**JD Edwards EnterpriseOne Tools**

Messaging Queue Adapter Configuration Guide

Release 9.1 for MSMQ

**E24287-02**

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JD Edwards EnterpriseOne Tools Messaging Queue Adapter Configuration Guide, Release 9.1 for MSMQ

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# Contents

# Preface

Welcome to the *JD Edwards EnterpriseOne Tools Configuration for Messaging Queue Adapter for MSMQ Guide*.

## Audience

This document is intended for system administrators and consultants who are responsible for installing and managing JD Edwards EnterpriseOne.

## Documentation Accessibility

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## Related Documents

You can access related documents from the JD Edwards EnterpriseOne Release Documentation Overview pages on My Oracle Support. Access the main documentation overview page by searching for the document ID, which is 876932.1, or by using this link:

https://support.oracle.com/CSP/main/article?cmd=show&type=NOT&id=876932.1

To navigate to this page from the My Oracle Support home page, click the Knowledge tab, and then click the Tools and Training menu, JD Edwards EnterpriseOne, Welcome Center, Release Information Overview.

This guide contains references to server configuration settings that JD Edwards EnterpriseOne stores in configuration files (such as jde.ini, jas.ini, jdbj.ini, jdelog.properties, and so on). Beginning with the JD Edwards EnterpriseOne Tools Release 8.97, it is highly recommended that you only access and manage these settings for the supported server types using the Server Manager program. See the *JD Edwards EnterpriseOne Tools Server Manager Guide*.

# Conventions

The following text conventions are used in this document:

| Convention | Meaning |
| --- | --- |
| **boldface** | Boldface type indicates graphical user interface elements associated with an action, or terms defined in text or the glossary. |
| *italic* | Italic type indicates book titles, emphasis, or placeholder variables for which you supply particular values. |
| `monospace` | Monospace type indicates commands within a paragraph, URLs, code in examples, text that appears on the screen, or text that you enter. |

# 1

# Introduction

Oracle's JD Edwards EnterpriseOne Adapter for IBM WebSphere MQ enables you to connect third-party applications to JD Edwards EnterpriseOne by sending and receiving messages through IBM's WebSphere MQ messaging system. The adapter monitors an inbound queue for request and reply messages, performs the requested services, and places the results on outbound queues. The adapter also monitors the system for certain activities and publishes the results in an outbound message queue. All messages transported through IBM WebSphere MQ are in the form of XML documents.

The purpose of this document is to describe the configuration and operation of the adapter. A separate document, the *JD Edwards EnterpriseOne Tools Interoperability Guide*, in the chapter "Understanding Messaging Queue Adapters" explains the design of the adapter, the formats of the documents, and the tasks necessary to create, modify, and process the XML documents in the Events chapters.

The JD Edwards EnterpriseOne Adapter for IBM WebSphere MQ is a JD Edwards EnterpriseOne product that can be licensed and installed independently. You use this adapter to connect the JD Edwards EnterpriseOne system with any system that can implement the IBM WebSphere MQ messaging protocols, including IBM WebSphere Commerce Suite (WCS), and that can produce and consume XML documents in the prescribed formats. The JD Edwards EnterpriseOne Adapter for IBM WebSphere MQ exports and imports XML documents through IBM WebSphere MQ in the prescribed formats.

The following three operations are supported:

1.  Inbound transactions through calling BSFNs

2.  Outbound Z events delivery through setting up EnterpriseOne Z events mechanism.

    The remaining guide applies only to inbound and outbound using Z events.

3.  Outbound Real-Time events delivery through setting up EnterpriseOne Real-Time events mechanism.

## 1.1 Accessing Minimum Technical Requirements

Customers must conform to the supported platforms for the release as detailed in the JD Edwards EnterpriseOne Minimum Technical Requirements. In addition, JD Edwards EnterpriseOne may integrate, interface, or work in conjunction with other Oracle products. Refer to the following link for cross-reference material in the Program Documentation for Program prerequisites and version cross-reference documents to assure compatibility of various Oracle products:
http://www.oracle.com/corporate/contracts/index.html

Access the current Minimum Technical Requirement (MTR) document (Document ID 745831.1) posted on My Oracle Support:

https://support.oracle.com/CSP/main/article?cmd=show&type=NOT&doctype=REFE
RENCE&id=745831.1

## 1.2 Creating Outbound IBM WebSphere MQ Queues For Real-Time Events

If you are interested in receiving real-time events, real-time event queues must be created. The real-time event queue does not need to be created if you are not interested in receiving real-time events.

