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# JD Edwards EnterpriseOne Tools 8.96 Server and Workstation Administration Guide

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**April 2006**

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# About This Documentation Preface

JD Edwards EnterpriseOne implementation guides provide you with the information that you need to implement and use JD Edwards EnterpriseOne applications from Oracle.

This preface discusses:

- JD Edwards EnterpriseOne application prerequisites.
- Application fundamentals.
- Documentation updates and printed documentation.
- Additional resources.
- Typographical conventions and visual cues.
- Comments and suggestions.
- Common fields in implementation guides.

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**Note.** Implementation guides document only elements, such as fields and check boxes, that require additional explanation. If an element is not documented with the process or task in which it is used, then either it requires no additional explanation or it is documented with common fields for the section, chapter, implementation guide, or product line. Fields that are common to all JD Edwards EnterpriseOne applications are defined in this preface.

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## JD Edwards EnterpriseOne Application Prerequisites

To benefit fully from the information that is covered in these books, you should have a basic understanding of how to use JD Edwards EnterpriseOne applications.

You might also want to complete at least one introductory training course, if applicable.

You should be familiar with navigating the system and adding, updating, and deleting information by using JD Edwards EnterpriseOne menus, forms, or windows. You should also be comfortable using the World Wide Web and the Microsoft Windows or Windows NT graphical user interface.

These books do not review navigation and other basics. They present the information that you need to use the system and implement your JD Edwards EnterpriseOne applications most effectively.

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## Application Fundamentals

Each application implementation guide provides implementation and processing information for your JD Edwards EnterpriseOne applications.

For some applications, additional, essential information describing the setup and design of your system appears in a companion volume of documentation called the application fundamentals implementation guide. Most product lines have a version of the application fundamentals implementation guide. The preface of each implementation guide identifies the application fundamentals implementation guides that are associated with that implementation guide.

The application fundamentals implementation guide consists of important topics that apply to many or all JD Edwards EnterpriseOne applications. Whether you are implementing a single application, some combination of applications within the product line, or the entire product line, you should be familiar with the contents of the appropriate application fundamentals implementation guides. They provide the starting points for fundamental implementation tasks.

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## Documentation Updates and Printed Documentation

This section discusses how to:

- Obtain documentation updates.
- Order printed documentation.

### Obtaining Documentation Updates

You can find updates and additional documentation for this release, as well as previous releases, on Oracle's PeopleSoft Customer Connection website. Through the Documentation section of Oracle's PeopleSoft Customer Connection, you can download files to add to your Implementation Guides Library. You'll find a variety of useful and timely materials, including updates to the full line of JD Edwards EnterpriseOne documentation that is delivered on your implementation guides CD-ROM.

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**Important!** Before you upgrade, you must check Oracle's PeopleSoft Customer Connection for updates to the upgrade instructions. Oracle continually posts updates as the upgrade process is refined.

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### See Also

Oracle's PeopleSoft Customer Connection, [http://www.oracle.com/support/support\\_peoplesoft.html](http://www.oracle.com/support/support_peoplesoft.html)

### Ordering Printed Documentation

You can order printed, bound volumes of the complete line of JD Edwards EnterpriseOne documentation that is delivered on your implementation guide CD-ROM. Oracle makes printed documentation available for each major release of JD Edwards EnterpriseOne shortly after the software is shipped. Customers and partners can order this printed documentation by using any of these methods:

- Web
- Telephone
- Email

#### Web

From the Documentation section of Oracle's PeopleSoft Customer Connection website, access the PeopleBooks Press website under the Ordering PeopleBooks topic. Use a credit card, money order, cashier's check, or purchase order to place your order.

#### Telephone

Contact MMA Partners, the book print vendor, at 877 588 2525.

## Email

Send email to MMA Partners at [peoplebookspress@mmapartner.com](mailto:peoplebookspress@mmapartner.com).

## See Also

Oracle's PeopleSoft Customer Connection, [http://www.oracle.com/support/support\\_peoplesoft.html](http://www.oracle.com/support/support_peoplesoft.html)

---

## Additional Resources

The following resources are located on Oracle's PeopleSoft Customer Connection website:

Resource	Navigation
Application maintenance information	Updates + Fixes
Business process diagrams	Support, Documentation, Business Process Maps
Interactive Services Repository	Support, Documentation, Interactive Services Repository
Hardware and software requirements	Implement, Optimize, and Upgrade; Implementation Guide; Implementation Documentation and Software; Hardware and Software Requirements
Installation guides	Implement, Optimize, and Upgrade; Implementation Guide; Implementation Documentation and Software; Installation Guides and Notes
Integration information	Implement, Optimize, and Upgrade; Implementation Guide; Implementation Documentation and Software; Pre-Built Integrations for PeopleSoft Enterprise and JD Edwards EnterpriseOne Applications
Minimum technical requirements (MTRs) (JD Edwards EnterpriseOne only)	Implement, Optimize, and Upgrade; Implementation Guide; Supported Platforms
Documentation updates	Support, Documentation, Documentation Updates
Implementation guides support policy	Support, Support Policy
Prerelease notes	Support, Documentation, Documentation Updates, Category, Release Notes
Product release roadmap	Support, Roadmaps + Schedules
Release notes	Support, Documentation, Documentation Updates, Category, Release Notes
Release value proposition	Support, Documentation, Documentation Updates, Category, Release Value Proposition
Statement of direction	Support, Documentation, Documentation Updates, Category, Statement of Direction

Resource	Navigation
Troubleshooting information	Support, Troubleshooting
Upgrade documentation	Support, Documentation, Upgrade Documentation and Scripts

## Typographical Conventions and Visual Cues

This section discusses:

- Typographical conventions.
- Visual cues.
- Country, region, and industry identifiers.
- Currency codes.

### Typographical Conventions

This table contains the typographical conventions that are used in implementation guides:

Typographical Convention or Visual Cue	Description
<b>Bold</b>	Indicates PeopleCode function names, business function names, event names, system function names, method names, language constructs, and PeopleCode reserved words that must be included literally in the function call.
<i>Italics</i>	Indicates field values, emphasis, and JD Edwards EnterpriseOne or other book-length publication titles. In PeopleCode syntax, italic items are placeholders for arguments that your program must supply.  We also use italics when we refer to words as words or letters as letters, as in the following: Enter the letter <i>O</i> .
KEY+KEY	Indicates a key combination action. For example, a plus sign (+) between keys means that you must hold down the first key while you press the second key. For ALT+W, hold down the ALT key while you press the W key.
Monospace font	Indicates a PeopleCode program or other code example.
“ ” (quotation marks)	Indicate chapter titles in cross-references and words that are used differently from their intended meanings.

Typographical Convention or Visual Cue	Description
... (ellipses)	Indicate that the preceding item or series can be repeated any number of times in PeopleCode syntax.
{ } (curly braces)	Indicate a choice between two options in PeopleCode syntax. Options are separated by a pipe ( ).
[ ] (square brackets)	Indicate optional items in PeopleCode syntax.
& (ampersand)	When placed before a parameter in PeopleCode syntax, an ampersand indicates that the parameter is an already instantiated object.  Ampersands also precede all PeopleCode variables.

## Visual Cues

Implementation guides contain the following visual cues.

### Notes

Notes indicate information that you should pay particular attention to as you work with the JD Edwards EnterpriseOne system.

---

**Note.** Example of a note.

---

If the note is preceded by *Important!*, the note is crucial and includes information that concerns what you must do for the system to function properly.

---

**Important!** Example of an important note.

---

### Warnings

Warnings indicate crucial configuration considerations. Pay close attention to warning messages.

---

**Warning!** Example of a warning.

---

### Cross-References

Implementation guides provide cross-references either under the heading “See Also” or on a separate line preceded by the word *See*. Cross-references lead to other documentation that is pertinent to the immediately preceding documentation.

## Country, Region, and Industry Identifiers

Information that applies only to a specific country, region, or industry is preceded by a standard identifier in parentheses. This identifier typically appears at the beginning of a section heading, but it may also appear at the beginning of a note or other text.

Example of a country-specific heading: “(FRA) Hiring an Employee”

Example of a region-specific heading: “(Latin America) Setting Up Depreciation”

## Country Identifiers

Countries are identified with the International Organization for Standardization (ISO) country code.

## Region Identifiers

Regions are identified by the region name. The following region identifiers may appear in implementation guides:

- Asia Pacific
- Europe
- Latin America
- North America

## Industry Identifiers

Industries are identified by the industry name or by an abbreviation for that industry. The following industry identifiers may appear in implementation guides:

- USF (U.S. Federal)
- E&G (Education and Government)

## Currency Codes

Monetary amounts are identified by the ISO currency code.

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## Comments and Suggestions

Your comments are important to us. We encourage you to tell us what you like, or what you would like to see changed about implementation guides and other Oracle reference and training materials. Please send your suggestions to Documentation Manager, Oracle Corporation, 7604 Technology Way, Denver, CO, 80237. Or email us at [documentation\\_us@oracle.com](mailto:documentation_us@oracle.com).

While we cannot guarantee to answer every email message, we will pay careful attention to your comments and suggestions.

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## Common Fields Used in Implementation Guides

### Address Book Number

Enter a unique number that identifies the master record for the entity. An address book number can be the identifier for a customer, supplier, company, employee, applicant, participant, tenant, location, and so on. Depending on the application, the field on the form might refer to the address book number as the customer number, supplier number, or company number, employee or applicant ID, participant number, and so on.

<b>As If Currency Code</b>	Enter the three-character code to specify the currency that you want to use to view transaction amounts. This code enables you to view the transaction amounts as if they were entered in the specified currency rather than the foreign or domestic currency that was used when the transaction was originally entered.
<b>Batch Number</b>	Displays a number that identifies a group of transactions to be processed by the system. On entry forms, you can assign the batch number or the system can assign it through the Next Numbers program (P0002).
<b>Batch Date</b>	Enter the date in which a batch is created. If you leave this field blank, the system supplies the system date as the batch date.
<b>Batch Status</b>	<p>Displays a code from user-defined code (UDC) table 98/IC that indicates the posting status of a batch. Values are:</p> <p><i>Blank:</i> Batch is unposted and pending approval.</p> <p><i>A:</i> The batch is approved for posting, has no errors and is in balance, but has not yet been posted.</p> <p><i>D:</i> The batch posted successfully.</p> <p><i>E:</i> The batch is in error. You must correct the batch before it can post.</p> <p><i>P:</i> The system is in the process of posting the batch. The batch is unavailable until the posting process is complete. If errors occur during the post, the batch status changes to <i>E</i>.</p> <p><i>U:</i> The batch is temporarily unavailable because someone is working with it, or the batch appears to be in use because a power failure occurred while the batch was open.</p>
<b>Branch/Plant</b>	Enter a code that identifies a separate entity as a warehouse location, job, project, work center, branch, or plant in which distribution and manufacturing activities occur. In some systems, this is called a business unit.
<b>Business Unit</b>	Enter the alphanumeric code that identifies a separate entity within a business for which you want to track costs. In some systems, this is called a branch/plant.
<b>Category Code</b>	Enter the code that represents a specific category code. Category codes are user-defined codes that you customize to handle the tracking and reporting requirements of your organization.
<b>Company</b>	Enter a code that identifies a specific organization, fund, or other reporting entity. The company code must already exist in the F0010 table and must identify a reporting entity that has a complete balance sheet.
<b>Currency Code</b>	Enter the three-character code that represents the currency of the transaction. JD Edwards EnterpriseOne provides currency codes that are recognized by the International Organization for Standardization (ISO). The system stores currency codes in the F0013 table.
<b>Document Company</b>	<p>Enter the company number associated with the document. This number, used in conjunction with the document number, document type, and general ledger date, uniquely identifies an original document.</p> <p>If you assign next numbers by company and fiscal year, the system uses the document company to retrieve the correct next number for that company.</p>

If two or more original documents have the same document number and document type, you can use the document company to display the document that you want.

**Document Number**

Displays a number that identifies the original document, which can be a voucher, invoice, journal entry, or time sheet, and so on. On entry forms, you can assign the original document number or the system can assign it through the Next Numbers program.

**Document Type**

Enter the two-character UDC, from UDC table 00/DT, that identifies the origin and purpose of the transaction, such as a voucher, invoice, journal entry, or time sheet. JD Edwards EnterpriseOne reserves these prefixes for the document types indicated:

*P*: Accounts payable documents.

*R*: Accounts receivable documents.

*T*: Time and pay documents.

*I*: Inventory documents.

*O*: Purchase order documents.

*S*: Sales order documents.

**Effective Date**

Enter the date on which an address, item, transaction, or record becomes active. The meaning of this field differs, depending on the program. For example, the effective date can represent any of these dates:

- The date on which a change of address becomes effective.
- The date on which a lease becomes effective.
- The date on which a price becomes effective.
- The date on which the currency exchange rate becomes effective.
- The date on which a tax rate becomes effective.

**Fiscal Period and Fiscal Year**

Enter a number that identifies the general ledger period and year. For many programs, you can leave these fields blank to use the current fiscal period and year defined in the Company Names & Number program (P0010).

**G/L Date** (general ledger date)

Enter the date that identifies the financial period to which a transaction will be posted. The system compares the date that you enter on the transaction to the fiscal date pattern assigned to the company to retrieve the appropriate fiscal period number and year, as well as to perform date validations.



# JD Edwards EnterpriseOne Tools Server and Workstation Administration Preface

This preface discusses Oracle's JD Edwards EnterpriseOne 8.96 Tools Server and Workstation Administration.

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## JD Edwards EnterpriseOne Tools Fundamentals

This Implementation Guide refers to this JD Edwards product line: Oracle's JD Edwards EnterpriseOne Tools. However, additional, essential information describing the setup and design of the system resides in companion documentation. The companion documentation consists of important topics that apply to many or all JD Edwards EnterpriseOne Tools. You should be familiar with the contents of these guides. The following companion guides contain information that applies to JD Edwards EnterpriseOne configuration and administration:

- System Administration
- Security Administration
- Configurable Network Computing Implementation
- Package Management

### See Also

*JD Edwards EnterpriseOne Tools 8.96 System Administration Guide*, "Getting Started with JD Edwards EnterpriseOne Tools System Administration"

*JD Edwards EnterpriseOne Tools 8.96 Security Administration Guide*, "Getting Started with JD Edwards EnterpriseOne Tools Security Administration"

*JD Edwards EnterpriseOne Tools 8.96 Package Management Guide*, "Getting Started with JD Edwards EnterpriseOne Package Management"



# CHAPTER 1

## Getting Started with JD Edwards EnterpriseOne Tools Server and Workstation Administration

This chapter discusses:

- Server and Workstation Administration Overview
- Server and Workstation Administration Implementation

---

### Server and Workstation Administration Overview

Server and Workstation Administration is used to extend an initial installation prototype environment to meet practical requirements and recognizes, addresses, and solves daily issues that arise in a dynamic enterprise. Server and Workstation Administration uses the flexibility of Oracle's JD Edwards Configurable Network Computing architecture to optimize Oracle's JD Edwards EnterpriseOne installation for the enterprise.

---

### Server and Workstation Administration Implementation

In the planning phase of your implementation, take advantage of all JD Edwards sources of information, including the installation guides and troubleshooting information. A complete list of these resources appears in the preface in *About This Documentation* with information about where to find the most current version of each.



## CHAPTER 2

# Administering the iSeries Server

This chapter provides an overview of server administration for iSeries and discusses how to:

- Start the enterprise server for iSeries.
- Shut down the enterprise server for iSeries.
- Use iSeries integrated file system logging support.
- Clean up the enterprise server for iSeries.
- Set up a printer for iSeries.
- Administer batch processes for iSeries.
- Run multiple instances for JD Edwards EnterpriseOne on the iSeries.
- Administer security JD Edwards EnterpriseOne database security for iSeries.

---

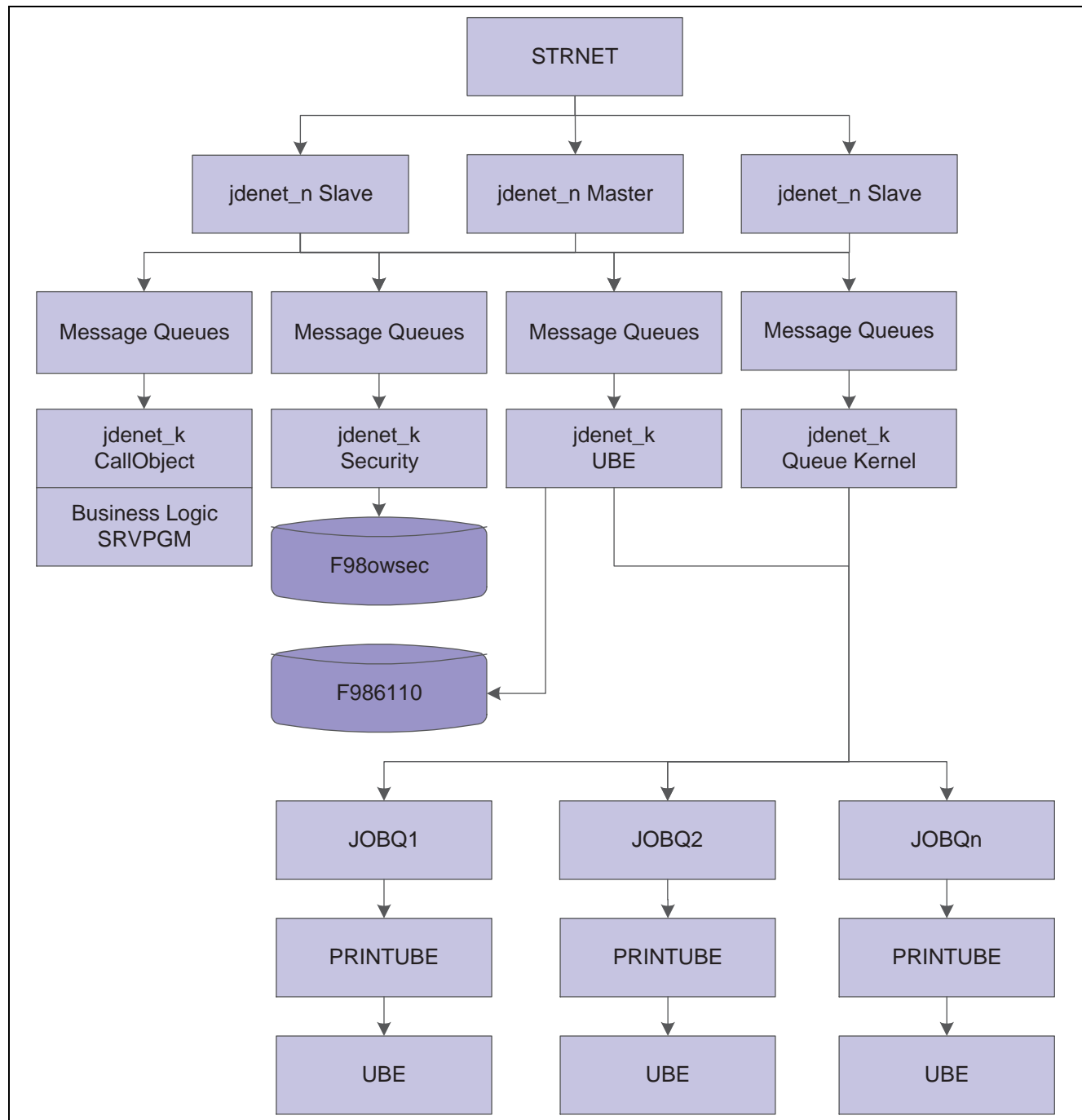
## Understanding Server Administration for iSeries

Oracle's JD Edwards EnterpriseOne enterprise servers are supported on the iSeries platform. The iSeries enterprise server can operate in a logic server or database server environment. You need to perform certain administration procedures on the enterprise server to ensure that JD Edwards EnterpriseOne runs properly. This section discusses:

- JD Edwards EnterpriseOne iSeries Architecture and Process Flow for iSeries.
- JD Edwards EnterpriseOne Initialization for iSeries.

### **JD Edwards EnterpriseOne iSeries Architecture and Process Flow for iSeries**

This flowchart illustrates the actions that the host server processes perform:



iSeries Process Flow

All communications between the client and the host server occur using sockets. The communications between JDENET\_N (network processes) and JDENET\_K (kernel processes) occur with shared memory.

The process flow is:

1. The STRNET command runs the master NETWORK (JDENET\_N) job in a newly started subsystem. The jdenet\_n Master process spawns jdenet\_n slave and jdenet\_k processes (also called kernels) at startup or as they are needed. JD Edwards EnterpriseOne uses a number of different types of kernels to handle different types of processing, even though all of these have the same process name in the operating system (jdenet\_k). The definitions for the number of processes to start and what types to start are stored in the jde.ini file.

2. The JDENET\_N process listens to the socket (port) as specified in the jde.ini file by the keywords ServiceNameListen and ServiceNameConnect. These two keywords should be set to the same number, and this number must be the same for every client who wants to connect to the JD Edwards EnterpriseOne server. The definitions for the particular jdenet\_k processes to start are also given in the jde.ini file. They are listed in the sections headed by [JDENET\_KERNEL\_DEFx]. Each of these entries lists the type of jdenet\_k processes to start and the maximum number of JDENET\_K processes of this type to start.

The number of JDENET\_N slave processes to start is listed in the jde.ini file under the keyword maxNetProcesses. The purpose of these slave processes is to provide parallel processing for the job of listening to the socket and to put the associated messages on the message queues for the JDENET\_K processes to finish.

