

# iWay

iWay Application Adapter for  
Microsoft Exchange User's Guide

Version 7.0.x and Higher

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# Preface

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This document explains how to use the iWay Application Adapter for Microsoft Exchange.

**Note:** This Release 7.0.x content is currently being updated to support iWay Release 8.0.x software. In the meantime, it can serve as a reference for your use of iWay Release 8. If you have any questions, please contact [Customer\\_Success@ibi.com](mailto:Customer_Success@ibi.com).

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## How This Manual Is Organized

This manual includes the following chapters:

	<b>Chapter/Appendix</b>	<b>Contents</b>
1	Introducing the iWay Application Adapter for Microsoft Exchange	Provides an overview of the iWay Application Adapter for Microsoft Exchange and summarizes how to use it to integrate Microsoft Exchange systems with other applications.
2	Application Adapter for Microsoft Exchange Supported Platforms Matrix	Specifies version, platform, and database support information for iWay Application Adapter for Microsoft Exchange.
3	Application Adapter for Microsoft Exchange Quick Start Guide	Provides a quick start guide for the iWay Application Adapter for Microsoft Exchange.
4	Configuring the iWay Application Adapter for Microsoft Exchange	Describes how to configure the iWay Application Adapter for Microsoft Exchange.
5	Creating XML Schemas and Business Services	Describes how to use iWay Explorer to create schemas and Business Services for allowing interaction between iWay Application Adapter for Microsoft Exchange and a Microsoft Exchange server.
6	Configuring the Adapter in an iWay Environment	Describes how to assign the iWay Application Adapter for Microsoft Exchange to an iWay Service Manager listener and channel.

## Documentation Conventions

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

<b>Convention</b>	<b>Description</b>
THIS TYPEFACE or this typeface	Denotes syntax that you must enter exactly as shown.
<i>this typeface</i>	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.
<u>underscore</u>	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 (...).
. . .	Indicates that there are (or could be) intervening or additional commands.

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To learn about the full range of available support services, ask your Information Builders representative about InfoResponse Online, or call (800) 969-INFO.

## 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.

<b>Platform</b>	
<b>Operating System</b>	
<b>OS Version</b>	
<b>JVM Vendor</b>	
<b>JVM Version</b>	

The following table lists the deployment information our consultants require.

<b>Adapter Deployment</b>	For example, JCA, Business Services Provider, iWay Service Manager
<b>Container</b>	For example, WebSphere

<b>Version</b>	
<b>Enterprise Information System (EIS) - if any</b>	
<b>EIS Release Level</b>	
<b>EIS Service Pack</b>	
<b>EIS Platform</b>	

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

<b>iWay Adapter</b>	
<b>iWay Release Level</b>	
<b>iWay Patch</b>	

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

<b>Request/Question</b>	<b>Error/Problem Details or Information</b>
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).	

Request/Question	Error/Problem Details or Information
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
- 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

In an effort to produce effective documentation, the Technical Content Management staff welcomes your opinions regarding this document. Please use the Reader Comments form at the end of this document to communicate your feedback to us or to suggest changes that will support improvements to our documentation. You can also contact us through our website, <http://documentation.informationbuilders.com/connections.asp>.

Thank you, in advance, for your comments.

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# Introducing the iWay Application Adapter for Microsoft Exchange

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The iWay Application Adapter for Microsoft Exchange integrates email contacts and calendar functions. The adapter also supports attachments with email messages.

This section provides an overview of the iWay Application Adapter for Microsoft Exchange and summarizes how to use it to integrate Microsoft Exchange systems with other applications.

## In this chapter:

- [iWay Application Adapter for Microsoft Exchange](#)
  - [About Microsoft Exchange Server](#)
  - [Features of the iWay Application Adapter for Microsoft Exchange](#)
  - [Microsoft Exchange Server Versions and Exchange Web Services API Files](#)
  - [Application Adapter for Microsoft Exchange Component Information](#)
- 

## iWay Application Adapter for Microsoft Exchange

The iWay Application Adapter for Microsoft Exchange uses Microsoft Exchange web services to interact with mailboxes for Microsoft Exchange Server 2007 and 2010.

The adapter can monitor email accounts from different platforms, select inbound messages, send and receive messages and attachments, and filter or custom process email based on content using contextual pattern matching of the subject. In addition, the iWay Application Adapter for Microsoft Exchange supports calendar functions, such as creating appointments.

The adapter works with the following object types from Microsoft Exchange Server:

- Calendar
- Contacts
- Inbox

The adapter supports the following service-based functions:

### Calendar Functions

- CreateAppointment

- FindAppointment

**Contacts Functions**

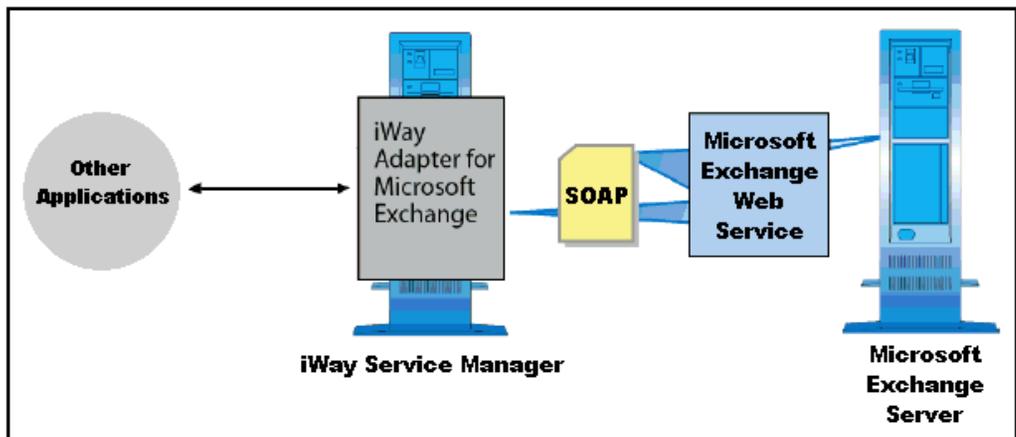
- CreateContact
- FindContacts

**Inbox Functions**

- FindMessages
- GetAttachment
- GetMessage
- ListFolders
- MarkAsRead
- SendMessage

In addition, the iWay Application Adapter for Microsoft Exchange supports the NewMessage event-based function. This function detects and processes email messages for a configured inbox.

The adapter provides support for both pre-processing and post-processing of both message bodies and attachments. The following graphic displays a typical scenario for using the iWay Application Adapter for Microsoft Exchange.



The iWay Application Adapter for Microsoft Exchange, in conjunction with the iWay Adapter Framework, receives information in the form of an XML document, and processes these documents. Actions (processes) are performed against the Microsoft Exchange Server based on the content of the SOAP document, which is also known as a *request*.

The adapter maps requests to their individual Microsoft Exchange web services and calls them. This allows end users to concentrate on business logic and high-level details of messages and events through the passing and receiving of XML documents without having to learn the programmatic languages and APIs necessary to communicate with a Microsoft Exchange Server.

### About Microsoft Exchange Server

Microsoft Exchange Server enables you to send and receive email and other forms of interactive communication through computer networks. Designed to operate with an email client application, such as Microsoft Outlook, Exchange Server also operates with other email client applications.

### Features of the iWay Application Adapter for Microsoft Exchange

The iWay Application Adapter for Microsoft Exchange provides a means to exchange real-time business data between messaging systems and other application, database, or external business partner systems. The adapter supports inbound and outbound integration operations, using services and events.

- ❑ **Services:** Applications use this capability to initiate a business event.
- ❑ **Events:** Applications use this capability to access data only when a business event occurs.

The iWay Application Adapter for Microsoft Exchange:

- ❑ Supports bidirectional operations between the adapter and the Exchange Server.
- ❑ Includes the iWay Application Explorer (IAE), a GUI tool that explores metadata and builds XML schemas or web services.
- ❑ Enables the transfer of data to and from a mail server, including email and calendar functions.

## Adapter Services

The iWay Application Adapter for Microsoft Exchange exposes the services that are listed and described in the following table:

Service	Description
FindMessages	Retrieves a list of messages from the Inbox of the user defined by the adapter target. Only the folder specified is searched. If no folder name is provided, the search is done in the Inbox root folder. Messages that contain the specified string in the subject or body of the message are returned. The service returns the ID of the messages, their subject, and so on. To retrieve the contents of the message body, you must use the GetMessage service.
GetMessage	Retrieves the body of a message with a given ID. Also returns a list of attachments associated with the message, if there are any. Only the names and IDs of attachments are returned. To retrieve the full contents of an attachment, you must use the GetAttachment service.
GetAttachment	Retrieve the contents of an attachment with a given ID. Since attachments are stored as binary objects, this service returns them as a Base64 encoded string.
ListFolders	Returns a list of the folder names defined under the Inbox folder.
FindContacts	Returns a list of contacts that match a given company name or display name.
FindAppointments	Returns a list of appointments from the users calendar that starts within a specified time range. The times must be specified in the format yyyy-MM-ddThh:mm:ssZ.

## Microsoft Exchange Server Versions and Exchange Web Services API Files

iWay Application Adapter for Microsoft Exchange supports the following versions:

- Microsoft Exchange Server 2007 SP1 and SP2
- Microsoft Exchange Server 2010 SP1
- Exchange Web Services (EWS) API Version 1.1.5

To work with Microsoft Exchange Server 2010 SP1, the following files must be added to `<ism_home>\lib` directory:

- EWSAPI-1.1.5.jar
- jcifs-1.3.17.jar

You can download EWS API Version 1.1.5 from the following website:

<http://archive.msdn.microsoft.com/ewsjavaapi>

Perform the following steps:

1. Extract the downloaded .zip archive and copy the EWSAPI-1.1.5.jar file to the following directory:

`<iWayHome>\lib`

2. Download the latest version of JCIFS from the following website:

<http://jcifs.samba.org/>

3. Extract the downloaded .zip archive and copy the jcifs-1.3.17.jar file to the following directory:

`<iWayHome>\lib`

## Application Adapter for Microsoft Exchange Component Information

The iWay Application Adapter for Microsoft Exchange works with the following components:

- iWay Service Manager
- iWay Explorer
- iWay Business Services Provider (iBSP)

### iWay Service Manager

iWay Service Manager is the heart of the Universal Adapter Framework and is an open transport service bus. Service Manager uses graphical tools to create sophisticated integration services without the need for custom integration code by:

- Creating metadata from target applications.
- Transforming and mapping interfaces.
- Managing stateless processes.

Its capability to manage complex adapter interactions makes it an ideal foundation for a service-oriented architecture.

### **iWay Explorer**

iWay Explorer uses a tree metaphor to introspect the system metadata. The Explorer enables you to create XML schemas and web services for the associated object. In addition, you can create ports and channels to listen for events.

External applications that access Microsoft Exchange through the adapter use either XML schemas or web services to pass data between the external application and the adapter.

### **iWay Business Services Provider**

The iWay Business Services Provider (iBSP) exposes, as web services, enterprise assets that are accessible from adapters regardless of the programming language or the particular operating system.

iBSP simplifies the creation and execution of web services when running:

- Custom and legacy applications.
- Database queries and stored procedures.
- Packaged applications.
- Terminal emulation and screen-based systems.
- Transactional systems.

Coupled with a platform and language independent messaging protocol called SOAP (Simple Object Access Protocol), XML enables application development and integration by assembling previously built components from multiple web services.

# Chapter 2

## Application Adapter for Microsoft Exchange Supported Platforms Matrix

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iWay Software is committed to support the diverse environments and varied systems of our users through support for leading enterprise applications, platforms, and databases.

This section specifies version, platform, and database support information for iWay Application Adapter for Microsoft Exchange. It is designed to provide a consolidated view of Microsoft Exchange releases and the various operating systems and databases, on which they are supported.

### In this chapter:

- [Application Adapter for Microsoft Exchange Supported Platforms Overview](#)
  - [Supported Microsoft Exchange Versions](#)
  - [Microsoft Exchange Operating Systems](#)
  - [Databases](#)
  - [Java Development Kit \(JDK\)](#)
  - [Application Adapter for Microsoft Exchange Communication Modes](#)
  - [Application Adapter for Microsoft Exchange Object Types and Interfaces](#)
  - [Application Adapter for Microsoft Exchange Communication Types](#)
  - [Application Adapter for Microsoft Exchange Operations](#)
  - [Application Adapter for Microsoft Exchange Data Types](#)
  - [Application Adapter for Microsoft Exchange Security](#)
  - [Other Application Adapter for Microsoft Exchange Functions](#)
  - [Application Adapter for Microsoft Exchange Known Limitations](#)
  - [Related Information for the Application Adapter for Microsoft Exchange in Specific iWay Releases](#)
- 

### Application Adapter for Microsoft Exchange Supported Platforms Overview

The iWay Application Adapter for Microsoft Exchange utilizes Microsoft Exchange web services to interact with Microsoft Exchange Server.

## Supported Microsoft Exchange Versions

iWay Application Adapter for Microsoft Exchange supports the following versions:

- MS Exchange Server 2007 SP1 and SP2
- MS Exchange Server 2010 SP1
- Exchange Web Services (EWS) API 1.1.5

## Microsoft Exchange Operating Systems

iWay Application Adapter for Microsoft Exchange supports all of the operating systems that are listed in the *iWay Installation and Configuration Guide* under *Operating System Requirements*.

## Databases

iWay Application Adapter for Microsoft Exchange does not work function directly with databases, but works only with Exchange Web Services (EWS) API 1.1.5.

## Java Development Kit (JDK)

iWay Application Adapter for Microsoft Exchange supports the Java Development Kit (JDK) versions that are listed in the *iWay Installation and Configuration Guide* under *Java Requirements*.

## Application Adapter for Microsoft Exchange Communication Modes

iWay Application Adapter for Microsoft Exchange supports the following communication modes:

- Services.** iWay Application Adapter for Microsoft Exchange can receive messages from the Microsoft Exchange server.
- Events.** iWay Application Adapter for Microsoft Exchange can send messages to the Microsoft Exchange server.

