

iWay

iWay Log Event Adapter for Oracle
Version 7.0.x and Higher

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Preface

This document describes how to install and configure the iWay Log Event Adapter for Oracle. It is written for system integrators and application designers who need to provide integration between Oracle databases and RDBMS destinations.

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.

How This Manual Is Organized

This manual includes the following chapters:

Chapter/Appendix		Contents
1	Introducing the iWay Log Event Adapter for Oracle	Provides an overview of the iWay Log Event Adapter for Oracle, including key features and facilities.
2	Installing and Configuring the iWay Log Event Adapter for Oracle	Describes how to install and configure the iWay Log Event Adapter for Oracle.
3	Configuring Components for the iWay Log Event Adapter for Oracle	Describes how to configure components for the iWay Log Event Adapter for Oracle.

Documentation Conventions

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

Convention	Description
<code>THIS TYPEFACE</code> or <code>this typeface</code>	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.

Convention	Description
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.

Related Publications

Visit our Technical Content Library at <http://documentation.informationbuilders.com>. You can also contact the Publications Order Department at (800) 969-4636.

Customer Support

Do you have questions about this product?

Join the Focal Point community. Focal Point is our online developer center and more than a message board. It is an interactive network of more than 3,000 developers from almost every profession and industry, collaborating on solutions and sharing tips and techniques. Access Focal Point at <http://forums.informationbuilders.com/eve/forums>.

You can also access support services electronically, 24 hours a day, with InfoResponse Online. InfoResponse Online is accessible through our website, <http://www.informationbuilders.com>. It connects you to the tracking system and known-problem database at the Information Builders support center. Registered users can open, update, and view the status of cases in the tracking system and read descriptions of reported software issues. New users can register immediately for this service. The technical support section of <http://www.informationbuilders.com> also provides usage techniques, diagnostic tips, and answers to frequently asked questions.

Call Information Builders Customer Support Services (CSS) at (800) 736-6130 or (212) 736-6130. Customer Support Consultants are available Monday through Friday between 8:00 a.m. and 8:00 p.m. EST to address all your questions. Information Builders consultants can also give you general guidance regarding product capabilities. Please be ready to provide your six-digit site code number (xxxx.xx) when you call.

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.

Platform	
Operating System	
OS Version	
JVM Vendor	
JVM Version	

The following table lists the deployment information our consultants require.

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

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

iWay Adapter	
iWay Release Level	
iWay Patch	

The following table lists the types of iWay Explorer. Specify the version (and platform, if different than listed previously) in the columns provided.

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

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

The following is a list of error or 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 or archive to reproduce problem
- ☐ Custom functions and agents in use
- ☐ Diagnostic Zip
- ☐ Transaction log
- ☐ Archive File
- ☐ IIA

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. You can 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 Log Event Adapter for Oracle

This section provides an overview of the iWay Log Event Adapter for Oracle, including key features and facilities.

In this chapter:

- ☐ [iWay Log Event Adapter for Oracle Overview](#)
- ☐ [Component Information for the iWay Log Event Adapter for Oracle](#)

iWay Log Event Adapter for Oracle Overview

The iWay Log Event Adapter for Oracle is designed to replicate data changes from Oracle 10g/11g to Oracle 10g/11g or SQL 2000, 2005, or 2008. The iWay Log Event Adapter for Oracle uses a listener to capture the changed data from the Oracle redo logs using Oracle LogMiner.

The following types of supported operations can be captured from the source Oracle 10g/11g database table:

- ☐ INSERT
- ☐ DELETE
- ☐ UPDATE
- ☐ DDL

Note: DDL can be captured only and not replicated.

Component Information for the iWay Log Event Adapter for Oracle

The iWay Log Event Adapter for Oracle works in conjunction with the following components:

- ☐ iWay Service Manager
- ☐ Oracle LogMiner
- ☐ iWay Log Event Listener
- ☐ iWay CDC SQL Batch Agent

iWay Service Manager

iWay Service Manager (iSM) is the heart of the Universal Adapter Framework and is an open transport service bus. iSM uses graphical tools to create sophisticated integration services without writing 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 ideally suited to be the foundation of a service-oriented architecture. For more information on using iSM and configuring iSM components, see the *iWay Service Manager User's Guide*.

Oracle LogMiner

Oracle LogMiner is an Oracle utility. Oracle LogMiner, which is part of an Oracle database, enables you to query online and archived redo log files through a SQL interface. Redo log files contain information about the history of activity on a database. LogMiner can be used as a powerful data audit tool, as well as a tool for sophisticated data analysis.

For more information on how to use the Oracle LogMiner, see [Using Oracle LogMiner](#) on page 20.

iWay Log Event Listener

The iWay Log Event Listener is a component of an iWay Service Manager (iSM) channel that is configured for the iWay Log Event Adapter for Oracle. The listener starts an Oracle LogMiner session, which uses the redo logs to create a view. The listener then reads the transactions from the view and converts them to an XML document that is passed into a process flow. In the event that a log switch occurs before the listener polls, the listener will read from the archive logs to ensure that no transactions are lost.

For more information on how to configure the iWay Log Event Listener, see [Configuring the iWay Log Event Listener](#) on page 29.

iWay CDC SQL Batch Agent

The iWay CDC SQL Batch Agent is a component of an iWay Service Manager (iSM) channel that is configured for the iWay Log Event Adapter for Oracle. This agent applies ANSI SQL statements (INSERT, UPDATE, DELETE) to the target database tables. Output from the iWay Log Event Listener is used as input for the iWay CDC SQL Batch Agent. The agent must be configured to access a target database system.

For more information on how to configure the iWay CDC SQL Batch Agent, see [Configuring the iWay CDC SQL Batch Agent](#) on page 36.

Installing and Configuring the iWay Log Event Adapter for Oracle

This section describes how to install and configure the iWay Log Event Adapter for Oracle.

In this chapter:

- ☐ [Prerequisites for the iWay Log Event Adapter for Oracle](#)
 - ☐ [Installing the iWay Log Event Adapter for Oracle](#)
 - ☐ [Using Oracle LogMiner](#)
 - ☐ [Importing a Sample Channel Archive Using iWay Service Manager](#)
 - ☐ [Building and Deploying a Channel](#)
-

Prerequisites for the iWay Log Event Adapter for Oracle

This section lists and describes prerequisite information for the iWay Log Event Adapter for Oracle.

