasks** radio button to display the incidents in the View Results pane.

Step 3 Right-click the incident and choose **View Automation Summary**.

The Automation Summary displays in your web browser.

APPENDIX A

Core Automation for SAP BW, BOBJ and In-Memory Computing Automation Pack Content

The Core Automation for SAP BW, BOBJ and In-Memory Computing automation pack contains the default content to support SAP BW, BOBJ and In-Memory Computing automation packs. This appendix describes the content included in the Core Automation for SAP BW, BOBJ and In-Memory Computing automation pack. It includes the following sections:

Automation Pack Content

Use the automation pack Properties dialog box to view the content (objects) included in the automation pack. For instructions on accessing the automation pack properties, *see* Accessing Automation Pack Properties, page 2-1.

Core Automation for SAP BW, BOBJ and In-Memory Computing Processes

The following table contains the process that is imported by the Core Automation for SAP BW, BOBJ and In-Memory Computing automation pack.

Process Name	Description
BOBJ Process Execution Error	Raises an incident when there are errors in the execution of process activities contained in the BOBJ automation packs.

Core Automation for SAP BW, BOBJ and In-Memory Computing Atomic Processes

The Core Automation for SAP BW, BOBJ and In-Memory Computing automation pack contains additional activities (atomic processes) for use in the SAP BW, BOBJ and In-Memory Computing processes. These are additional activities that display in the Process Editor toolbox after the user has imported the automation packs.

See Core Automation for SAP BW, BOBJ and In-Memory Computing Activities, page A-4 for information on the activities and how to use them.

Core Automation for SAP BW, BOBJ and In-Memory Computing Target Properties

The following table contains the target properties that are imported by the Core Automation for SAP BW, BOBJ and In-Memory Computing automation pack.

Target Property	Description
BWA.Direct TREX.Path to Scripts	This property contains the path to the Process Orchestrator scripts that were installed to the TREX servers.
BWA.TREX.Index Query	This property contains the custom defined TREX and the response time threshold values to be used for monitoring TREX in a non-SAP environment.
BWA.TREX.Load Metrics	This property contains the thresholds for system workload metrics.
BWA.TREX.Long Running Threads – Types to Exclude	This property contains the thread types that should not be monitored for long running threads.
BWA.TREX.Long Running Threads Thresholds	This property contains the thresholds for long running threads. Thread types can be excluded from monitoring using the target property BWA.TREX.Long Running Threads – Types to Exclude.
BWA.TREX.Service Statistics Threshold	This property contains the threshold values to be used for monitoring TREX Service Statistics in a non-SAP environment.

For instructions on configuring target properties , *see* Managing Target Properties, page 3-12.

Core Automation for SAP BW, BOBJ and In-Memory Computing Global Variables

The following table contains the global variables that are imported by the Core Automation for SAP BW, BOBJ and In-Memory Computing automation pack.

Global Variable Name	Description
BOBJ – Alert Suppression Time	This global variable contains the duration that duplicate Cisco Process Orchestrator BOBJ alerts will be suppressed. After this time, a new alert and incident will be created.

For instructions on configuring global variables, *see* the *Cisco Process Orchestrator User Guide*.

Core Automation for SAP BW, BOBJ and In-Memory Computing Target Groups

The Core Automation for SAP BW, BOBJ and In-Memory Computing automation pack provides the target groups that are used by the processes. Most of the target groups are automatically populated with members when the targets are configured. For those that are not automatically populated, you must manually add the members.

The following table contains the target groups that are imported by the Core Automation for SAP BW, BOBJ and In-Memory Computing automation pack.

Target Group Name	Description	Automatically Populated with Members
Direct TREX Servers	All Unix targets for TREX Servers. Enter the list of Unix targets manually.	No

For information on adding members to target groups, *see* the *Cisco Process Orchestrator User Guide*.

Automation Pack Dependencies

Use the Dependencies tab on the automation pack Properties dialog box to view the automation packs and adapters referenced by the objects in the automation pack. These objects must be installed prior to importing the Core Automation for SAP BW, BOBJ and In-Memory Computing automation pack.

For instructions on accessing the automation pack properties, *see* Accessing Automation Pack Properties, page 2-1.

Object Type	Dependency
Automation Packs	• Core
Adapters	• Core Functions Adapter • Terminal Adapter

Core Automation for SAP BW, BOBJ and In-Memory Computing Activities

The following table contains the atomic processes (activities) that are imported by the Core Automation for SAP BW, BOBJ and In-Memory Computing automation pack.

Process Name	Description
BWA TREX – Cancel Running Reorganization	Stops the index reorganization process. *See* BWA TREX—Cancel Running Reorganization Activity, page A-9.
BWA TREX – Continue Reorganization	Continues a stopped index reorganization process. *See* BWA TREX—Continue Reorganization Activity, page A-11.
BWA TREX – Delete All Indexes	Deletes all indexes from the BWA instance. *See* BWA TREX—Delete All Indexes Activity, page A-12.
BWA TREX – Delete Index	Deletes a specific index from the BWA instance. *See* BWA TREX—Delete Index Activity, page A-13.
BWA TREX – Execute Query	Executes a TREX query against a specified index to return query response time. *See* BWA TREX—Execute Query Activity, page A-13.
BWA TREX – Get Alert Details	Displays current alert details. *See* BWA TREX—Get Alert Details Activity, page A-15.
BWA TREX – Get Alerts	Displays current alert summary. *See* BWA TREX—Get Alerts Activity, page A-15.
BWA TREX – Get Index Usage	Returns index usage and statistical data. *See* BWA TREX—Get Index Usage Activity, page A-17.