## Application Adapter for Microsoft Exchange Object Types and Interfaces

The iWay Application Adapter for Microsoft Exchange objects will not list groups of methods and calls. Each object can be used as service and events for different operations. The following object types and interfaces are supported:

- Calendar
- Contacts
- Inbox

## Application Adapter for Microsoft Exchange Communication Types

iWay Application Adapter for Microsoft Exchange supports the following communication types:

- Calendar:** Synchronous
- Contacts:** Synchronous
- Inbox:** Synchronous

## Application Adapter for Microsoft Exchange Operations

iWay Application Adapter for Microsoft Exchange supports the following operations, which can be performed for each of the objects:

- Calendar
  - CreateAppointment
  - FindAppointment
- Contacts
  - CreateContact
  - FindContacts
- Inbox
  - FindMessages
  - GetAttachment

- GetMessage
- ListFolders
- MarkAsRead
- SendMessage

## Application Adapter for Microsoft Exchange Data Types

The String Data Type is used in the iWay Application Adapter for Microsoft Exchange.

## Application Adapter for Microsoft Exchange Security

The iWay Application Adapter for Microsoft Exchange supports Basic and NTML Authentication.

## Other Application Adapter for Microsoft Exchange Functions

There is no known list related to other functions for iWay Application Adapter for Microsoft Exchange.

## Application Adapter for Microsoft Exchange Known Limitations

The iWay Application Adapter for Microsoft Exchange does not support other operations aside from the Basic and NTML Authentication and Operations mentioned above.

## Related Information for the Application Adapter for Microsoft Exchange in Specific iWay Releases

For more information, see the *iWay New Features Bulletin and Release Notes* documentation for a specific release (for example, iWay Version 7.0.2).

# Chapter 3

## Application Adapter for Microsoft Exchange Quick Start Guide

This chapter provides a quick start guide for the iWay Application Adapter for Microsoft Exchange.

### In this chapter:

- ❑ [Application Adapter for Microsoft Exchange Quick Start Overview](#)
- ❑ [Microsoft Exchange Quick Start Guide](#)

### Application Adapter for Microsoft Exchange Quick Start Overview

This quick start guide summarizes the high-level key steps that are required to install, configure, and use the iWay Application Adapter for Microsoft Exchange. The quick start guide does not elaborate on any of the steps in detail. Instead, cross-references are provided for the corresponding sections in the *iWay Application Adapter for Microsoft Exchange User's Guide*. Users of the iWay Application Adapter for Microsoft Exchange are encouraged to follow the sequence of steps in this guide to quickly connect to a Microsoft Exchange system and begin using the adapter. To gain a complete understanding about the adapter, it is recommended for users to review the entire *iWay Application Adapter for Microsoft Exchange User's Guide*, as the quick start guide section is not a replacement for that level of detail.

### Microsoft Exchange Quick Start Guide

This section lists and describes the key configuration steps for configuring the iWay Application Adapter for Microsoft Exchange and then integrating with Microsoft Exchange Server.

1. Ensure that you are using a supported environment, as described in [Application Adapter for Microsoft Exchange Supported Platforms Matrix](#) on page 17.
2. Copy the Exchange Web Services (EWS) API files to the \lib subdirectory where iWay Service Manager (iSM) is installed.

For more information, see [Microsoft Exchange Server Versions and Exchange Web Services API Files](#) on page 14.

3. Open iWay Integration Tools (iIT) and access the iWay Explorer tab to create a new configuration.

For more information, see [How to Create an iWay Explorer Connection to an iSM Server](#) on page 30.

4. Add the iWay Application Adapter for Microsoft Exchange to iWay Explorer.

For more information, see [How to Add the Microsoft Exchange Adapter to iWay Explorer](#) on page 32.

5. Create and configure an adapter target to your Microsoft Exchange Server.

For more information, see [Working With a Target](#) on page 34.

6. Examine the available metadata for your Microsoft Exchange Server objects that you want to integrate and create corresponding XML request and response documents.

For more information, see [Viewing Application System Objects](#) on page 44 and [Creating an XML Schema](#) on page 46.

7. Create an XML request document (payload) based on the generated XML request schema (for example, *SendMessage*).

For more information, see [Sample XML Request Documents](#) on page 53.

8. Create iWay Business Services (web services) based on the generated XML schema documents.

For more information, see [Creating Business Services](#) on page 49.

9. Test the iWay Business Service (web service) that has been created.

Using the *SendMessage* XML request ([Send Message](#) on page 54) use the appropriate email IDs to send the message.

10. Verify the response by logging into your Microsoft Exchange Server.

11. Configure a channel using the iWay Service Manager (iSM) Administration Console, which can be deployed to retrieve incoming documents and produce output based on defined logic.

For more information, see [Configuring the Adapter in an iWay Environment](#) on page 55.

# Chapter 4

## Configuring the iWay Application Adapter for Microsoft Exchange

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This section describes how to configure the iWay Application Adapter for Microsoft Exchange.

### In this chapter:

- [Copying the Exchange Web Services API Library Files](#)
  - [Defining a Keystore](#)
  - [Creating a Keystore](#)
  - [Generating a Certificate](#)
  - [Importing a Certificate to a Keystore](#)
  - [Importing the SSL Certificate](#)
- 

### Copying the Exchange Web Services API Library Files

Before you use the iWay Application Adapter for Microsoft Exchange to integrate with Microsoft Exchange Server 2010 SP1, ensure that the Exchange Web Services (EWS) API library files are copied to the following directory:

```
<iWayHome>\lib
```

where:

```
<iWayHome>
```

Is the root location where iWay Service Manager (iSM) is currently installed.

For more information, see [Microsoft Exchange Server Versions and Exchange Web Services API Files](#) on page 14.

### Defining a Keystore

The keystore file is a key database file that contains both public keys and private keys. Public keys are stored as signer certificates while private keys are stored in the personal certificates. The keys are used for a variety of purposes, including authentication and data integrity.

The keystore will be used for encrypting or signing something with your private key, while the trust stores will be used mostly to authenticate remote servers.

### Creating a Keystore

Create a keystore using the following *keytool* command:

```
keytool -genkey -alias privetKeyAlias -keyalg RSA -keystore keystore.jks
```

```
keytool -genkey -alias iway -keyalg RSA -keystore e:/keystore/  
iwaykeystore.jks
```

The keytool will prompt you to enter the following values:

- Common Name (CN)
- Organizational Unit (OU)
- Organization (O)
- Locality (L)
- State (S)
- Country (C)

The Common Name (CN) value must match the domain name of your web application if you are planning to use this keystore for your servlet container.

You can verify keystore contents using the following command:

```
keytool -list -v -keystore keystore.jks
```

For example:

```
keytool -list -v -keystore e:/keystore/iwaykeystore.jks
```

### Generating a Certificate

Generate the Certificate Signing Request (CSR) using the following *keytool* command:

```
keytool -certreq -v -alias privetKeyAlias -file csr-for-myserver.cer -  
keystore keystore.jks
```

For example:

```
keytool -export -alias iway -file E:\keystore\iway.cer -keystore e:/  
keystore/iwaykeystore.jks
```

## Importing a Certificate to a Keystore

Import a certificate to a keystore using the following *keytool* command:

```
keytool -import -v -noprompt -trustcacerts -alias publicKeyName -file root-  
cert.cer -keystore keystore.jks
```

For example:

```
keytool -import -v -noprompt -trustcacerts -alias ibi -file E:\keystore  
\ibi.cer -keystore e:/keystore/iwaykeystore.jks
```

## Importing the SSL Certificate

Obtain the SSL certificate for the Microsoft Exchange Server you will be using and make it available for use by iWay Service Manager (iSM) as the default SSL certificate.

### ***Procedure:*** How to Import the SSL Certificate

To import the SSL certificate:

1. Enter the following URL in Microsoft Internet Explorer to begin loading the WSDL for Microsoft Exchange Server:

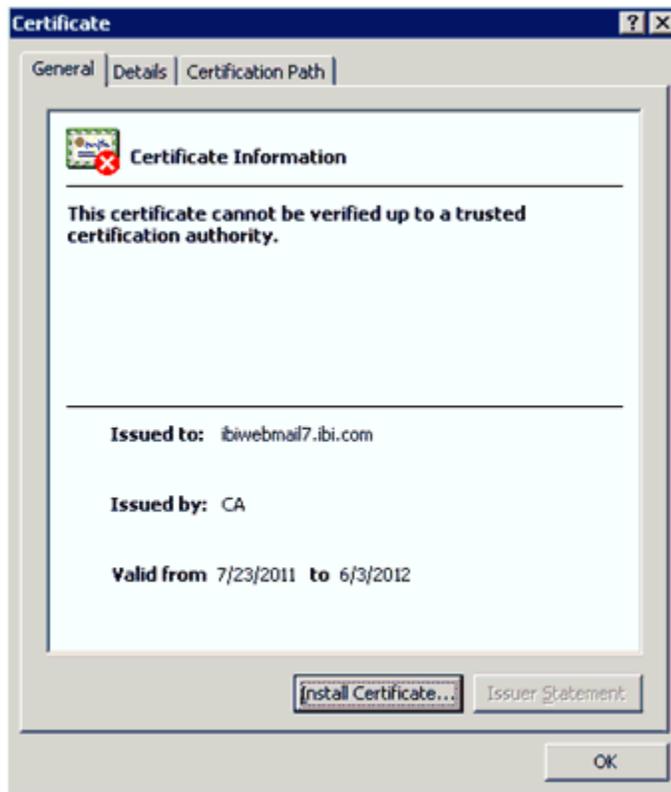
```
https://SERVER\_NAME/ews/Exchange.asmx
```

where:

*SERVER\_NAME*

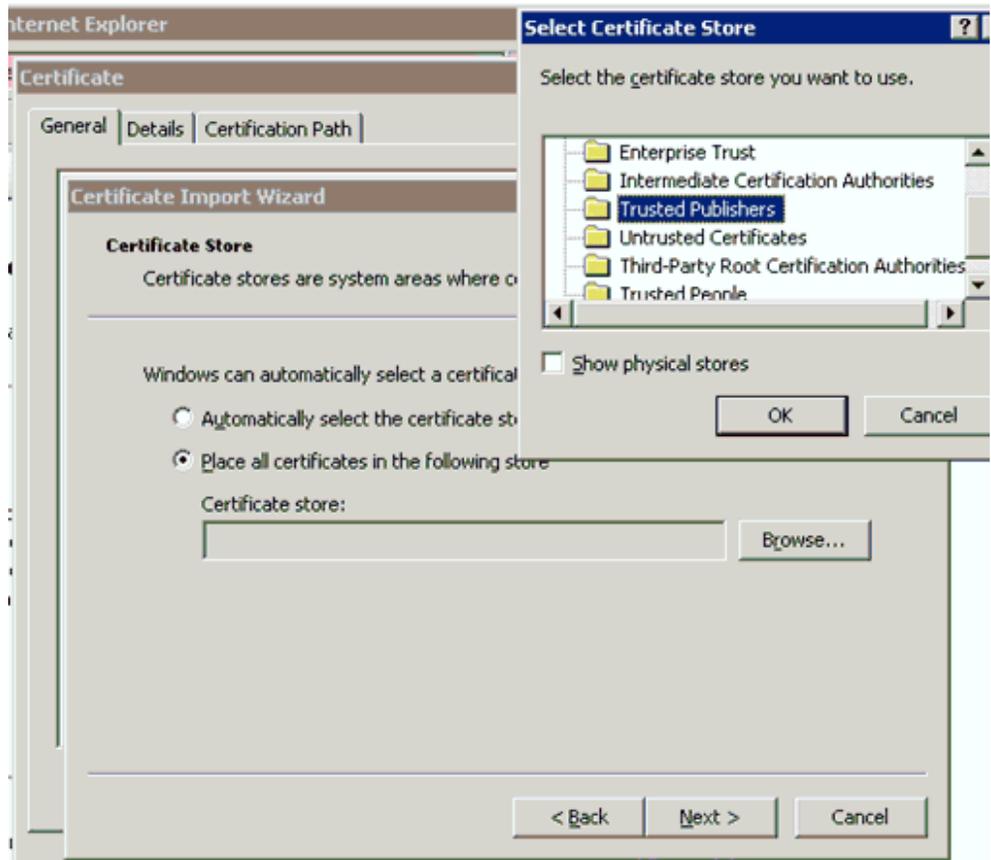
Is the name of the system hosting the Microsoft Exchange Server.

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



2. Click *Install Certificate*.

The Certificate Import Wizard opens, as shown in the following image.



3. Click *Place all certificates in the following store* and then click *Browse* to the right of the Certificate store field.  
The Select Certificate Store dialog opens.
4. Select a location for the SSL certificate and then click *OK*.



The iWay Application Adapter for Microsoft Exchange supports email exchanges and calendar functions between Internet users and others connected through TCP/IP or other networks. This section describes how to use iWay Explorer to create schemas and Business Services for allowing interaction between iWay Application Adapter for Microsoft Exchange and a Microsoft Exchange server.

