



stonebranch
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Opswise Controller 6.1.x

Bundles and Promotion

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Bundles and Promotion



Bundles and Promotion Overview

Overview



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The information on these pages also is located in the [Opswise Controller 6.1.x Bundles and Promotion.pdf](#).

Bundles and Promotion Overview

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Overview

The Opwise Controller Bundles and Promotion features allow you to select and bundle a group of Controller records and "promote" them from a source Controller to a target Controller. (If desired, you also can promote a single record.)

For example, you can use these features when you create your Workflows on a development Controller then move them to a QA Controller for testing. Once you are satisfied with the stability of the Workflows, you can promote them to your production Controller.

Best Practices

Bundling from Different Versions of the Controller

Bundle promotion should be performed only to and from the same versions, or to a higher version, of the Controller. Promoting to an older version could result in loss of data or promotion exception.

Creating Objects

To ensure optimal bundling and promotion of records, make sure that you create bundles on one Controller and promote them to another Controller.

Do not create objects individually on different Controllers.

Bundling and Promoting Process

The general process for bundling and promoting your data is:

Step 1	Create a Bundle record.
Step 2	Add records to a Bundle .
Step 3	Create a Promotion Target record for each target Controller.
Step 4	Specify Agent mappings between the source and target Controllers.
Step 5	Promote the Bundle to the target Controller.

These features use web services calls to communicate when you are promoting Bundles of records from one Controller to another.

To see a demonstration of how to bundle and promote records, watch the [Bundling and Promoting](#) video.

Creating Bundles

- Creating a Bundle
 - Creating a Bundle Manually
 - Creating a Bundle by Date
 - Bundle Details
- Adding and Removing Records in a Bundle
 - Adding and Removing Records from the Bundle Details
 - Adding a Record to a Bundle from the Record Details
 - Adding Multiple Records to a Bundle from a Records List
- Displaying the Bundles List for a Record

Creating a Bundle

There are two methods of creating a Bundle:

1. Create a Bundle [manually](#) by selecting individual records.
2. Create a Bundle by [selecting a date](#), which automatically selects all records added or updated on or after that date.

Creating a Bundle Manually



Note

Your user ID must have the [ops_bundle_admin](#) role to use this feature.

The procedure for manually creating a Bundle involves:

- Creating the Bundle record.
- Selecting records to include in the Bundle.
- Selecting a target Controller for promotion.

Step 1 From the Bundles & Promotion navigation pane, select **Bundles**. The Bundles list displays.

Below the list, Bundle Details for a new Bundle record displays. (You also can click the **New** button to display Bundle Details for a new Bundle.)

The screenshot shows the 'Bundles' interface. At the top, there is a 'Bundles' tab and a 'Create Bundle By Date' button. Below this is a table with the following columns: Bundle Name, Description, Default Promotion Target, Follow References, Updated By, and Updated. The table contains five rows of bundle records. Below the table is the 'Bundle Details' form, which includes fields for Bundle Name, Description, Default Promotion Target, Follow References, and Promote Bundle Definition. There are also 'Save' and 'New' buttons at the bottom of the form.

Bundle Name	Description	Default Promotion Target	Follow References	Updated By	Updated
stonebranch-bundle-01		stonebranch-promotiontarget-01	No	stonebranch-user-01	2014-06-13 15:39:54 -0400
stonebranch-bundle-02		stonebranch-promotiontarget-02	No	stonebranch-user-02	2014-06-13 15:40:11 -0400
stonebranch-bundle-03		stonebranch-promotiontarget-03	No	stonebranch-user-03	2014-06-13 15:40:26 -0400
stonebranch-bundle-04		stonebranch-promotiontarget-04	No	stonebranch-user-04	2014-06-13 15:40:39 -0400
stonebranch-bundle-05		stonebranch-promotiontarget-05	No	stonebranch-user-05	2014-06-13 15:40:48 -0400

Step 2 Enter / select Details for a new Bundle, using the field descriptions below as a guide.

- Required fields display in **boldface**.
- Default values for fields, if available, display automatically.

To display more of the Details fields on the screen, you can temporarily [hide the list](#).



Note

If you view [Bundle Details](#) for an existing Bundle by clicking a Bundle in the list, and then want to create a new Bundle record, you must click the **New** button that displays above and below the Details.

Step 3 Click the **Save** button. The Bundle record is added to the database, and all buttons and tabs in the Bundle Details are enabled.

Creating a Bundle by Date



Note

Your user ID must have the `ops_bundle_admin` role to use this feature.

This feature allows you to Bundle all records created or updated on the current Controller on or since a specific date. The procedure involves selecting which records you want to include and specifying the date parameter.

Step 1 From the Bundles & Promotion navigation pane, select **Bundles**. The Bundles list displays.

Bundle Name	Description	Default Promotion Target	Follow References	Updated By	Updated
stonebranch-bundle-01		stonebranch-promotiontarget-01	No	stonebranch-user-01	2014-06-13 15:39:54 -0400
stonebranch-bundle-02		stonebranch-promotiontarget-02	No	stonebranch-user-02	2014-06-13 15:40:11 -0400
stonebranch-bundle-03		stonebranch-promotiontarget-03	No	stonebranch-user-03	2014-06-13 15:40:26 -0400
stonebranch-bundle-04		stonebranch-promotiontarget-04	No	stonebranch-user-04	2014-06-13 15:40:39 -0400
stonebranch-bundle-05		stonebranch-promotiontarget-05	No	stonebranch-user-05	2014-06-13 15:40:48 -0400

Bundle Details

Bundle Name:

Description:

Default Promotion Target:

Follow References:

Promote Bundle Definition:

Save New

Step 2 Click the **Create Bundle By Date** button at the top of the list. The Create Bundle By Date pop-up displays.

Create Bundle By Date

Bundle Name:

Types To Include: Triggers, Tasks, Calendars, Custom Days, Variables, Business Services, Credentials, Agent Clusters, Virt...

Create Bundle By Date: 2014-07-02 00:00:00 -0400

Submit Cancel

Step 3 The **Types To Include** drop-down list includes all record types, by default. De-select any record type that you do not want in the Bundle.