Process Name	Description
BWA TREX – Get Indexes	Retrieves technical data for all indexes for a TREX system. *See* BWA TREX—Get Indexes Activity, page A-17.
BWA TREX - Get Landscape Summary	Retrieves a summary of the overall BWA landscape system health. *See* BWA TREX—Get Landscape Summary Activity, page A-19.
BWA TREX – Get Last Reorganization Plan	Displays details of the last index reorganization plan. *See* BWA TREX—Get Last Reorganization Plan Activity, page A-19.
BWA TREX – Get Load Metrics	Retrieves current TREX system workload metrics. *See* BWA TREX—Get Load Metrics Activity, page A-21.
BWA TREX – Get Loaded Indexes	Displays the indexes that are currently online in the BWA instance. *See* BWA TREX—Get Loaded Indexes Activity, page A-21.
BWA TREX – Get Long Running Threads	Retrieves a list of currently active long running TREX engine threads. *See* BWA TREX—Get Long Running Threads Activity, page A-23.
BWA TREX – Get Next Reorganization Plan	Displays details of the next index reorganization plan. *See* BWA TREX—Get Next Reorganization Plan Activity, page A-23.
BWA TREX – Get Reorganization Summary	Displays current state of index reorganization requirements and suggested plan. *See* BWA TREX—Get Reorganization Summary Activity, page A-25.
BWA TREX - Get Service Statistics	Retrieves current TREX engine service runtime statistics, such as CPU, memory and response time. *See* BWA TREX—Get Service Statistics Activity, page A-26.
BWA TREX – Preload Index	Preloads an index into the instance array memory. *See* BWA TREX—Get Service Statistics Activity, page A-26.
BWA TREX – Restart Service	Restarts individual TREX service processes. *See* BWA TREX—Restart Service Activity, page A-27.
BWA TREX – Start Reorganization	Starts the execution of the index reorganization. *See* BWA TREX— Start Reorganization Activity, page A-29.

Process Name	Description
BWA TREX – Test HTTP Status	Checks the TREX http server status. *See* BWA TREX—Test HTTP Status Activity, page A-29.
BWA TREX – Unload Index	Unloads an index from the BWA instance. *See* BWA TREX—Unload Index Activity, page A-31.

Defining an Activity

Use the following steps to define an activity in the Process Editor. The property pages that display depend on the activity. Refer to the appropriate section for instructions on completing the activity property pages.

Step 1 On the Toolbox pane, navigate to the appropriate section, click the activity and drag it onto the Workflow pane.

The Activity Properties dialog box displays.

Note The **Required Value** icon displayed on a tab or page indicates that the field is required and is either missing a value or contains an invalid value.

Click the **Reference** tool to select a defined variable or reference an object within the process. For additional information, *see* the *Cisco Process Orchestrator User Guide*.

Step 2 On the General tab, enter the following information:

Field	Description
Name	Name of the activity.
Type	*Display only.* Displays the type of activity.
Description	Text description of the activity.

Step 3 Click the **Activity-specific** tab (typically, Inputs) and enter the required information. See the appropriate section in this chapter for instructions on completing the fields on the activity-specific tab.

Step 4 Click the **Target** tab to specify the process target. You can use the process target or override it and specify a different target for the specific activity.

Field	Description
Execute on the process target	Click this radio button to use the same target that was specified for the process.
Execute on activity target	Click this radio button to indicate that the activity should execute against a target selected in an activity within the process. Choose the activity from the drop-down list.

Field	Description
Execute on this target	Click this radio button and then click the **Browse** tool to launch the Select Target dialog box and choose a specific target on which to execute the activity. The targets that display in the Select Target dialog box are targets already defined in Process Orchestrator. To view the properties for the selected target, click the **Properties** tool.
Execute on this target reference	Click this radio button and then click the **Reference** tool to select the target reference property on which to execute the activity. You can also click the click the **Browse** tool to launch the Select Target dialog box and choose a specific target on which to execute the activity.
Execute on this target group	Click this radio button and then click the **Browse** tool to launch the Select Target Group dialog box and choose a specific target on which to execute the activity. The target groups that display in the Select Target Group dialog box are target groups already defined in Process Orchestrator. To view the properties for the selected target group, click the **Properties** tool. From the Choose a target using this algorithm drop-down list, select the algorithm which will determine the target to execute from the eligible target group. **Note** The available algorithms that display depend on the selected activity.

Step 5 Click the **Credentials** tab to specify the runtime user whose credentials should be used for process execution:

Field	Description
Use target's default runtime user	Click this radio button to use the default runtime user for the target that is specified in the activity.
Use process runtime user	Click this radio button to use the credentials for the runtime user that was specified for the process.

Field	Description
Override process runtime user	Click this radio button to specify different credentials than what are used for the process. The selected runtime user overrides the runtime user that was specified for the process. • To view the properties for the selected runtime user, click the **Properties** tool. • To create a runtime user record for the process, click **New**. For additional information on creating a runtime users, *see* the *Cisco Process Orchestrator User Guide*.