- ☐ iWay Service Manager Version 7.0. For more information, see the *iWay Installation and Configuration Guide* and the *iWay Service Manager User's Guide*.
- ☐ Oracle 10g Database System

Note: The Oracle database must be open and set to Archive Log mode.

The source database table must be replicated on the target database before the iWay Log Event Adapter for Oracle can be used. If the source database table is not replicated first, updates and deletes to existing records will fail, since those records do not exist.

Installing the iWay Log Event Adapter for Oracle

The iWay Log Event Adapter for Oracle is currently delivered as a patch, which must be applied to an existing 7.0 installation of iWay Service Manager (iSM). In future releases, an Oracle LEA option will be available directly from the main iSM installation utility.

When the patch is applied to an existing 7.0 installation of iSM, the `iwxcdc.jar` file is copied to the following subdirectory:

- ☐ `<iway_home>/etc/manager/extensions`

where:

`<iway_home>`

Is the location on your system where iSM is installed.

You must manually install the Oracle JDBC driver by copying the database .jar file (for example, ojdbc14.jar or ojdbc6.jar) to the `<iway_home>/lib` subdirectory.

For SQL Server target support, the sqljdbc4.jar file must be copied to the `<iway_home>/lib` subdirectory.

Procedure: How to Verify the Installation

To verify that the iWay Log Event Adapter for Oracle has been properly installed:

1. Start iWay Service Manager.
2. From the Windows Start menu select *All Programs, iWay 7.0 Service Manager*, and then *Console*.

The screenshot shows the iWay Service Manager console. The left sidebar contains a tree view with categories: Properties (General Properties, Java Properties), Settings (General Settings, Console Settings, Java Settings, Register Settings, Trace Settings, Log Settings, Path Settings, Data Settings, Backup Settings), Providers (Data Provider, Services Provider, Directory Provider, Security Provider, XML Namespace Map Provider, Pooling Providers, Authentication Realms, Data Quality Providers, Secure Shell Provider, Schedule Provider, SNMP Provider), and Facilities (Activity Facility, Correlation Facility). The 'Java Settings' item is highlighted. The main pane displays the 'General Properties' for the 'base' configuration. It includes a description: 'Listed below are the general properties for the base configuration of this server.' The properties are organized into sections: General (Name / Home: ac11698 - C:/PROGRA~2/iway7/, Version: 7.0.0-CFR.1190, Build Date: PLATO December 20 2013 1658), Configuration (Name: base - C:/PROGRA~2/iway7/config/base, Status: Server Uptime: 1 minutes, User Security Access: Read / Write), Environment (OS / Hardware: Windows 7 (process) / x86, Java Info: 23.7-b01 -- Oracle Corporation -- Java HotSpot(TM) Client VM, Java Memory: 20.42 MB of 247.50 MB (8.2%) used, Classpath: [1] C:\PROGRA~2\iway7\config\base\lib*), and Language and Locale (Locale / Timezone: en / America/New_York; time zone offset is -5 hours, Language: English). A 'Save' button is next to the Language field. A note at the bottom states: 'The server has to be stopped, and started for the language change to take effect.'

General	
Name / Home	ac11698 - C:/PROGRA~2/iway7/
Version	7.0.0-CFR.1190
Build Date	PLATO December 20 2013 1658

Configuration	
Name	base - C:/PROGRA~2/iway7/config/base
Status	Server Uptime: 1 minutes
User Security Access	Read / Write

Environment	
OS / Hardware	Windows 7 (process) / x86
Java Info	23.7-b01 -- Oracle Corporation -- Java HotSpot(TM) Client VM
Java Memory	20.42 MB of 247.50 MB (8.2%) used
Classpath	[1] C:\PROGRA~2\iway7\config\base\lib*

Language and Locale	
Locale / Timezone	en / America/New_York; time zone offset is -5 hours
Language	English

3. Click *Registry* in the top pane of the iWay Service Manager Administration Console.



4. In the left pane, select *Listeners*.

Components

Adapters

Decryptors

Ebix

Emitters

Encryptors

Listeners

Preemitters

Preparsers

Reviewers

Rules

Schemas

Services

Transforms






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.

☐ Filter

By Name Where Name ▼

Equals ▼

<input type="checkbox"/>	Name	Type	References	Description
<input type="checkbox"/>	file1	File		A default/sample file listener.
<input type="checkbox"/>	javadoc	http		The javadoc listener is used to make the iWay Service Manager API available to a remote browser.
<input type="checkbox"/>	pictures_loader	File		The pictures listener locates files with a variety of common image file extensions (img, gif, jpg, ...).
<input type="checkbox"/>	pictures_viewer	http		The pictures.viewer is used to kickoff the image retrieval process as defined by the pictures sample.
<input type="checkbox"/>	scifibooks	schedule		This listener is defined for use by the SciFi Books sample. It wakes up daily and kicks off the update for the channel.

Add 

Delete

Rename

Copy

The table that is provided lists existing listeners and a short description for each.

- 5. Click *Add*.

The Listener Type pane opens.

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

OracleLEA ▼

Accepts work from entries in Oracle LEA tables of configured schemas

<< Back

Next >>

- 6. Expand the *Type* drop-down list and ensure that *OracleLEA* is available.

In this list, Oracle LEA represents the iWay Log Event Listener.

7. In the left pane, select **Services**.

Components

Adapters

Decryptors

Ebix

Emitters

Encryptors

Listeners

Preemitters

Preparsers

Reviewers

Rules

Schemas

Services

Transforms

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

Services

Services are executed java procedures that handle the business logic of a message.

Services

☐ Filter By Name Where Name Equals

<input type="checkbox"/>	Name	Type	References	Parms	Description
<input type="checkbox"/>	DeleteAllSciFiBooks1	Constant Agent			Set a call to the RDBMS Adapter to delete all records from the SciFiBooks Database.
<input type="checkbox"/>	move1	Move Agent			The move1 service defines a move agent that moves the input document stream to the output document stream. It represents the basic echo pattern in iSM.
<input type="checkbox"/>	pictures.img2xml	Entag Agent			converts the image to base64 and wraps it in a <picture> tag
<input type="checkbox"/>	pictures.iterator	XML Iterator			Iterate a loop for each portion of an XML document
<input type="checkbox"/>	RSSRead1	HTTP Read Agent		Q	Reads an RSS Document from url that is specified in the original incoming document.
<input type="checkbox"/>	Snip1	Snip Agent			Copies a subtree of the input document as defined by the PFIVP schema to the root of the output document as defined by PFIVPResponse schema.