**In this chapter:**

- [Starting iWay Explorer](#)
  - [Adding the Microsoft Exchange Adapter to iWay Explorer](#)
  - [Working With a Target](#)
  - [Viewing Application System Objects](#)
  - [Creating an XML Schema](#)
  - [Creating Business Services](#)
- 

### Starting iWay Explorer

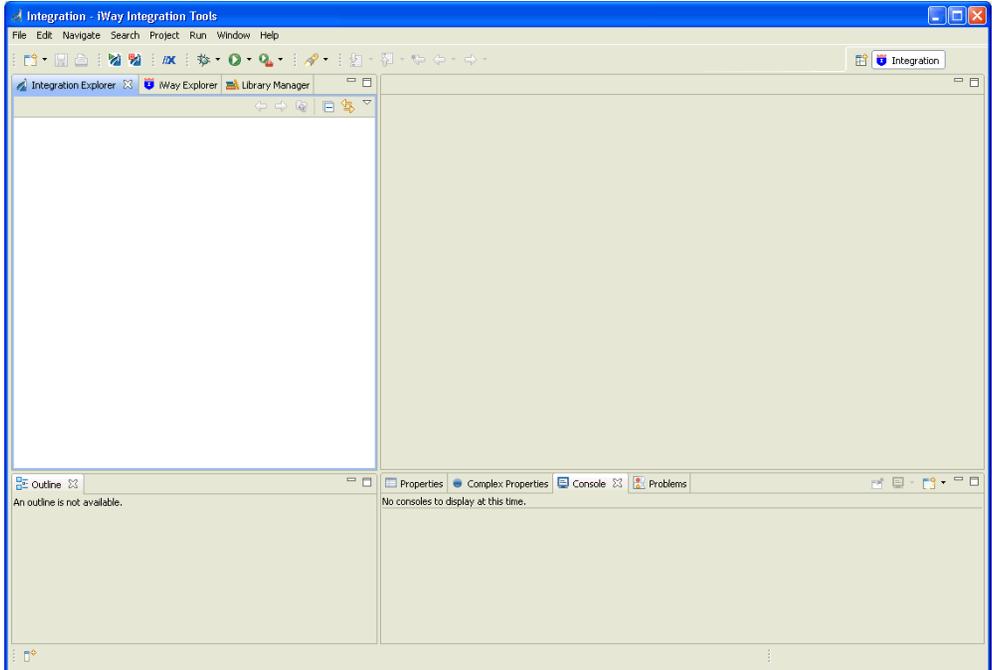
This section describes how to start iWay Explorer.

***Procedure:* How to Open iWay Integration Tools**

To open iWay Integration Tools:

1. Navigate to your local drive where you have iWay Integration Tools installed, and open the *eclipse* folder.
2. Double-click *it.exe*.

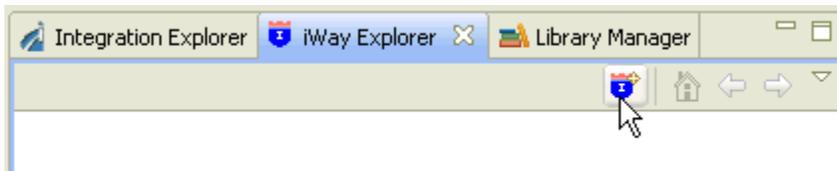
iWay Integration Tools suite opens.



**Procedure: How to Create an iWay Explorer Connection to an iSM Server**

This procedure assumes that you have opened iWay Integration Tools and are in the Workbench.

1. Click the *iWay Explorer* tab to make it active.
2. Click the *Launch iWay Resource Creator Wizard* button on the tool bar. In the following image, the iWay Explorer tab is active, and the cursor is pointing to the Launch iWay Resource Creator Wizard button.



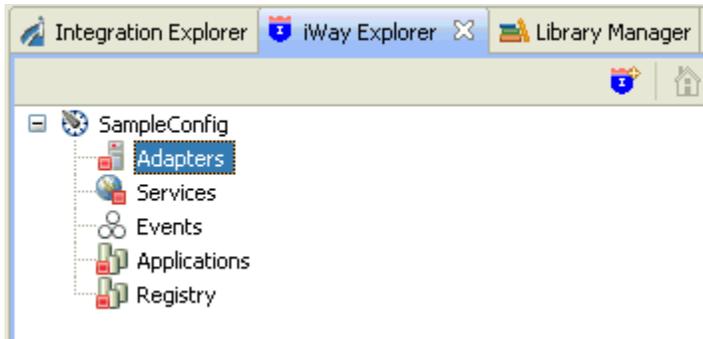
When you click the button, the Resource Selection Dialog / New iWay Connection dialog box opens.

3. Under the Type heading, click *iWay Configuration*, which is the type of resource that you are going to create.

4. Click *Next* to open the *Add iWay Configuration / Select Connection Types* dialog box.
5. In the *Configuration Alias* field, click a name from the drop-down list, or type a name for the configuration, for example, *SampleConfig*.  
The drop-down list contains the names of configurations that you have used before.  
**Tip:** The name that you supply is used only for display purposes in the tree. It is not a server connection property.
6. For *Connection Type*, click the radio button for the method that you are using to connect to iSM.
7. Optionally, select the *Connect to Host upon Wizard Completion* check box if you want iWay Explorer to automatically connect to this instance of iSM after you have created it. If you select this option, all the explorer environments under the new iSM connection are automatically connected to iSM when this procedure is finished.  
If you do not select this option, the explorer environments are not automatically connected to iSM. You can connect to an individual explorer environment when you want to access it.
8. Click *Next* to continue the procedure.
9. If you selected an HTTP Connection, the *Add iWay Configuration / Enter Connection Information* dialog box opens.
  - Verify the values in the three fields, or type the valid value or values.
    - The *Connection String* field contains the URL that connects to the iSM.
    - The *SOAP Port/Endpoint* field contains the SOAP port number.
    - The *Console Port/Endpoint* field contains the port number that the iSM Administration Console is listening on.
  - Optionally, under *Presets*, click *Local Connection* to insert values for a local default iSM connection in the fields, or click *Servlet* to insert values for a sample servlet connection.
  - Click *Finish*.

The new iSM connection is added to the tree on the iWay Explorer tab.

In the following image, an iSM connection named SampleConfig was added to iWay Explorer. The tree is expanded to show the five explorer environments that are available.



## Adding the Microsoft Exchange Adapter to iWay Explorer

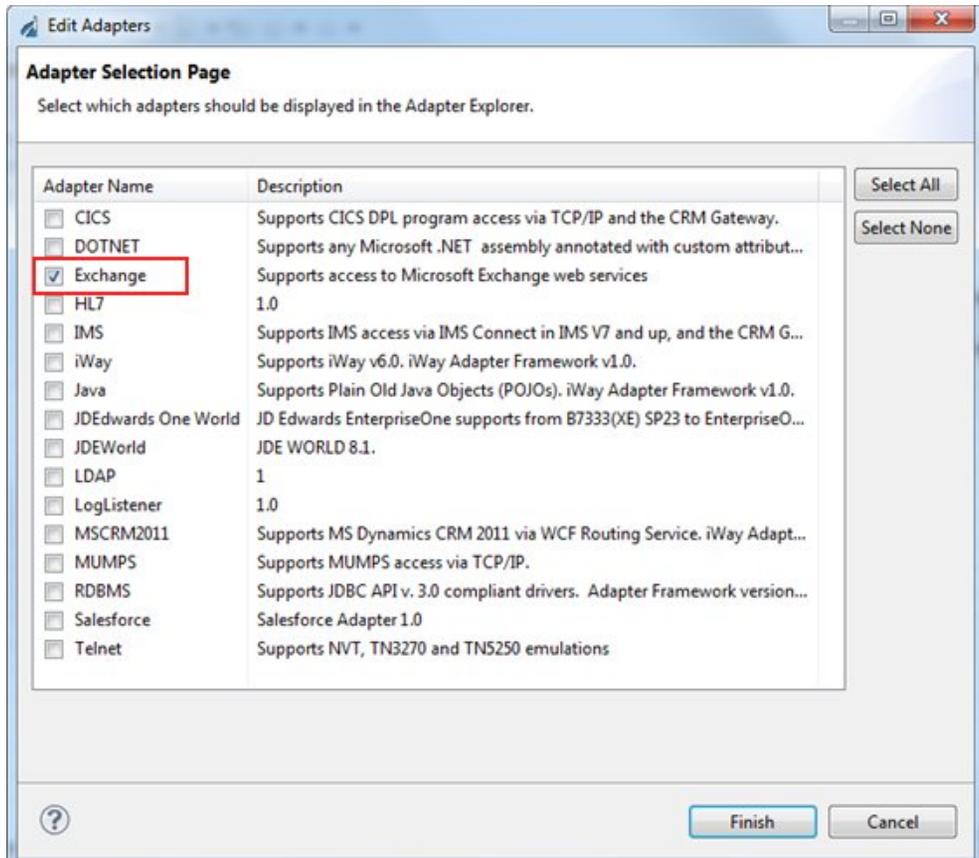
iWay Explorer supports access to many different application systems. When you connect to and expand the Adapters node, the iWay adapters for the supported application systems are displayed. They are the iWay adapters that you have installed and are licensed to use.

### **Procedure:** How to Add the Microsoft Exchange Adapter to iWay Explorer

In this procedure, you are going to add the iWay Application Adapter for Microsoft Exchange to the list of adapters displayed in the Adapters node.

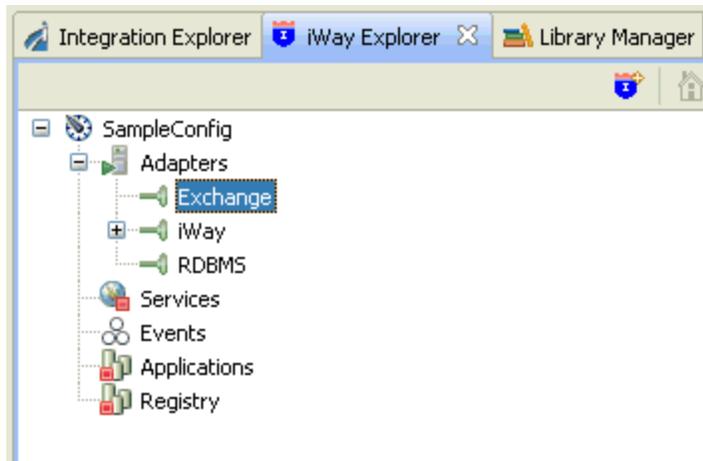
1. Right-click the *Adapters* node, and click *Edit* from the menu.  
The Edit Adapters dialog opens, prompting you to select the iWay adapter or adapters to add to iWay Explorer.

2. Select the check box for *Exchange*, as shown in the following image.



3. Click *Finish*.  
The tree is automatically refreshed and displays the new adapter.

In the following image, the Exchange adapter is displayed in the Adapters node of iWay Explorer.



## Working With a Target

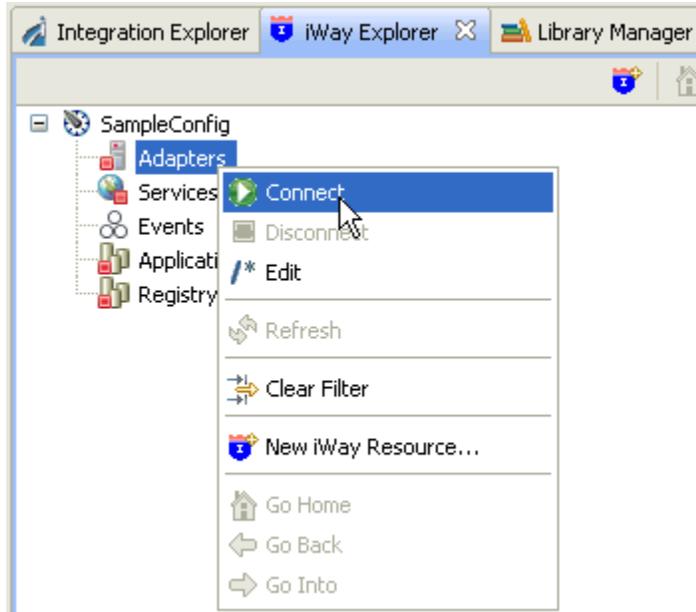
To browse the business objects of an application system, you must create a target for that system. The target is the means by which you connect to the system. It contains the logon properties used to access the system.

Using the target, you must establish a connection to an application system every time you want to browse the system in iWay Explorer.

**Procedure: How to Create a Target**

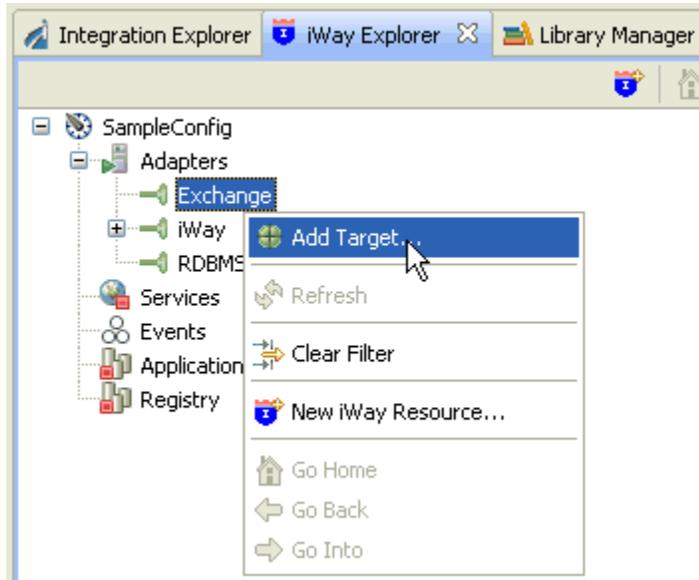
To create a target:

1. Right-click the *Adapters* node, and click *Connect* from the menu.



2. Once you are connected, expand the *Adapters* node.

3. Right-click *Exchange*, and click *Add Target* from the menu.



The Add Target dialog opens and displays the generic target properties.

The screenshot shows a Windows-style dialog box titled "Add Target". The main heading is "Generic Target Properties" with a key icon to the right. Below the heading is the instruction: "Please enter the generic properties associated with the new target." The dialog contains the following fields and controls:

- Name:** A text input field containing "MS\_Exchange\_Target".
- Description:** An empty text input field.
- Type:** A drop-down menu showing "Exchange 2007 Web Services".
- Connect to target upon wizard completion:** A checked checkbox.

At the bottom of the dialog, there is a help icon (question mark in a circle) on the left, and four buttons: "< Back", "Next >", "Finish", and "Cancel".