Step 6 Click the **Knowledge Base** tab to specify a knowledge base article for the activity. The following information displays:

Field	Description
Knowledge base	Knowledge base article associated with the activity.
Summary	Brief description of the issue.
Possible Cause	Explanation of the condition that may be causing the issue.
Possible resolution	List of actions that can be performed to attempt to resolve the issue.
Related information	Additional information related to the issue.

a. If the knowledge base article is not displayed by default, click the **Browse** tool in the Knowledge Base field.

b. On the Select Knowledge Base dialog box, select the appropriate knowledge base article in the list and click **OK**.

Note Click **New** to create a new knowledge base article. For additional information on knowledge base articles, *see* the *Cisco Process Orchestrator User Guide*.

Step 7 Click the **Result Handlers** tab to specify condition branches for the activity.

Button	Description
Add	Adds a condition branch.
Remove	Removes the condition branch from the activity.
Move Up	Moves the condition up one position in the list of conditions.
Move Down	Moves the condition down one position in the list of conditions.

Step 8 Click the **Save** tool to save the activity definition.

Viewing Activity Results

When an activity is executed, results are displayed in the Operations workspace activity instance view.

Step 1 In the Operations workspace, expand the **Activity Views** folder and click the view that represents how the process was executed (for example, View Adhoc, if the process was manually executed).

Step 2 In the View Results pane, expand the process, and double-click the activity instance or right-click and choose **Observe**.

Step 3 On the Process Viewer, ensure that **Properties** is enabled in the View menu, and then click the activity in the workflow to display the activity instance properties.

Step 4 If the activity required input values, click the **Inputs** tab to view the *display-only* properties of the activity.

Step 5 Click the **Outputs** tab to view the results of the activity.

Step 6 When you have completed viewing the properties, close the Process Viewer.

Defining the BWA TREX Activities

This section provides instructions for defining the BWA TREX activities.

BWA TREX—Cancel Running Reorganization Activity

Use the BWA TREX—Cancel Running Reorganization activity to stop an index reorganization process.

Step 1 On the Toolbox pane, click the **BWA TREX—Cancel Running Reorganization** activity and drag it onto the Workflow pane.

Step 2 On the General tab, enter the following information:

Field	Description
Name	Name of the activity.
Type	*Display only.* Displays the type of activity.
Description	Text description of the activity.

Step 3 Click the **Inputs** tab.

Step 4 In the Timeout (secs) text field, specify the number of seconds to allow for the SSH call to complete its operation on BWA.

Step 5 Complete the appropriate information in the following tabs:

- Target—Specify whether the defined process target should be used or overridden.
- Credentials—Specify the runtime user whose credentials should be used for process execution.
- Knowledge Base—Select the appropriate knowledge base article to associate with the activity.
- Result Handlers—Click the appropriate buttons to manage the condition branches on the workflow.

Step 6 Click the **Save** tool to save the activity definition.

BWA TREX—Continue Reorganization Activity

Use the BWA TREX—Continue Reorganization activity to continue an index reorganization process that has been stopped.

Step 1 On the Toolbox pane, click the **BWA TREX—Continue Reorganization** activity and drag it onto the Workflow pane.

Step 2 On the General tab, enter the following information:

Field	Description
Name	Name of the activity.
Type	*Display only.* Displays the type of activity.
Description	Text description of the activity.

Step 3 Click the **Inputs** tab.

Step 4 In the Timeout (secs) text field, specify the number of seconds to allow for the SSH call to complete its operation on BWA.

Step 5 Complete the appropriate information in the following tabs:

- Target—Specify whether the defined process target should be used or overridden.
- Credentials—Specify the runtime user whose credentials should be used for process execution.
- Knowledge Base—Select the appropriate knowledge base article to associate with the activity.
- Result Handlers—Click the appropriate buttons to manage the condition branches on the workflow.

Step 6 Click the **Save** tool to save the activity definition.

BWA TREX—Delete All Indexes Activity

Use the BWA TREX—Delete All Indexes activity to delete all indexes from the BWA instance.

Step 1 On the Toolbox pane, click the **BWA TREX—Delete All Indexes** activity and drag it onto the Workflow pane.

Step 2 On the General tab, enter the following information:

Field	Description
Name	Name of the activity.
Type	*Display only.* Displays the type of activity.
Description	Text description of the activity.

Step 3 Complete the appropriate information in the following tabs:

- Target—Specify whether the defined process target should be used or overridden.
- Credentials—Specify the runtime user whose credentials should be used for process execution.
- Knowledge Base—Select the appropriate knowledge base article to associate with the activity.
- Result Handlers—Click the appropriate buttons to manage the condition branches on the workflow.

Step 4 Click the **Save** tool to save the activity definition.

BWA TREX—Delete Index Activity

Use the BWA TREX—Delete Index activity to delete a specific index from the BWA instance.

Step 1 On the Toolbox pane, click the **BWA TREX—Delete Index** activity and drag it onto the Workflow pane.

Step 2 On the General tab, enter the following information:

Field	Description
Name	Name of the activity.
Type	*Display only.* Displays the type of activity.
Description	Text description of the activity.