The table that is provided lists existing services and a short description for each.

8. Click *Add*.

The Services Type pane opens.

Services
Services are executed java procedures that handle the business logic of a message.

Select the type for the new Service object definition

Type *	Available Service types
	<div>com.ibi.agents.XDCDCSQLBatchAgent</div> <div>Select a type</div>

Converts xml format cdc output into dml and execute batch statements

<< Back Next >>

9. Expand the *Type* drop-down list and ensure that *CDC SQL Batch Agent* {com.ibi.agents.XDCDCSQLBatchAgent} is available.

Using Oracle LogMiner

Oracle LogMiner is an Oracle utility. Oracle LogMiner, which is part of an Oracle database, enables you to query archived redo log files through a SQL interface. Redo log files contain information about the history of activity on a database. LogMiner can be used as a powerful data audit tool, as well as a tool for sophisticated data analysis.

The three basic objects in a LogMiner configuration include:

- ☐ Source Database
- ☐ LogMiner Directory
- ☐ Redo Log Files

Opening an Oracle Database and Setting It to Archive Log Mode

To extract a LogMiner dictionary to the redo log files, the Oracle database must be open and set to Archive Log mode. Archiving must also be enabled. While the dictionary is being extracted to the redo log stream, no DDL statements can be executed.

```

oracle@trainee:~
SQL> archive log list
Database log mode           Archive Mode
Automatic archival         Enabled
Archive destination         /u02/monish/archive
Oldest online log sequence  142
Next log sequence to archive 144
Current log sequence        144
SQL>
  
```

Enter the following command at the sql command prompt to issue a list of archive logs:

```
sql>archive log list
```

Enter the following commands to set the source Oracle database to Archive Log mode:

```
sql> alter system set log_archive_dest_1 = 'LOCATION=/usr/tmp/arch';
sql> shutdown immedaite;
sql> startup mount;
sql> alter database archivelog;
```

Note: If the Oracle database has multiple archive log destinations, you can only configure one archive log destination and defer all others.

Enter the following command to defer one archive log destination:

```
sql>alter system set log_archive_dest_state_1=defer scope=both;
```

Or you can add one log_archive_dest filter when query related archive log files later, like

```
sql>SELECT NAME FROM V$ARCHIVED_LOG
```

where:

```
to_char(COMPLETION_TIME, 'DD-MON-YYYY HH24:MI:SS')
```

Is between '07-feb-2010 10:00:00' and '08-feb-2010 10:00:00'.

NAME

Can be something like '/rdbms/ora102/archive2%';

Granting a Role to Your Application Core Schema

Enter a command using the following format at the sql command prompt to grant a role to your application core schema:

```
sql>grant execute_catalog_role to scott;
```

Configuring the Initialization Parameter (UTL_FILE_DIR)

You must also set the initialization parameter (UTL_FILE_DIR) in the initialization parameter file. For example, enter the following commands at the sql command prompt:

```
sql>alter system set utl_file_dir='/usr/tmp/logmine' scope=spfile;
sql>Shutdown immediate
sql>startup
sql>CREATE OR REPLACE DIRECTORY public_access AS '/usr/tmp/logmine';
sql>GRANT read, write ON DIRECTORY public_access TO public;
```

Enabling Supplemental Logging

You can enable supplemental logging at the database level or table level by using the commands that are described in this section.

Database Level:

```
sql>alter database add supplemental log data;
```

Table Level:

```
sql>alter table xxx add supplemental log data (ALL) columns;
```

All tables in a schema:

```
sql>set lines 90 pages 0 termout off feedback off verify off
sql>select 'alter table '|| owner || '.' || table_name || ' add supplemental
log data (ALL) columns;' from dba_tables where owner = 'SCOTT';
```

Creating a Dictionary File

Create a dictionary file on the source database using the following command:

```
begin
    dbms_logmnr_d.build( dictionary_filename => 'dictionary.ora',
                        dictionary_location => '/usr/tmp/logmine');
end;
/
```

Or:

```
exec dbms_logmnr_d.build('dictionary.ora', '/usr/tmp/logmine');
```

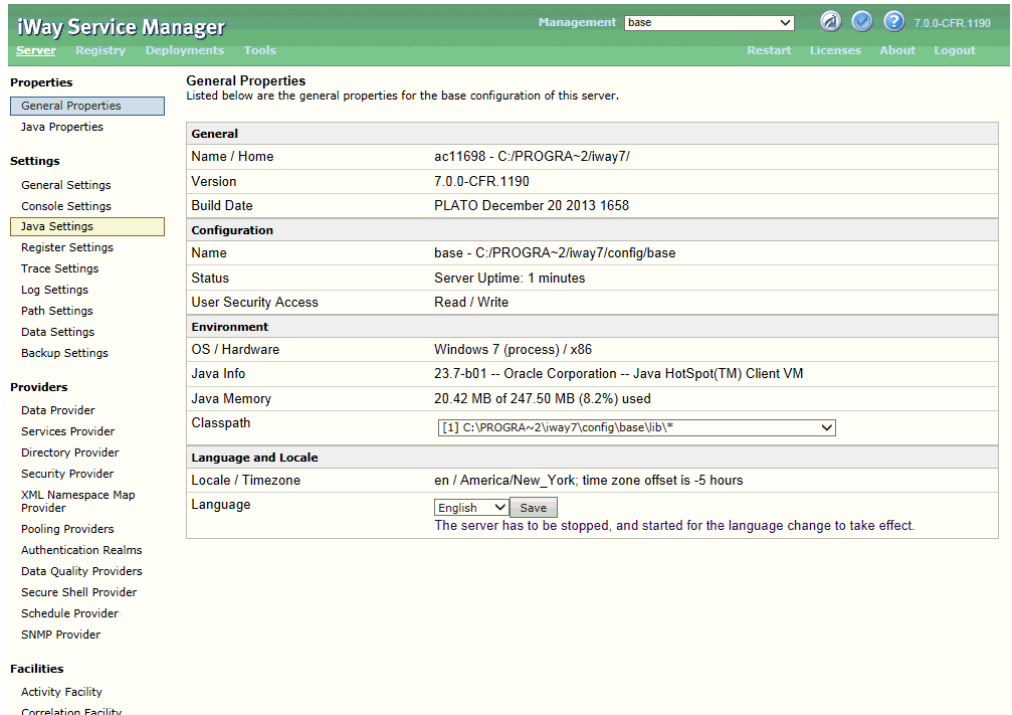
Importing a Sample Channel Archive Using iWay Service Manager

This section describes how to import a sample channel archive for the iWay Log Event Adapter for Oracle using iWay Service Manager.