Step 4 The **Create Bundle By Date** field specifies the current date, by default. You can change the date manually or by clicking the Calendar icon. All records created or updated on or after the date that you specify will be included in the bundle.

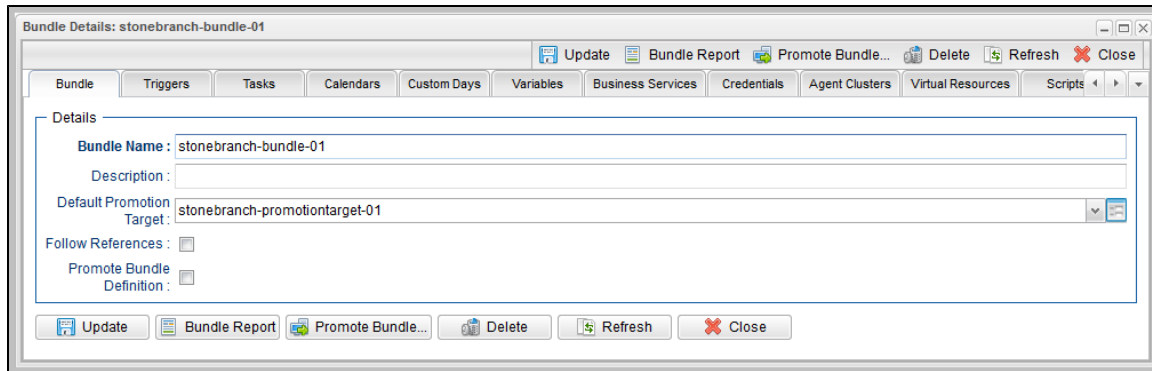
Step 5 Enter a **Bundle Name** and click the **Submit** button. If any records qualified for inclusion in the Bundle, the Bundle is created, saved to the database, and the Bundle Details display below the list. However, if no records qualified according to the specified date, the Bundle is not saved.

Step 6 As desired, [add and/or remove records](#) from the Bundle.

Step 7	<p>Enter / select additional Details for the Bundle, using the field descriptions below as a guide.</p> <ul style="list-style-type: none"> • Required fields display in boldface. • Default values for fields, if available, display automatically. <p>To display more of the Details fields on the screen, you can temporarily hide the list.</p>
Step 8	<p>Click the Update button.</p>

Bundle Details

The following Bundle Details is for an existing Bundle. See the [field descriptions](#), below, for a description of all fields that display in the Bundle Details.



Bundle Details Field Descriptions

The following table describes the fields, buttons, and tabs that display in the Bundle Details.

Field Name	Description
Details	This section contains detailed information about the Bundle.
Bundle Name	Name for this bundle.
Description	User-defined; description of this record. (Maximum = 200 characters.)
Default Promotion Target	Allows you to browse for and select a Promotion Target, which you defined using the Promotion Targets feature. If you do not specify a default promotion target, you will be prompted for a target when performing a promotion of the bundle.
Follow References	Specification for whether or not to dynamically include items that are referenced by bundled item definitions. For example, if you bundle an Email Task and enable the Follow References option, the Email Connection and/or Email Template referenced by the Email Task will be included in the promotion operation. If you bundle a Trigger and enable the Follow References option, the Task(s) and Calendar referenced by the Trigger will be included in the promotion. Tasks within a bundled Workflow are included in the promotion regardless of the Follow Reference option. Custom Days that are defined within a bundled Calendar are included in the promotion regardless of the Follow Reference option as well. (The information included is similar to the information included in an XML export with references .)
Promote Bundle Definition	Enable this option to promote the Bundle Details, along with the Bundle itself, when promoting the Bundle.
Buttons	This section identifies the buttons displayed above and below the Bundle Details that let you perform various actions.

Save	Saves a new record in the Controller database.
Update	Saves updates to the record.
New	Displays empty (except for default values) Details for creating a new Bundle record.
Bundle Report	Allows you to generate a report about the current bundle. See Generating a Bundle Report .
Promote Bundle	Allows you to promote this bundle to a target Opwise Controller server. See Promoting Bundles and Records to a Target .
Delete	Deletes the current record.
Refresh	Refreshes any dynamic data displayed in the Details.
Close	For pop-up view only; closes the pop-up view of this record.
Tabs	This section identifies the tabs across the top of the Bundle Details that provide access to additional information about the Bundle.
<record type> tabs	<p>Each tab of the following record types lists the records of that type that belong to this Bundle. An Edit button on each record type list allows you to add records to and remove records from the Bundle (see Adding and Removing Records in a Bundle, below).</p> <ul style="list-style-type: none"> • Triggers • Tasks • Calendars • Custom Days • Variables • Business Services • Credentials • Agent Clusters • Virtual Resources • Scripts • Email Templates • Email Connections • Database Connections • SNMP Managers • SAP Connections • Applications

Adding and Removing Records in a Bundle

You must create and save a Bundle before you can add records to the Bundle.

If you [create a Bundle manually](#), the Bundle is empty of records until you manually add them. If you [create a Bundle by date](#), the Bundle automatically contains records that were added or updated since the specified date, but you can manually add more records to the Bundle or remove any of the automatically added records from the Bundle.

You can add a record to a Bundle from:

- [Bundle Details](#)
- [Record Details](#)
- [Records List for the record](#)

You can remove a record from a Bundle only from:

- [Bundle Details](#)

Adding and Removing Records from the Bundle Details

Step 1	Display the Bundle Details of the Bundle to which you want to add records.
---------------	--

Step 2 Click a <record type> tab for records that you want to add to the Bundle. A list of all records currently in the Bundle for that type are listed. (If you are adding records to a new Bundle, the list for every record type will be empty.)