Step 3 Click the **Inputs** tab.

Step 4 On the Inputs tab, enter the following information:

Field	Description
Index ID	Index technical name for the index to be deleted.
Timeout (sec)	Number of seconds to allow for the SSH call to complete its operation on BWA.

Step 5 Complete the appropriate information in the following tabs:

- Target—Specify whether the defined process target should be used or overridden.
- Credentials—Specify the runtime user whose credentials should be used for process execution.
- Knowledge Base—Select the appropriate knowledge base article to associate with the activity.
- Result Handlers—Click the appropriate buttons to manage the condition branches on the workflow.

Step 6 Click the **Save** tool to save the activity definition.

BWA TREX—Execute Query Activity

Use the BWA TREX—Execute Query activity to execute a TREX query against a specific index. This activity returns the query response time.

Step 1 On the Toolbox pane, click the **BWA TREX—Execute Query** activity and drag it onto the Workflow pane.

Step 2 On the General tab, enter the following information:

Field	Description
Name	Name of the activity.
Type	*Display only.* Displays the type of activity.
Description	Text description of the activity.

Step 3 Click the **Inputs** tab.

Step 4 On the Inputs tab, enter the following information:

Field	Description
Options	Options to designate the TREX query and index to be executed.
Timeout (sec)	Number of seconds to allow for the SSH call to complete its operation on BWA.

Step 5 Complete the appropriate information in the following tabs:

- Target—Specify whether the defined process target should be used or overridden.
- Credentials—Specify the runtime user whose credentials should be used for process execution.
- Knowledge Base—Select the appropriate knowledge base article to associate with the activity.
- Result Handlers—Click the appropriate buttons to manage the condition branches on the workflow.

Step 6 Click the **Save** tool to save the activity definition.

BWA TREX—Get Alert Details Activity

Use the BWA TREX—Get Alert Details activity to retrieve current alert details.

Step 1 On the Toolbox pane, click the **BWA TREX—Get Alert Details** activity and drag it onto the Workflow pane.

Step 2 On the General tab, enter the following information:

Field	Description
Name	Name of the activity.
Type	*Display only.* Displays the type of activity.
Description	Text description of the activity.

Step 3 Click the **Inputs** tab.

Step 4 In the Timeout (secs) text field, specify the number of seconds to allow for the SSH call to complete its operation on BWA.

Step 5 Complete the appropriate information in the following tabs:

- Target—Specify whether the defined process target should be used or overridden.
- Credentials—Specify the runtime user whose credentials should be used for process execution.
- Knowledge Base—Select the appropriate knowledge base article to associate with the activity.
- Result Handlers—Click the appropriate buttons to manage the condition branches on the workflow.

Step 6 Click the **Save** tool to save the activity definition.

BWA TREX—Get Alerts Activity

Use the BWA TREX—Get Alerts activity to retrieve a list of alerts.

Step 1 On the Toolbox pane, click the **BWA TREX—Get Alerts** activity and drag it onto the Workflow pane.

Step 2 On the General tab, enter the following information:

Field	Description
Name	Name of the activity.
Type	*Display only.* Displays the type of activity.
Description	Text description of the activity.

Step 3 Click the **Inputs** tab.

Step 4 On the Inputs tab, enter the following information:

Field	Description
Age (minutes)	Retrieve alerts that have occured within the last X minutes indicated in this field.
Severity	Severity level of alerts to be retrieved (Red, Yellow, Green, Grey, All).
Timeout (sec)	Number of seconds to allow for the SSH call to complete its operation on BWA.

Step 5 Complete the appropriate information in the following tabs:

- Target—Specify whether the defined process target should be used or overridden.
- Credentials—Specify the runtime user whose credentials should be used for process execution.
- Knowledge Base—Select the appropriate knowledge base article to associate with the activity.
- Result Handlers—Click the appropriate buttons to manage the condition branches on the workflow.

Step 6 Click the **Save** tool to save the activity definition.

BWA TREX—Get Index Usage Activity

Use the BWA TREX—Get Index Usage activity to return index usage and statistical data.

Step 1 On the Toolbox pane, click the **BWA TREX—Get Index Usage** activity and drag it onto the Workflow pane.

Step 2 On the General tab, enter the following information:

Field	Description
Name	Name of the activity.
Type	*Display only.* Displays the type of activity.
Description	Text description of the activity.

Step 3 Click the **Inputs** tab.

Step 4 Specify the following information:

Field Name	Description
Start Date	Date from which to begin collecting index usage data.
Start Time	Time from which to begin collecting for the index usage data.
Index Name(s)	Complete index name of the index or enter * to retreive usage data from all indexes.
Timeout (secs)	Number of seconds to allow for the SSH call to complete its operation on BWA.

Step 5 Complete the appropriate information in the following tabs:

- Target—Specify whether the defined process target should be used or overridden.
- Credentials—Specify the runtime user whose credentials should be used for process execution.
- Knowledge Base—Select the appropriate knowledge base article to associate with the activity.
- Result Handlers—Click the appropriate buttons to manage the condition branches on the workflow.

Step 6 Click the **Save** tool to save the activity definition.

BWA TREX—Get Indexes Activity

Use the BWA TREX—Get Indexes activity to retrieve a list of the loaded indexes.

