

# iWay

# iWay Integration Tools User's Guide Version 8.0 and Higher

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This document is intended for system integrators and application designers. It explains how to configure and use iWay Integration Tools Suite (iIT) in software projects.

# How This Manual Is Organized

This manual includes the following chapters:

	Chapter/Appendix	Contents
1	Introducing iWay Integration Tools	Provides an overview of iWay Integration Tools Suite (iIT), including key features and facilities.
2	Understanding Key Concepts	Describes key concepts related to iWay Integration Tools Suite (iIT).
3	Performing Specific Configuration Tasks	Describes how to perform specific tasks using iWay Integration Tools (iIT).

# **Documentation Conventions**

The following table describes the documentation conventions that are used in this manual.

Convention	Description
THIS TYPEFACE or this typeface	Denotes syntax that you must enter exactly as shown.
this typeface	Represents a placeholder (or variable), a cross-reference, or an important term. It may also indicate a button, menu item, or dialog box option that you can click or select.
underscore	Indicates a default setting.
Key + Key	Indicates keys that you must press simultaneously.
{}	Indicates two or three choices. Type one of them, not the braces.
	Separates mutually exclusive choices in syntax. Type one of them, not the symbol.
	Indicates that you can enter a parameter multiple times. Type only the parameter, not the ellipsis ().

Convention	Description
• •	Indicates that there are (or could be) intervening or additional commands.
•	

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#### Help Us to Serve You Better

To help our consultants answer your questions effectively, be prepared to provide specifications and sample files and to answer questions about errors and problems.

The following tables list the environment information our consultants require.

	-
Platform	
Operating System	
OS Version	
JVM Vendor	
JVM Version	

The following table lists the deployment information our consultants require.

Adapter Deployment	For example, JCA, Business Services Provider, iWay Service Manager
Container	For example, WebSphere
Version	
Enterprise Information System (EIS) - if any	
EIS Release Level	
EIS Service Pack	
EIS Platform	

The following table lists iWay-related information needed by our consultants.

iWay Adapter	
iWay Release Level	
iWay Patch	

The following table lists additional questions to help us serve you better.

Request/Question	Error/Problem Details or Information
Did the problem arise through a service or event?	
Provide usage scenarios or summarize the application that produces the problem.	
When did the problem start?	
Can you reproduce this problem consistently?	
Describe the problem.	
Describe the steps to reproduce the problem.	
Specify the error message(s).	
Any change in the application environment: software configuration, EIS/database configuration, application, and so forth?	
Under what circumstance does the problem <i>not</i> occur?	

The following is a list of error/problem files that might be applicable.

- □ Input documents (XML instance, XML schema, non-XML documents)
- ❑ Transformation files
- Error screen shots
- **G** Error output files
- ❑ Trace files
- □ Service Manager package to reproduce problem

Custom functions and agents in use

- Diagnostic Zip
- Transaction log

For information on tracing, see the *iWay* Service Manager User's Guide.

# **User Feedback**

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Chapter

# Introducing iWay Integration Tools

This section provides an overview of iWay Integration Tools Suite (iIT), including key features and facilities. It also describes how to configure and use iWay Integration Tools Suite (iIT).

#### In this chapter:

- Installing and Configuring iIT
- Configuring and Using iWay Integration Tools Suite

# Installing and Configuring iIT

There are two methods of installing iIT. The first is to extract the zip file that contains iIT and the full Eclipse 4.6 development environment. The second is to install iIT into your own installation of Eclipse 4.6 using the update site mechanism. Using this mechanism is out of the scope of this document but more information can be found in the Eclipse help documentation by clicking on *Help* and then the *Help Contents* menu item.

To start iIT, double click the iit.exe file found under the eclipse folder where you extracted the zip. There are many launch properties found in the iit.ini file. These properties concern mainly memory and Java usage and are explained in the Eclipse documentation.

# Setting the Workspace

After starting iIT you will be prompted by a dialog box, shown in the image below, asking you to set the workspace location. The workspace is the container for all of the projects you plan to create. It is recommended that you set the workspace location outside your eclipse directory so you can reuse your workspace if you need to reinstall iIT.

Workspace Launcher	the state of the state of	X
Select a workspace iWay Integration Tools stores your pr Choose a workspace folder to use for	ojects in a folder called a workspace. this session.	
Workspace: C:\iIT-8.0.1\workspace		Browse
Use this as the default and do not a	ask again OK	Cancel

# The Welcome Screen

The Welcome Screen, shown in the image below, contains useful information about Eclipse and iIT. Here you can browse tutorials, samples, and find out what is new in this version. To close the screen, click the Workbench icon on the right.



# The Workbench

The Workbench, shown in the image below, is the name for the development environment which contains one or more Perspectives. A Perspective is a simple collection and layout of Views and Editors. Editors are usually found in the center of a perspective and are used for editing content. Views surround the editor and allow you to browse and modify the properties of resources.



#### Setting the iWay Home Directory

Once the workbench is open, it is recommended that you first set your iWay home directory.

The iWay home directory specifies the path to your local iWay Service Manager (iSM) installation. This preference is used to set the target server version to the correct value and to run transforms and flows locally.

**Note:** The versions of iSM and iWay Integration Tools (iIT) must match in order for the design time environment (iIT) to communicate with the run-time environment (iSM). As of iWay version 8.0, multiple target server versions are not supported. It is recommended to keep the versions of iSM and iIT in synch to prevent incompatibilities.

iWay Integration Tools (iIT) can be installed on the same system (locally) where iSM is installed, or on a standalone system where iSM is not installed. If iSM and iIT are installed on different systems, then you can run transforms and flows against the remote instance of iSM. In this case, the iWay Home Directory preference is not required.

However, certain iIT components, such as iWay Functional Language (iFL) Builder, requires local .jar files to be accessed during operation, which reside on the system where iSM is installed. In this case, the iWay Home Directory preference is required.

To set your iWay home directory, click *Window* from the menu bar and select *Preferences*, as shown in the following image.

Wi	indow <u>H</u> elp	
	New Window	
	Editor	>
	Appearance	>
	Show View	>
	Perspective	>
	Navigation	>
	Preferences	

A Preferences		— 🗆 X
type filter text	iWay Remote Runtime	← → □> → ▼
> General		
> Ant	Install Directory: C:\iway8	Browse
> Data Management		
> Help		
> Install/Update		
<ul> <li>iWay Integration Tools</li> </ul>		
Adapters		
Application		
> Certificate Management		
Channels		
Configurations		
Default iSM Target Version		
Deployment Templates		
Exchange		
> Favorites		
> Flow		
iWay Explorer		
iWay Remote Runtime		
iWay Runtime		
Library Manager		
Maven Settings		
Service Manager		
Tags	Rette	are Defaults Apply
> Transformer 🗸 🗸	Nest	перенана Арріу
?		OK Cancel

The Preferences dialog opens, as shown in the following image.

Expand the *iWay Integration Tools* preference in the left pane and then click *iWay Remote Runtime*. Click *Browse* to navigate to the location of your iWay 8 installation on your system. Click *Apply* and then click *OK*.

The Set default target server version dialog opens, as shown in the following image.



Click Yes, if you want the *Default Target Server Version* that is used by iIT to match the version of your iWay 8 installation (iWay Service Manager) that is installed in the iWay home directory you have referenced.

# Configuring and Using iWay Integration Tools Suite

This section describes how to configure and use iWay Integration Tools Suite (iIT).

#### **Configuring Automatic Updates**

iIT can notify you when a new version becomes available. To enable this feature, open the same preferences dialog shown in *Setting the iWay Home Directory* on page 14, and select *Install/Update* and then *Automatic Updates*. Click the *Automatically find new updates and notify me* check box.

#### **Creating an Application Project**

An application project is used to hold all the resources you create for your iSM application.

#### Procedure: How to Create an Application Project

To create a new application project:

- 1. Select File, choose New, and then Project from the main menu.
- 2. In the Select a wizard dialog box, expand iWay Integration and select Application Project.

The New Application Project wizard opens as shown in the following image.

New Application Project			×
Application Project			
Create a new Application project			
Project name TestProject			
Project location			
Use default			
Directory C:\iway8\ilT-8.0.1\workspace		Browse.	
Maven Option			
Use Maven			
(?) < Back Next > Fini-	sh	Cance	el

3. Enter a name for the project and click *Finish*.

A new project with the name you selected will appear in the Application Explorer window as shown in the following image.

Application Explorer ×	🐴 iWay Explorer	🏛 Library Manager	-	
		\$\langle \cong \begin{aligned} & \langle \langle	- <b>4</b>	▽
✓ ₩ TestProject				
🗁 APIs				
🗁 Channels				
> 🗁 Configurations				
🗁 Flows				
🗁 Resources				
🗁 Templates				
> Transforms				
> 🧐 bundle				

You will also see other folders that were created to hold different types of resources. These folders are just for convenience and it is optional to put resources in them.

#### **Creating a New Resource**

Before you create a new resource, ensure that you have created an Application Project in iIT, which serves as a container for all of your resources.

You can quickly create a new resource in iIT as follows:

**From the File menu**. Click *File*, select *New*, and then select the specific resource you want to create from the context menu (for example, *Channel*), as shown in the following image.