For example:

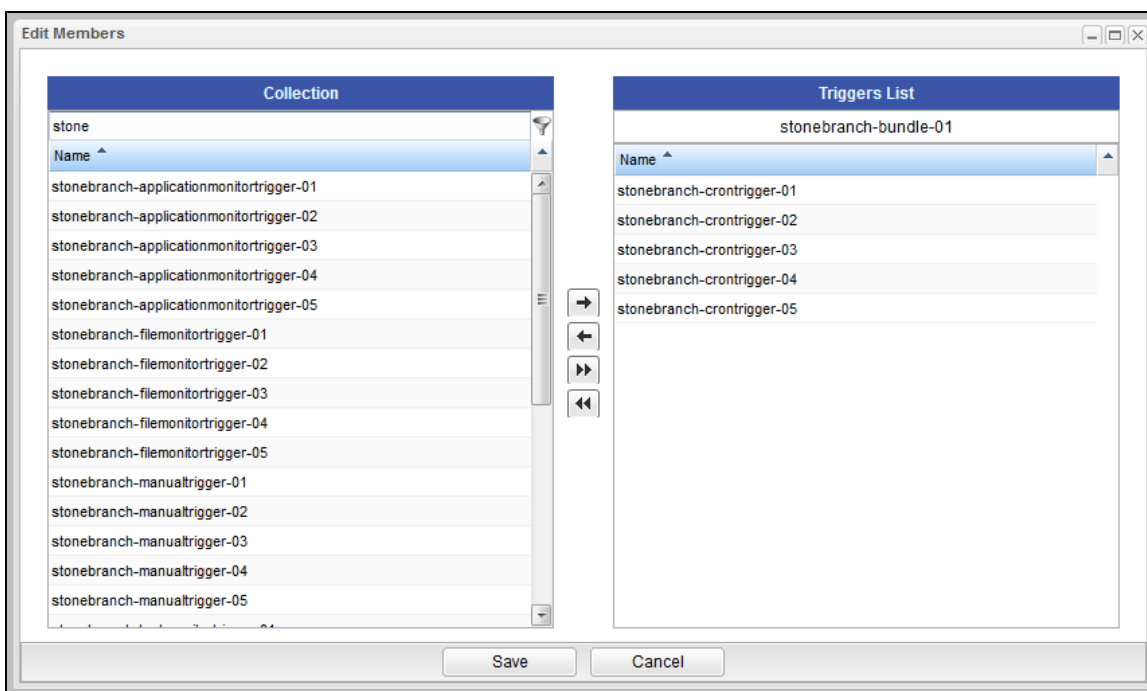
Bundle Details: stonebranch-bundle-01

Bundle Triggers Tasks Calendars Custom Days Variables Business Services Credentials Agent Clusters Virtual Resources Scripts

5 Triggers Edit

Name ^	Type	Description	Added By	Updated By	Updated
stonebranch-crontrigger-01	Cron			stonebranch-user-01	2014-07-02 17:38:34 -0400
stonebranch-crontrigger-02	Cron			stonebranch-user-02	2014-07-02 17:38:34 -0400
stonebranch-crontrigger-03	Cron			stonebranch-user-03	2014-07-02 17:38:34 -0400
stonebranch-crontrigger-04	Cron			stonebranch-user-04	2014-07-02 17:38:34 -0400
stonebranch-crontrigger-05	Cron			stonebranch-user-05	2014-07-02 17:38:34 -0400

Step 3 Click the **Edit** button above the list. An **Edit Members** pop-up displays that allows you to add records to the Bundle. For example:



- The **Collection** window displays all records of this type that have not been added to the Bundle.
- The **Tasks List** window displays all records of this type that have been added to the Bundle.

Step 4 To filter the records listed in the Collection window, enter characters in the text field above the **Name** column. Only records containing that sequence of characters will display in the list.

Step 5 To add a record to the Bundle, move the records from the **Collection** window to the **List** window:

1. To move a single record, double-click it or click it once and then click the > arrow.
2. To move multiple records, Ctrl-click them and then click the > arrow.
3. To move all records, click the >> arrow.

To remove a record from the Bundle, move the record from the **List** window to the **Collection** window:

1. To move a single record, double-click it or click it once and then click the < arrow.
2. To move multiple records, Ctrl-click them and then click the < arrow.
3. To move all records, click the << arrow.

Step 6 Click **Save**.

Step 7 Repeat the above steps in the appropriate tabs for all records you want to add.

Adding a Record to a Bundle from the Record Details

Step 1 Display the list of records containing the record that you want to add to a Bundle.

Step 2 Either right-click the record you want to add or display the Details for that record.

Step 3 Display the **Action menu** and select **Add to Bundle**. The **Add To Bundle** pop-up displays.

Step 4 Select a **Bundle Name** from the drop-down list and click **Submit**. The record is added to the Bundle (see [Displaying the Bundles List for a Record](#)).

Adding Multiple Records to a Bundle from a Records List

Step 1 Display the list of records containing the records that you want to add to a Bundle.

Step 2 Ctrl-click the records that you want to add to the Bundle.

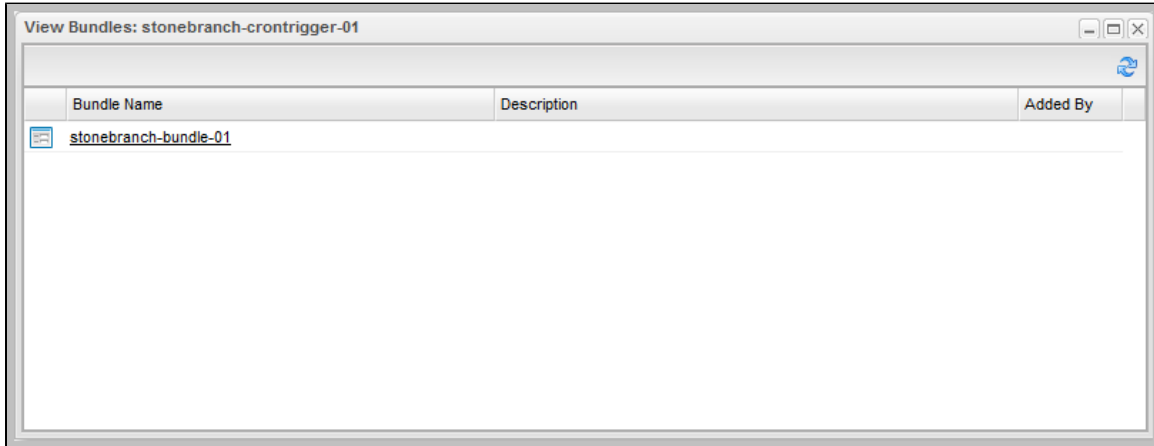
Step 3 Display the **Action menu** and select **Add to Bundle**. The **Add To Bundle** pop-up displays.

