HP Operations Orchestration

for the Windows and Linux operating systems

Software Version: OO Content Pack 7

HP SiteScope Integration Guide

Documentation Updates

The title page of this document contains the following identifying information:

- Software Version number, which indicates the software version.
- Document Release Date, which changes each time the document is updated.
- Software Release Date, which indicates the release date of this version of the software.

To check for recent updates or to verify that you are using the most recent edition of a document, go to:

http://h20230.www2.hp.com/selfsolve/manuals

This site requires that you register for an HP Passport and sign-in. To register for an HP Passport ID, go to:

http://h20229.www2.hp.com/passport-registration.html

Or click the **New users - please register** link on the HP Passport login page.

You will also receive updated or new editions if you subscribe to the appropriate product support service. Contact your HP sales representative for details.

Support

Visit the HP Software Support Web site at:

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This Web site provides contact information and details about the products, services, and support that HP Software offers.

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http://h20229.www2.hp.com/passport-registration.html

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http://h20230.www2.hp.com/new_access_levels.jsp

Contents

1 Introduction

This section includes the following topics:

- Purpose of the HP SiteScope Integration
- Supported Versions
- Downloading OO Releases and Documents on HP Live Network

Purpose of the 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.

Supported Versions

Table 1   Supported Versions

Operations Orchestration Version	HP SiteScope Version
OO Content Pack 7	7.0, 9.00, 9.5, 10.10, 10.11, 11.00, 11.01, 11.10, 11.11

Downloading OO Releases and Documents on HP Live Network

HP Live Network provides an **Operations Orchestration Community** page where you can find and download supported releases of OO and associated documents.

To download OO releases and documents, visit the following site:

https://hpln.hp.com/

This site requires that you register for an HP Passport and sign-in. To register for an HP Passport ID, go to:

http://h20229.www2.hp.com/passport-registration.html

Or click the **New users - please register** link on the HP Passport login page.

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.

1. On the left-hand side, click **Operations Orchestration Content Packs**.

2. In the **Operations Orchestration Content Packs** box, click **Content**. The HP Passport and sign-in page appears.

3. Enter your user ID and Password to access to continue.

4. Click **HP Operations Orchestration 9.00**.

5. Search for HP Operations Orchestration Content Pack 7

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2 Getting Started with the HP SiteScope Integration

This section includes the following topics:

- HP SiteScope – OO Integration Architecture
- HP SiteScope Use Cases

HP SiteScope — OO Integration Architecture
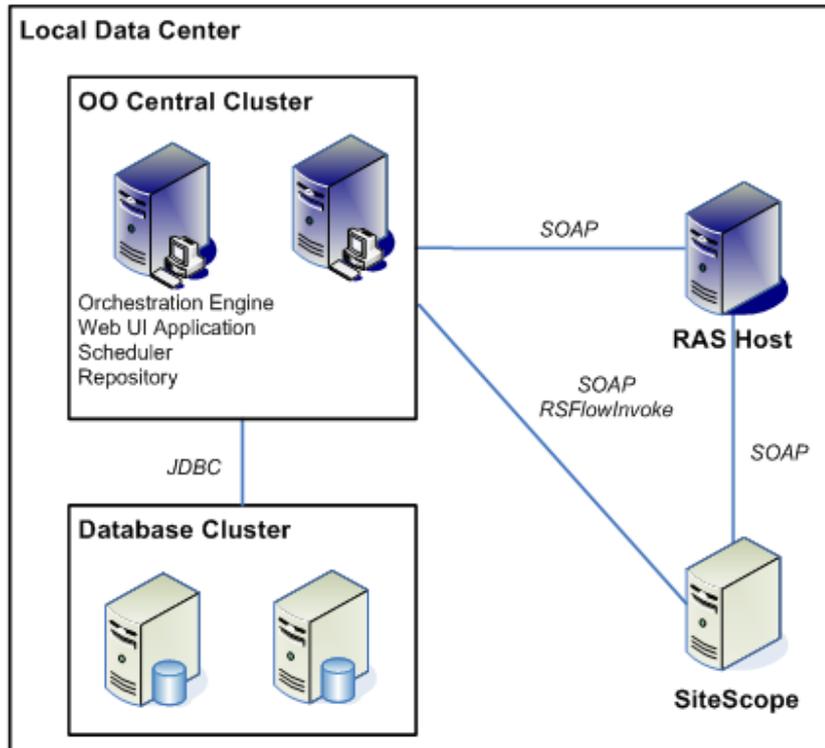
Figure 1 - HP SiteScope Architecture

HP SiteScope Use Cases

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.

3 Delete a remote server.

In this scenario, the integration allows administrators to delete a SiteScope remote server from the list of available remote server configurations.

4 Get monitors that are deployed on a specific remote server.

In this scenario, the integration allows administrators to get the list of monitors deployed on a server given by remote server name, IP address, host name, or FQDN.

5 Check if a monitor group is empty.

In this scenario, the integration allows administrators to check if a monitor group specified by its path contains monitors or is empty. If the group or any of its subgroups contain any monitors or alerts, the group is not empty.