À	worksp	ace - iWay	Integrato	r - iWay In	tegrati	on Tools				
File	Edit	Navigate	Search	Project	Run	Window	Help			
	New Open Open	File Projects fro	om File Sy	stem		Alt	+Shift+N >	() () () () () () () () () () () () () (	Application Project Project	
	Close Close	All				Ctrl+	Ctrl+W Shift+W		Deployment Template Channel	
	Save Save A Save A	As				Ctr	Ctrl+S +Shift+S	• % f(.)	Flow Transform IFL Expression	
	Reven	t							Example	Ctrl+N
	Renar	ne					F2	Г		

□ From the toolbar. Click the down arrow to the right of the New button, and then select the specific resource you want to create from the context menu (for example, *Channel*), as shown in the following image.



□ From the Application Explorer tab. Right-click anywhere in the Application Explorer tab, select *New*, and then select the specific resource you want to create from the context menu (for example, *Channel*), as shown in the following image.

Application Explorer X	A iWay Explorer 🏦 Library Manager	
✓ № Sample_Application ⊘ APIs Channels	今 - 今 @	
> 🗁 Configurations	New	> 🇐 Application Project
> Besources	Go Into	📑 Project
> Templates	Open in New Window	API
> 🗁 Transforms	Сору	Deployment Template
> 🎯 bundle	Paste Paste	Channel
	Duplicate	Flow
	🔀 Delete	🄏 Transform
	Move	f() IFL Expression
	Rename	📑 Example
	import	📬 Other Ctrl+N

The context menu that displays lists the following resources that you can select to configure:

- API
- Deployment Template
- Channel
- Flow
- Transform
- IFL Expression

Additional resources can be accessed by clicking Other.

After you make your selection, a wizard that is specific to the selected resource opens. For example, the following image shows the New Flow Wizard, which opens when you create a new process flow in iIT.

Please select a	erties project location and choose a name for t	the new Flow
Project Folder	/TestProject/Flows	Brows
Name		
Description		

In the Project Folder field, specify the application project folder under which this resource will be created. In this example, the process flow will be created under the *Flows* folder that belongs to the application project called *TestProject*.

Enter a name for your new resource in the Name field, which is required. Enter a description for your new resource in the Description field. Click *Finish*.

The corresponding tool/editor for the selected resource opens (for example, Process Flow Designer, Channel Builder, Transformer, and so on).

#### Starting and Running iWay Service Manager

iWay Integration Tools (iIT) allows for an instance of iWay Service Manager (iSM) to be run inside the iIT process. This is beneficial for testing and debugging integration applications, custom services, and special configuration of iSM. iIT automatically detects your iSM installation and sets the iWay Home directory when iSM is run inside iIT.

**Note:** iIT automatically detects your iSM installation and sets the iWay Home directory when iSM is run inside iIT.

To run iWay Service Manager (iSM), click the Start Service Manager 2 button.

The following image shows iSM running in the Console view.

Properties	Console X	월 Problems	🤨 Error Log			- 0
iWay Service Mana iSM version 8.	ger[Java Application 0.1 starting	] C:\Program Files\	Java\jre1.8.0_171	Ҝ 🔆   🗟 🚮 🗗 🔮	<b>₽ ₽   - - - - - - - - - -</b>	•
INFO (bootstra INFO (bootstra INFO (bootstra INFO (bootstra INFO (bootstra	<pre>p) Server code p p) license file p) site code is p) licensed cpu p) iWay Service</pre>	oage is Cp1252 (s) read succes 9999.01 number is 1 Manager has 90	ssfully ) trial days ]	left**** registerin	ng _hl7ack ****	
INFO (manager) INFO (manager) INFO (manager)	system name is Iwayhome is C:, Iwaydata is C:,	: base /iway8/ /iway8/	a a		1 T	<b>~</b>

The iWay Service Manager Administration Console opens in a new browser window, as shown in the following image.

Properties	General Properties	
General Properties	Listed below are the general prope	rties for the base configuration of this server.
Java Properties	General	
Settings	Name / Home	js02109 - C:/iway8/
General Settings	Version	8.0.1.1633
Console Settings	Build Date	ASGARD 04/21/2018 17:39
Java Settings	Usage	Live
Register Settings	Configuration	
Trace Settings	Name	base - C:/iway8/config/base
Log Settings	Status	Server Uptime: 0 minutes
Data Settings	User Security Access	Read / Write
Backup Settings	Environment	
	OS / Hardware	Windows 10 (process) / amd64, CPU
roviders	Java Info	25.171-b11 Oracle Corporation J
Data Provider	Java Memory	211.25 MB of 3611.00 MB (5.9%) use
LDAP Directory Provider	Classpath	[1] C:\iway8\lib\abi-3.1.1.jar

# Creating an iWay Explorer Connection

You can use the iWay Explorer, shown in the image below, to browse the metadata of an iSM server.

Application Explorer	A iWay Explorer 🗙	🏦 Library Manager	
<ul> <li>Iocalhost</li> <li>Adapters</li> <li>Services</li> <li>Events</li> <li>Applications</li> <li>Registry</li> </ul>		<mark>♥</mark>   ☆ ↔	▽

#### Procedure: How to Add an iWay Service Manager Connection

To add an iWay Service Manager connection to your iWay Explorer:

- 1. Select the *iWay Explorer* tab and click the *Launch iWay Resource Create Wizard* icon<sup>11</sup> in the iWay Explorer toolbar.
- 2. Select iWay Configuration from the Resource Selection Dialog and click Next.
- 3. Enter localhost as the Configuration Alias and click Next.

Note: This is just a nickname for display, not the server connection information.

You can verify if the Connection String, Soap, and Console ports are valid.

#### **Test-running a Resource**

The following section describes how to test-run a resource. The test run operation is dependent on the resource being executed. A test run procedure for the transform will differ from the test run procedure for a process flow or an API. This section provides an example of just one way to run a process flow. In general, a test run operation can also be accessed by right-clicking on the component such as a process flow and selecting to test-run it

# *Procedure:* How to Test-run a Resource

To test-run a resource:

1. Select the flow you wish to test and click the Run as...  $\bigcirc$  toolbar icon.

The Run As drop-down menu appears as shown in the following image.



2. Select Flow and click OK.

The Edit Configuration dialog box opens, as shown in the following image.

me: NewElov	v			
ain Test Serve	r Parameters	Runtime Options		
Flow:		•		
/TestProject/F	Flows/NewFlow	w.iwp		Browse
nput Docume	nt:			
xml version</td <td>= "1.0" encodi</td> <td>ng="UTF-8"?&gt;</td> <td></td> <td>^</td>	= "1.0" encodi	ng="UTF-8"?>		^
< TESL> Gala </td <td>IBLA</td> <td></td> <td></td> <td></td>	IBLA			
ncoding:	Cp1252			~
Content-Type:	text/xml			~
Server Environ	ment:			
JRL:	http://localho	st:9000		~
Jser Name:				
assword:				
Use test sen	ver			
Use existing	configuration		✓ Get Cor	ofigurations
			Revert	Apply

Information Builders

The Edit Configuration dialog is used to set options for the test run. A configuration is created and saved for each resource that you test run. These configurations can be viewed, modified, and cloned in the Run Configurations dialog accessed by clicking the arrow next to the Run As toolbar icon and selecting *Run Configurations*. After creating a run configuration for a resource, Eclipse will attempt to find and execute that configuration the next time you select the resource and click the Run As icon.

- 3. Click the Browse... button to select an Input Document from your workspace or click the *Import* button to import an Input Document.
- 4. Select your encoding and content-type preferences based on your requirements from the Encoding and Content-Type drop-down lists.
- 5. Select or type in a server URL to execute the test run against.

If you have servers configured in your iWay Explorer, they will show up in the drop-down list.

If you select *Use existing configuration*, the drop-down list will be populated with configurations available on the server you specified in the server URL.

6. Click Run.

# **Viewing Test Results**

After a test run operation is complete, a viewer showing the completed test run is displayed. This viewer allows you to click through the various objects in your process flow and see the data and registers associated with any execution step.

The test results for a resource reside under the resource in a folder called Test Results. These results are maintained between runs so you can compare them.

The following image shows a transform and flow with test results.



If you are notified of a test run failure, debugging information can be found in the Test Results folder.

#### Customizations

Customizations are user created content used in an integration solution. Currently customizations consist of Java based .jar files or class folders containing custom Java classes for use by a flows or transformations. This java based content is added to the Java classpath for the containing Application Project.

**Note:** The .jar file or class containing the customization is not copied to the server at publish time and must be copied manually to the correct location in the target server iSM installation.

## Accessing iWay Service Manager Components in iWay Integration Tools

When accessing the customized components (for example, services, listeners, and so on), the component needs to be loaded in the iSM runtime before you can proceed to adding it to the design time. This will ensure that you can run a test of your component and validate that it is properly packaged. In most cases, this requires you to place the new extension into the <iwayhome>/etc/manager/extensions folder, restart or start iSM server, and check to ensure you can find and load the new component in the iSM console Registry section.

# Procedure: How to Add Services to an iIT Environment

Adding newly accessible services from the iSM server to an iIT environment allows you to import services which are available in iSM, but not registered with iIT by default.

To add services from the iSM server instance to an iIT environment:

- 1. Right-click on your project and select Properties.
- 2. Expand *iWay Integration* and click *Customizations*, as shown in the following image.