4. Supply the values for the fields on the dialog box as follows.
  - a. In the Name field, type a descriptive name for the target, for example, *MS\_Exchange\_Target*.
  - b. In the Description field, optionally type a brief description of the target.
  - c. From the Type drop-down list, select *Exchange 2007 Web Services* (default).
5. Select the *Connect to target upon wizard completion* check box if you want iWay Explorer to automatically connect to this target after you have created it. If you deselect this option, iWay Explorer will not automatically connect to the target. From the tree, you can connect to an individual target when you want to access the associated application system.
6. Click *Next*.

The Add Target dialog opens and displays the Microsoft Exchange target properties.

**Add Target**

**Exchange Web Services Target Properties**

Please enter the service parameters properties associated with the new target.

Service Endpoint

User name

Password

Domain

Host

Server Version

Keystore File

Keystore Password

Keystore Type

- Supply the connection information for the Microsoft Exchange server to which you are connecting.

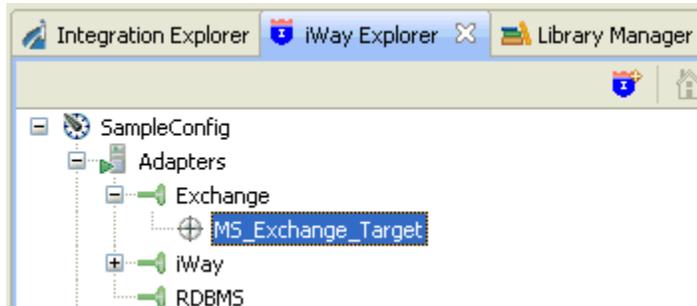
The following table lists and describes the Microsoft Exchange target parameters that are available.

Parameter	Description
Service Endpoint	The Microsoft Exchange server service endpoint. For example: <a href="https://ibiwebmail7.ibi.com/ews/Exchange.asmx">https://ibiwebmail7.ibi.com/ews/Exchange.asmx</a>

Parameter	Description
User name	The user name used to connect to the Microsoft Exchange server.
Password	The password that is associated with the user name.
Domain *	The Microsoft Exchange server domain.
Host *	The name of the machine where Microsoft Exchange server is being hosted.
Server Version *	<p>The web services API version. Select one of the following versions from the drop-down list:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> MS Exchange Server 2007</li> <li><input type="checkbox"/> MS Exchange Server 2007 SP1</li> <li><input type="checkbox"/> MS Exchange Server 2007 SP2</li> <li><input type="checkbox"/> MS Exchange Server 2010 SP1</li> <li><input type="checkbox"/> Undefined</li> </ul>
Keystore File	The path to the certificate keystore file.
Keystore Password	The certificate keystore password.
Keystore Type	<p>The certificate keystore type. Select one of the following versions from the drop-down list:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> JKS</li> <li><input type="checkbox"/> PKCS12</li> </ul>

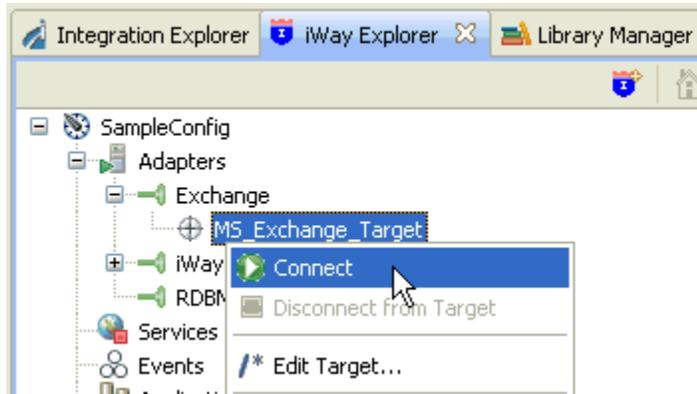
8. Click *Finish* when you are done.

The new target is added to the Adapters node of iWay Explorer.

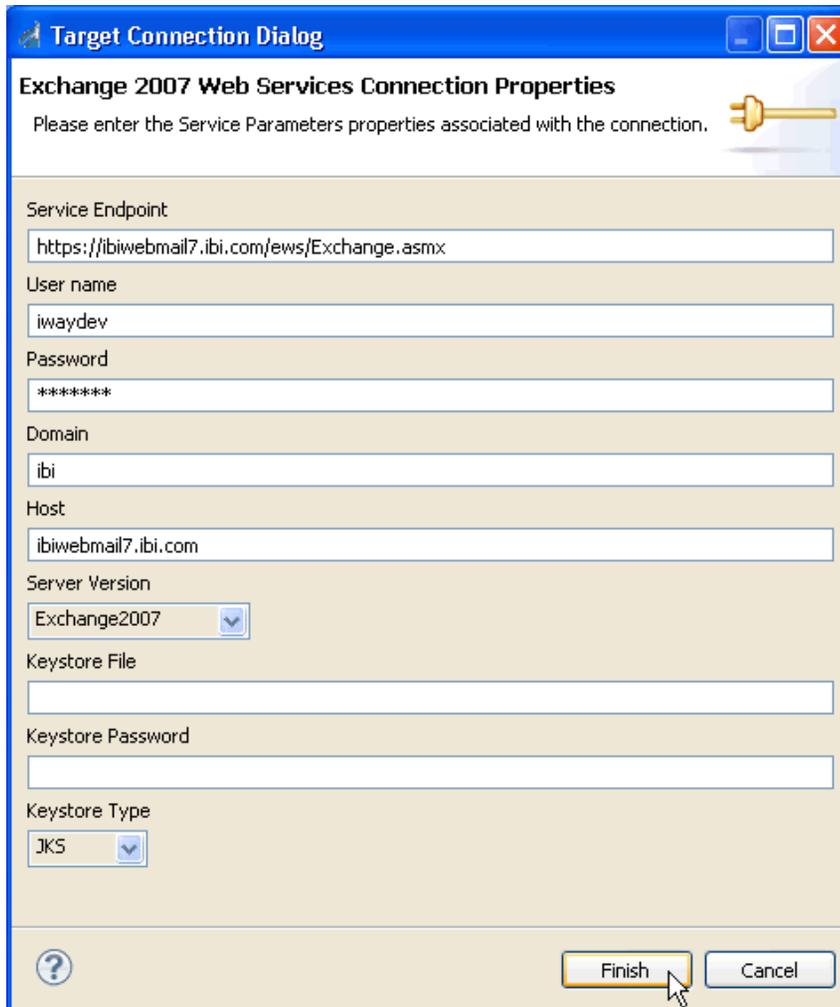


**Procedure: How to Connect to a Target**

1. Expand the *Exchange* node to locate the name of the target that you want to connect to, for example, *MS\_Exchange\_Target*.
2. Right-click the target, and click *Connect* from the menu.



The Target Connection Dialog opens.



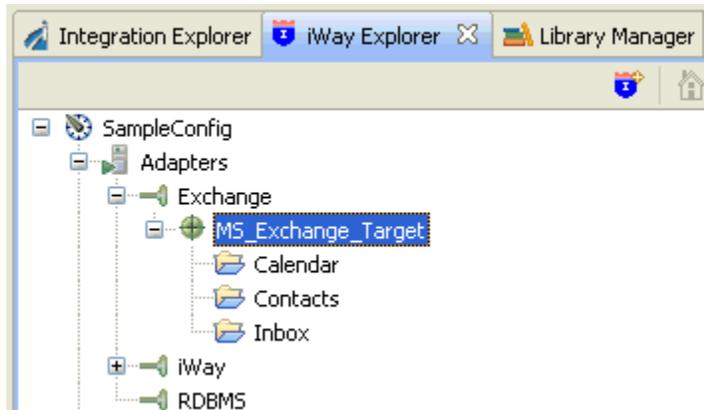
The screenshot shows a dialog box titled "Target Connection Dialog" with a sub-header "Exchange 2007 Web Services Connection Properties". The dialog contains several input fields and dropdown menus for configuring a connection. The fields are filled with the following values:

- Service Endpoint: `https://ibiwebmail7.ibi.com/ews/Exchange.asmx`
- User name: `iwaydev`
- Password: `*****`
- Domain: `ibi`
- Host: `ibiwebmail7.ibi.com`
- Server Version: `Exchange2007` (dropdown menu)
- Keystore File: (empty text box)
- Keystore Password: (empty text box)
- Keystore Type: `JKS` (dropdown menu)

At the bottom right, there are two buttons: "Finish" and "Cancel". A mouse cursor is pointing at the "Finish" button. A help icon (question mark) is located at the bottom left.

3. Click *Finish*.

The MS\_Exchange\_Target node icon changes to green, and three folders are displayed, reflecting a successful connection. You can click a folder and then expand it to display its contents.



### **Procedure: How to Disconnect From a Target**

Although you can maintain multiple open connections to different application systems, it is a good practice to close a connection when you are not using it.

1. In the tree, expand the *Exchange* node to locate the name of the target from which you want to disconnect, for example, *MS\_Exchange\_Target*.
2. Right-click the target, and click *Disconnect from Target* from the menu. The connection to the application system is closed.

### **Procedure: How to Edit a Target**

After you create a target, you can edit the information that you provided during the creation procedure.

1. In the tree, expand the *Exchange* node to locate the name of the target that you want to edit, for example, *MS\_Exchange\_Target*.
2. Right-click the target, and click *Edit Target* from the menu.

The Add Target dialog opens and displays the Microsoft Exchange target properties.

The screenshot shows a dialog box titled "Add Target" with a sub-header "Exchange Web Services Target Properties". Below the sub-header is a key icon and the instruction "Please enter the service parameters properties associated with the new target." The dialog contains several input fields and a checkbox:

- Service Endpoint:** A text box containing "https://ibiwebmail7.ibi.com/ews/Exchange.asmx".
- User name:** A text box containing "iwaydev".
- Password:** A text box containing "\*\*\*\*\*".
- Domain:** A text box containing "ibi".
- Host:** A text box containing "ibiwebmail7.ibi.com".
- Server Version:** A dropdown menu set to "Exchange2007".
- Keystore File:** An empty text box.
- Keystore Password:** An empty text box.
- Keystore Type:** A dropdown menu set to "JKS".
- Reconnect to target upon wizard completion:** A checked checkbox.

At the bottom of the dialog, there is a help icon (question mark) on the left and four buttons: "< Back", "Next >", "Finish", and "Cancel".

3. Modify the connection properties as required.
4. Optionally select the *Reconnect to target upon wizard completion* check box if you want iWay Explorer to automatically connect to this target after you have edited it. iWay Explorer will use the modified properties to connect.
5. Click *Finish* when you have made your edits.

### ***Procedure:* How to Delete a Target**

You can delete a target that is no longer needed. You can delete it whether or not it is closed. If open, the target automatically closes before it is deleted.

1. In the tree, expand the *Exchange* node to locate the name of the target that you want to delete, for example, *MS\_Exchange\_Target*.
2. Right-click the target, and click *Delete Target* from the menu. Application Explorer displays a prompt, asking you to confirm the deletion of the selected target.
3. Click *OK* to proceed with the deletion.

### **Viewing Application System Objects**

After you create and connect to the target for an application system, iWay Explorer displays the application objects for that system. You can explore and browse the application object metadata.

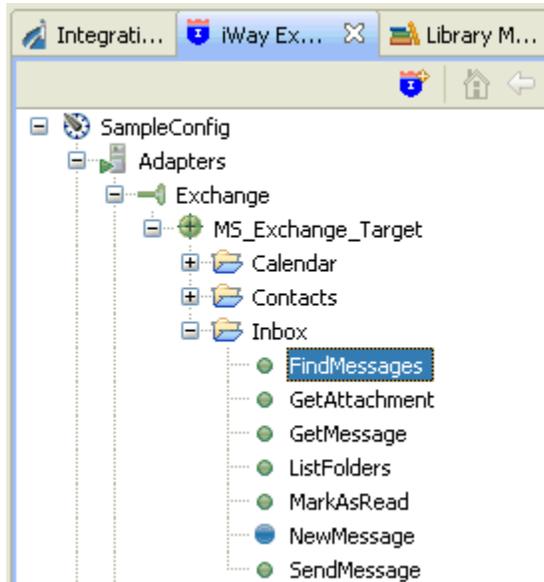
For example, for Microsoft Exchange, you can view Calendar, Contacts, and Inbox metadata.

### ***Procedure:* How to View Application System Objects**

To view application system objects:

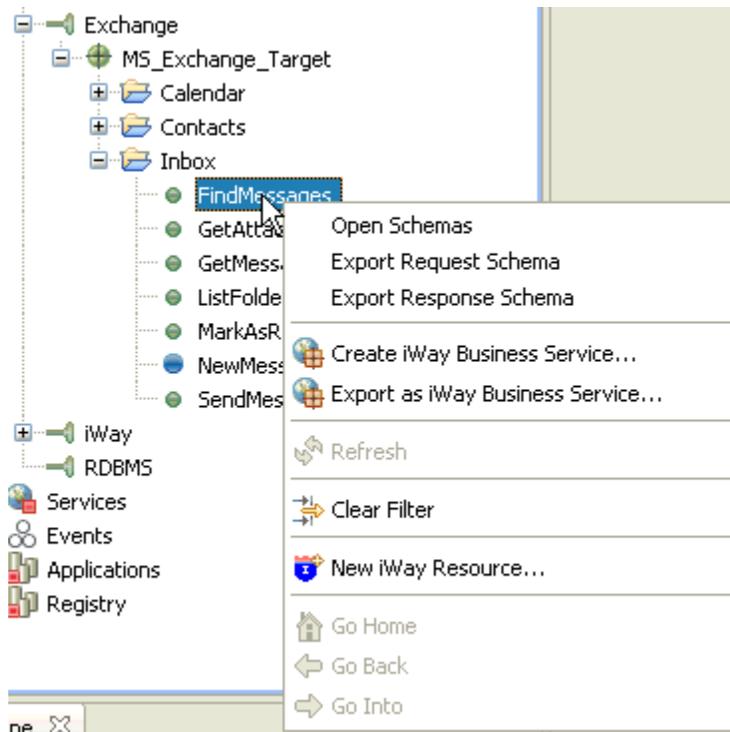
1. Expand the iWay Explorer tree to locate the name of the target for the application system whose objects you want to view. For example, for Exchange, locate *MS\_Exchange\_Target*.