Step 1 On the Toolbox pane, click the **BWA TREX—Get Indexes** activity and drag it onto the Workflow pane.

Step 2 On the General tab, enter the following information:

Field	Description
Name	Name of the activity.
Type	*Display only.* Displays the type of activity.
Description	Text description of the activity.

Step 3 Click the **Inputs** tab.

Step 4 Specify the following information:

Field Name	Description
Index Name	Complete name of the index or enter * to retrieve all indexes.
Timeout (secs)	Number of seconds to allow for the SSH call to complete its operation on BWA.

Step 5 Complete the appropriate information in the following tabs:

- Target—Specify whether the defined process target should be used or overridden.
- Credentials—Specify the runtime user whose credentials should be used for process execution.
- Knowledge Base—Select the appropriate knowledge base article to associate with the activity.
- Result Handlers—Click the appropriate buttons to manage the condition branches on the workflow.

Step 6 Click the **Save** tool to save the activity definition.

BWA TREX—Get Landscape Summary Activity

Use the BWA TREX—Get Landscape Summary activity to retrieve a summary of the overall BWA landscape system health.

Step 1 On the Toolbox pane, click the **BWA TREX—Get Landscape Summary** activity and drag it onto the Workflow pane.

Step 2 On the General tab, enter the following information:

Field	Description
Name	Name of the activity.
Type	*Display only.* Displays the type of activity.
Description	Text description of the activity.

Step 3 Click the **Inputs** tab.

Step 4 In the Timeout (secs) text field, enter the number of seconds to allow for the SSH call to complete its operation on BWA.

Step 5 Complete the appropriate information in the following tabs:

- Target—Specify whether the defined process target should be used or overridden.
- Credentials—Specify the runtime user whose credentials should be used for process execution.
- Knowledge Base—Select the appropriate knowledge base article to associate with the activity.
- Result Handlers—Click the appropriate buttons to manage the condition branches on the workflow.

Step 6 Click the **Save** tool to save the activity definition.

BWA TREX—Get Last Reorganization Plan Activity

Use the BWA TREX—Get Last Reorganization Plan activity to retrieve the current state of index reorganization requirements and suggested plan.

Step 1 On the Toolbox pane, click the **BWA TREX—Get Last Reorganization Plan** activity and drag it onto the Workflow pane.

Step 2 On the General tab, enter the following information:

Field	Description
Name	Name of the activity.
Type	*Display only.* Displays the type of activity.
Description	Text description of the activity.

Step 3 Click the **Inputs** tab.

Step 4 In the Timeout (secs) text field, enter the number of seconds to allow for the SSH call to complete its operation on BWA.

Step 5 Complete the appropriate information in the following tabs:

- Target—Specify whether the defined process target should be used or overridden.
- Credentials—Specify the runtime user whose credentials should be used for process execution.
- Knowledge Base—Select the appropriate knowledge base article to associate with the activity.
- Result Handlers—Click the appropriate buttons to manage the condition branches on the workflow.

Step 6 Click the **Save** tool to save the activity definition.

BWA TREX—Get Load Metrics Activity

Use the BWA TREX—Get Load Metrics activity to retrieve current TREX system workload metrics.

Step 1 On the Toolbox pane, click the **BWA TREX—Get Load Metrics** activity and drag it onto the Workflow pane.

Step 2 On the General tab, enter the following information:

Field	Description
Name	Name of the activity.
Type	*Display only.* Displays the type of activity.
Description	Text description of the activity.

Step 3 Click the **Inputs** tab.

Step 4 Specify the following information:

Field Name	Description
Host	TREX host name to return metrics.
Minutes	Retrieve metrics within the past X minutes specified in this field.
Metric Names	Comma separated list of metric names to return.
Timeout (secs)	Number of seconds to allow for the SSH call to complete its operation on BWA.

Step 5 Complete the appropriate information in the following tabs:

- Target—Specify whether the defined process target should be used or overridden.
- Credentials—Specify the runtime user whose credentials should be used for process execution.
- Knowledge Base—Select the appropriate knowledge base article to associate with the activity.
- Result Handlers—Click the appropriate buttons to manage the condition branches on the workflow.

Step 6 Click the **Save** tool to save the activity definition.

BWA TREX—Get Loaded Indexes Activity

Use the BWA TREX—Get Loaded Indexes activity to retrieve the indexes that are currently online in the BWA instance.

Step 1 On the Toolbox pane, click the **BWA TREX—Get Loaded Indexes** activity and drag it onto the Workflow pane.

Step 2 On the General tab, enter the following information:

Field	Description
Name	Name of the activity.
Type	*Display only.* Displays the type of activity.
Description	Text description of the activity.

Step 3 Click the **Inputs** tab.

Step 4 In the Timeout (secs) text field, enter the number of seconds to allow for the SSH call to complete its operation on BWA.

Step 5 Complete the appropriate information in the following tabs:

- Target—Specify whether the defined process target should be used or overridden.
- Credentials—Specify the runtime user whose credentials should be used for process execution.
- Knowledge Base—Select the appropriate knowledge base article to associate with the activity.
- Result Handlers—Click the appropriate buttons to manage the condition branches on the workflow.

Step 6 Click the **Save** tool to save the activity definition.