Properties for TestProject				226		<
type filter text	Customizations			Ç	• <> •	•
> Resource Builders	iWay Components	User Components	IIT Classpath	IFL		^
<ul> <li>iWay Integration Application Customizations</li> </ul>	IIT delivers a collect importing from a r components, click	tion of iWay compor emote servers reposit on the import buttor	nents which car tory. To add add n to get started.	n be exte ditional	nded by	
Default iSM Target Versi Export Folders	Server version: 8.0	0.1	-	~	Import	
Flow IFL Binding Properties	Perform case-se	ensitive search		(Juli)	Remove	
Transformer						

3. From the Server version drop-down list, select the appropriate version of the iSM instance and click *Add*.

4. Provide the connection parameters for the iSM server and click *Next*, as shown in the following image.

💰 Additiona	I Components Wizard	1-21		×
Server Selec	tion			
Please specif	y the server to retrieve additional components from.			
Server Infor	mation:			
Server URL:				$\sim$
User Name:	[			
Password:				
Keystore an	d Truststore:			
Keystore:	None			~~~
Truststore:	None			~
0				
(?)	< Back Next > Finish		Canc	el

A list of available components appears, where you can select the relevant components to be imported into the iIT project.

5. After selecting the services you wish, click *Next* to add them to the environment of the project.

💋 Additional Components Wizard	_		×
Additional Components			
Select the additional components you would like to add.			
Perform case-sensitive search			
> Decryptor			
> Emitters			
> Encryptor			
> Preparser			
> Reviewer			
> Services			
-			
Description			
			^
	1	~	-
C Sack Next > Fini	sn	Cano	ei

The following image shows the list of services that can be imported.

6. Click *Next* and then click *Finish* to finish the process.

stomizations						¢ .	• <> •
iWay Components	User Components	IIT Classpath	IFL				
IIT delivers a collect repository. To add a	tion of iWay compon additional componer	ents which can its, click on the	be exte import	nded by im button to g	porting from a remote et started.	serv	ers
Server version: 8.0	).1					~	Import
						D.	Remove
Perform case-se	nsitive search						
🗸 🗌 Listeners						^	
🗸 🗌 misc							
AQ							
AS2	[nonblocking]						
🗌 Bac	kup Heartbeat Server						
Cor	nnectDirect						
Cor	nsole						
Em	ail						
Env	oy						
Excl	hange						
E File							
	P[S] Client (Clear text	or SSL FTP Clie	nts)				
	P[S] Client (Deprecate	d FTP Clients)	_				
	[S] Server (Clear text	or SSL FTP Serv	/er)				
	TP 1.0 [deprecated]	( 14.)					
	IP I.I [nonblocking]	(nnttp)					
	beriedger Fabric						
	unal Oursus						
	errial Queue 5 Maccado Soniico (in					~	
I Java	a message service (In	D4/					
					Restore Defaults		Annly

The newly added services are now available for the flow.

7. Create a new flow and continue with the application.

#### Notes:

- □ You may need to restart iIT in some instances.
- ❑ For iWay versions 7.x only, the metadata (descriptor file) for the imported service or any other component will be updated only for the selected version. For example, if you selected to import from iSM version 7.0.6, only flows with version 7.0.6 will have the components available as a configured option. The flow versions must match the selected version from the import step in order to see the new component.



# **Understanding Key Concepts**

This section describes key concepts related to iWay Integration Tools Suite (iIT).

#### In this chapter:

- Integration Perspective
- Application Explorer
- Application Projects
- iWay Resources
- Register Sets
- Process Flow Designer
- Deployment Template Builder
- Channel Builder
- Library Manager

# **Integration Perspective**

The iWay Integration Perspective provides a layout for all views and editors contributed by the Integration Tools and the Eclipse platform to allow users to view and work with iWay Resources in an effective manner.

# **Application Explorer**

The iWay Application Explorer is an Eclipse view that presents the iWay resources that make up an iWay Application Project in a structured manner.



The Application Explorer is used as the primary entry point for working with iWay resources in a logical manner.

#### **Related Topics:**

iWay Resources on page 37

# **Application Projects**

An Application Project is a container of resources used to create your integration solution. The Application Project helps you organize your resources in a logical manner and provides facilities for working with those resources.
# iWay Resources

An iWay resource is any component that can be used in an iWay Service Manager application. These components have a required physical structure in an Application Project that consist of a folder containing the files that constitute the component and a *.iwresource* metadata file containing information about the component that is used by iSM. iWay Integration Tools provides plugins that include tools for working with these components and managing the physical structure in an Application Project.

**Note:** The Application Explorer view is used to present an iWay Resource in a logical manner and hides the physical structure. If required, the physical structure can be viewed using the Navigator view provided by the Eclipse platform.

### APIs

Allows you to develop and host RESTful APIs for consumption by external callers using iWay Integration Tools (iIT). The APIs folder is the default folder for storing REST-based APIs.

### Channels

Channels consist of a data acquisition (Inlet) component, business routes, and a data disposition (Outlet) component. The channels are used to receive data from various systems and on various protocols based on the configured polling interval, scheduled bases, or event driven. Each message passes through a channel, and in many applications through multiple channels. As the message is being processed by a channel, it can also be routed based on a business logic for execution to a specific process flow configured in a business route. Messages can be of any format such as flat, XML, JSON, and can be processed as a stream of data, actual data payload, or a signal depending on the protocol being used.

# Configurations

The Configurations folder is the default folder for managing configurations which store iWay Generics bindings. You can create more than one configurations using the iWay Configurations Editor. An application project can have only one active configuration file. You can select a configuration within the properties of the application project.

## Flows

The capability of graphically visualizing a business process is a powerful and necessary component of any business intelligence offering. iWay Integration Tools Suite, an Eclipse platform based design time tool, provides a visual and user-friendly method of creating a business process, also called a flow.

Through a flow, you control the sequence in which tasks are performed and the destination of the output from each task in the flow. Each flow you create is a single unit of work made up of many objects, such as adapters, protocol interactions, system access objects, message routing definitions, graphically represented by icons and connected by lines that establish a relationship between the objects.

When the design of a flow is complete, you can confirm that the objects and their relationships meet the design criteria through the compilation process. You can also test the flow by executing it with an actual input document to see results.

### Templates

Deployment templates allow you to create a component that inject configuration into runtime creation. Often these templates contain variables whose values are specific for either development, test and or production environments. Templates can be created using the iWay Template Builder.

### Transforms

Transformation definition files contain sets of rules, interpreted and executed by a transformation engine. Transformation is the process by which data is transformed from one structure/format to another.

# **Register Sets**

Register sets are very similar to Special Registers (SREGs), but they are not global by default. A register set contains a pool of one or more SREGs. In iIT, register sets are managed like other iWay Resources in a project. Register sets can be created, edited, and attached to a channel using iIT. They become a dependency of the channel to which they are being attached to and are carried into the application during deployment.

For more information on register sets, see the *iWay* Service Manager User's Guide.

# **Process Flow Designer**

The Process Flow Designer in iWay Integration Tools (iIT) allows you to design orchestrations, visual representations of your business, and application processes, which run within the iWay Service Manager (iSM) run-time environment. Many of the most complex integration patterns can be easily solved using a wide variety of components, including iWay Adapters and iWay Connectors.



The Process Flow Designer provides process flow objects, the executables within a process flow that direct and act upon the input to the process flow. The process flow is graphically represented in the workspace as a box and line diagram. The boxes are the objects you add, and the lines are the relationships you define between those objects. Process Flow Designer includes executable objects. For example, a Transform object converts a document from one format to another. Other objects control the flow of a document. For example, a Decision Test object routes a document based on a true or false condition. As you build a process flow, you will configure each object and the relationships between them to meet your requirements. Once the process flow is created and saved, you can validate the structure and then test the process flow in a run-time environment.

To create a new process flow:

1. In the Application Explorer tab, expand your application project. Right-click the *Flows* folder, select *New* and then click *Flow*, as shown in the following image.



The New Flow Wizard dialog opens, as shown in the following image.

New Flow \	Nizard			×
General Prop Please select a	erties a project location and choose a name for the new Flow			
Project Folder	/Sample_Application/Flows		Brow	wse
Name Description	file_move This process flow uses a File object to move a file from to a target location.	a source	location	~ ~
(?)	Create in current folder	_	Cance	4

2. Enter a name for your process flow (for example, file\_move) with a description (optional), and then click *Finish*.

Your new process flow (file\_move) is added to the Flows subfolder within your application project, as shown in the following image.



Your process flow also opens as a new tab in the workspace area where you can start building the application logic for processing data, as shown in the following image.



By default, each new process flow consists of a Start and an End object.

3. To add an object to your process flow, navigate to the Palette on the right pane, expand one of the categories, and drag the required object onto your process flow. In the following example, the *Connectors* category is expanded and the *File* object is being added between the Start and End nodes of the process flow.



4. To configure your File object, navigate to the Properties tab, as shown in the following image.

Properties ×	🤨 Error Log	📮 Console	월 Problems	
Configuration Pre-Execution	😣 File Con	nector Please	select an action below	
Post-Execution	Select Action:			~
General		append to an exist check for file exists copy a file create a directory delete a file list directory conte move a file prepend to an exis read a file from dis rename a file size of a file write a file	ing file ence ents ting file sk	

You first need to specify the type of action that you would like this File object to perform. Once a specific action is specified, the appropriate configuration parameters are displayed for that action. This behavior, which simplifies development and saves time, also applies to other objects (for example, Email, FTP, TCP, and so on) that you can add to your process flow.

- 5. Select move a file from the Select Action drop-down list.
- 6. Expand the Source parameter group and specify the path to the source file that you want to move, as shown in the following image.