Step 4 Select a **Bundle Name** from the drop-down list and click **Submit**. The records are added to the Bundle (see [Displaying the Bundles List for a Record](#)).

Displaying the Bundles List for a Record

To display a list of Bundles that a record belongs to:

Step 1 Access the **Action** menu for the record and select **View Bundles**. A View Bundles pop-up displays the list of Bundles that the record belongs to.



Step 2 To view Details for a Bundle on the list, click its **Bundle Name**.

Generating a Bundle Report

- Introduction
- Generating a Report

Introduction

A Bundle Report displays a list of all records included in a Bundle, categorized by record type.

Generating a Report

To generate the report:

Step 1 From the **Bundles & Promotion** navigation pane, select **Bundles**. The Bundles list displays.

The screenshot shows the 'Bundles' interface. At the top, there is a 'Bundles' tab and a '5 Bundles' dropdown. Below this is a table with columns: Bundle Name, Description, Default Promotion Target, Follow References, Updated By, and Updated. The table contains five rows of bundle data. Below the table is a 'Bundle Details' section with tabs for Bundle, Triggers, Tasks, Calendars, Custom Days, Variables, Business Services, Credentials, Agent Clusters, Virtual Resources, and Scripts. The 'Bundle' tab is active, showing a form with fields for Bundle Name, Description, Default Promotion Target, Follow References, and Promote Bundle Definition, along with Save and New buttons.

Bundle Name	Description	Default Promotion Target	Follow References	Updated By	Updated
stonebranch-bundle-01		stonebranch-promotiontarget-01	No	stonebranch-user-01	2014-06-13 15:39:54 -0400
stonebranch-bundle-02		stonebranch-promotiontarget-02	No	stonebranch-user-02	2014-06-13 15:40:11 -0400
stonebranch-bundle-03		stonebranch-promotiontarget-03	No	stonebranch-user-03	2014-06-13 15:40:26 -0400
stonebranch-bundle-04		stonebranch-promotiontarget-04	No	stonebranch-user-04	2014-06-13 15:40:39 -0400
stonebranch-bundle-05		stonebranch-promotiontarget-05	No	stonebranch-user-05	2014-06-13 15:40:48 -0400

Step 2 Either right-click the Bundle that you want to create a Bundle Report for and click **Bundle Report** in the **Action menu**, or display the Details for the Bundle and click the **Bundle Report** button. A Bundle Report displays for that Bundle.

Bundles
Bundle Report

Bundle Name:	stonebranch-bundle-01
Description:	
Follow References:	false
Promote Bundle Definition:	false
Default Promotion Target:	stonebranch-promotiontarget-01

Name	Type	Description	Added By
Triggers (5)			
stonebranch-crontrigger-01	TRIGGER: Cron		*
stonebranch-crontrigger-02	TRIGGER: Cron		*
stonebranch-crontrigger-03	TRIGGER: Cron		*
stonebranch-crontrigger-04	TRIGGER: Cron		*
stonebranch-crontrigger-05	TRIGGER: Cron		*

Bundled Items Total: 5



Note

Items included in the promotion that were added directly to the Bundle have a user id in the **Added By** column. Items included in the promotion dynamically (that is, Tasks within a Workflow, Custom Days within a Calendar, or, when the Follow References option is enabled, the number of items referenced by the bundled items) have an asterisk (*) in the **Added By** column.

Step 3 If you want to print the report, click the **Print** button at the bottom of the report.

Creating Promotion Targets

- [Creating a Promotion Target](#)
- [Promotion Target Details](#)
 - [Promotion Target Details Field Descriptions](#)

Creating a Promotion Target

Before you can promote a Bundle (or individual record) to Opwise Controller, you must create a Promotion Target record for a [cluster node](#) of that Controller. A Promotion Target record contains the Uniform Resource Identifier (URI) of a target cluster node and, optionally, the user name and password required to log on to the cluster node.

Step 1 From the [Bundles & Promotion](#) navigation pane, select **Promotion Targets**. The Promotion Targets list displays a list of existing Promotion Targets.

Below the list, Promotion Target Details for a new Promotion Target record displays. (You also can click the **New** button to display Promotion Target Details for a new Promotion Target record.)

The screenshot shows the Opwise Controller interface. At the top, there is a navigation pane with 'Home' and 'Promotion Targets'. Below this is a table titled '5 Promotion Targets' with columns: Name, User, URI, Description, Updated By, and Updated. The table contains five rows of data for 'stonebranch-promotiontarget-01' through '05'. Below the table is a 'Promotion Target Details' section with tabs for 'Promotion Target', 'Linux/Unix Agent Mappings', 'Windows Agent Mappings', and 'z/OS Agent Mappings'. The 'Promotion Target' tab is active, showing a 'Details' form with fields for Name, Description, URI (pre-filled with 'http://localhost:8080/opwise'), User, and Password. There are 'Save' and 'New' buttons at the bottom of the form.

Name	User	URI	Description	Updated By	Updated
stonebranch-promotiontarget-01		http://localhost:8080/opwise		stonebranch-user-01	2014-06-13 15:37:58 -0400
stonebranch-promotiontarget-02		http://localhost:8080/opwise		stonebranch-user-02	2014-06-13 15:38:04 -0400
stonebranch-promotiontarget-03		http://localhost:8080/opwise		stonebranch-user-03	2014-06-13 15:38:07 -0400
stonebranch-promotiontarget-04		http://localhost:8080/opwise		stonebranch-user-04	2014-06-13 15:38:12 -0400
stonebranch-promotiontarget-05		http://localhost:8080/opwise		stonebranch-user-05	2014-06-13 15:38:17 -0400

Step 2 Enter / select Details for a new Promotion Target, using the [field descriptions](#) below as a guide.