See "Creating an MSMQ Real-Time Event Queue" in the *JD Edwards EnterpriseOne Tools Interoperability Guide*.

This illustration shows the JD Edwards EnterpriseOne server with the IBM WebSphere MQ adapter:
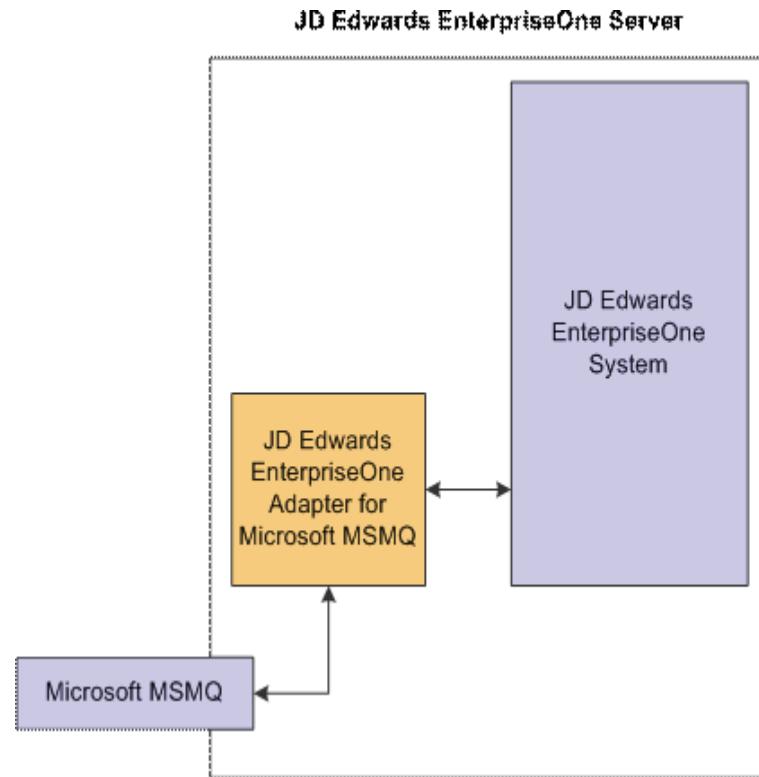


**Prerequisites**

Verify that your system meets the minimum technical requirements (MTRs) to support message queuing. JD Edwards EnterpriseOne MTRs are available on Oracle | PeopleSoft Customer Connection. Use this navigation:

Implement, Optimize + Upgrade | Optimization Guide | Supported Platforms | JD Edwards EnterpriseOne

# 2

# Creating Inbound and Outbound MSMQ Queues for Z Events Only: Step 1

You must set up the queues for Oracle's JD Edwards EnterpriseOne Adapter for MSMQ to work on the JD Edwards EnterpriseOne server. As an optimal configuration, you should install the MSMQ server on the machine running the JD Edwards EnterpriseOne server.

> **Note:** You can specify any name for a queue. However, it is important that the queue names you create match the queue names you specify in the jde.ini file on the JD Edwards EnterpriseOne server.
>
> You must create inbound and outbound queues. For the inbound queue, you must specify transactional. You may optionally specify the outbound queues as transactional.

Use these steps to create the inbound, success, error, and outbound queues:

**To create a JD Edwards EnterpriseOne Adapter for MSMQ queues**
From the Computer Management utility, expand Services and Applications > Message Queuing.

1. Right-click on Public Queues.

2. Select the New > Public Queue option.

   A Queue Name dialog box appears in the right pane.

   Repeat steps 1 and 2 to get a new dialog box to create each of the four required queues.

