

WebSphere adapter for IBM i tutorials

This edition applies to version 6, release 2, and modification 0 of IBM WebSphere Adapter for IBM 'i' and to all subsequent releases and modifications until otherwise indicated in new editions.

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Chapter 1. Introduction to WebSphere Adapter for IBM i - Running an RPG program tutorial

WebSphere® Adapter for IBM® i V6.2 exchanges business data between system i and J2EE applications. The adapter retrieves from and writes to the data queue and runs RPG programs.

The document demonstrates the following scenario:

1. Running an RPG program with the help of Adapter for IBM i

This scenario demonstrates how WebSphere Adapter for IBM i V6.2 performs outbound operations.

Learning objectives

After completing this tutorial, you should be able to perform the following tasks:

Create an adapter project in WebSphere Integration Developer.

Discover services and associated business objects from the enterprise information system (EIS) and make them part of the adapter project.

Create a deployable module that you install on WebSphere Process Server or WebSphere Enterprise Service Bus.

Test the module and validate the results.

Audience

This tutorial is for integration developers who design, assemble, test, and deploy business integration solutions.

Software prerequisites

To use this tutorial, you must have the following applications installed:

WebSphere Integration Developer version 6.2

WebSphere Process Server version 6.2

Chapter 2. Preparing to run through the tutorial

Configuration prerequisites

Before trying any test based on this tutorial, complete the following tasks:

Create a sample RPG program on an IBM i system.

Compile the sample RPG program with the compiler parameter PGMINFO(*PCML) to generate a PCML file.

Extracting the sample files

Replicas of the artifacts that you create when using the external service wizard are provided as sample files for your reference. Use these files to verify that the files you create with the external service wizard are correct.

Note that the values for the i5/OS host name, user name, and password in the sample artifacts are from the IBM test lab. You need to change or set them appropriately for your environment.

Following table lists the artifacts that are shipped as part of samples which user can use to verify when running an RPG program.

1) RPG_Outbound_PI.zip – Project Interchange file which includes generated sample artifacts for running an RPG program

File/artifact name	Description		
add2num			
add2num/ISeriesImport.import	Contains the SCA import for the resource adapter.		
add2num/ADD2NUM.xsd	Business object definition for the RPG program		
add2num/ISeriesImport.wsdl	Contains the WSDL file configured for the resource adapter		

2) ADD2NUM_SAVF_PCML.zip – Zip archive includes source of sample RPG program and generated PCML file

File name	Description
ADD2NUMSAV.SAVF	SAVF file which has the source code for RPG sample program. Please refer your i5/OS documentation for how to import this into IBM i system. Alternatively you can manually create a simple RPGLE to add two numbers like the one given below. The RPGLE source view is captured with the help of 'IBM Rational Developer for System i' tool.
ADD2NUM.PCML	PCML for sample RPG

Line 1	C	olumn 1	Replace				
	CLON	101Factor1+	+ <mark>++++++</mark> Opcode (E) +Fact	or2++++++Result++++	+++Len++	D+HiLoEqCom	ments+
000100	с	*entry	plist				
000200	C		parm	get1	3	0	
000300	C		parm	get2	3	0	
000400	C		parm	get3	3	0	
000500	*						
000600	*						
000700	C		eval	get3=get1+g	et2		
0008000	C						
000900	C	get3	dsply				
001000	*						
001100	C		seton			lr	
001200							

Figure 1 - Sample RPG program as shown in 'IBM Rational Developer for System i' tool's remote editor

Chapter 3. Outbound Processing – Running the RPG program

This tutorial demonstrates how WebSphere Adapter for IBM i V6.2 can be used to run an RPG program on an IBM i system.

Configuring the adapter for outbound processing

Run the external service wizard to specify business objects, services, and the configuration to be used in this tutorial

Creating the project

1. Launch WebSphere Integration Developer by clicking **Start > Programs > IBM WebSphere > Integration Developer 6.2**.

2. In WebSphere Integration Developer, switch to the Business Integration perspective by clicking **Window > Open perspective > Other**. In the Select perspective window, select **Show all**, then select **Business Integration** from the list and click **OK**.

3. Create a new module by clicking **File > New > Module**.

4. In the Module Name field, type add2num, and click Finish.

New Modul	e					
1odule Create a new version manag	business integration r jement, organizing re	module. A modu sources, and de	ile is a proj eploying to	ect that is used the runtime env	for developmer ironment.	nt,
Module Name:	: add2num	48	44 8 2676			
🔽 Use defau	ult location					
Location: C:	\IBM\wid620\workspa	aces\1\add2nun	h			Browse
Business integr :ypes of compo ntegration.	ation modules can be onents, such as busin	deployed and i ess processes,	run on Wel assembled	Sphere Process together for the	Server. They of purpose of bu	can contain many Isiness
0			: Back	Next >	Finish	Cancel

5. If it is not already open, open the Assembly Diagram of the module just created, by double clicking it.



6. From the Outbound Adapters section of the **Palette** section, drag and drop **iSeries** onto the Assembly Diagram editor. A window opens similar to one below.



Figure 4

7. Click IBM WebSphere Adapter for IBM i (IBM : 6.2.0) and click Next.

8. Select an appropriate run time from the **Target runtime** list. (WebSphere Process Server 6.2 is used as the run time in this tutorial.) Click **Next.**

🚯 External Service		
Adapter Import Import a resource ad adapter.	lapter archive (RAR) from the file system to create a connector project for the	
Archive file:	C:\IBM\wid620\ResourceAdapters\Ios_6.2.0.0\deploy\ios.rar	
Connector project:*	ios	
Target runtime:	WebSphere Process Server v6.2	•
0	< Back Next > Finish	Cancel

Setting connection properties for the external service wizard

1. In the Discovery Configuration window, enter the IBM i server connection information such as the host name, user name, password, and path to the folder on the IBM i system for object discovery. From the **Object type to discover** list, select **Report Program Generation**.

🤀 External Service	
Discovery Configuration Specify properties to begin discovery.	5
Connection properties Host name: Host name: Viser name: Password: Password: Path to folder on IBM i for object discovery:* Object type to discover: Prefix for business object names: Advanced >> Change logging properties for wizard	<your_host_name_here> <i5 os_user_name_here=""> <password> / Report Program Generation</password></i5></your_host_name_here>
0	< <u>B</u> ack Next > Einish Cancel

2. After you have entered all properties, click Next.

Generating business object definitions and related artifacts

1. In the Object Discovery and Selection window, in the Discovered objects pane, all objects are displayed

scovered objects:		Selected object	s:
	静及日		
∃- 🔊 QOpenSys	_		
Ð 🔊 QDLS			
Ð 🔊 QSYS.LIB			
Ð 🔊 QOPT			
D QFileSvr.400			
E D QNTC			
Ð 🔊 dev		>	
∃-@ home			
🗄 🔊 tmp		<u>< </u>	
🗄 🔊 etc			
Ð 🔊 usr			
Ð 🕘 QIBM			
Ð - 🧶 QSR			
₽~@ bin			
₽22 QTCPTMM			
	(23/10)		

Figure 7

2. In the Discovered Objects pane, select the PCML you want to work with, click the arrow (>) button and click **Next**.

covered objects:	 Selecter	d objects:	
QOpenSys QDLS QDLS QOPT QOPT QOPT QOPT QOPT QOPT QOPT QOPT) ADD2NUM.PCML	

3. In the Configure Composite Properties window, the operation CallPGM is listed in the **Operations for selected business objects** pane. Because this is the only operation supported for calling RPG programs, you cannot use the **Add** and **Remove** options. Click **Next**.

External Service		
onfigure Composite Propertie	es	
pecify properties that apply to all sele	ected objects.	
Operations for selected business object	ts	
Operations for these functions will	be added to the service interface:*	
CallPGM		Add, Remove
Business object namespace: http://w	ww.ibm.com/xmlns/prod/websphere/j2c	:a/ibmi
older:		
<u>ə</u>	< Back Next	> Finish Cancel

4. Clear the **Specify a Java Authentication and Authorization Services (JAAS) alias security credential** check box. The **Host name** and **user name** fields will already be populated. In the **Password** field, type the password and click **Next**.

rvice Generation	and Depl	oyment Configuration	n	NS)
, Password: Sensitive v	alues, such	as passwords, should not b	e saved.	03
ervice operations				
If you want to modif the interface file, pr	y the names ess the "Edit	, or add a description to the Operations" button.	operations to be generated in	Edit Operations
eployment properties				
🔲 Specify a Java A	uthenticatio	and Authorization Service:	s (JAAS) alias security credentia	d.
J2C Authentication D	Data Entry:			
Deploy connector pr	oject:	With module for use by sir	ngle application	•
Specify the settings	used to con	, ect to the Enternrise Inform	nation System at runtime:	
Connoction and and				
Connection propertie	es;	Specify connection proper	ues	<u> </u>
Connection propertie	es			
Host name:*	<your_hos< td=""><td>t_name></td><td></td><td></td></your_hos<>	t_name>		
User name:	<user_nan< td=""><td>ie></td><td></td><td></td></user_nan<>	ie>		
Password:	<password< td=""><td>></td><td></td><td></td></password<>	>		
La construction de la constructi	1			
Advanced >>				
				10150 A

5. A default name is provided for the interface. Click **Finish** to complete the configuration.

🚯 External Serv	ice				
Service Locat	ion Properties				
Specify location p	properties for saving the service				
Properties for se	vice				
Module:	add2num				• New
Namespace:	http://add2num/ISeriesImpor	t			
	🔽 Use default namespace				
Name: *	* ISeriesImport				
	Save business objects to a	library			
Library:					New
Description:	П				
0		< <u>B</u> ack	Next >	Einish	Cancel
				6	



Deploying the module to the test environment

1. The result of running the external service wizard is an SCA module that contains an EIS import or export. Install this SCA module in the WebSphere Integration Developer integration test client. If WebSphere Process Server is not in 'Started' state, start the server.