3. JDENET\_K processes (kernel processes) do the actual work on the enterprise server. When a JDENET\_K process starts, it can be any type of kernel process. The JDENET\_N process assigns each kernel process to a certain type.
4. The JDENET\_K process that becomes a CallObject kernel has the job of calling business function logic on the server. Business function logic is written in C code and compiled into Service Program (SRVPGM). SRVPGM is loaded onto the JDENET\_K processes and then called directly through a C function call.
5. The JDENET\_K process that becomes a batch process kernel waits for requests to run batch processes from the client. When a request to run a batch process is submitted, these events occur:
  - JDENET\_K (UBE kernel) adds a record to the F986110 database table with a status of W for waiting.
  - JDENET\_K (UBE kernel) submits a job to the queue

If you are using native iSeries job queues, JDENET\_K submits a job to the iSeries queue. This job calls the JD Edwards EnterpriseOne program PRINTUBE on the iSeries enterprise server.

If you are using the JD Edwards EnterpriseOne queue kernel, JDENET\_K sends a message to the queue kernel, alerting it that a new job request was submitted. When the job is ready, the queue kernel executes the PRINTUBE program.

6. The PRINTUBE process runs the batch application, and changes the status of the record in the F986110 table to P for processing.
7. If the batch application runs successfully, the software changes the status of the record in the F986110 table to D for done.

If the batch application fails, JD Edwards EnterpriseOne changes the status of the record in the F986110 table to E for error.

## JD Edwards EnterpriseOne Initialization for iSeries

This initialization occurs when you start JD EdwardsEnterpriseOne programs such as PRINTUBE:

- The JD Edwards EnterpriseOne environment name is passed as an argument to the program.
- This environment might be translated to a different environment, based on the settings in the [SERVER ENVIRONMENT MAP] section of the .INI file.
- The software verifies that the environment is a valid entry in the Library ListMaster File table (F0094) and that it has a valid corresponding path code in the Environment Detail - OneWorld table (F00941).
- The Library .INI file setting in the [DB SYSTEM SETTINGS] section indicates where the JD Edwards EnterpriseOne server startup tables, such as Data Source Master (F98611), Object Configuration Master (F986101), and so on, are located.
- Using this information, the software opens the F986101 (OCM) table in the specified database on the server.

- If an override for a given table, BSFN, and so on, or the current user exists, that data source (the OMDATP field in the F986101 table) is used for the given object or user and environment. Otherwise, the data source in which OMOBNM=DEFAULT for the given environment is used. Ignore any inactive records (that is, OMSTSO=NA).

---

**Note.** We highly recommend that you do not have any default (OMOBNM=DEFAULT) records for reports (OMFUNO=UBE) or for BSFNs that are mapped to the server. These records might prevent report interconnections (one report calling another report) from starting correctly.

---

Each unique data source in the F986101 table should correspond to one entry in the F98611 table. The corresponding information in the F98611 table must be correct. In particular, the OMDLLNAME field must display the correct SRVPGM (.DLL) for the database to which the data source points:

- DBDR for files located on the iSeries enterprise server.
- JDBNET for files not located on the iSeries enterprise server.

---

## Starting the Enterprise Server for iSeries

This section provides overviews of the JD Edwards EnterpriseOne library structure and startup options for iSeries, lists prerequisites, and discusses how to:

- Start the enterprise server for iSeries manually.
- Start the enterprise server for iSeries automatically.

## Understanding the iSeries Library Structure for JD Edwards EnterpriseOne

You can set up an initial program to create the library list. Also, you should add this library to the top of the library list before you start JD Edwards EnterpriseOne on the enterprise server: *releaseSYS* (or the system library name). The variable *release* is the JD Edwards EnterpriseOne release level, such as E812SYS.

The *releaseSYS* library contains these objects:

Object	Description
INI	The jde.ini file used to initialize JD Edwards EnterpriseOne on the iSeries enterprise server.
*PGM and *SRVPGM	The various programs and service programs required to run the JD Edwards EnterpriseOne iSeries enterprise server.
CHGLIBOWN (*CMD)	A JD Edwards EnterpriseOne utility command used to change ownership of all objects contained in a library.
SHOW (*CMD)	A JD Edwards EnterpriseOne utility command used to display runtime output.
UPDLF (*CMD)	A JD Edwards EnterpriseOne utility command used to modify the maintenance attribute of logical files.



Object	Description
DPSPSTMF (*CMD)	<p>The display stream file, which displays iSeries Integrated File System (IFS) text stream files.</p> <p>The JD Edwards EnterpriseOne log files, jde.log and jdedebug.log, typically reside in a directory called PSFTrelease, where release represents the JD Edwards EnterpriseOne release, such as /PSFT812.</p>
LINKBSFN (*CMD)	The command used to relink business functions to their respective service programs (*SRVPGM). Typically, the system uses this command during an upgrade of the JD Edwards EnterpriseOne system library.
PID2JOB (*CMD)	The Convert Process ID to Job command, which returns the job information when the system passes a process ID to the command. The system writes the process ID in the JDE.LOG files. This command returns job information only while the job is still active.
PORTTEST (*CMD)	The command that runs the JD Edwards EnterpriseOne test program PORTTEST.
RUNUBE (*CMD)	The command that interactively runs a batch program. If you need to run a batch program, use the SBMJOB command to submit the RUNUBE command to batch.
SAW (*CMD)	The command that starts the Server Administration Workbench.
PRINTQUEUE (*FILE)	The file that contains the output from a batch program. This output is stored as ASCII PDF members.
*PGM and *SRVPGM	The programs and server programs required to run the JD Edwards EnterpriseOne network.
JDENET (*JOBQ)	The job queue used by the JD Edwards EnterpriseOne iSeries network jobs.
NETJOB (*JOBQ)	The job description used by JD Edwards EnterpriseOne iSeries network jobs.
JDENET (*CLS)	The class used to create the routing entry for the JDENET subsystem.
ENDNET (*CMD)	The command that ends the JD Edwards EnterpriseOne iSeries network jobs and cleans up the network runtime structures.
IPCS (*CMD)	The utility command that indicates the status of objects used by the JD Edwards EnterpriseOne iSeries network jobs and as a backup method for cleaning up the IPCS objects.

Object	Description
STRNET (*CMD)	The command that starts the JD Edwards EnterpriseOne iSeries network jobs.
CLRIPC (*CMD)	The command used to clear IPC structures.
DSPIPC (*CMD)	The command used to display IPC structures.
PSFTrelease (*SBSD)	The subsystem description under which the JD Edwards EnterpriseOne network jobs run. The variable release is the JD Edwards EnterpriseOne release level, such as PSFT812.

## Understanding Startup Options for the Enterprise Server for iSeries

You can start the JD Edwards EnterpriseOne enterprise server for the iSeries either manually or automatically.

You manually start the enterprise server for iSeries by starting JDENet from the command line, and then starting the PORTTEST program, which verifies that the enterprise server software was installed correctly. If it was, PORTTEST initializes an environment and user.

If you start the server automatically, we recommend that you separate the JD Edwards EnterpriseOne add library list entry (ADDLIB) and startup (STRNET) commands from the iSeries startup program. You should create a separate JD Edwards EnterpriseOne startup program and call that program from the iSeries startup program. This action ensures that commands subsequent to the JD Edwards EnterpriseOne add library list entry and startup are not associated with the modified library list. This recommendation also ensures that the JD Edwards EnterpriseOne library list is set correctly before issuing the STRNET command. In addition, the separately-called program provides you with a single location in which to locate and maintain JD Edwards EnterpriseOne startup commands on the iSeries.

## Prerequisites

Before you complete the tasks in this section:

- Install JD Edwards EnterpriseOne as described in the *JD Edwards EnterpriseOne Installation Guide*. In that guide, you should have performed all steps up to the Installation Workbench.
- Run the clear CLRIPC command before you start the server to ensure that the server is clear. If you do not run this command prior to starting a server, the startup process will fail.

## Starting the Enterprise Server for iSeries Manually

To start the enterprise server for iSeries manually:

1. Sign on to the iSeries as *ONEWORLD*.
2. Start JDENet using this command:

```
STRNET
```

3. Start the PORTTEST program using this command to verify that the basic enterprise server software was correctly installed:

```
PORTTEST userID password environment
```

Where userID represents the JD Edwards EnterpriseOne iSeries user ID, password represents the password, and environment represents the environment that you want to test.

The PORTTEST program initializes an environment and user if JD Edwards EnterpriseOne was correctly installed and configured. The program opens a table and displays up to 99 rows of data. You should see results similar to those in this example:

```
Running porttest for JDESVR on M9ASD2 with password JDESVR
Initializing Environment M9ASD2,...
Environment M9ASD2 was initialized successfully.
Initializing JDESVR/JDESVR (User/Password),...
JDESVR/JDESVR (User/Password) Initialized successfully.
Opening table F986110,...
Opened table F986110 successfully.
Closing table F986110,...
Closed table F986110 successfully.
Opening table F0902,...
Opened table F0902 successfully.
Performing select all on table F0902,...
Select all on F0902 succeeded.
Printing up to 99 records in the table F0902,...
f0902.gbaid f0902.gbawtd
-----
[98] 00009697 24060973
[97] 00009806 13540877
[96] 00010102 3140380...
[1] 00068798 10000
[0] 00058798 250000
Total number of rows printed = 99
Calling DataDictionary Validation function,...
Data Dictionary Validation Succeed for CO 00001.
Closing table F0902,...
Closed table F0902.
Freeing user JDESVR,...
Freed user JDESVR successfully.
Cleaning up environment M9ASD2,...
Cleaned up environment M9ASD2 successfully.
Congratulations! Porttest completed successfully.
All Done!
BYE!
```

If the table in the environment that you specified is empty, the total number of records that the program prints will equal zero.

4. Enter this command:

```
WRKACTJOB SBS(PSFTrelease)
```

The variable *release* is the JD Edwards EnterpriseOne release level that the site is using, such as PSFT812.

5. Verify that the entry NETWORK with function PGM-JDENET\_N and status of SELW is running (until a net request is performed, the CPU will be 0).

## Starting the Enterprise Server for iSeries Automatically

To start the enterprise server for iSeries automatically:

1. Create a CL program.

You will use this program to establish the appropriate JD Edwards EnterpriseOne library list and execute the command to start the iSeries server job (JDENet).

The CL program should be similar to:

```
PGM
CHGLIBL LIBL(E812SYS QTEMP QGPL)
STRNET
ENDPGM
```

2. Identify and modify the program called during the iSeries IPL to submit a job to call the previous program.

The program name and location are set in the iSeries system value, QSTRUPPGM.

3. Determine the QSTRUPPGM value by entering this command:

```
DSPPSYSVAL SYSVAL(QSTRUPPGM)
```

4. Determine where the source of the program is located by executing this command against the library and program (as set in the system value):

```
DSPPGM LIBRARY/PROGRAM NAME
```

5. Modify the source of the startup library and program by inserting a SBMJOB command that calls the program created in Step 1.
6. Verify that the startup program is created correctly by recreating it and ensuring that it is created in the library specified by the system value.

Use CRTCLPGRM and prompt (using F4) for the appropriate parameters.

---

## Shutting Down the Enterprise Server for iSeries

You can manually shut down the enterprise server for the iSeries with the command, ENDNET. This command is in the system library. For example, ENDNET causes JD Edwards EnterpriseOne to end the JDENet jobs and clean up all JDENet runtime structures.

### Prerequisite

Ensure that the library is set correctly before performing this command.

### See Also

[Chapter 2, "Administering the iSeries Server," Understanding the iSeries Library Structure for JD Edwards EnterpriseOne, page 6](#)

---

## Using iSeries Integrated File System Logging Support

To achieve better performance and to allow easier access to log files from the workstation, JD Edwards EnterpriseOne generates log files for the iSeries in the Integrated File System (IFS) rather than the traditional file system on the iSeries.

With IFS, JD Edwards EnterpriseOne generates log files as stream files (STMF) in an IFS directory, based on the iSeries jde.ini file settings.

### Example: Easy Access to Log Files

These examples illustrate how to modify the jde.ini file to enable easier access to log files from the workstation:

```
[DEBUG]
DebugFile=jddebug
JobFile=jde.log
```

JD Edwards EnterpriseOne generates log files in the IFS root directory.

```
[DEBUG]
DebugFile=/psft812_a/jddebug
JobFile=/psft812_a/jde.log
JD Edwards EnterpriseOne generates log files in the IFS directory called /psft812_
a.
```

---

**Note.** The directory must exist with proper authority granted to the logging job.

---

---

## Cleaning Up the Enterprise Server for iSeries

This section provides an overview of enterprise server cleanup for iSeries and discusses how to:

- Clean up the enterpriser server for iSeries.
- Clear the jde.log and jde.debug files for iSeries.

### Understanding Enterprise Server Cleanup for iSeries

When JD Edwards EnterpriseOne ends abnormally, you might need to manually perform cleanup tasks on the iSeries enterprise server. Interprocess Communication (IPC) structures might not be cleaned up after an execution of ENDNET, which might cause further problems when you start JDENet. If the IPC structures are not properly removed by ENDNET, you can manually remove them. IPC structures might become locked by an interactive job. For example, you might have to sign off and sign back on to perform a successful cleanup.

The JD Edwards EnterpriseOne iSeries server is shipped with the DSPIPC and CLRIPC commands, which enable you to display the IPC-related information and to remove IPC structures.

If tracing is turned on in addition to IPC, you should clear the jde.log and jddebug files. This action keeps the files from becoming too large and removes old messages from it.

---

**Note.** Clear IPC structures only when you are ready to restart the JDENet process.

---

## Prerequisite

Ensure that the library list is correct before executing the IPC commands. Each of the commands calls the IPCS command for all of the IPC types. Each command has two parameters: from and to. Use these parameters to specify the starting and ending IPC addresses on which you want to operate. The default value for the from parameter is \*INI; this is the address specified in the .INI file. The default value for the to parameter is \*CALC; this means that the value is calculated based on the value of the from parameter. For example, you could specify 999 more than the from parameter.

---

**Note.** IBM Opti-Connect and Opti-Mover products use the IPC shared memory address 9999. Avoid setting the jde.ini file setting IPCStartKey to a starting value that uses the range of 9000 to 9999.

---

## Cleaning Up the Enterprise Server for iSeries

To clean up the enterprise server for iSeries:

From an iSeries command line, enter these IPCS commands:

```
DSPIPC  
CLRIPC
```

## Clearing the jde.log and jde.debug Files for iSeries

For iSeries:

1. To clear the jde.log stream files, enter this command:

```
DEL '/PSFRelease/jde_*
```

Where *release* is the JD Edwards EnterpriseOne release, such as psft812.

2. To clear the jdedebug log, enter this command:

```
DEL '/PSFRelease/jdedebug_*
```

Where *release* is the JD Edwards EnterpriseOne release, such as psft812.

---

## Setting Up a Printer for iSeries

This section provides an overview of printer setup for iSeries and discusses how to:

- Create the OUTQ.
- Start the OUTQ.
- Print multiple copies to a remote printer.

## Understanding Printer Setup for iSeries

For printing, JD Edwards EnterpriseOne iSeries servers generate PostScript, PCL, or line printer reports. The line printer OUTQ configuration is similar to most typical iSeries OUTQ configurations. This section provides the steps necessary to set up the Postscript and PCL OUTQ configurations.

Unless otherwise specified in the printer definition, the default OUTQ used for printing batch process reports is the same as the default OUTQ of the user submitting the job.

### See Also

*JD Edwards EnterpriseOne Tools 8.96 Development Tools: Report Printing Administration Technologies Guide*, “Defining Print Properties for Reports”

## Creating the OUTQ

To create the OUTQ, enter this command:

```
CRTOUTQ OUTQ(QGPL/outqname) RMTSYS(*INTNETADR) RMTprtQ('')
CNNTYPE(*IP) DESTTYPE(*OTHER) TRANSFORM(*NO) INTNETADR('IP Address of
your printer')
```

---

**Note.** Some printers require that you set the parameter RMTprtQ to something other than ‘’. See the instruction manual for the printer for additional information. For example, you must set this parameter to PASS for the IBM Network Printer 4317.

---

## Starting the OUTQ

To start the OUTQ:

1. Enter this command:

```
STRRMTWTR outqname
```

For example:

```
STRRMTWTR QGPL/JDE_HP4PSB
```

2. If you need to release the outqueue before using it, enter this command:

```
RLSOUTQ outqname
```

For example, enter DEL '/PSFT*release*, where *release* is the JD Edwards EnterpriseOne release, as in PSFT812.

## Printing Multiple Copies to a Remote Printer

This task is necessary only when the output queue does not support printing multiple copies, and it applies to remote output queues only. Only system administrators can print multiple copies to a remote printer.

1. End the remote writer to which the output queue is connected.
2. Use the Change Output Queue (CHGOUTQ) command to change the Display Options (DSPOPT) parameter so that it contains the value XAIX.
3. Restart the remote writer.

The output queue should now be able to send multiple copies of the documents to the remote printer.

---

## Administering Batch Processes for iSeries

This section provides an overview of batch process administration for iSeries and discusses how to:

- Monitor batch processes.
- Review batch output files.
- Encode the passwords of users who submit batch jobs.

### Understanding Batch Process Administration for iSeries

Administering batch processes involves knowing what processes run when JD Edwards EnterpriseOne starts, where files are placed before and after printing, and how to watch those processes.

Depending on how the software is installed, jobs run under several subsystems on the iSeries. The first subsystem, PSFT812, is created during the installation process and is responsible for running the JD Edwards EnterpriseOne net and kernel processes. QBATCH is the default subsystem in which jobs run, but you can use other subsystems to distribute the workload.

When you send a batch process report to an iSeries server for processing, the network jobs are responsible for accepting and queuing the request, while the QBATCH subsystem is responsible for executing the report. To monitor the batch requests, use the WRKACTJOB command, specifying QBATCH as the subsystem.

A job appears indented underneath the subsystem. A job such as the R0006P job is the actual report that is running at this time. The program PRINTUBE is the job that is responsible for running and printing the request. When the job is finished, it leaves the queue, and the print job is either printed and deleted, or saved in the E812SYS/PRINTQUEUE file.

When users submit batch reports to run on the iSeries, a corresponding Portable Document Format (PDF) file is created on the enterprise server.

The default location for the PDF files is under the PRINTQUEUE folder of the installation directory in IFS, for example, /E812SYS/PRINTQUEUE. Users can access the PDF files directly on the enterprise server, or go to the submitted jobs on the client and view the PDF file.

The naming convention for each member is based on the JD Edwards EnterpriseOne job number, which is a unique number that the system assigns when the report is submitted. This number is a unique print request ID and is incremented each time a report is submitted to the enterprise server, regardless of whether the job is successful or fails. It is not related to the process ID or job number that the iSeries assigns to the batch job.

If you submit a batch process report to a specific server, the OUTQ for printing depends on the jde.ini file settings for the workstation. You must change the default OUTQ specified in the jde.ini file of the enterprise server. This setting is in the [Network Queue Settings] section and is called DefaultPrinterOUTQ. This OUTQ is used when no OUTQ is passed to the enterprise server from the workstation, or when the OUTQ name that is passed to the enterprise server is Default.

Two other settings, based on the jde.ini file on the workstation, tell the server whether to print the report immediately upon completion and whether to save the output from the report or delete it. Both of these settings are set in this manner:

```
[NETWORK QUEUE SETTINGS]
SaveOutput=TRUE
PrintImmediate=TRUE
```



Setting SaveOutput to TRUE causes the enterprise server to save the PDF files in E812SYS/PRINTQUEUE until you explicitly delete them. Setting PrintImmediate to TRUE tells the enterprise server to print the job immediately after completing the report.

You should encourage workstation users to use the SaveOutput=FALSE entry in their jde.ini files. If users at workstations decide to save their output, they should periodically delete the entries using the correct JD Edwards EnterpriseOne Job Master Search in the Job Control Master program (P986110B).

---

**Note.** To display job numbers, end-users can use the Job Control Master program (P986110B). Similarly, system administrators can use the Work With Servers application (P986116). While both applications perform similar functions, most sites generally use security to restrict access to the Work With Servers application to system administrators. Both programs use the Job Master Search form to display job numbers that correspond to member names. You can use either program to delete .PDF files by deleting appropriate entries.

---

Finally, if you have the proper authority, you can run batch process reports from the server command line with this command:

```
RUNUBE USER(USER) PASSWORD(PASSWORD) ENVIRON(ENVIRONMENT)
REPORT(REPORTNAME) VERSION(VERSION)
```

### Example: Running Reports from the Command Line for iSeries

This example displays a command for executing the Business Unit Report (R0006P):

```
RUNUBE USER(SF5488324) PASSWORD(PASSWORD) ENVIRON(PD812)
REPORT(R0006P) VERSION(XJDE0001)
```

This command begins processing version XJDE0001 of the report in the PD812 environment. After completion, the PostScript spool file resides on the printer\_1 OUTQ. The spool file leaves printer\_1, and the .PDF file is not deleted.

### Example: Scheduling Reports from the Command Line for iSeries

You can schedule a report from the command line for processing on a future date. You do this with the SBMJOB (submit job) command. Many options are available for this command, but the general form will be similar to these example:

```
SBMJOB CMD(RUNUBE USER(SF5488324) PASSWORD(PASSWORD) ENVIRON(PD812)
REPORT(R0006P) VERSION(XJDE0001)) SCDDATE(*FRI) SCDTIME(0600)
```

This command schedules the XJDE0001 version of the Business Unit Report (R0006P) to run on the next Friday at 06:00am. This job is submitted in the default job queue for the user who submitted the job. You can specify overrides on the command line or by prompting (F4) for more information.

You can review reports that have been submitted in this method by using the WRKSBMJOB command. This command displays all jobs submitted by the current user for batch processing. Information that this command displays includes the job name, the user who submitted the job, the type of job (BATCH), and the status. Using F11 also displays scheduling information for jobs that have been submitted but not yet run.

