

HP Operations Orchestration Software

Software Version: 9.00.05

HP SiteScope Integration Guide

Document Release Date: April 2011

Software Release Date: April 2011



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Warranty

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For information on open-source and third-party software acknowledgements, see in the documentation set for this release, Open-Source and Third-Party Software Acknowledgements (3rdPartyOpenNotices.pdf).

On the Web: Finding OO support and documentation

There are two Web sites where you can find support and documentation, including updates to OO Help systems, guides, and tutorials:

- The OO Support site
- HP Live Network

Support

Documentation enhancements are a continual project at Hewlett-Packard Software. You can obtain or update the HP OO documentation set and tutorials at any time from the HP Software Product Manuals Web site. You will need an HP Passport to log in to the Web site.

To obtain HP OO documentation and tutorials

1. Go to the HP Software Product Manuals Web site (<http://support.openview.hp.com/selfsolve/manuals>).
2. Log in with your HP Passport user name and password.

OR

If you do not have an HP Passport, click **New users – please register** to create an HP Passport, then return to this page and log in.

If you need help getting an HP Passport, see your HP OO contact.

3. In the **Product** list box, scroll down to and select **Operations Orchestration**.
4. In the **Product Version** list, click the version of the manuals that you're interested in.
5. In the **Operating System** list, click the relevant operating system.
6. Click the **Search** button.
7. In the **Results** list, click the link for the file that you want.

HP Live Network

For support information, including patches, troubleshooting aids, support contract management, product manuals and more, visit the following site: <https://www.www2.hp.com/>.

This is the **HP Live Network** Web page. To sign in:

1. Click **Login**.
2. On the **HP Passport sign-in** page, enter your HP Passport user ID and password and then click **Sign-in**.
3. If you do not already have an HP Passport account, do the following:
 - a. On the **HP Passport sign-in** page, click **New user registration**.
 - b. On the **HP Passport new user registration** page, *enter the required information and then click **Continue***.
 - c. On the confirmation page that opens, check your information and then click **Register**.
 - d. On the **Terms of Service** page, read the Terms of use and legal restrictions, select the **Agree** button, and then click **Submit**.
4. On the **HP Live Network** page, click **Operations Orchestration Community**.

The Operations Orchestration Community page contains links to announcements, discussions, downloads, documentation, help, and support.

Note: Contact your OO contact if you have any difficulties with this process.

In OO: How to find Help, PDFs, and tutorials

The HP Operations Orchestration Software (HP OO) documentation set is made up of:

- **Help for Central**
Central Help provides information to the following:
 - Finding and running flows
 - For HP OO administrators, configuring the functioning of HP OO
 - Generating and viewing the information available from the outcomes of flow runsThe Central Help system is also available as a PDF document in the HP OO home directory, in \Central\docs.
- **Help for Studio**
Studio Help instructs flow authors at varying levels of programming ability.
The Studio Help system is also available as a PDF document in the HP OO home directory, in \Studio\docs directory.
- **Animated tutorials for Central and Studio**
HP OO tutorials can each be completed in less than half an hour and provide basic instruction on the following:
 - In Central, finding, running, and viewing information from flows
 - In Studio, modifying flowsThe tutorials are available in the Central and Studio subdirectories of the HP OO home directory.
- **Self-documentation for HP OO operations, flows, and Accelerator Packs**
Self-documentation is available in the descriptions of the operations and steps that are included in the flows.

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Overview of HP SiteScope integration

This integration enables administrators to build HP Operations Orchestration (OO) flows that are integrated with HP SiteScope and to control OO flows via the SiteScope dashboard.

This document explains how this integration has been implemented, and how to launch flows from within SiteScope. It also explains the operations that are included in the integration for communicating between OO and SiteScope.

Use cases and scenarios

The following are the major use cases for the SiteScope integration.

1. Launch OO flows from the SiteScope console.

In this scenario, the integration allows administrators to connect specific events or alarms in SiteScope to the execution of OO flows. This type of integration is a simple Incident Management/Runbook use case that includes the following events:

- An error is detected by SiteScope and an alarm is raised on the console.
- An OO flow is launched to remediate the fault.
- OO automatically acknowledges the event and runs the flow.
- OO updates and resets the alarm.