3 Using the HP SiteScope – OO Integration

This section includes the following topics:

- Location of HP SiteScope Integration Operations and Flows in OO Studio
- Common Inputs in the Integration
- Descriptions of HP SiteScope Integration Operations and Flows

Location of HP SiteScope Integration Operations and Flows in OO Studio

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.
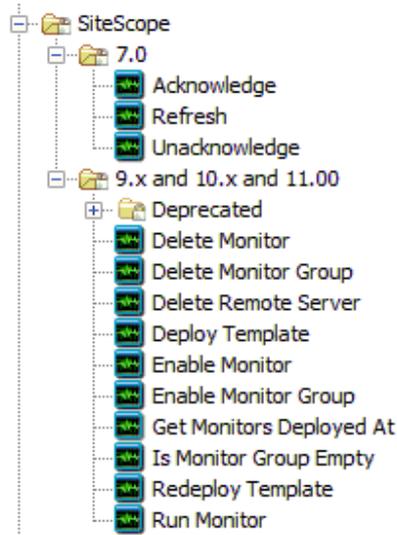
Figure 2 - Location of HP SiteScope Operations and Flows

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, 11.00, 11.10, and 11.11.

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.

The password associated with the SiteScope username.

Descriptions of HP SiteScope Integration Operations and Flows

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

▶ Starting with SiteScope version 10.11, the SiteScope API contains a new set of methods that include user and password authentication. This means that operations run on a machine with SiteScope 11.01 can go to success with incorrect usernames and passwords. The old methods are deprecated but are still available. In order to use the new version of the API, the **accessControlled** flag should be set to **true**. If it is set to **false**, the operations will use the previous API version and the credentials will be ignored.

You can set the **accessControlled** flag using one of the following methods:

- Open the <SiteScope installation>\groups\master.config file and edit the line that defines access control to say **_accessControlled=true**.
- Access SiteScope from a browser, open the **Preferences\ Infrastructure Preferences\Custom Settings** tab, and then set the **accessControlled** property to **true**.

Delete Monitor

The Delete Monitor operation deletes a SiteScope monitor.

Inputs

All of the operation's inputs except the following are described in *Common inputs in the integration*.

The path to the monitor to delete. If the SiteScope root folder appears in the user interface, do not include it in the **monitorPath** input value.

For example, **Monitors\WSMonitor**.

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**).

Results

The operation returns the following:

returnResult

The result of the operation.

Delete Monitor Group

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

Inputs

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. If the SiteScope root folder appears in the user interface, do not include it in the monitorPath input value.

For example, **Monitors\MonitorGroup**.

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**).

Results

The operation returns the following:

returnResult

The result of the operation.

Delete Remote Server

The **Delete Remote Server** operation deletes a SiteScope remote server from the list of available remote server configurations.

Inputs

All of the operation's inputs except the following are described in *Common inputs in the integration*.

name

The display name of the remote server to be removed.

platform

The underlying computer system of the remote server.

The valid values are **Windows** and **UNIX** (case-insensitive).

The default value is **Windows**.

Results

The operation returns the following:

returnResult

This is the primary output. It contains a success message if the remote server was removed or an exception message if the operation failed.

This operation is available starting with version 11.10 of SiteScope.

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, 11.10, 11.11, and future versions of SiteScope, this is a requirement.

Inputs

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**).

systemVariables

Values to overwrite SiteScope system variables.

For example, **$$SERVER_LIST$$=value|$$SERVER_NAME$$=value2**.

serverUserVariable

The name of the custom variable to hold the user name used to connect to the remote server to be monitored.

For example, **user**, **DatabaseUserName**, **SQL_SERVER_LOGIN**.

The default value is **user**.

serverUserValue

The user name used to connect to the remote server to be monitored.

serverPasswordVariable

The name of the custom variable to hold the password used to connect to the remote server to be monitored.

For example, **password**, **DATABASEPASSWORD**, **SQL_SERVER_PASSWORD**.

The default value is **password**.

serverPasswordValue

The password used to connect to the remote server that will be monitored.

Results

The operation returns the following:

returnResult

The result of the operation.

> You cannot set the **$$DATE$$** and **$$TIME$$** system variables using this 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).

Inputs

All of the operation's inputs except the following are described in *Common inputs in the integration*.

monitorPath

The monitor path. If the SiteScope root folder appears in the user interface, do not include it in the **monitorPath** input value.

For example, **Monitors\WSMonitor**.

enable

Specifies whether to enable the monitor.

The valid values to enable the monitor are **yes**, **true**, and **1**.

The valid values to disable the monitor are **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**).

Results

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.

Inputs

All of the operation's inputs except the following are described in *Common inputs in the integration*.

monitorPath

The monitor group path. If the SiteScope root folder appears in the user interface, do not include it in the **monitorPath** input value.

For example, **Monitors\MonitorGroup**.

enable

Specifies whether to enable the monitor.

The valid values to enable the monitor are **yes**, **true**, and **1**.

The valid values to disable the monitor are **no**, **false**, and **0**.

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**).

Results

The operation returns the following:

returnResult

The result of the operation.

Get Monitors Deployed At

The **Get Monitors Displayed At** operation returns a list of the monitors that have been deployed on the specified server.