## Monitoring Batch Processes

To monitor batch processes:

1. Sign on to the iSeries enterprise server using an administrative account.
2. Enter this command, substituting Subsystem with the appropriate subsystem name:

```
WRKACTJOB SBS(Subsystem)
```

## Reviewing Batch Output Files

To review the PDF output files:

1. From Windows Explorer, use this command to map a drive to the root directory of IFS on the iSeries machine:  
`//machinename/root`
2. Navigate to the PrintQueue folder in the System directory (for example, the directory might be called /E812SYS/PrintQueue), and view the PDF files.

## Encoding the Passwords of Users Who Submit Batch Jobs

On the iSeries, when you want to encode user passwords for batch jobs, you need to change settings in the [SECURITY] section of the JDE.INI file.

Change these setting in the JDE.INI file to False to deactivate encoding:

```
[SECURITY]
ServerPswdFile=TRUE
```

---

## Running Multiple Instances of JD Edwards EnterpriseOne on the iSeries

This section provides overviews of running multiple instances of JD Edwards EnterpriseOne and database security parameters on the iSeries and discusses how to:

- Copy libraries and directories.
- Apply security to multiple instances of JD Edwards EnterpriseOne on the iSeries.
- Create a JD Edwards EnterpriseOne subsystem on the iSeries.

## Understanding Running Multiple Instances of JD Edwards EnterpriseOne

You might want to run multiple instances of JD Edwards EnterpriseOne on an iSeries server for these reasons:

- To test a new service pack.
- To upgrade to a new version of JD Edwards EnterpriseOne.

---

**Note.** You cannot use JD Edwards EnterpriseOne Planner to help you set up data for multiple instances of JD Edwards EnterpriseOne. Be prepared to manually copy data and to set up new Object Configuration Manager (OCM) mappings for each new instance.

---

A JD Edwards EnterpriseOne instance on the iSeries server is uniquely identified by these objects:

- JD Edwards EnterpriseOne system directory (integrated file system, or IFS) and library (QSYS file system).
- Path codes (IFS and QSYS file systems).
- Use of selected .ini file settings.

The JDE.INI settings that you use to uniquely define a JD Edwards EnterpriseOne instance are summarized in this table:

Section in server JDE.INI file	Parameter	Purpose
[INSTALL]	DefaultSystem=	The name of the JD Edwards EnterpriseOne System library. This value must be unique for each JD Edwards EnterpriseOne instance.
[JDEIPC]	StartIPCKeyValue=	The value of the first interprocess communication (IPC) ID of a range of keys, which JDEIPC uses for shared memory. This value, plus the value of the maxNumberOfResources parameter, defines the range of IPC IDs that the software uses for an instance of JD Edwards EnterpriseOne.
[JDENET]	ServiceNameListen=	The TCP/IP port number that the server uses for receiving communications packets from workstations and other JD Edwards EnterpriseOne servers.
[JDENET]	ServiceNameConnect=	The TCP/IP port number that the server uses for sending communications packets to workstations or other JD Edwards EnterpriseOne servers.
[DBSYSTEM SETTINGS]	Default Env=	The default environment for an instance of JD Edwards EnterpriseOne.
[DB SYSTEM SETTINGS]	Default PathCode=	The data source for an instance of JD Edwards EnterpriseOne.
[DB SYSTEM SETTINGS]	Library=	The database library that stores the system tables used by JD Edwards EnterpriseOne at startup.

Similarly, to apply JD Edwards EnterpriseOne security throughout multiple instances, you use these items to uniquely identify an instance:

- OCM mappings.
- Database.
- JD Edwards EnterpriseOne user profile (the owner and default user ID under which JD Edwards EnterpriseOne jobs start).
- Selected settings in the JDE.INI file.

The JDE.INI settings that you use to uniquely define a JD Edwards EnterpriseOne instance when you are applying security throughout multiple instances are summarized in this table:

Section in server JDE.INI file	Parameter	Purpose
[DEBUG]	DebugFile	Specifies the location of the jdedebug.log file.
[DEBUG]	JobFile	Specifies the location of the jde.log file.
[DEBUG]	JDTSTFile	Specifies the location of the lock manager trace file on the iSeries.
[DB SYSTEM SETTINGS]	Database	Specifies the name of the database in which the system tables reside.
[SECURITY]	DataSource	Specifies the name of the JD Edwards EnterpriseOne data source that contains the security tables and is used for user validation.

To create an instance of JD Edwards EnterpriseOne on the iSeries, complete these tasks:

- Copy needed libraries and directories and modify the values of selected parameters in the .ini library.

To create an instance of JD Edwards EnterpriseOne on the iSeries, you copy these objects:

- System library
- System directory
- Path code library
- Path code directory

- Apply security to multiple instances of JD Edwards EnterpriseOne, if you desire to do so.

If you want to apply security to multiple instances of JD Edwards EnterpriseOne, complete the steps in these task. If you do not want to apply security to multiple instances, proceed to the steps for creating a JD Edwards EnterpriseOne subsystem and starting a JD Edwards EnterpriseOne service.

- Create a new JD Edwards EnterpriseOne subsystem identification.

On the iSeries platform, a subsystem is a logical process that is used to run system jobs, whether they are JD Edwards EnterpriseOne or other application jobs. JD Edwards EnterpriseOne network and kernel jobs run under the iSeries subsystem, which we ship with a default description. You can use this description without modification when you are running a single instance of JD Edwards EnterpriseOne on the iSeries server.

If you decide to run multiple instances of JD Edwards EnterpriseOne, you need to create a new subsystem with a unique description for each instance of JD Edwards EnterpriseOne that you create. To create a new JD Edwards EnterpriseOne subsystem description, you use the CRTOWSBS command.

## See Also

Chapter 2, “Administering the iSeries Server,” Administering Security JD Edwards EnterpriseOne Database Security for iSeries, page 26

Chapter 2, “Administering the iSeries Server,” Setting Up iSeries Database Security for Multiple JD Edwards EnterpriseOne Instances, page 38

*JD Edwards EnterpriseOne Tools 8.96 System Administration Guide*, “Working with Servers,” Managing JD Edwards EnterpriseOne Subsystems

## Understanding iSeries Database Security Parameters

You use the iSeries database security parameters to modify user and administrator profiles, to secure objects, and so on. These parameters appear on the Set Up OneWorld Authority (SETOWAUT) form.

### Type

Depending on the value that you enter in this field, you can implement a full security setup, modify only the security profiles, or modify only the datapaths authority. A full security setup includes the system library, datapath, pathcode, and user profiles.

- Use **\*FULL** when you initially implement SETOWAUT. This value directs SETOWAUT to perform all of the security routines.
- Use **\*DTAPATH** only when you need to secure one or more datapaths.
- Use **\*PROF** to perform only the user profile routines. SETOWAUT uses the user profile settings in the command to direct the process.
- Use **\*SYSTEM** to perform the System library authority functions. If you are running a single instance of JD Edwards EnterpriseOne, **\*SYSTEM** secures the System library and all of the objects within it with the AUTL OWADMINL. If you are running multiple instances of JD Edwards EnterpriseOne, **\*SYSTEM** secures the library and all the objects contained within it with the administrative authorization list created by the SETOWAUT program for each individual instance of JD Edwards EnterpriseOne. Note that SETOWAUT must be run separately for each instance of JD Edwards EnterpriseOne.

Additionally, all the **\*PGM** objects with attributes of **\*CLP**, **\*CLLE**, or **\*CLE** will have the program attributes modified for adopt authority. The system library is treated differently to enable the administration of JD Edwards EnterpriseOne.

You can use this parameter to lock other non-system libraries that contain objects that you can use to administer JD Edwards EnterpriseOne.

### Additional Profile Work That SETOWAUT Performs When You Use Types **\*FULL** or **\*PROF**

When you enter Type **\*FULL** or **\*PROF**, SETOWAUT does these:

- Creates the ONEWORLD and OWADMINL authorization lists (if they do not already exist) if you are running a single instance of JD Edwards EnterpriseOne. If you are running multiple instances of JD Edwards EnterpriseOne, SETOWAUT creates both authorization lists and uses the names that you specified for each instance of JD Edwards EnterpriseOne.
- Changes the owner of both lists to ONEWORLD if you are running a single instance of JD Edwards EnterpriseOne. If you are running multiple instances of JD Edwards EnterpriseOne, SETOWAUT changes the owner of both lists to the user profile name that you specified for each instance of JD Edwards EnterpriseOne.
- Adds JDE to both lists if you are running a single instance of JD Edwards EnterpriseOne.
- Adds PSFT to both lists if you are running a single instance of JD Edwards EnterpriseOne.
- Changes **\*PUBLIC** entry to **\*EXCLUDE** in both lists.

### INILIB (INI Library)

This field identifies the library in which the JDE.INI file resides for the security application. The **\*NONE** value enables you to specify that the JDE.INI file is either not needed or not available.

---

**Note.** You cannot use the parameter value **\*NONE** if the Type parameter value is **\*FULL** or **\*SYSTEM**.

---

Use a library name if all of these requirements are true:

- A JD Edwards EnterpriseOne INI library is located on the host system.
- The control files (OCM) are located on the host system.
- The JDE.INI file references the OCM library.

When the Type field contains the value \*FULL or \*SYSTEM, the library and all of the objects will be secured with SYSTEM attributes. SETOWAUT uses the JDE.INI file to perform all of the INI retrievals.

When any of the previous requirements are false, use \*NONE. This setting requires you to enter actual values in any parameter that allows the value \*INI.

### DTAPATH Datapath (library)

If you set the INI library field to \*NONE, you must manually set datapaths in this field.

Type \*INI in this field to use the datapaths that are set in the JDE.INI file. You can also type specific datapaths in this field. You can type up to 10 datapaths at a time.

Use \*INI when these are true:

- SETOWAUT will modify each library based upon the ALLOBJECTS parameter.
- The INILIB parameter contains the library name in which the JDE.INI file is located (the INILIB value is not \*NONE). This parameter tells SETOWAUT to use the JDE.INI file to retrieve the datapath libraries. SETOWAUT retrieves the library name from the JDE.INI value in the [DB SYSTEM SETTINGS] Library and uses this setting to access the Object Configuration Master (F986101) and Data Source Master (F98611) tables. SETOWAUT selects all of the library names (F98611.OMDATB2) that meet these criteria:
  - F986101.OMDATP = F98611.OMDATP
  - OMUGRP = \*PUBLIC, OMSTSO = 'AV'
  - OMSRVR = the host name

### Modify System Profile

Values for this field are Y and N.

---

**Note.** This field does not appear when you set up authorization for multiple instances of JD Edwards EnterpriseOne and you enter a value other than ONEWORLD in the USRPRF field.

---

Enter Y when you want to do these:

- Modify or create the system profile that has not yet been modified. For example, you might enter this information to modify a system profile:
  - \*NONE in the GRPPRF field.
  - \*NONE in the SUPGRPPRF field.
  - \*USER in the USRCLS field.
  - \*SIGNOFF in the INLMNU field.
  - \*NONE in the INLPGM field.
  - \*JOBCTL in the SPCAUT field.
- Grant authority to change the profile ONEWORLD to \*USE profile QSECOFR.
- Revoke \*ALL authority from \*PUBLIC.

Enter N only when the system profile has the correct attributes.

## Modify JDE Profile

Values for this field are Y and N.

---

**Note.** This field does not appear when you set up authorization for multiple instances of JD Edwards EnterpriseOne and you enter a value other than ONEWORLD in the USRPRF field.

---

Enter Y when you want to do these:

- Modify or create the JDE profile that has not been modified. For example, you might enter these to modify a JDE profile:
  - \*NONE in the GRPPRF field.
  - \*NONE in the SUPGRPPRF field.
  - \*USER in the USRCLS field.
  - \*NONE in the INLPGM field.
  - \*JOBCTL \*SAVSYS in the SPCAUT field.
- Revoke \*ALL authority from \*PUBLIC.

Enter N only when the profile JDE has the correct attributes.

## Modify Security Profile

You can enter up to 10 security profiles at a time in this field to modify using the SETOWAUT program.

---

**Note.** It is recommended that you delete existing security profiles before running SETOWAUT. After running SETOWAUT and creating security profiles, the passwords must be changed to correspond with passwords that were set up using JD Edwards EnterpriseOne User Security. The security user is used as the system user in JD Edwards EnterpriseOne User Security.

---

SETOWAUT must be run with the PSFT user profile specified as a security profile when using JD Edwards EnterpriseOne. If you enter a security profile that does not already exist, SETOWAUT creates the profile and modifies the profile accordingly. You can do any of these:

- Create or modify the profile by entering information such as these:
  - \*USER in the USRCLS field.
  - \*SIGNOFF in the INLMNU field.
  - \*NONE in the INLPGM field.
  - \*NONE in the SPCAUT field.
  - ONEWORLD in the GRPPRF field, if you are running a single instance of JD Edwards EnterpriseOne. If you are running multiple instances of JD Edwards EnterpriseOne, enter in the GRPPRF field the JD Edwards EnterpriseOne User Profile name that you entered in the USRPRF field.
  - JDE in the SUPGRPPRF field, if you are running a single instance of JD Edwards EnterpriseOne. If you are running multiple instances of JD Edwards EnterpriseOne, enter in the SUPGRPPRF field the JD Edwards EnterpriseOne User Profile name that you entered in the USRPRF field.
- Revoke \*ALL authority from \*PUBLIC.
- Grant profile ONEWORLD \*CHANGE authority to the security profile.

- Grant security profile \*CHANGE authority to ONEWORLD.

Sample Results for SETOWAUT in the JD Edwards EnterpriseOne Tools 8.94 Implementation Guide: Server and Workstation Administration.

## JD Edwards EnterpriseOne DB Admin Profile

When you type \*INI in this field, SETOWAUT retrieves the user and password values from the [SECURITY] section of the JDE.INI file. If you type a value that does not exist, SETOWAUT creates a profile with a password that is the same as the profile name. If the profile exists, SETOWAUT modifies the profile to be a JD Edwards EnterpriseOne database administrator.

Enter a profile to be used as a database administrator. This profile will have all rights to all JD Edwards EnterpriseOne objects. These database administrator profiles are allowed to perform certain JD Edwards EnterpriseOne processes (RUNUBE and PORTTEST) that an administrator with normal privileges cannot perform.

If the profile does not exist, the system creates the profile with a password that is the same name as the profile. If the profile does not exist, you should set the password to expire (PWDEXP = \*YES). For example, this occurs:

- If BV3C is in library list, SETOWAUT will place this program as the initial program. (This program lists all of the JD Edwards EnterpriseOne occurrences to enable the user to select one occurrence at signon).
- USRCLS is set to \*PGMR.
- SPCAUT is set to \*NONE.
- GRPPRF is set to ONEWORLD if you are running a single instance of JD Edwards EnterpriseOne. If you are running multiple instances of JD Edwards EnterpriseOne, GRPPRF is set to the JD Edwards EnterpriseOne User Profile name that you entered in the USRPRF parameter field.

This profile revokes \*ALL authority from \*PUBLIC and grants ONEWORLD \*USE rights to the DB ADMIN profile.

## BSFNLIB (Libs or \*INI (Default PathCode))

Type \*INI in this field to use the pathcode library and the associated specification file directory that is set in the JDE.INI file. You can also type specific pathcode libraries in this field. You can type up to 10 pathcodes at a time.

---

**Note.** If you enter \*NONE in the INI library field, you must set pathcodes in this field.

---

Use \*INI when the INILIB parameter contains the library name in which the JDE.INI file is located (INILIB does not contain \*NONE). This parameter tells SETOWAUT to use the JDE.INI file to retrieve the application pathcode libraries. SETOWAUT retrieves the library name from the JDE.INI value in [DB SYSTEM SETTINGS] Library and uses this setting to access the Object Configuration Master (F986101) and Data Source Master (F98611) tables. SETOWAUT selects all of the library names (F98611.OMLIB) that meet these criteria:

- F986101.OMDATP = F98611.OMDATP
- OMUGRP = \*PUBLIC
- OMSTSO = 'AV'
- OMDBNM = F00942

SETOWAUT retrieves EMPATHCD (pathcode) from each record in the Object Path Master File table (F00942) for each library (F98611.OMLIB).



For each pathcode, SETOWAUT modifies the library and associated IFS directory (specifies path) accordingly.

### Secure Log Path

Y and N are values for this field. The recommended value is N.

Enter N when you do not want to secure JDE log paths.

Enter Y only when you need to secure the log paths. One situation in which you might secure JDE log paths is when logs are being deleted without permission.

Only DB administrators have permission to access the logs in the log path.

### Secure All Objects

Use this field to secure objects when you are running multiple instances of JD Edwards EnterpriseOne. The parameter appears on the SETOWAUT form only when you configure an instance of JD Edwards EnterpriseOne by entering a value other than ONEWORLD in the USRPRF field.

\*NONCOEXIST is the default value for the Secure All Objects parameter, and we recommend that you use this value. This value secures all directories, but not the files in the directories.

Entering COEXIST secures the files as well as the directories. Entering COEXIST can degrade performance because the system must verify authority for every object that the user wants to access. This value is the equivalent of entering \*ALLOBJECTS when you run a single instance of JD Edwards EnterpriseOne. The value \*COEXIST can only be used for OneWorld Xe, and must never be used for JD Edwards EnterpriseOne.

## Prerequisites

Before you complete the tasks in this section:

- Verify that enough space exists on the direct access storage device (DASD) to create a new instance of JD Edwards EnterpriseOne.
- Assess data storage and backup requirements.
- Consider the procedure that you will follow for updating the JD Edwards EnterpriseOne server with new versions of JD Edwards EnterpriseOne.
- Determine the strategy for performing server package builds and updates. This might include, for example, setting up a second deployment server.
- Create a new environment for use with each new JD Edwards EnterpriseOne instance.
- Set up security for multiple instances of JD Edwards EnterpriseOne.

## Copying Libraries and Directories

To copy libraries and directories:

1. End JD Edwards EnterpriseOne services, if necessary.
2. Remove JD Edwards EnterpriseOne security, if necessary.
3. From the iSeries main menu, copy the JD Edwards EnterpriseOne system library in the QSYS file system by typing this command:

```
CPYLIB E812SYS E812CST
```

Where E812CST is the name for the system library in the new instance of JD Edwards EnterpriseOne.

- From the iSeries main menu, copy the JD Edwards EnterpriseOne system directory in the IFS by first the using this command to create a temporary library:

```
CRTLIB TEMPLIB
```

- Create a save file in the temporary library for the system directory by typing this command:

```
CRTSAVF FILE (TEMPLIB/E812SYS)
```

- Save the system directory into the save file by typing this command:

```
SAV DEV ('/QSYS.LIB/TEMPLIB/E812SYS.FILE') OBJ ((' /E812SYS)) USEOPTBLK(*NO) DTACPR
(*YES)
```

- Restore the save file for the system directory to a directory with a new name by typing this command:

```
RST DEV ('/QSYS.LIB/TEMPLIB/E812SYS.FILE') OBJ ((' /E812sys/*' *INCLUDE/E812cst'))
```

Where E812cst is the name of the new system directory.

---

**Note.** Throughout the entire copying procedure, the name for the new directories and libraries must match.

---

- From the iSeries main menu, copy the path code library in the QSYS file system by typing this command:

```
CPYLIB PRD812 CST812
```

Where CST812 is the name for the path code library in the new instance of JD Edwards EnterpriseOne. The name of the library for the new instance cannot exceed eight characters in length.

---

**Note.** The path code directory for any environment that you intend to use for a new instance of JD Edwards EnterpriseOne must be copied to the new directory. You cannot share path code directories between two or more instances of JD Edwards EnterpriseOne because this might corrupt the specification file.

---

- From the iSeries main menu, copy the path code directory in the IFS by first using this command to create a save file in the temporary library:

```
CRTSAVF FILE(TEMPLIB/PRD812)
```

---

**Note.** You must follow the procedure for copying the path code directory for each path code that you copy.

---

- Save the path code directory into the save file by typing this command:

```
SAV DEV ('QSYS.LIB/TEMPLIB/PRD812.FILE') OBJ ((' /prd812/*')) USEOPTBLK(*NO) DTACPR
(*YES)
```

- Restore the save file for the path code directory to a directory with a new name by typing this command:

```
RST DEV ('QSYS.LIB/TEMPLIB/PRD812.FILE') OBJ ((' /prd812/*' INCLUDE '/cst812'))
```

Where cst812 is the name of the new path code directory.

- From the iSeries main menu, create a JD Edwards EnterpriseOne subsystem from the system library by typing this command:

```
CRTOWSBS <subsystem name> <system library>
```

Where <subsystem name> is the name you give to the JD Edwards EnterpriseOne subsystem for the new instance of JD Edwards EnterpriseOne, and <system library> is the name of the system library in the QSYS file system for the new instance of JD Edwards EnterpriseOne.

---

**Note.** You can use the same subsystem for multiple instances of JD Edwards EnterpriseOne.

---

### 13. Modify these parameters in the INI library:

```
[INSTALL]
DefaultSystem=<System Library>

[JDEIPC]
startIPCKeyValue=<Unused start key not within another's IPC range>

[JDENET]
serviceNameListen=<Available port>
serviceNameConnect=<Available port>

[DB SYSTEM SETTINGS]
Default Env=<New environment>
Default PathCode=<New path code>
```

## Applying Security to Multiple Instances of JD Edwards EnterpriseOne on the iSeries

To apply security to multiple instances of JD Edwards EnterpriseOne on the iSeries:

1. Copy the OCM library.
2. Copy the database libraries, such as SYS812, 812MAP, and so on.
3. Create a new iSeries user profile for each new instance of JD Edwards EnterpriseOne.
4. From the iSeries main menu, create a new log path in the IFS by typing this command:

```
CRTDIR DIR('/812CSTLOG')
```

Where CSTLOG is the name of the new IFS log directory.