3. On the Queue Name dialog box, complete the fields using the appropriate queue name.

   For the Inbound queue, do the following:

   - Type the name of the inbound queue (for example, inbound).

   - Verify that the Transactional option is selected.

   - Click OK.

   For the Outbound queue, do the following:

   - Type the name of an outbound queue (for example, outbound).

   - Verify that the Transactional option is cleared.

- Click OK.

4. In the left pane of the MSMQ Explorer window, right-click the name of each queue that you have just created.

   You can select only one queue at a time.

5. On the Inbound Queue Properties window that appears in the right pane, click the General tab.

6. Under the General tab, complete this field:

   - Label

     The JD Edwards EnterpriseOne Adapter for MSMQ uses the label of the queue to search for the necessary queue at run time. You must make this name the same as the name specified in the jde.ini file. Generally, you should label all queues the same.

     If you use the MSMQ direct format queue to directly access queues, the Label field is optional.

7. Click the Advanced tab and verify that all options are cleared.

   JD Edwards EnterpriseOne does not support authenticated messages.

8. Click the Security tab and select the Permissions option.

   You set up permission access to the queue based on a security level in your enterprise. Note that MSMQ kernel processes running under a specific account (the same as the one that the JD Edwards EnterpriseOne server is running on) should be able to have Send and Receive security permissions. You might need to give that account appropriate security access to the queue.

9. Click OK to complete the setup.

# 3

# Configuring the Server jde.ini File for Z Events Only: Step 2

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**Note:** Make sure that NT services are stopped until after you make the requisite changes to the jde.ini file on Oracle's JD Edwards EnterpriseOne server.

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You must configure the jde.ini file on the JD Edwards EnterpriseOne server with these settings:

| Parameter | Description |
| --- | --- |
| **[JDENET]** | |
| maxKernelRanges=27 | This value represents the total number of JDENET kernel types. When the MQ kernel_def type is added, you must increment this value by one so that JDENET knows to include and start this added kernel. |
| **[JDENET_KERNEL_ DEF18]** | You must update the DEF value to the next number. For JD Edwards EnterpriseOne, this value is 18. |
| krnlName=MSMQ Kernel | |
| dispatchDLLName= msmqadapt.dll | |
| dispatchDLLFunctio n= | |
| JDEK_ DispatchMSMQProce ss@28 | |
| maxNumberOfProces ses=1 | |
| numberOfAutoStartP rocesses=1 | This value can be set for 1 through n, where n is the number of processes you have defined. When this value is 1 or more, the MSMQ kernel automatically starts when JD Edwards EnterpriseOne is initialized. You must use this setting when you use the MSMQ adapter with JD Edwards EnterpriseOne.<br><br>If the value of this setting is 0, the MSMQ kernel does not automatically start upon initialization of JD Edwards EnterpriseOne. |

| Parameter | Description |
|---|---|
| **[MSMQ]** | |
| QLabelName=OneWorld<br>QInboundName=<computer name>\inbound<br>QErrorName=<computer name>\error<br>QOutboundName=<computer name>\outbound | The name of the queues can be any name, but the name in the jde.ini file must match the name you specify in the MSMQ queue setup.<br>**Note**<br>MSMQ direct queue format is also supported. |
| TimeoutWaitInterval=2 | |
| MaxBufferLength=204800 | The value of this parameter is measured in bytes. The maximum value that you can set for the MaxBufferLength setting is 2,000,000. You should not use the maximum value, as this can cause performance issues. You can use the MSMQ tools to determine the average size of a message and then set the MaxBuffereLength value based on your needs. |
| OWHostName=jde | You must specify a *host_name* for the OWHostName= parameter. The name you specify is the machine used to create the net message to trigger the outbound adapter. This is the server on which JD Edwards EnterpriseOne resides. |
| QOutboundEncoding=Unicode | The following values are valid for this parameter:<br>Unicode. This value is used if a Unicode code set is required for messaging. Typically used by clients who use languages other than English only.<br>ASCII. This value is used if an ASCII character set is required for messaging. Typically used by clients who have data that is only in English. |
| BizTalk=0 | If the consumer of outbound messages is BizTalk, set BizTalk=1. |