Properties ×	🤨 Error Log	🖻 Console 🛛 🕺 Problems	₫ ▽	
Configuration Pre-Execution	😣 File Conn	ector File Name: value is required		
Post-Execution General	Select Action: n	nove a file		~
	▼ Source			
	File Name:	c:\temp\file_in.xml	*	
	Search Type:	none	×	
	Farget (1 fie	ld is required)		
	Target Setti	ngs		
	Advanced S	ettings		
	Post Action			

7. Expand the Target parameter group and specify a destination for the source file, as shown in the following image.

Properties ×	🥙 Error Log	📮 Console	🐕 Problems	
Configuration Pre-Execution	File Connec	tor		
Post-Execution General	Select Action:	move a file		~
	Source			
	File Name:	c:\file_out		¥
	Target Sett	ings		
	<ul> <li>Advanced S</li> <li>Post Action</li> </ul>	Settings		

8. Click Save on the toolbar to save the changes you made to your process flow, as shown in the following image.



To open an available process flow for further configuration or editing at any point, simply double-click the name of the process flow in the Flows subfolder of an application project, as shown in the following image.



The selected process flow will open as a tab in your workspace area.

# **Deployment Template Builder**

A template is a user-defined server configuration profile that is used to support a particular runtime environment for your application (for example, development, test, and production deployments). The Deployment Template Builder in iWay Integration Tools (iIT) allows you to quickly configure and manage templates for all your application projects.

To create a new template using the Deployment Template Builder:

1. In the Application Explorer tab, expand your application project. Right-click the *Templates* folder, select *New* and then click *Deployment Template*, as shown in the following image.



The Template Object dialog opens, as shown in the following image.

🔏 Template (	Dbject —		×
Deployment Please choose	Template General Properties e a name and location for this new Deployment Template.		
Project Folder	/Sample_Application/Templates	Brow	/se
Name Description	test_template		~
?	Finish	Cancel	

2. Enter a name for your deployment template (for example, test\_template) with a description (optional), and then click *Finish*.

Your new template (test\_template) is added to the Templates subfolder within your application project, as shown in the following image.



The Deployment Template Builder opens as a new tab in the workspace area where you can start building and configuring your template, as shown in the following image.

ket_template X		
Deployment Template Builder		
test_template	⊟ ⊞ 🎍	
<ul> <li>Template</li> <li>Settings</li> <li>Backup Settings</li> <li>Console Settings</li> <li>Data Settings</li> <li>General Settings</li> <li>General Settings</li> <li>Log Settings</li> <li>Path Settings</li> <li>Path Settings</li> <li>Trace Settings</li> <li>Trace Settings</li> <li>Data Providers</li> <li>Security Providers</li> <li>Correlation Facilities</li> <li>Correlation Facilities</li> <li>Correlation Settings</li> <li>General Settings</li> <li>Correlation Settings</li> <li>Tading Partner Manager</li> <li>Resources</li> <li>Libraries</li> <li>Ebixes</li> </ul>		
Master-Details		

The available settings and properties that can be configured for your template are grouped in the Deployment Template Builder as follows:

- **Settings**. Allows you to configure various settings that are related to your runtime environment.
  - **Backup Settings**. iWay Service Manager (iSM) can be deployed to automatically fail over to another waiting machine usually referred to as a *hot backup* host. Simple failover relies on iWay's native functionality to emit and respond to *heartbeat* messages, which signify normal operation of the primary server. In the Location of backup field, specify the *host:port* of an iSM instance that is monitoring this iSM.
  - □ **Console Settings**. Allows you to specify iSM console settings (for example, user ID and password) to be referenced by your deployment template.
  - □ Data Settings. JLINK is a technology that can be used to access information hosted by iWay, WebFOCUS, and EDA data servers. This section provides general settings for the JLINK in the base configuration of this server.
  - General Settings. Allows you to specify general settings for your deployment template.

- □ Java Settings. Allows you to specify JVM settings and Java system runtime properties for your deployment template.
- ❑ Log Settings. The trace log is used to record the diagnostic information that is generated by the runtime components of iSM. The transaction log is used to maintain a record of every document received and processed by iSM.
- □ **Path Settings**. Allows you to specify any class path and system path settings that are required during runtime.
- □ **Register Settings**. Special Registers (SREGs) are named variables that reference values that are carried throughout the system. Once defined, these variables become available to all components within the system.
- □ **Trace Settings**. Trace settings allow you to control the amount of detail that is produced by the diagnostic components embedded within iSM. Traces produced during runtime are either displayed or logged based on settings in the runtime environment.
- **Providers**. Allows you to define any authentication realms, data providers, or security providers that are required in your template.
  - Authentication Realms
  - Data Providers
  - Security Providers
- □ **Facilities**. Allows you to configure various activity facilities or correlation facilities to be referenced by your template.
  - Activity Facilities
  - Correlation Facilities
- □ **Applications**. Allows you to configure iWay Business Activity Monitor (BAM) and iWay Trading Partner Manager (TPM) services within the run time.
  - **Business Activity Monitor**
  - **Trading Partner Manager**
- **Resources**. Add any files or folders that you would like to include as part of your template, which will be placed in the following directory:

IWAY\_HOME\config\deployment\_name\resource

Libraries. Add any .jar files that you would like to include as part of your template, which will be placed in the following directory:

```
IWAY_HOME\config\deployment_name\lib
```

**Ebixes**. Add any Ebix resources that you would like to include as part of your template, which will be placed in the following directory:

```
IWAY_HOME\config\deployment_name\ebix
```

3. After you have finished configuring your template, click Save on the toolbar to save the changes you made to your template, as shown in the following image.



To open an available template for further configuration or editing at any point, simply double-click the name of the template in the Templates subfolder of your application project, as shown in the following image.



The selected template will open as a tab in the Deployment Template Builder.

- 4. When you are ready to deploy your application you can specify your deployment template in the Edit Configuration dialog.
- 5. Click *Browse* in the Template area, as shown in the following image.

🔏 Edit Configuration		×
Edit configuration and launch.		
Name: sample_deployment		
Main		
Application:		
/Sample_Application/bundle.iab		Browse
Template:		
		Browse
0		<ul> <li>Refresh</li> </ul>
Server Environment:		
URL: http://localnost:9000		
User Name: iway		
Password:		
Deployment Options:		
Deployment Name: bundle		
Deploy as Test Server: on/off		
Console Port:		
Description:		
Autostart Application: 🗌 on/off		
	Revert	Apply
(?)	Rup	Close
	Kun	Close

The Resource Selector dialog opens, as shown in the following image.

🔏 Resource Selection 🛛 —		×
<ul> <li>Image: Image: Im</li></ul>		
ОК	Cancel	

6. Expand the Templates folder, select your deployment template (for example, test\_template), and then click *OK*.

The template you selected is added to your deployment configuration, which will be used during runtime, as shown in the following image.

Template:		
Sample_Application/Templates/test_template.iwtemplate		Browse
0	~	Refresh

# **Channel Builder**

iWay Service Manager (ISM) defines a channel as a container of components through which messages flow. The Channel Builder in iWay Integration Tools (iIT) is a tool used to build channels using iWay components.



Channels contain references to one inlet, multiple routes, and outlets.

The Channel Builder allows you to:

- Build and edit channels.
- □ Import and export channels.

The right-click options are shown in the following image.

SOAP2	<b>e</b>	SO Th	AP2 nis channel can b	ie use
<ul> <li>✓ E channe</li> <li>✓ e<sup>™</sup><sub>4</sub> inle</li> <li>é<sup>™</sup><sub>4</sub> inle</li> <li>é<sup>™</sup><sub>4</sub> inle</li> <li>é<sup>™</sup><sub>4</sub> inle</li> </ul>	Add Channel Component Export to Library Import from Library	>	●tte Inlet te Route te Outlet	
्रिष्टुः । इ⊮ outl	<ul> <li>✓ Undo</li> <li>◇ Redo</li> </ul>	Ctrl+Z Ctrl+Y	ime	At
	✓ Cut Copy Paste	Ctrl+X Ctrl+C Ctrl+V		
Master-Details	X Delete			
🖻 Console 🗙	Run As Debug As Validate	>	Problems	Q
	Team Replace With	>		
	Compare With	>		



The following diagram illustrates the Channel Builder component logic structure.

# **Channel Builder and Component Editors**

The following image shows the presentation of a channel and its composing components in Application Explorer.



The following image shows the SOAP2 channel in the Channel Builder with a corresponding inlet, route, and outlet.



Clicking a component opens an editor on the right. The following image shows a listener and its properties in the Component Editor.

istener.1 i 🖉 🔄	^
Accepts documents from files in directories	
Type: File change type	
Filter (enter string to filter properties) Clear	
▼ Main	
Active	
true 🗸	
Input Path	
C:\iway8\samples	
Destination	
C:\iway8\config\samples\output	
Removal Destination	
Suffix In Filter	
xml	
Scan subdirectories	
false 🗸	
Do not unzip ZIP files	
false 🗸	
Suffix Out	

# **Creating Channels Using Channel Builder**

This section describes how to create channels using Channel Builder.

## Procedure: How to Create a New Channel

To create a new channel:

1. In the Application Explorer tab, expand your application project. Right-click the *Channels* folder, select *New* and then click *Channel*, as shown in the following image.



The Channel Object dialog opens, as shown in the following image.