Procedure: How to Import the Channel Archive

To import the channel archive:

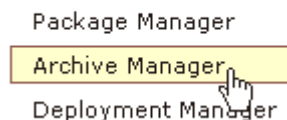
1. From the Windows Start menu select *All Programs, iWay 7.0 Service Manager, and then Console.*



2. Click *Tools* in the top pane.



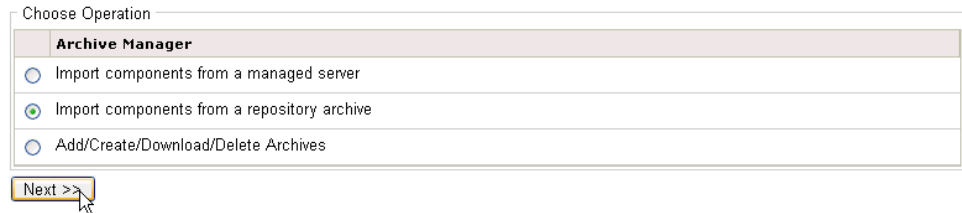
3. In the left pane, select *Archive Manager*.

Imports/Exports

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

Archive Manager

The iWay Archive Manager is used to manage the addition/deletion of functionality within an iWay Service Manager configuration. Archive are specially designed files that contain components, metadata and configuration information. Archives are added/removed from a specific server instance.



Choose Operation

Archive Manager	
<input type="radio"/>	Import components from a managed server
<input checked="" type="radio"/>	Import components from a repository archive
<input type="radio"/>	Add/Create/Download/Delete Archives

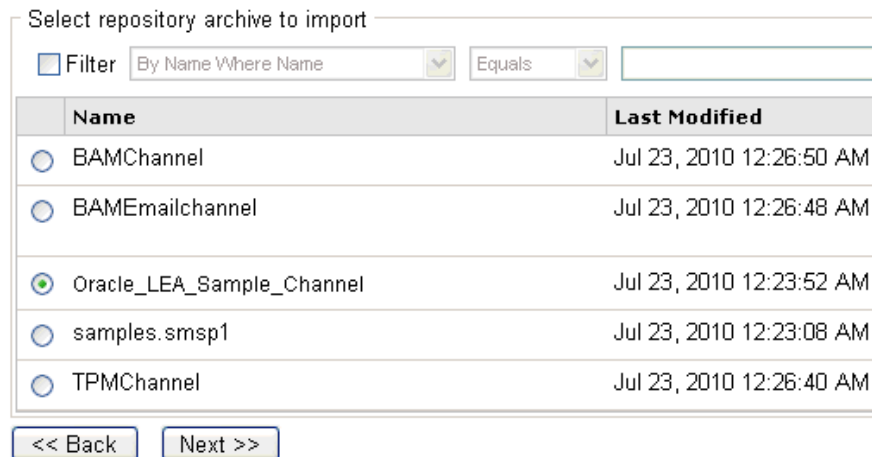
Next >>

4. Select *Import components from a repository archive* and click *Next*.

The Select repository archive to import pane opens.

Archive Manager - Import components from a repository archive

Import configuration components from a managed server or from a repository archive, uploaded to the server. Repository archive files can be uploaded on the Manage Archive



Select repository archive to import

☐ Filter By Name Where Name Equals

	Name	Last Modified
<input type="radio"/>	BAMChannel	Jul 23, 2010 12:26:50 AM
<input type="radio"/>	BAMEmailchannel	Jul 23, 2010 12:26:48 AM
<input checked="" type="radio"/>	Oracle_LEA_Sample_Channel	Jul 23, 2010 12:23:52 AM
<input type="radio"/>	samples.smsp1	Jul 23, 2010 12:23:08 AM
<input type="radio"/>	TPMChannel	Jul 23, 2010 12:26:40 AM

<< Back Next >>

5. Select the *Oracle_LEA_Sample_Channel* archive from the list.
6. Click *Next*.

The Select components to overwrite pane opens.

Archive Manager

Import configuration components from a managed server or from a repository archive. To import an archive you need to first have it uploaded to the server. Repository archive files can be uploaded on the Manage Archives page.

Select components to overwrite

Some or all components contained in the archive are already in the repository. Select the repository components you would like to have replaced with versions from the archive.

<input type="checkbox"/>	Component Name	Component Type	Description
<input type="checkbox"/>	default.outlet	Outlet	The default.outlet defines an empty outlet. An outlet that does not contain an emitter is considered a default outlet whose emitter is defined by the channels inlet listener.

<< Back

Next >>

- Click Next.

A status pane opens for the *Oracle_LEA_Sample_Channel* archive you successfully imported, which also lists all of the individual components that have been imported.

- Click *Finish*.

Building and Deploying a Channel

This section provides general guidelines on building and deploying channels. You can follow these procedures when building and deploying the Oracle LEA channel.

Procedure: How to Build a Channel

After structuring a channel, building a channel is the next stage in channel management. This process compiles all the registered channel components (inlet, route, and outlet) and validates the combination of components you have selected. Building a channel makes it available to deploying to one or more managed servers.

To build a channel:

Conduits

Channels

Inlets

Outlets

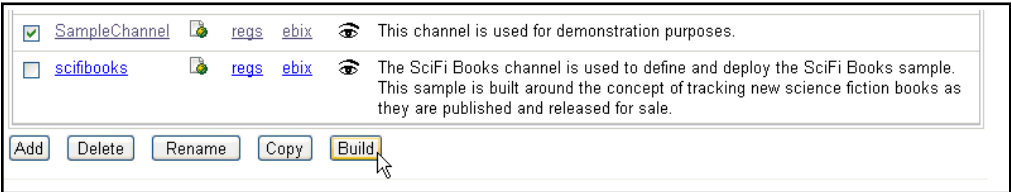
Routes

Transformers

Processes

- In the left console pane of the Registry menu, select *Channels*.