2. Add the module you created earlier to the server using the server panel in WebSphere Integration Developer. Right-click the server, and then select **Add and remove projects**.

🗞 Build Activities 🔲 Properties 🔝 Problems 🖗	Servers 🖾 🛛 🔓 Asset Repositories 📃 Conso	ble
Server A State	Status	
👪 WebSphere Process v6.2 Server 🦡 Started	New	•
	Open	F3
	Show In	Alt+Shift+W ►
	Сору	Ctrl+C
	📋 Paste	Ctrl+V
	💢 Delete	Delete
	Rename	F2
	🐝 Restart in Debug	Ctrl+Alt+D
	🜔 Restart	Ctrl+Alt+R
	🄊 Restart in Profile	I
	E Stop	Ctrl+Alt+S
	Publish	Ctrl+Alt+P
	Clean	
	Hand Remove Projects	
	Monitoring	•



3. Add the SCA module to the server by moving them from left to right pane with the click of 'Add >' button.

4. Click **Finish**.

ove projects to the right to	configure them on the server		
vailable projects:		Configured projects:	
	Add >		
	< Remove	1	
	Add All >>	1	
	<< Remove All	1	

Ensure that the Application started message is displayed in your console, as shown in the following figure.



Figure 14

Testing the assembled adapter application

1. Test the assembled adapter application by using the WebSphere Integration Developer integration test client.

2. Right-click the 'ISeriesImport' component, and select 'Test Component'.



3. In the new editor window that opens, select **callpgmADD2NUM** from the **Operation** list, as shown in the following figure.

left Select the component, interface, and operation you w	ould like to invoke, Click Cont	inue to run.		
ents		inc: [15erie	esimport	
🌬 🕶 🖛 🖛 🌦 🛛 🔳 🔛	Interface	ISerie	esImport	
🖗 Invoke	Operatio	<u>n:</u> callpg	gmADD2NUM	
		Name	Туре	Value
		🛓 callpgm	ADD2NUM	4
			destinant	A CONTRACTOR OF
		GET1	ueumai	V 0
		GET1	decimal	✓ 0 ✓ 0

4. Type values for the input business objects and specify the required parameters to carry out the CallPGM operation on the RPG program. For example you can specify 2 and 4 as values for GET1 & GET2 respectively as shown below.

Events	📰 💌 💌 Detailed Prope	rties	
≱ • ■ • □ ≱ ○ ■ 🔛	Configuration: De	efault Module Test	
V™ Invoke	Module: ac	dd2num	
	Component: IS	ieriesImport	
	Interface: IS	ieriesImport	
	Operation: ca	llpgmADD2NUM	
	Name	L Type	Value
		Туре	Value
		T1 decimal	✓ 2
		T2 decimal	✓ 4
	(E	T3 decimal	√ 0

Figure 17

6. Run the service by clicking the continue button 💟 and select the Use this as the default and do not ask again check box and click Finish.

Deployment Location	- 🗆 X
Select Deployment Location Specify a runtime location where this test will deploy.	E
Deployment location:	
WebSphere Process Servers WebSphere Process v6.2 Server at localhost Eclipse 1.5 JVM	New <u>S</u> erver
Mode: Run	
✓ Use this as the default and do not ask again	
⑦ <u>Einis</u>	h Cancel

The value returned from the underlying RPG is populated in the same business object (GET3 attribute returns the value of GET1+GET2), as shown in the following figure.



Figure 19

Chapter 4. Introduction to Outbound/Inbound for Data Queues

The WebSphere® Adapter for IBM® i V6.2 exchanges business data between system i and J2EE applications. The adapter retrieves from and writes to the data queue and runs the RPG programs.

The document demonstrates two scenarios:

- 1. PutQueue and GetQueue outbound operations for data queues
- 2. Inbound operations for data queues

These scenarios demonstrate how WebSphere Adapter for IBM i V6.2 performs inbound and outbound operations. Everything you need to complete for each tutorial is contained in the tutorial. If you have performed the prerequisite tasks, you can complete each tutorial in under an hour.

Learning objectives

After completing a tutorial, you should be able to perform the following tasks:

- Create an adapter project in WebSphere Integration Developer.
- Discover services and associated business objects from the enterprise information system (EIS) and make them part of the adapter project.
- Create a deployable module that you install on WebSphere Process Server or WebSphere Enterprise Service Bus.
- Test the module and validate the results.

Audience

These tutorials are for integration developers who design, assemble, test, and deploy business integration solutions.

Software prerequisites

To use these tutorials, you must have the following applications installed:

- WebSphere Integration Developer version 6.2
- WebSphere Process Server version 6.2

Chapter 5. Preparing to run through the tutorial

Configuration prerequisites

Before starting this tutorial, create a data queue on an IBM i system.

Extracting the sample files

The artifacts created using the external service wizard will contains the files which are similar to the listed in the below table.

Sample Artifacts here is DTAQOutbound.zip.

Contents of DTAQOutbound.zip	
File name	Description
DTAQOutbound/ISeriesOutboundInterface.import	Contains the SCA import for the
	resource adapter.
DTAQOutbound/Fifoq.xsd	Business object definition for the
	Customer business function.
DTAQOutbound/EmptyGetQueueBO.xsd	Business object definition for the
	business object container.
DTAQOutbound/ISeriesOutboundInterface.wsdl	Contains the WSDL file configured for
	the resource adapter.

Sample Artifacts here is DTAQInbound.zip

Contents of DTAQInbound.zip	
File name	Description
DTAQInbound/ISeriesInboundInterface.expor t	Contains the SCA export for the resource adapter.
DTAQInbound/Fifoq.xsd	Business object definition for the Customer business function.
DTAQInbound/ISeriesInboundInterface.wsdl	Contains the WSDL file configured for
	the resource adapter

Chapter 6. Outbound Processing – Writing the message to (PutQueue) and reading the message from (GetQueue) the data queue.

This tutorial demonstrates how you can use WebSphere Adapter for IBM i V6.2 to put and get a string message from the data queue.

Configuring the adapter for outbound processing

Run the external service wizard to specify business objects, services, and the configuration to be used in this tutorial

Creating the project

1. Launch WebSphere Integration Developer by clicking **Start > Programs > IBM WebSphere > Integration Developer 6.2**.

2. Switch to the Business Integration perspective by clicking **Window > Open perspective > Other**. In the Select perspective window, select **Show all**, then select **Business Integration** from the list and click **OK**.

3. Create a new module by clicking **File > New > Module**.

4. In the Module Name field. type DTAQOutbound. Click Next.

🚸 New Module	_ 🗆 🗙
Module Create a new business integration module. A module is a project that is used for development version management, organizing resources, and deploying to the runtime environment.	F
Module Name: DTAQOutbound	
Location: C:\IBM\wid620\workspaces\2\DTAQOutbound	Browse
☑ Open module assembly diagram	
Business integration modules can be deployed and run on WebSphere Process Server. They ca types of components, such as business processes, assembled together for the purpose of bus integration.	in contain many iness
Image: Second	Cancel

6. Accept the default settings and click **Finish**.

Bew Module
Solution Creation Create a new solution or select a solution in the workspace to reference this module. A solution is a non-deployable project that references modules, libraries, mediation modules, component
 Do not include module in solution Create a new solution to reference this module
Solution:
< Back Mext > Einish Cancel

After the module is created, the folder structure will look like that shown in the following figure.



Figure 3

9. Launch the external service wizard by right-clicking the module (DTAQOutbound) and selecting **New > external service**.

🚯 External Service				
External Service Select the type of service to create.				3
Filter: type filter text				Ē.
Available Types: Adapters J JAVA Messaging Registries				
Description:				
				*
0	< Back	Next >	Finish	Cancel

11. In the External Service window, click the + sign for the adapter to expand it and select **iSeries**. Click **Next**.

🚯 External Service				
External Service Select the type of service to create.				3
Filter: type filter text				Ē.
Available Types:				
Adapters CICS EMail Flat File FIP MS Series JDE J D Edwards JDBC				
Creates a new service to access an iSeries sy	/stem.			
				Y
0	< <u>B</u> ack	Next >	Finish	Cancel

12. Select **IBM WebSphere Adapter for IBM i (IBM : 6.2.0.0)** and click **Next**.

Select an Adapter Select the adapter you want to use.	new 🥵				
Select the adapter you want to use.	Select an Adapter				10
IBM WebSphere Adapter for IBM i BM WebSphere Adapter for IBM i	Select the adapter you want to use.				
IBM WebSphere Adapter for IBM i (IBM : 6.2.0.0)					
IBM WebSphere Adapter for IBM i (IBM : 6.2.0.0)	a				
IBM WebSphere Adapter for IBM i	IBM WebSphere Adapter for IBM i (IBM : 6.	.2.0.0)			
IBM WebSphere Adapter for IBM i					
IBM WebSphere Adapter for IBM i					
IBM WebSphere Adapter for IBM i					
IBM WebSphere Adapter for IBM i					
IBM WebSphere Adapter for IBM i					
IBM WebSphere Adapter for IBM i					
IBM WebSphere Adapter for IBM i					
IBM WebSphere Adapter for IBM i					
IBM WebSphere Adapter for IBM i					
IBM WebSphere Adapter for IBM i					
IBM WebSphere Adapter for IBM i					
IBM WebSphere Adapter for IBM i					
	IBM WebSphere Adapter for IBM i				
Image: Second	0	< <u>B</u> ack	<u>N</u> ext >	Einish	Cancel

13. Ensure that the ios RAR file is selected in the **Connector project** field, and in the **Target runtime** field select **WebSphere Process Server v6.2**. Click **Next**.