BWA TREX—Get Long Running Threads Activity

Use the BWA TREX—Get Long Running Threads activity to retrieve a list of currently active long running TREX engine threads.

Step 1 On the Toolbox pane, click the **BWA TREX—Get Long Running Threads** activity and drag it onto the Workflow pane.

Step 2 On the General tab, enter the following information:

Field	Description
Name	Name of the activity.
Type	*Display only.* Displays the type of activity.
Description	Text description of the activity.

Step 3 Click the **Inputs** tab.

Step 4 Specify the following information:

Field Name	Description
Warning Threshold	Enter the value for the amount of time before a thread reaches the Warning threshold (default is “5sec”).
Error Threshold	Enter the value for the amount of time before a thread reaches the Error threshold (default is “10sec”).
Timeout (secs)	Number of seconds to allow for the SSH call to complete its operation on BWA.

Step 5 Complete the appropriate information in the following tabs:

- Target—Specify whether the defined process target should be used or overridden.
- Credentials—Specify the runtime user whose credentials should be used for process execution.
- Knowledge Base—Select the appropriate knowledge base article to associate with the activity.
- Result Handlers—Click the appropriate buttons to manage the condition branches on the workflow.

Step 6 Click the **Save** tool to save the activity definition.

BWA TREX—Get Next Reorganization Plan Activity

Use the BWA TREX—Get Next Reorganization Plan activity to retrieve details of the next index reorganization plan.

Step 1 On the Toolbox pane, click the **BWA TREX—Get Next Reorganization Plan** activity and drag it onto the Workflow pane.

Step 2 On the General tab, enter the following information:

Field	Description
Name	Name of the activity.
Type	*Display only.* Displays the type of activity.
Description	Text description of the activity.

Step 3 Click the **Inputs** tab.

Step 4 In the Timeout (secs) text field, enter the number of seconds to allow for the SSH call to complete its operation on BWA.

Step 5 Complete the appropriate information in the following tabs:

- Target—Specify whether the defined process target should be used or overridden.
- Credentials—Specify the runtime user whose credentials should be used for process execution.
- Knowledge Base—Select the appropriate knowledge base article to associate with the activity.
- Result Handlers—Click the appropriate buttons to manage the condition branches on the workflow.

Step 6 Click the **Save** tool to save the activity definition.

BWA TREX—Get Reorganization Summary Activity

Use the BWA TREX—Get Reorganization Summary activity to retrieve current state of index reorganization requirements and suggested plan.

Step 1 On the Toolbox pane, click the **BWA TREX—Get Reorganization Summary** activity and drag it onto the Workflow pane.

Step 2 On the General tab, enter the following information:

Field	Description
Name	Name of the activity.
Type	*Display only.* Displays the type of activity.
Description	Text description of the activity.

Step 3 Click the **Inputs** tab.

Step 4 In the Timeout (secs) text field, enter the number of seconds to allow for the SSH call to complete its operation on BWA.

Step 5 Complete the appropriate information in the following tabs:

- Target—Specify whether the defined process target should be used or overridden.
- Credentials—Specify the runtime user whose credentials should be used for process execution.
- Knowledge Base—Select the appropriate knowledge base article to associate with the activity.
- Result Handlers—Click the appropriate buttons to manage the condition branches on the workflow.

Step 6 Click the **Save** tool to save the activity definition.

BWA TREX—Get Service Statistics Activity

Use the BWA TREX—Get Service Statistics activity to retrieve current TREX engine service runtime statistics, such as CPU, memory and response time.

Step 1 On the Toolbox pane, click the **BWA TREX—Get Service Statistics** activity and drag it onto the Workflow pane.

Step 2 On the General tab, enter the following information:

Field	Description
Name	Name of the activity.
Type	*Display only.* Displays the type of activity.
Description	Text description of the activity.

Step 3 Click the **Inputs** tab.

Step 4 In the Timeout (secs) text field, enter the number of seconds to allow for the SSH call to complete its operation on BWA.

Step 5 Complete the appropriate information in the following tabs:

- Target—Specify whether the defined process target should be used or overridden.
- Credentials—Specify the runtime user whose credentials should be used for process execution.
- Knowledge Base—Select the appropriate knowledge base article to associate with the activity.
- Result Handlers—Click the appropriate buttons to manage the condition branches on the workflow.

Step 6 Click the **Save** tool to save the activity definition.

BWA TREX—Preload Index Activity

Use the BWA TREX—Preload Index activity to preload an index into the instance array memory.

Step 1 On the Toolbox pane, click the **BWA TREX—Preload Index** activity and drag it onto the Workflow pane.

Step 2 On the General tab, enter the following information:

Field	Description
Name	Name of the activity.
Type	*Display only.* Displays the type of activity.
Description	Text description of the activity.

Step 3 Click the **Inputs** tab.

Step 4 Specify the following information:

Field Name	Description
Index ID	Index technical name for the index.
Timeout (secs)	Number of seconds to allow for the SSH call to complete its operation on BWA.

Step 5 Complete the appropriate information in the following tabs:

- Target—Specify whether the defined process target should be used or overridden.
- Credentials—Specify the runtime user whose credentials should be used for process execution.
- Knowledge Base—Select the appropriate knowledge base article to associate with the activity.
- Result Handlers—Click the appropriate buttons to manage the condition branches on the workflow.