2. Automate SiteScope administrative tasks.

In this scenario, the integration's operations allow the automation of SiteScope administrative task, allowing administrators to link SiteScope administrative functions to provisioning and maintenance. This includes tasks such as automatic SiteScope template deployment.

Versions

Operations Orchestration Version	SiteScope Version
9.00.05	7.0, 9.00, 9.5, 10.10, 10.11, 11.00, 11.01

Architecture

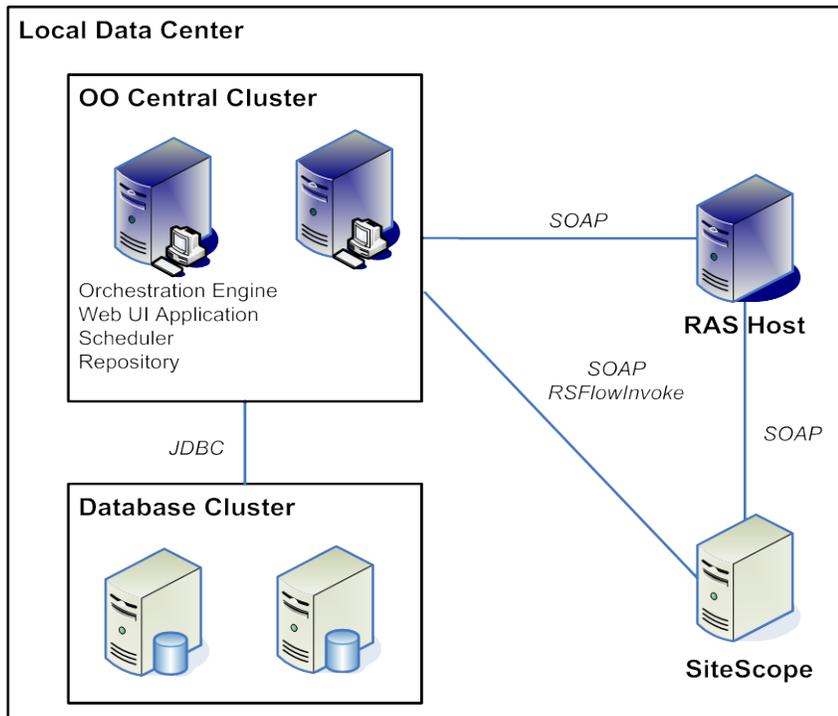


Figure 1 - HP SiteScope architecture

HP SiteScope integration operation infrastructure

The HP SiteScope integration includes the following operations in the OO Studio Library/Integrations/Hewlett-Packard/SiteScope/9.x and 10.x and 11.00/ folder.

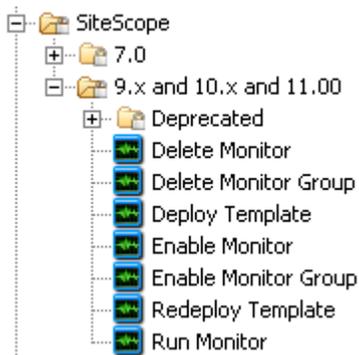


Figure 2 - HP SiteScope operations in the Studio Library

Note: The operations in the Library/Integrations/Hewlett-Packard/SiteScope/9.x and 10.x and 11.00/ folder support HP SiteScope versions 9.00, 9.5, 10.10, 10.11, and 11.00.

Common inputs in the integration

OO flows and operations use inputs to specify how they obtain the data that they need and when the data is obtained. The following inputs are used consistently throughout the SiteScope integration's operations.

hostname

The DNS name or IP address of the SiteScope host.

port

The port on which to connect to your SiteScope host.

protocol

The protocol with which to connect to your SiteScope host. The valid values are **HTTP** and **HTTPS**. **HTTPS** is not configured by default during SiteScope installation.

username

The username of the SiteScope host.

password

The password associated with the SiteScope username.

