

HP Operations Orchestration Software

Software Version: 9.00

HP Operations Manager Tool Web Service Integration Guide

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Warranty

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Trademark Notices

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
- BSA Essentials 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.

BSA Essentials Network

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

This is the **BSA Essentials Network** Web page. To sign in:

1. Click **Login Now**.
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 **BSA Essentials 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 the following:

- 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 the \Central\docs subdirectory.
- 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 the \Studio\docs subdirectory.
- 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 operations and flows in the Accelerator Packs and ITIL folders
Self-documentation is available in the descriptions of the operations and steps that are included in the flows.

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Overview of the HP Operations Manager Tool Web Service integration

With the HP Operations Manager (HPOM) Tool Web Service integration, administrators can build HP Operations Orchestration (OO) flows that are integrated with HPOM through the Tool Web Service interface.

This document explains how this integration has been implemented and how the integration's operations communicate between OO and the HPOM Tool Web Service interface.

Use cases and scenarios

The most common scenario is that an HPOM administrator will install the HPOM agent software on a number of nodes which are then managed by HPOM. Since the credentials for each of these nodes are managed within HPOM, it is best to avoid managing these credentials within OO as well. This integration permits the execution of commands on HPOM-managed nodes by sending the requests to the HPOM management server which in turn uses its stored credentials to execute the commands on the desired node. The only credentials needed in OO are the username and password for the HPOM management server.

Installation and configuration instructions

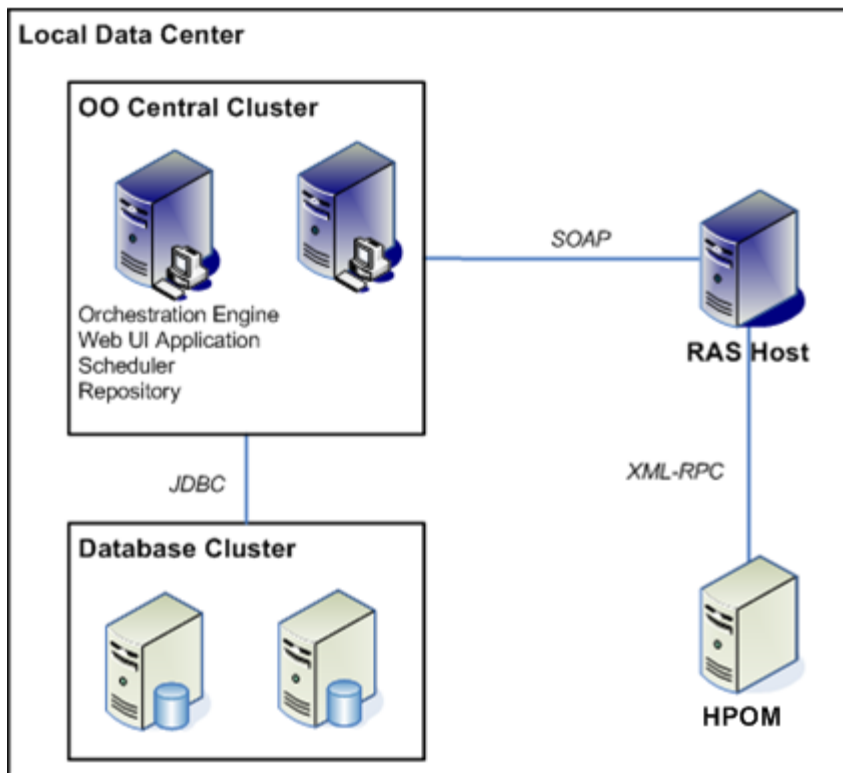
The Tool Web service for Windows comes with Server Accessories Patch OMW_00032. The documentation for the Tool Web service is in the OMW online Help after you install Server Patch OMW_00029. OMW patches are available on <http://support.openview.hp.com/selfsolve/patches>.

For HPOM Incident Web Service integration for UNIX you must also install the HPOM for UNIX Tool Web Service. For more information, see *Web Services Integration Guide* in the Operation Manager for Unix 9.00 section on <http://support.openview.hp.com/selfsolve/manuals>.

Versions

Operations Orchestration Version	HP Operations Manager Tool Web Service Version
9.00	8.30 Available for download for Windows HP Operations Manager 8.10 or later. Available for download for Unix HP Operations Manager 9.00 or later

Architecture



Operation specifics

This existing **Remote Command** operation, located in the Library/Operations/Remote Command Execution/ folder, has a number of inputs that are specific to the particular type of remote command protocol being used (such as SSH or Telnet). The HPOM Tool Web Service integration includes a modification of the existing **Remote Command** operation that supports a new HPOM protocol that enables commands to be executed on any node managed by HPOM. This includes two new inputs for the HPOM protocol—**hpomNode** and **hpomProtocol**—and changes to several other inputs.

The destination URL for the Tool Web service is:

`<protocol>://<host:port>/opr-toolwebservice/ToolWebService.svc`

Remote Command operation

host

The host on which the HPOM Tool Web Service is running.

port

The port on which the HPOM Tool Web Service is running. The default value is **443** (the standard for HTTPS).

username

The username for the HPOM user account.

password

The password for the HPOM user account.

protocol

The protocol used for the **Remote Command** operation. Select the **HPOM** value to use the HPOM Tool Web Service interface.

timeout

The amount of time in milliseconds (ms) that can elapse before the connection to the HPOM Tool Web Service is terminated.

command

The command to execute. This command will be executed directly without invoking a command interpreter. To execute a command that is performed by the command interpreter, you must explicitly invoke the command interpreter. For example, to perform a `dir` command on a Windows system, use `cmd /c dir c:\`.

arguments

Arguments that may be required by the command.

hpomNode

The managed node on which the command is executed.

hpomProtocol

The protocol used to communicate with the HPOM Tool Web service. The default value is **https**.

The HPOM Tool Web service interface combines standard output and errors into a single output, which is available in both the **stdOut** and **returnResult** outputs. If the underlying command returns an error, the operation returns a **Failure** response.

Troubleshooting

General troubleshooting procedures

If an error occurs while you are using the HPOM Tool Web Service, attempt to replicate the error through the HPOM console.

Error Messages

org.apache.axis2.AxisFault.... Caused by: java.net.UnknownHostException

The **host** input refers to a host that cannot be found.

org.apache.axis2.AxisFault.... Caused by: java.net.ConnectionException: Connection refused

The HPOM web service is not listening on the specified port. You may have specified the wrong port in the **port** input. You can also get this error message if the HPOM Web service not running or is listening on a different port.

Security

The HPOM Tool Web service is accessed via SOAP over HTTPS (or HTTP if it is enabled on the host), and requires valid credentials to access OM.

Tools

Following are OO tools that you can use with the HPOM Tool Web Service 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 %OO_home%/Studio/tools/ folder.