### 5. Modify these parameters in the INI library:

```
[DEBUG]
DebugFile=<new log path>/JDEDEBUG.LOG
JobFile=<new log path?>/JDE.LOG
JDETSFile=<new log path>/JDETS.LOG

[DB SYSTEM SETTINGS]
Database=<new OCM library>

[SECURITY]
DataSource=<Location of new F98OWSEC library>
```

---

**Note.** The parameter values in the [DEBUG] section must be uppercase.

---

## Creating a JD Edwards EnterpriseOne Subsystem on the iSeries

To create a JD Edwards EnterpriseOne subsystem on the iSeries:

1. Stop JD Edwards EnterpriseOne services.
2. From the iSeries main menu, type this command, and then press ENTER or press the F4 key:

```
CRTOWSBS
```

3. On the CREATE New JD Edwards EnterpriseOne Subsystem form, enter character values for these parameters, and then press ENTER:

- SUBSYSTEM
- SYSLIB

---

**Note.** The maximum number of characters allowed for the description of each parameter is 10. Verify that the name of the system library matches the name that you created when you copied the JD Edwards EnterpriseOne system library in the QSYS file system.

---

The CRTOWSBS command creates a new subsystem description in the JD Edwards EnterpriseOne system library and updates the STRNET and ENDNET programs with the new subsystem name as the default parameter.

4. To delete the old subsystem description from the system library, type this command, and then press Enter or press the F4 key:

```
WRKOBJ OBJ <SUBSYSTEM NAME>/<SYSTEM LIBRARY NAME> OBJTYPE(*SBSD)
```

Where SUBSYSTEM NAME is the subsystem description that you want to delete and SYSTEM LIBRARY NAME is the system library where the subsystem description is located.

5. In the Work with Objects form, type 4 for Delete, and then press ENTER.
6. From the iSeries main menu, clear IPC memory by typing this command:

```
CLRIPC
```

7. From the iSeries main menu, start JD Edwards EnterpriseOne iSeries services by typing this command:

```
STRNET
```

---

## Administering Security JD Edwards EnterpriseOne Database Security for iSeries

This section provides an overview of JD Edwards EnterpriseOne data base security administration and discusses how to:

- Set up iSeries database security for a single JD Edwards EnterpriseOne instance.
- Set up iSeries database security for multiple JD Edwards EnterpriseOne instances.
- Add administrators.
- Remove administrative authority from user profiles.
- Display user profile information.

## Understanding JD Edwards EnterpriseOne Database Security Administration

You can secure profiles and objects for JD Edwards EnterpriseOne on the iSeries with the Set Up OneWorld Authority (SETOWAUT) command. When you enter this command, a form appears that enables you to enter specific security information for the system. The authority is implemented only on the iSeries machine on which you execute the command.

---

**Note.** If you upgraded to JD Edwards EnterpriseOne from an existing ERP installation and do not intend to rerun SETOWAUT, then you must manually add the PSFT user profile to the existing security profile authorization list. (The default name for authorization list is OneWorld.)

---

The SETOWAUT command enables you to set up security for a single instance of JD Edwards EnterpriseOne or for multiple instances of JD Edwards EnterpriseOne. If you run multiple instances of JD Edwards EnterpriseOne, you can set up separate user profiles for each instance. The SETOWAUT command sets up the authorities for each JD Edwards EnterpriseOne instance, adds profile names to an authorization list, and sets object ownership for each JD Edwards EnterpriseOne instance.

Two separate authorization lists exist for maintaining security. Values in two parameters of the SETOWAUT program specify the authorization lists.

The USRPRF parameter value specifies the JD Edwards EnterpriseOne user profile. When you run the SETOWAUT program, the program automatically creates a user profile authorization list with the same name. This list secures all JD Edwards EnterpriseOne objects.

The ALLOBJECTS parameter determines how SETOWAUT secures JD Edwards EnterpriseOne objects. The recommended setting for this parameter is \*NONCOEXIST. Using this setting, the resulting authorization list secures only the root directories and the libraries. This is true for all libraries except the System library; SETOWAUT secures all of the objects in the system library. The value ALLOBJ secures every object in all JD Edwards EnterpriseOne libraries and directories. This parameter is not recommended because it negatively affects JD Edwards EnterpriseOne performance.

The COEXIST option can be used for OneWorld Xe, but never for JD Edwards EnterpriseOne. COEXIST is not valid with JD Edwards EnterpriseOne.

This release of JD Edwards EnterpriseOne introduces the PSFT user profile. To use JD Edwards EnterpriseOne software, this user profile must have access to objects that are owned by this instance of the software, regardless of whether SETOWAUT is used (that is, the default profile is the ONEWORLD user profile). To provide the PSFT user profile access to objects, you must do these:

- Change PSFT user profile attribute GRPPRF to the name of the JD Edwards EnterpriseOne or multiple instance USRPRF (the default value is ONEWORLD).
- Verify that the PSFT user profile attribute OWNER is set to \*GRPPRF. If it is not, manually set this value to \*GRPPRF.

The USRAUTL parameter value specifies the administrative authorization list. When you run the SETOWAUT program, the program automatically creates an administrative authorization list that gives specified users administrative access to JD Edwards EnterpriseOne. Any user who will perform basic JD Edwards EnterpriseOne administration tasks, such as Start, End, Clear IPC, and so on, on the iSeries must be added to this list. CRTOWADPRF is a supplied command that adds administrative users to this list; RMVOWADPRF is a supplied command that removes such users from the list.

Use PROFTYPE(\*USER) to perform basic JD Edwards EnterpriseOne administrative tasks. Use PROFTYPE(\*ADMIN) for users who need access to all JD Edwards EnterpriseOne objects. (\*ADMIN is similar to security officer but can only be used for JD Edwards EnterpriseOne.

Whether you want to set up security for one instance of JD Edwards EnterpriseOne or for multiple instances, the Set Up OneWorld Authority (SETOWAUT) form appears when you run the SETOWAUT command. However, the parameter values that you enter and the parameter fields that appear on the form differ, depending on whether you set up security for one instance or for multiple instances. These parameter differences are explained in these three tables:

<b>Parameters Present in SETOWAUT Form for Both Single and Multiple Instances of JD Edwards EnterpriseOne</b>	<b>Meaning</b>	<b>Value to be Entered for a Single Instance of JD Edwards EnterpriseOne</b>	<b>Value to be Entered for Multiple Instances of JD Edwards EnterpriseOne</b>
USRPRF	JD Edwards EnterpriseOne User Profile	JD Edwards EnterpriseOne	Configurable. Enter a new value for each instance of JD Edwards EnterpriseOne.
USRAUTL	Admin. Authorization List	OWADMINL	Configurable. Enter a new value for each instance of JD Edwards EnterpriseOne.

<b>Parameters Present in SETOWAUT Form for Single Instance of JD Edwards EnterpriseOne Only</b>	<b>Meaning</b>	<b>Value to be Entered for a Single Instance of JD Edwards EnterpriseOne</b>	<b>Value to be Entered for Multiple Instances of JD Edwards EnterpriseOne</b>
OWPRF	Modify ONEWORLD Profile	Y is the default value.	Parameter is not present if you enter a value other than ONEWORLD for the USRPRF parameter.
JDEPRF	Modify JDE Profile	Y is the default value.	Parameter is not present if you enter a value other than ONEWORLD for the USRPRF parameter.

<b>Parameter Present in SETOWAUT Form for Multiple Instances of JD Edwards EnterpriseOne Only</b>	<b>Meaning</b>	<b>Value to be Entered for Multiple Instances of JD Edwards EnterpriseOne</b>	<b>Value to be Entered for Single Instance of JD Edwards EnterpriseOne</b>
OBJOPT	Secure All Objects	N is the default value. Enter Y if you want to secure all objects that appear in one or more directories. Because it can degrade system performance, entering Y is not recommended.	Parameter is not present if you enter OneWorld as the value for the USRPRF parameter.

This information provides a summary of the security model when you run a single instance of JD Edwards EnterpriseOne:

Library	Description of Security
JD Edwards EnterpriseOne System Library	SETOWAUT secures all of the objects in the system library. Administrative programs, such as CLRIPC, STRNET, ENDNET, and PORTTEST, are set to adopt the authority of the owner.

You can set up security for a single instance of JD Edwards EnterpriseOne, or you can set up security for separate JD Edwards EnterpriseOne instances. In the latter case, the SETOWAUT program creates a user profile and individual authorization lists for each instance, which establishes object ownership.

You can set up security for separate instances of JD Edwards EnterpriseOne as well. To do so, you enter a value other than ONEWORLD for the User Profile parameter and a value other than OWADMINL for the Admin. Authorization List parameter. You enter different values for these parameters for each instance of JD Edwards EnterpriseOne that you run.

---

**Note.** Use caution when you use JD Edwards EnterpriseOne security to lock a library that contains third-party software. We do not support the iSeries JD Edwards EnterpriseOne database security with third-party software.

---

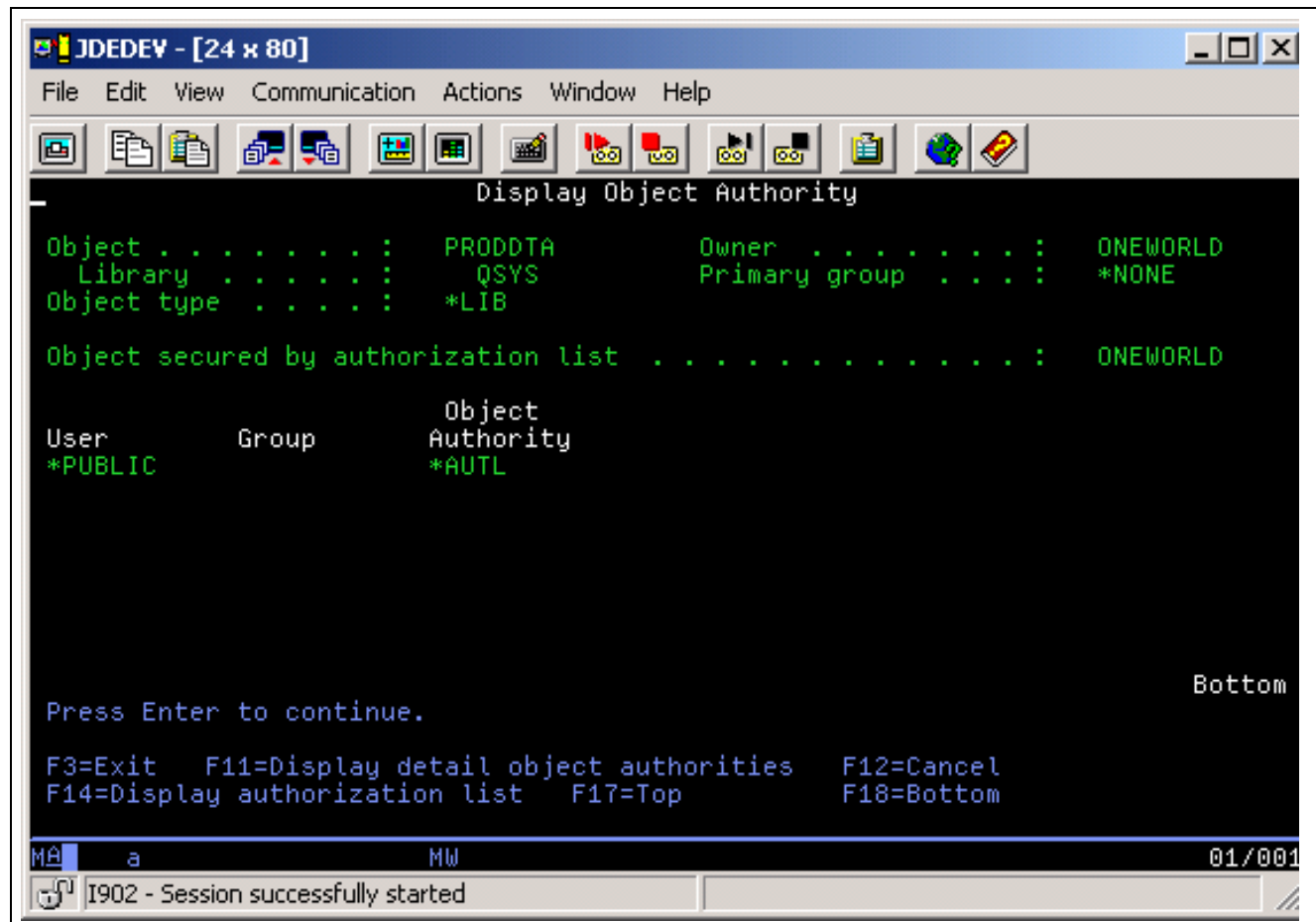
### Sample Results for SETOWAUT

You can expect these examples for each of the various commands. Using Client Access, sign onto the iSeries, type each command on the command line, and press F4. For libraries (data sources and pathcodes), the required parameters are object type (\*LIB) and the name of the library.

If you set up multiple instances of JD Edwards EnterpriseOne, the owner of each instance is the user profile that you entered in the JD Edwards EnterpriseOne User Profile parameter during the authority setup. If you set up a single instance of JD Edwards EnterpriseOne, the owner is ONEWORLD.

Similarly, if you set up multiple instances of JD Edwards EnterpriseOne and you display object authority, the value that appears is the name of the user profile for all objects except the SYSTEM library. The object authority for the SYSTEM library when you run multiple instances of JD Edwards EnterpriseOne is the name of the Admin. Authorization List. If you set up a single instance of JD Edwards EnterpriseOne, all objects are secured by the authorization list, except the SYSTEM library, which is secured by the OWADMINL authorization list.

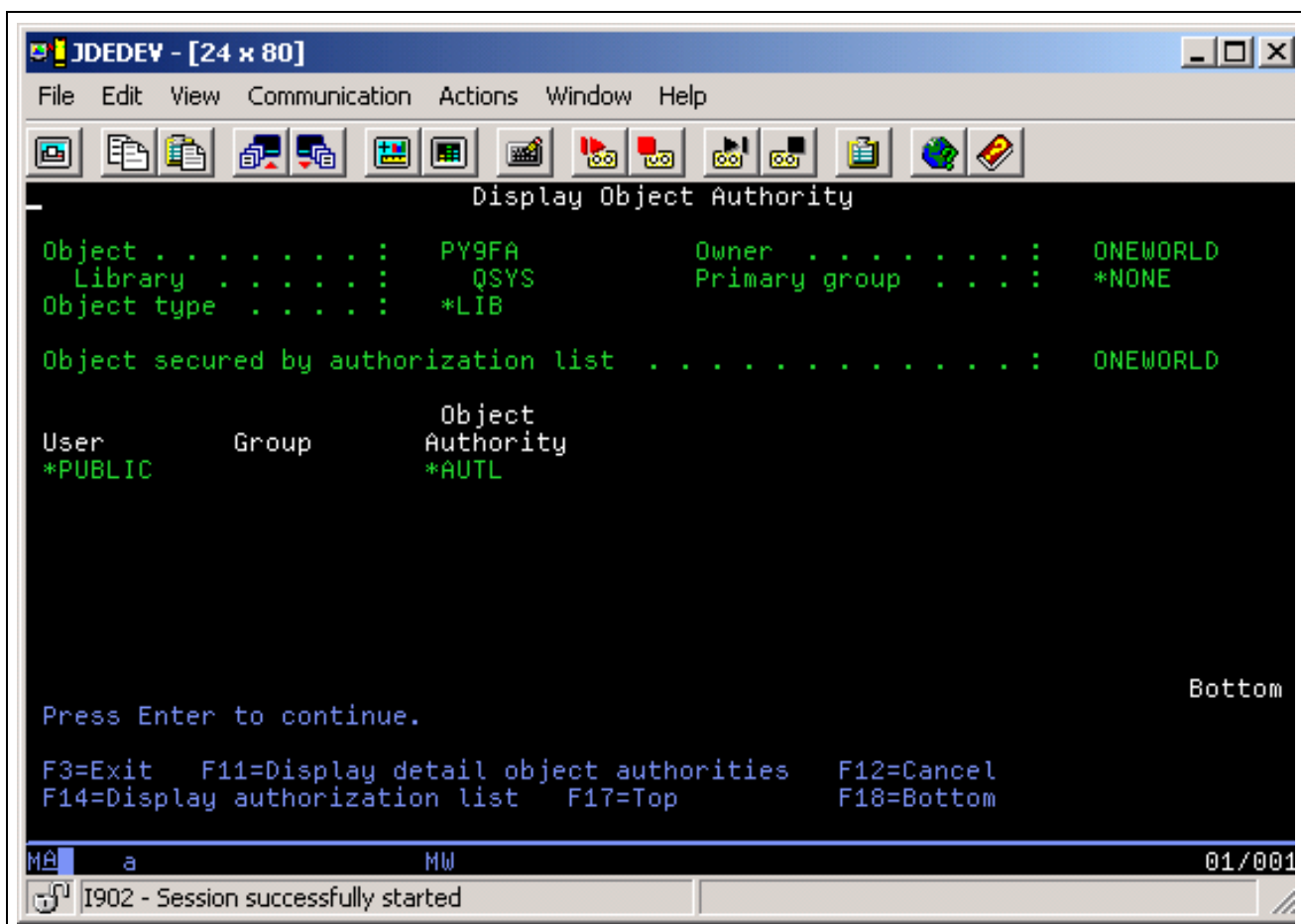
This is an example of the data source DSPOBJAUT:



Data Source DSPOBJAUT

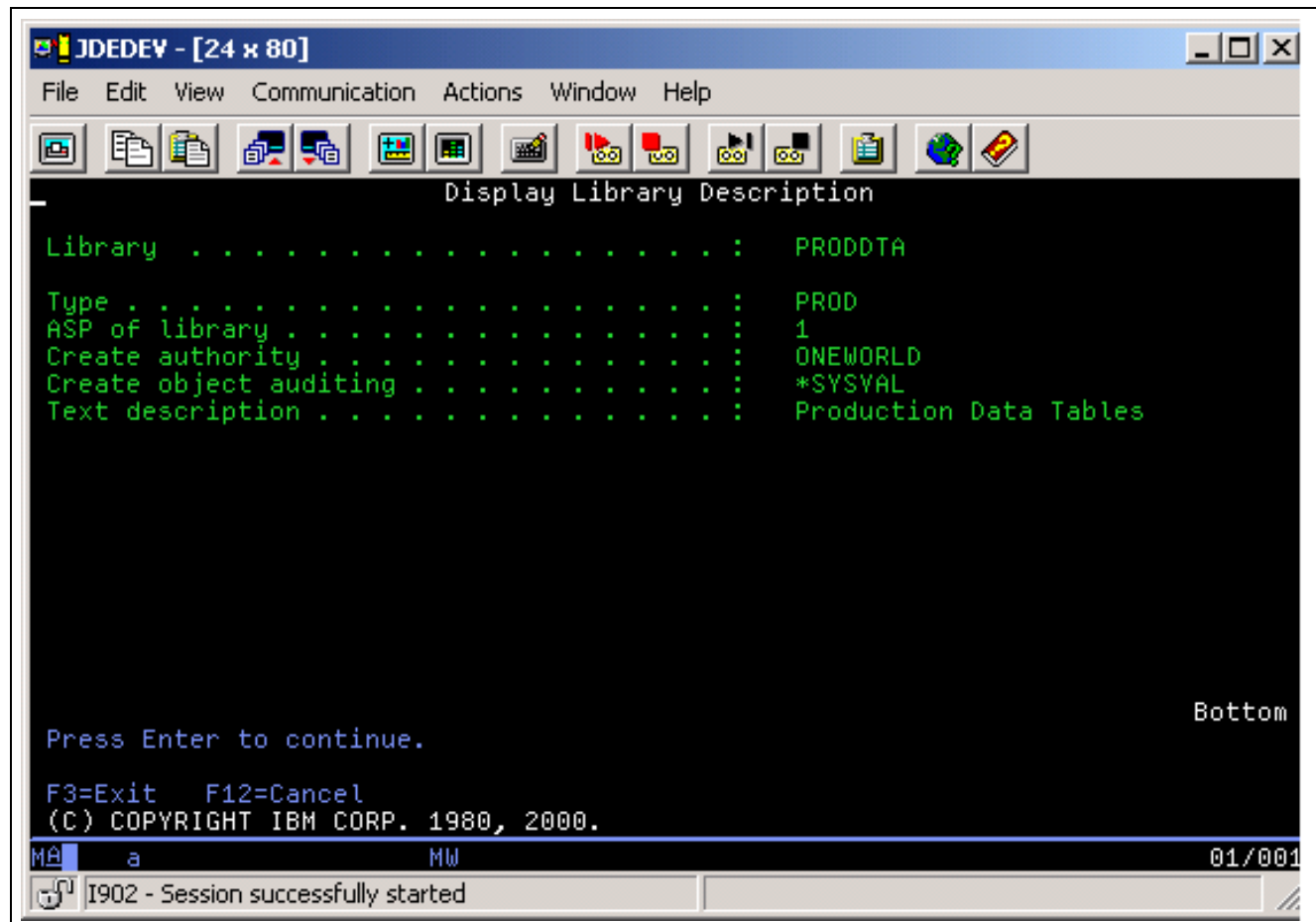
This is an example of the data source DSPOBJAUT:





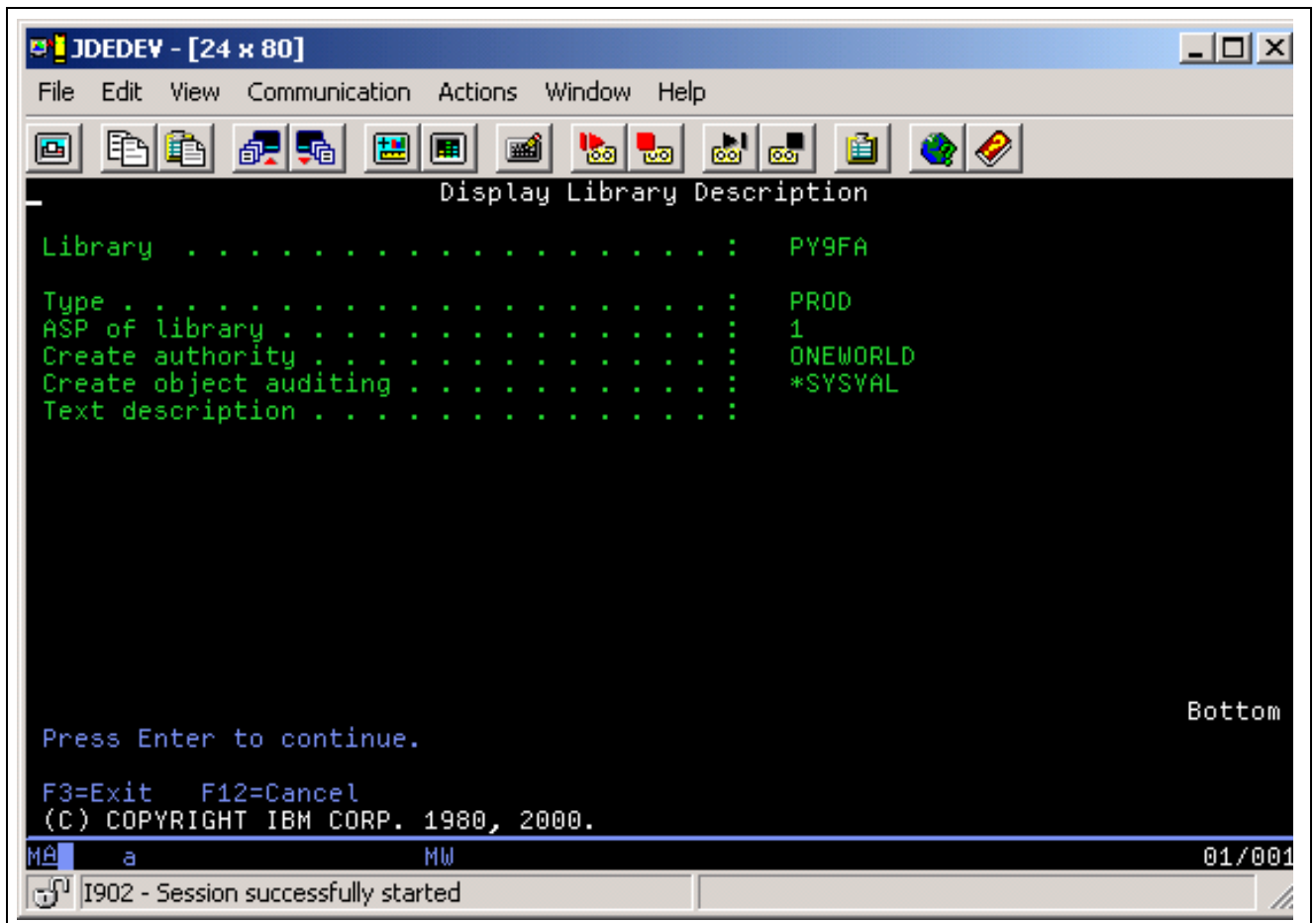
Pathcode DSPOBJAUT

This is an example of the data source DSPLIBD:



Data source DSPLIBD

This is an example of the pathcode DISLIBD:



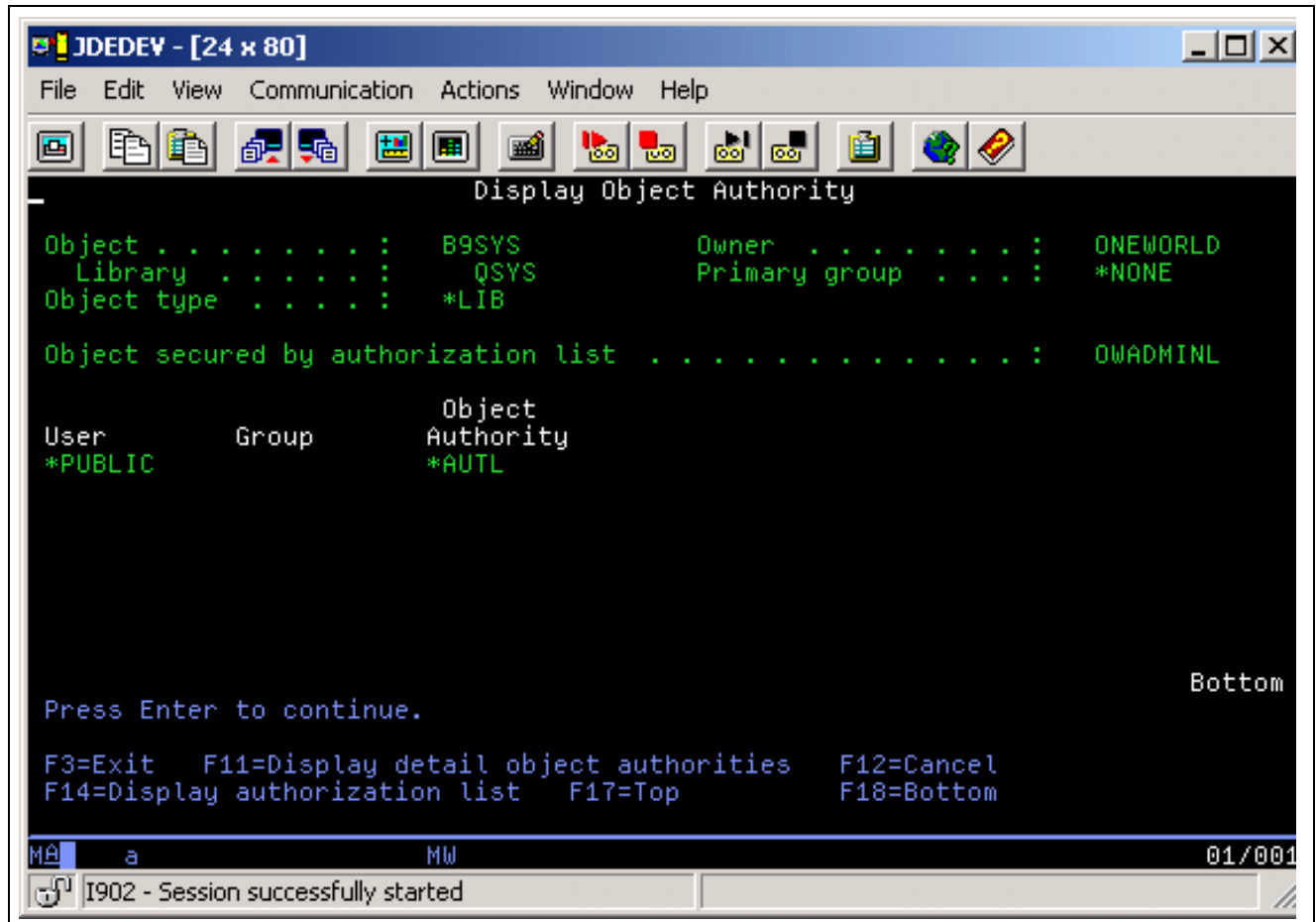
Pathcode DSPLIBD

**Note.** Authority for objects in data sources and pathcodes should remain the same after you run SETOWAUT. You can see this by displaying the authority for an object in each library before and after you run SETOWAUT. The forms should be identical. The required parameters are object name, object type (\*FILE or \*PGM), and the library name in which the object resides.

Owner, object security, and authority creation differ depending on whether you are running a single instance of JD Edwards EnterpriseOne or multiple instances.

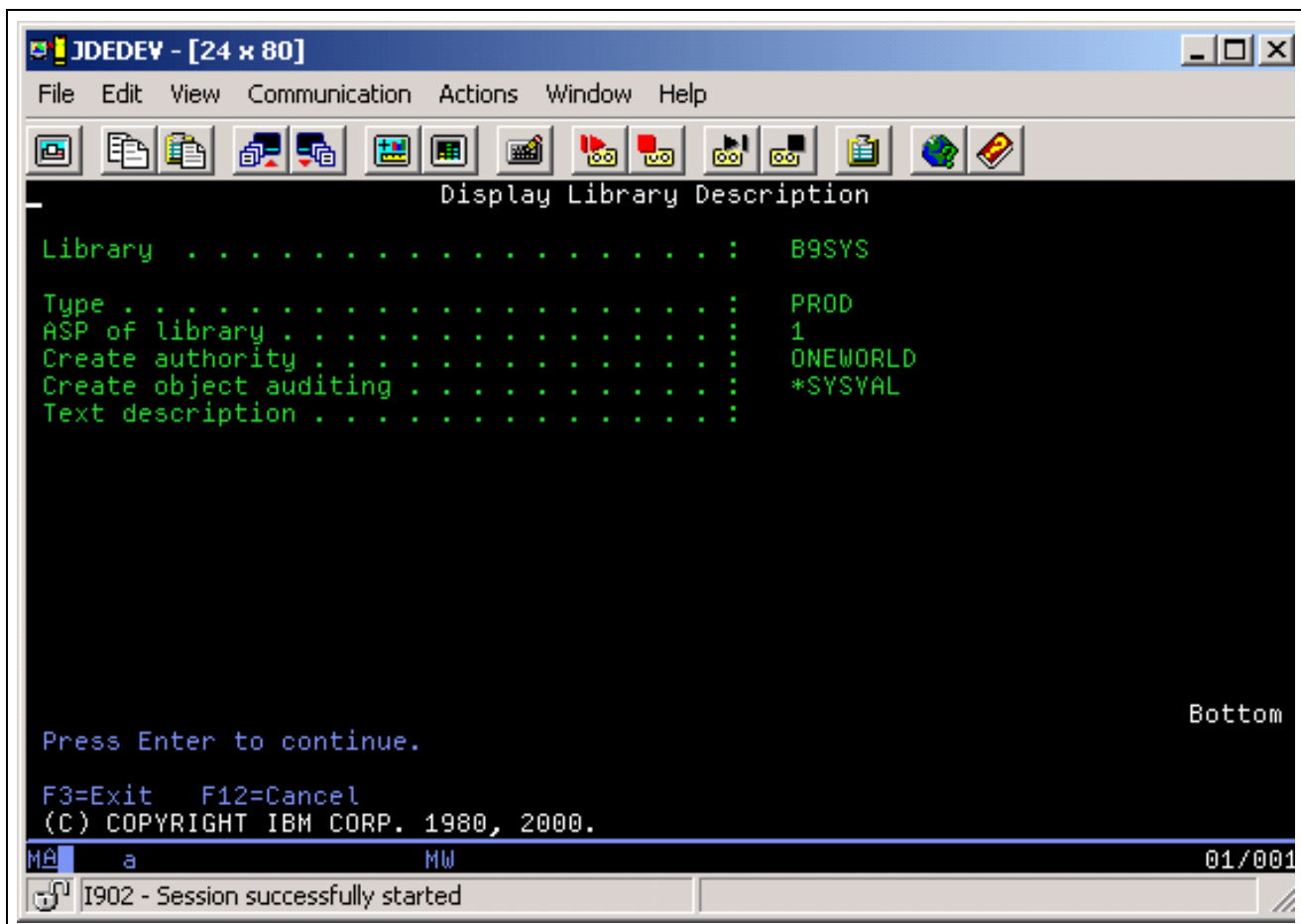
SETOWAUT changes the authority on system libraries. You can view this for both DSPOBJAUT and DSPLIBD on system libraries. The shaded information in these illustrations should correspond to the information that appears on the form. The required parameters are the object name, object type (\*PGM), and the name of the library in which these objects reside.

This is an example of the system library DSPOBJAUT:



System library DSPOBJAUT

This is an example of the system library DSPLIBD:



System library DSPLIBD

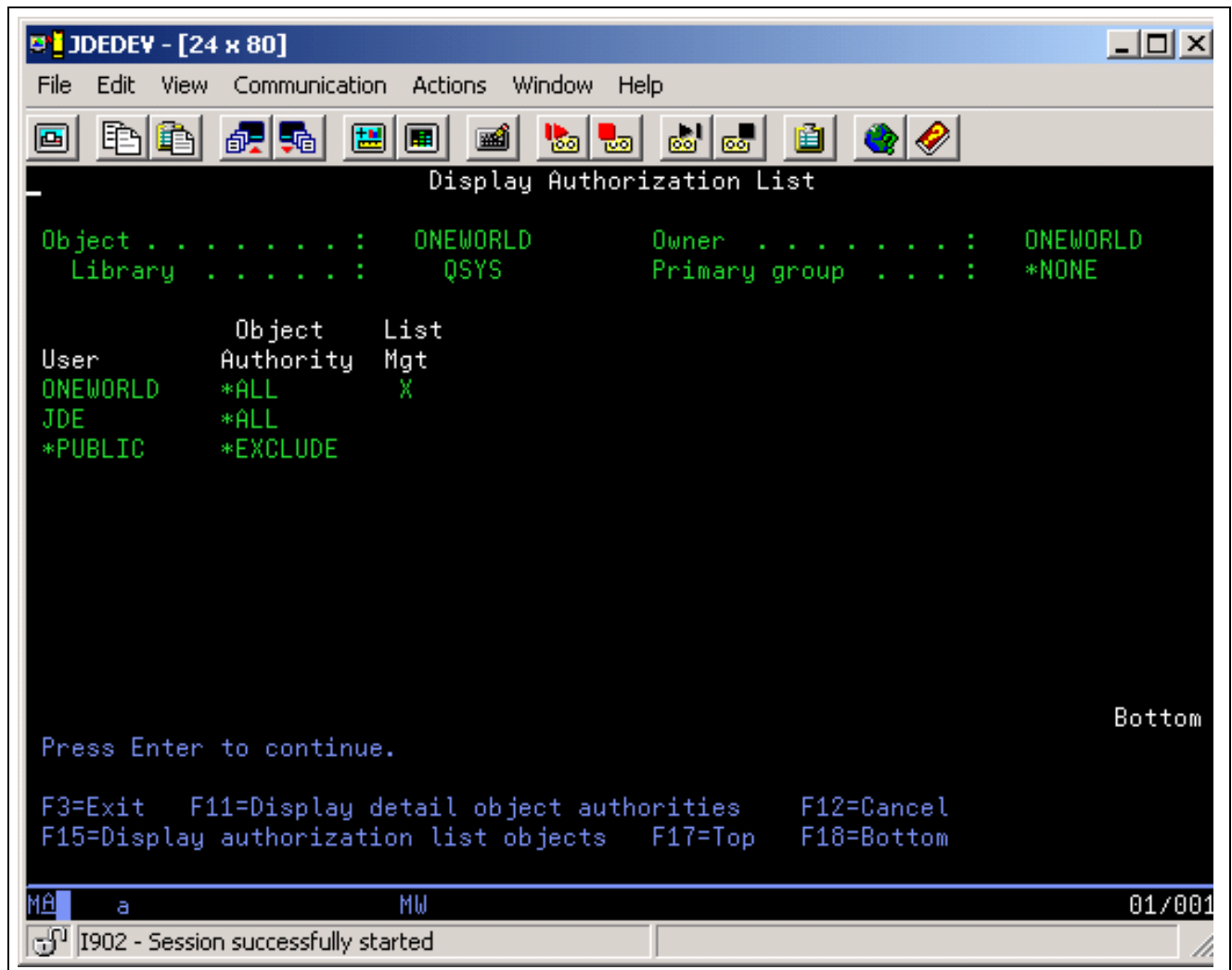
The authority changes for objects within system libraries that either contain the attributes CLLE or CLP or that share the same name. You can use commands to review the authority on these objects. The required parameters are object name, object type (\*PGM or \*CMD), and the name of the library in which these objects reside.

### Sample Results for Authorization Lists

Use these commands to view the authorization list authorities. The name of the list is the only necessary parameter:

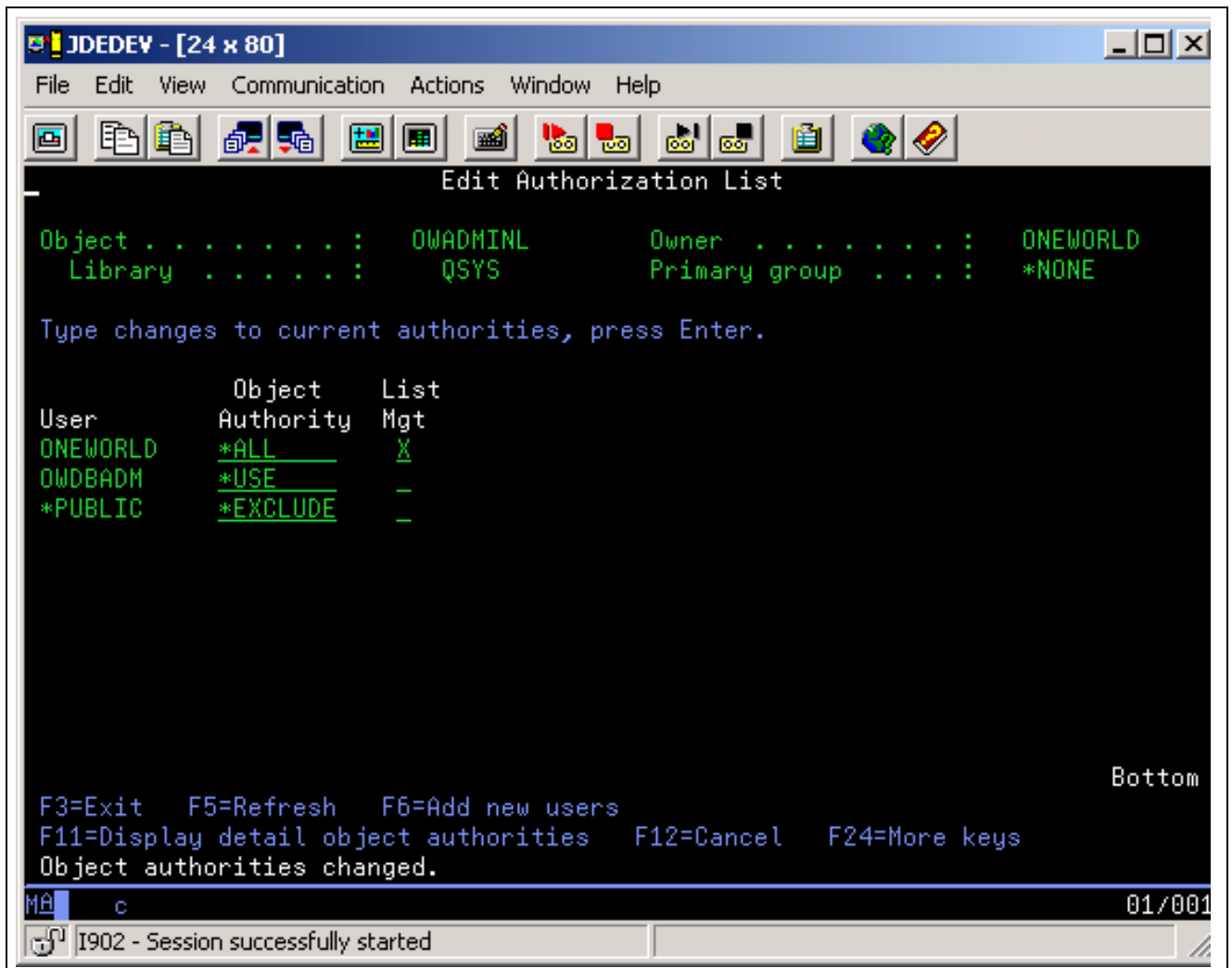
- IFS directories (specification files).
- WRKLNK - option 9 Work with authority.

This is an example of DSPAUTL:



Display Authorization List

This is an example of DSPAUTL:



Edit Authorization List

## Prerequisite

Before you enter a value for the USRPRF and USRAUTL parameters, verify that the value is not being used for an authorization list for any other instance of JD Edwards EnterpriseOne. To do so, run the DSPAUTL command. On the Display Authorization form, you can enter the value that you intend to use to make sure that it is unique.

## Setting Up iSeries Database Security for a Single JD Edwards EnterpriseOne Instance

To set up iSeries database security for a single JD Edwards EnterpriseOne instance:

1. In the SETOWAUT library, on the command line, type this command, press F4, and then press F11:

```
SETOWAUT
```

---

**Note.** Verify that the SETOWAUT library is in the library list. If it is not, run the ADDLIB command.

---

The Set Up OneWorld Authority (SETOWAUT) form appears.

2. On Set Up OneWorld Authority (SETOWAUT), complete the USPRF field with OneWorld, and then press ENTER:  
The form displays additional security parameters. You can specify various security settings, including library access.
3. Complete these required fields, and then press ENTER:
  - USRAUTL  
Enter *OWADMINL*.
  - TYPE
  - INILIB
4. Complete any additional fields, if necessary.
5. Press ENTER.

## Setting Up iSeries Database Security for Multiple JD Edwards EnterpriseOne Instances

To set up iSeries database security for multiple JD Edwards EnterpriseOne instances:

1. In the SETOWAUT library, on the command line, type this command and press F4:  
`SETOWAUT`
2. On Set Up OneWorld Authority (SETOWAUT), complete the USRPRF field, and then press ENTER:  
The SETOWAUT program uses this name when it creates a user profile authorization list.
3. The form expands to reveal an additional security parameter. The Modify OneWorld Profile (OWPRF) and Modify JDE Profile (JDEPRF) parameters, which appear when you enter OneWorld as the User Profile parameter value, do not appear when you enter a value other than OneWorld.
4. Complete these required fields and press Enter:
  - USRAUTL  
Enter a name that identifies the administrative authorization list.
  - TYPE
  - INILIB
5. Complete any additional fields, if necessary.
6. Press Enter.

## Adding Administrators

You can add administrators to the administrative authorization list by running the CRTOWADPRF command. The command also enables you to designate levels of authority to the administrators whom you are adding to the list.

