# **HP Operations Orchestration**

Software Version: 10.20 Windows and Linux Operating Systems

# **REST Wizard User Guide**

Document Release Date: November 2014 Software Release Date: November 2014



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# Introduction

#### Purpose of the REST Wizard Integration

This integration enables administrators to create HP Operations Orchestration (HP OO) flows based on URL to Resource Listing or local API Definition files.

The REST Wizard supports the Swagger and WADL formats for RESTful web service.

Swagger is a specification and a complete framework implementation for describing, producing, consuming, and visualizing RESTful web services. Swagger is JSON-based. The main goal of Swagger is to enable client and documentation systems to update at the same pace as the server. The documentation of methods, parameters, and models are tightly integrated into the server code, allowing APIs to always stay in sync.

The Web Application Description Language (WADL) is a machine-readable XML description of HTTPbased web applications (typically REST web services). WADL models the resources provided by a service and the relationships between them. WADL is intended to simplify the reuse of web services that are based on the existing HTTP architecture of the web. It is platform- and language-independent and aims to promote reuse of applications beyond the basic use in a web browser. It was designed to provide an alternative to the WSDL.

For more information about creating HP OO flows, see the HP OO Studio Authoring Guide.

This document explains how this integration has been implemented, and how the integration's operations and flows communicate between HP OO and RESTful web services.

#### Audience

This guide is intended for system administrators who establish and maintain the implementation of the integration between RESTful web services and HP OO. This guide assumes that you have administrative access to both systems.

#### Supported Versions

Content Pack	HP Operations Orchestration Version	<b>REST Wizard Version</b>
Base Content Pack	10.x	10.20

### Supported Languages

This release supports the following languages:

- en English
- fr French
- de German
- ja Japanese
- es Spanish
- zh\_CN Simplified Chinese

# Getting Started with the REST Wizard

### Installing the REST Wizard

The wizard is installed if Studio is selected from the Operations Orchestration installer. The REST Wizard is located under **<OOInstallPath>\studio\tools**.

## **REST Wizard Logs**

The logs are located in the <OOInstallPath>\studio\tools\logs\rest-wizard.log file.

### Uninstalling the REST Wizard

The wizard is uninstalled when Studio is uninstalled.

### **REST Wizard System Requirements**

The following are the minimum software requirements for systems running REST Wizard for HP Operations Orchestration:

• The environment must have Java SE Runtime Environment 7 (also known as JRE) installed (for running the wizards).

# **REST Wizard Steps**

To start the REST wizard, run the **rest-wizard.bat** file. This section describes the steps that you have to perform.

#### Step1. Welcome Page

When you start the REST Wizard, the Welcome page opens.

#### Select Swagger or WADL.

Wizard	erations Orchestrations REST Wizard generates flows based on REST API definitions files.
2. Destination and visualiz 3. API Definitions 4. Operations WADL is a r WADL mode 5. Configuration 6. Summary REST API	s a specification and complete framework implementation for describing, producing, consuming, zing RESTful web services. machine-readable XML description of HTTP-based web applications (typically REST web services). lets the resources provided by a service and the relationships between them. PI definition format magger <sup>ma</sup> ADL

Click Next to open the Destination page.

### Step 2. Destination

In this step, you select the location of an existing Studio project or a folder where the new project will be created.

Enter or select a location of a Studio project for the flows you want to create and then click Next.

( Operations Orchestrations	ion REST Wizard - 10.20	×
Steps	Destination	
1. Welcome to REST Wizard	Enter the location of an existing OO Studio project, or a folder where a new project will be created and the state of the	ited:
2. Destination	C:\Users\admin\.oo\Workspace\New REST Project	Browse
3. API Definitions		
4. Operations		
5. Configuration		
6. Summary		
	Back Next	Cancel

### Step 3. API Definitions

The API Definitions page will vary, depending on whether you selected Swagger or WADL format.

Enter the base URL to the Swagger or WADL resource listing or click **Browse** to select one or more files that contain REST API Definitions in a Swagger or WADL format. When the base URL is entered, the **Next** button is enabled.

If the base URL is protected by authentication, specify the **Username**, **Password**, and **Authentication** type. The currently supported authentication types are **Basic**, **Digest**, and **Anonymous**.

If the HTTP request to the base URL is done through a proxy, specify the proxy settings. The currently supported proxy authentication types are **Basic**, **Digest**, and **Anonymous**.

