

HP Operations Orchestration

For the Windows and Linux operating systems

Software Version: Content Pack 8

HP Universal Configuration Management Database Integration Guide

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Introduction

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Purpose of the UCMDB Integration

With the HP Universal Configuration Management Database (UCMDB) integration, administrators can build HP Operations Orchestration (OO) flows that are integrated with HP UCMDB.

This document explains how this integration has been implemented and how the integration OO operations communicate between OO and UCMDB.

Supported Versions

Operations Orchestration Version	UCMDB Versions
OO Content Pack 8	7.0, 8.0, 9.0x

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/>

Note: This site requires that you register for an HP Passport and sign-in.

To register for an HP Passport ID:

1. Go to: <http://h20229.www2.hp.com/passport-registration.html>

Or

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

2. 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.
3. On the left-hand side, click **Operations Orchestration Content Packs**.

4. In the **Operations Orchestration Content Packs** box, click **Content**. The HP Passport and sign-in page appears.
5. Enter your user ID and Password to access to continue.
6. Click **HP Operations Orchestration 9.00**.
7. Search for the required HP Operations Orchestration Content Pack.

Getting Started with the UCMDB Integration

This chapter includes:

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Installing and Configuring the Integration

There is no special integration installation and configuration needed for the HP UCMDB integration. Just make sure that the system that has the RSJRAS service running on it can access the UCMDB server.

The default UCMDB access URL is: **http://<ucmdbserver>:8080/ucmdb**, using the default username admin and the default password admin. However, we recommend creating an integration user on the UCMDB server. To learn how to create an integration user, refer to the UCMDB documentation.