Operation specifics

This section describes the HP SiteScope integration's operations, including any operation-specific inputs.

Delete Monitor

The **Delete Monitor** operation deletes a SiteScope monitor.

All of the operation's inputs except the following are described in [Common inputs in the integration](#).

monitorPath

The path to the monitor to delete (for example, **Monitors\WSMonitor**). If the **SiteScope** root folder appears in the user interface, do not include it in the **monitorPath** input value.

delimiter

A delimiter for the **monitorPath** input value. The default values are a backslash (\) or forward slash (/). Specify a delimiter if you want it to be a character other than one of the defaults (\ or /).

If the name of the monitor to delete includes a backslash (\) or forward slash (/), specify a delimiter that is not one of these characters (for example, if the name of the monitor is **monitor\test**), specify a character such as a colon (:) as the **delimiter** input value (for example, **parentGroup:childGroup:monitor\test**).

The operation returns the following:

returnResult

The result of the operation.

Delete Monitor Group

The **Delete Monitor Group** operation deletes a SiteScope monitor group.

All of the operation's inputs except the following are described in [Common inputs in the integration](#).

monitorPath

The path to the monitor group to delete (for example, **Monitors\MonitorGroup**). If the **SiteScope** root folder appears in the user interface, do not include it in the **monitorPath** input value.

delimiter

A delimiter for the **monitorPath** input value. The default values are a backslash (\) or forward slash (/). Specify a delimiter if you want it to be a character other than one of the defaults (\ or /).

If the name of the monitor group to delete includes a backslash (\) or forward slash (/), specify a delimiter that is not one of these characters (for example, if the name of the monitor group is **monitor\test**), specify a character such as a colon (:) as the **delimiter** input value (for example, **parentGroup:childGroup:monitor\test**).

The operation returns the following:

returnResult

The result of the operation.

Deploy Template

The **Deploy Template** operation deploys a SiteScope template to a destination path.

Note: In HP SiteScope 9.00, although you are not required to follow the best practice of creating monitors in templates within groups, you must do so before you can deploy the template. In SiteScope versions 9.5, 10.10, 10.11, 11.00, and future versions of SiteScope, this is a requirement.

All of the operation's inputs except the following are described in [Common inputs in the integration](#).

source

The source path (for example, **Group\Subgroup, Group\Template**). If the **SiteScope** root folder appears in the user interface, do not include it in the **source** input value.

destination

The destination path (for example, **Group\Subgroup**).

variables

The template variables (for example, **var1=value|var2=value2**).

connectToServer

By default, SiteScope attempts to verify that the object you are attempting to monitor is running. The valid values are **true** and **false**. The default is **true**. Set it to **false** to enable simulation mode with SiteScope versions 10.11 and later.

delimiter

A delimiter for the **source** and **destination** input values. The default values are a backslash (\) or forward slash (/). Specify a delimiter if you want it to be a character other than one of the defaults (\ or /).

If the value of the **source** or **destination** input includes a backslash (\) or forward slash (/), specify a delimiter that is not one of these characters. For example, if the name of the template or subgroup is **monitor\test**, specify a character such as a colon (:) as the **delimiter** input value (for example, **parentGroup:childGroup:monitor\test**).

The operation returns the following:

returnResult

The result of the operation.

Enable Monitor

The **Enable Monitor** operation enables or disables a SiteScope monitor. Repeatedly enabling or disabling a monitor does not have any side effects (idempotent).

All of the operation's inputs except the following are described in [Common inputs in the integration](#).

monitorPath

The monitor path (for example, **Monitors\WSMonitor**). If the **SiteScope** root folder appears in the user interface, do not include it in the **monitorPath** input value.

enable

The valid values to enable the monitor (**yes**, **true**, and **1**) or the valid values to disable the monitor (**no**, **false**, and **0**).

disablePeriod

If disabling the monitor, the time period to disable it (in seconds). Use **0** or leave the input empty to disable the monitor indefinitely.

delimiter

The delimiter for the **monitorPath** input value. The default values are a backslash (\) or forward slash (/). Specify a delimiter if you want it to be a character other than one of the defaults (\ or /).