1. On the command line, enter this command and press F4:

```
CRTOWADPRF USRPRF
```



2. On Set Up OW User Profile (CRTOWADPRF), in the ADMIN USER Profile field, enter the name of an administrator whom you want to add to the administrative authorization list. You can add up to 10 administrators at a time.
3. In the JD Edwards EnterpriseOne USER Profile field, Type the JD Edwards EnterpriseOne user profile name that you entered in the USRPRF field during setup.
4. In the ADMIN Authorization List, Type the Admin. Authorization List name that you entered in the USRAUTL field during setup.
5. In Profile Type, type *\*USER* to give the profiles basic administration capabilities, such as STRNET, ENDNET, CLRPC, SAW, CLRLCK, DSPIPC, DSPSTMF, IPCS, LINKBSFN, and PID2JOB.  
Type *\*ADMIN* if the profiles need rights to PORTTEST and RUNUBE, as well as the basic administration capabilities.
6. In Initial program to call, type *BV3C* if you want the system to display a list of environments when the administrators sign on to JD Edwards EnterpriseOne, *\*SAME* to use the current initial program setting, or *\*NONE* to remove the initial program setting.

---

**Note.** For JD Edwards EnterpriseOne, the initial program to call by default is BV3C. This program sets the iSeries to provide a choice of environments at signon. A user with an administrator profile who signs on to an environment can then perform JD Edwards EnterpriseOne commands on the iSeries server.

---

## Removing Administrative Authority from User Profiles

To remove a user's administrative authority, you run the RMVOWADPRF command and complete the Remove OW Profile Authority form.

---

**Note.** Submit this command to a batch subsystem.

---

1. On the command line, enter this command and press F4:

RMVOWADPRF

2. On Remove OW Profile Authority (RMVOWADPRF), complete these fields and press ENTER:

Field	Description
User Profile	Enter the name of the user from whom you want to remove authority.
Admin. Authorization List	Type the Admin. Authorization List name that you entered in the USRAUTL field during setup.
JD Edwards EnterpriseOne User Profile	Type the JD Edwards EnterpriseOne user profile name that you entered in the USRPRF field during setup.

## Displaying User Profile Information

After you run SETOWAUT, you can review user profiles and authorization lists to verify that the information is correct.

1. On the command line, enter this command:

DSPUSRPRF

2. On Display User Profile (DSPUSRPRF), type the name of a user profile in the User Profile field, and then press ENTER.

Information similar to this example appears:

```

User profile . . . . . : ONEWORLD
Previous sign-on . . . . . : 03/23/04 15:16:53
Sign-on attempts not valid . . . . . : 0
Status . . . . . : *ENABLED
Date password last changed . . . . . : 02/27/03
Password expiration interval . . .
. . . . . : *NOMAX      Set password to expired . . . . . : *NO
User class . . . . . : *USER
Special authority . . . . . : *JOBCTL
Group profile . . . . . : *NONE
Owner . . . . . : *USRPRF
Group authority . . . . . : *NONE
Group authority type . . . . . : *PRIVATE
Supplemental groups . . . . . : *NONE
Assistance level . . . . . : *SYSVAL
Current library . . . . . : *CRTDFT
Initial program . . . . . : *NONE
  Library . . . . . :
Initial menu . . . . . : *SIGNOFF
  Library . . . . . :
Limit capabilities . . . . . : *NO
Text . . . . . :
Display sign-on information . . . . . : *SYSVAL
Limit device sessions . . . . . : *SYSVAL
Keyboard buffering . . . . . : *SYSVAL
Storage information:
  Maximum storage allowed . . . . . : *NOMAX
  Storage used . . . . . : 286236536
  Storage used on independent ASP . . . . . : *NO
Highest scheduling priority . . . . . : 3
Job description . . . . . : ONEWORLD
  Library . . . . . : QGPL
Accounting code . . . . . :
Message queue . . . . . : ONEWORLD
  Library . . . . . : QUSRSYS
Message queue delivery . . . . . : *NOTIFY
Message queue severity . . . . . : 00
Output queue . . . . . : *WRKSTN
  Library . . . . . :
Printer device . . . . . : *WRKSTN
Special environment . . . . . : *SYSVAL
Attention program . . . . . : *SYSVAL
  Library . . . . . :
Sort sequence . . . . . : *SYSVAL
  Library . . . . . :
Language identifier . . . . . : *SYSVAL

```

```

Country identifier . . . . . : *SYSVAL
Coded character set identifier . . . . . : *SYSVAL
Character identifier control . . . . . : *SYSVAL
Locale job attributes . . . . . : *SYSVAL
User profile . . . . . : JDE

Previous sign-on . . . . . : 03/23/04 15:25:53
Sign-on attempts not valid . . . . . : 0
Status . . . . . : *ENABLED
Date password last changed . . . . . : 02/27/03
Password expiration interval . . . . . : *NOMAX
Set password to expired . . . . . : *NO
User class . . . . . : *USER
Special authority . . . . . : *JOBCTL
                               *SAVSYS

Group profile . . . . . : *NONE
Owner . . . . . : *USRPRF
Group authority . . . . . : *NONE
Group authority type . . . . . : *PRIVATE
Supplemental groups . . . . . : *NONE
Assistance level . . . . . : *SYSVAL
Current library . . . . . : *CRTDFT
Initial program . . . . . : J98INIT
    Library . . . . . : JDFOBJ7R2
Initial menu . . . . . : *MAIN
    Library . . . . . : *LIBL
Limit capabilities . . . . . : *NO
Text . . . . . :
Display sign-on information . . . . . : *SYSVAL
Limit device sessions . . . . . : *SYSVAL
Keyboard buffering . . . . . : *SYSVAL
Storage information:
Maximum storage allowed . . . . . : *NOMAX
Storage used . . . . . : 11243168
Storage used on independent ASP . . . . . : *NO
Highest scheduling priority . . . . . : 3
Job description . . . . . : JDE
    Library . . . . . : QGPL
Accounting code . . . . . :
Message queue . . . . . : JDE
    Library . . . . . : QUSRSYS
Message queue delivery . . . . . : *NOTIFY
Message queue severity . . . . . : 00
Output queue . . . . . : *DEV
    Library . . . . . :
Printer device . . . . . : *WRKSTN
Special environment . . . . . : *SYSVAL
Attention program . . . . . : *SYSVAL
    Library . . . . . :
Sort sequence . . . . . : *SYSVAL

```

```

Library . . . . . :
Language identifier . . . . . : *SYSVAL
Country identifier . . . . . : *SYSVAL
Coded character set identifier . . . . . : *SYSVAL
Character identifier control . . . . . : *SYSVAL
Locale job attributes . . . . . : *SYSVAL
User profile . . . . . : JDEOW

Previous sign-on . . . . . : 03/23/04 15:28:02
Sign-on attempts not valid . . . . . : 0
Status . . . . . : *ENABLED
Date password last changed . . . . . : 02/27/03
Password expiration interval . . . . . : *NOMAX
Set password to expired . . . . . : *NO
User class . . . . . : *USER
Special authority . . . . . : *NONE
Group profile . . . . . : ONEWORLD
Owner . . . . . : *GRPPRF
Group authority . . . . . : *NONE
Group authority type . . . . . : *PRIVATE
Supplemental groups . . . . . : JDE
Assistance level . . . . . : *SYSVAL
Current library . . . . . : *CRTDFT
Initial program . . . . . : *NONE

Library . . . . . :
Initial menu . . . . . : *SIGNOFF

Library . . . . . :
Limit capabilities . . . . . : *NO
Text . . . . . :
Display sign-on information . . . . . : *SYSVAL
Limit device sessions . . . . . : *SYSVAL
Keyboard buffering . . . . . : *SYSVAL
Storage information:
  Maximum storage allowed . . . . . : *NOMAX
  Storage used . . . . . : 147904
  Storage used on independent ASP . . . . . : *NO
Highest scheduling priority . . . . . : 3
Job description . . . . . : QDFTJOB
  Library . . . . . : QGPL
Accounting code . . . . . :
Message queue . . . . . : JDEOW
  Library . . . . . : QUSRSYS
Message queue delivery . . . . . : *NOTIFY
Message queue severity . . . . . : 00
Output queue . . . . . : *WRKSTN
  Library . . . . . :
Printer device . . . . . : *WRKSTN
Special environment . . . . . : *SYSVAL
Attention program . . . . . : *SYSVAL
  Library . . . . . :

```

```

Sort sequence . . . . . : *SYSVAL
  Library . . . . . :
Language identifier . . . . . : *SYSVAL
Country identifier . . . . . : *SYSVAL
Coded character set identifier . . . . . : *SYSVAL
Character identifier control . . . . . : *SYSVAL
Locale job attributes . . . . . : *SYSVAL
User profile . . . . . : OWDBADMIN

Previous sign-on . . . . . : 03/23/04 15:30:12
Sign-on attempts not valid . . . . . : 0
Status . . . . . : *ENABLED
Date password last changed . . . . . : 02/27/03
Password expiration interval . . . . . : *NOMAX
Set password to expired . . . . . : *NO
User class . . . . . : *PGMR
Special authority . . . . . : *NONE
Group profile . . . . . : ONEWORLD
Owner . . . . . : *GRPPRF
Group authority . . . . . : *NONE
Group authority type . . . . . : *PRIVATE
Supplemental groups . . . . . : JDE
Assistance level . . . . . : *SYSVAL
Current library . . . . . : *CRTDFT
Initial program . . . . . : *NONE
  Library . . . . . :
Initial menu . . . . . : MAIN
  Library . . . . . : *LIBL
Limit capabilities . . . . . : *NO
Text . . . . . :
Display sign-on information . . . . . : *SYSVAL
Limit device sessions . . . . . : *SYSVAL
Keyboard buffering . . . . . : *SYSVAL
Storage information:
  Maximum storage allowed . . . . . : *NOMAX
  Storage used . . . . . : 0
  Storage used on independent ASP . . . . . : *NO
Highest scheduling priority . . . . . : 3
Job description . . . . . : QDFTJOB
  Library . . . . . : QGPL
Accounting code . . . . . :
Message queue . . . . . : JDEOW
  Library . . . . . : QUSRSYS
Message queue delivery . . . . . : *NOTIFY
Message queue severity . . . . . : 00
Output queue . . . . . : *WRKSTN
  Library . . . . . :
Printer device . . . . . : *WRKSTN
Special environment . . . . . : *SYSVAL
Attention program . . . . . : *SYSVAL

```

```
Library . . . . . :  
Sort sequence . . . . . : *SYSVAL  
Library . . . . . :  
Language identifier . . . . . : *SYSVAL  
Country identifier . . . . . : *SYSVAL  
Coded character set identifier . . . . . : *SYSVAL  
Character identifier control . . . . . : *SYSVAL  
Locale job attributes . . . . . : *SYSVAL
```

## CHAPTER 3

# Administering the UNIX and Linux Servers

This chapter provides an overview of Server Administration for UNIX and Linux and discusses how to:

- Start the enterprise server for UNIX or Linux.
- Shut down the enterprise server for UNIX or Linux.
- Set up a printer for UNIX or Linux.
- Administer batch processes for UNIX or Linux.
- Maintain file security for UNIX and Linux.
- Work with HP-UX and Solaris Kernel parameter settings.
- Work with Linux kernel parameter settings.
- Work with AIX kernel parameter settings for JD Edwards EnterpriseOne.
- Run multiple instances of the JD Edwards EnterpriseOne enterprise server.

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## Understanding Server Administration for UNIX and Linux

The JD Edwards company supports Oracle's JD Edwards EnterpriseOne enterprise servers for UNIX operating systems on the Hewlett-Packard HP 9000 (HP-UX), the IBM RS/6000 (AIX), and the Sun Microsystems SPARC (Solaris) platforms. In addition, beginning with JD Edwards 8.93, RedHat Enterprise Linux AS on the Intel Architecture is also supported. To operate the UNIX or Linux enterprise server, you need to perform administrative procedures on the server to ensure that JD Edwards EnterpriseOne will run properly.

---

**Note.** Some information in this and other guides refers to UNIX generically and includes the supported Linux platforms unless otherwise noted.

---

This section discusses:

- JD Edwards EnterpriseOne Directory Structure for UNIX and Linux.
- JD Edwards EnterpriseOne Architecture and Process Flow for UNIX and Linux.
- JD Edwards EnterpriseOne Initialization for UNIX and Linux.

### JD Edwards EnterpriseOne Directory Structure for UNIX and Linux

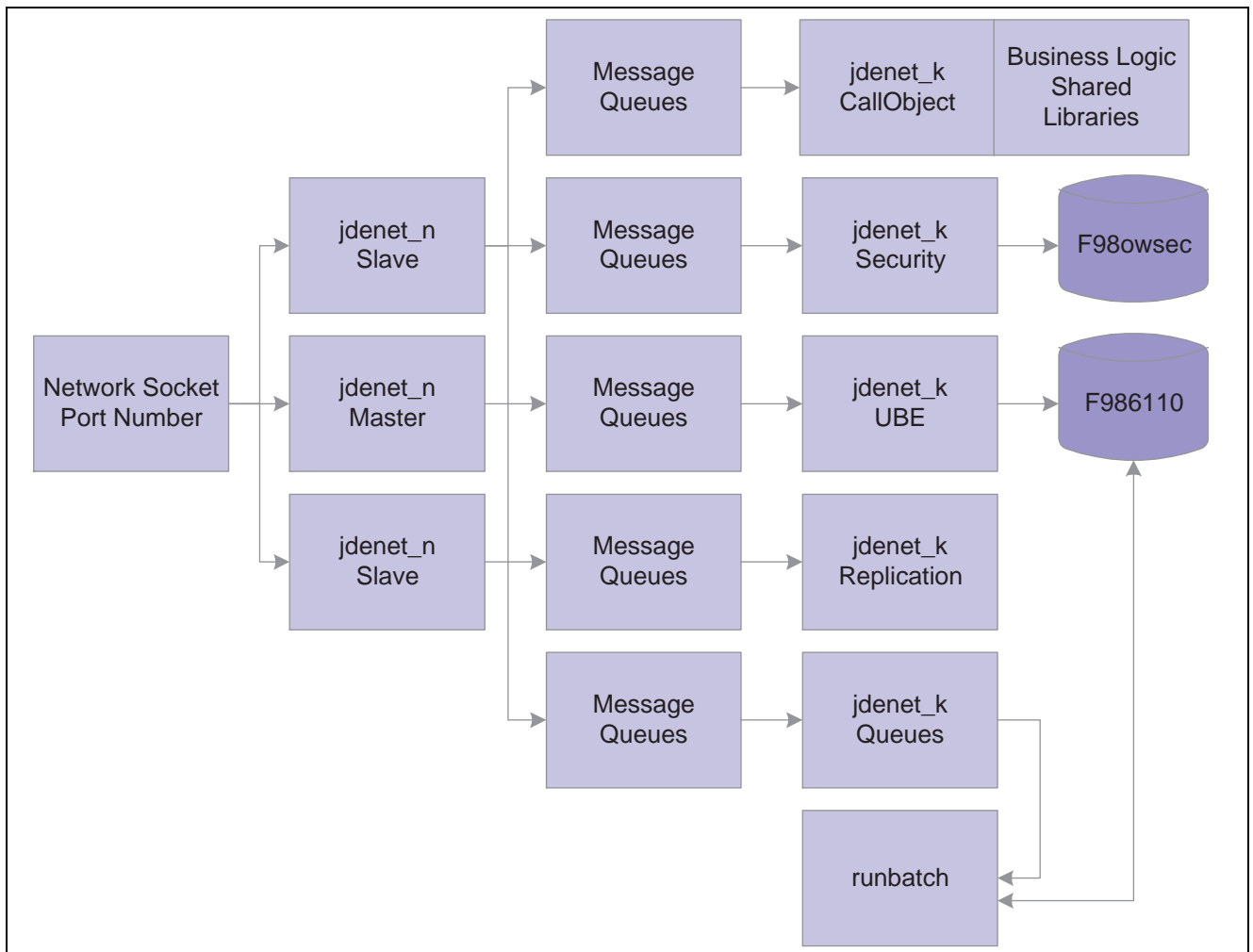
This is a list of directories that are shipped on the UNIX and Linux JD Edwards EnterpriseOne Server Installation CD. They should be installed under the JD Edwards EnterpriseOne base directory; for example, install them in /u01/JDEdwards/E812. Indented names indicate subdirectories of the directories, which are not indented.

Directory	Description
pathcode	<p>The main directory for the business function shared libraries, C header files, object files, source files, and specification (spec or TAM) files. Upon installation, this directory is copied to the correct path codes, such as PD812 and DV812. These subdirectories are included:</p> <ul style="list-style-type: none"> <li>• bin32 - Business function shared libraries.</li> <li>• Spec files - Binary data files in a JD Edwards proprietary format.</li> </ul>
system	<p>The main directory for the system-level executables, shared libraries, C header files, libraries, and localization files. These subdirectories are included:</p> <ul style="list-style-type: none"> <li>• bin32 - System-level executables and scripts.</li> <li>• include - System-level C header files.</li> <li>• includev - System-level C header files provided by third-party vendors, such as Vertex.</li> <li>• lib - System-level shared libraries and export files.</li> <li>• libv32 - System-level shared libraries provided by third-party vendors.</li> </ul>
ini	The location of the JDE.INI file.
PrintQueue	The location to which all .PDF file outputs for reports are written.
log	The location to which the jde_XXX.log and jdedbug_XXX.log files are written.
packages	<p>The server package installation base directory. Directories exist here only when a package has been installed. Under the package directory are subdirectories named for each package that has been installed. Located under each package are these directories:</p> <ul style="list-style-type: none"> <li>• bin32 - Business function shared libraries.</li> <li>• include - Business function header files.</li> <li>• obj - Business function object files. (These are divided among lower-level subdirectories that correspond to each shared library in the bin32 directory.)</li> <li>• source - Business function source files. (These are divided among lower-level subdirectories that correspond to each shared library in the bin32 directory.)</li> <li>• spec - Specification files. (These binary data files are in a JD Edwards proprietary format.)</li> </ul>

## JD Edwards EnterpriseOne Architecture and Process Flow for UNIX and Linux

The host server processes in this flowchart perform the indicated actions.





UNIX host server process

This information explains the process flow:

1. The jdenet\_n Master process spawns jdenet\_n Slave and jdenet\_k processes (also called kernels) at startup or as they are needed. JD Edwards EnterpriseOne uses a number of different types of kernels to handle different types of processing, even though all of these have the same process name in the operating system (jdenet\_k). The definitions for the number of processes to start and what types to start are stored in the JDE.INI file.
2. The queue kernel process spawns the runbatch process whenever a relevant batch process request is placed in the Job Control Status Master table (F986110). The runbatch process completes the job, updates the F986110 table, and then quits. In JD Edwards EnterpriseOne, you use the Job Queue Maintenance program (P986130) to set up and manage the job queues.

Nearly all jdenet\_k processes access various other database tables as needed. The runbatch process, for instance, accesses and modifies any database table that is relevant to the particular business logic it is running.

3. Message queues are a type of interprocess communication (IPC) resource. They are allocated by the jdenet\_n processes by calls to the operating system. While the software is running, operating system information about the message queues can be obtained by using the command `ipcs`.

When message packets are routed to the `jdenet_n` process from a client or another server, the `jdenet_n` process places them in the appropriate message queue according to the type of message. For example, when a client submits a batch process, a message is routed to the batch process kernel; when business logic needs to be run on the server, a request is routed to the `Callobject` kernel; when a user signs on to the system, a request is routed to the security kernel, and so on.

Each message queue has an identifier (IPC key) so that multiple processes can access them. JD Edwards EnterpriseOne uses a configurable IPC key range, which is controlled by the `startIPCKeyValue` in the `JDE.INI` file, in case a conflict occurs with other software that is using IPC resources.

## **jdenet\_n Operation**

The `jdenet_n` process usually starts when you run the supplied JD Edwards EnterpriseOne startup script: `RunOneWorld.sh`, which then starts all other processes as needed.

The `jdenet_n` process listens to the socket (port) as specified in the `JDE.INI` file by the keywords `ServiceNameListen` and `ServiceNameConnect`. These two keywords should be set to the same number; this number must be the same for every client who wishes to connect to the JD Edwards EnterpriseOne server.

The definitions for the particular `jdenet_k` processes to start are also given in the `JDE.INI` file. They are listed in the sections headed by `[JDENET_KERNEL_DEFx]`. Each of these entries lists the type of `jdenet_k` processes to start and the maximum number of `jdenet_k` processes of this type to start.

The number of `jdenet_n` slave processes to start is listed in the `JDE.INI` file under the keyword `maxNetProcesses`. The purposes of these slave processes are to provide parallel processing for the job of listening to the socket and to put the associated messages on the message queues for the `jdenet_k` processes to finish.

## **jdenet\_k Operation**

`jdenet_k` processes are referred to as kernel processes. They do the actual work on the enterprise server. When a `jdenet_k` process starts, it can be any type of kernel process. The `jdenet_n` process instructs each kernel process to be of a certain type.

The `jdenet_k` process that becomes a `Callobject` kernel has the job of calling business function logic on the server. Business function logic is written in C code and compiled into UNIX-shared libraries. The shared libraries are loaded onto the `jdenet_k` processes and then called directly through a C function call.

The `jdenet_k` process that becomes a batch process kernel waits for requests to run batch processes from the client. These batch processes are then placed in the Job Control Status Master table (F986110). The processes are then picked up by the queue kernel processes that launch `runbatch` processes, as required.

Many other types of `jdenet_k` processes exist. Review the `JDE.INI` file for a complete list.

## **JD Edwards EnterpriseOne Initialization for UNIX and Linux**

This initialization occurs when you start JD Edwards EnterpriseOne programs, such as the queue kernel, `runbatch`, and so on:

- The environment name is passed as a command line argument to the program (such as `porttest`, `runbatch`, and so on).
- This environment can be translated to a different environment, based on the settings in the `[SERVER ENVIRONMENT MAP]` section of the `JDE.INI` file.
- The environment that is used must be a valid entry in the Library List Master File table (F0094). Likewise, it must have a valid corresponding path code in the Environment Detail table (F00941).