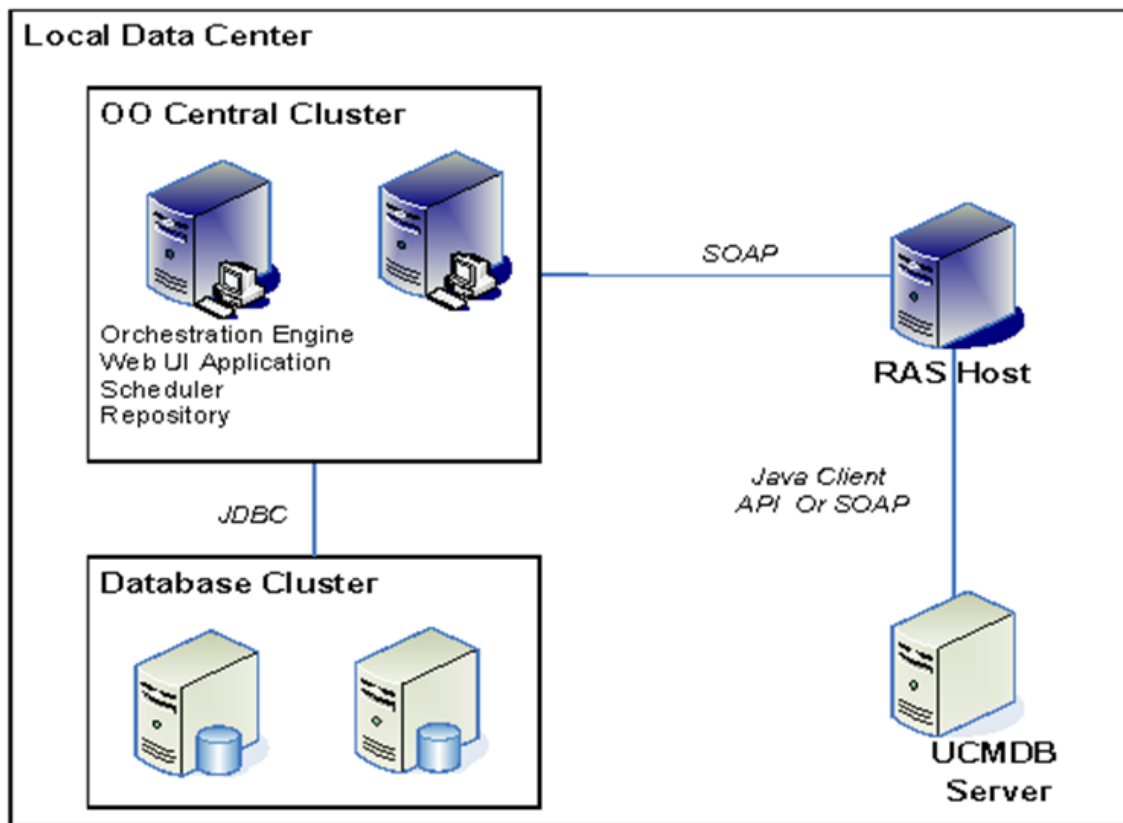
UCMDB Use Cases

Following are the major use cases for the UCMDB integration, and the operations and flows that you can use to implement them.

1. Execute a Topology Query and obtain a Topology Map:
 - Get Topology Map by Query Name
 - Get Topology Map by Query Name with Parameter
 - Get Topology Map by View Name
2. Manage Configuration Items and relationships:
 - Add Object
 - Delete Object
 - Add Relationship
 - Delete Relationship
 - Get Neighboring Objects
 - Get Filtered Object List by Type
 - Get Object List by Type

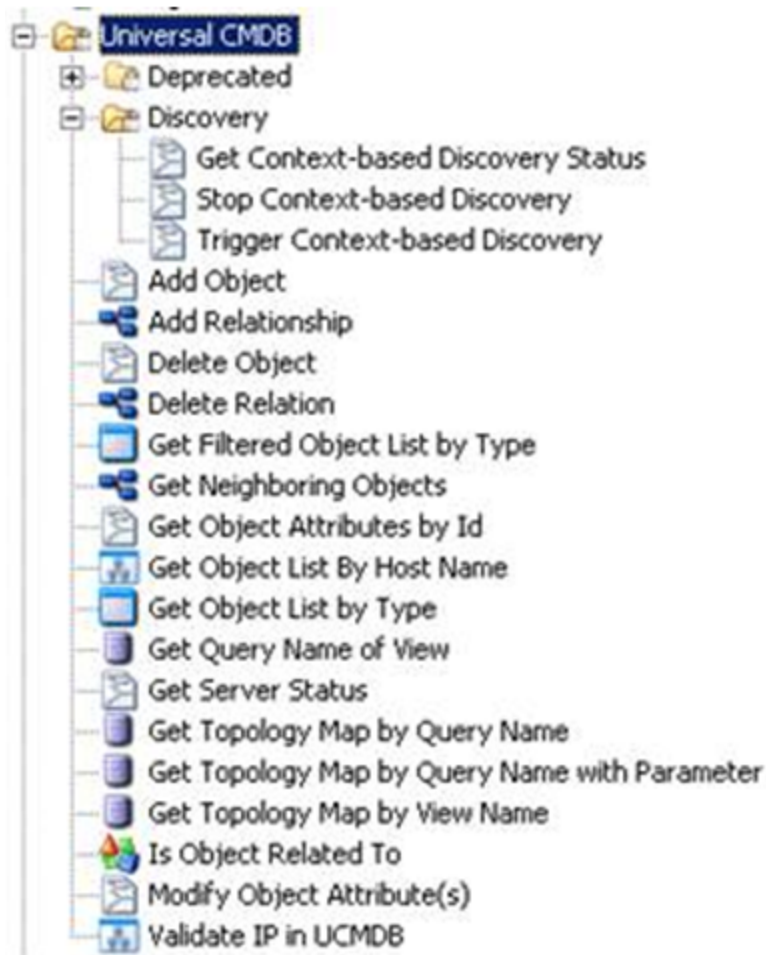
- Get Object Attributes by Id
 - Modify Object Attribute(s)
3. UCMDB IP validation:
- Validate IP in UCMDB
 - Get Object List By Host Name
 - Is Object Related To
4. Trigger/stop focused discovery:
- Trigger Context-based Discovery
 - Stop context-based Discovery
 - Get Context-based Discovery Status

UCMDB — OO Integration Architecture



Location of UCMDB Integration Operations and Flows in OO Studio

The HP UCMDB integration includes the following operations in the Studio Library, in the **Library/Integrations/Hewlett-Packard/Universal CMDB/** folder.