(Swagger only): If the **Resolve relative references according to the RFC3986** check box is selected, the relative paths discovered in the Swagger file found at the provided URL will be automatically resolved, and the HTTP requests will be made at the correct resource listening paths. If this check box is not selected, it is possible that for relative paths discovered, the resource listening paths will be incorrect and an exception containing the message "Invalid URL to a Swagger file" will be thrown.

🛞 Operations Orchestrat	ion REST Wizard - 10.20
Steps	API Definitions
1. Welcome to REST Wizard	URL to the Swagger Resource Listing (e.g. http://corporateWebSite.com/api/api-docs), or select local files:
2. Destination	Browse
3. API Definitions	Resolve relative references according to RFC3986
<ol> <li>Operations</li> <li>Configuration</li> </ol>	Authentication
6. Summary	Username:
	Authentication type: Anonymous
	Proxy
	Port:
	Username:
	Password:
	Authentication type: Anonymous
	Back Next Cancel

( Operations Orchestrat	tion REST Wizard - 10.20
Steps	API Definitions
1. Welcome to REST Wizard	URL to the WADL Resource Listing (e.g. http://corporateWebSite.com/application.wadl), or select local files:
2. Destination	Browse
3. API Definitions	
<ol> <li>Operations</li> <li>Configuration</li> <li>Summary</li> </ol>	Authentication   Username:   Password:   Authentication type:   Anonymous     Proxy   Host:   Port:   Username:   Password:   Authentication type:   Anonymous
	Back Next Cancel

#### Step 4. Operations

On the **Operations** page, all the resources discovered in the previous page are displayed: the resource path, the HTTP method available for the resource and a brief description of the resource.

For the selected resources, the HP OO flows will be generated and will contain an operation that performs an HTTP request based on the HTTP method available for each resource.

Enter text in the top Search field, to filter the resources table by this text.

Select one or more resources.

**Note:** To select multiple operations, hold down the CTRL key.

Click Next.

Operations Orchestrati	ion REST Wizard - 10.20		
Steps	Operations		
<ol> <li>Welcome to the REST Wizard</li> <li>Destination</li> </ol>	Search: Q- Type here to filter op	erations	
3. API Definitions	Path	Meth	Description
4. Operations	/service/design/{designId}	PUT	Update a service design
5. Configuration	/service/design/{designId}	DELETE	Delete a design by ID
6. Summary	/service/design/{designId}	GET	Returns a service design by ID
	/service/design/	GET	Returns a list of all the existing service designs
	/service/design/	POST	Create a service design
	/service/design/clone/{design	POST	Clone a given service design and the cloned service object
	/service/design/filter	POST	Query for service designs matching a filter on tag
	/service/design/{designId}/pr	PUT	Update a topology service design with provider associated
	Back Next		Cancel

### Step 5. Configuration

All the values provided in this step will be used as inputs for the generated flows and operations.

- In the Authentication section, if the Username and Password are provided, a new system account will be generated under the New REST Project\Configuration\System Accounts folder and the user name and password inputs of generated flows will reference this system account.
- For the **Proxy user name** and **Proxy password** pair, a new system account will be generated with the **Proxy** suffix, following the same rule as for the **Username** and **Password** from the **Authentication** section.
- The currently supported authentication types are: **Basic**, **Digest**, and **Anonymous**.
  - If the selected authentication type in both the Authentication section and the Proxy section is Anonymous, the authType input from the generated flows will be initialized with an empty constant.

- If the selected authentication type in the Authentication section is Basic and the authentication type from the Proxy section is Digest, the authType input from the generated flows will be initialized with a basic,digest constant.
- In the **Headers** text box, you can add multiple headers in the generated flows, in the following format: headerName1=headerValue1\nheaderName2=headerValue2. Use the new-line character to separate the headers.
- If the Enable weak security over SSL or Enable cookie tracking check boxes are selected, the trustAllRoots, and useCookies input from the generated HTTP operation will be set to true and the x509HostnameVerifier input will be set to allow\_all.

Otherwise, these inputs will be set to false and x509HostnameVerifier will be set to strict.

- If the Suppress user prompts for optional inputs check box is selected, the non-required operation parameters discovered from the API Definitions document will be generated as flow inputs set to use constants with empty values. Otherwise, these flow inputs will be marked as prompts.
- Select the Overwrite the flow if already exists check box if the new generated flow should overwrite an existing flow from the same location specified in "Step 2. Destination" on page 9.
- Some Swagger or WADL files do not have the base URL set correctly. In this case, after the project is imported into Studio, check the <ProjectName>/Configuration/Sytem Properties folder, to see if the generated System Properties SP\_<ProjectName>\_<ResourceName>\_Url value is initialized correctly.

