



IBM Software Group

IBM WebSphere® Data Interchange V3.3

Common Event Handling Java API



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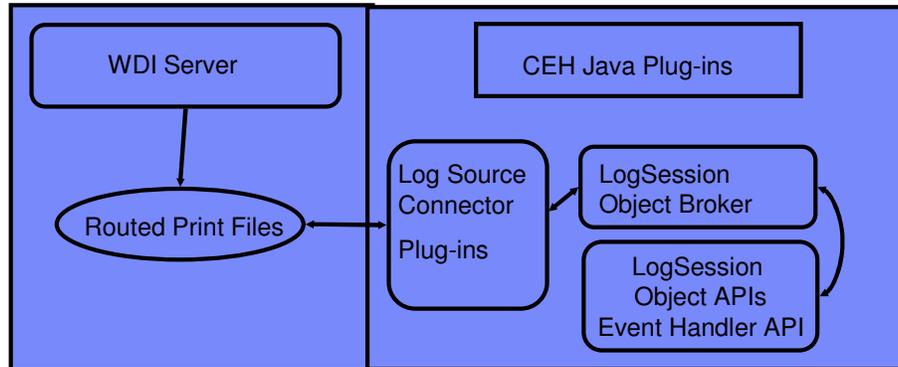
This presentation will describe the Common Event Handling JAVA API and E-Mail Alert.

Agenda

- Introduction to CEH Java API and Plug-ins
- Architecture
- LogSession Connectors
- LogSession
- Log Handler API
- E-mail Log Handler Plug-in Sample
- Summary

First an overview of the Common Event Handling system and its relation to the Java API is discussed. Then the Architecture of the Java API. We will discuss each of the components of the Java API. The e-mail notification sample program that uses the Java API is discussed. Finally the whole system is summarized.

WDI Server to Common Event Handler Plug-ins



The WDI Server can format and route the print files. The formats can be plain text, XML, and Application Data Format. The routing destinations can be Files, DataSets, MQ Series Queues, CICS Temporary Storage Queues, CICS Transient Data Queues.

For each of these destination types a Java Log Source Connector exists. The LogSession Object Broker uses the Log Source Connectors to read the Print Files from their destination sources. After the print file log is read it is parsed and passed to the Event Handler. The Event Handler API is a java Interface class for development of custom handlers. E-Mail Notification is provided as a sample Event Handler implementation.

WDI Log Session Source Connector

- Connectors provided for a variety of sources
 - ▶ WebSphere Message Queues
 - ▶ Hierarchical File Systems – AIX, Windows, USS
 - ▶ DataSets
 - ▶ Temporary Storage Queues
 - ▶ Transient Data Queues



For every Print File destination type there is a Java API connector to read from those destinations. Each connector type is a java class. To configure the Java API the name of the connector class must be provided. WebSphere Message Queue connections are supported on every platform. Regular text print files are supported on Windows, AIX, and in z/OS Unix System Services. A DataSet connector is provided for z/OS Batch. TSQ and TDQ connectors are provided for the CICS environment.

WDI Log Structure

- Optional Preamble
 - ▶ Associated Destination Properties
 - ▶ Defaults come from a property resource file
- WDI LogSession API
 - ▶ Document Identifiers
 - ▶ Message Information
 - ▶ Raw Print File



The Log Structure can be a plain Print File or an XML formatted print file. An optional XML header provides the Destination Profile properties.

WDI Log Structure - Preamble

```
<?xml version="1.0" ?>
<DestHeader>
  <DestProfile>DESTID1</DestProfile>
  <DestProperty>
    <PropertyName>toAddress</PropertyName>
    <PropertyValue>eventAdmin@us.ibm.com</PropertyValue>
  </DestProperty>
  <DestProperty>
    <PropertyName>fromAddress</PropertyName>
    <PropertyValue>wdiServer@us.ibm.com</PropertyValue>
  </DestProperty>
</DestHeader>
```



The Preamble is an optional Header specified in the Event Destination Profile. The Preamble properties override those configured in the wdi.properties file.

The only properties that cannot be overridden are the connector properties. These properties are also passed to the Event Handler. Custom property names and values are supported to provide user defined Destination Profile information to the Event Handler at run-time. In this example the toAddress and fromAddress are provided from the Destination Profile and used by the e-mail notification Event Handler implementation.

WDI Log Structure – Document Information

- <DocInfo>
- <DocId>20060816135154668250</DocId>
- <Direction>Input</Direction>
- <Syntax>xml</Syntax>
- <Dictionary>GS1V2.0.2</Dictionary>
- <Sndtpnick>WRESNDR879</Sndtpnick>
- <Sndid></Sndid>
- <Sndqual></Sndqual>
- <Rcvtpnick></Rcvtpnick>
- <Rcvid></Rcvid>
- <Rcvqual></Rcvqual>
- <Document></Document>
- <Intctlnum></Intctlnum>
- <Grpctlnum></Grpctlnum>
- <Trxctlnum></Trxctlnum>
- </DocInfo>

Messages in the Session Log are correlated to the document being processed by Document Id. The document information is provided in the DocInfo segment. The Java API provides message and DocInfo access and collection by DocId.