Three folders are displayed beneath the target name (Calendar, Contacts, and Inbox).



2. Click a desired folder, for example, *Inbox*, and expand it.  
A list of methods or services related to the *Inbox* functionality are displayed.
3. Right-click the *FindMessages* method to display the menu options that are available.

The following image shows the options that are available.



## Creating an XML Schema

You can create XML request and response schemas for the Microsoft Exchange metadata that you want to use with your adapter. Optionally, you can store the schemas in a folder (directory) on your file system, using the iWay Explorer export feature.

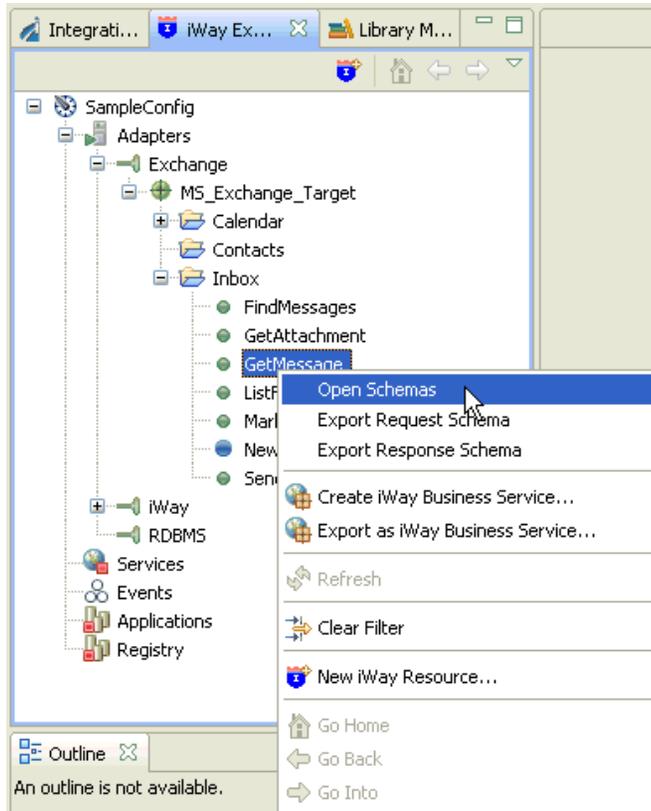
### ***Procedure:*** How to Create an XML Schema

To create an XML schema:

1. Expand the connected target node and locate the method for which you want to create XML request and response schemas.

For example, for Microsoft Exchange, expand *Inbox* and select *GetMessage*.

2. Right-click *GetMessage*, and click *Open Schemas* from the menu.



Application Explorer creates request and response schemas for the selected method. By default, the Response tab in the right pane is selected (active), and Application Explorer displays the response schema in that pane.



3. In the right pane, click the *Request* tab to display the request schema.

### **Procedure:** How to Export an XML Schema

To export an XML schema:

1. Right-click the method whose schemas you want to export, for example, *GetMessage*.
2. From the menu, click either *Export Request Schema* or *Export Response Schema*.
3. In the Save As dialog box that opens, select the folder on your file system in which to store the exported schema. By default, Application Explorer stores the file in your workspace folder, followed by the path that you specify on the Save As dialog box.
4. Type a name for the exported schema. By default, the file name extension is *.xsd*.
5. Click *OK* when you are done.

iWay Explorer stores the exported schema in the folder that you selected, using the name that you supplied.

## Creating Business Services

Business Service Explorer provides web developers with a simple, consistent mechanism for extending the capabilities of an iWay adapter. The iWay Business Services Provider (iBSP) exposes iWay functionality as a number of web services. It serves as a gateway to heterogeneous backend applications and databases.

A web service is a self-contained, modularized function that you can publish and access across a network using open standards. It is the implementation of an interface by a component, and is an executable entity. For the caller or sender, a web service can be considered a *black box* that may require input while typically delivering a result.

Web services integrate within an enterprise and across enterprises on any communication technology stack, whether asynchronous or synchronous, in any format.

## Creating an iWay Business Service

After you browse the business object repository for an application system, and generate XML schemas for an object that you want to use with an iWay adapter, you can create an iWay Business Service for that object.

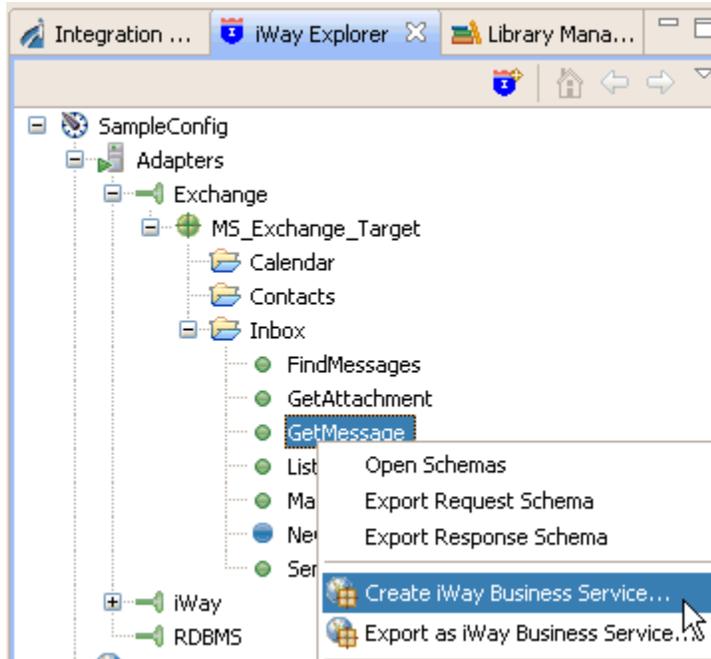
The Web Service Description Language (WSDL) file is an XML file that describes the web service documents and provides access to the service. It specifies the location of the service and the operations (or methods) that the service exposes.

You can delete an iWay Business Service that you no longer need.

### ***Procedure:*** How to Create an iWay Business Service

To create an iWay Business Service:

1. In the Application Explorer tree, expand the target node to which you are connected and locate the method for which you want to create an iWay Business Service. For example:



2. Right-click the method, for example, *GetMessage*, and click *Create iWay Business Service* from the menu.

The Add Business Service window in the Select or Create a Business Service dialog box opens, prompting you for information about the new service.

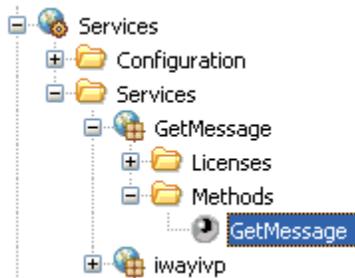
3. Supply the values for the fields on the dialog box as follows.
  - a. From the Existing Service Names drop-down list, click *<new service>* if you want to create a new service name or select an existing service name.
  - b. If you are creating a new service name, type the name in the Service Name field, for example, *GetMessage*.
  - c. In the Service Description field, optionally type a brief description of the new business service.
4. Click *Next*.

The Add Business Service window in the Select Business License dialog box opens.

5. Supply the values for the fields on the dialog box as follows.
  - a. From the License drop-down list, select the license definition that you want to use with this business service.
  - b. In the Method Name field, accept the default value or type a descriptive name for the method that the service exposes.

- c. In the Method Description field, optionally type a brief description of the method.
6. Click *Finish*.

Business Service Explorer adds the new iWay Business Service beneath the Business Service Explorer node in the tree.



The right pane displays the available licenses.

7. To test the new iWay Business Service, click the *test* link in the right pane. The iWay Business Services that are licensed under test are displayed.
8. Click the *GetMessage* link.  
The operations (methods) that are supported are displayed.
9. Click the *GetMessage* link.

The test pane for the GetMessage method opens.



Click [here](#) for a complete list of operations.

## GetMessage

### Test

To test the operation using the [SOAP protocol](#), click the 'Invoke' button.

The image shows a test pane for the GetMessage method. It features a text area labeled "input xml:" with a vertical scrollbar on the right. Below the text area is a small input field, followed by four buttons: "Browse...", "Upload", "More", and "Invoke".

10. In the input xml field, enter an XML request document that queries the iWay Business Service named GetMessage.

To view sample XML request documents that can be used for testing purposes, see [Sample XML Request Documents](#) on page 53.

11. Click *Invoke*.

The result of the test is displayed in the right pane.

### **Procedure:** How to Export a WSDL File

1. Connect to the Business Service Explorer and expand the tree to locate the name of the iWay Business Service whose WSDL file you want to export.
2. Right-click the name of the iWay Business Service, for example, *GetMessage*, and click *Export WSDL* from the menu.
3. In the Save As dialog box that opens, select the folder on your file system in which to store the exported WSDL file. By default, Business Service Explorer stores the file in your workspace folder followed by the path that you specify on the Save As dialog box.
4. Type a name for the exported WSDL file. By default, the file name extension is *.wsdl*.
5. Click *OK* when you are done.

Business Service Explorer stores the exported WSDL file in the folder that you selected, using the name that you supplied.

**Procedure: How to Delete an iWay Business Service**

1. Connect to the Business Service Explorer, and expand the tree to locate the name of the iWay Business Service that you want to delete.
2. Right-click the name of the iWay Business Service, for example, *GetMessage*, and click *Delete* from the menu.
3. Business Service Explorer displays a prompt, asking you to confirm the deletion of the selected iWay Business Service.
4. Click *OK* to proceed with the deletion.

## Sample XML Request Documents

This section provides sample XML request documents that can be used to test web services that are generated using the iWay Application Adapter for Microsoft Exchange.

### Find Appointment

The following sample XML request document finds an appointment in Microsoft Exchange.

```
<?xml version="1.0" encoding="UTF-8"?>
<!--Sample XML file generated by XMLSpy v2011 (http://www.altova.com)-->
<tns:FindAppointments location="Exchange2007/Calendar/FindAppointments"
xsi:schemaLocation="http://schemas.ibi.com/iwexchange2007/services
FindAppointments_request.xsd" xmlns:tns="http://schemas.ibi.com/
iwexchange2007/services" xmlns:xsi="http://www.w3.org/2001/XMLSchema-
instance">
  <tns:TimeRange>
    <tns:From>2011-10-06T09:30:47Z</tns:From>
    <tns:To>2011-10-07T09:30:47Z</tns:To>
  </tns:TimeRange>
</tns:FindAppointments>
```

### Find Contact

The following sample XML request document finds a contact in Microsoft Exchange.

```
<?xml version="1.0" encoding="UTF-8"?>
<!--Sample XML file generated by XMLSpy v2011 (http://www.altova.com)-->
<tns:FindContacts location="Exchange2007/Contacts/FindContacts"
xsi:schemaLocation="http://schemas.ibi.com/iwexchange2007/services
file:///E:/QA%20Testing%20Results/612/exchange/contact/
FindContacts_request.xsd" xmlns:tns="http://schemas.ibi.com/iwexchange2007/
services" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
  <tns:Contains>
    <tns:Name>Automation</tns:Name>
    <tns:Company></tns:Company>
  </tns:Contains>
</tns:FindContacts>
```

### Send Message

The following sample XML request document sends a message from one contact to another contact.

```
<?xml version="1.0" encoding="UTF-8"?>
<!--Sample XML file generated by XMLSpy v2014 rel. 2 (x64) (http://
www.altova.com)-->
<SendMessage xmlns="http://schemas.ibi.com/iwexchange/services"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" location="Exchange/
Inbox/SendMessage" xsi:schemaLocation="http://schemas.ibi.com/iwexchange/
services file:///C:/ex/SendMessage_request.xsd">
  <Subject>test qa automation</Subject>
  <Body>No attachmet</Body>
  <FromEmail>iwaytester@ibi.com</FromEmail>
  <To>
    <Email>iwaytester@ibi.com</Email>
  </To>
  <Attachments>
    <Attachment>
      <Name></Name>
      <Contents></Contents>
    </Attachment>
  </Attachments>
</SendMessage>
```

## Configuring the Adapter in an iWay Environment

---

After you successfully configure the iWay Application Adapter for Microsoft Exchange to represent a particular adapter target, the adapter can be assigned to an iWay Service Manager listener and channel.

**In this chapter:**

- [Defining the Microsoft Exchange Adapter in iWay Service Manager](#)
  - [Configuring the Microsoft Exchange Listener](#)
  - [Adding the Microsoft Exchange Listener to an Inlet](#)
  - [Configuring a Channel](#)
- 

### Defining the Microsoft Exchange Adapter in iWay Service Manager

Before configuring the iWay Application Adapter for Microsoft Exchange in iWay Service Manager (iSM), you must first create a target, which represents a connection to a Microsoft Exchange server, using iWay Explorer. For more information on configuring targets and connections using iWay Explorer, see [How to Create a Target](#) on page 35.