The operations support the following types of tasks:

- Add, remove, and update Configuration Items in UCMDB
- Add, remove, and update relations in UCMDB
- Retrieve information about configuration items and relationships in UCMDB
- Validate an IP or a host name in UCMDB
- Trigger, stop context-based focused discovery in UCMDB

Troubleshooting

This chapter includes:

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Troubleshooting Overview

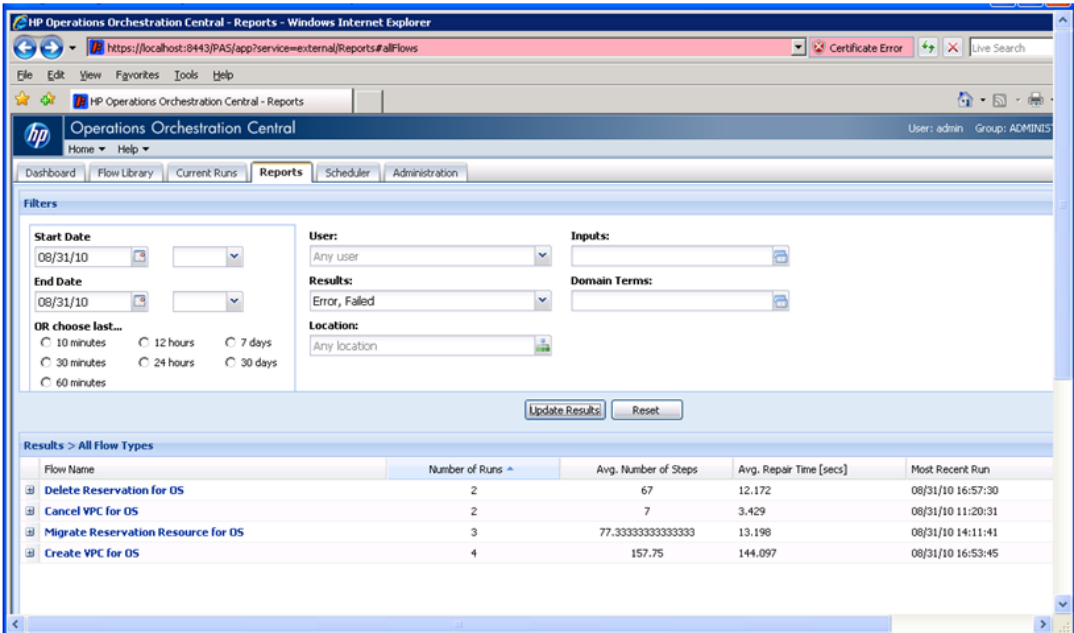
This section provides troubleshooting procedures and tools you can use to solve problems you may encounter while using this integration. It also includes a list of the error messages you may receive while using the integration and offers descriptions and possible fixes for the errors.

General Troubleshooting Procedures and Tools

This section describes the troubleshooting procedures and tools you can use to fix problems you may experience while using this integration.

If a flow fails when run in OO Central, do the following:

1. In Operations Orchestration Central, click the **Reports** tab and select **Error** and **Failed** from the **Results** list, or select nothing.