- Required fields display in **boldface**.
- Default values for fields, if available, display automatically.

To display more of the Details fields on the screen, you can temporarily [hide the list](#).



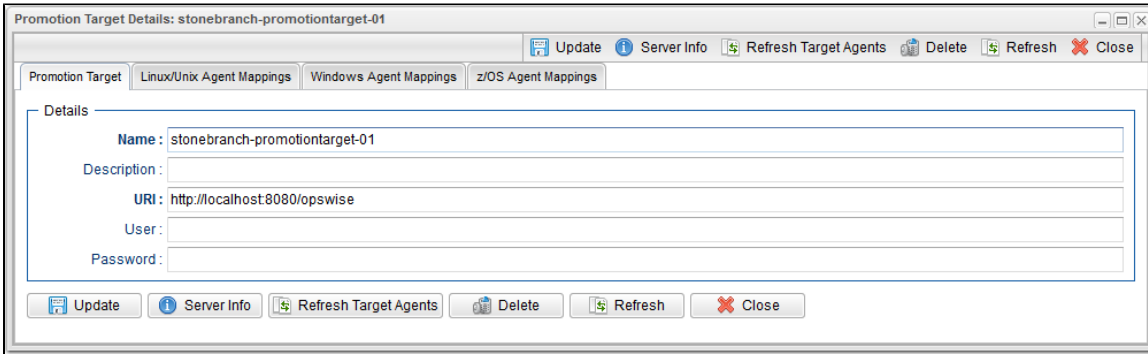
Note

If you view [Promotion Target Details](#) for an existing Promotion Target by clicking a Promotion Target in the list, and then want to create a new Promotion Target record, you must click the **New** button that displays above and below the Details.

Step 3 Click the **Save** button. The Promotion Target record is added to the database, and all buttons and tabs in the Promotion Target Details are enabled.

Promotion Target Details

The following Promotion Target Details is for an existing Promotion Target. See the [field descriptions](#), below, for a description of all fields that display in the Promotion Target Details.



Promotion Target Details Field Descriptions

The following table describes the fields, buttons, and tabs that display in the Promotion Target Details.

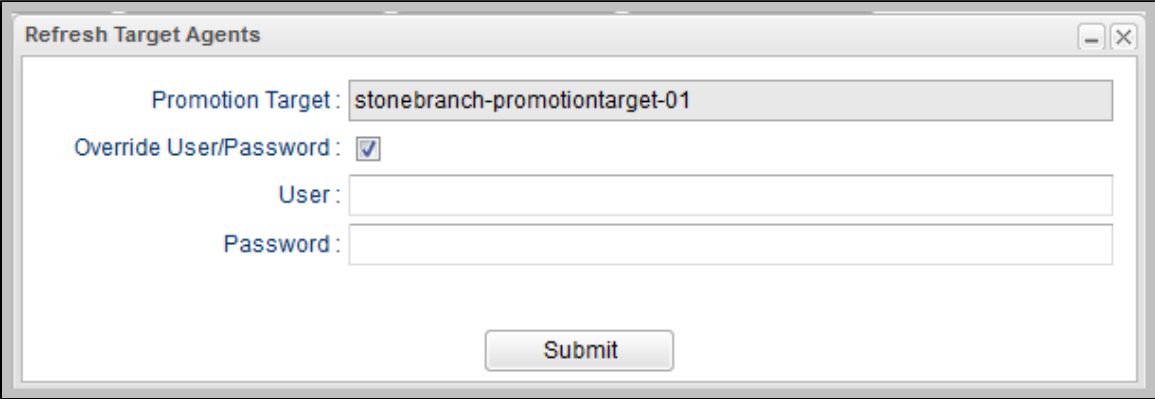
Field Name	Description
Details	This section contains detailed information about the Promotion Target.
Name	Name for this Production Target.
Description	User-defined; description of this record. (Maximum = 200 characters.)
URI	Uniform Resource Identifier (URI) used to locate the Promotion Target cluster node.
User	Login ID on the target cluster node of Opswise Controller.
Password	Login password on the target cluster node of Opswise Controller.
Buttons	This section identifies the buttons displayed above and below the Promotion Target Details that let you perform various actions.
Save	Saves a new record in the Controller database.
Update	Saves updates to the record.
New	Displays empty (except for default values) Details for creating a new Promotion Target record.
Server Info	Displays a Remote Server Information pop-up that contains details about the cluster node identified in this record.
Refresh Target Agents	Accesses the specified Opswise Controller server and fetches all Agent records. For details, see Specifying Agent Mapping .

Delete	Deletes the current record.
Refresh	Refreshes any dynamic data displayed in the Details.
Close	For pop-up view only; closes the pop-up view of this record.
Tabs	This section identifies the tabs across the top of the Promotion Target Details that provide access to additional information about the Bundle.
<Agent-type> Mappings	Lists all Agent mapping instructions between the source and target Controllers. See Specifying Agent Mapping .

Specifying Agent Mapping

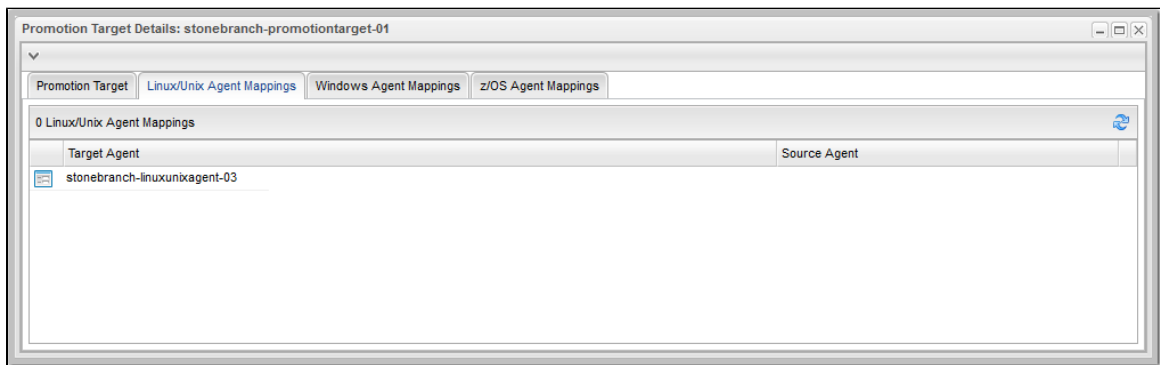
Specifying Agent Mapping

Because your source and target Controller machines may not have the same Agents, you must provide instructions to the Controller on how to map Agents on the source machine to Agents on the target machine. The process consists of instructing the Controller to fetch the list of Agents on the target machine and manually identifying how each Agent should be mapped.