WDI Log Structure – Event Messages

- `<Message>`
- `<MsgId>UT0008</MsgId>`
- `<DocId>20060816135154668250</DocId>`
- `<Severity>00</Severity>`
- `<Text>Map name being processed: POXML5SR-EDI.
</Text>`
- `<InsertData>POXML5SR-EDI</InsertData>`
- `</Message>`



XML formatted print files provide detail message information. The Message Identifier. The DocId can be used to access the Document Information. DocID, Message Severity, Text, and substitution data are each accessible using the Java API.

WDI E-mail Plug-in

- Implements WDI Log Event Handler Interface
- Source Code Provided
- Can send customizable e-mail with log attached or location of log for remote problem determination
- Uses JavaMail API for delivery to any SMTP compliant e-mail service provider.

A sample java program with source code is provided for the customer. This sample illustrates how a Java Event handler Plug-in can be developed to use some of the features of the Java API. The sample E-mail Notification program is functional and can be used as-is.

WDI E-mail Plug-in

- SMTP and e-mail properties are configured with
 - ▶ Resource file
 - ▶ Associated Destination Properties from the Log Session Preamble.
- If the notification e-mail could not be sent
 - ▶ Retry a configured number of intervals.
 - ▶ A set a return code informing the Log Session Broker to roll back the LogSession or move it to another location for later retry.

The E-Mail Plug-in shows how wdi.properties and Event Destination Profile information can be used to configure run-time information. How the Event Handler Interface is used to control the handling of Event Logs.

WDI Java Common Event and E-mail Plug-ins

Environments Supported

- Windows
- AIX
- z/OS Batch
- z/OS UNIX System Services
- CICS



The Java API end E-mail Notify is supported in several OS environments:

Windows

AIX

z/OS Batch

z/OS USS – UNIX System Services

And CICS.

Each environment has pre-reqs and configuration steps that must be done by the system administrator.

WDI Event and E-mail Plug-ins

- Minimum Java Requirements
 - ▶ IBM Java 2 Technology Edition v1.4
 - ▶ Sun JavaMail v1.4

IBM Java 2 Technology Edition v1.4 or higher for all platforms except for z/OS the IBM Java must be Java 1.4.2 at SR(6) or higher.

WDI Event and E-mail Plug-ins

- Configuration of Base Java API
 - ▶ Verify IBM Java installed and at correct level
 - Java -version
 - Java(TM) 2 Runtime Environment, Standard Edition (build 1.4.2_12-b03)
 - z/OS java must show that it is at SR(6)
 - ▶ Verify CLASSPATH has entry for edicevh.jar
 - z/OS CICS needs additional CLASSPATH entries
 - IBM Java for z/OS jars dfjwrap.jar and dfjcics.jar these jars are located in the IBM Java SDK installation directory.

IBM Java 2 Technology Edition v1.4 or higher for all platforms except for z/OS the IBM Java must be Java 1.4.2 at SR(6) or higher.

Details for installation and configuration are in the install guide. The common mistakes are made in setting the CLASSPATH

WDI Event and E-mail Plug-ins

- Configuration of Java API LogSessionSource
 - ▶ Each Destination Type requires configuration
 - The HFS file system works with the base Java API configuration.
 - MQ Series java jars com.ibm.mqjms.jar, com.ibm.mq.jar, and connector.jar
 - Located in the IBM WMQ program product install directory
 - z/OS Batch java jars recjava.jar and recordio.jar for DataSet handling
 - Located in the IBM Java for z/OS program product install directory
 - CICS TSQ and TDQ java jars dfjwrap.jar and dfjcics.jar
 - Located in the IBM Java for z/OS program product install directory



The Java API LogSessionSource uses java classes provided in other IBM products. For destination type WMQ Queues the supporting jars come installed with WMQ. The destination types for z/OS and CICS the needed java classes are provided with IBM Java for z/OS.

Summary

- Print File Logs can be read from a variety of sources
- Destination Profile data provides run-time configuration and user parameters.
- XML formatted Print Files are parsed into detail objects that custom applications can process.
- Sample Code for an Event Handler that provides e-mail notification.



The Print File Logs can be read from a variety of sources. The Destination Profile data provides run-time configuration and user parameters. XML formatted Print Files are parsed into detail objects that custom applications can process. Sample Code is provided for an Event Handler that provides e-mail notification.

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