📑 Channel O	bject — 🗆 X
Channel Gene Please choose	eral Properties a name and location for this new Channel.
Project Folder	/Sample_Application/Channels Browse
Name	Sample_Channel
Description	This is a simple channel for demonstration purposes.
Template	None ~
?	< Back Next > Finish Cancel

2. Enter a name for your channel (for example, Sample\_Channel), a description (optional), and then click *Finish* 

Your new channel (Sample\_Channel) is added to the Channels subfolder within your application project, as shown in the following image.



Since this channel has not yet been configured, the red x icons are displayed as shown. You can ignore these error indicators for now, which will be removed once the channel is configured. The Channel Builder also opens as a new tab (containing the name of your channel) in the workspace area where you can start adding your channel components, as shown in the following image.



Once again, error indicators are displayed, which now indicate that an inlet and a route must be defined for this channel.

3. To define your listener, click *listener:listener.1* under the *inlet: inlet.1* node in the left pane and then *change type* in the right pane, as shown in the following image.



The Modify listener type dialog opens, as shown in the following image.

🔏 Modify listener type		×
Listener Component Type		
Specify the type for the Listener Compone	ent	
	E	☆
Displaying 49 of 49		
All Favorites Recent		
Туре	Tags	^
Envoy	http, https, restx, rest, restful web apis, spo	g I
Exchange	email, exchange, microsoft	
File	input, files, directory, filesystem	
FTP[S] Client (Clear text or SSL FTP Cl	nt (Clear text or SSL FTP Cl ftp listener, ftp file read, file event	
FTP[S] Client (Deprecated FTP Clients)	deprecated	
FTP[S] Server (Clear text or SSL FTP Se	ftp listener, ftp server	¥ .
Tags:	Filter	
mult filosystem the high unternet	h http://doc.org/s	
email mesystem tip high waterman	k nicp idap oracle	
queue rvi sap sttp ssh tcp tcp teine	t udp	
File		
Accepts documents from files in director	ies	
$\bigcirc$	Finish Can	cel

4. Select *File* from the list of available listener types, which indicates a File listener, and then click *Finish*.

The configuration parameters for the File listener are displayed in the right pane of the Channel Builder, as shown in the following image.

listener.1	i 🔊 🕏
Accepts documents from files in directories	
Type: File change type	
Filter (enter string to filter properties)	
Clear	
<ul> <li>Main (Missing 2 required fields)</li> </ul>	
Active	
true	~
Input Path	
Destination	
Removal Destination	
Suffix In Filter	
xml	

Any required configuration parameters are identified by red text. For example, in the case of a File listener, the Input Path and Destination parameters are required.

5. Specify values for the Input Path and Destination parameters, as shown in the following image.

Sample_Channel X		
S Channel Builder Process: process.1: Process 'process.1' not d	lefined	
Sample_Channel <ul> <li>channel: Sample_Channel</li> <li>off: inlet: inlet.1</li> <li>fistener: listener.1 (File)</li> <li>forute: route.1 (default)</li> <li>forute: soutet.1</li> </ul>	<ul> <li>listener.1         <ul> <li>Accepts documents from files in directories</li> <li>Type: File <u>change type</u></li> </ul> </li> <li>Filter (enter string to filter properties)         <ul> <li>Clear</li> <li>Main</li> <li>Active             <ul> <li>Tue</li> <li>Input Path</li></ul></li></ul></li></ul>	i 2 2 ^
	xml	🗸

Notice that the red text previously used to identify the Input Path and Destination parameters has been removed. In addition, one of the error indicators, which was previously shown for the undefined listener in the left pane is no longer displayed.

You are now ready to associate a process flow for the route of this channel.

6. Click *process:process.1* under the *route: route.1* node in the left pane and then the *Resource Selection* icon in the right pane, as shown in the following image.

sample_Channel ×		8	3
S Channel Builder Process: process.1: Process 'process.1' no	ot defined		J
Sample_Channel	<ul> <li></li> <li></li></ul>	process.1 Select process from workspace that you want to be referenced by this channel component	

The Resource Selection dialog opens, as shown in the following image.



7. Navigate to the Flows subfolder in your application project, select the process flow that you want to associate with the route of your channel, and then click *OK*.

You are returned to the Channel Builder, as shown in the following image.



Notice that the second error indicator, which was previously shown for the undefined route in the left pane is no longer displayed.

8. Click Save on the toolbar to save the changes you made to your channel, as shown in the following image.



You have successfully created a new channel using Channel Builder in iIT.



Notice that all of the error indicators, which were previously shown for this channel, are no longer displayed.

# Library Manager

The library in iIT is a repository for reusable resources. The Library Manager provides a graphical interface to work with the library and interact with the resources. The component resources in the library are generic and extensible so the Library Manager can work with an array of resources that iIT supports (for example, channels and transforms).

# Library Manager View

The Library Manager is a new view in the Integration perspective. By default, it appears to the left of the editor area. The main control in the Library Manager is a tree representation of the library, as shown in the following image.

Application Explorer	< <sup>*</sup> 1	
		<b>∳</b> îγ
Search Library		Clear
✓		
କୁଟ୍ର listener		
👼 decryptor		
😥 preparser		
●L <sup>ee</sup> inlet		
ter state s		
💠 emitter		
encryptor		
preemitter		
<u>f</u> er route		
♦ intransformer		
♦ outtransformer		
💠 reviewer		
✓		
> 🗁 Objects		
> 🗁 Comma Delimited		
> 🔁 EDIFACT		
> 🗁 Fixed Width		
> 🗁 HIPAA		
> 🗁 HL7		
> 🗁 SWIFT		
> 🗁 X12		

1. The top tier in the view reflects Channels and Transforms.

The following image shows the contents of the *Transforms* folder with the *Objects* and *Comma Delimited* folders expanded.

Search Library	Clear
<ul> <li>Channels</li> <li>Channels</li> <li>Transforms</li> <li>Objects</li> <li>Group</li> <li>Element</li> <li>Mapping</li> <li>Attribute</li> <li>Comment</li> <li>Content</li> <li>CDATA</li> <li>COATA</li> <li>Variable</li> <li>Comma Delimited</li> <li>RecordHeader</li> <li>RecordDetails</li> <li>Column</li> <li>EDIFACT</li> <li>Fixed Width</li> <li>HIPAA</li> <li>HIPAA</li> <li>HIPA</li> <li>X12</li> </ul>	

# Working With Library Resources

Library Manager provides a centralized location of reusable components for Channels and Transforms.

To access the Import/Export menus, the user must be in the proper section of the component.

To export a component from the Channel Builder, right-click the component (for example listener) and choose *Export to Library*. The component will then show up in the Library Manager under the applicable category.

To import a component from the Library Manager, and use it in a Channel or Transform, rightclick the area where the imported resource should go (for example, Channel Listener) and select *Import from Library*. The user can then select a resource to import from a list of available Library Manager components.

Library Manager components can also be exported to a file system by right-clicking the component in the Library Manager, choosing *Export* and selecting a file system location. Components can also be imported into the Library Manager from the file system, assuming that they were exported from a Library Manager tool.

Library Manager provides the following options.

#### Subcategory

Subcategories can be created using the context menu on the parent category. When exporting a resource to the Library, pick a subcategory or the category where you want the resource to be created.

#### Delete/Delete All

Resources and subcategories can be removed by using the context menu.

#### Search

Search resources by typing a name pattern in the search field. The Library tree will be filtered to show the matching resources. The Clear button to the right of the search area clears the pattern and restores the Library tree.

#### Import/Export
These operations are provided by the context menu of the Library Manager. The archived library will be in .ebl format. The following image shows the context menu for Import/Export resources.





# Performing Specific Configuration Tasks

This section describes how to perform specific tasks using iWay Integration Tools (iIT).

#### In this chapter:

- Working With Application Projects
- Setting a Default Target Server Version
- Configuring Disposable Test Servers for Test Run Integration
- Configuring and Using Schema Sets
- Configuring and Using the Script Object
- Working With the Registry

### **Working With Application Projects**

An Application Project is a container of resources used to create your integration solution. The Application Project helps you organize your resources in a logical manner and provides facilities for working with those resources.

#### **Creating an Application Project**

To create a new Application Project:

1. Select File, choose New, and then Project from the main menu.

You can also right-click anywhere within the Application Explorer view, select *New* and then *Project* from the context menu.

2. In the Select a wizard dialog box, expand iWay Integration and select Application Project.

The New Project wizard opens as shown in the following image.

Application Project Create a new Application Project name TestPro Project location Use default Directory C:\iway8\il Maven Option	on project nject T-8.0.1\worksp				
Create a new Application Project name TestPro Project location Use default Directory C:\iway8\il' Maven Option Use Maven	on project nject T-8.0.1\worksp				
Project name TestPro Project location Use default Directory C:\iway8\il Maven Option	j <b>ect</b> T-8.0.1∖worksp				
Project location Use default Directory C:\iway8\il Maven Option Use Maven	T <mark>-</mark> 8.0.1\worksp				
Use default Directory C:\iway8\il Maven Option Use Maven	T-8.0.1\worksp				
Directory C:\iway8\il Maven Option	T-8.0.1\worksp				
Maven Option		ace		Browse	
Use Maven					
2	Rack	Nexts	Finish	Cancel	

3. Enter a name for the project in the Project name field (for example, TestProject) and click *Finish*.

A new project with the name you selected will appear in the Application Explorer window as shown in the following image.