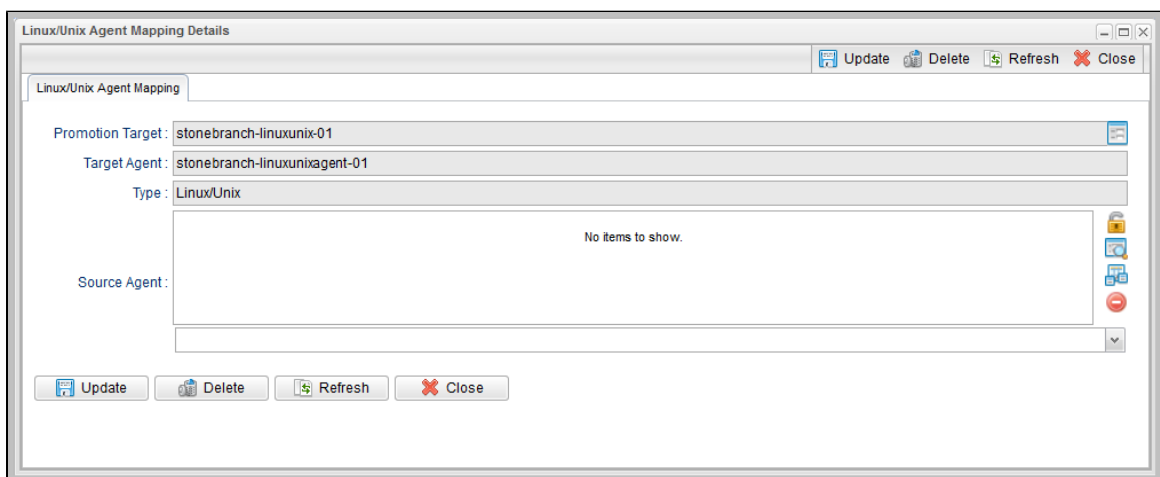
Step 1	Access the Action menu for a Promotion Target record.
Step 2	<p>Click Refresh Target Agents. The Refresh Target Agents pop-up displays.</p> 
Step 3	<p>If the Promotion Target record does not provide the login credentials (User and Password) for the target machine, you must enter them.</p> <p>If the Promotion Target record does provide login credentials, but you want to override them, click Override User/Password and enter a User and Password.</p>
Step 4	Click Submit . The Controller logs in to the target machine specified in the Promotion Target Details URI field, accesses the appropriate tables, sorts the Agents into Agent types, and lists them in the appropriate <Agent-type> Mappings tab in the Promotion Target Details.

Step 5 To specify Agent mapping, complete the steps below for each tab that contains Agents:

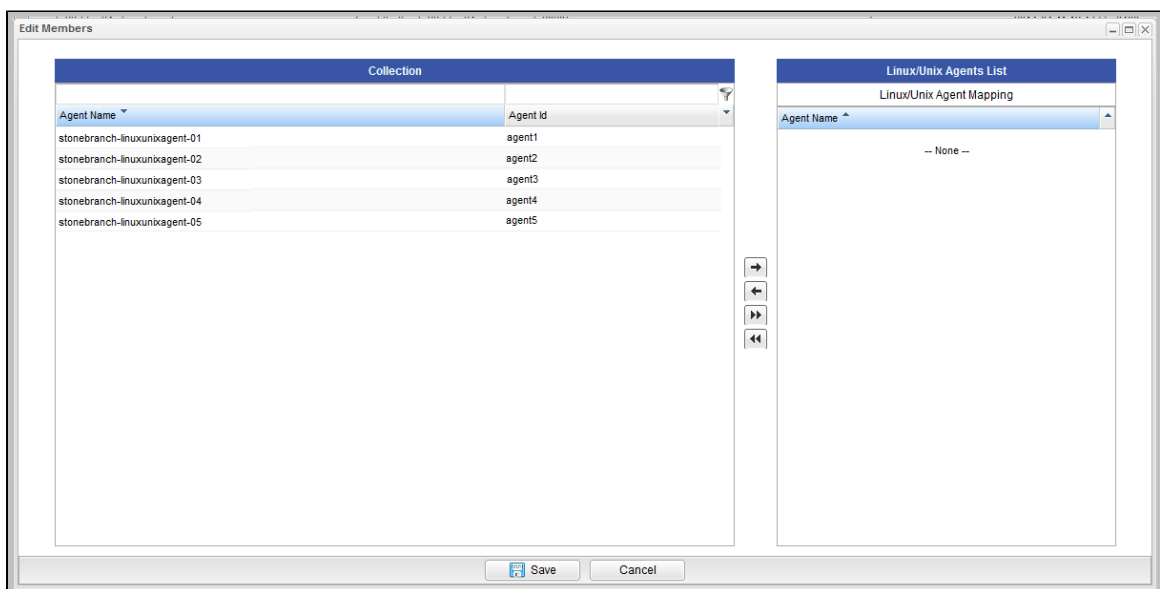
1. Click the tab title to display the target Agents. The example below shows a list of Unix agents on a target machine:



2. To specify mapping, click the name of a Target Agent. A record opens showing more detail, as shown in the example below.



3. In the **Source Agent** field, click the **Add-Remove Multiple** icon to display an Edit Members dialog.



- The **Collection** window displays all Agents of this type on the source machine that have not been mapped.
- The **Agents List** windows displays all Agents of this type on the source machine that have been mapped.