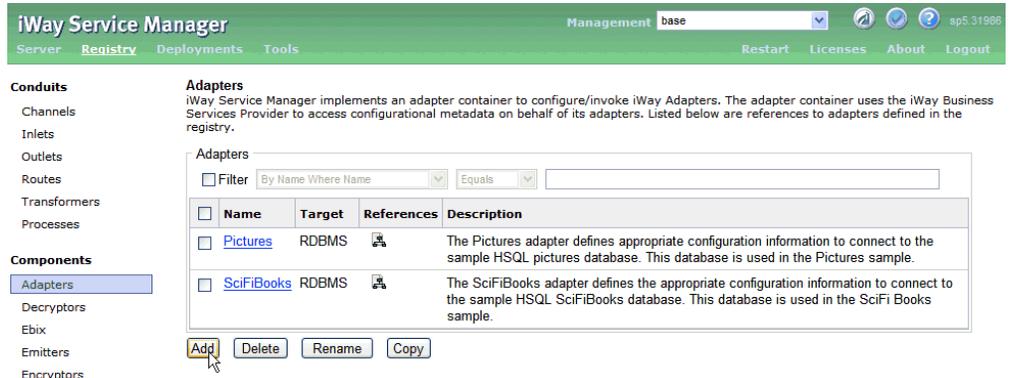
You can define the adapter in the iSM Administration Console. The configuration process creates run-time connection and persistent data files within iSM. The configuration process interrogates the iSM repository entries that were built when the target and connection were created using iWay Explorer. The define adapter process creates the run-time repository based on the design-time repository.

**Procedure: How to Define the Adapter**

To define the adapter:

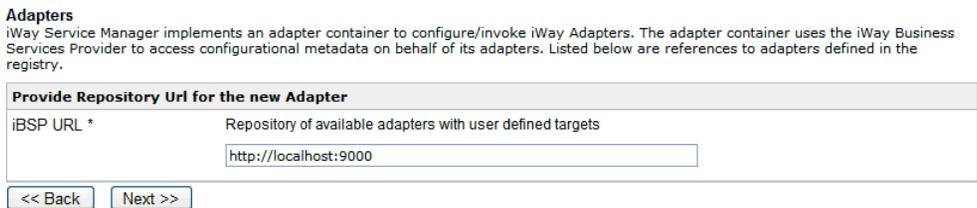
1. In the iSM Administration Console, select *Registry*, then *Adapters*.

The Adapters pane opens, as shown in the following image.



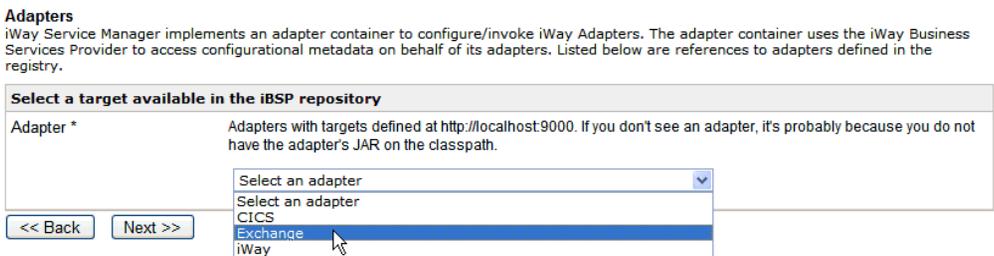
2. Click *Add*.

The iBSP URL pane opens, as shown in the following image.



3. Enter your iBSP URL, which is the location of the iSM repository, for example, `http://localhost:9000`. This field is required.
4. Click *Next*.

An adapter selection pane opens, as shown in the following image.



5. From the Adapter drop-down list, select *Exchange*, then click *Next*.

The Target drop-down list is displayed, as shown in the following image.

#### Adapters

iWay Service Manager implements an adapter container to configure/invoke iWay Adapters. The adapter container uses the iWay Business Services Provider to access configurational metadata on behalf of its adapters. Listed below are references to adapters defined in the registry.

Select a target available in the iBSP repository	
Adapter *	Adapters with targets defined at http://localhost:9000. If you don't see an adapter, it's probably because you do not have the adapter's JAR on the classpath. Exchange
Target *	User defined targets of adapter type Exchange (Supports access to Microsoft Exchange web services) Select a target MS_Exchange_Target
<input data-bbox="305 539 393 560" type="button" value=" &lt;&lt; Back "/> <input data-bbox="417 539 491 560" type="button" value=" Next &gt;&gt; "/>	

6. From the Target drop-down list, select the target you configured for the iWay Application Adapter for Microsoft Exchange in iWay Explorer, then click Next.

The connection information associated with the target selected is displayed, as shown in the following image.

#### Adapters

iWay Service Manager implements an adapter container to configure/invoke iWay Adapters. The adapter container uses the iWay Business Services Provider to access configurational metadata on behalf of its adapters. Listed below are references to adapters defined in the registry.

Set properties of the new Adapter	
Adapter	Exchange
Target	MS_Exchange_Target
Create Error Document	If on, an error document will be returned when an error occurs <input type="checkbox"/> On
Persist Connection	If on, adapter connection will be reused between executes <input type="checkbox"/> On
Service Parameters	
Service Endpoint *	Web services endpoint https://ibiwebmail7.ibi.com/ews/Exchange.asmx
User name *	Exchange user name iwaydev
Password *	Exchange Password .....
Domain *	Exchange server domain ibi
Host *	Exchange server host name ibiwebmail7.ibi.com

- a. The Create Error Document parameter determines whether an error document is returned if an error occurs. You can enable or disable this parameter according to your requirements.

- b. The Persist Connection parameter determines whether the adapter connection will be reused between executes. You can enable or disable this parameter according to your requirements.
  - c. Review the connection information you specified in iWay Explorer. You can change or update any of the settings according to your requirements.
7. Click *Next*.

The name and description pane for the adapter opens, as shown in the following image.

**Adapters**

iWay Service Manager implements an adapter container to configure/invoke iWay Adapters. The adapter container uses the iWay Business Services Provider to access configurational metadata on behalf of its adapters. Listed below are references to adapters defined in the registry.

**Provide the name for the new adapter**

Name \*                      Name of the new adapter

Description                      Description for the new adapter

8. Provide a name and optionally, a description for the adapter, and click *Finish*.

You are returned to the Adapters pane where the defined adapter is added to the list of available adapters, as shown in the following image.

**Adapters**

iWay Service Manager implements an adapter container to configure/invoke iWay Adapters. The adapter container uses the iWay Business Services Provider to access configurational metadata on behalf of its adapters. Listed below are references to adapters defined in the registry.

**Adapters**

Filter    By Name Where Name    Equals   

<input type="checkbox"/>	Name	Target	References	Description
<input type="checkbox"/>	<a href="#">MS_Exchange_Adapter</a>	Exchange		This adapter connects to a Microsoft Exchange server.
<input type="checkbox"/>	<a href="#">Pictures</a>	RDBMS		The Pictures adapter defines appropriate configuration information to connect to the sample HSQL pictures database. This database is used in the Pictures sample.
<input type="checkbox"/>	<a href="#">SciFiBooks</a>	RDBMS		The SciFiBooks adapter defines the appropriate configuration information to connect to the sample HSQL SciFiBooks database. This database is used in the SciFi Books sample.

**Procedure: How to Modify or Update Adapter Connection Properties**

The following image shows the Adapters pane, which displays the name of the adapter and the description.

**Adapters**

iWay Service Manager implements an adapter container to configure/invoke iWay Adapters. The adapter container uses the iWay Business Services Provider to access configurational metadata on behalf of its adapters. Listed below are references to adapters defined in the registry.

<input type="checkbox"/>	Name	Target	References	Description
<input type="checkbox"/>	<a href="#">MS_Exchange_Adapter</a>	Exchange		This adapter connects to a Microsoft Exchange server.
<input type="checkbox"/>	<a href="#">Pictures</a>	RDBMS		The Pictures adapter defines appropriate configuration information to connect to the sample HSQL pictures database. This database is used in the Pictures sample.
<input type="checkbox"/>	<a href="#">SciFiBooks</a>	RDBMS		The SciFiBooks adapter defines the appropriate configuration information to connect to the sample HSQL SciFiBooks database. This database is used in the SciFi Books sample.

Filter By Name Where Name  Equals

To modify or update an adapter connection:

1. From the Adapters list, click the adapter reference you defined (for example, MS\_Exchange\_Adapter).

The target connection information pane opens, as shown in the following image.

Server Version *	Web services API version
	<input type="text" value="Exchange2007"/> <input type="button" value="Select value"/>
Keystore File	Certificate keystore file
	<input type="text"/>
Keystore Password	Certificate keystore password
	<input type="text"/>
Keystore Type	Certificate keystore type
	<input type="text" value="JKS"/> <input type="button" value="Select value"/>
<input type="button" value=" &lt;&lt; Back"/> <input type="button" value=" Update"/> <input type="button" value=" Update Connection Properties"/> <input type="button" value=" Update Adapter Data"/>	

You cannot change the name of the adapter or the target, but you can edit the connection information.

- a. If you modify any of the target connection information in this pane, click *Update Connection Properties*.
  - b. If you make changes or additions to the adapter target in iWay Explorer, click *Update Adapter Data*.
2. Click *Finish*.

## Configuring the Microsoft Exchange Listener

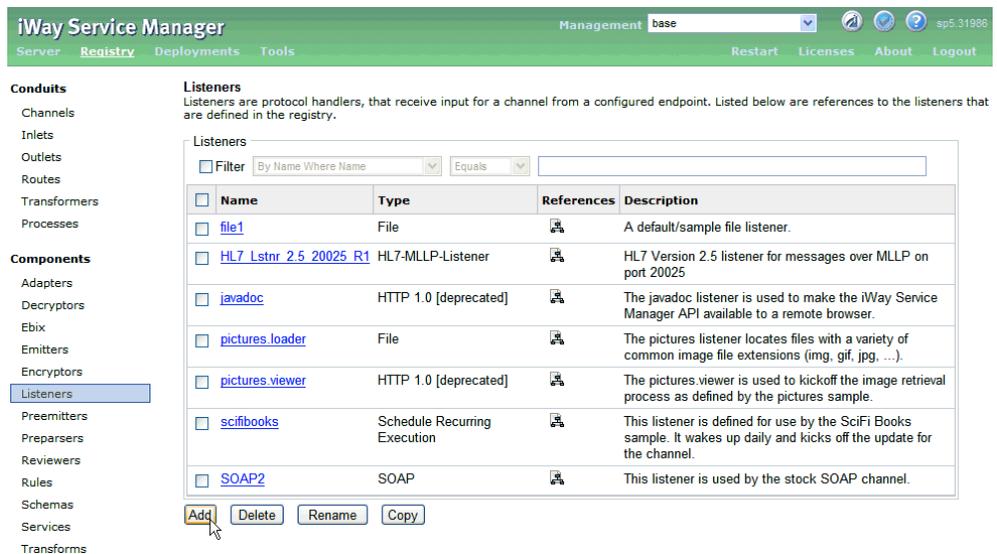
After you have defined the iWay Application Adapter for Microsoft Exchange in iWay Service Manager, you can configure the Microsoft Exchange listener, which will be added to a channel.

### **Procedure:** How to Configure the Microsoft Exchange Listener

To configure the Microsoft Exchange listener:

1. In the iSM Administration Console, select *Registry*, then *Listeners*.

The Listeners pane opens, as shown in the following image.



The screenshot shows the iWay Service Manager interface. The top navigation bar includes 'Server', 'Registry', 'Deployments', and 'Tools'. The 'Registry' section is expanded, and 'Listeners' is selected in the left-hand navigation pane. The main content area displays the 'Listeners' configuration pane. It includes a filter section with a dropdown menu set to 'By Name Where Name' and a search box. Below this is a table listing various listeners. At the bottom of the table are buttons for 'Add', 'Delete', 'Rename', and 'Copy'. A mouse cursor is pointing at the 'Add' button.

<input type="checkbox"/>	Name	Type	References	Description
<input type="checkbox"/>	<a href="#">file1</a>	File		A default/sample file listener.
<input type="checkbox"/>	<a href="#">HL7 Lstnr 2.5 20025 R1</a>	HL7-MLLP-Listener		HL7 Version 2.5 listener for messages over MLLP on port 20025
<input type="checkbox"/>	<a href="#">javadoc</a>	HTTP 1.0 [deprecated]		The javadoc listener is used to make the iWay Service Manager API available to a remote browser.
<input type="checkbox"/>	<a href="#">pictures_loader</a>	File		The pictures listener locates files with a variety of common image file extensions (img, gif, jpg, ...).
<input type="checkbox"/>	<a href="#">pictures_viewer</a>	HTTP 1.0 [deprecated]		The pictures.viewer is used to kickoff the image retrieval process as defined by the pictures sample.
<input type="checkbox"/>	<a href="#">scifibooks</a>	Schedule Recurring Execution		This listener is defined for use by the SciFi Books sample. It wakes up daily and kicks off the update for the channel.
<input type="checkbox"/>	<a href="#">SOAP2</a>	SOAP		This listener is used by the stock SOAP channel.

2. Click *Add*.

The Listeners pane opens, as shown in the following image.

**Listeners**  
Listeners are protocol handlers, that receive input for a channel from a configured endpoint. Listed below are references to the listeners that are defined in the registry.

**Select listener type**

Type *	Type of the new listener
<input style="margin-right: 10px;" type="button" value=" &lt;&lt; Back "/> <input style="margin-left: 10px;" type="button" value=" Next &gt;&gt; "/>	<div style="border: 1px solid gray; padding: 2px;"> <div style="background-color: #e0e0e0; padding: 2px;">Select a type</div> <div style="background-color: #e0e0e0; padding: 2px;">Select a type</div> <div style="padding: 2px;">AQ</div> <div style="padding: 2px;">AS1</div> <div style="padding: 2px;">AS2</div> <div style="padding: 2px;">Backup Heartbeat Server</div> <div style="padding: 2px;">CS3</div> <div style="padding: 2px;">Email</div> <div style="background-color: #0070c0; color: white; padding: 2px;">Exchange</div> <div style="padding: 2px;">File</div> <div style="padding: 2px;">FTP[S] Client</div> </div>

3. Select *Exchange* from the Type drop-down list.

The configuration parameters pane for the Microsoft Exchange listener opens, as shown in the following image.

**Listeners**  
Listeners are protocol handlers, that receive input for a channel from a configured endpoint. Listed below are references to the listeners that are defined in the registry.