Application Explorer ×	🗛 iWay Explorer	🏛 Library Manager	-	
-		⇔ ⇔ @   E		▽
✓ ☑ TestProject				
Channels				
> 💪 Configurations				
🗁 Flows				
🗁 Resources				
Templates				
Transforms				
> 🧐 bundle				

You will also see other folders that were created to hold different types of resources. These folders are just for your convenience and it is optional to put resources in them.

## Changing a Default Export Location

To change the default export location for a resource type:

- 1. Select the Application Project that you wish to change and right-click to open the context menu.
- 2. Select *Properties*. The properties for the Application Project opens.
- 3. Expand the *iWay Integration* > *Export Folders* branch in the left pane.
- 4. Select the Enable project specific settings checkbox.
- 5. Click the folder in the *Default Folder* column for the type that you wish to change. An ellipsis (...) will appear that allows you to browse the project's folders and pick a new default location.
- 6. Click Apply.
- 7. Click OK to close the properties page.

#### Adding a Customization to an Application Project

To add a customization to an Application Project:

1. Select the Application Project that you wish to contain the Customization and right-click to open the context menu.

- 2. Select *Properties*. The properties for the Application Project opens.
- 3. Expand the *iWay Integration > Customization* branch of the iWay Integration properties category.

The Customization dialog has four tabs, iWay Components, User Components, IIT Classpath, and IFL, as shown in the following image.

type filter text	Customizations	< → → <
<ul> <li>Resource Builders</li> <li>iWay Integration Application Customizations Default iSM Target Versi</li> </ul>	iWay Components User Components IIT Classpath Users wishing to register their custom iWay compone will attempt to load and inspect these components at can be found. Any metadata modifications to existing recognized at IIT startup.	IFL Ints in IIT should add them here. IIT startup providing all dependencies guser components will only be
Export Folders Flow IFL Binding Properties Maven Settings Transformer Maven Project Facets Project References Run/Debug Settings Task Tags Validation		Add JARs Add External JARs Add Class Folder Remove
< >>		

4. To add iWay Components, click Import in the iWay Components tab.

Additiona	l Components Wizard	27		×
Server Selec	tion			
Please specif	y the server to retrieve additional components from.			
Server Infor	mation:			
Server URL:	http://localhost:9000			~
User Name:	iway			
Password:	••••			
Keystore an	d Truststore:			
Keystore:	None			~
Truststore:	None			~
?	< <u>B</u> ack <u>N</u> ext > <u>F</u> inish		Cance	el

The Server Selection dialog box opens, as shown in the following image.

5. Click Next.

The Additional Components dialog box opens, , as shown in the following image.

Additional Components Wizard		×
Additional Components		
Select the additional components you would like to add.		
		R
Perform case-sensitive search		
<ul> <li>Decryptor</li> <li>Emitters</li> <li>Encryptor</li> <li>Listeners</li> <li>Preemitter</li> <li>Preparser</li> <li>Reviewer</li> <li>Services</li> </ul>		
		<
(?) < <u>Back</u> <u>N</u> ext > <u>F</u> inish	Cance	el

6. Select the check box(es) of the components you wish to add and click OK.

7. On the User Components tab or IIT Classpath tab, add a JAR from the workspace using the *Add JARs* button, link a JAR from the local file system using the *Add External JARs* button, or use the *Add Class Folder* to link classes from another project, as shown in the following image.

Properties for TestProject			×
type filter text	Customizations		•
<ul> <li>&gt; Resource Builders</li> <li>&gt; iWay Integration Application Configurations</li> <li>Customizations</li> <li>Default iSM Target Versi Export Folders</li> <li>IFL Binding Properties Maven Settings</li> <li>&gt; Transformer</li> <li>&gt; Maven</li> <li>&gt; Project Facets</li> <li>&gt; Project Facets</li> <li>&gt; Project References</li> <li>&gt; Run/Debug Settings</li> <li>&gt; Task Tags</li> <li>&gt; Validation</li> </ul>	iWay Components         User Components         IIT Classpath         IFL           Users wishing to register their custom iWay components in II attempt to load and inspect these components at startup profound. Any metadata modifications to existing user compon         IIT startup.	T should add them here. IIT will widing all dependencies can be ents will only be recognized at Add JARs Add External JARs Add Class Folder Remove	^
?		OK Cancel	

- 8. Click *Apply*. The Java content will be added to the Application Projects customization classpath.
- 9. To add IFL (iWay Functional Language) functions, click Import in the IFL tab.
- 10.Select the functions you wish to add and click Finish.
- 11.Click OK to close the properties page.

## **Searching Flows**

Using the Search feature, you can search for specific terms within flows in your Application Projects. This feature is also useful when searching for items, such as Special Register (SREG) names and other parameters.

# *Procedure:* How to Search Across Flows

To search across flows:

1. Click the Search icon in the toolbar, as shown in the following image.

Ø v	/orkspa	ace - iW	ay Integrat	or - platfo	rm:/resou	rce/Tes	tProject/F	lows/Nev	vFlow.in	wp/New	Flow.iv	vp#/0	- iWay l	ntegration To	ools
<u>F</u> ile	Edit	View	<u>N</u> avigate	Se <u>a</u> rch	Project	<u>R</u> un	Window	<u>H</u> elp						_	1
	- 🖫	6:0	▶ ■	M 3.	D.2	170 <b>17</b> 0	់ <table-cell> 🖻</table-cell>	//X {	;} 🖬	1	荐	- 0	- 9	- 18 -	21
-	Applic	ation E	xplorer 🗙	Ai	Way Explo	rer	🟛 Libra	ary Mana	ger	Ç	• =>	Q	□ 🕏	~ - 8	

You can also click the down arrow to the right of the Search icon and select *Flow Search*, as shown in the following image.

99	1 Flow Search	
32	2 Transformer Search	
2	3 File Search	
29	4 Java Search	
*	5 Plug-in Search	

The Search dialog opens and displays the Flow Search tab, as shown in the following image.

Plow Search	🚀 Tran	former Search	😽 File Search	🦻 Java Search		rch
Search criteria:						
						~
Case Sensitiv	/e					
Sub-string (if	f checked	will search for a	all strings that con	ntain search criteria	a)	
Regular Expre	ession					
Pre and Post E	xecution P	roperties				
Pre and Post E	xecution P ner of the c	roperties heckboxes will	limit search only	to Pre-Execution o	r Post-Execution	properties
Pre and Post E Checking eith	xecution P ner of the c tion Prope	roperties heckboxes will rties	limit search only	to Pre-Execution o	r Post-Execution	properties
Pre and Post E Checking eith	xecution F ner of the c tion Prope ution Prop	roperties heckboxes will rties erties	limit search only	to Pre-Execution o	r Post-Execution	properties
Pre and Post E Checking eith Pre-Execut Post-Execut	xecution P ner of the c tion Prope ution Prop	roperties heckboxes will rties erties	limit search only	to Pre-Execution o	r Post-Execution	properties
Pre and Post E Checking eith Pre-Execut Post-Execut	xecution P ner of the c tion Prope ution Prop	roperties heckboxes will rties erties	limit search only	to Pre-Execution o	r Post-Execution	properties
Pre and Post E Checking eith Pre-Execut	xecution P ner of the c tion Prope ution Prop	roperties heckboxes will rties erties	limit search only	to Pre-Execution o	r Post-Execution	properties

- 2. Enter your search term in the Search criteria field and select any of the following options, if you want to refine your search results:
  - Case Sensitive
  - □ Sub-string
  - Regular Expression
  - □ Pre and Post Execution Properties.
- 3. Click Search.

When editing a flow, you can see all the variables in the Properties tab and you can search across them. In this example, the result of a search for the "file\_to\_read" variable is highlighted for quick access ,and shown in the following image.

s myflow						
Double-click on row to select co	orresponding object in the ed	litor				
Name	Туре	Value	Usage	Scope	Active	Descrip
V Read File						
Pre-Execution	string	sreg(filename)	uter	merrage	true	
file write location	string	properties( sreg(propfile) file out	user	message	true	
Post-Execution						
✓ Write File						
Pre-Execution						
✓ Post-Execution						
file_delete	string	true	user	message	true	

## **Exporting and Importing Application Projects**

This section describes how to export and import application projects using iWay Integration Tools (iIT).

## **Exporting Application Projects**

To export an application project:

1. Right-click an application project in the Application Explorer tab and select *Export* from the context menu, as shown in the following image.

> 🗁 San	nple_	Application	
		New	>
		Go Into	
		Open in New Window	
	Ð	Сору	
	Ē	Paste	
	Ð	Duplicate	
	×	Delete	
		Move	
		Rename	
		Import	
	2	Export	
	\$	Refresh	
		Close Project	
		Close Unrelated Projects	

The Export dialog opens, as shown in the following image.



2. Expand the General folder, select Archive File, and then click Next.

🔏 Export	– D X
Archive file Export resources to an archive file on the local file syste	m.
> ☑ ≝ Sample_Application	✓ x .project
Filter Types     Select All     Deselect All       To archive file:     C:\temp\sample_application.zip	V Browse
Options Save in zip format Save in tar format Compress the contents of the file Resolve and export linked resources	<ul> <li>Create directory structure for files</li> <li>Create only selected directories</li> </ul>
? < Back	Next > Finish Cancel

The Archive file pane opens, as shown in the following image.

- 3. Browse to a location on your file system where you want to save the archive file that will be generated for your application project (for example, c:\temp).
- 4. Click Finish.

The selected application project is saved as an archive file (for example, sample\_application.zip) in the location that you specified.

# **Importing Application Projects**

To import an application project:

1. Right-click anywhere in the Application Explorer tab and select *Import* from the context menu, as shown in the following image.