Inputs

All of the operation's inputs except the following are described in *Common inputs in the integration*.

targetServer

The target server for which to get the deployed monitors. The value you specify can be the IP address, the host name, the fully qualified domain name (FQDN), or a string that represents the name of the remote server as it is displayed in the SiteScope Web UI.

The value must exactly match the name of the remote server. If the input contains any backslashes (\), each of them must be properly escaped by another backslash (\\).

For examples, **Windows remote server 1**, **mailserver1**, **host.example.com**, **10.10.10.100**.

colDelimiter

The column delimiter for the monitor results.

The default value is a comma (,).

rowDelimiter

The row delimiter for the monitor results.

The default value is "\n".

Results

The operation returns the following:

returnResult

A list of monitors that are deployed on the specified remote server and their associate states (**enabled** or **disabled**). If multiple remote servers with the same host are found, the result returns a list with the names of the remote servers.

- The operation first checks the **Windows Remote Servers** list and then the **UNIX Remote Servers** list. The search stops after the first remote server is found and the operation returns the list of monitors deployed on that remote server.

- If multiple remote servers with the same host are found, you must use the **multiple servers** response and further process the list of remote servers returned in the **returnResult** result to extract the desired remote server name that you can then use as a value for the **targetServer** input of the **Get Monitors Deployed At** operation.

Is Monitor Group Empty

The **Is Monitor Group Empty** operation verifies if a group is empty. If the group or any of its subgroups contain any monitors or alerts, the group is not empty.

Inputs

All of the operation's inputs except the following are described in *Common inputs in the integration*.

groupPath

The path to the group to be verified. If the path is seen in the UI, do not include the **SiteScope** root folder.

For example, **Monitors\MonitorGroup**, **Monitors/MonitorSuperGroup\MonitorGroup**.

delimiter

The delimiter for the **groupPath** input. If the name of any of the groups from the group path contains a backslash (\) or forward slash (/), specify a different delimiter.

The default values are backslash (\) and forward slash (/).

Results

The operation returns the following:

returnResult

A message containing the state of the monitor group or an exception message if the operation failed.

Redeploy Template

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

Inputs

All of the operation's inputs except the following are described in *Common inputs in the integration*.

source

The source path. If the SiteScope root folder appears in the user interface, do not include it in the source input value.

For example, **Group\Subgroup, Group\Template**.

destination

The destination path. This should be the parent monitor group of the previously deployed template.

For example, **Group\Subgroup**.

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**).

Results

The operation returns the following:

returnResult

The result of the operation.

- 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. If the SiteScope root folder appears in the user interface, do not include it in the **monitorPath** input value.

For example**, Monitors\WSMonitor**.

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**).

Results

The operation returns the following:

returnResult

The result of the monitor run.

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.

4 Launching Integration Flows

This section includes the following topics:

- Launching HP SiteScope Integration Flows

Launching HP SiteScope Integration

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

- **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 *OO 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.

5 Troubleshooting

This section includes the following topics:

- Troubleshooting Overview
- General Troubleshooting Procedures and Tools
- Error Messages

Troubleshooting Overview

This section provides troubleshooting procedures and tools that you can use to solve problems you may encounter while using this integration. It also includes a list of the error messages you may receive while using the integration and offers descriptions and possible fixes for the errors.

General Troubleshooting Procedures and Tools

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.

Error Messages

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.

"You must specify the name of the remote server that should be deleted."

In order to delete a remote server, you must specify the name of the server to be deleted as it appears in the SiteScope Web UI.

"The value for the remote server platform is invalid: {0}."

This error appears if the user introduced a value for the remote server platform that is not in the set of valid values.

"You must specify whether the monitor should be enabled (yes, true, 1) or disabled (no, false, 0)."

This error occurs when trying to run the operation **Enable Monitor** without providing a value for the **enable** input. You must specify whether you want to enable or disable the monitor in order to run the operation.

"You must specify whether the monitor group should be enabled (yes, true, 1) or disabled (no, false, 0)."

This error occurs when trying to run the operation **Enable Monitor Group** without providing a value for the **enable** input. You must specify whether you want to enable or disable the monitor group in order to run the operation.

"The disablePeriod input cannot be a negative value"

In order to disable a monitor, the given period must be a positive number.

"You must specify a group path in order to run the operation."

This error occurs when running the **Is Monitor Group Empty** operation to check the state of a monitor group without providing the path to the group.

"Invalid path to group. Could not find the group named {0}."

This error occurs when running the **Is Monitor Group Empty** operation to check the state of a monitor group but the group could not be found. This is caused because a group could not be found at the specified path.

"Invalid template parameter list input format (needs to be var=value|var2=value)."

This error occurs when the format of the parameter list for deploying or redeploying a template is invalid.

6 Security

This section includes the following topics:

- About HP SiteScope Security

About HP SiteScope 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

7 OO Tools

This section includes the following topic:

- OO Tools You Can Use with the HP SiteScope — OO Integration

OO Tools You Can Use with the HP SiteScope – OO Integration

Following are OO tools that you can use with the HP SiteScope 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 folder in /Studio/tools/.