🚯 New		_ 🗆 🗙
Adapter Import Import a resource ad adapter.	lapter archive (RAR) from the file system to create a connector project for the	
Archive file:	C:\IBM\wid620\ResourceAdapters\Ios_6.2.0.0\deploy\ios.rar	
Connector project:*	los	
Target runtime:	WebSphere Process Server v6.2	•
0	< <u>B</u> ack <u>N</u> ext > ⊟nish	Cancel

Figure 7

14. In the Processing Direction window, select **Outbound**. Click **Next**.

🚯 New		
Processing Direction		
Select the direction of adapter processing at runtime	ə.	
		5/-1
○ Inbound		
Inbound processing passes data from the adap	oter to your service export.	
• Dutbound Outbound processing passes data from your se	ervice import to the adapter.	
0	< <u>B</u> ack <u>N</u> ext >	Einish Cancel

Setting connection properties for the external service wizard

1. Type the IBM i server connection information such as the host name, user name, password, and path to the folder on the IBM i system for object discovery. From the **Object type to discover** list select **Data Queue**.

🚯 New	
Discovery Configuration Specify properties to begin discovery.	
Connection Configuration	
Host name: *	<your_host_name_here></your_host_name_here>
User name: *	<i5 os_user_name_here=""></i5>
Password: *	<password></password>
Path to library on IBM i for object discovery:*	/qsys.lib/rajan.lib
Object type to discover:	Data Queue
Prefix for business object names:	_
Advanced >>	
0	< Back Next > Finish Cancel

2. After you have entered all properties, click Next.

Generating business object definitions and related artifacts

In the Object Discovery and Selection window, in the Discovered objects pane, all data queues are displayed.
🚯 New					_ D ×
Object Discovery Expand nodes to view objects displayed.	and Selection and select discovered objects.	Use filtering, if n	ecessary, to lim	it number of	80
Discovered objects:		9	Selected objects	:	
ADD2NOSPF.F. ADD2NOSPF.F. O COMPLEX1.FIL SAMPLEJAVA.F O FIFOQ.DTAQ CO KEYEDQ.DTAQ O LIFOQ.DTAQ O MAXLEN5.DTA O TESTKEYED.D	ILE E E ILE FIFOQ.DTAQ Type: DataQueue, Max mes Addition	sage length: 100]		~
TSQ.DTAQ	TAQ				
0	[< <u>B</u> ack	Next >	Einish	Cancel

1. Select the data queue from the Discovered objects pane and move it to the **Selected objects** pane. Click **Next**.

🚯 New					
Object Discovery and Selection Expand nodes to view and select discovered objects displayed.	ects. Use filte	ering, if n	ecessary, to	limit number of	80
Discovered objects:		:	Selected obje	cts:	
ADD2NOSPF.FILE OMPLEX1.FILE OMPLEX1.FILE SAMPLEJAVA.FILE FIFOQ.DTAQ KEYEDQ.DTAQ LIFOQ.DTAQ MAXLEN5.DTAQ O TESTKEYED.DTAQ	<i>₩ L</i> 2 ₩		(1) FIF(OQ.DTAQ	
TESTKEYED1.DTAQ TSQ.DTAQ					
0	< <u>B</u> ac	k	<u>N</u> ext >	Einish	Cancel

2. In the Configure Composite Properties window, the operations PutQueue and GetQueue are listed in the **Operations for selected business objects** pane. Click on Next button.

🚯 New	_ 🗆 🗙
Configure Composite Properties	
Specify properties that apply to all selected objects.	
Operations for selected business objects	
Operations for these functions will be added to the service interface:*	
PutQueue GetQueue	Add
Business object namespace: http://www.ibm.com/xmlns/prod/websphere/j2ca/ibmi	_
Specify the relative folder for generated business objects	
Folder:	
Data encoding:	Select
⑦ < <u>Back</u> <u>Next</u> > Einish	Cancel

3. Clear the **Specify a Java Authentication and Authorization Services (JAAS) alias security credential** check box. The **Host name** and **user name** fields will already be populated. Type the password in the **Password** field and click **Next**.

🔂 New		
Service Generation and De	ployment Configuration	
A Password: Sensitive values, such	as passwords, should not be saved.	
Service operations		
If you want to modify the names the interface file, press the "Edit	, or add a description to the operations to be generated in Operations" button.	Edit Operations
Deployment properties		
🔲 Specify a Java Authentication	n and Authorization Services (JAAS) alias security credentia	l.
J2C Authentication Data Entry;		
Deploy connector project:	With module for use by single application	-
Specify the settings used to con	nect to the Enterprise Information System at runtime:	
Connection properties:	Specify connection properties	v
Connection properties		
Host name:* <pre></pre>	t_name_here>	
User name: <i5 os_us<="" td=""><td>er_name_here></td><td></td></i5>	er_name_here>	
Password: <pre><pre></pre></pre>	>	
Advanced >>		
0	< <u>B</u> ack <u>N</u> ext > Einish	Cancel

4. A default name is provided for the interface. Click **Finish** to complete the configuration.

🚯 New					_ 🗆 🗵
Service Locat Specify location pr	tion Properties roperties for saving the service.				8
Properties for serv	vice				
Module:	DTAQOutbound			•	New
Namespace;	http://DTAQOutbound/ISeriesO	utboundInterface			
	🔽 Use default namespace				
Folder:					Browse
Name: *	ISeriesOutboundInterface				
	Save business objects to a lib	orary			
Library;				7	New
Description:					
0		< <u>B</u> ack	<u>N</u> ext >	Einish	Cancel

6. Verify the results by checking the artifacts generated in business integration view for the module as shown in below screen.





Deploying the module to the test environment

The result of running the external service wizard is an SCA module that contains an enterprise information system (EIS) import or export. Install this SCA module in the WebSphere Integration Developer integration test client.

1. Start WebSphere Process server.

2. Add the module you created earlier to the server by using the server panel in WebSphere Integration Developer. Right-click the server, and then select **Add and remove projects**.

🚯 Bi	usiness Integration - DTAQOutbound	d/sca.module - IBM WebSphere Int	tegration Developer 6.2 - C:\IBM\wid620\workspaces	\2
File	Edit Navigate Search Project Run	ClearCase Window Help		
] ⊡] ⇐	· R ≜ ♂ & ¥ E • • → •	◎ @ 显 ▷ 4 4 5] 🖉 🛷 🔹 🔛 📴 Busin
-	🗟 Build Activities 🔲 Properties 🔝 F	Problems 👭 Servers 🛛 🕻 Asse	t Repositories 📮 Console	🎋 💽 🖉 📒 🔁 🕴
-	Server A	State	Status	
	K WebSphere Process v6.2 Server	r 👬 St New Open	F3	
		Show In	Alt+Shift+W 🕨	
8		Сору	Ctrl+C	
		Paste	⊂trl+∀	
		💢 Delete	Delete	
		Rename	F2	
		🏇 Restart in Debug	Ctrl+Alt+D	
		🜔 Restart	Ctrl+Alt+R	
		Restart in Profile		
		📕 Stop	Ctrl+Alt+S	
		E Publish	Ctrl+Alt+P	
		Clean		
		🏪 Add and Remove Projects		
		Monitoring	•	
		Create tables and data sour	rces	

3. Select the DTAQOutbound module and click on Add button, then click **Finish**.

🚯 Add and Remove Projects		_ 🗆 🗙
Add and Remove Projects Modify the projects that are configured on the server		
Move projects to the right to configure them on the server <u>A</u> vailable projects:	<u>Configured</u> projects:	
TAQOutboundApp	1	
< <u>R</u> emove	1	
Add All >>	1	
<< Remove All	1	
	1	
② < <u>B</u> ack <u>N</u> ext >	Einish	Cancel

4. In the Adding/Removing Projects window, click OK.

🚯 Adding/Removing Projects	×
The projects are being added/removed from the server.	
Do not show again	ОК

Figure 18

Testing the assembled adapter application

1. Test the assembled adapter application by using the WebSphere Integration Developer integration test client.

2. Open the test component by right-clicking **ISeriesOutboundInterface** then selecting **Test Component.**

Business Integration - DTAQOutbound/s	ca.module - IBM WebSphere Integration Developer 6.	2 - C:\IBM\wid620\workspaces\2	
File Edit Navigate Search Project Run (ClearCase Window Help		
	a ∰ ⊒]5 a a 5 5 5 7 7 × .0 ∧.	56 h 🔲 🍪 🔜 🛛 🤉	🛛 🙉 🛷 🔹 📑 📴 Business 1
🕼 Business In 🛛 🥵 Physical Re 🗖 🗖	DTAQOutbound - Assembly Diagram 🛛 🕅 WebSph	ere Process v6.2 Server at localhost	
🏳 🚑 🖨 🔁 🔁	👌 😳 Palette 🛛	•	
E DTAQOutbound	🖟 🗨 🔍 🚛 🕕 🕕 👔 ISeriesOutboundInterfa	ce 🔪	
E Assembly Diagram	🔁 Favorites	💛 Undo Move	
ISeriesOutboundInterface	Components	Redo	
Integration Logic	C Untyped Component	🖉 Add Note	
🕀 💩 Data Types	🗐 Human Task	Hide Notes	
EmptyGetQueueBO	🚰 Java		
Fifoq	Mediation Flow	Replace Binding	
WBTEault	Process	Remove Binding	
	Rule Group	Refactor	
ISeriesOutboundInterface	State Machine	-+	
Mapping	🕞 Import	or cat	
±	😕 Export	Decto	
	References	- raste	
		💢 Delete	
		Rename	
📓 Refe 🛛 🕂 📴 Outli 🗟 Visua 🗖 🗖	C Outbound Adapters	Select All	
← → → ∂	C> Inbound Adapters	Wire References to New	
	Build Activities 🔲 Properties 🕄 Problems 🖓 Server	Wire to Existing	sole) 🕸 📭 💷
DTAOOutboun =-> ios	Server	Wire (Advanced)	
	State State State State	Show Transaction from Here	
	🗉 🛅 DTAQOutboundApp	Remove Transaction Highlighting	
		Test Component in Isolation	
		Test Component	
		Show in Properties	