New       >         Go Into       Open in New Window         Open in New Window       >         Paste       >         Duplicate       >         Move       Rename         Import       >         Export          Export          Import          Import<		6 d
Go Into         Open in New Window         Copy         Paste         Duplicate         Delete         Move         Rename         Export         Export         Refresh         Close Project		New >
Open in New Window         Copy         Paste         Duplicate         Move         Rename         Import         Export         Refresh         Close Project		Go Into
<ul> <li>Copy</li> <li>Paste</li> <li>Duplicate</li> <li>Delete</li> <li>Move</li> <li>Rename</li> <li>Export</li> <li>Export</li> <li>Close Project</li> </ul>		Open in New Window
<ul> <li>Paste</li> <li>Duplicate</li> <li>Delete</li> <li>Move</li> <li>Rename</li> <li>Import</li> <li>Export</li> <li>Refresh</li> <li>Close Project</li> </ul>	Ð	Сору
<ul> <li>Duplicate</li> <li>Delete</li> <li>Move</li> <li>Rename</li> <li>Import</li> <li>Export</li> <li>Refresh</li> <li>Close Project</li> </ul>	B	Paste
<ul> <li>Delete</li> <li>Move</li> <li>Rename</li> <li>Import</li> <li>Export</li> <li>Refresh</li> <li>Close Project</li> </ul>	Đ	Duplicate
Move Rename import Export Refresh Close Project	×	Delete
Rename       Import       Export       Refresh       Close Project		Move
Import       Import       Export       Refresh       Close Project		Rename
Export  Refresh Close Project		Import
<ul> <li>Refresh</li> <li>Close Project</li> </ul>	2	Export
Close Project	8	Refresh
		Close Project

The Import dialog opens, as shown in the following image.

🔏 Import		×
Select Import resources from an archive file into an existing project.	Ľ	5
Select an import wizard:		
type filter text		
<ul> <li>General</li> <li>Archive File</li> <li>Existing Projects into Workspace</li> <li>File System</li> <li>Preferences</li> <li>Projects from Folder or Archive</li> <li>Way Integration</li> <li>CVS</li> <li>Install</li> <li>Way Integration</li> <li>Waven</li> <li>Plug-in Development</li> <li>Maven</li> <li>SVN</li> <li>Tarker</li> </ul>		~
? < Back Next > Finish	Cance	el

2. Expand the General folder, select Archive File, and then click Next.

The Archive file pane opens, as	shown in the following image.
---------------------------------	-------------------------------

💰 Import				o x
Archive file Source must not be empty.				
From archive file:			~	Browse
Filter Types Select All	Deselect All			
Into folder: Sample_Application				Browse
Overwrite existing resources with	out warning			
?	< Back	Next >	Finish	Cancel

3. Click Browse to the right of the From archive file field.

🔬 Import from Archive File							>	<
$\leftarrow \rightarrow$ $\checkmark$ $\uparrow$ $\square$ $\rightarrow$ This PC $\rightarrow$ OS (	C:) → temp → · · · · · · · · · · · · · · · · · ·	Ō	Search	h temp			P	]
Organize 🔻 New folder							0	
This PC	Name	Date				Туре		^
3D Objects	💐 sample_application.zip	7/3/2	2018 7:5	4 PM		WinZip	File	
E. Desktop								
Documents								
🖶 Downloads								
Music								
Pictures								
Videos								
🟪 OS (C:)								
🛫 SK10029 (\\ibiprdb\Home) (H								
🛫 IBI (\\IBIPRDA) (J:)								
COR-DOC (\\IBIPRDC) (L:)								
🛫 common (\\ibiprdc) (Q:)								¥
👳 en-us (\\ibiappsa\Output\ibi- 🗸	<						>	
File name: sample	_application.zip	~	*.jar;*	*.zip;*.tar	;*.tar.gz;	*.tgz	~	
				Open		Cancel		

The Import from Archive file dialog opens, as shown in the following image.

- 4. Browse to the location on your file system where the archive file for your application project (for example, sample\_application.zip) is located and select the file.
- 5. Click Open.

You are returned to the Archive file pane, as shown in the following image.

🔏 Import						×
Archive file Import the contents of an archive file in zip or	r tar forma	at from the loca	file system.		Ţ	
From archive file: C:\temp\sample_applicat	ion.zip			~	Browse.	
> 🛛 🗁 🖊						
Filter Types Select All Desel	ect All					
Into folder: Sample_Application	ng				Browse.	
?	Back	Next >	Finisł	n	Cance	el 🛛

6. Click *Browse* to the right of the Into folder field and select an available folder where you want to import the contents of the selected archive file.

For example, you can select an existing application project and all of the components (for example, channels, flows, transforms, and so on) from the archive file will be imported into the corresponding sub-folders of the selected application project.

7. Click Finish.

## Setting a Default Target Server Version

To set a default target server version for new resources created in a project:

- 1. Select the project you wish to set the default target server version for and right-click to open the context menu.
- 2. Select Properties. The properties for the project opens.
- 3. Expand the *iWay Integration* > *Default iSM Target Version* branch of the iWay Integration properties category.

- 4. Set the default target server version from the combo box.
- 5. Click Apply.
- 6. Click OK to close the properties page.

# Configuring Disposable Test Servers for Test Run Integration

In prior iSM releases, there were only two options of test running a flow within iIT:

Test run against a Registry

**Note:** The Registry is not supported in iWay 8 implementations, but is still available for backwards compatibility.

**I** Test run against a server

Test run against a Registry is seamless. All flow dependencies are published to the Registry. However, in a multi-application, multi-developer environment, there is the risk of flows conflicting. This can cause flows to rewrite dependencies or missing dependencies. Test run against a test server or admin server can guarantee that the flow has all of the required dependencies. However, building a test server with all of the required dependencies is an involved, multiple step operation.

A third option (which is actually the first option on the selection) is available to test run the flow against a disposable test server, which is created automatically and then disposed of upon the completion of the test.

This feature provides several key enhancements:

- Eliminates the need for a Registry during testing.
- Creates, deploys, and destroys the disposable test server automatically.
- □ The test server is based on provided iIA and template parameters or a default version is created.

The following steps outline the process of using the new test run option:

- 1. If the flow does not have an associated application, create a default application with all of the flow dependencies.
- 2. Build and deploy an application and (optionally) a template to an iWay installation as a test server.
- 3. Start the test server.
- 4. Test run the flow using the new test server and receive the resulting document.
- 5. Stop the test server.

6. Undeploy the test server.

The option to run the flow against the disposable test server is available under the Main tab of Run Configurations pane.

: 🖬 🗶 🖻 🏞 ▾	Name: NewTrans	form		
ype filter text	Main Test Ser	rver Runtime Options		
Application Deployment	Transform:	· · · · · ·		
Eclipse Application	/TestProject/Tra	ansforms/NewTransform.gxp	Browse	
Flow	In the sum of			
Java Applet	(TestProject/Te	t:		
Ju Junit	/ TestProject/ II	ansionns/doireountryclub.xm		
<sub>3</sub> JUnit Plug-in Test	Encoding:	Cp1252	~	
MWE Workflow	Content-Type:	text/xml	~	
OSGi Framework	Test on a serve	i.		
Transform Batch Test	Server Environm	ient:		
A NewTransform	URL: ht	ttp://localhost:9000		
	User Name:			
	Password:			
	Use test serve	er		
	O Use existing o	configuration:	✓ Get Configurations	
	- Keysters and Tr	utetora		
	Reystore and Int	usisione:		

The Test Server tab enables you to configure a specific application with an optional template to be used as a disposable server. If an application or template is not provided, a default disposable test server is created for testing the flow.

ite, manage, and run config	urations	
iviainj: input file could not be fo	una	
🗎 🗶 📄 🎲 🕶	Name: NewTransform	
	Main Test Server Runtime Options	
<ul> <li>Eclipse Application</li> <li>Eclipse Data Tools</li> </ul>		Browse
Flow	Template:	
Java Applet		Browse
m2 Maven Build MWE Workflow ♦ OSGi Framework Transform Batch Test K Transform Test K NewTransform		
er matched 17 of 17 items	Reven	Apply

# **Configuring and Using Schema Sets**

A schema can be assigned to a Start object in a flow to describe the input document.

## *Procedure:* How to Assign a Schema to a Start Object

To assign a schema for a Start object in a flow:

1. Right-click the *Flows* folder in your Application Project, select *New*, and then click *Flow*.

🌱 Applicatio	on Exp	lorer X		
estProject		♦ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓		
> 🔄 TestPr	(	New >	٢	Application Project
		Go Into	B	Project
		Open in New Window	0	API
	D	Сору	Ð	Deployment Template
	B	Paste		Channel
	D	Duplicate	٥	Flow
	×	Delete	1.	Transform
		Move	f(J)	IFL Expression
		Rename	3	Example
	è	Import	-9	Other Ctrl+N
	2	Export	-	

The New Flow Wizard opens and displays the General Properties pane, as shown in the following image.

💠 New Flow \	Vizard		1226		×
General Prop	erties				
Please select a name for the r	project location and new Flow	choose a			
Project Folder	/TestProject/Flows			Brow	wse
Name	Sample_Flow				
Description	Demonstrates how t Start object.	o import a sc	hema se	et for a	
	Create in current f	older			
?		<u>F</u> inish		Cance	:

- 2. Provide a name for your flow (required) and a brief description (optional).
- 3. Click Finish.