If you use the MSMQ direct format queue to directly access queues, use the naming conventions provided by Microsoft. Use this link to access the Microsoft Direct Format for Message Queuing Web page.

http://msdn.microsoft.com/library/default.asp?url=/library/en-us/msmq/msmq_about_queues_41tf.asp

# 4

# Setting Up UBE Queues for Z Events Only: Step 3

You must set up at least two of Oracle's JD Edwards EnterpriseOne UBE queues because the JD Edwards EnterpriseOne Adapter for MSMQ relies on the use of a subsystem UBE (R00460). Like all subsystem UBEs, the R00460 operates in a permanent processing mode that consumes the queue in which it runs to an extent where no other UBE jobs running on the server can operate in the same queue. As a result, you must define at least two UBE queues and dedicate one queue to normal UBE processing and the second to the JD Edwards EnterpriseOne Adapter for MSMQ subsystem.

This section describes:

- Modifying the jde.ini on the JD Edwards EnterpriseOne server to support multiple UBE queues.

- Modifying the jde.ini on the JD Edwards EnterpriseOne Microsoft Windows client to submit the UBE subsystem request.

**To modify the JD Edwards EnterpriseOne server jde.ini file to support multiple UBE queues**

On the JD Edwards EnterpriseOne server, ensure these settings are correct:

| Parameter | Description |
| --- | --- |
| [NETWORK QUEUE SETTINGS]<br><br>UBEQueues=2<br><br>UBEQueue1=ONEWORLD<br><br>UBEQueue2=QBATCH | These values should be added or modified where:<br><br>UBEQueues= Defines the number of UBE queues that are defined on this JD Edwards EnterpriseOne server. In this example, two queues are defined.<br><br>UBEQueue1= Defines the name of the first UBE queue. In this example, the queue name is ONEWORLD.<br><br>UBEQueue2= Defines the name of the second UBE queue. In this example, the queue name is QBATCH. |

**To modify the JD Edwards EnterpriseOne Microsoft Windows client jde.ini file to submit the UBE subsystem request**

If you submit or start the R00460 subsystem UBE from a JD Edwards EnterpriseOne Microsoft Windows client, you must first temporarily modify the jde.ini file on the Microsoft Windows client. The temporary modification is required so that the Microsoft Windows client can direct the R00460 subsystem to the appropriate UBE queue name. After the Microsoft Windows client submits or starts the R00460

subsystem UBE, you must undo the temporary change so that the client can regain access to normal UBE submissions to the server-based UBE queue.

On the Microsoft Windows client machine from which you want to submit or start the R00460 subsystem UBE, ensure this jde.ini setting is correct:

| Parameter | Description |
| --- | --- |
| [NETWORK QUEUE SETTINGS] | UBEQueue= Defines the name of the local or server-based UBE queue. |
| UBEQueue= | If you want the Microsoft Windows client to start or submit the R00460 subsystem, enter a value that corresponds with the value set by the UBEQueue1= on the JD Edwards EnterpriseOne server. |
| | If you want the Microsoft Windows client to use the normal server-based UBE processing queue, enter a value that corresponds with the equivalent value for that queue on the server. In the example presented in this guide, the name of the normal UBE processing queue is QBATCH. |

> **Caution:**   Any time you modify settings in the jde.ini file on the Microsoft Windows client machine, you must exit and restart JD Edwards EnterpriseOne in order for the changes to become effective.

# 5

# Configuring the Interoperability Features for Z Events Only: Step 4

You can use Z, real-time, or XAPI events to receive transactions from Oracle's JD Edwards EnterpriseOne. To use real-time and XAPI events to receive outbound transactions, you must set up your system as indicated in the *JD Edwards EnterpriseOne Tools Interoperability Guide*, and you must set up events as indicated in the *JD Edwards EnterpriseOne Applications Real-Time Events Implementation Guide*.

Z event outbound processing uses the interface table (Z-table) processes supported by JD Edwards EnterpriseOne applications. The outbound processes available to you vary depending on which release you use. If you use interface tables for transaction-specific outbound processing, you must perform configuration tasks such as setting up processing options and setting up data export controls.