3. Select putqueueFifoq from the operation as from the operation.

🚸 Business Integration - DTAQOutbound_T	est - IBM WebSphere Integration Developer 6.2 - C:\IBM\wid620\w	orkspaces\2	
File Edit Navigate Search Project Run C	ilearCase Window Help		
☆ • ≓ → .	●] ●] 및 D 4 3 3 2 T × 2 4 8 5 = (i i q ?) 🖉 🔗 🔹 🔛 🐯 Business 1
🕼 Business In 🔀 🔁 Physical Re 🗖 🗖	BTAQOutbound - Assembly Diagram		
E ⊕ Co ⊨ S DTAQOutbound E ↔ Assembly Diagram	Events	oke Click Continue	torup
ISeriesOutboundInterface	Events	General Pro	perties
		Detailed Pro	r
Data Types			
EmptyGetQueueBO	Ль пилоке	Configuration:	Default Module Test
Fifoq		Module:	DTAQOutbound
PrimaryKeyPairType		Component:	ISeriesOutboundInterface
🖻 🕘 Interfaces		Interface:	ISeriesOutboundInterface
I ISeriesOutboundInterface		Operation:	butqueueEifoq
Mapping)	<u> </u>
		Initial request p	arameters
		- ¥	
Refe 🕴 🗄 Outli 🗟 Visual 🗖 🗖		Name	Type Value
			messar messageConte
	Events Configurations		
	🗟 Build Activities 🔲 Properties 🔝 Problems 👭 Servers 🛛 🕼 As	sset Repositories	🖻 Console 🛛 🕸 🜔 🖉 🔳 📳

4. Go to the Initial request parameters and enter the text 'test message' for messageContent request field..



6. Run the service by clicking the continue button \bigcirc and selecting the Use this as the default and do not ask again check box. Click Finish.

👍 Deployment Location	
Select Deployment Location Specify a runtime location where this test will deploy.	E
Deployment location:	New Server
Eclipse 1.5 JVM	
Mode: Run	
☑ Use this as the default and do not ask again	
? <u>Einist</u>	h Cancel



7. If security is set up, the User Login – Default Module Test window opens. Click OK.

🚯 User Login - Default Module Test 🛛 🛛 🔀
Security is enabled on the selected runtime environment(s). Please sign in to continue the test.
User ID:
admin
Password:
•••••
Use the authentication settings in the preference and never ask again.
OK Cancel

Figure 23

8. The result will be displayed as show in below screen.



9. To test the GetQueue operation on the data queue, click the *button*. This opens another test component. In the **Operation** field, elect **getqueueFifiq** and click **O**.



Figure 25

The message from the data queue is displayed as return message.



Chapter 7. Inbound processing on a data queue

This tutorial demonstrates how you can use WebSphere Adapter for IBM i V6.2.0.0 to poll the data queue and send the messages to the endpoint application.

Configuring the adapter for inbound processing

Run the external service wizard to specify business objects, services, and the configuration to be used in this tutorial.

Creating the project

1. Launch WebSphere Integration Developer by clicking **Start > Programs > IBM WebSphere Integration Developer 6.2**.

2. In WebSphere Integration Developer, switch to the Business Integration perspective by clicking **Window > Open perspective > Other**. In the Select perspective window, select **Show all**, then select **Business Integration** from the list and click **OK**.

3. Create a new module by clicking **File > New > Module**.

4. In the **Module Name** field, type DTAQInbound and click **Next**

🚸 New Module	
Module Create a new business integration module. A module is a project that is used for development version management, organizing resources, and deploying to the runtime environment.	t,
Module Name: DTAQInbound	
Use default location	
Open module assembly diagram	Druwse
Business integration modules can be deployed and run on WebSphere Process Server. They c types of components, such as business processes, assembled together for the purpose of bu integration.	an contain many siness
O Kack Next > Finish	Cancel

5. In the Solution Creation window, click **Finish**.

🚸 New Module	
Solution Creation Create a new solution or select a solution in the worksp is a non-deployable project that references modules, li	pace to reference this module. A solution
 Do not include module in solution Create a new solution to reference this module 	
Solution:	
?	:k <u>N</u> ext > <u>F</u> inish Cancel

6. After the module is created, the folder structure will look like that shown in the following figure.



Figure 28

7. Launch the external service wizard by right-clicking the DTAQInbound module and selecting **New > External Service**.



Figure 29

8. In the External Service window, click the + sign for the adapter to expand it and select **iSeries**. Click **Next**.

9. Select iSeries and click Next.

🕀 External Service				
External Service Select the type of service to create.				3
Filter: type filter text				Ē.
Available Types: Adapters JAVA Messaging Registries				
Description:				
				×
0	< Back	Next >	Finish	Cancel

🚯 External Service				_ 🗆 🗙
External Service Select the type of service to create.				3
Eilter: type filter text				Ē.
<u>A</u> vailable Types:				
Adapters Adapters CICS Minite Email Flat File FTP Series JDE J D Edwards Description:				
Creates a new service to access an iSeries sy	/stem.			<u> </u>
				Y
0	< <u>B</u> ack	<u>N</u> ext >	Einish	Cancel

9. Click IBM WebSphere Adapter for IBM i and click Next.

🚯 New	
Select an Adapter	50
Select the adapter you want to use.	
۵.	
IBM WebSphere Adapter for IBM i (IBM : 6.2.0.0)	
IBM WebSphere Adapter for IBM i	
?	k Next > Einish Cancel

10. Ensure that the ios RAR file is selected in the **Connector Project** field, and from the **Target runtime** list, select **WebSphere Process Server v6.2.** Click **Next**.

🚯 New		
Adapter Import		
Import a resource ad adapter.	dapter archive (RAR) from the file system to create a connector project for the	
Archive file:	C:\IBM\wid620\ResourceAdapters\Ios_6.2.0.0\deploy\ios.rar	
Connector project:*	ios	
Target runtime:	WebSphere Process Server v6.2	•
0	< <u>B</u> ack <u>N</u> ext > Einish	Cancel

11. Select the Inbound check box and click Next.

🚯 New					
Processing Direction					
Select the direction of adapter processing at runtime.					
• Inbound Inbound processing passes data from the adapter to your service export.					
C Outbound Outbound processing passes data from your service import to the adapter.					
? < Back	Cancel				

Setting connection properties for the external service wizard

1. Enter the IBM i server connection information such as the host name, user name, password and path to the folder on the IBM i for object discovery. The **Object type to discover selection** filed will be disabled.

🚯 New	
Discovery Configuration Specify properties to begin discovery.	
Connection Configuration	
Host name: *	<pre></pre>
User name: *	<pre><i5 os_user_name_here=""></i5></pre>
Password: *	<pre><pre><pre><pre><pre><pre><pre><pre></pre></pre></pre></pre></pre></pre></pre></pre>
Path to library on IBM i for object discovery:*	/qsys.lib/rajan.lib
Object type to discover:	Data Queue
Prefix for business object names:	
Advanced >>	
?	< Back Next > Einish Cancel

2. After all properties are entered, click **Next**.

Generating business object definitions and related artifacts

On the metadata tree panel, all data queues will be displayed.



Figure 35

2. Select the data queue from the **Discovered objects pane**, and move it to the **Selected objects** pane. Click **Next**.

🚯 New			
Object Discovery and Selection Expand nodes to view and select discovered objects objects displayed.	. Use filtering, if n	necessary, to limit number	r of
Discovered objects:		Selected objects:	
ADD2NOSPF.FILE ADD2NOSPF.FILE OMPLEX1.FILE SAMPLEJAVA.FILE FIFOQ.DTAQ IFFOQ.DTAQ IFOQ.DTAQ IFOQ.DTAQ IFOQ.DTAQ IFSTKEYED.DTAQ I ESTKEYED.DTAQ I TESTKEYED1.DTAQ I TSQ.DTAQ I TSQ.DTAQ		(Î) FIFOQ.DTAQ	
0	< <u>B</u> ack	<u>N</u> ext > Einish	Cancel

3. In the Configure Composite Properties window, the Emit operation is displayed in the **Operations for selected business objects** pane. Click **Next**.

🚯 New	_ 🗆 ×
Configure Composite Properties	
Specify properties that apply to all selected objects.	
Operations for selected business objects	
Operations for these functions will be added to the service interface:*	
Emit	Add, Remove
Business object namespace: http://www.ibm.com/xmlns/prod/websphere/j2ca/ibmi Specify the relative folder for generated business objects Folder:	
Image: Second	Cancel

4. Clear the option **Specify a Java Authentication and Authorization Services (JAAS) alias security credential** check box. The **Host name**, **user name** and **Poll Queue Path** fields will already be populated. The Poll Queue Path field is disabled. Type the password, payload staging queue path and control language program path in the appropriate fields, and click Next.