- These JDE.INI settings in the [DB SYSTEM SETTINGS] section are used to determine where the JD Edwards EnterpriseOne server startup tables, such as the Data Source Master (F98611) and the Object Configuration Master (F986101), are located:

- Base Datasource
- Object Owner
- Server
- Database
- Load Library
- Type

- Using this information, the F986101 table in the specified database on the server is opened.
- When an override for a given table or the current user exists, that data source (the OMDATP field in the F986101 table) is used for the given object or user and environment. Otherwise, the data source in which OMOBNM=DEFAULT for the given environment is used. Ignore any inactive records (that is, OMSTSO=NA).

We strongly recommend that you do not have any default records for reports (OMOBNM=DEFAULT and OMFUNO=UBE) on the server. These records might prevent report interconnections (that is, one report calling another report) from starting correctly.

- Each unique data source in the F986101 table should correspond to one entry in the F98611 table.
- The corresponding information in the F98611 table must be correct. In particular, the OMDLLNAME field must display the correct library for the database to which the data source points.
- For an Oracle database, the OMDATB field from the F98611 table maps to an entry in the tnsnames.ora file. This tnsnames.ora file must be set up correctly. (Ask an Oracle database administrator to verify the setup).

---

## Starting the Enterprise Server for UNIX or Linux

This section provides an overview of the enterprise server startup for UNIX or Linux and discusses how to:

- Start the enterprise server of UNIX or Linux manually.
- Start the enterprise server for HP-UX automatically.
- Start the enterprise server for AIX and Solaris automatically.
- Start the enterprise server for Linux automatically.
- Verify the JD Edwards EnterpriseOne installation.

## Understanding Enterprise Server Startup for UNIX or Linux

You can start the enterprise servers either manually at the command line or automatically when the server boots. The manual process is the same for all supported platforms, but the automatic process varies slightly by platform.

---

**Note.** If you are running JD Edwards EnterpriseOne on the same server as the Oracle database, you must make sure that Oracle is running before you start JD Edwards EnterpriseOne. In particular, if you are starting JD Edwards EnterpriseOne at system boot time, you must make sure the Oracle startup processes are completed first.

---

RunOneWorld.sh is the script that starts the JD Edwards EnterpriseOne system on the enterprise server. This script:

- Checks for existing JD Edwards EnterpriseOne processes.

The script returns an error if it detects that JD Edwards EnterpriseOne is already running.

- Runs the rmics.sh script to clear IPC resources.

This script ensures no IPC resources conflict with other software.

- Starts jdenet\_n, which is the JD Edwards EnterpriseOne network listener that receives requests from JD Edwards EnterpriseOne workstations.
- Runs a program called cleanup that checks for unfinished batch processes from a previous shutdown.

The default database parameters for UNIX might not fully support multiple users. You might reach the maxprocess limit for the database. The initial settings are for a small database, so you should change these parameters to a medium setting to avoid database problems. These settings reside in the init.ora file. These path is an example of where you might typically find this file:

```
/u01/app/oracle/product/8.0.5/dbs/init.ora
```

## Starting the Enterprise Server for UNIX or Linux Manually

To start the enterprise server for UNIX or Linux manually:

---

**Note.** This procedure is the same for all supported UNIX or Linux operating systems.

---

1. Sign on to the machine using the appropriate user ID, as set up during the installation process.

If you used the JD Edwards-recommended user ID, the user ID is jde.

2. Enter these commands:

- `cd log_directory`

This command moves the user's current directory to the log directory. The administrator determines the name of this directory.

- `rm -f jde*log*`

This command deletes the log files in the directory.

---

**Note.** Use extreme care when you enter this command. A syntax error in this command can cause severe problems on the system.

---

- `RunOneWorld.sh`

This script starts the JD Edwards EnterpriseOne system.

3. Sign off the system.

## Starting the Enterprise Server for HP-UX Automatically

To start the enterprise server for HP-UX automatically:

1. Create a script named `psft` in `/sbin/init.d` with all necessary permissions for execution.

The script should contain only these:

```
#!/sbin/sh
/bin/su - psft_user -c '$SYSTEM/bin32/RunOneWorld.sh'
```

The value `psft_user` is the name of the user who owns the shell script `$SYSTEM/bin32/RunOneWorld.sh`. Make sure that no interactive commands appear in the `psft_user` profile, and that `RunOneWorld.sh` has all necessary permissions for execution.

2. Using this command, create a soft link named `S995psft` to the `psft` script in the directory named `/sbin/rc2.d`.

```
ln -s /sbin/init.d/psft /sbin/rc2.d/S995psft
```

3. Verify that these line is present in the profile of the user who owns `RunOneWorld.sh`:

```
/usr/local/bin/oraenv
```

Before you execute `oraenv`, ensure that the Oracle environment variables of `ORACLE_BASE`, `ORACLE_HOME`, `ORACLE_SID`, `ORACLE_TERM`, and `ORAENV_ASK` are properly assigned and exported. Also, you must add `$ORACLE_HOME/bin` to the `PATH` environment variable.

4. Set `ORACLE_TERM` to *hp*.
5. Set `ORAENV_ASK` to *NO*.
6. If this command is in the profile, delete it:

```
unset ORAENV_ASK
```

## Starting the Enterprise Server for AIX and Solaris Automatically

To start the enterprise server for AIX and Solaris automatically:

1. Create a script named `rc.psft` in `/etc` with all necessary permissions for execution.

The script should contain only these:

```
#!/bin/sh
/bin/su - psft_user -c '$SYSTEM/bin32/RunOneWorld.sh'
```

The value `psft_user` is the name of the user who owns the shell script `$SYSTEM/bin32/RunOneWorld.sh`. Make sure there are no interactive commands in the `psft_user` .profile, and that `RunOneWorld.sh` has all the necessary permissions for execution.

2. Add this line at the end of the text file named `inittab` in `/etc`:

```
psft:2:wait:/etc/rc.psft
```

3. Verify that this line is present in the .profile of the user who owns `RunOneWorld.sh`.

```
. /usr/bin/oraenv
```

Before you execute `oraenv`, ensure that the Oracle environment variables of `ORACLE_BASE`, `ORACLE_HOME`, `ORACLE_SID`, `ORACLE_TERM`, and `ORAENV_ASK` are properly assigned and exported. Also, you must add `$ORACLE_HOME/bin` to the `PATH` environment variable.

4. Set ORACLE\_TERM to *hp*.
5. Set ORAENV\_ASK to *NO*.

To see a list of values for ORACLE\_SID, look at the oratab text file in /etc.

6. If this command is in the .profile, you must delete it:

```
unset ORAENV_ASK
```

## Starting the Enterprise Server for Linux Automatically

To start the enterprise server for Linux automatically:

Add this line to the rc.local file in the /etc directory:

```
/bin/su - psft_user -c '$SYSTEM/bin32/RunOneWorld.sh'
```

The value psft\_user is the name of the user who owns the shell script \$SYSTEM/bin32/RunOneWorld.sh. Make sure there are no interactive commands in the psft\_user .profile (or .bash\_profile), and that RunOneWorld.sh has all the necessary permissions for execution.

## Verifying the JD Edwards EnterpriseOne Installation

To verify the JD Edwards EnterpriseOne installation:

After you start JD Edwards EnterpriseOne, execute these commands:

```
cd $SYSTEM/bin32
porttest userID password environment
```

The porttest program initializes an environment, initializes a user, opens the Account Balances table (F0902), and displays up to 99 rows of data.

---

**Note.** The parameters for userID, password, and environment should be any valid JD Edwards EnterpriseOne user ID, password, or environment.

---

## Understanding Java Runtime Engine Installation Issue on Unix

With tools release 8.96 the Java Runtime Engine is bundled into the tools code. It will be in the directory .../system/jre. However, the problem is that prior to Apps Release 8.12 the installer will not set all the correct paths for this. So if a customer is using 8.12 with tools 8.96 they will most likely get an error like this from the JDE log:

```
12320/1 MAIN_THREAD                               Tue Nov  8 17:35:05.884717
ipcmisc.c299
    process 12320 </u04/oneworld/elt_owa_stageing_development/system/bin32
/jdenet_n> registered
in entry 0

12320/1 MAIN_THREAD                               Tue Nov  8 17:35:37.374029
netstart.c247
    Failed to autostart kernel in range 29
```

and get a core file when the jdenet\_k #29 tries to start. To fix this they will

need to add the path `.../system/jre/1.4` to the `LD_LIBRARY_PATH`, `LIBPATH`, `SHLIB_PATH`.

---

## Shutting Down the Enterprise Server for UNIX or Linux

The shutdown process is identical for all supported UNIX or Linux operating systems.

`EndOneWorld.sh` is the script that stops the JD Edwards EnterpriseOne system on the enterprise server. This script completes these functions:

- Checks for existing runbatch processes.  
If any runbatch (batch process) is running, the user is prompted to make sure that he or she wants to shut down the enterprise server.
- Checks for and ends JD Edwards EnterpriseOne processes other than `jdenet_n` and `jdenet_k`.
- Shuts down `jdenet_n` and `jdenet_k` processes by running `endnet`.
- Runs the `rmics.sh` script to clean up any remaining IPC resources.

## Shutting Down the Enterprise Server for UNIX or Linux

To shut down the enterprise server for UNIX or Linux:

1. Sign on using the appropriate user ID that you set up during the installation process.
2. Execute these commands:

```
cd $SYSTEM/bin32
EndOneWorld.sh
```

---

## Setting Up a Printer for UNIX or Linux

Each supported UNIX system use different processes for setting up printers. HP-UX uses a tool called SAM to help in setting up a printer; AIX uses a tool called SMIT; Solaris uses a tool called `Admintool`; and RedHat Enterprise Linux AS uses a tool called `printgui-conf`. Each of these processes requires a privileged account to access the specific setup tasks. Normally, you will need to use the root account of the system. For more information about printer setup, see the appropriate HP-UX, AIX, or Solaris documentation.

### See Also

*JD Edwards EnterpriseOne Tools 8.96 Development Tools: Report Printing Administration Technologies Guide*, “Defining Print Properties for Reports”

## Administering Batch Processes for UNIX or Linux

This section provides an overview of batch process administration for UNIX or Linux and discusses how to:

- Monitor batch processes.
- List batch output files.
- Run reports from the command line for UNIX or Linux.
- Schedule reports from the command line for UNIX or Linux.

## Understanding Batch Process Administration for UNIX or Linux

Administering batch processes involves knowing what processes run when JD Edwards EnterpriseOne starts, where files are placed before and after printing, and how to watch those processes.

Processes running for JD Edwards EnterpriseOne are owned by the user who started the JD Edwards EnterpriseOne software. The user ID for this user is set up during the installation of the software, and is site dependent. When JD Edwards EnterpriseOne starts, these processes start and run under the environment and security of the user who started them:

Process	Description
jdenet_n	The network listener that listens for connection requests.
jdenet_k	The jdenet_n process starts the jdenet_k processes, which control JD Edwards EnterpriseOne components, such as the security server, the transaction monitor, and data replication.

Use the `jdejobs` command to monitor current batch processes. This example is a sample output:

```
pfst812 (EnterpriseOne Admin,,):
Semaphores: 1 Shmem Segs: 5 Msg.Queues: 13
Jobs on ent-1:
6137 ttyp6 0:43 jdenet_n
6163 ttyp6 0:44 jdenet_k
6188 ttyp6 0:44 jdenet_k
7213 ttyp6 2:12 jdenet_n
7241 ttyp6 0:47 jdenet_k
9008 ttyp6 1:36 jdenet_n
9009 ttyp6 0:45 jdenet_k
11042 ttyp6 0:09 runbatch
```

In the output, `jdenet_n` jobs are listening for requests, and four `jdenet_k` jobs are handling various JD Edwards EnterpriseOne kernel functions. A `runbatch` job is processing a report.

The first column of the output displays the UNIX process ID that is associated with each process. For more information about a particular process, look for the files in the log directory that have the same process ID as part of the file name.

All output from each report, regardless of whether it is a preview, is placed in the `PrintQueue` directory under the installation directory of JD Edwards EnterpriseOne before printing. Depending on the `JDE.INI` settings for the workstation, the job might not be deleted after printing.



Jobs are printed to the location specified in the JDE.INI file unless a JD Edwards EnterpriseOne program overwrites them. Use the Printers program to specify default printers.

Two settings in the JDE.INI file for the workstation tell the server whether to print the report immediately upon completion, and whether to save the output from the report or delete it. These settings are as follows:

```
[NETWORK QUEUE SETTINGS]
SaveOutput=TRUE
PrintImmediate=TRUE
```

Setting SaveOutput to TRUE causes the JDE.INI to hold the jobs within the PrintQueue directory until the user explicitly deletes them. Setting PrintImmediate to TRUE tells the JDE.INI file to print the job immediately after completion of the report.

You can list output files. The returned data looks similar to this:

```
R014021_XJDE0001_4554_PDF
R014021_XJDE0001_4554_PDF.jde.log
R014021_XJDE0001_4554_PDF.jdedebug.log
R31515_XJDE0001_4566_PDF
R31515_XJDE0001_4566_PDF.jde.log
R31515_XJDE0001_4566_PDF.jdedebug.log
R94NM08_XJDE0008_4568_PDF
R94NM08_XJDE0008_4568_PDF.jde.log
R94NM08_XJDE0008_4568_PDF.jdedebug.log
R94NM10_XJDE0016_4526_PDF
R94NM10_XJDE0016_4526_PDF.jde.log
R94NM10_XJDE0016_4526_PDF.jdedebug.log
R94NM10_XJDE0016_4526_PDF.ps
R94NM10_XJDE0016_4527_PDF
R94NM10_XJDE0016_4527_PDF.jde.log
R94NM10_XJDE0016_4527_PDF.jdedebug.log
R94NM10_XJDE0016_4527_PDF.pcl
```

The file names in this example are the actual reports that were generated when the job was executed. The file naming conventions are as follows:

Segment	Description
R31515	The report name
XJDE00001	The report version executed
1914	The request number assigned by JD Edwards EnterpriseOne
PDF	A PDF file, meant for viewing on the workstation
.jde.log	The file extension that indicates the log file for the report
.jdedebug.log	The file extension that indicates the debug log for the report
.ps	The file extension that indicates a file formatted for postscript printing
.pcl	The file extension that indicates a file formatted for pcl printing

You should encourage workstation users to use the `SaveOutput=FALSE` entry in their `jde.ini` file. If users at workstations decide to save their output, they should periodically delete the entries through JD Edwards EnterpriseOne. When you delete .PDF files from the operating system, the corresponding JD Edwards EnterpriseOne print job entries in the Job Control Status Master table (F986110) are not deleted. You must manually delete these entries from JD Edwards EnterpriseOne using the Work with Servers program (P986116).

## Monitoring Batch Processes

To monitor batch processes:

From the operating system prompt, enter this command, replacing `userid` with the user ID of the user who started JD Edwards EnterpriseOne:

```
jdejobs <userid>
```

If you omit the user ID, the current user is assumed.

`jdejobs` is a script in the JD Edwards EnterpriseOne `$SYSTEM/bin32` directory that uses the UNIX `ps` command to display job information.

## Listing Batch Output Files

To list batch output files:

1. From the operating system prompt, enter this command:

```
cd $EVRHOME/PrintQueue
```

This command changes the directory to the `PrintQueue` directory. The environment variable `EVRHOME` should be set to the JD Edwards EnterpriseOne installation directory.

2. Enter this command to list the files:

```
ls
```

## Running Reports from the Command Line for UNIX or Linux

You can initiate batch process reports from the server command line by issuing this command (you must have the proper authority and the path equal to the description in the installation instructions):

```
runube UserName Password Environment Role ReportName VersionName JobQueue
Interactive|Batch Print|Hold Save|Delete [PrintQueue]
```

For the command parameters, only the first character of the parameter name is required. The vertical bar symbol (`|`) indicates that you must specify one of the parameters on either side of the vertical bar. The brackets indicate an optional parameter. These options apply to the `runube` command:

Parameter	Description
Interactive	The system holds the current terminal session until the entire report is processed.
Batch	The <code>runube</code> command starts a <code>runbatch</code> job and returns control of the terminal to the user.

Parameter	Description
Print	The batch process report is spooled to the PrintQueue directory and then printed on the specified printer (OutQ). If you do not specify a printer, the system uses the default printer that you specified for the enterprise server in the Printers program.
Hold	The system places the spool file in the PrintQueue directory for later printing at the user's request.
Save	The system saves the file after printing.
Delete	The system removes the file from the PrintQueue directory after the report prints.

### Example: Running Reports from the Command Line for UNIX or Linux

This example displays a command for executing a batch process report:

```
runube KL5952 mypass PROD *ALL R0006P XJDE0001 QBATCH I P D printer_1
```

## Scheduling Reports from the Command Line for UNIX or Linux

You can schedule a report from the command line for processing on a future date, daily, or even a recurring day of the week. This task can be accomplished by using the operating system utilities called at, batch, and cron. The batch and at utilities are used to schedule single occurrence jobs; cron can be used to schedule recurring jobs. Use the at command or the batch command to schedule a job at a later time. The command line structure of these commands is identical, but you use them differently.

The batch command is intended to run a job immediately in the background, providing that the system load is low enough to handle the request. If the system load is not low enough, the job is held until system activity is low enough to handle the new request load.

The at command also runs jobs in the background, but enables you to schedule the job to run at a future time. You can use this utility to run the batch job during off-peak hours.

The command format for the batch command is as follows:

```
batch command
```

The command format for the at command is as follows:

```
at -t CCYYMMDDHHMMSS command
```

The -t switch is used to schedule the time. This table describes the CCYYMMDDHHMMSS variable:

Segment	Description
CC	Century (first two digits of the year).
YY	Year (last two digits of the year).
MM	Two-digit value of the month (such as 02 for February).
DD	The day of the month (01 - 31).
HH	The hour to start the job (00 - 23).

Segment	Description
MM	The minute to start the job (00 - 59).
SS	The second to start the job (00 - 59).
command	The command to run at the specified time. To schedule a report, use the runube command.

You can use the cron UNIX utility to run jobs at a scheduled time. You can specify variable times, such as once a year or once every hour. The operation of this utility is controlled by a table of events based upon each user.

Enter this command to modify the cron schedule and edit the cron table for the current user:

```
crontab -e
```

The format of the cron table is as follows:

```
mm HH DD MM W command
```

This table describes the variables for this command:

Segment	Description
mm	The minute to run the job (00 - 59, or * for any minute).
HH	The hour to run the job (00 - 23, or * for any hour).
DD	The day of the month to run the job (0 - 31, or * for any day).
MM	The month to run the job (1 - 12, or * for any month).
W	The day of the week to run the job (0 - 6, with 0 being Sunday).
command	The command to run at the specified time.

After exiting the editor, the operating system should respond with a message stating that the crontab has been modified.

### Example: Scheduling Single-Occurrence Reports from the UNIX or Linux Command Line

This example displays a command line used to schedule a report to run at 06:00 on February 26, 2005:

```
at -t20050226060000 runube KL595218 mypass PROD *ALL R0006P XJDE0001
QBATCH Interactive Print Delete printer_1
```

### Example: Scheduling Recurring Reports from the UNIX or Linux Command Line

This example displays a command line used to schedule a report to run at 06:00, any Sunday in the month of February (by the use of \* for the day of the month and 0 for the day of the week).

```
00 06 * 02 0 runube KL5952 mypass PROD *ALL R0006P XJDE0001 QBATCH
Interactive Print Delete printer_1
```

---

## Maintaining File Security for UNIX and Linux

This section provides an overview of file Security and discusses how to:

- Set specification file security.
- Set business function file security.
- Set executables security.
- Set jde.ini file security.

### Understanding File Security Maintenance for UNIX and Linux

Overall, only two accounts ever need operating system access to the JD Edwards EnterpriseOne environment files and version executables: the account that starts and stops JD Edwards EnterpriseOne, and the account that builds the environment SPEC and BSFN files. Normally, these accounts are the same.

Specification (SPEC) files are the first part of the environment files. You access these files by the JD Edwards EnterpriseOne kernel processes. These files should never be accessed directly by an operating system user. Because of this, security on these files should be read/write for the user and role. They are not executables, so no reason exists for setting the executable option for any user, or role.

Business function security should be similar to SPEC file security. This enables the business function code to be viewed, but not modified directly on the server. In general, both business function changes and SPEC file changes are controlled by the deployment server.

You should prevent access to the JD Edwards EnterpriseOne executable files to prevent other users from attempting to start JD Edwards EnterpriseOne. Running the same version of JD Edwards EnterpriseOne on the same system and using the same JDE.INI settings can cause unpredictable results. In most cases, the second startup will fail, but giving users access to the shutdown procedures can enable them to shut down JD Edwards EnterpriseOne.

You must keep the jde.ini file as secure as possible. This file contains a database user name and password that enables JD Edwards EnterpriseOne security to function. This database account is given read authority to the JD Edwards EnterpriseOne Security table (F98OWSEC), which controls JD Edwards EnterpriseOne access.

Access to the F98OWSEC table, which contains privileged database user names and passwords, could give a user the ability to manipulate any data in the database, regardless of its sensitivity or security. Because of this, you should restrict access to the jde.ini file as much as possible.

### Setting Specification File Security

To set specification file security:

Add this line to the .profile:

```
umask 022
```

This command sets the default file security for files that get created on the server. When a package build completes, SPEC files and business functions should be created with read permission for everyone, and with write permission for only the file owner. In general, both business function changes and SPEC file changes are controlled by the deployment server.