Step 6	To filter the Agents listed in the Collection window, enter characters in the text field above the Name column. Only Agents containing that sequence of characters will display in the list.
Step 7	<p>To map an Agent, move the it from the Collection window to the List window:</p> <ol style="list-style-type: none"> 1. To move a single Agent, double-click it or click it once and then click the > arrow. 2. To move multiple Agents, Ctrl-click them and then click the > arrow. 3. To move all Agents, click the >> arrow. <p>To un-map an Agent, move it from the List window to the Collection window:</p> <ol style="list-style-type: none"> 1. To move a single Agent, double-click it or click it once and then click the < arrow. 2. To move multiple Agents, Ctrl-click them and then click the < arrow. 3. To move all Agent, click the << arrow.
Step 8	Click Save .
Step 9	Repeat the above procedure for each Agent listed. For best results, you should make sure all the Agents on your source machine are mapped to an Agent on the target machine. You can map as many source Agents to a single target Agent as needed. Once you have specified the mapping for all your source Agents, you can easily promote Bundles or individual records to this Promotion Target. When you promote records (via Bundle or individually) to the target machine, the target Agent will replace the source Agent.

Refresh Agent Error Messages

If your setup is incorrect, you may see the error message described below.

If you tried to refresh target Agents using a non-existent user or invalid password on the Promotion Target:

Error Message	Location
<pre>GET http://NN.NNN.NN.N:8080/opwise/resources/agents/list returned a response status of 401 Unauthorized</pre>	User interface on source machine
<pre>2012-03-29-16:27:17:134 ERROR [http-8080-6] com.sun.jersey.api.client.UniformInterfaceException: GET returned a response status of 401 Unauthorized</pre>	Opwise log on source machine
<pre>2012-03-29-16:27:16:138 ERROR [http-8080-1] *** ERROR *** Login using Basic Authentication failed for: [userID]</pre>	Opwise log on target machine

Promoting Bundles and Records to a Target

- [Overview](#)
- [Promoting a Bundle](#)
- [Promoting One or More Individual Records](#)
- [Promotion Error Messages](#)
- [Promotion Audit Records](#)

Overview



Note

To use this feature, the user logged into the source Controller must have the `ops_promotion_admin` role. Also, the user ID and password specified for the Promotion Target must be a valid user on the target Controller with the `ops_promotion_admin` role.

Promoting a Bundle means copying all of the records in a Bundle from a source Controller to a target Controller.

You also can promote one or more individual records without bundling them.

For every record in a bundle being promoted, and every record being promoted individually, the following associated data is always included in the promotion.

- If you promote a workflow, all of the tasks in the workflow are also promoted.
- If you promote a task (including a workflow), all variables, virtual resource dependencies, actions, notes, etc. are included in the promotion.
- If you promote an application, its associated start, stop, and query tasks are included in the promotion.
- If you promote a calendar, its associated custom days are included in the promotion.

Promoting a Bundle

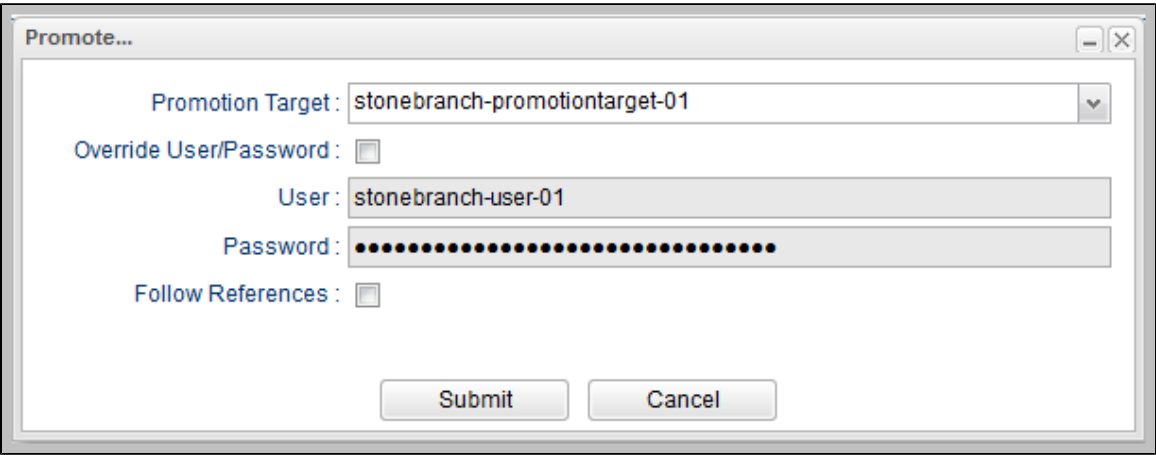
Step 1	Select the Bundle that you want to promote.
Step 2	Access the Action menu and click Promote Bundle . A pop-up window displays, prompting you to select the Promotion Target from a drop-down list. Select the target.
Step 3	The default login ID and password are provided from the Promotion Target record, if specified. If you want to override the default, click Override User/Password and type in the new information.
Step 4	Click Submit . The Controller logs in to the target machine specified in the URI field of the Promotion Target Record and copies the bundled records to the target Controller. Based on the specified Agent mapping, the target Agent replaces the source Agent where required.

This process creates audit records on the source and target machine. On the target machine, the Controller also creates a Promotion History record. For details, see [Promotion History and the Restore Option](#).

Promoting One or More Individual Records

The Controller also allows you to promote records of the same type to a target machine without going through the process of creating a Bundle.

Step 1	Display the records list for the type of record that you want to promote.
Step 2	<p>Select the record(s) that you want to promote.</p> <ul style="list-style-type: none"> • To promote a single record, either: <ul style="list-style-type: none"> • Right-click the record to display an Action menu, and then click Promote. • Display the record Details, right-click the Details to display an Action menu, and then click Promote. • To promote multiple records: <ul style="list-style-type: none"> • Ctrl-click the records you want to promote, right-click any of the selected records to display an Action menu, and then click Promote.

Step 3	The Promote dialog displays, prompting you to select the Promotion Target from a drop-down list. Select the target.
	