🔂 New		
Service Generation and De	ployment Configuration	~
🔥 Password: Sensitive values, such a	s passwords, should not be saved.	(6)
		Y
Service operations		_
If you want to modify the names, generated in the interface file, pr	or add a description to the operations to be ess the "Edit Operations" button.	Edit Operations
Deployment properties		
🔲 Specify a Java Authentication	and Authorization Services (JAAS) alias security cre	dential.
J2C Authentication Data Entry:		
Deploy connector project:	With module for use by single application	•
Specify the settings used to conn	ect to the Enterprise Information System at runtime:	
Connection properties:	Specify connection properties	
Connection properties		
IBM i Connection Proper	ies	
Host name:	<pre>* <your_host_name_here></your_host_name_here></pre>	
User name:	<i5 os_user_name_here=""></i5>	
Password:	<password></password>	
Poll Queue Path:	/qsys.lib/rajan.lib/FIFOQ.DTAQ	
Pay Load Staging Q	ieue Path: * //QSYS.LIB/RAJA1.LIB/STAGINGQ.DT	AQ
Control Language Pr	ogram Path:* ⁹ /QSYS.LIB/SWAMY1.LIB/MSGQCL2.P	GM
<< Advanced		
💌 Event polling configurati	n	
(3)	< <u>B</u> ack <u>N</u> ext >	Einish Cancel

🚯 New] ×
Service	Generation and Deploy	yment Configu	ration			
🐴 Passwo	ord: Sensitive values, such as pas	swords, should not b	be saved.		(\bigcirc)	
					-	
[<< Advanced					-
	 Event polling configuration 					
	Interval between polling peri	ods (milliseconds):	2000			
	Maximum events in polling pe	riod:	10			
	Retry interval if connection f	ails (milliseconds):	60000			
	Number of times to retry the	system connection:	0			
	🔲 Stop the adapter when a	n error is encountere	ed while polling			
	Retry EIS connection on a	startup				
	 Event delivery configuration 					
	Type of delivery: ORDERED					
	Ensure assured-once event delivery (may reduce performance)					
	Do not process events that have a timestamp in the future					
	Event types to process:					
	Retry limit for failed events:	5				
	Number of connections for ev	vent delivery				
	Minimum:	1				
	Maximum:	1				
	Advanced properties					
	Event persistence properties					
	 Logging and tracing 					-
?		< <u>B</u> ack	< <u>N</u> ext >	Einish	Cancel	

🚯 New		
Service Generation and Deploy	ment Configuration	-
A Password: Sensitive values, such as pass	swords, should not be saved.	(0)
Type or derivery.		_
Ensure assured-once eve	nt delivery (may reduce performance)	
Do not process events the	at have a timestamp in the future	
Event types to process:		
Retry limit for failed events:	5	
Number of connections for ev	ent delivery	
Minimum:	1	
Maximum:	1	
 Advanced properties 		
Data encoding:		Select
 Event persistence properties 		
🔽 Auto create event table		
Event recovery table name:	ISERIES_EVENTSTORE	
Event recovery data source (JNDI) name:	
User name used to connect to	o event data source:	
Password used to connect to	event data source:	
Database schema name:		
 Logging and tracing 		
Adapter ID:* 001		
🔲 Disguise user data as "XX	X" in log and trace files.	
		•
0	< <u>B</u> ack <u>N</u> ext > Einish	Cancel

5. A default name is provided for the interface. Click **Finish** to complete the configuration.

🚯 New		_ 🗆 🗙
Service Locat Specify location pr	ion Properties operties for saving the service.	H
Broperties for serv	ice	
Module:		New
Namespace;	http://DTAOInbound/ISeriesInboundInterface	
	Vise default namespace	
Folder:		Browse
Name: *	ISeriesInboundInterface	
	Save business objects to a library	
Library;		New
Description:		
0	< <u>B</u> ack <u>M</u> ext > <u>Finish</u>	Cancel

6. Verify the results by checking the artifacts generated in business integration view for the module as shown in below screen..



7. Drag and drop the Java Component from the Palette and draw a wire from **ISeriesInboundInterface** to **Component1.**

8. Implement the java component with the logic for processing the event. This can be done by double clicking the Component1.

😢 DTAQInbound - Assembly Diagram 🔀 🚺 Component1Impl.java	
Image: Palette Palette	Tomponent1

Figure 43

The below screen will be opened after double clicking the component1.



Deploying the module to the test environment

The result of running the external service wizard is an SCA module that contains an enterprise information system (EIS) import or export. Install this SCA module in the WebSphere Integration Developer integration test client.

1. Start WebSphere Process Server.

2. Add the module you created earlier to the server using the server panel in WebSphere Integration Developer. Right-click the server, and then select **Add and Remove Projects**.



2. Select the DTAQInbound module and click on add button, then click Finish

🚯 Add and Remove Projects			
Add and Remove Project Modify the projects that are conf	cts igured on the server		
Move projects to the right to conf <u>A</u> vailable projects: TAQInboundApp	igure them on the server Add > <remove< th=""><th><u>C</u>onfigured projects:</th><th></th></remove<>	<u>C</u> onfigured projects:	
	Add All >>		
?	< Back Next >	Einish	Cancel
🚯 Add and Remove Projects			
---	-----------------------------------	----------------------	
Add and Remove Project Modify the projects that are config	t s gured on the server		
Move projects to the right to config	gure them on the server		
<u>Available projects:</u>		Configured projects:	
		🗄 🛅 DTAQInboundApp	
	A <u>d</u> d >		
	< <u>R</u> emove		
	Add All >>		
	<< Re <u>m</u> ove All		
0	< <u>B</u> ack <u>N</u> ext >	<u>Einish</u> Cancel	

Testing the assembled adapter application

Test the assembled adapter application using the WebSphere Integration Developer integration test client.

1. Right click the adapter module, **DTAQInbound** then select **Test** > **Attach**.



This will open the following screen.



Figure 48

2. Run the service by clicking the continue button 💟 which will deliver the event to the endpoint.

3. Verify this by checking for the endpoint messages in System.Out file of WebSphere Process Server or by viewing the server console output in WebSphere Integration Developer, as shown in the following screen or WebSphere Process Server logs.

•••	Java - WebSpl	ere Administrative	e Conso	ole for WebSp	here Process v6	.2 Server	at localh	ost - IBM We	bSphere Integration D	eveloper 6.2 - C:\IBM	1\wid620\wor	kspaces\2
File	Edit Navigat	e Search Project	Run 🤇	ClearCase Win	idow Help							
] [9 • 🛛 🖻	¥ & € •••••	2 E	- 👜 💷	- 💂 🖹 (- - -	3 3 8 - 51 - 5	1 10 T 16 4 1	് ഉംഗ്റ • ക്.	. 🔤 🦒 🗌 🧐 📊	ি ?	E	Java 😨
	Problems	🖉 🕘 🖉 🖉 🖉	claratio	n 🗔 Annotati	ons 🔊 Work Iter	ns 📃 Cor	nsole 🕅	해 Servers		« 🔌 🕞 🚮 🧲	/ Je 🛛	- ⊡ - '
	WebSphere Pi	rocess v6.2 Server at l	localhos	t (WebSphere A	Application Server V	/6.1)						
	[9/18/08	17:34:56:109	IST]	0000005d	logging	I	Start	invoking	EventSourceImpl	constructor		
1	[9/18/08	17:34:56:109	IST]	0000005d	logging	I	Start	invoking	EventSourceImpl	getEventPoint		
2	[9/18/08	17:34:56:390	IST]	0000005e	impl	I	Start	invoking	EventSourceCont	extImpl.getEver	ntSource	
	[9/18/08	17:34:56:390	IST]	0000005e	logging	I	Start	invoking	EventSourceImpl	constructor		
	[9/18/08	17:34:56:390	IST]	0000005e	logging	I	Start	invoking	EventSourceImpl	getEventPoint		
	[9/18/08	17:34:59:312	IST]	0000005e	impl	I	Start	invoking	EventSourceCont	extImpl.getEver	ntSource	
	[9/18/08	17:34:59:312	IST]	0000005e	logging	I	Start	invoking	EventSourceImpl	constructor		
	[9/18/08	17:34:59:312	IST]	0000005e	logging	I	Start	invoking	EventSourceImpl	getEventPoint		
	[9/18/08	17:34:59:750	IST]	0000005e	impl	I	Start	invoking	EventSourceCont	extImpl.getEver	ntSource	
	[9/18/08	17:34:59:750	IST]	0000005e	logging	I	Start	invoking	EventSourceImp1	constructor		
	[9/18/08	17:34:59:750	IST]	0000005e	logging	I	Start	invoking	EventSourceImpl	getEventPoint		
	[9/18/08	17:35:00:625	IST]	00000061	SystemOut	0 >	>> Emit	t Object =	= Test Message			

Figure 49

Chapter 8. Introduction to Outbound/Inbound for Keyed Data Queues Tutorial

WebSphere® Adapter for IBM® i V6.2 exchanges business data between system i and J2EE applications. The adapter retrieves data from and writes to the data queue and runs RPG programs.

The document demonstrates two scenarios:

1. PutQueue and GetQueue outbound operations for keyed data queues

2. Inbound operations for keyed data queues

These tutorials demonstrate how WebSphere Adapter for IBM i V6.2 performs inbound and outbound operations. To gain practical knowledge in setting up and deploying the adapter, complete one or more of the tutorials. Everything you need to complete each tutorial is contained in the tutorial. If you have performed the prerequisite tasks, you can complete each tutorial in less than an hour.

Learning objectives

After completing a tutorial, you should be able to perform the following tasks:

Create an adapter project in WebSphere Integration Developer.

Discover services and associated business objects from the enterprise information system (EIS) and make them part of the adapter project.

Create a deployable module that you install on WebSphere Process Server or WebSphere Enterprise Service Bus.

Test the module and validate the results.

Audience

These tutorials are for integration developers who design, assemble, test, and deploy business integration solutions.

Software Prerequisites

To use these tutorials, you must have the following applications installed:

WebSphere Integration Developer version 6.2

WebSphere Process Server version 6.2

Chapter 9. Preparing to run through the tutorial

Configuration prerequisites

Before doing any tutorial testing, complete the following task:

1. Create a keyed data queue on an IBM i system.

Extract the sample files

Replicas of the artifacts that you create when using the external service wizard are provided as sample files for your reference. Use these files to verify that the files you create with the external service wizard are correct.

Note that the values for the i5/OS host name, user name, and password in the sample artifacts are from the IBM test lab. You need to change or set them appropriately for your environment.

Following table lists the artifacts that are shipped as part of samples which user can use to verify when handling Keyed Data Queue.

1) DTAQOutbound.zip - Project Interchange file which includes generated sample artifacts for handling messages on Keyed Data Queues.

File name	Description
KDTAQOutbound	
KDTAQOutbound/ISeriesOutboundInterface.impo rt	Contains the SCA import for the resource adapter.
KDTAQOutbound/Keyedq.xsd	Business object definition for the Customer business function.
KDTAQOutbound/EmptyGetQueueBO.xsd	Business object definition for the business object container.
KDTAQOutbound/ISeriesOutboundInterface.wsdl	Contains the WSDL file configured for

the resource adapter

2) KDTAQInbound.zip - Project Interchange file which includes generated sample artifacts for polling messages on a Keyed Data Queue.