This section provides guidance for setting up the data export controls and also provides examples for setting up JD Edwards EnterpriseOne applications that support Z event processing. The application examples include the following:

- Section 5.1, "Setting Up Flat File Cross-Reference"

- Section 5.2, "Setting Up Data Export Controls"

- Section 5.3, "Setting up the Sales Order Entry Application"

- Section 5.4, "Configuring the Address Book Revisions Application"

- Section 5.5, "Configuring the Address Book Master Business Function"

> **See Also:**
>
> - *JD Edwards EnterpriseOne Applications Real-Time Events Implementation Guide*
>
> - Events chapters in the *JD Edwards EnterpriseOne Tools Interoperability Guide*

## 5.1 Setting Up Flat File Cross-Reference

When you enable Z events, you also update the Flat File Cross-Reference (F47002) table. The transaction type that you entered in the processing option maps to table F47002 to determine which interface tables to use to retrieve the information. You use the Flat File Cross-Reference program (P47002) to update table F47002.

**Setting up flat file cross-reference**



Refer to the *JD Edwards EnterpriseOne Applications Data Interface for Electronic Data Interchange Implementation Guide* for instructions on setting up the flat file cross-reference application.

## 5.2 Setting Up Data Export Controls

You must create a Data Export Control (F0047) record for each transaction type. The record specifies the vendor-specific UBE or function to call to process the transaction. For example, for transaction type JDESOOUT you must set up a record for each order type that you want to export.

**Setting up Data Export Controls**

On the JD Edwards EnterpriseOne Menu, select JD Edwards EnterpriseOne Menus > Order Management > Sales Order Management > Sales Order Advanced & Technical Ops > Sales Interoperability > Data Export Controls.

An alternative way to access the Data Export Controls program is to type P0047 in the Fast Path.



**Data Export Controls form**

This table shows the values for fields:

| Form Field | Description |
|---|---|
| Trans | The values you specify in this field must match the values you have configured for JD Edwards EnterpriseOne outbound processing in the various applications. Below are examples of transaction types:<br><br>JDEAB<br><br>JDEIL<br><br>JDEPRICE<br><br>JDESOOUT |
| Or Ty | The values you specify in this field must match the values that are required for your system. For example, for Microsoft MSMQ the following order types are required:<br><br>JDESOOUT S4<br><br>JDESOOUT SO |
| Seq | 1.00 |
| UBE Name | Leave the field blank |
| Version | Leave the field blank |
| Function Name | _MSMQOutboundNotify@36 |
| Function Library | *x*:\JDEdwardsOneWorld\ddp\E900\system\bin32\MSMQNotify.dll<br><br>where *x* is a variable drive letter for the installation of the JD Edwards EnterpriseOne server code |
| Execute for Add | 1 |
| Execute for Update | 1 |
| Execute for Delete | 1 |
| Execute for Inquiry | 1 |
| Flat File Export Mode | 0 |
| External Database Export Mode | 0 |
| External API Export Mode: | 0 |
| Launch Immediately | 1 |

## 5.3 Setting up the Sales Order Entry Application

You set up the JD Edwards EnterpriseOne Sales Order Entry (P4210) program to enable it for interoperability operations.

**To set up the processing options for Sales Order Entry**

On the JD Edwards EnterpriseOne Menu, select JD Edwards EnterpriseOne Menus > Order Management > Sales Order Management > Daily Processing > Sales Order Processing > select the arrow to the right of Sales Order Detail and then click Values > on Processing Options, select Interop from the Select Tab options.
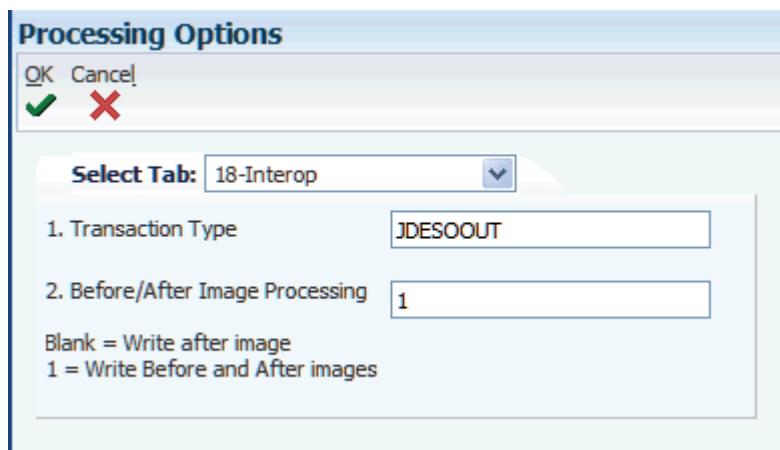
On the Sales Order Detail Processing Option form:

1. To define the transaction type, type JDESOOUT in the Transaction Type field.

2. To define before or after image processing, enter the appropriate value in the Before/After Image Processing field.

3. Click OK.

## 5.4 Configuring the Address Book Revisions Application

You set up the JD Edwards EnterpriseOne Address Book Revision (P01012) program to enable it for interoperability operations.

**To set up processing options for Address Book Revisions**

On JD Edwards EnterpriseOne Menu, select JD Edwards EnterpriseOne Menus > Foundation Systems > Address Book > Daily Processing > select the arrow to the right of Address Book Revisions and then select Values > on Processing Options, select the Versions tab.



On the Address Book Revisions Processing Options form:

1. Type INTOP in the Address Book MBF (P0100041) Version field.

2. Click OK.

3. On Work With Addresses, click Close.

## 5.5 Configuring the Address Book Master Business Function

You set up the Address Book Master Business Function (P0100041) to enable interoperability operations.

**To set up processing options for the Address Book Master Business Function**

*Type IV in the Fast Path.*

1. On Work With Interactive Versions, type P0100041 in the Interactive Application field, and then click Find.

2. Select the INTOP version, and then select Processing Options from the Row menu.

   If there is not a version called INTOP, select version ZJDE0001 and copy it. Call the new version INTOP and click OK.
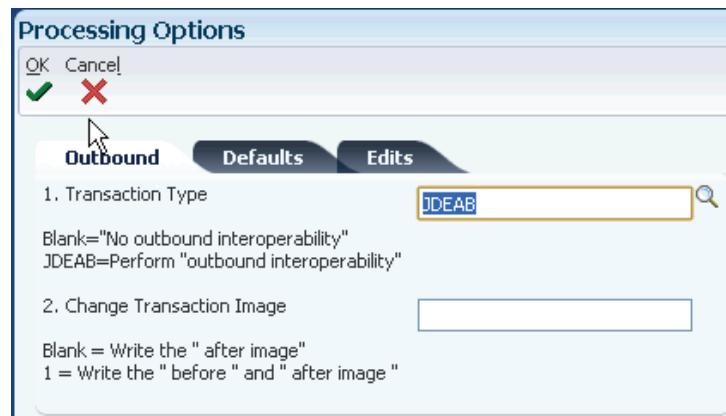


3. On the Address Book Master Business Function Processing Options form, select the Outbound tab.

4. Type JDEAB in the Transaction Type field.

5. To define before or after image processing, enter the appropriate value in the Before/After Image Processing field.

6. Click OK.

7. Click Close.

# 6

# Restarting NT Service on the Server: Step 5

After you complete the queue setup and the various associated configuration tasks (including configuring the jde.ini file), you must stop and restart the NT services on the JD Edwards EnterpriseOne server.

**To stop the NT service**

*Access the JD Edwards EnterpriseOne server.*

1. From the Control Panel, select Services.

2. Select JDE E900 Network, and then Stop.

**To restart the NT service**

*Access the JD Edwards EnterpriseOne server.*

1. From the Control Panel, select Services.

2. Select JDE E900 Network, then Start.

# 7

# Running the R00460 Subsystem for MSMQ for Z Events Only: Step 6

The R00460 subsystem monitors the MSMQ queues for messages and manages the JD Edwards EnterpriseOne side of the queues. After the R00460 subsystem is started, you can verify that the subsystem is running. You can also review the job record for the subsystem. After the records have been processed, you must manually terminate the subsystem job.