**Configuration parameters for new listener of type Exchange**

Accepts non-XML (flat) only	If true, listener expects flat (non-XML). Automatic parsing is not performed.
	<div style="border: 1px solid gray; padding: 2px;">false</div> <div style="border: 1px solid gray; padding: 2px;">Pick one</div>
Service Endpoint *	Web services endpoint
	<input style="width: 90%;" type="text"/>
User name *	Exchange user name
	<input style="width: 90%;" type="text"/>
Password *	Exchange Password
	<input style="width: 90%;" type="text"/>
Domain *	Exchange server domain
	<input style="width: 90%;" type="text"/>
Host *	Exchange server host name
	<input style="width: 90%;" type="text"/>
Server Version *	Web services API version
	<div style="border: 1px solid gray; padding: 2px;">Exchange2007</div> <div style="border: 1px solid gray; padding: 2px;">Pick one</div>

4. Specify values for the Microsoft Exchange listener parameters according to your system configuration and requirements.

The following table lists and describes the Microsoft Exchange listener parameters that are available.

**Note:** Parameter names that are marked with an asterisk character (\*) are required.

Parameter	Description
Accepts non-XML (flat) only	If set to <i>true</i> , this listener expects flat (non-XML) documents. Automatic parsing is not performed. By default, this parameter is set to <i>false</i> .
Service Endpoint *	The web services endpoint.
User name *	A valid Microsoft Exchange user name.
Password *	A valid Microsoft Exchange password.
Domain *	The Microsoft Exchange server domain.
Host *	The Microsoft Exchange server host name.
Server Version *	<p>The web services API version. Select one of the following versions from the drop-down list:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Exchange2007</li> <li><input type="checkbox"/> Exchange2007_SP1</li> <li><input type="checkbox"/> Undefined</li> </ul> <p>The default version selected is Exchange2007.</p>
Keystore File	The path to the certificate keystore file.
Keystore Password	The certificate keystore password.
Keystore Type	<p>The certificate keystore type. Select one of the following versions from the drop-down list:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> JKS</li> <li><input type="checkbox"/> PKCS12</li> </ul> <p>The default certificate keystore type selected is JKS.</p>
Poll Interval *	The adapter poll interval in seconds. The default value is 0 (zero).
Subject	The mail subject to poll.

Parameter	Description
Max to Return	The maximum number of messages to return. The default value is 100.
<b>Advanced</b>	
Execution Time Limit	The time limit for document execution (in seconds) before cancellation is attempted. In addition, refer to the Kill Interval system property. This applies to agent stacks and sets a lower limit for process flows.
Multithreading	The number of documents that can be processed in parallel for this listener. The default value is 1.
Maximum Threads	The number of parallel threads that can grow to the specified count automatically on demand. The default value is 1.

- Click *Next* after you have finished specify the values for the Microsoft Exchange listener parameters.

The name and description pane for the Microsoft Exchange listener opens, as shown in the following image.

#### Listeners

Listeners are protocol handlers, that receive input for a channel from a configured endpoint. Listed below are references to the listeners that are defined in the registry.

**Select listener type**

Name \* Name of the new listener

---

Description Description for the new listener

- Specify a name and description to identify the new listener and click *Finish*.

## Adding the Microsoft Exchange Listener to an Inlet

You are returned to the Listeners pane where the new Microsoft Exchange listener is added to the list of available listeners, as shown in the following image.

### Listeners

Listeners are protocol handlers, that receive input for a channel from a configured endpoint. Listed below are references to the listeners that are defined in the registry.

Listeners

Filter By Name Where Name  Equals

<input type="checkbox"/>	Name	Type	References	Description
<input type="checkbox"/>	<a href="#">file1</a>	File		A default/sample file listener.
<input type="checkbox"/>	<a href="#">HL7 Lstnr 2.5 20025 R1</a>	HL7-MLLP-Listener		HL7 Version 2.5 listener for messages over MLLP on port 20025
<input type="checkbox"/>	<a href="#">javadoc</a>	HTTP 1.0 [deprecated]		The javadoc listener is used to make the iWay Service Manager API available to a remote browser.
<input type="checkbox"/>	<a href="#">MS Exchange Listener</a>	Exchange		This listener is configured for a Microsoft Exchange server.
<input type="checkbox"/>	<a href="#">pictures.loader</a>	File		The pictures listener locates files with a variety of common image file extensions (img, gif, jpg, ...).
<input type="checkbox"/>	<a href="#">pictures.viewer</a>	HTTP 1.0 [deprecated]		The pictures.viewer is used to kickoff the image retrieval process as defined by the pictures sample.
<input type="checkbox"/>	<a href="#">scifibooks</a>	Schedule Recurring Execution		This listener is defined for use by the SciFi Books sample. It wakes up daily and kicks off the update for the channel.
<input type="checkbox"/>	<a href="#">SOAP2</a>	SOAP		This listener is used by the stock SOAP channel.

## Adding the Microsoft Exchange Listener to an Inlet

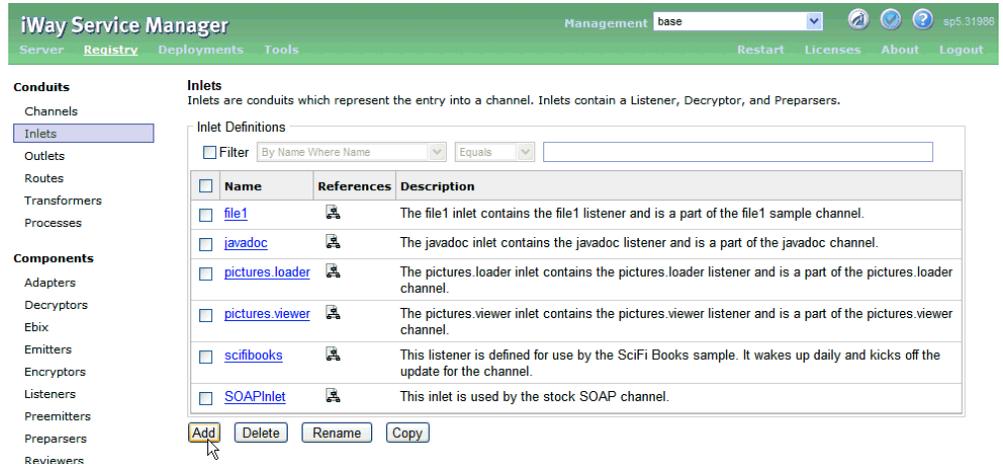
After you have configured the Microsoft Exchange listener, you can add it to an inlet in iWay Service Manager.

### **Procedure:** How to Add the Microsoft Exchange Listener to an Inlet

To add the Microsoft Exchange listener to an inlet:

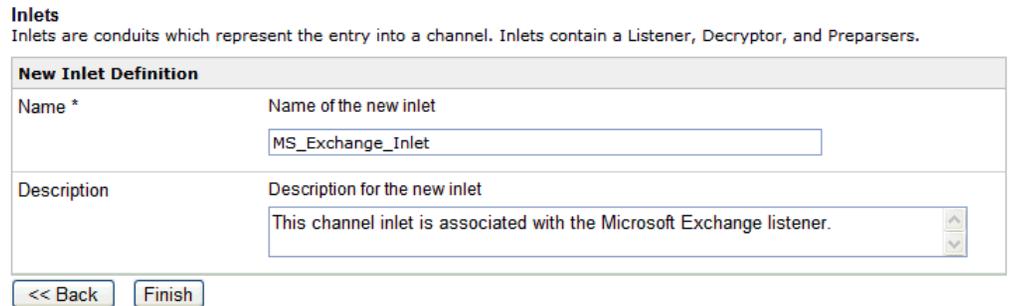
1. In the iSM Administration Console, select *Registry*, then *Inlets*.

The Inlets pane opens, as shown in the following image.



2. Click *Add*.

The New Inlet Definition pane opens, as shown in the following image.



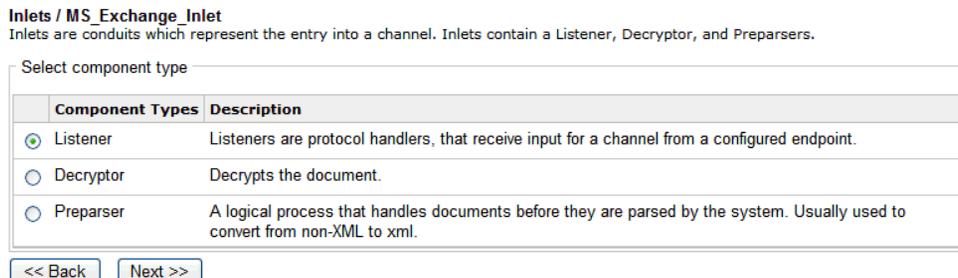
3. Specify a name and description to identify the new inlet and click *Finish*.

The Construct Inlet pane opens, as shown in the following image.



- Click *Add*.

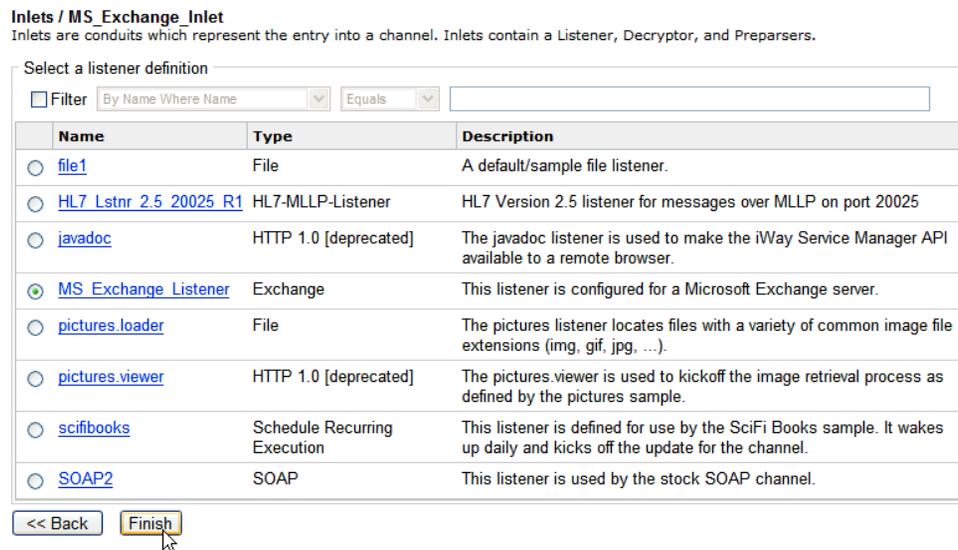
The Select component type pane opens, as shown in the following image.



By default, the *Listener* component type is selected by default.

- Click *Next*.

The list of available listeners that have been configured is displayed, as shown in the following image.



- Select the Microsoft Exchange listener that was previously configured (for example, *MS\_Exchange\_Listener*).
- Click *Finish*.

You are returned to the Construct Inlet pane, where the new inlet is now associated with the Microsoft Exchange listener, as shown in the following image.

#### Inlets / MS\_Exchange\_Inlet

Inlets are conduits which represent the entry into a channel. Inlets contain a Listener, Decryptor, and Preparers.

Construct Inlet  
Below are the components currently registered in the inlet. The order of decryptor and preparer components may be changed within each component type by checking a component and using the 'Move Up' and 'Move Down' buttons.

<input type="checkbox"/>	Name	Type	Move	Description
<input type="checkbox"/>	<a href="#">MS_Exchange_Listener</a>	Listener		This listener is configured for a Microsoft Exchange server.

<< Back   Add   Delete

## Configuring a Channel

After you have configured the Microsoft Exchange listener and associated the listener with an inlet, you can configure a channel in iWay Service Manager.

### *Procedure:* How to Configure a Channel

To configure a channel:

1. In the iSM Administration Console, select *Registry*, then *Channels*.

The Channels pane opens, as shown in the following image.

**iWay Service Manager** Management base sp5.31986

Server Registry Deployments Tools Restart Licenses About Logout

**Conduits**  
Channels  
Inlets  
Outlets  
Routes  
Transformers  
Processes

**Components**  
Adapters  
Decryptors  
Ebix  
Emitters  
Encryptors  
Listeners  
Preemitters  
Preparers  
Reviewers  
Rules  
Schemas  
Services

**Channels**  
Channels are the pipes through which messages flow in iWay Service Manager. A Channel is defined as a named container of Routes (Transformers + Processes), controlled by Routing Rules and bound to Ports (Listeners/Emitters).

Channel Definitions

Filter By Name Where Name Equals

<input type="checkbox"/>	Name	Type	Regs	Ebix	View	Description
<input type="checkbox"/>	<a href="#">default</a>		0	0		The default channel can be used as a starting point for quickly defining functionality in the system. This template defines the minimal conduits and components required for deployment. You can copy this channel, add a listener, build and deploy.
<input type="checkbox"/>	<a href="#">file1</a>		0	0		The file1 channel is based on the default channel. It adds an inlet that contains a file listener and completes the sample file channel.
<input type="checkbox"/>	<a href="#">file2</a>		0	0		The file2 channel is based on the file1 channel. It uses a route that contains the PFIVP process.
<input type="checkbox"/>	<a href="#">file3</a>		0	0		The file3 channel is based on the file2 channel. It uses a route that contains the PFIVPWS process and adds a reviewer to the mix.
<input type="checkbox"/>	<a href="#">file4</a>		0	0		The file4 channel is based on the file3 channel. It includes routes as defined by the file1, file2 and file3 channels. This channel illustrates a multi-routed conduit.
<input type="checkbox"/>	<a href="#">javadoc</a>		1	0		The javadoc channel is used to publish the iWay Service Manager API Javadoc as a website.

Add Delete Rename Copy Build

2. Click *Add*.

The Channels pane opens, as shown in the following image.

**Channels**

Channels are the pipes through which messages flow in iWay Service Manager. A Channel is defined as a named container of Routes (Transformers + Processes), controlled by Routing Rules and bound to Ports (Listeners/Emitters).