If the name of the monitor to enable includes a backslash (\) or forward slash (/), specify a delimiter that is not one of these characters (for example, if the name of the monitor is **monitor\test**), specify a character such as a colon (:) as the **delimiter** input value (for example, **parentGroup:childGroup:monitor\test**).

The operation returns the following:

returnResult

The result of the operation.

Enable Monitor Group

The **Enable Monitor Group** operation enables or disables a SiteScope monitor group.

All of the operation's inputs except the following are described in [Common inputs in the integration](#).

monitorPath

The monitor group path (for example, **Monitors\MonitorGroup**). If the **SiteScope** root folder appears in the user interface, do not include it in the **monitorPath** input value.

enable

The valid values are:

- **yes**, **true**, and **1** to enable the monitor group.

- **no**, **false**, and **0** to disable the monitor group.

disablePeriod

If disabling the monitor group, the time period to disable it (in seconds). Use **0** or leave the input value empty to disable the monitor group indefinitely.

delimiter

The delimiter for the **monitorPath** input value. The default values are a backslash (\) or forward slash (/). Specify a delimiter if you want it to be a character other than one of the defaults (\ or /).

If the name of the monitor to delete includes a backslash (\) or forward slash (/), specify a delimiter that is not one of these characters (for example, if the name of the monitor is **monitor\test**), specify a character such as a colon (:) as the **delimiter** input value (for example, **parentGroup:childGroup:monitor\test**).

The operation returns the following:

returnResult

The result of the operation.

Redeploy Template

The **Redeploy Template** operation allows you to update the variables of a previously deployed SiteScope template.

All of the operation's inputs except the following are described in [Common inputs in the integration](#).

source

The source path (for example, **Group\Subgroup, Group\Template**). If the **SiteScope** root folder appears in the user interface, do not include it in the **source** input value.

destination

The destination path (for example, **Group\Subgroup**). This should be the parent monitor group of the previously deployed template.

variables

The template variables (for example, **var1=value|var2=value2**).

delimiter

The delimiter for the **source** and **destination** input values. The default values are a backslash (\) or forward slash (/). Specify a delimiter if you want it to be a character other than one of the defaults (\ or /).

If the value of the **source** or **destination** input includes a backslash (\) or forward slash (/), specify a delimiter that is not one of these characters. For example, if the name of the template or subgroup is **monitor\test**, specify a character such as a colon (:) as the **delimiter** input value (for example, **parentGroup:childGroup:monitor\test**).

The operation returns the following:

returnResult

The result of the operation.

Notes:

- Currently, the deployed template must have valid template variable values before you can update it. The SiteScope SOAP API fails to update the template variables if they are invalid. As a workaround, you can delete the deployed template with the **Delete Monitor Group** operation and then deploy the template again.

- To use the **Redeploy Template** operation to update values of template variables, the parent group of the deployed template must not contain any objects except the deployed template monitor group.

Run Monitor

The **Run Monitor** operation runs a SiteScope monitor.

All of the operation's inputs except the following are described in [Common inputs in the integration](#).

monitorPath

The monitor path (for example, **Monitors\WSMonitor**). If the **SiteScope** root folder appears in the user interface, do not include it in the **monitorPath** input value.

delimiter

The delimiter for the **monitorPath** input value. The default values are a backslash (\) or forward slash (/). Specify a delimiter if you want it to be a character other than one of the defaults (\ or /).

If the name of the monitor to run includes a backslash (\) or forward slash (/), specify a delimiter that is not one of these characters (for example, if the name of the monitor is **monitor\test**), specify a character such as a colon (:) as the **delimiter** input value (for example, **parentGroup:childGroup:monitor\test**).

The operation returns the following:

returnResult

The result of the monitor run.

Note: Due to a monitor path validation defect in the SiteScope 9.0 SOAP API, the monitors used by this operation must meet the following criteria:

- They must be contained in a parent group with the same name as the monitor. For instance, a monitor named **CPU Monitor ServerName** must have a parent group named **CPU Monitor ServerName**.
- The parent group of the monitor must not be the SiteScope root. It must be in another group.