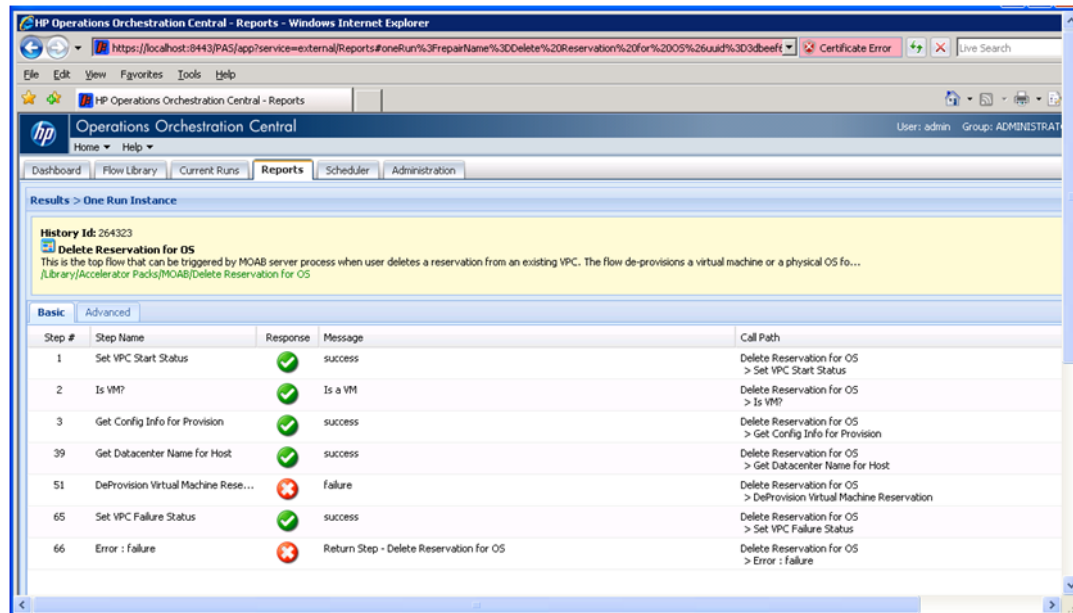


2. Find the failed flow you want to examine and click it.
The screen changes to show you the history of the flow's runs.

- Click the **History ID** of the job you want to view.

The list of History IDs is based on time.

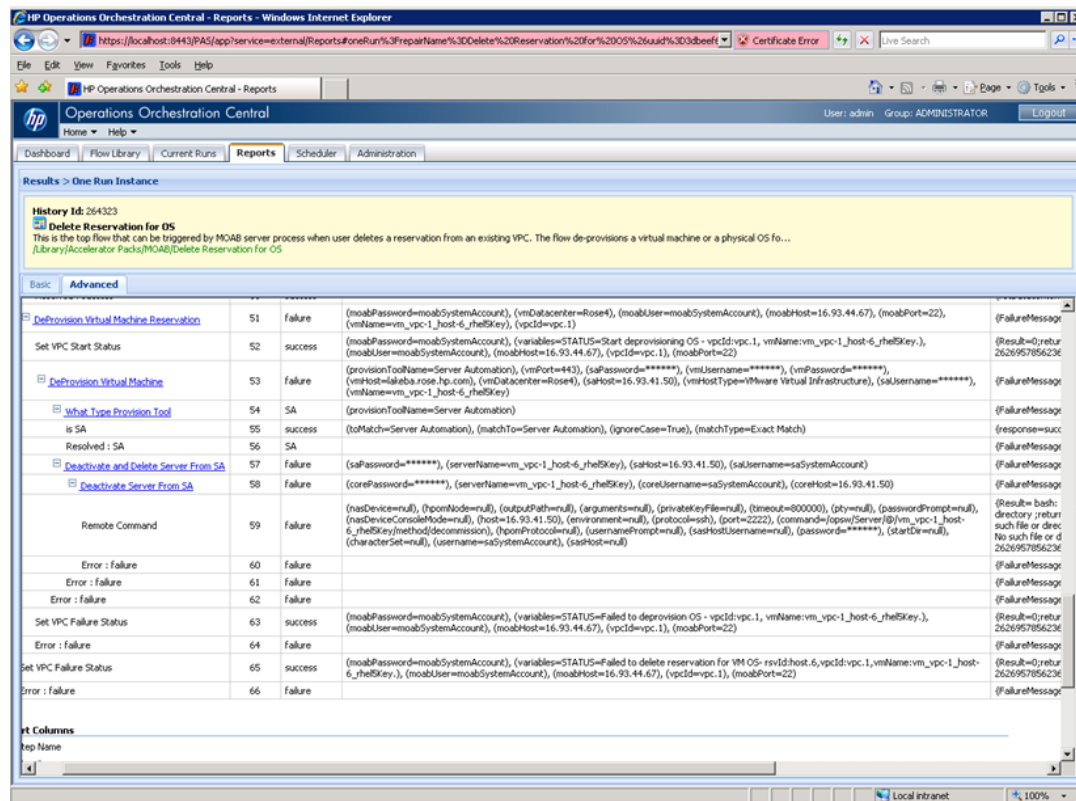
For example, in the above figure, you could click **Delete Reservation for OS** and then click the **History ID** of the job that failed.