File name	Description
KDTAQInbound	
KDTAQInbound/ISeriesInboundInterface.exp ort	Contains the SCA export for the
KDTAQInbound/Keyedtaqkeyedq.xsd	Business object definition for the
	Customer business function.
KDTAQInbound/ISeriesInboundInterface.wsd	Contains the WSDL file configured for
	the resource adapter

Chapter 10. Outbound Processing –Writing (PutQueue) the message to and reading (GetQueue) the message from the keyed data queue

This tutorial demonstrates how WebSphere Adapter for IBM i V6.2 can be used to put and get a string message from the keyed data queue.

Configuring the adapter for outbound processing

Run the external service wizard to specify business objects, services, and the configuration to be used in this tutorial

Creating the project

1. Launch WebSphere Integration Developer by selecting Start > Programs > IBM WebSphere > Integration Developer 6.2.

2. In WebSphere Integration Developer, switch to the Business Integration perspective. To do this, click **Window > Open perspective > Other**. In the Select perspective window, select **Show all**, then select **Business Integration** from the list and click **OK**.

3. Create a new module by selecting **File > New > Module**.

4. Type KDTAQOutbound in the Module Name field, , and click Finish.

New Module	- 🗆 🗙
Module Create a new business integration module. A module is a project that is used for development, version management, organizing resources, and deploying to the runtime environment.	
Module Name: KDTAQOutbound	
☑ Use default location	
Location: C:\ADP_TEST_WS_WID62\KDTAQOutbound	Browse
 Open module assembly diagram Business integration modules can be deployed and run on WebSphere Process Server. They can types of components, such as business processes, assembled together for the purpose of busin integration. 	contain many ess
? <u>Einish</u>	Cancel

5. Launch the external service wizard by selecting File > New > Other > Business Integration > External Service.

6. Ensure that Adapters is selected and click Next.

🚯 External Service	P			- 🗆 🗙
External Service Select the type of serv	ice to create.			3
Eilter: type filter text				
<u>Available Types:</u>				
Adapters				•
JDBC	S			-
Description:				
Creates a new service	o access an iSeries syster	n.		*
0	< <u>B</u> ack	Next >	Einish	Cancel

7. Click IBM WebSphere Adapter for IBM i and click Next.

🚯 New			- 🗆 X
Select an Adapter Select the adapter you want to use.			0
●] IBM WebSphere Adapter for IBM i (IBM : 6)	5.2)		
 IBM WebSphere Adapter for IBM i			
0	< <u>B</u> ack	Next > E	inish Cancel

Figure 3

8. Ensure that ios.rar is selected and click Next.

🚯 New		- 🗆 🗙
Adapter Import Import a resource ad adapter.	apter archive (RAR) from the file system to create a connector project for the	
Archive file: Connector project:*	C:\WID62\ResourceAdapters\Ios_6.2\deploy\jos.rar	
Target runtime:	WebSphere Process Server v6.2	•
•		'
0	< Back Next > Einish	Cancel

9. Select **Outbound** and click **Next**

🚯 New	_ 🗆 🗙
Processing Direction Select the direction of adapter processing at runtime.	
C Inbound Inbound processing passes data from the adapter to your service export.	
• Outbound Outbound processing passes data from your service import to the adapter.	
Image: Second	Cancel

Figure 5

Setting connection properties for the external service wizard

1. In the Discovery Configuration window, enter the IBM i server connection information such as the host name, user name, password, path to the folder on IBM i for object discovery and the object type to discover to keyed data queue.

🚯 New	
Discovery Configuration Specify properties to begin discovery.	
Connection Configuration	
Host name: *	<your_host_name_here></your_host_name_here>
User name: *	<i5 os_user_name_here=""></i5>
Password: *	<pre><pre>cpassword></pre></pre>
Path to library on IBM i for object discovery:*	/qsys.lib/rajan.lib
Object type to discover:	Data Queue
Prefix for business object names:	•
Advanced >>	
0	< <u>B</u> ack <u>N</u> ext > ⊟nish Cancel

2. After all properties are entered, click Next.

Generating business object definitions and related artifacts

1. On the **Object Discovery and Selection** panel, all data queues will be displayed for the path to selected folder location.

🚯 New		_ 🗆 🗙
Object Discovery and Selection Expand nodes to view and select discovered objects. Use filtering, objects displayed.	if necessary, to limit number of	R.
Discovered objects:	Selected objects:	
静 亿 甲		0
ADD2NOSPF.FILE OMPLEX1.FILE OPLEX1.FILE OPLEX	, Max message length: 20 Additional details available.	
⑦ (< Back	Next > Einish	Cancel

Figure 7

2. Select the keyed data queue from the left Discovered object pane and click **Next** to move it to the Selected objects pane.

🚯 New	_ 🗆 🗙
Object Discovery and Selection Expand nodes to view and select discovered objects. Use filtering, if objects displayed.	necessary, to limit number of
Discovered objects:	Selected objects:
₽ 2 0	0
ADD2NOSPF.FILE OMPLEX 1.FILE Somplex 1.FILE Somplex 1.FILE Somplex 1.FILE Somplex 1.FILE Maxuela (Constant) Keyed (Constant) Keyed (Constant) Keyed (Constant) Keyed (Constant) Keyed (Constant) Testkeyed (Constant) Testkeyed (Constant) Testkeyed (Constant) Tsq.DTaq Tsq.DTaq	(I) KEYEDQ.DTAQ
⑦ < Back	Next > Einish Cancel

Figure 8

3. In the Configure Composite Properties window, the operations PutQueue and GetQueue are listed in the **Operations for selected business objects** pane. Select the operations for the data queue by clicking the **Add** button. Click **Next**.

🚯 New					_ 🗆 🗙
Configure Composite Prop	erties				
Specify properties that apply to	all selected objects.				
Operations for selected business	objects				6 2
Operations for these functio	ns will be added to t	he service inter	face:*		
PutQueue GetQueue					Add, Remove
Business object namespace: ht	tp://www.ibm.com/x	mins/prod/web	sphere/j2ca/ibmi		
Specify the relative folder for ge	nerated business ob	jects			_
Folder:					
Data encoding:					Select
0		< <u>B</u> ack	Next >	Einish	Cancel

Figure 9

4. Clear the Specify a Java Authentication and Authorization Services (JAAS) alias security credential check box. The Host name and user name fields will be populated. Type the password in the Password field and click Next.

🚯 New						_ [×
Service Generatio	n and Deple values, such a	oyment Cor as passwords,	nfiguration should not be saved.			0	
Service operations If you want to mor generated in the ir Deployment properties Specify a Java	dify the names nterface file, p Authentication	, or add a desc ress the "Edit C n and Authoriza	ription to the operatio Operations" button. ation Services (JAAS) a	ns to be alias security c	Edit Oper	ations	•
J2C Authentication Deploy connector (Specify the setting Connection proper	n Data Entry: project: ps used to conr ties:	With module	for use by single applic erprise Information Sys	ation stem at runtim	ne:	•	
Connection proper Host name:* User name: Password:	ties <your_host <i5 os_use<br=""><password< td=""><td>name_here er_name_he</td><td>re></td><td></td><td></td><td></td><td></td></password<></i5></your_host 	name_here er_name_he	re>				
<< Advance Logging a Adapter Disgu	d ind tracing ID: 001 ise user data a	as "XXX" in log a	and trace files.				•
0			< <u>B</u> ack N	ext >	Einish	Cancel	

Figure 10

5. A default name is provided for the interface. Click **Finish** to complete the configuration.

🔂 New					_ 🗆 🗙
Service Location	on Properties roperties for saving the service.				H
Properties for ser	vice				
Module:	KDTAQOutbound			•	New
Namespace:	http://KDTAQOutbound/ISeries	OutboundInterfa	ce.		
	Use default namespace				
Folder:					Browse
Name: *	ISeriesOutboundInterface				
	Save business objects to a lib	rary			
Library:				Ŧ	New
Description:	[
		1	10		- 1
3		< <u>B</u> ack	Next >	Einish	Cancel



6. The generated module components look as shown below.



Deploying the module to the test environment

The result of running the external service wizard is an SCA module that contains an EIS import or export. Now you will install this SCA module in the WebSphere Integration Developer integration test client.

1. Add the module you created earlier to the server by using the server panel in WebSphere Integration Developer. Right-click the server, and then select **Add and Remove Projects**.



Figure 13

2. Add the SCA module to the server by selecting it and clicking Add. Then click Finish

🚯 Add and Remove Projec	ts	- 🗆 ×
Add and Remove Projects Modify the projects that are confi	gured on the server	
Move projects to the right to confi	gure them on the server	acts:
E (KDTAQOutboundApp	Add >	
	Add All >>	
0	< <u>B</u> ack <u>N</u> ext > Einish	Cancel

Figure 14

love projects to the righ vailable projects:	t to configure them on the server	Configured projects:
	A <u>d</u> d > < <u>R</u> emove	
	Add All >>	

Testing the assembled adapter application

1. Test the assembled adapter application using the WebSphere Integration Developer integration test client.

- 2. Select the service you want, and click **Test > Test Module**.
- 3. Select the operation as putqueueKeyedq from the operation list.

KDTAQOutbound - Assembly Diagram	_Test 🕅
vents	
Select the component, interface, and operation you would	ike to invoke. Click Continue to run.
Events	General Properties
🎄 🗸 🥅 🖌 🥅 🔆 🚺 🔲	▼ Detailed Properties
å⊳ Invoke	Configuration: Default Module Test
	Module: KDTAQOutbound
	Component: ISeriesOutboundInterface
	Interface: ISeriesOutboundInterface
	Operation: DutqueueKeyedq
	Initial request parameters
	Name Type Value
	E putqueu Keyedq 🗸
	message messageKey <str td="" ✓<=""></str>
	message content V

Figure 16

4. Populate values for input business objects, by selecting the operation putQueueKeyedq.

5. Specify the required parameters (messageKey, messageContent) to perform the PutQueue operation on the Keyedq data queue.