The new flow is created in the designer workspace with a default Start object, as shown in the following image.



4. Click the Start object.

The Properties tab in the lower pane displays the properties for the selected Start object.

Schema		
Debug	Start Object	
General	Schemas available in	the current server configuration are shown below. To view an existing schema click on the "Vie
	Schema	Name of the schema which describes the input document to this flow
	Root Tag Element	Name of the root tag element of the input document to this flow. (* Required if a Schema
	Description	Description for the selected schema

5. In the *Schema* tab in the left pane of the Properties tab, click the ellipsis button to the right of the Schema field (Browse project for Schema).



The Select Schema dialog box opens, as shown in the following image.

6. Expand the *Schemas* folder in your Application Project, and select the schema document that you want to add.

The input schema properties for the Start object are now defined in the Properties tab, as shown in the following image.

Schema		
Debug	Start Object	
General	Schemas available in	the current server configuration are shown below. To view an existing schema click on the "Vie
	Schema	Name of the schema which describes the input document to this flow
		pictures.SqlInsertPicture
	Root Tag Element	Name of the root tag element of the input document to this flow. (* Required if a Schema
		AdapterParams
	Description	Description for the selected schema
		The schema defines a sql statment that is used to insert a picture into the pictures table using the $arphi$
	<	>

You can also assign a schema for an End object in a flow to describe the output document.

# Configuring and Using the Script Object

The Script object is available, which you can configure and add to flows that are constructed in iIT. The Script object uses the following iSM service type:

com.iwaysoftware.service.ScriptAgent

The Script object allows you to include complex document processing and routing instructions in your flow that are written in any scripting language that is supported by the Java Scripting API (for example, Jython). This enables your application to optimize some of the application processing into a script rather than a complex flow. As a result, you can also reuse identical logic across multiple systems.

To add the Script object to a flow, click and drag the Script object from the Components section of the Palette, as shown in the following image.

😳 Palette		
type filter text		
> 🖀 Flow Control		
> A Exceptions		
✓ Components		
💬 Annotation		
St ETL		
🥽 Payload		
🕰 Server Agent		
🙆 Script		
🎯 Sub Flow		
of Transform 🧏 🔏		
🗱 Variables		
> 🛆 AWS Connectors		
> 🖓 Connectors		
> 🚯 Application Adapters		
> 🐼 Technology Adapters		
> 🛃 Tracing		
> 🛃 Business Intelligence		
> 🖽 Data Quality		

# Procedure: How to Add a Script Object to a Flow

1. Click and drag the Script object from the Components section of the Palette to your flow, as shown in the following image.

😳 Palette		
type filter text		
> 🖀 Flow Control		
> A Exceptions		
✓ Components		
💬 Annotation		
式 ETL		
戻 Payload		
😋 Server Agent		
🍓 Script		
🎯 Sub Flow		
🔏 Transform		
🔆 Variables		
> 🛆 AWS Connectors		
> 🖓 Connectors		
> 🚯 Application Adapters		
> 🔞 Technology Adapters		
> 🞽 Tracing		
> 🚮 Business Intelligence		
> 🖽 Data Quality		



The new Script object is added to the workspace area, as shown in the following image.

2. In the *Name* field of the Properties pane, enter the a full path to the script file, which should include an explicit location, such as c:\myscripts\myscript.jsscript, or click the ellipsis (...) and navigate it, as shown in the following image.

Properties X	월 Problems	🔮 Error Log		
Configuration	Carlint Oh			
Pre-Execution	Script Obj	ect		
Post-Execution	Select Action	execute a Script		~
General	Selectricitori			
	▼ Script			
	Name:	::\iway8\myscripts\myscript.js	~	

3. Click the Start object, select the *Create path* link, and drag it to the Script object, as shown in the following image.



- 4. Similarly, click the Script object, select the Create path link, and drag it to the End object.
- 5. Delete the original path between the Start and End objects.

The Script object is now in the flow between the Start and End objects, as shown in the following image.



## Example 1: Invoking a Flow and Service Using the Script Object

This example shows how a flow and service can be invoked using the Script object.

#### Procedure: How to Invoke a Flow and Service

1. Create a file called *pflowobj.js* on your file system that contains the following JavaScript code:

```
importPackage(com.ibi.edagm);
importPackage(com.iwaysoftware.iwscript);
function execute()
var outDir = tools.getSpecialRegister("docOut");
params = tools.newParameters();
params.put("directory", outDir);
// execute process
processName = "hello_p1";
process = tools.getProcess(processName);
processResponse = new XDDocument();
state = process.execute(ctx.getDocIn(), processResponse);
if (state.indexOf('fail') == 0)
tools.info("Process flow '" + processName + "' not found");
else
// write result of process to file
params.put("pattern", "process.xml");
processToFile = tools.makeNewService("XDFileEmitAgent", params);
processToFile.execute(processResponse, new XDDocument());
return "success";
```

- 2. Save this file to a location on your file system (for example, C:\Scripts).
- 3. Create a new flow and add a Script object that points to the following path:

C:\Scripts\pflowobj.js

This flow must contain a Start object, Script object, and an End object.

- 4. Import the *hello\_p1* flow from the sample *hellozos.zip* archive using the Archive Manager tool in the iSM Administration Console.
- 5. Export the *hello\_p1* flow to an Application Project.
- Create a new application by adding the new flow (containing the Script object) and the imported *hello\_p1* flow.
- 7. Test run the new flow (containing the Script object) against the test server. Ensure that the new application is added to the Test Server tab.

Verify that a response is obtained in the destination as defined by the new application.

#### Example 2: Invoking an iWay Transform Component Using the Script Object

This example shows how an iWay Transform component can be invoked using the Script object.

#### Procedure: How to Invoke an iWay Transform Component

1. Create a file called *transformobj.js* on your file system that contains the following JavaScript code:

```
importPackage(com.ibi.edaqm);
importPackage(com.iwaysoftware.iwscript);
function execute()
{
  transformResult = new XDDocument();
  transform = tools.getTransform("Computer_Parts_Sales");
  status = transform.execute(ctx.getDocIn(), transformResult);
  return XDAgent.EX_SUCCESS;
}
```

- 2. Save this file to a location on your file system (for example, C:\Scripts).
- 3. Create a new flow and add a Script object that points to the following path:

```
C:\Scripts\transformobj.js
```

This flow must contain a Start object, Script object, and an End object.

4. Import the following sample iWay Transform project into the Transforms subfolder of your Application Project:

<ism\_home>\tools\transformer\samples\transform\_projects\xml\XML\_to\_XML \Computer\_Parts\_Sales

5. Import the following sample input XML document into the XML subfolder of your Application Project:

<ism\_home>\tools\transformer\samples\transform\_projects\xml\XML\_to\_XML \Computer\_Parts\_Sales\input.xml

- 6. Create a new application by adding the new flow (containing the Script object) and the imported sample iWay Transform project.
- 7. Right-click the flow, select Run As, and then Run Configurations from the context menu.
- 8. Test run the new flow (containing the Script object) against the test server. Ensure that the new application is added to the Test Server tab.
- 9. Return to the main tab and select the input. Select Use Test Server and click Run.

Verify that a response is obtained in the destination as defined by the new application.

#### Working With the Registry

The Registry is not used in the iWay 8 implementations, but is still available for backwards compatibility.

You can use the Registry Explorer to:

- Browse the contents of an iWay Service Manager (iSM) registry. For details on the iSM registry, see the *iWay Service Manager User's Guide*.
- **L** Export a selected resource from a registry to an application project in your workspace.
- Add an object from a registry to a flow created in the iWay Integration Tools Suite.

#### Exporting a Resource From an iSM Registry

You can use the Registry component in iWay Explorer to browse resources available in the registry of an iSM server.
Registry-based deployment is not supported in the iWay 8 environment. However for migration purposes, this procedure can be used to import components from Registry-based deployments into the Application Project.



Some resources, for example, Transforms, Flows, Adapter, Registry Sets, and Schemas can be exported to an Application Project.

To export a resource:

- 1. Connect to an iSM instance using the Registry component in the iWay Explorer view.
- 2. Right-click on a resource that you would like to export to iIT and select *Export*.

The Export Resource dialog box opens.

3. Specify a target project in the Project field.

If you have not created a project, click the Browse .... button and then the *Create Project* button.

All dependencies of the resource will be exported with the parent by default. For example, if you have a flow containing a transform, the transform will be exported to the default containing folder during the flow export process.

A Export Resource		
Export Dependencies		
OPROJECT name must be specified.		
Project:		
•	Einish Cano	:el

4. Select all of the nodes that need to be exported to the project and click Finish.

Export Resource		
xport Dependencies		
Select nodes that you want to exports from the	ie registry.	
Project: MyIntegrationProject		
Below is a tree of node(s) and its dependencie exported automatically (you cannot uncheck t you want to export them by checking checkbo Note that all component will be exported to th	es you are exporting from the server. Check hese nodes). Nodes that are not checked b ix next to node you want re-export. we'r default folders in the project. Default fo	ked nodes do not exist in your project and thus y default, exist in your project. You can choose iders can be customized in <u>Export Folders</u> prefe
Name	Type	Description
Samples.PFIVP.1	process	This sample process, delivered
•		1
Select All Deselect All		
-		
?		Einish Cancel

After the process is complete, the selected resource can be found in the Application Explorer under the target folder.

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## iWay

<sup>/</sup> iWay Integration Tools User's Guide

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