- Locate the failed step.

For example, in the above figure, note that step number **51** failed.

- To research the failure, click the **Advanced** tab.



- In the **Report Columns** area, select the **Step Name**, **Step #**, **Response**, **Bound Inputs**, and **Result** check boxes.

Report Columns

- ☒ Step Name
- ☒ Step#
- ☐ User Id
- ☐ Parent Flow
- ☐ Start Time
- ☐ End Time
- ☐ Execution Time [secs]
- ☒ Response
- ☒ Bound Inputs
- ☒ Recorded Bound Inputs
- ☒ Result
- ☐ Description
- ☐ ROI Value

[show all](#)

7. Find step **51** and then find the actual step that failed.

8. Examine the error message from the result.

If you run the flow in OO Studio using the **Debug** feature, you can use the **Step Result Inspector** to check the errors and exceptions in detail.

Similar information can also be found in the **OO Central log Central_wrapper.log** located in the OO home folder in **/Central/logs/**. For information about the RAS service, check the log file **wrapper.log** located in the OO home folder in **/RAS/Java/Default/webapp/logs**.

Error Messages

This section lists the error messages you may receive while using this integration. Each error message includes possible causes and fixes for the error.

- `org.apache.axis2.AxisFault` Transport error: 404 Error:
Path+Not+Found

The logon information for UCMDDB 7.0 may be incorrect. Check the **cmdbHost** and **cmdbPort** inputs to make sure that they are correct.

- `com.hp.ucmdb.api.CommunicationException`: Got response code 404 for
URL `http://10.51.0.198:8080/ucmdb-api/connect?VERSION=8.0`

The logon information for UCMDB 8.0 may be incorrect. Check the **cmdbHost** and **cmdbPort** inputs to make sure that they are correct.

- `org.apache.axis2.AxisFault Transport error: 401 Error: Unauthorized`

The logon information for UCMDB 7.0 may be incorrect. Check the **username** and **password** inputs to make sure that they are correct.

- `Invalid credentials`

The logon information for UCMDB 8.0 may be incorrect. Check the **username** and **password** to make sure that they are correct.

- `No enum const class`

`com.hp.oo.content.connectors.hp.ucmdb.AbstractUCMDBConnector$versions.v10`

The **cmdbVersion** string is incorrect. The valid strings are **7**, **8**, and **9**.

- `class [Windows] not found in CMDB Class Model;`
`nested exception is: java.lang.Exception:`

The **objectType** string is not defined in UCMDB 7.0. Make sure the type is defined as the **class_name** in the **dbo.ccm_classes** table of <CMDB Schema>. In the UCMDB GUI, the Configuration Item Type (CIT) shows the type's display name. For example, for the CIT display name **Windows**, the actual class name is **nt**.

- `com.hp.ucmdb.api.classmodel.ClassDoesNotExistException:`
`Class "Windows" is not defined in the uCMDB class model`

The **objectType** string is not defined in UCMDB 8.0. Make sure the type is defined as the **class_name** in the **dbo.ccm_classes** table of <CMDB Schema>. In the UCMDB GUI, the Configuration Item Type (CIT) shows the type's display name. For example, for the CIT display name **Windows**, the actual class name is **nt**.

- The received string `ec928b8e1398f73b5011067b404088` representation is inconsistent; nested exception is: `java.lang.Exception:`

The **objectId** doesn't exist in UCMDB 7.0. Make sure that the ID is valid

- ID `5bf303466b8a982601dd3a9e88ad75` being restored has incorrect length (not 32 characters)

The **objectId** entered does not exist in UCMDB 8.0. Make sure that the ID is valid.