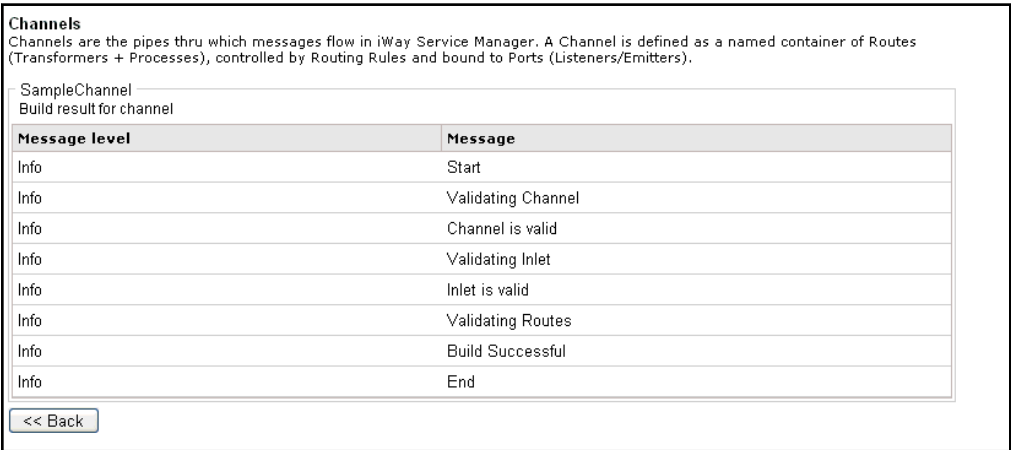
The Channels pane opens.



The table that is provided lists each channel that is defined with a brief description.

- 2. Select the check box next to the channel you want to build, for example, SampleChannel, and click *Build*.

The build result pane for the channel opens.



Each validation step is listed in the table and includes the final build result. If no errors are listed, you have successfully built a channel, which is now ready to be deployed.

Tip: To build more than one channel at once, you can select multiple check boxes in the Channels pane and click *Build*.

- 3. Click *Back* to return to the Channels pane.

Procedure: How to Deploy a Channel

After building a channel, deploying a channel is the final stage in channel management. Deploying a channel takes a built channel and deploys its components into a run-time environment. When you deploy a channel, you deploy a version of the built channel.

To deploy a channel:

- 1. Click *Deployments* in the menu bar.

The Deployments pane opens.

- In the left console pane of the Deployments menu, select *Channels*.

The Channel Management pane opens.

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

<input type="checkbox"/>	Channel Name	Protocol	Deploy Date	Version	Status	Active	A-C-S-F	Description
<input type="checkbox"/>	No deployed channels were found.							

- Click *Deploy*.

The Available Channels pane opens.

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.

	Channel Name	Creation Date	Built On	Version	Description
<input checked="" type="radio"/>	SampleChannel	Mar 26 01:22 PM 2007	http://IS11068-05068	2	This channel is used for demonstration purposes.

The table that is provided lists all channels that have successfully completed the build process. It also includes the channel creation date, the system where the channel was created, a version number, and a short description.

If there are multiple versions of a channel, you must deploy a specific version of the channel. In this example, there are two versions of SampleChannel.

- Click *Get Versions*.

The Channel Versions pane opens.

Channels
Manage Channels which have been deployed.

Channel Versions
Select the a version of the channel to deploy or delete. You can not deploy more than one version of a channel.

<input type="checkbox"/>	Channel Name	Creation Date	Built On	Version	Description
<input checked="" type="checkbox"/>	SampleChannel	Mar 26 01:22 PM 2007	http://IS11068-05068	2	This channel is used for demonstration purposes.
<input type="checkbox"/>	SampleChannel	Mar 26 01:17 PM 2007	http://IS11068-05068	1	This channel is used for demonstration purposes.

Creating multiple versions of a channel is useful if the current version is not working properly and you want to revert back to a previous version that worked.

5. Select the channel version you want to deploy, for example, SampleChannel, Version 2, and click *Deploy*.

You are returned to the Channel Management pane. Notice that SampleChannel is now included in the list of deployed channels.

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

<input type="checkbox"/>	Channel Name	Protocol	Deploy Date	Version	Status	Active	A-C-S-F	Description
<input type="checkbox"/>	SampleChannel	http	Dec 11 2009 06:51 PM	3	✗	✓	- - -	This channel is used for demonstration purposes.

Once a channel is deployed, it must be started.

Configuring Components for the iWay Log Event Adapter for Oracle

This section describes how to configure components for the iWay Log Event Adapter for Oracle.

In this chapter:

- ☐ [Configuring the iWay Log Event Listener](#)
 - ☐ [Configuring the iWay CDC SQL Batch Agent](#)
-