Step 4	The default login ID and password will be provided from the Promotion Target record. If you want to override the default, click Override User/Password and type in the new information.
Step 5	Select Follow References if you want to dynamically include items that are referenced by these records.
Step 6	Click Submit . The Controller logs in to the target machine specified in the URI field of the Promotion Target Record and copies the selected records to the target machine.

This process creates audit records on the source and target machines. On the target machine, the Controller also creates a [Promotion History](#) record.

Promotion Error Messages

If your set-up is incorrect, you may see the following error messages.

If you tried to promote a bundle or record using a non-existent user or invalid password on the Promotion Target:

Error Message	Location
<pre>Command Promote Bundle failed to execute: POST http://NN.NNN.NN.N:8080/opwise/resources/bundle/promote returned a response status of 401 Unauthorized.</pre>	User interface and Opwise log on source machine
<pre>2012-03-29-16:41:36:185 ERROR [http-8080-4] *** ERROR *** Login using Basic Authentication failed for: [userID]</pre>	Opwise log on target machine

If you tried to promote a Bundle or record using a valid user/password on the Promotion Record that does not have the `ops_promotion_admin` role:

Error Message	Location
<pre>Command Promote Bundle failed to execute: [Command Accept Bundle prohibited due to security constraints.]</pre>	User interface on source machine

Promotion Audit Records

Whenever a Bundle or an individual record is promoted to a target machine, the Controller creates audit records on both the source and target machines.

On the source machine, each time you promote a record or a Bundle, the Controller creates a single [audit record](#) for that event. If you promoted a Bundle, the audit message is PROMOTE_Bundle; if you promoted a single record or multiple records, the audit message is PROMOTE. An example audit record is shown below for a Bundle called Adjustments Workflow:

On the target machine, the Controller creates an ACCEPT_BUNDLE audit record, along with "child" audit records associated with that promotion (either record[s] or a Bundle). These may include UPDATE commands for records that existed on the target already and CREATE commands for records that did not previously exist.

For example, if you promote an updated Calendar record, the Controller creates an ACCEPT_BUNDLE audit for the promotion, and UPDATE audit records for the Calendar and each of the Custom Days used in the Calendar.

For detailed information on audit record, see [Audits](#).

Promotion History and the Restore Option

- Overview
- Accessing Promotion History Records
- Promotion History Details Field Descriptions

Overview

The Controller creates a Promotion History record each time a Bundle (or record) is promoted to a target Controller.

Accessing Promotion History Records

To access a Promotion History record on the target Controller:

Step 1 From the Bundles & Promotion navigation pane, select **Promotion History**. The **Promotion History** list displays.

Bundle Name	Source Node	Promotion User	Updated By	Updated
2014_05_05-09:55:40.371_virtual_resources	4:8080-opwise6	stonebranch-user-01	stonebranch-user-01	2014-05-05 10:55:44 -0400
2014_04_11-16:48:09.911_tasks	6100:8080-5100	stonebranch-user-02	stonebranch-user-02	2014-04-11 16:47:22 -0400
2014_04_11-16:08:08.250_calendars	4:8080-opwise6	stonebranch-user-03	stonebranch-user-03	2014-04-11 17:08:09 -0400
2014_04_10-20:23:25.62_tasks	6100:8080-5100	stonebranch-user-04	stonebranch-user-04	2014-04-10 21:23:26 -0400
2014_04_10-19:44:31.170_tasks	4:8080-opwise6	stonebranch-user-05	stonebranch-user-05	2014-04-10 20:44:36 -0400
2014_03_31-13:57:46.706_triggers	6100:8080-5100		stonebranch-user-04	2014-03-31 13:57:03 -0400
2014_03_31-13:55:39.982_triggers	6100:8080-5100		stonebranch-user-03	2014-03-31 13:54:56 -0400
2014_03_29-16:58:45.995_tasks	6100:8080-5100		stonebranch-user-04	2014-03-29 16:58:03 -0400
2014_03_29-14:37:02.954_tasks	6100:8080-5100		stonebranch-user-03	2014-03-29 14:36:22 -0400
2014_03_13-10:32:16.443_tasks	6100:8080-5100		stonebranch-user-04	2014-03-13 10:31:41 -0400

Step 2 Click anywhere in the row of a Bundle on the list, or click the icon next to the **Bundle Name** of a Bundle, to display Promotion History Details for that Bundle.

Details	
Bundle Name :	2014_04_11-16:48:09.911_tasks
Source Node :	6100:8080-5100
Promotion User :	agent1

Step 3 To see a list of all records included in the promoted Bundle, click the **Promotion History Items** tab.

Step 4 You can restore records to the state they were in before the promotion. This applies only to records being updated by the promotion, not those being created by a promotion. See the field descriptions below for details.

Promotion History Details Field Descriptions

The fields on the Promotion History Details are system-supplied and read-only.

Field Name	Description
Details	This section contains detailed information about the promoted Bundle (or record).
Bundle Name	Name of this record.
Source Node	Machine name or URI of the machine where the source Opwise Controller system is running.
Promotion User	User ID of the user who promoted the bundle or record(s).
Buttons	This section identifies the buttons displayed above and below the Promotion History Details that let you perform various actions.
Run Report button	Generates a one page summary of the contents of the bundle. See Generating a Bundle Report .
Restore Unchanged	For records that already existed on the target server, you can restore them to their state prior to the promotion. The Restore Unchanged button restores only those records that have not been changed since the promotion updated the record. For records that were created on the target machine by the promotion, no changes will occur since no previous version exists.
Restore All	For records that already existed on the target server, you can restore them to their state prior to the promotion. The Restore All button restores all records that were updated by the promotion, including records that were modified since the promotion. For records that were created on the target machine by the promotion, no changes will occur since no previous version exists.
Delete	Deletes the current record.
Refresh	Refreshes any dynamic data displayed in the Details.
Close	For pop-up view only; closes the pop-up view of this record.
Tabs	This section identifies the tabs across the top of the Promotion History Details that provide access to additional information about the promotion.
Promotion History Items	Lists all the records promoted as part of this Bundle. Each item in the list provides the name and type of the record, the latest version number on the target, the previous version number on the target, and the source version number.