😵 KDTAQOutbound - Assembly Diagram 🛛 📔 KDTAQOutbound_Test 😣		
Events		
Select the component, interface, and operation you would like to invoke	Click Continue to run.	
Events	General Properties	-
🎥 - ☶ - 🕞 🐎 🔘 🔳 🔛	▼ Detailed Properties	
ĝ▶ Invoke	Configuration: Default Module Test	•
	Module: KDTAQOutbound	•
	Component: ISeriesOutboundInterface	-
	Interface: ISeriesOutboundInterface	•
	Operation: putqueueKeyedq	•
	Initial request parameters	
	Name Type Value	
	message messageContent 🗸 Test Message	
		_



6. Run the service by clicking the continue icon (\mathbf{O}). Select the Use this as the default and do not ask again check box and click Finish.

Deployment Location	- 🗆 ×
Select Deployment Location Specify a runtime location where this test will deploy.	E
Deployment <u>l</u> ocation:	
WebSphere Process Servers WebSphere Process v6.2 Server at localhost Eclipse 1.5 JVM	New <u>S</u> erver
Mode: Run	
☑ Use this as the default and do not ask again	
? <u>Einis</u>	h Cancel

The output looks as shown below.

E KDTAQOutbound_Test 🛛					- 8
Events					
Events	General Pro	perties			
🎄 - ☶ - ᇆ ≱ 🖸 🔳 🔡	 Detailed Pro 	operties			
🖃 🌃 Invoke (ISeriesOutboundInterface:putqueueKeyedq)	Configuration:	Default	Module Test		-
 K Invoke started Invoke (ISeriesOutboundInterface outgueveKeveda) 	Module:	KDTAQO	Dutbound		-
 Invoke (derhebbaldbolnaliter ideelpatiquedekeyedq) Invoke returned 	Component:	ISeriesC	OutboundInterface		-
	Interface:	ISeries	outboundInterface		
	Operation:	putqueu	ieKeveda		-
	operation.	putqueo	Jeneyeuq		
	4 Initial request p	aramotoro			
			,		
	Nam	e	Type	Value	
	🗆 🖳 put	queueKey	Keyedq	~	
		message	messageKey <stri< th=""><th>✓ KEY1234567</th><th></th></stri<>	✓ KEY1234567	
	····· L	message	messageContent	 Test Message 	
-					

7. To test the GetQueue operation on data queue click the **b**utton. Another test component is opened. Select the **putqueueKeyedq** from the **Operation** list and click **O**.

KDTAQOutbound_Test 🛛				- 8
Events				
A coloration and the first and an article second distribution of the first second seco	click Continue to a	_		
 Select the component, interface, and operation you would like to invoke. Events	General Pro	n. perties		
	Detailed Pro	perties		
E 🌾 Invoke (ISeriesOutboundInterface:putqueueKeyedq)	Configuration:	Default Module Test		•
🗄 隆 Invoke started	Module:	KDTAQQuthound		
Invoke returned	Companyati			
	Component:			
	Interface:	IseriesOutboundInterface		
	Operation:	getqueueKeyedq		_
	Initial request pa	arameters		
	Name		Value	_
	🖃 💾 get	queueKey Keyedq	✓	
		message messageKey <stri< td=""><td>✓ KEY1234567</td><td></td></stri<>	✓ KEY1234567	
	······	message messageContent	~	
1	J			



The message from the data queue is displayed as return message, as shown in the following figure

Chapter 11. Inbound processing on the keyed data queue

This tutorial demonstrates how WebSphere Adapter for IBM i V6.2.0.0 can be used to poll the keyed data queue and send the messages to the endpoint application.

Configuring the adapter for inbound processing

Run the external service wizard to specify business objects, services, and the configuration to be used in this tutorial.

Creating the project

1. Launch WebSphere Integration Developer by clicking Start > Programs > IBM WebSphere > Integration Developer 6.2.

2. In WebSphere Integration Developer, switch to the Business Integration perspective by clicking **Window > Open perspective > Other**. In the Select perspective window, select **Show all**, then select **Business Integration** from the list and click **OK**.

3. Create a new module by clicking **File > New > Module**.

4. Type **KDTAQInbound** in the Module Name field and click **Finish**.

New Module	- 🗆 🗙
Module Create a new business integration module. A module is a project that is used for development, version management, organizing resources, and deploying to the runtime environment.	
Module Name: KDTAQInbound	
Use default location	
Location: C:\ADP_TEST_WS_WID62\KDTAQInbound	Browse
☑ Open module assembly diagram Business integration modules can be deployed and run on WebSphere Process Server. They car types of components, such as business processes, assembled together for the purpose of busin integration.	n contain many ness
⑦	Cancel

The following window shows the components generated.





5. Launch the external service wizard by selecting File > New > Other > Business Integration > External Service.

6. Ensure that Adapters is selected, select iSeries and click Next

🕀 External Servic	e				- 🗆 🗙
External Service Select the type of service	vice to create.				3
Eilter: type filter text					
Available Types:					
Adapters					<u>_</u>
JDE J D Edward	is				-
Description:					_
Creates a new service	to access an iSe	ries system.	2		×
0		Back	Next >	1 Finish	

7. Click IBM WebSphere Adapter for IBM i (IBM : 6.2) and click Next

🕀 New			- 🗆 🗙
Select an Adapter Select the adapter you want to use.			0_
■ IBM WebSphere Adapter for IBM i (IBM : 6	2)		
IBM WebSphere Adapter for IBM i			
0	< Back Next :	Einish	Cancel

8. Ensure that the ios RAR file is selected and click Next.

New	_ 🗆 🗙
Select an Adapter Select the adapter you want to use.	0
IBM WebSphere Adapter for IBM i (IBM : 6.2)	
⑦ < <u>Back</u> <u>Next</u> > <u>Einish</u>	Cancel

9. Select Inbound and click Next.



Setting connection properties for the external service wizard

1. Enter the IBM i server connection information such as the host name, user name, password and path to the folder on the IBM i system for object discovery. The **Object type to discover** field will be disabled.

🚯 New	
Discovery Configuration Specify properties to begin discovery.	
Connection Configuration Host name: * User name: *	<pre><your_host_name_here> <i5 here="" name="" os="" user=""></i5></your_host_name_here></pre>
Password: *	<pre><pre>content</pre></pre>
Path to library on IBM i for object discovery:*	/qsys.lib/rajan.lib
Object type to discover:	Data Queue
Prefix for business object names:	v
Advanced >>	
0	< <u>Back N</u> ext > Finish Cancel

Figure 27

2. After you have entered all properties, click **Next**.

Generating business object definitions and related artifacts

1. In the Discovered objects pane, all data queues are be displayed so that you can select the path to the folder.

🕀 New		- 🗆 🗙
Object Discovery and Selection Expand nodes to view and select discovered objects. Use filtering, objects displayed.	if necessary, to limit number of	BU,
Discovered objects:	Selected objects:	
事 星 甲		Ø
ADD2NOSPF.FILE OMPLEX1.FILE OPHEX1.FILE OPHEX	Max message length: 20 Additional details available.	
⑦ < Back	Next > Einish	Cancel

2. Select the keyed data queue from the **Discovered objects** pane and click the **>** button to move it to the **Selected objects** pane. Click Next.

🚯 New	_ 0	×
Object Discovery and Selection Expand nodes to view and select discovered objects. Use filterin objects displayed.	ig, if necessary, to limit number of	
Discovered objects:	Selected objects:	
₽ 2 0		0
ADD2NOSPF.FILE COMPLEX1.FILE SAMPLEJAVA.FILE FIFOQ.DTAQ KEYEDQ.DTAQ LIFOQ.DTAQ MAXLENS.DTAQ TESTKEYED.DTAQ TESTKEYED 1.DTAQ TSQ.DTAQ	KEYEDQ.DTAQ	
⑦ < Back	Next > Einish Cancel	

3. In the Configure Composite Properties window, the Emit operation is displayed and is disabled. Click **Next**.
| 🚯 New | | | | | - 🗆 X |
|--------------------------|-------------------------------|----------------------|------------------|---------|---------|
| Configure Compos | ite Properties | | | | |
| Specify properties that | t apply to all selected objec | ts. | | | |
| Operations for selecte | d business objects | | | | |
| Operations for the | se functions will be added (| to the service inter | face:* | | |
| Emit | | | | | Add, |
| | | | | | Remove |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| 1 | | | | | |
| Business object names | pace: http://www.ibm.co | m/xmlns/prod/web | sphere/j2ca/ibmi | | |
| Specify the relative fol | der for generated business | objects | | | |
| Folder: | | | | | |
| Data encoding: | | | | | Select |
| | , | | | | |
| | | | | | |
| | | | | | |
| 0 | | < Back | Next > | Einish | Cancel |
| U | | - Dock | Lever | Duran - | Curreet |

4. Clear the **Specify a Java Authentication and Authorization Services (JAAS) alias security credential**. The **Host name, user name, and Poll Queue Path** fields will be populated in this window. The poll queue path field, however, is disabled. Type the password, in the **Payload Staging Queue Path** field and **Polling Control Language Program path** fields and click **Next**.

🚯 New				- D ×	
Service Generation and Deple	oyment Configuration			5	
A Password: Sensitive values, such a	s passwords, should not be saved.			(0)	
Service operations If you want to modify the names, interface file, press the "Edit Ope Deployment properties Specify a Java Authentication	, or add a description to the operation trations" button. n and Authorization Services (JAAS)	ons to l alias se	be generated in the ecurity credential.	Edit Operations	
J2C Authentication Data Entry:					
Deploy connector project:	With module for use by single appli	cation		•	
Specify the settings used to conn	ect to the Enterprise Information Sy	/stem a	at runtime:		
Connection properties:	Specify connection properties			-	
Connection properties					
IBM i Connection Proper	ties				
Host name:		* < ye	our_host_name_here>		
User name:		<i5< th=""><th>/OS_user_name_here</th><th>></th></i5<>	/OS_user_name_here	>	
Password:		≤p	assword>		
Poll Queue Path;		/qsy	ys.lib/raja1.lib/KEYDQ.DTA	Q	
Payload Staging Que	eue Path:	⊧ /QS	YS.LIB/RAJA1.LIB/STAGIN	GQ.DTAQ	
Polling Control Lang	uage Program path:	⊧ /QS	/QSYS.LIB/RAJA1.LIB/I5INBOUND.PGM		
Failed Events Queue	e Path:	⊧ /QS	YS.LIB/RAJA1.LIB/FAILED	EVE.DTAQ	
Failed event archivir	ng Control Language Program path:	⊧ /QS	YS.LIB/RAJA1.LIB/I5ARCH	FAIL.PGM	
Object type:		Key	edDataQueue		
Key for keyed data	queue:	⊧° KEY	1234567		
Advanced >>					
0	<u> </u>	k [Next > Einish	Cancel	

The advanced properties looks as shown below.