**New Channel Definition**

Name \*      Name of the new channel

Description      Description for the new channel

<< Back      Finish

3. Specify a name and description to identify the new channel and click *Finish*.

The Construct Channel pane opens, as shown in the following image.

**Channels / MS\_Exchange\_Channel**

Channels are the pipes through which messages flow in iWay Service Manager. A Channel is defined as a named container of Routes (Transformers + Processes), controlled by Routing Rules and bound to Ports (Listeners/Emitters).

Construct Channel  
 Below are the components currently registered in the channel.

<input type="checkbox"/>	Name	Type	Conditions	Move	Description
<input type="checkbox"/>	No data was found.				

<< Back      Add      Delete      Build      View

4. Click *Add*.

The Select component type pane opens, as shown in the following image.

**Channels / MS\_Exchange\_Channel**

Channels are the pipes through which messages flow in iWay Service Manager. A Channel is defined as a named container of Routes (Transformers + Processes), controlled by Routing Rules and bound to Ports (Listeners/Emitters).

Select component type

	Channel Component Types	Description
<input checked="" type="radio"/>	Inlet	Inlets are conduits which represent the entry into a channel. Inlets contain a Listener, Decryptor, and Preparers.
<input type="radio"/>	Route	A route is used to define the path a particular message takes through a channel. A Route is defined as a sequence of: a transformer, followed by a process, followed by another transformer, followed by zero or more outlets.
<input type="radio"/>	Outlet	Outlets are conduits which contain Preemitters, Encryptors, and an Emitter

<< Back      Next >>

By default, the *Inlet* component type is selected by default.

5. Click *Next*.

The list of available inlets that have been configured is displayed, as shown in the following image.

#### Channels / MS\_Exchange\_Channel

Channels are the pipes through which messages flow in iWay Service Manager. A Channel is defined as a named container of Routes (Transformers + Processes), controlled by Routing Rules and bound to Ports (Listeners/Emitters).

Select an inlet definition

Filter

Name	Description
<input type="radio"/> <a href="#">file1</a>	The file1 inlet contains the file1 listener and is a part of the file1 sample channel.
<input type="radio"/> <a href="#">javadoc</a>	The javadoc inlet contains the javadoc listener and is a part of the javadoc channel.
<input checked="" type="radio"/> <a href="#">MS_Exchange_Inlet</a>	This channel inlet is associated with the Microsoft Exchange listener.
<input type="radio"/> <a href="#">pictures_loader</a>	The pictures_loader inlet contains the pictures_loader listener and is a part of the pictures_loader channel.
<input type="radio"/> <a href="#">pictures_viewer</a>	The pictures_viewer inlet contains the pictures_viewer listener and is a part of the pictures_viewer channel.
<input type="radio"/> <a href="#">scifibooks</a>	This listener is defined for use by the SciFi Books sample. It wakes up daily and kicks off the update for the channel.
<input type="radio"/> <a href="#">SOAPInlet</a>	This inlet is used by the stock SOAP channel.

6. Select the inlet that was previously configured (for example, MS\_Exchange\_Inlet).
7. Click *Finish*.

You are returned to the Construct Channel pane, where the previously configured inlet is now associated with the new channel, as shown in the following image.

#### Channels / MS\_Exchange\_Channel

Channels are the pipes through which messages flow in iWay Service Manager. A Channel is defined as a named container of Routes (Transformers + Processes), controlled by Routing Rules and bound to Ports (Listeners/Emitters).

Construct Channel

Below are the components currently registered in the channel.

<input type="checkbox"/> Name	Type	Conditions	Move	Description
<input type="checkbox"/> <a href="#">MS_Exchange_Inlet</a>	Inlet			This channel inlet is associated with the Microsoft Exchange listener.

8. Click *Add*.

The Select component type pane opens, as shown in the following image.

### Channels / MS\_Exchange\_Channel

Channels are the pipes through which messages flow in iWay Service Manager. A Channel is defined as a named container of Routes (Transformers + Processes), controlled by Routing Rules and bound to Ports (Listeners/Emitters).

Select component type

Channel Component Types	Description
<input checked="" type="radio"/> Route	A route is used to define the path a particular message takes through a channel. A Route is defined as a sequence of: a transformer, followed by a process, followed by another transformer, followed by zero or more outlets.
<input type="radio"/> Outlet	Outlets are conduits which contain Preemitters, Encryptors, and an Emitter

<< Back    Next >>

By default, the *Route* component type is selected by default.

9. Click *Next*.

The list of available routes that have been configured is displayed, as shown in the following image.

### Channels / MS\_Exchange\_Channel

Channels are the pipes through which messages flow in iWay Service Manager. A Channel is defined as a named container of Routes (Transformers + Processes), controlled by Routing Rules and bound to Ports (Listeners/Emitters).

Select one or more route definitions

Filter By Name Where Name

<input type="checkbox"/> Name	Description
<input checked="" type="checkbox"/> <a href="#">move</a>	The move route defines a simple route that moves the input stream to the output stream.
<input type="checkbox"/> <a href="#">pfivp</a>	The pfivp route defines a simple route that is used to invoke the PFIVP process.
<input type="checkbox"/> <a href="#">pfivpws</a>	The pfivpws route defines a simple route that is used to invoke the PFIVPWS process. This version adds a transformer to the output segment of the route.
<input type="checkbox"/> <a href="#">pictures_loader</a>	This route is used to invoke the pictures loader process.
<input type="checkbox"/> <a href="#">pictures_viewer</a>	This route is used to invoke the pictures viewer process.
<input type="checkbox"/> <a href="#">scifibooks</a>	The scifibooks route defines a route that is used to invoke the SciFiBooks process.

<< Back    Finish

10. Select the *move* route, which is defined by default.

The move route simply transfers the input stream to the output stream. You can define more complex routes if required (for example, as process flows) for more advanced business logic.

11. Click *Finish*.

You are returned to the Construct Channel pane, where the selected route (move) is now associated with the new channel, as shown in the following image.

#### Channels / MS\_Exchange\_Channel

Channels are the pipes through which messages flow in iWay Service Manager. A Channel is defined as a named container of Routes (Transformers + Processes), controlled by Routing Rules and bound to Ports (Listeners/Emitters).

Construct Channel  
Below are the components currently registered in the channel.

<input type="checkbox"/>	Name	Type	Conditions	Move	Description
<input type="checkbox"/>	MS_Exchange_Inlet	Inlet			This channel inlet is associated with the Microsoft Exchange listener.
<input type="checkbox"/>	move	Route			The move route defines a simple route that moves the input stream to the output stream.

<< Back Add Delete Build View

12. Click the *Default Route* icon in the Conditions column, as shown in the following image.

Channels / MS\_Exchange\_Channel  
Channels are the pipes through which messages flow in iWay Service Manager. A Channel is defined as a named container of Routes (Transformers + Processes), controlled by Routing Rules and bound to Ports (Listeners/Emitters).

Construct Channel  
Below are the components currently registered in the channel.

<input type="checkbox"/>	Name	Type	Conditions	Move	Description
<input type="checkbox"/>	MS_Exchange_Inlet	Inlet			none
<input type="checkbox"/>	move	Route			The move route defines a simple route that moves the input stream to the output stream.

<< Back Add Delete Build View

13. Click *Add* in the Construct Channel pane.

The Select component type pane opens, as shown in the following image.

#### Channels / MS\_Exchange\_Channel

Channels are the pipes through which messages flow in iWay Service Manager. A Channel is defined as a named container of Routes (Transformers + Processes), controlled by Routing Rules and bound to Ports (Listeners/Emitters).

Select component type

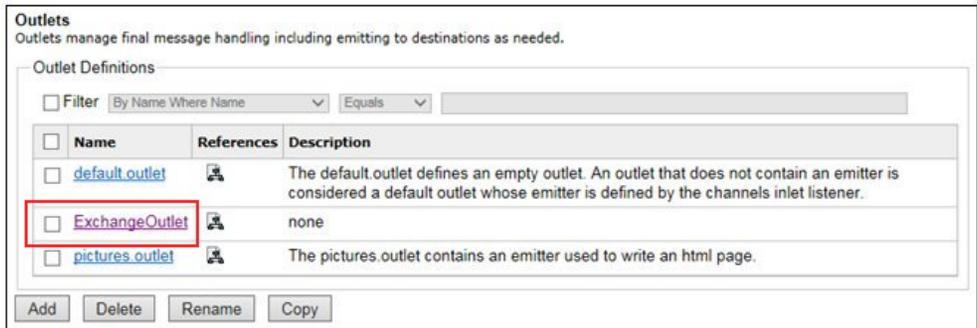
	Channel Component Types	Description
<input type="radio"/>	Route	A route is used to define the path a particular message takes through a channel. A Route is defined as a sequence of: a transformer, followed by a process, followed by another transformer, followed by zero or more outlets.
<input checked="" type="radio"/>	Outlet	Outlets are conduits which contain Preemitters, Encryptors, and an Emitter

<< Back Next >>

14. Ensure *Outlet* is selected and then click *Next*.

## Configuring a Channel

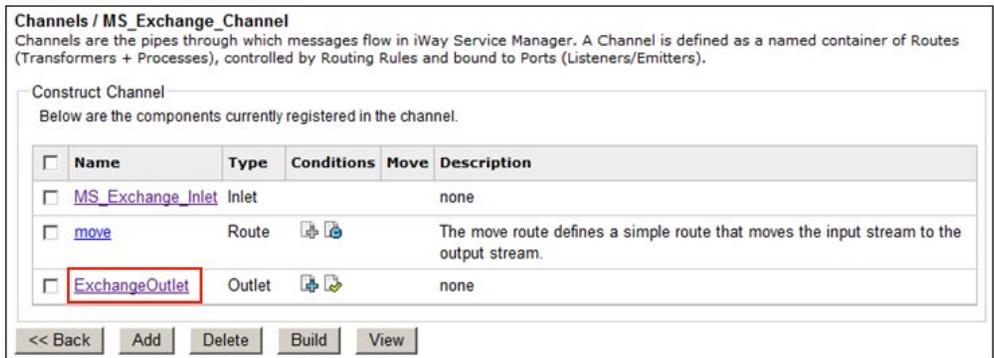
The Outlet Definitions pane opens, which lists the available outlets that have been configured, as shown in the following image.



15. Select the outlet that was previously configured (for example, *ExchangeOutlet*).

16. Click *Add*.

You are returned to the Construct Channel pane, where the selected outlet (*ExchangeOutlet*) is now associated with the new channel, as shown in the following image.



The construction of the iSM channel is now complete.

17. Click *Build*.

All of the components for the iSM channel are compiled and the results are displayed in the results pane, as shown in the following image.

#### Channels

Channels are the pipes through which messages flow in iWay Service Manager. A Channel is defined as a named container of Routes (Transformers + Processes), controlled by Routing Rules and bound to Ports (Listeners/Emitters).

MS\_Exchange\_Channel  
Build result for channel

Message level	Message
Info	Start
Info	Validating Channel
Info	Channel is valid
Info	Validating Inlet
Info	Inlet is valid
Info	Validating Routes
Info	Routes are valid
Info	Validating Outlets
Info	Outlets are valid
Info	Build Successful
Info	End
Info	Channel archive C:\PROGRA~1\iway61\etc\repository\manager\car\MS_Exchange_Channel\MS_Exchange_Channel.2\MS_Exchange_Channel.car has been created/updated

<< Back

18. In the iSM Administration Console, select *Deployments*, then *Channels*.

The Channels pane opens, as shown in the following image.

The screenshot shows the iWay Service Manager Administration Console. The top navigation bar includes 'Server', 'Registry', 'Deployments', and 'Tools'. The 'Deployments' section is expanded to show 'Channels'. The main content area displays 'Channel Management' with instructions: 'The channels listed below are deployed. Select a channel to undeploy, repair, start, stop, or deploy a new channel from the repository.' Below this is a filter section and a table with columns: Channel Name, Protocol, Deploy Date, Version, Status, Active, A-C-S-F, and Description. A message states 'No deployed channels were found.' At the bottom, there are buttons for 'Deploy', 'Undeploy', 'Redeploy', 'Repair', 'Start', and 'Stop'. The 'Deploy' button is highlighted with a mouse cursor.

19. Click *Deploy*.

The Available Channels pane opens, as shown in the following image.

**Channels**  
Manage Channels which have been deployed.

Available Channels  
This is a list of channels ready for deployment into the selected Managed Server. Select the channels and click deploy. You can not deploy a channel that has already been deployed in to the selected Managed Server. To Undeploy or Redeploy a channel, go back to the previous page.

<input type="checkbox"/>	Channel Name	Build Date	Built On	Version	Description
<input checked="" type="checkbox"/>	MS_Exchange_Channel	Aug 13 2012 06:41 PM	http://IBI-CC2D14175B0	2	This is a sample channel used to integrate with Microsoft Exchange.

<< Back   **Deploy**   Get Versions

20. Select the channel you have configured (for example, MS\_Exchange\_Channel) and click *Deploy*.

The Channel Management pane opens and lists the deployed channel, as shown in the following image.

**Channels**  
Manage Channels which have been deployed.

Channel Management  
The channels listed below are deployed. Select a channel to undeploy, repair, start, stop, or deploy a new channel from the repository.

Filter By Name Where Name  Equals

<input type="checkbox"/>	Channel Name	Protocol	Deploy Date	Version	Status	Active	A-C-S-F	Description
<input type="checkbox"/>	<a href="#">MS_Exchange_Channel</a>	com.ibi.exchange.af.exchangeinboundadapterews	Aug 13 2012 06:46 PM	2	✗	✓	- - -	This is a sample channel used to integrate with Microsoft Exchange.

Deploy   Undeploy   Redeploy   Repair   Start   Stop

You can start and stop the channel accordingly. For more information on channel management, see the *iWay Service Manager User's Guide*.



## Feedback

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# iWay

## iWay Application Adapter for Microsoft Exchange User's Guide

Version 7.0.x and Higher

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