For example, a monitor named **pingMonitor** must be in a monitor group of the same name (**pingMonitor**). This monitor group must be in another monitor group (**aMonitorGroup**): **aMonitorGroup/pingMonitor/pingMonitor**. To successfully run this example monitor in SiteScope 9.0, specify the path to the parent group of the monitor **aMonitorGroup/pingMonitor**. This defect with the SiteScope SOAP API has been resolved in SiteScope 9.5.

Launching flows

You can interact with HP Operations Orchestration (OO) by using the REST-based services shown below:

- <https://ooserver:port/PAS/services/http/list>
Retrieves a list of flows from OO.
- <https://ooserver:port/PAS/services/http/execute/<Library Path>>
Executes a flow by name and waits for the flow to finish before returning.
- <https://ooserver:port/PAS/services/http/execute/<Flow UUID>>
Executes a flow by UUID and waits for the flow to finish before returning.

- https://ooserver:port/PAS/services/http/execute_async/<Library Path>
Executes a flow by name and returns immediately after the flow is launched.
- https://ooserver:port/PAS/services/http/execute_async/<Flow UUID>
Executes a flow by UUID and returns immediately after the flow is launched.

You can launch flows from within SiteScope by hooking an alert action to run a server-side script (bat, vbs, or UNIX shell script). Then you can create a batch file that invokes RSFlowInvoke.exe or JRSFlowInvoke.jar (see the [Tools](#) section) to launch a flow in response to an alert. Because alerts do not necessarily need acknowledgements in SiteScope, it is acceptable for the alert to be remedied automatically. You can set up an alert using the **New Alert** wizard.

To force an update of monitors and/or acknowledge alerts, you can use the **Redeploy Template** operation to refresh monitors and reset the status of all alarms in the template.

Troubleshooting

General troubleshooting procedures

The SiteScope logs may contain errors that indicate that it could not find a resource bundle (which contain locale-specific objects). This does not adversely affect the functional operation and you can safely ignore them. Any other error that occurs is numbered or listed as an unknown error. Please report any unknown errors not shown below to OO Support.

55713 “SiteScope has encountered a general exception while trying to run monitor named “...”

This error typically occurs when trying to run a monitor that does not meet the criteria listed in the **Run Monitor** operation description. Check that the monitor you are trying to run meets these criteria. This error can also occur if you entered an invalid SiteScope path.

“Unknown Error: Failed to Audit the new created entity: {0} in audit log exception.”

This error can occur when you attempt to deploy or redeploy a template that fails to meet the criteria mentioned in the **Deploy Template** operation description.

Security

By default, SiteScope does not assign a password to the administrator user and does not have SSL enabled. You can assign an administrator password and enable SSL on the SiteScope administrator console. The SOAP API in SiteScope 10.10 and earlier versions does not authenticate. SiteScope 10.11 and later authenticate and require a valid SiteScope username and password for OO SiteScope operation inputs. If SSL is not enabled, the usernames and passwords will be transferred as clear text over the network.

Tools

Following are OO tools that you can use with the <technology name> integration:

- **RSFlowInvoke.exe** and **JRSFlowInvoke.jar**

RSFlowInvoke (RSFlowInvoke.exe or the Java version, JRSFlowInvoke.jar) is a command-line utility that allows you to start a flow without using Central (although the Central service must be running). RSFlowInvoke is useful when you want to start a flow from an external system, such as a monitoring application that can use a command line to start a flow.

- **Web Services Wizard (wswizard.exe)**

When you run the Web Services Wizard, you provide it with the WSDL for a given Web service. The WSDL string you provide as a pointer can be a file's location and name or a URL. The Web Services Wizard displays a list of the methods in the API of the Web service that you specify. When you run the wizard, pick the methods you want to use, and with one click for each method you have selected, the wizard creates an HP OO operation that can execute the method. This allows you to use the Web Services Wizard to create operations from your monitoring tool's API.

These tools are available in the Operations Orchestration home directory under the /Studio/tools/ folder.