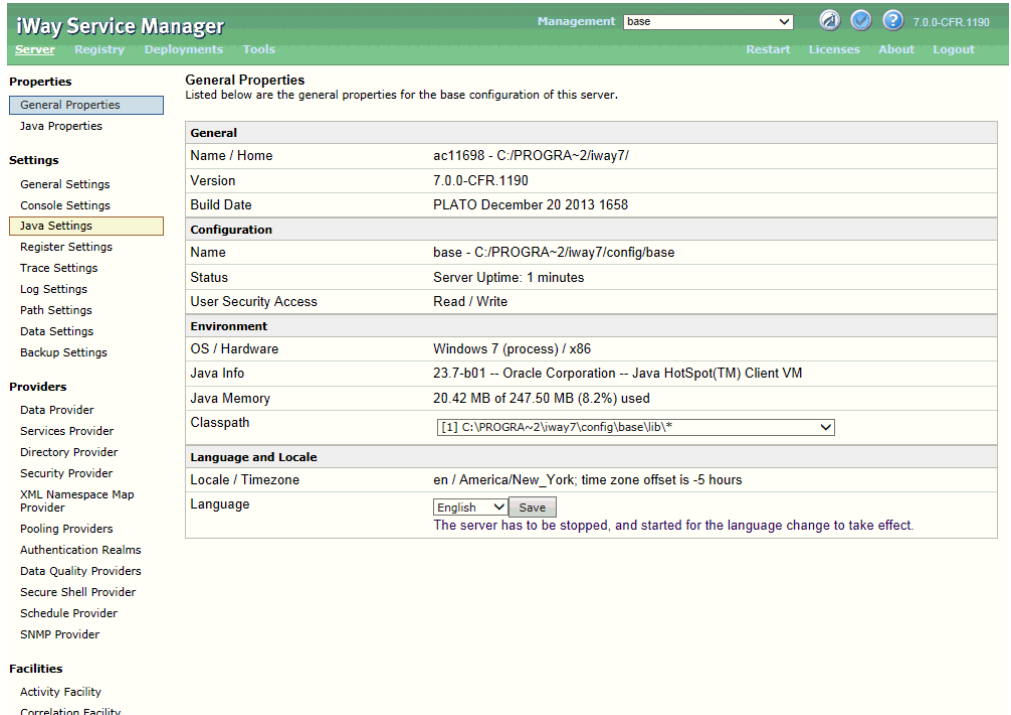
Configuring the iWay Log Event Listener

iWay Log Event Listener captures the changed data by reading transaction records directly from redo and archived log files.

Procedure: How to Configure the iWay Log Event Listener

To configure the iWay Log Event Listener using the iWay Service Manager Administration Console:

1. From the Windows Start menu select *All Programs, iWay 7.0 Service Manager, and then Console.*



The screenshot displays the iWay Service Manager Administration Console. The top navigation bar includes 'Server', 'Registry', 'Deployments', and 'Tools'. The left sidebar lists various configuration categories: Properties (General, Java), Settings (General, Console, Java, Register, Trace, Log, Path, Data, Backup), Providers (Data, Services, Directory, Security, XML, Pooling, Authentication, Data Quality, Secure Shell, Schedule, SNMP), and Facilities (Activity, Correlation). The main content area shows the 'General Properties' for the 'base' server. It includes sections for General (Name, Version, Build Date), Configuration (Name, Status, User Security Access), Environment (OS, Java Info, Java Memory, Classpath), and Language and Locale (Locale, Language). A message at the bottom states: 'The server has to be stopped, and started for the language change to take effect.'

General	
Name / Home	ac11698 - C:/PROGRA~2/iway7/
Version	7.0.0-CFR.1190
Build Date	PLATO December 20 2013 1658

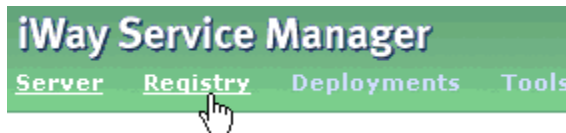
Configuration	
Name	base - C:/PROGRA~2/iway7/config/base
Status	Server Uptime: 1 minutes
User Security Access	Read / Write

Environment	
OS / Hardware	Windows 7 (process) / x86
Java Info	23.7-b01 -- Oracle Corporation -- Java HotSpot(TM) Client VM
Java Memory	20.42 MB of 247.50 MB (8.2%) used
Classpath	[1] C:\PROGRA~2\iway7\config\base\lib*

Language and Locale	
Locale / Timezone	en / America/New_York; time zone offset is -5 hours
Language	English <input type="button" value="Save"/>

The server has to be stopped, and started for the language change to take effect.

2. Click *Registry* in the top pane.



3. In the left pane, select *Listeners*.

Components

Adapters
 Decryptors
 Ebix
 Emitters
 Encryptors
Listeners
 Preemitter
 Preparers
 Reviewers
 Rules
 Schemas
 Services
 Transforms







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.

Listeners

☐ Filter

<input type="checkbox"/>	Name	Type	References	Description
<input type="checkbox"/>	carphone-load	schedule		iwe:Creates an event every 5 seconds
<input type="checkbox"/>	file1	File		A default/sample file listener.
<input type="checkbox"/>	javadoc	http		The javadoc listener is used to make the iWay Service Manager API available to a remote browser.
<input type="checkbox"/>	pictures.loader	File		The pictures listener locates files with a variety of common image file extensions (img, gif, jpg, ...).
<input type="checkbox"/>	pictures.viewer	http		The pictures.viewer is used to kickoff the image retrieval process as defined by the pictures sample.
<input type="checkbox"/>	scifibooks	schedule		This listener is defined for use by the SciFi Books sample. It wakes up daily and kicks off the update for the channel.

The table that is provided lists existing listeners and a short description for each.

4. Click *Add*.

The Listener Type pane opens.

Listeners

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

Select listener type

Type *	Type of the new listener
	OracleLEA
	CS3
	email
	File
	ftp
	FTPServer
	http
	iEI
	internal
	jmsq
	LDAP
	LdapHWM
	LOCAL
	MQ
	MSMQ
	NAS2
	nhttp
	OracleLEA
	RDBHWM
	rdbms

<< Back Next >>

5. Select the *OracleLEA* from the Type drop-down list and click *Next*.

The configuration parameters pane for the iWay Log Event Listener opens.