( Operations Orchestrat	tion REST Wizard - 10.20
Steps	Configuration
1. Welcome to REST Wizard	This step allows to supply common inputs that will be generated for all flows.
<ol> <li>2. Destination</li> <li>3. API Definitions</li> <li>4. Operations</li> <li>5. Configuration</li> <li>6. Summary</li> </ol>	Authentication       Proxy         Username:       Password:         Password:       Port:         Authentication type:       Anonymous         Password:       Username:         Password:       Password:         Authentication type:       Anonymous         Request       Headers:       Content-Type: application/json         Character set:       UTF-8         Connection timeout (seconds):       UTF-8         Enable weak security over SSL       Enable cookie tracking (useCookies)         Suppress user prompts for optional inputs
	Overwrite the flow if already exists
	Back Next Cancel

Click Next for the Summary page.

### Step 6. Summary

This step contains information about the successfully generated flows number from the selected number of resources.

For more information about the flow generation, click **Open log** to view the log files.

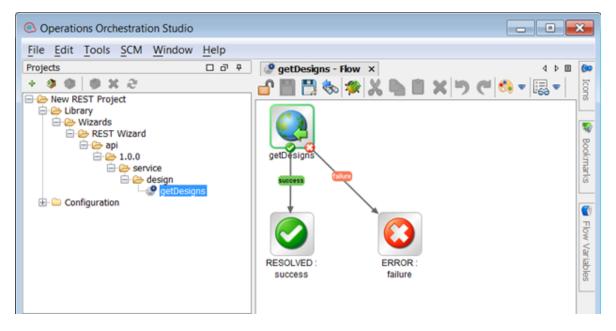
Operations Orchestrat	ion REST Wizard - 10.20
Steps	Summary
Steps  1. Welcome to the REST Wizard  2. Destination  3. API Definitions  4. Operations  5. Configuration  6. Summary	Summary The wizard has completed. New flows were generated for 1 out of the 1 selected operations. For additional information go to the log file located in studio/tools/logs/rest-wizard.log. Open log Click finish to exit the wizard.
	Back Finish

# Importing the Generated Flows into Studio

Before importing the generated flows into Studio, import the project generated by the wizard in Studio. See the "Managing Projects" section in the *HP OO Studio Authoring Guide* to see how to import a project.

### **Generated Flows**

The REST Wizard generates a flow with the name specified in the Destination step of the wizard. If a project with the same name already exists, the new flow is added to it.



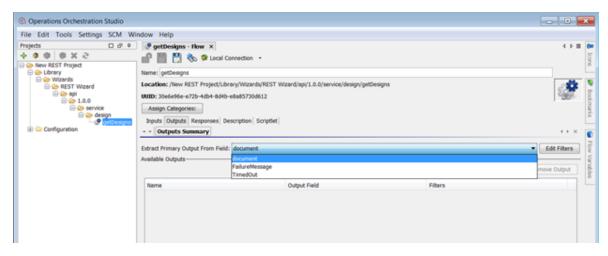
### Inputs

Each flow has the following inputs, which are common to the REST operation:

Operations Orchestration Studio						x
File Edit Tools Cottings COM MI	adaur Uala					
File Edit Tools Settings SCM Wi						
Projects D & P	🧶 getDesigns - Flow 🗙				4 F B	60
+ 9 0 0 X 2	🔐 🏢 🎇 🇞 🦻 Local Connection 🔹					loon
Area New REST Project     Area New REST Project     Area New REST Project	Name: getDesigns					-
Wizards						
REST Wizard	Location: /New REST Project/Library/Wizards/REST Wizard/api/1.0	1.0/service/de	esign/getDesi	igns	82	
E 😂 api	UUID: 30e6e96e-e72b-4db4-8d4b-e8a85730d612				1995	8
	Assign Categories:				,	151
E 😂 design						2
etDesions	Inputs Outputs Responses Description Scriptlet					
E Configuration	Input Summary				$\leftrightarrow \times$	
	Inputs-					12
				Add Input Remove Input 🛊	8	3
		_			_	2
	Input	Required	Type	From		8
	url	V 1	Single Value		100	
	usemame		Single Value	<ul> <li>From System Account: SA_New_Rest_Project_Account (Usern</li> </ul>		
	pessword		Single Value	<ul> <li>From System Account: SA_New_Rest_Project_Account (Passv</li> <li>Value: Basic</li> </ul>	vord)	
	authType proxy		Single Value Single Value	<ul> <li>Value: Basic</li> <li>Value: \$(SP_New_Rest_Project_Proxy_Host)</li> </ul>		
	proxyPort		Single Value			
	proxyUsername		Single Value	From System Account: SA_New_Rest_Project_Proxy (Usernan	Ne) 6-	
	proxyPassword		Single Value	<ul> <li>From System Account: SA_New_Rest_Project_Proxy (Passwork)</li> </ul>	rd) 😥	
Dependencies D 2 9						
Content Packs 🔛 Library						
9 0 X						
Base [1.0.164-SNAPSHOT]						
	Design Properties					
	-					
🐯 References   🤷 Problems   🔍 Sec	rrch 🛛 🖗 SCM Messages 📄 🍖 SCM Changes 📄 🛱 HPUN Se	larch				