Step 6 Click the **Save** tool to save the activity definition.

BWA TREX—Restart Service Activity

Use the BWA TREX—Restart Service activity to restart individual TREX service processes.

Step 1 On the Toolbox pane, click the **BWA TREX—Restart Service** activity and drag it onto the Workflow pane.

Step 2 On the General tab, enter the following information:

Field	Description
Name	Name of the activity.
Type	*Display only.* Displays the type of activity.
Description	Text description of the activity.

Step 3 Click the **Inputs** tab.

Step 4 Specify the following information:

Field Name	Description
Service	TREX service to restart (Index Server, Name Server, etc.).
Host	Blade host name.
Port	TREX service port.
Timeout (secs)	Number of seconds to allow for the SSH call to complete its operation on BWA.

Step 5 Complete the appropriate information in the following tabs:

- Target—Specify whether the defined process target should be used or overridden.
- Credentials—Specify the runtime user whose credentials should be used for process execution.
- Knowledge Base—Select the appropriate knowledge base article to associate with the activity.
- Result Handlers—Click the appropriate buttons to manage the condition branches on the workflow.

Step 6 Click the **Save** tool to save the activity definition.

BWA TREX— Start Reorganization Activity

Use the BWA TREX—Start Reorganization activity to start the execution of the index reorganization.

Step 1 On the Toolbox pane, click the **BWA TREX—Start Reorganization Plan** activity and drag it onto the Workflow pane.

Step 2 On the General tab, enter the following information:

Field	Description
Name	Name of the activity.
Type	*Display only.* Displays the type of activity.
Description	Text description of the activity.

Step 3 Click the **Inputs** tab.

Step 4 In the Timeout (secs) text field, enter the number of seconds to allow for the SSH call to complete its operation on BWA.

Step 5 Complete the appropriate information in the following tabs:

- Target—Specify whether the defined process target should be used or overridden.
- Credentials—Specify the runtime user whose credentials should be used for process execution.
- Knowledge Base—Select the appropriate knowledge base article to associate with the activity.
- Result Handlers—Click the appropriate buttons to manage the condition branches on the workflow.

Step 6 Click the **Save** tool to save the activity definition.

BWA TREX—Test HTTP Status Activity

Use the BWA TREX—Test HTTP Status activity to check the status of the TREX http server.

Step 1 On the Toolbox pane, click the **BWA TREX—Test HTTP Status** activity and drag it onto the Workflow pane.

Step 2 On the General tab, enter the following information:

Field	Description
Name	Name of the activity.
Type	*Display only.* Displays the type of activity.
Description	Text description of the activity.

Step 3 Click the **Inputs** tab.

Step 4 In the Timeout (secs) text field, enter the number of seconds to allow for the SSH call to complete its operation on BWA.

Step 5 Complete the appropriate information in the following tabs:

- Target—Specify whether the defined process target should be used or overridden.

- Credentials—Specify the runtime user whose credentials should be used for process execution.
- Knowledge Base—Select the appropriate knowledge base article to associate with the activity.
- Result Handlers—Click the appropriate buttons to manage the condition branches on the workflow.

Step 6 Click the **Save** tool to save the activity definition.

BWA TREX—Unload Index Activity

Use the BWA TREX—Unload Index activity to unload an index from the BWA instance.

Step 1 On the Toolbox pane, click the **BWA TREX—Unload Index** activity and drag it onto the Workflow pane.

Step 2 On the General tab, enter the following information:

Field	Description
Name	Name of the activity.
Type	*Display only.* Displays the type of activity.
Description	Text description of the activity.

Step 3 Click the **Inputs** tab.

Step 4 Specify the following information:

Field Name	Description
Index ID	Index technical name for the index.
Timeout (secs)	Number of seconds to allow for the SSH call to complete its operation on BWA.

Step 5 Complete the appropriate information in the following tabs:

- Target—Specify whether the defined process target should be used or overridden.
- Credentials—Specify the runtime user whose credentials should be used for process execution.
- Knowledge Base—Select the appropriate knowledge base article to associate with the activity.
- Result Handlers—Click the appropriate buttons to manage the condition branches on the workflow.

Step 6 Click the **Save** tool to save the activity definition.

APPENDIX B

Understanding the Common Activities Content

The Intelligent Automation for SAP Automation Pack for Common Activities contains content that is used in the other automation packs.

This appendix contains the content included in the Common Activities automation pack. It contains the following sections:

Automation Pack Content

Use the automation pack Properties dialog box to view the content (objects) included in the automation pack. For instructions on accessing the automation pack properties, *see* Accessing Automation Pack Properties, page 2-1.

The Common Activities automation pack provides additional activities (atomic processes) that can be used in other automation packs. These are additional activities display in the Process Editor toolbox after the user has imported the automation packs.

The following table displays the activities that are provided by the Common Activities automation pack.

Note To launch these activities, the runtime user should have local administrative rights to the target. If the runtime user does not have these rights, the activity will fail and display a message that the process has encountered a failed node.

Activity	Description
Convert Integer to IP Address	Changes an integer to an IP address. *See* Defining the Convert Integer to IP Address Activity, page B-2.
Convert IP Address to Integer	Changes an IP address to an integer. *See* Defining the Convert IP Address to Integer Activity, page B-4.