New				_ [×
Service Generation and Deployment	t Configurati ords, should not b	on oe saved.		6	
<< Advanced		*			-
 Event polling configuration 					
Interval between polling periods	(milliseconds):	2000			
Maximum events in polling period	d:	10			
Retry interval if connection fails	(milliseconds):	60000			
Number of times to retry the sys	stem connection:	0			
🗍 Stop the adapter when an e	rror is encountere	ed while polling			
Retry EIS connection on star	rtup				
 Event delivery configuration 					
Type of delivery:	RDERED			•	
Ensure assured-once event	delivery (may rec	luce performance)			
Do not process events that I	have a time stam	p in the future			
Event types to process:					
Retry limit for failed events: 5					
Number of connections for even	t delivery				
Minimum: 1					
Maximum: 1					
 Advanced properties 					
Data encoding:				Select	
 Event persistence properties 					
✓ Auto create event table					
Event recovery table name:		ISERIES_EVENTST	ORE		
Event recovery data source (JN	DI) name:	-			
User name used to connect to e	vent data source	: [
Password used to connect to ev	ent data source:				
Database schema name:		[
- Logging and tracing		(etc.		Ì	
Adapter ID:* 001					
🗍 Disguise user data as "XXX" i	in log and trace fi	les.			
					-
0	< <u>B</u> ack	<u>N</u> ext >	Einish	Cancel	

5. A default name is provided for the interface. Click **Finish** to complete the configuration.

🚯 New					- 🗆 🗙
Service Locati Specify location p	on Properties roperties for saving the service.				
Properties for ser	vice				
Module:	KDTAQInbound				New
Namespace:	http://KDTAQInbound/ISeries	InboundInterface			1
	✓ Use default namespace				
Folder:					Browse
Name: *	ISeriesInboundInterface				_
	☐ Save business objects to a l	ibrary			
Library:					New
Description:					
(?)		< Back	Next >	Finish	Cancel

Figure 33

6. The generated module contains the following components in it.



7. Generate a JavaTM component and draw a wire from **ISeriesInboundInterface** to **Component1.**

) KDTAQInbound - Assembly Diagram 🛛 🚺 Component1Impl.java	
Inbound Adapters Inbound Adapters Component Adapters Component Signality Diagram to Component Improvement Improvement Signality Diagram to Component Improvement Signality Diagram to Component Improvement Signality Diagram to Component Signality Distributy	Component1



8. Generate implementation for the java component interface as shown below. You can choose "default package" when asked for package for the implementation.

😢 *KDTAQInbound - Ass	embly Diagram 🕱		
Palette Process Rule Group Palette Palette Palette Palette	● ■ ISeriesInboundInterface	Convert to Import Generate Implementation Select Implementation Open Synchronize Interfaces and Reference Refactor Merge Components)))))))))))))))))))





Figure 37

The generated Java implementation is shown in the following screen capture.

```
- 8
🕄 KDTAQInbound - Assembly Diagram
                           🚺 Component1Impl.java 🕺
                                                                                                   *
  6 public class Component1Impl {
        /**
  7⊖
  8
         * Default constructor.
         */
 9
 100
        public Component1Impl() {
 11
           super();
 12
        3
 13
 140
        /**
        * Return a reference to the component service instance for this implementation
 15
         * class. This method should be used when passing this service to a partner reference
 16
 17
         * or if you want to invoke this component service asynchronously.
 18
 19
         * @generated (com.ibm.wbit.java)
 20
         */
 210
        @SuppressWarnings("unused")
 22
        private Object getMyService() {
            return (Object) ServiceManager.INSTANCE.locateService("self");
 23
 24
        3
 25
 269
        /**
        * Method generated to support implemention of operation "emitKeyeddtagkeyedg" defined fo
 27
 28
         * named "ISeriesInboundInterface".
 29
 30
         * The presence of commoni.sdo.DataObject as the return type and/or as a parameter
 31
         * type conveys that its a complex type. Please refer to the WSDL Definition for more inf
 32
         * on the type of input, output and fault(s).
         */
 33
        public void emitKeveddtagkevedg(DataObject emitKeveddtagkevedgInput) {
 340
```

Figure 38

Deploying the module to the test environment

The result of running the external service wizard is an SCA module that contains an EIS import or export. Install this SCA module in the WebSphere Integration Developer integration test client.

1. Start WebSphere Process Server.

2. Add the module you created earlier to the server by using the server panel in WebSphere Integration Developer. Right-click the server, and then select **Add and Remove Projects**.



2. Add the SCA module from the left frame to the right frame by selecting it and clicking **Add** Then click **Finish.**

🚯 Add and Remove Proje	cts	- 🗆 ×
Add and Remove Project Modify the projects that are con	s figured on the server	
Move projects to the right to con <u>A</u> vailable projects:	figure them on the server <u>C</u> onfigur	ed projects:
E (E KDTAQInboundApp	A <u>d</u> d >	
	< <u>R</u> emove	
	Add All >>	
	All	
0	< <u>B</u> ack <u>N</u> ext >	Einish Cancel

🚯 Add and Remove Pr	ojects	_ 🗆 🗙
Add and Remove Proj Modify the projects that are	e cts configured on the server	
Move projects to the right to <u>Available projects</u> :	configure them on the server <u>C</u> onfigure	ed projects:
	▲ <u>dd</u> >	KDTAQInboundApp
	< <u>R</u> emove	
	Add All >>	
	<< Remove All	
0	< Back Next >	jinish Cancel

Testing the assembled adapter application

Test the assembled adapter application by using the WebSphere Integration Developer integration test client.

1. Right-click the adapter module, **DTAQInbound**, then select **Test** > **Attach**.

The relevant business object is delivered to the endpoint

2. Verify that the business object has been delivered by either checking for the endpoint messages in the System.Out file of WebSphere Process Server or by viewing the server console output in WebSphere Integration Developer.



This will open the following screen.

🕄 KDTAQInbound - Assembly Diagram	E KDTAQInbound_Test			
Events				
Events) General Pro	nerties	
	<u>س</u>	 Detailed Pro 	perties	
		Configuration:	Default Module Test	*
		Module:	KDTAQInbound	
		•		
		•		
Events Configurations				

Figure 43

2. Run the service by clicking the continue button \bigcirc which will deliver the event to the endpoint.

3. Verify this by checking for the endpoint messages in System.Out file of WebSphere Process Server or by viewing the server console output in WebSphere Integration Developer, as shown in the following screen or WebSphere Process Server logs.

÷	🐉 Java - WebSphere Administrative Console for WebSphere Process v6.2 Server at localhost - IBM WebSphere Integration Developer 6.2 - C:\IBM\wid620\workspaces\2												
Fil	File Edit Navigate Search Project Run ClearCase Window Help												
1	📑 • 🗄 🖕 🔓 😫 📴 • 📾 💷 • 📮 🕼 👍 🦄 🖓 🗇 🖉 👘 🖉 🖉 🖓 🖓 🖓 🖉 🖓 🖓 🖓												
1	53 • ☆ • O • 9a •] 2 ⊕												
Γ,		🖹 Problems	@ Javadoc [😟 Dec	claration	n 🔂 Annotati	ons 🔊 Work Items	🔳 c	ionsole 🛛	용 Servers) = 3	< 🔆 🖹 🔓 🕢	🐖 🖃 - 📬 -
	7	WebSphere Pr	ocess v6.2 Serv	ver at le	ocalhosi	t (WebSphere A	pplication Server v6.	1)					
F	₿	[9/18/08	17:34:56:	109	IST]	0000005d	logging	I	Start	invoking	EventSourceImp1	constructor	
	8	[9/18/08	17:34:56:	109	IST]	0000005d	logging	I	Start	invoking	EventSourceImpl	getEventPoint	
8		[9/18/08	17:34:56:	390	IST]	0000005e	impl	I	Start	invoking	EventSourceCont	extImpl.getEvent	Source
	8	[9/18/08	17:34:56:	390	IST]	0000005e	logging	I	Start	invoking	EventSourceImpl	constructor	
	0	[9/18/08	17:34:56:	390	IST]	0000005e	logging	I	Start	invoking	EventSourceImpl	getEventPoint	
4	¢.	[9/18/08	17:34:59:	312	IST]	0000005e	impl	I	Start	invoking	EventSourceCont	extImpl.getEvent	Source
	-4	[9/18/08	17:34:59:	312	IST]	0000005e	logging	I	Start	invoking	EventSourceImpl	constructor	
		[9/18/08	17:34:59:	312	IST]	0000005e	logging	I	Start	invoking	EventSourceImpl	getEventPoint	
		[9/18/08	17:34:59:	750	IST]	0000005e	impl	I	Start	invoking	EventSourceCont	extImpl.getEvent	Source
		[9/18/08	17:34:59:	750	IST]	0000005e	logging	I	Start	invoking	EventSourceImpl	constructor	
		[9/18/08	17:34:59:	750	IST]	0000005e	logging	I	Start	invoking	EventSourceImpl	getEventPoint	
		[9/18/08	17:35:00:	625	IST]	00000061	SystemOut	0	>>> Emit	: Object :	= Test Message		

Figure 44

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