Configuration parameters for new listener of type OracleLEA	
JNDI Name	JNDI name for the requested data source. To use an iWay JDBC provider, specify as jdbc/provider. Required if using JNDI. <input type="text" value="_property(_sreg(cdc_oracle_config_runtime,ORACLE_CDC_CONFIG)"/>
URL	URL for JDBC driver to access the Database <input type="text"/>
DBA User Name	Database user to access table <input type="text"/>
DBA Password	Database Password <input type="text"/>
Schema Table Filter *	List all the schemas with tables separated by comma's(Ex: scott.classes,scott.emp,store temp,...) <input type="text" value="_property(_sreg(cdc_oracle_config_runtime,ORACLE_CDC_CONFIG)"/>
Dictionary Location *	Dictionary Location ex: /usr/tmp/plogmine/ <input type="text" value="_property(_sreg(cdc_oracle_config_runtime,ORACLE_CDC_CONFIG)"/>
Oracle Dictionary Filename *	Oracle Dictionary Filename ex: dictionary.ora <input type="text" value="_property(_sreg(cdc_oracle_config_runtime,ORACLE_CDC_CONFIG)"/>
Marker Property File *	Location of marker File <input type="text" value="_property(_sreg(cdc_oracle_config_runtime,ORACLE_CDC_CONFIG)"/>
Redo logs Duration *	Redo to be read from Logs starting from number of hours. <input type="text" value="_property(_sreg(cdc_oracle_config_runtime,ORACLE_CDC_CONFIG)"/>
Redo Log Archive Directory Filter	Location of Redo Log Archive Directory Filter ex: /rdms/ora102/archive2 <input type="text" value="_property(_sreg(cdc_oracle_config_runtime,ORACLE_CDC_CONFIG)"/>
Log Last Executed Transactions	Log last executed Transactions in marker File <input type="text" value="true"/> Pick one
LogMiner Options *	Start LogMiner Options Flag(By Default COMMITTED(1)) <input type="text" value="1"/> Pick one
Whitespace Normalization	Specifies how the parser treats whitespace in Element content. Choose preserve to turn off all normalization as prescribed by the XML Specification.Choose condense to remove extra whitespace in pretty printed documents and for compatibility with earlier versions. <input type="text" value="preserve"/> Pick one
Optimize Favoring	Selection of memory is useful for large input document <input type="text" value="performance"/> Pick one
Execution Time Limit	Time limit for document execution(in seconds) before it is cancellation is attempted. (Also see system property "kill interval". This applies to agent stacks and sets a lower limit for process flows.) <input type="text"/>
Polling Interval	Interval at which to check for new input <input type="text" value="2.0"/>
Default Java File Encoding	Default encoding if incoming message is not self-declaring (i.e. XML) <input type="text" value="Cp1252"/> Pick one
Agent Precedence	Changes order by which engine selects agents. Normally Document overrides listener. This is used to manage iWay documents <input type="text" value="1"/> Pick one
Error Documents treated normally	If true, error documents will get processed by any configured pre-emitters <input type="text" value="false"/> Pick one
Record in Activity Log(s)	If set, activity on this channel will be recorded in the activity logs, else the activity will not be recorded. <input type="text" value="true"/> Pick one

<< Back Update

6. Provide the required configuration parameters for the new listener, which are described in *iWay Log Event Listener Configuration Parameters* on page 34.

7. Click *Next*.

The Name and Description pane opens.

8. In the Name field, type a name to identify the iWay Log Event Listener (for example, *LogEvent_Listener*).
9. In the Description field, type an optional description for the iWay Log Event Listener.
10. Click *Finish*.

The new File listener (*LogEvent_Listener*) is added to the list in the Listeners pane.

Reference: iWay Log Event Listener Configuration Parameters

Parameter	Description
JNDI Name	JNDI name for the requested data source. To use an iWay JDBC provider, specify as jdbc/provider. Required if using JNDI.
URL	URL for JDBC driver to access the database.
DBA User Name	Database user to access table.
DBA Password	Database password.
Schema Table Filter *	List all the schemas with tables separated by using a comma (for example: scott.classes,scott.emp,store.temp,...)
Dictionary Location *	Dictionary location (for example: /usr/tmp/logmine/).
Oracle Dictionary Filename *	Oracle dictionary file name (for example: dictionary.ora).

Parameter	Description
Marker Property File *	<p>The location of the marker property file.</p> <p>The marker property file is used by the Oracle LEA Listener to store state and debug information between polls. If the Log Last Executed Transactions parameter is set to <i>true</i> for the listener, then the XML representing the list of transaction processed during the last poll will be written to the marker property file. This is useful for debugging purposes, but should be set to <i>false</i> for a production environment.</p> <p>In addition, the Oracle last system change number (SCN) used to retrieve transactions is written to the property LAST_EXECUTION_LSN_NO in the marker property file. This number can be modified to retrieve a previous transaction or to skip a transaction in the sequence.</p>
Redo logs Duration *	Redo to be read from Logs starting from number of hours. One hour is the default value.
Redo Log Archive Directory Filter	Location of Redo Log Archive Directory Filter (for example: / rdbms/ora102/archive2).
Log Last Executed Transactions	Controls whether or not the transaction XML is logged to the marker file. This parameter is useful for debugging purposes, but should be set to <i>false</i> for production environments.
LogMiner Options *	Determines whether the Oracle LogMiner tracks uncommitted changes. The default value is 1.
Whitespace Normalization	Specifies how the parser treats whitespace in Element content. Choose <i>preserve</i> (default) to turn off all normalization as prescribed by the XML Specification. Choose <i>condense</i> to remove extra whitespace in pretty printed documents and for compatibility with earlier versions.
Optimize Favoring	Selection of <i>memory</i> is useful for large input documents.
Execution Time Limit	Time limit for document execution (in seconds) before it is cancellation is attempted.

Parameter	Description
Polling Interval	Interval at which to check for new input. By default, the interval is 2.0.
Default Java File Encoding	Default encoding if incoming message is not self-declaring (for example, XML). By default, Cp1252 is selected.
Agent Precedence	Changes order by which engine selects agents. Normally Document overrides listener. This is used to manage iWay documents. By default <code><document> overrides <listener> {1}</code> is selected
Error Documents treated normally	If set to <i>true</i> , error documents will get processed by any configured pre-emitters. This parameter is set to <i>false</i> by default.
Record in Activity Log(s)	If set to <i>true</i> , activity on this channel will be recorded in the activity logs, else the activity will not be recorded.

Configuring the iWay CDC SQL Batch Agent

The iWay CDC SQL Batch Agent applies SQL statements (INSERT, UPDATE, DELETE) to the target Oracle database tables.

Procedure: How to Configure the iWay CDC SQL Batch Agent

For demonstration purposes only, this section describes how to configure the iWay CDC SQL Batch Agent using the iWay Service Manager Administration Console.

Note: The configuration of the iWay CDC SQL Batch Agent is usually performed in a process flow in iWay Integration Tools.