- Object with ID: `5bf303466b8a982601dd3a9e88ad7557` was not found

The **objectId** entered does not exist in UCMDB 8.0. Make sure that the ID is valid.

- `Element Number: 1 doesn't exist in the result.;` nested exception is: `java.lang.Exception:`

When you executed the operation **Get Neighboring Objects**, the **objectId** was not correct in UCMDB 7.0. Make sure that the ID is valid.

- `CMDB Operation Internal Error:... class name:`
`Windows doesn't exist in class model`

When you executed the operation **Get Neighboring Objects**, the **objectId** was not correct in UCMDB 7.0. Make sure that the ID is valid.

- No Error Messages, but Got Empty Topology Map of Neighbors CIs.

When running the OO operation **Get Neighboring Objects**, the **objectId** was not correct in UCMDB 8.0. Make sure that the ID is valid.

- Unable to determine the type of attribute: `ip_isManaged` because it is not a member of the class: `ip`

Make sure that you enter the **conditionAttributes** with valid attribute names. The attribute names can be found in the **attribute_name** in the **dbo.ccm_attributes** table of <CMDB Schema>.

- Unknown Comparison type: `pp`

Make sure that you enter the **conditionOperators** with valid condition operators. Valid condition operators include `==`, `!=`, `<>`, `>`, and `<`.

- `java.lang.Exception: The specified condition type is not supported for:`
`BooleanCondition, Supported Types are: EqualNotEqual`

Make sure that the **conditionOperators** match with **conditionAttributes** type. For example, **conditionAttributes** `ip_ismanaged`, should have a **conditionOperator** of `==` or `!=`.

- The lists of conditional types, names, operators and values are not of equal length

Make sure that the **conditionOperators**, **conditionAttributes**, and **conditionValues** are all the same length.

- Unable to locate view `badViewName`

Make sure to enter a valid view name of the UCMDB in **viewName**.

- Pattern `[badQueryName]` doesn't exist

Make sure to enter a valid query name of the UCMDB in **queryName**.

- No Error Messages, but Got Empty Topology Map

If you get an empty topology map based on the **viewName** or **queryName**, the view or query might be empty in UCMDB.

- Error occurred while trying to execute operation Data In - Add Data Strict :
`operation Data In - Add Data Strict...Couldn't append existing object:`

When running the OO operation **Add Object** to create a Configuration Item, the Configuration Item is already in UCMDB 8.0. Make sure that the CI is not an existing CI.

- the ID property `[attribute name='ip_address']` doesn't exist !!!;
nested exception is: `java.lang.Exception:`

When running the OO operation **Add Object** to create a Configuration Item (CI) in UCMDB 7.0, the **prop** field should be the ID attribute. For example, if you create a type **ip** CI, the ID attribute is **ip_address**; if you create a **host** CI, the ID attribute is **host_key**.

- Error occurred while trying to execute operation Data In - Add Data Strict :
operation Data In - Add Data Strict.... Can't achieve ID properties:
not all the requested ID properties exist

When running the OO operation **Add Object** to create a Configuration Item (CI) in UCMDB 8.0, the **prop** field should be the ID attribute. For example, if you create a type **ip** CI, the ID attribute is **ip_address**; if you create a **host** CI, the ID attribute is **host_key**.

- Error occurred while trying to execute operation Data In - Add Or Ignore Data :
operation Data In - Add Or Ignore Data ... Caused by:
java.lang.NullPointerException

When running the OO operation **Add Relationship** to create a Relation in UCMDB 8.0, the relationship type might be not correct.

UCMDB Security

UCMDB 7.0 servers are accessed via SOAP over HTTP.

UCMDB 8.0 and 9.x servers are accessed via JAVA Client API. HTTPS is only supported with UCMDB 9.x. The UCMDB administrator provides logon credentials for connecting with the SOAP or API. The SOAP client or API client needs the username and password of an integration user defined in the UCMDB. These users do not represent actual users of the UCMDB, but rather applications that connect to the UCMDB.

OO Tools You Can Use with the UCMDB-OO Integration

Following are OO tools that you can use:

- **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/**.