> **Caution:** After the records have been processed, instead of ending the job, subsystem jobs look for new data in the data queue. Subsystem jobs run until you terminate them.

> **See Also:**
>
> - "Managing JD Edwards EnterpriseOne Subsystems" in the *JD Edwards EnterpriseOne Tools System Administration Guide*

## 7.1 Starting the R00460 Subsystem

The R00460 subsystem for MSMQ must be manually started. Usually the system administrator or manager-level user is responsible for this task.

> **Note:** Before you start the R00460 subsystem, you should have already updated the jde.ini file on the JD Edwards EnterpriseOne server to point to the new queue.

**To start the R00460 subsystem**

*Type BV in the Fast Path.*

1. On Work With Batch Versions, type R00460 in the Batch Application field, and then select Find.



2. Select version XJDE0001, and then click Select.

3. On Version Prompting, select Submit.

4. On Report Output Destination, select the destination option for your report, and then select OK.

## 7.2 Viewing Subsystems Running on a Server

You use Work With Servers to determine which subsystems are currently running or waiting on a particular server. The running subsystems are identified by report number and version.

**To view subsystems running or waiting on a server**

*On JD Edwards EnterpriseOne Menu, select JD Edwards EnterpriseOne Life Cycle Tools > System Administration Tools > System Administration Tools > Data Source Management > Work With Servers.*

1. On Work With Servers, click Find to locate all servers or use the query by example row to locate a specific server.

2. Select the server with which you want to work.

3. From the Row menu, select Subsystem Jobs.

4. On Work With Subsystems, click one of the following options:

   - Processes

     A process is a subsystem that is waiting for work. This is identified by an S (subsystem job) value in the Job Type field.

   - Waiting Jobs

     Waiting jobs are report jobs that are queued for a subsystem. This is identified by an R (subsystem record) value in the Job Type field.

     All currently running JD Edwards EnterpriseOne subsystems are displayed. The status of each subsystem is shown by codes in the following fields:

   - Job Type

     This field indicates whether the status is a subsystem record or a subsystem job. Values are:

     R - subsystem record

     S - subsystem job

   - Job Status

     W - subsystem record waiting.

     P - subsystem record processing.

     E - subsystem record to end the job.

     R - subsystem job running.

## 7.3 Terminating Subsystems

You must manually terminate subsystem jobs. Two methods of termination are available:

- Stopping a subsystem job causes it to terminate after it finishes processing the current record.

Additional unprocessed records in the F986113 table are not processed, and no new records can be written. Essentially the unprocessed records are lost; that is, the process that initiated the record is not notified that the record was not processed.

- Ending a subsystem job causes it to terminate after processing all of the existing subsystem records.

No new records can be written to the F986113 table.

**To stop subsystems**

*On JD Edwards EnterpriseOne Menu, select JD Edwards EnterpriseOne Life Cycle Tools > System Administration Tools > System Administration Tools > Data Source Management > Work With Servers.*

1. On Work With Servers, click Find.

2. Select the server in the detail area, and then select Subsystem Jobs from the Row menu.

3. On Work With Subsystems, locate a running subsystem.

4. Select the running subsystem that you want to stop, and then select Stop Subsystem from the Row menu.

5. On End Subsystem Job, click OK.

**To end subsystems**

*On JD Edwards EnterpriseOne Menu, select JD Edwards EnterpriseOne Life Cycle Tools > System Administration Tools > System Administration Tools > Data Source Management > Work With Servers.*

1. On Work With Servers, click Find.

2. Select the server in the detail area, and then select Subsystem Jobs from the Row menu.

3. On Work With Subsystems, locate a running subsystem.

4. Select the running subsystem that you want to end, and then select End Subsystem Job from the Row menu.

5. On End Subsystem Job, click OK.

## 7.4 Verifying Event Delivery

Once the event queues are set up, you should verify event delivery. Start the COMConnector. Through the MSMQ Computer Management, select the queue that you configured to receive JD Edwards EnterpriseOne events. Click the messages under the queue name.

See "Verifying Event Delivery" in the *JD Edwards EnterpriseOne Tools Interoperability Guide*