Activity	Description
Ping	Specifies the name or IP address of the server to be pinged. *See* Defining the Ping Activity, page B-4.
Stop a Unix Process (via SSH)	Stops a running Unix process through SSH. *See* Defining the Stop a Unix Process Activity, page B-6.
Stop a Windows Process	Stops a running Windows process. *See* Defining the Stop a Windows Process Activity, page B-7.

Defining the Common Activities

This section provides instructions for defining the activities included in the Common Activities automation pack.

Defining the Convert Integer to IP Address Activity

Use the Convert Integer to IP Address activity to find change an integer to an IP address.

Step 1 On the Toolbox pane, click the **Convert Integer to IP Address** activity and drag it onto the Workflow pane.

Step 2 On the General tab, enter the following information:

Field	Description
Name	Name of the activity.
Type	*Display only.* Displays the type of activity.
Description	Text description of the activity.

Step 3 Click the **Inputs** tab.

Step 4 In the Integer Representation text field, specify the integer value to be returned as an IP address.

For example, entering:

- 0 returns an IP address of 0.0.0.0
- 3232271626 returns and IP address of 192.168.141.10

Step 5 Complete the appropriate information in the following tabs:

- Target—Specify whether the defined process target should be used or overridden.
- Credentials—Specify the runtime user whose credentials should be used for process execution.
- Knowledge Base—Select the appropriate knowledge base article to associate with the activity.
- Result Handlers—Click the appropriate buttons to manage the condition branches on the workflow.

Step 6 Click the **Save** tool to save the activity definition.

Defining the Convert IP Address to Integer Activity

Use the Convert IP Address to Integer activity to find change an IP address to an integer.

Step 1 On the Toolbox pane, click the **Convert IP Address to Integer** activity and drag it onto the Workflow pane.

Step 2 On the General tab, enter the following information:

Field	Description
Name	Name of the activity.
Type	*Display only.* Displays the type of activity.
Description	Text description of the activity.

Step 3 Click the **Inputs** tab.

Step 4 In the IP Address text field, specify the IP address to be returned as an integer.

Step 5 Complete the appropriate information in the following tabs:

- Target—Specify whether the defined process target should be used or overridden.
- Credentials—Specify the runtime user whose credentials should be used for process execution.
- Knowledge Base—Select the appropriate knowledge base article to associate with the activity.
- Result Handlers—Click the appropriate buttons to manage the condition branches on the workflow.

Step 6 Click the **Save** tool to save the activity definition.

Defining the Ping Activity

Use the Ping activity to ping a server during network troubleshooting.

Step 1 On the Toolbox pane, click the **Ping** activity and drag it onto the Workflow pane.

Step 2 On the General tab, enter the following information:

Field	Description
Name	Name of the activity.
Type	*Display only.* Displays the type of activity.
Description	Text description of the activity.

Step 3 Click the **Inputs** tab.

Step 4 In the Destination text field, specify the host name or IP address of the server to be pinged.

Step 5 Complete the appropriate information in the following tabs:

- Target—Specify whether the defined process target should be used or overridden.
- Credentials—Specify the runtime user whose credentials should be used for process execution.
- Knowledge Base—Select the appropriate knowledge base article to associate with the activity.

- Result Handlers—Click the appropriate buttons to manage the condition branches on the workflow.

Step 6 Click the **Save** tool to save the activity definition.

Defining the Stop a Unix Process Activity

Use the Stop a Unix Process (via SSH) activity to stop a running Unix process.

Step 1 On the Toolbox pane, click the **Stop a Unix Process (via SSH)** activity and drag it onto the Workflow pane.

Step 2 On the General tab, enter the following information:

Field	Description
Name	Name of the activity.
Type	*Display only.* Displays the type of activity.
Description	Text description of the activity.

Step 3 Click the **Inputs** tab.

Step 4 In the PID field, enter the ID for the process that you want to stop.

Step 5 Complete the appropriate information in the following tabs:

- Target—Specify whether the defined process target should be used or overridden.
- Credentials—Specify the runtime user whose credentials should be used for process execution.
- Knowledge Base—Select the appropriate knowledge base article to associate with the activity.
- Result Handlers—Click the appropriate buttons to manage the condition branches on the workflow.

Step 6 Click the **Save** tool to save the activity definition.

Defining the Stop a Windows Process Activity

Use the Stop a Windows Process activity to stop a running Windows process.

Step 1 On the Toolbox pane, click the **Stop a Windows** activity and drag it onto the Workflow pane.

Step 2 On the General tab, enter the following information:

Field	Description
Name	Name of the activity.
Type	*Display only.* Displays the type of activity.
Description	Text description of the activity.

Step 3 Click the **Inputs** tab.

Step 4 In the PID field, enter the ID for the process that you want to stop.

Step 5 Complete the appropriate information in the following tabs:

- Target—Specify whether the defined process target should be used or overridden.
- Credentials—Specify the runtime user whose credentials should be used for process execution.
- Knowledge Base—Select the appropriate knowledge base article to associate with the activity.
- Result Handlers—Click the appropriate buttons to manage the condition branches on the workflow.

Step 6 Click the **Save** tool to save the activity definition.

INDEX

A

B

C

D

E

G

I

L

M

N

O

P

R

S

T

U

V