1. From the Windows Start menu select *All Programs, iWay 7.0 Service Manager, and then Console.*

The screenshot shows the iWay Service Manager console. The left pane displays a tree view with categories: Properties (General Properties, Java Properties), Settings (General Settings, Console Settings, Java Settings, Register Settings, Trace Settings, Log Settings, Path Settings, Data Settings, Backup Settings), Providers (Data Provider, Services Provider, Directory Provider, Security Provider, XML Namespace Map Provider, Pooling Providers, Authentication Realms, Data Quality Providers, Secure Shell Provider, Schedule Provider, SNMP Provider), and Facilities (Activity Facility, Correlation Facility). The right pane shows the 'General Properties' for the 'base' configuration. It includes a 'General' section with Name, Version, and Build Date; a 'Configuration' section with Name, Status, and User Security Access; an 'Environment' section with OS, Java Info, Java Memory, and Classpath; and a 'Language and Locale' section with Locale, Language, and a Save button. A message at the bottom states: 'The server has to be stopped, and started for the language change to take effect.'

General	
Name / Home	ac11698 - C:/PROGRA~2/iway7/
Version	7.0.0-CFR.1190
Build Date	PLATO December 20 2013 1658

Configuration	
Name	base - C:/PROGRA~2/iway7/config/base
Status	Server Uptime: 1 minutes
User Security Access	Read / Write

Environment	
OS / Hardware	Windows 7 (process) / x86
Java Info	23.7-b01 -- Oracle Corporation -- Java HotSpot(TM) Client VM
Java Memory	20.42 MB of 247.50 MB (8.2%) used
Classpath	[1] C:\PROGRA~2\iway7\config\base\lib*

Language and Locale	
Locale / Timezone	en / America/New_York; time zone offset is -5 hours
Language	English [Save]

The server has to be stopped, and started for the language change to take effect.

2. Click *Registry* in the top pane.



3. In the left pane, select **Services**.

Components

Adapters

Decryptors

Ebix

Emitters

Encryptors

Listeners

Preemitters

Preparsers

Reviewers

Rules

Schemas

Services

Transforms

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

Services

Services are executed java procedures that handle the business logic of a message.

Services				
<input type="checkbox"/> Filter	By Name Where Name	Equals		
<input type="checkbox"/> Name	Type	References	Parms	Description
<input type="checkbox"/> DeleteAllSciFiBooks1	Constant Agent			Set a call to the RDBMS Adapter to delete all records from the SciFiBooks Database.
<input type="checkbox"/> move1	Move Agent			The move1 service defines a move agent that moves the input document stream to the output document stream. It represents the basic echo pattern in iSM.
<input type="checkbox"/> pictures_img2xml	Entag Agent			converts the image to base64 and wraps it in a <picture> tag
<input type="checkbox"/> pictures_iterator	XML Iterator			Iterate a loop for each portion of an XML document
<input type="checkbox"/> RSSRead1	HTTP Read Agent		Q	Reads an RSS Document from url that is specified in the original incoming document.
<input type="checkbox"/> Snip1	Snip Agent			Copies a subtree of the input document as defined by the PFIVP schema to the root of the output document as defined by PFIVPResponse schema.

The table that is provided lists existing services and a short description for each.

4. Click **Add**.

The Services Type pane opens.

Services
Services are executed java procedures that handle the business logic of a message.

Select the type for the new Service object definition

Type *	Available Service types
<input type="text" value="com.ibi.agents.XDCDCSQLBatchAgent"/>	Converts xml format cdc output into dml and execute batch statements
<input type="text" value="Select a type"/>	

<< Back Next >>

5. Select *CDCSQL Batch Agent* (*com.ibi.agents.XDCDCSQLBatchAgent*) from the Type drop-down list and click *Next*.

The configuration parameters pane for the iWay CDC SQL Batch Agent opens.

Services

Services are executed java procedures that handle the business logic of a message.

Configuration parameters for CDCSQL Batch Agent service	
Source Database *	Source of data <div>ORACLE</div> <div>Pick one ▼</div>
Target Database *	Target of data <div>ORACLE</div> <div>Pick one ▼</div>
JDBC Connection Properties (connect using Driver Manager)	
Table File Path	File path for property files for column map for tables <input type="text"/>
Column File Path	File path for property files for column map for tables <input type="text"/>
Data Source URL *	URL to reach the data source. Required unless using JNDI DataSource. <input type="text"/>
JDBC Driver *	JDBC driver to use. Required unless using JNDI DataSource. <input type="text"/>
User ID *	Default user id for connection <input type="text"/>
Password *	Default password for connection <input type="text"/>

- Provide the required configuration parameters for the new agent, which are described in [iWay CDC SQL Batch Agent Configuration Parameters](#) on page 41.
- Click *Next*.
The Name and Description pane opens.
- In the Name field, type a name to identify the iWay CDC SQL Batch Agent (for example, *SQLBatchAgent_Service*).
- In the Description field, type an optional description for the iWay CDC SQL Batch Agent.
- Click *Finish*.

The new iWay CDC SQL Batch Agent (SQLBatchAgent_Service) is added to the list in the Services pane.

Reference: iWay CDC SQL Batch Agent Configuration Parameters

Parameter	Description
Configuration parameters for CDCSQL Batch Agent service	
Source Database *	The source database for the CDC data. Select <i>ORACLE</i> from the drop-down list.
Target Database *	<p>The target database for the CDC data.</p> <p>Select one of the following databases from the drop-down list:</p> <p><input type="checkbox"/> ORACLE (default)</p> <p><input type="checkbox"/> SQLServer</p>
JDBC Connection Properties (connect using Driver Manager)	
Table File Path	File path table mappings properties file.
Column File Path	File path for column mappings properties file.
Data Source URL *	URL to access the target data source. This parameter is required unless you are using a JNDI data source.
JDBC Driver *	JDBC driver to use. This parameter is required unless you are using a JNDI data source.
User ID *	Default user ID for the connection.
Password *	Default password for the connection.

Column and Table Properties Files

The column and table properties files referenced in the Table File Path and Column File Path parameters of the iWay CDC SQL Batch Agent are used to map column names or table names from the source database to the target. The format for both properties is a simple key value pair, such as COLUMNA=COLUMNB or TABLEA=TABLEB.

A usage case for the table properties file is when you are replicating changes from the Oracle table SCOTT.CLASSES to a table in SQL Server called *classes*. The entry SCOTT.CLASSES=SCOTT must be added to the table properties file.



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iWay

/ iWay Log Event Adapter for Oracle

Version 7.0.x and Higher

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