### Outputs

On the **Outputs** tab, the flow's primary result is **document**. All HP OO flows have the **FailureMessage** and **TimedOut** outputs.



#### Responses

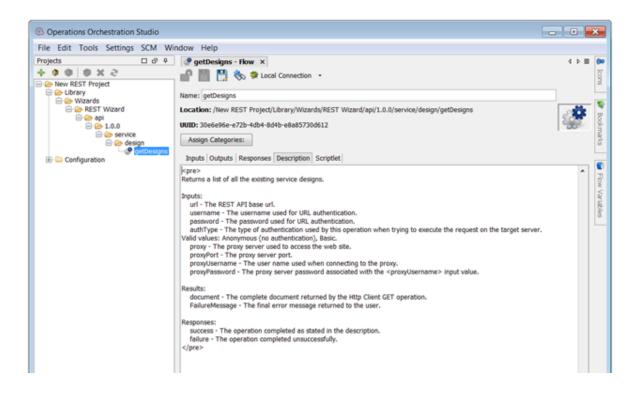
The success and failure responses of the flows are the same as the REST operations.

Operations Orchestration Studio		- • •		
File Edit Tools Settings SCM Wi	indow Help			
Projects 🗆 🗗 P	getDesigns - Flow ×	4 Þ 🖬 🔛		
+ 9 0 0 X 2				
Hew REST Project     Her Project	Name: getDesigns	Ľ		
Wizards     Best Wizard     Best Wizard	Location: /New REST Project/Library/Wizards/REST Wizard/api/1.0.0/service/design/getDesigns UUID: 30e6e96e-e72b-4db4-8db4-e8a85730d612 Assign Categories: Inputs   Outputs   Responses   Description   Scriptlet	P Boolmarks		
⊕ Configuration	^ v Responses Summary	↔ × 💽		
	Add Response Remove Response 👚	Flow		
	Response	Vart		
	success failure	ables		

### Descriptions

The description of each generated flow contains the following items:

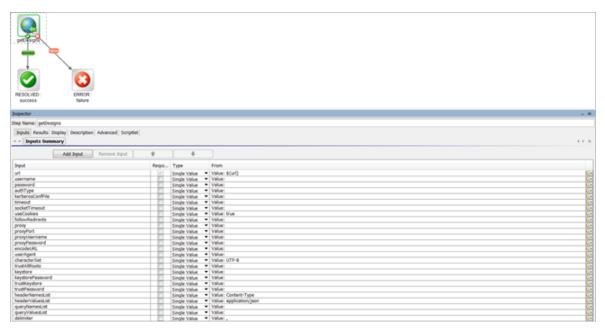
- The description of the flow
- The description of the flow inputs
- The description of the results
- The description of the responses



### **REST** Operation

This operation is used to execute a HTTP request on a target host, either local or remote.

#### **Operation Inputs**



#### **Operation Results**

geo sign	ERROR : failure				
Inspector					- 0
Step Name: getDesigns					
Inputs Results Display	Description Advanced Scriptlet				
+ - Step Results					$\leftrightarrow \times$
				Add Result Remove Result	+
Name	From	Assign To	Assignment Action	Filters	
document	document	Flow Output Field	OVERWRITE	No Filters	
FailureMessage	FailureMessage	Flow Output Field	OVERWRITE	No Filters	6-

# Troubleshooting

#### **Troubleshooting Overview**

This section provides troubleshooting procedures and tools that you can use to solve problems you may encounter while using this integration.

### Unable to locate resource

Possible reasons are:

- Invalid URL to Swagger/WADL Resource Listing or API Definition local files.
- The connection to a Swagger/WADL Resource Listing URL must be done through a proxy.
- The URL to the resource is invalid based on the provided JSON/XML document.