The security for the SPEC files should look similar to these example:

```
-rw-r--r-- psft psft jdeblc.xdb  
-rw-r--r-- psft psft jdeblc.ddb
```

## Setting Business Function File Security

To set business function file security:

1. Enter this command in the BSFN Source directory:

```
chmod 644 *.c
```

2. Enter this command in the BSFN Include directory:

```
chmod 644 *.h
```

The security for the BSFN files should look similar to these example:

```
-rw-r--r-- psft psft b4200100.c  
-rw-r--r-- psft psft b4200100.h
```

## Setting Executables Security

To set executables security:

UNRECOGNIZED STYLE ->class=singlestep>Enter this command:

```
cd $SYSTEM/bin32  
chmod 540 *..sh
```

The access granted by this command gives all users in the JD Edwards EnterpriseOne role read-only permission to the files, but does not grant them execute privilege. You can omit read access if desired.

The security for the JD Edwards EnterpriseOne executables should look similar to these example:

```
-r-xr----- psft psft RunOneWorld.sh  
-r-xr----- psft psft EndOneWorld.sh
```

## Setting jde.ini File Security

To set JDE.INI file security:

1. Enter this command:

```
cd $JDE_BASE  
chmod 600 JDE.INI
```

This command sets maximum security for the JDE.INI file. The JDE\_BASE environment variable is set to the directory that contains the JDE.INI file.

---

**Note.** The file name is case-sensitive.

---

The security for the JDE.INI file should look similar to this:

```
-rw----- psft psft JDE.INI
```

Denying write access to the user psft is not strictly necessary, but can prevent accidental modification of JDE.INI settings, which could adversely affect the operation of JD Edwards EnterpriseOne.

2. If you want to deny the user write access, enter this command:

```
chmod 400 JDE.INI
```

Because it is important to keep access to the JDE.INI file as secure as possible, you should also limit the amount of access to the user psft (or the user account that starts and stops JD Edwards EnterpriseOne) to a minimum. Users with access to this account might obtain the user names and passwords in the F98OWSEC table, and, thus, gain privileged access to the database.

---

## Working with HP-UX and Solaris Kernel Parameter Settings

Beginning in Solaris 10, Sun made a major change in the way IPC parameters are handled. These parameters are no longer changed through the `/etc/system` file - some have been eliminated, and some must now be changed through the Solaris resource controls facility. A discussion of Solaris resource controls is beyond the scope of this document; however, we will provide one example here that may be required before starting JD Edwards EnterpriseOne for the first time. When starting the JD Edwards EnterpriseOne software on the server, the initial `jdenet_n` process tries to create a semaphore array containing the number of elements indicated by the “`maxNumberOfSemaphores`” parameter in the enterprise JDE.INI file. By default, Solaris 10 will allow a semaphore array with a maximum of 512 elements. If the setting in the JDE.INI file is greater than 512, the system default will have to be changed. In Solaris 10, the following command is the simplest way to change the default:

```
projmod -K 'process.max-sem-nsems=(privileged,2048,deny)' default
```

This command changes the default project to allow semaphore arrays with up to 2048 elements. This is most likely the only resource control that you will have to change in Solaris 10 to be able to start JD Edwards EnterpriseOne. To see the resource control limits for a given user, sign on to that user and run the following command:

```
prctl $$
```

See the Solaris documentation “System Administration Guide: Solaris Containers-Resource Management and Solaris Zones” at <http://docs.sun.com>.

The kernels for HP-UX and Solaris (prior to Solaris 10) include a long list of configurable parameters. These parameters control the quantity of various resources available within the HP-UX and Solaris kernels. Also, the JD Edwards EnterpriseOne server software, specifically the IPC facilities, is sensitive to numerous kernel parameters for operation. These parameters differ among the various vendor implementations of UNIX. To change the values of kernel parameters for HP-UX, you must use the System Administration Management (SAM) tool to modify the parameters, which might require rebooting the system. For Solaris, you must reboot the system after you modify kernel parameters in the `/etc/system` file. The proper values of these parameters depend on various criteria, such as number of users on the system, active applications, and the resource requirements for the active applications.

For HP-UX, you set kernel parameters with the SAM tool. To modify these parameters for Solaris, open the `/etc/system` file with the a text editor. You can set any given parameter to either a simple numerical value or an expression, based on the values of other parameters. The system administrator must set the kernel parameters. UNIX security refers to users with access to administrative functions as superusers.

When you first set up an HP-UX or a Solaris machine for JD Edwards EnterpriseOne, you should run SAM for HP-UX or an editor for Solaris, and change the kernel parameters. On an HP-UX system, you can see the current values of kernel parameters by running the `kmtune` command, or by running SAM. On a Solaris system, type the command `sysdef -i` to see the current kernel settings.

JD Edwards EnterpriseOne is not the only software to use the resources that the kernel parameters control. Therefore, for each parameter, the requirements for JD Edwards EnterpriseOne are either the minimum defaults provided with HP-UX and Solaris, in addition to the defaults provided with HP-UX and Solaris, or the requirements of other software installed on the system.

**Note.** The number of JD Edwards EnterpriseOne users that a machine serves, the number of instances of JD Edwards EnterpriseOne server software running on a machine, and the size of any databases on the machine are primary factors that affect the settings for HP-UX and Solaris kernel parameters. The number of `jdenet_n`, `jdenet_k`, and `runbatch` or `runube` processes running should reflect this information.

This list provides the definitions of terms essential to the understanding of HP-UX and Solaris kernel parameters:

Parameter	Definition
<code>jdenet_n</code>	The maximum number of <code>jdenet_n</code> (net) processes that can be created for an instance JD Edwards EnterpriseOne server software running on the system. This is controlled by the <code>maxNetProcesses</code> parameter in the JDENET section of the JDE.INI file for each instance of JD Edwards EnterpriseOne.
<code>jdenet_k</code>	The maximum number of <code>jdenet_k</code> (kernel) processes that can be created for an instance of JD Edwards EnterpriseOne server software running on the system. This is controlled by the <code>maxKernelProcesses</code> parameter in the JDENET section of the JDE.INI file for each instance of JD Edwards EnterpriseOne. Note that the <code>maxNumberOfProcesses</code> parameters in the JDENET_Kernel_Def sections do not matter here.

This screen capture provides an example of a Solaris editor that displays information for shared memory segments. The parameter name appears at the end of each line in the editor, such as `shmmax` at the end of this line: `set shmym shmyminfo_shmmax=4294967295`:

## Message Queues

Generally, the system clears queues quickly. If a problem arises, you can revise values for these parameters to rectify the situation:

Parameter	Description
<code>mesg</code>	This value must be 1. System-V style message queues are valid.
<code>msgmni</code>	The value of <code>msgmni</code> represents the number of message queue identifiers. These identifiers determine the number of message queues that can exist throughout the system. In addition to the system default value and the requirements of other software, calculate what is needed for the JD Edwards EnterpriseOne installation (per JD Edwards EnterpriseOne instance). You can use these equation to estimate the number of message queues necessary for JD Edwards EnterpriseOne:  $1 + \text{jdenet\_n} + 2 \times \text{jdenet\_k} + (\text{max number of concurrent runbatch, runube, and runprint processes})$
<code>msgtql</code>	The value of <code>msgtql</code> represents the number of message headers. This number determines the total number of messages that can be in all the message queues at the same time. In addition to the requirements of other software, allow a value equal to $10 \times \text{msgmni}$ for the requirements of JD Edwards EnterpriseOne.
<code>msgmap</code>	The value for <code>msgmap</code> represents the number of entries in the map of free message segments. The default value of <code>msgtql + 2</code> should be used. If the value of <code>msgmap</code> is less than the value of <code>msgtql + 2</code> , attempts to create a message queue or to send a message might fail.  <b>Note.</b> This parameter is no longer used in Solaris 8.



Parameter	Description
msgmnb	The value of msgmnb represents the maximum number of bytes that can reside on a single message queue at the same time. You should set the value for msgmnb at only a fraction of msgseg x msgssz. For JD Edwards EnterpriseOne, a value of 32768 is reasonable. You can set a larger value as long as the product of msgseg x msgssz is large enough. The minimum value is 8192. Additional requirements of this parameter might increase the value of msgmnb.
msgmax	The value of msgmax represents the maximum size, in bytes, of a single message. Do not set msgmax with a larger value than the value of msgmnb. The recommended setting is msgmax = msgmnb. The minimum value is 1024. Additional requirements of this parameter might increase the value of msgmax.

Inside the HP-UX and Solaris kernels (prior to Solaris 8), messages in message queues reside in message segments. These parameters, which do not apply to Solaris 8, determine the size and number of segments available throughout the system:

Parameter	Description
msgssz	The value of msgssz represents the size of each message segment in bytes. For JD Edwards EnterpriseOne, a value of 64 is adequate for most situations.
msgseg	The value of msgseg represents the number of message segments throughout the system. In addition to the requirements of other software, allow a value equal to 50 x the msgmni requirement for JD Edwards EnterpriseOne, or approximately 4096 per instance.

## Semaphores

These definitions apply to semaphores:

Parameter	Description
sema	This value must be 1. System-V style message queues are valid.
semmni	The value of semmni represents the maximum number of semaphore identifiers that can exist throughout the system.  For JD Edwards EnterpriseOne, two identifiers exist for each instance of JD Edwards EnterpriseOne, so the default value supplied with the HP-UX and Solaris systems should suffice.
semmap	The value of semmap represents the number of entries in the map of free semaphores. The default value of semmni + 2 should suffice. If you decrease the value of semmap, attempts to create a semaphore set, which occurs during JDEIPC initialization, might fail.  <b>Note.</b> This parameter is not used in Solaris 8.
semmns	The value of semmns represents the maximum number of semaphores that can exist throughout the system. Each instance of JD Edwards EnterpriseOne allocates 1000 semaphores by default. However, you can customize this value in the JDE.INI file. In the [JDEIPC] section, modify the parameter maxNumberOfSemaphores to customize the number of semaphores that an instance of JD Edwards EnterpriseOne allocates.  For all releases of JD Edwards EnterpriseOne, the JD Edwards EnterpriseOne requirement is in addition to the requirements of other software. A good starting point for a typical JD Edwards EnterpriseOne installation (single instance) with Oracle should be 2000.

Parameter	Description
semmnu	<p>The value of semmnu represents the maximum number of semaphore undo structures for the entire system. Effectively, this value is the maximum number of semaphores that the system can lock at the same time. For JD Edwards EnterpriseOne, enable one for each JD Edwards EnterpriseOne process that can exist for all installations of JD Edwards EnterpriseOne on the system. Use these equation to determine this value:</p> $1 + \text{jdenet\_n} + \text{jdenet\_k} + \text{maximum number of runbatch processes} + \text{maximum number of runprint processes} + \text{maximum number of runube processes}$ <p><b>Note.</b> This equation is similar to the equation used to calculate the value for msgmni. If you will be running a large number of batch queues or print jobs, you might need to increase the value of this parameter.</p> <p>The number of outstanding print requests at a given time, whether printing or waiting for a printer, determines the number of jdeprint processes. A reasonable estimate for the upper limit of this value is 10. However, this estimate is application-dependent. For example, a large warehouse that constantly prints pick slips might have more requests.</p> <p>The number of batch processes that run directly on the server, not from a client, determine the number of runube processes. This value depends on the use of the system. Theoretically, this value has no limit.</p>
semume	<p>The value of semume represents the maximum number of semaphore undo structures per process. Effectively, this value is the maximum number of semaphores that a given process can lock at the same time. JD Edwards EnterpriseOne requires a minimum value of 4 for semume. This minimum value is not in addition to the system default and the requirements of other software. This value is a simple minimum. The default value provided with the system should suffice.</p>
semmsl	<p>The value for semmsl, which applies to Solaris and newer versions of HP-UX, represents the maximum number of semaphores per unique identifier. For JD Edwards EnterpriseOne, this must be set equal to or higher than the maxNumberOfSemaphores setting in the JDE.INI file. For the default installation, you should set this parameter to 1000.</p>

## Shared Memory

These definitions apply to shared memory:

Parameter	Description
shmem	The shmem value must be 1 to enable shared memory.
shmmax	The value of shmmax represents the maximum size, in bytes, of a single shared memory segment. The default value provided with the system should suffice. Other software packages, such as Oracle, might require an increase in this value.
shmmni	The value of shmmni represents the maximum number of shared memory segments throughout the system. For JD Edwards EnterpriseOne, enable 20 per instance of the JD Edwards EnterpriseOne server software running on the system. This requirement is in addition to the system default value and the requirements of other software.
shmseg	The value of shmseg represents the maximum number of shared memory segments to which any one process can attach at a given moment. The default value provided with the system should suffice.

## File Descriptors

These definitions apply to file descriptors:

Parameter	Description
nfile	The value of nfile represents the maximum number of open files, or sockets, throughout the system. The default value should be enough to handle most JD Edwards EnterpriseOne needs. However, you must make explicit allowance for the maximum number of sockets that jdenet_n processes can create to communicate with clients. This number is the sum of all sockets for all instances of JD Edwards EnterpriseOne server software that runs on the system. The maxNetConnections parameter in the [JDENET] section of each JDE.INI file indicates this sum. This requirement is in addition to the system default value and the requirements of other software.
maxfiles	(rlim_fd_cur in the Solaris /etc/system file) The value of maxfiles represents the default soft limit on the number of file descriptors that any given process can have. A system call can raise the soft limit of a process as high as maxfiles_lim. For JD Edwards EnterpriseOne, the minimum value for maxfiles should equal at least the largest of all the maxNetConnections values in all the JDE.INI files in use + 10. This requirement is a minimum value, not a value in addition to the system default value and the requirements of other software.  <b>Note.</b> If this parameter is too small, JD Edwards EnterpriseOne might not open the log file to generate an error message.
maxfiles_lim	(rlim_fd_max in the Solaris /etc/system file) The value of maxfiles_lim represents the hard limit of file descriptors that any given process can have. For JD Edwards EnterpriseOne, the minimum value for maxfiles should equal at least the largest of all the maxNetConnections values in all of the JDE.INI files in use + 10. This requirement is a minimum value, not a value in addition to the system default value and the requirements of other software.

## Processes

This definition applies to processes:

Parameter	Description
maxuprc	The value of maxuprc represents the maximum number of processes that can run under a single user ID. This number is of particular concern on systems with either a very large JD Edwards EnterpriseOne installation or multiple instances running under the same user ID. You must allow for the total number of JD Edwards EnterpriseOne processes that might run at one time, plus other system processes that the JD Edwards EnterpriseOne user might be running.

---

## Working with Linux Kernel Parameter Settings

This section provides an overview of Linux kernel parameter settings.

## Understanding Linux Kernel Parameter Settings

The Linux operating system uses many of the same kernel parameters as Solaris, but they are managed in a slightly different way. In the Linux 2.4 kernel, IPC parameters are defined and maintained in the /proc file system, in the directory /proc/sys/kernel. They can be modified dynamically by editing the appropriate file, but for enterprise applications, you should override the default parameters at boot time. In RedHat Enterprise Linux, the default parameters can be overridden at boot time by adding entries to the /etc/sysctl.conf file. Use the command `ipcs -l` to view the current values for IPC resource limits.

### IPC Resources

These five entries in the /etc/sysctl.conf file affect JD Edwards EnterpriseOne IPC resources:

Parameter	Description
kernel.sem	<p>This setting controls these four different semaphore limits:</p> <ul style="list-style-type: none"> <li>• Maximum number of semaphores per array (semmsl on Solaris).</li> <li>• Maximum number of semaphores in the system (semmns).</li> <li>• Maximum operations per semop call (semopm).</li> <li>• Maximum number of semaphore arrays (semmni).</li> </ul> <p>For JD Edwards EnterpriseOne, you might need to increase the first value, semaphores per array, particularly if you increase the value of <code>maxNumberOfSemaphores</code> in the <code>jde.ini</code> file. Some database products also require that the fourth value, number of semaphore arrays, be increased from the default value.</p>
kernel.shmmax	The default value for this parameter might be sufficient for JD Edwards EnterpriseOne, but some database products recommend that this be set to 256 Mb, or 90 percent of total memory, whichever is greater.
kernel.msgmax	This parameter defines the maximum size of a message. The recommendation for JD Edwards EnterpriseOne is 65535.
kernel.msgmnb	This parameter defines the maximum number of bytes on a message queue. The recommendation for JD Edwards EnterpriseOne is 65535.
kernel.msgmni	<p>This parameter defines the maximum number of message queues (identifiers) in the system. You can use these equation to estimate the number of message queues that are necessary for JD Edwards EnterpriseOne:</p> $1 + jdenet\_n + 2 \times jdenet\_k + (\text{max number of concurrent runbatch, runube, and runprint processes})$

### File Limits

In addition to the IPC resource limits, WebSphere and the JD Edwards EnterpriseOne HTML Server can require a large number of open files. To see the current values, review the file /proc/sys/fs/file-nr. This read-only file contains these three values:

- Total allocated file handles
- Currently used file handles
- Maximum file handles

The first value represents a peak, so when this value approaches the maximum value, consider raising the limit. If the peak value reaches the limit, you will get unpredictable results because processes will not be able to open files. To change the maximum file handle limit, use the `fs.file-max` setting. This setting controls the maximum number of files that can be simultaneously open throughout the entire system. The recommendation for JD Edwards EnterpriseOne is 32768, and this number might need to be increased to 65536 for larger installations.

### **Example: `/etc/sysctl.conf`**

These lines are from a typical `sysctl.conf` file that are used to set kernel parameters based on the previous information:

```
fs.file-max = 32768
kernel.shmmax = 268435456
kernel.sem = 500 32000 32 1024
kernel.msgmax = 65535
kernel.msgmnb = 65535
kernel.msgmni = 1024
```

---

## **Working with AIX Kernel Parameter Settings for JD Edwards EnterpriseOne**

This section provides an overview of AIX kernel parameter settings for JD Edwards EnterpriseOne and discusses how to:

- Set the value of `maxuproc`.
- View the system parameters.
- Set tune parameters.

### **Understanding AIX Kernel Parameter Settings for JD Edwards EnterpriseOne**

AIX contains a set of kernel parameters (system parameters) that determine functionality and a separate set of performance parameters (tune parameters) that determine performance.

Setting the kernel parameters requires you to run the system management tool (SMIT). AIX has few configurable parameters that influence JD Edwards EnterpriseOne software; of those that influence JD Edwards EnterpriseOne, just one can cause the software to become inoperable. This parameter is `maxuproc`. The `maxuproc` parameter controls the number of processes that a single user can run simultaneously.

### **Setting the Value of `maxuproc`**

To set the value of `maxuproc`:

1. Sign on as the root user.
2. On the command line, enter this command:

```
smit
```

3. In SMIT, select the System Environments item and then select the Change/Show Characteristics of Operating System item.

4. Change the value of Maximum number of processes to enable all JD Edwards EnterpriseOne processes that might run at one time, plus any other system processes the JD Edwards EnterpriseOne user might be running.

Accept the default values for all other system parameters. This table lists these system parameters for general reference:

Parameter	Description
maxbuf	Max pages in block I/O buffer cache.
maxmbu	Max real memory for MBUFS.
autorestart	Automatically reboot after crash.
iostat	Continuously maintain disk I/O history.
maxpout	High water mark for pending write I/O per file.
minpout	Low water mark for pending write I/O per file.
keylock	State of system keylock at boot time.
fullcore	Enable full core dump.
pre43core	Use pre-430 style core dump (AIX 4.3 only).
logfilesize	Error log file size.
memscrub	Enable memory scrubbing.
dcache	Size of data cache in bytes.
icache	Size of instruction cache in bytes.
realmem	Size of usable physical memory.
primary	Primary dump device.
conslogin	System console login.

## Viewing the System Parameters

To view the system parameters:

Enter this command:

```
lsattr-E-lsys0
```

To change a system parameter, you must navigate to the correct SMIT menu option.

## Setting Tune Parameters

Setting the tune parameters requires you to run these commands:

- For network parameters: no

- For device parameters: `chdev`
- For nfs parameters: `chnfs`
- For general tuning parameters: `vmtune`

Tune parameters can also be kept at their default values. Changes to tune parameters are generally needed only for performance reasons. Proper settings for optimal performance might vary with changes in the underlying database, hardware configuration, and JD Edwards EnterpriseOne configuration.

Performance tuning for AIX running JD Edwards EnterpriseOne or Oracle involves setting parameters that control virtual memory for paging, Raid, disk system types, and CPU scheduling.

### Example: Disk Striping

Disk striping is the technique of spreading sequential data across multiple disk drives so data can be accessed in parallel from several drives at once. If striping is used, then these tune parameters are set:

Parameter	Value
stripe size	64KB
max_coalesce	64KB
minpgahead	2
maxpgahead	16 x number of disk drives
maxfree	minfree + maxpgahead

---

## Running Multiple Instances of the JD Edwards EnterpriseOne Enterprise Server

This section provides an overview of running multiple instances of the JD Edwards EnterpriseOne enterprise server and discusses how to do so.

### Understanding Running Multiple Instances of the JD Edwards EnterpriseOne Enterprise Server

Common reasons for running multiple instances of the JD Edwards EnterpriseOne enterprise server are to test a new service pack or to upgrade to a new version of JD Edwards EnterpriseOne. You can run multiple instances of the JD Edwards EnterpriseOne server on the same machine by following a few simple guidelines.

**Note.** These steps do not create a new database or any new database tables. Therefore, you will be using the same data tables that are used by the original instance of JD Edwards EnterpriseOne that was installed. If you want to create a completely separate set of database tables, follow the instructions for setting up a new environment.

After you make all of the changes described in this chapter, you can start and stop the new JD Edwards EnterpriseOne instance independently of the original instance.

All existing JD Edwards EnterpriseOne environments will be valid for the new instance, provided that you have copied the corresponding path code directory for a given environment. All current logical data sources and OCM mappings will be recognized by the new instance.

## Prerequisite

Verify that you have enough disk space to create copies of the current JD Edwards EnterpriseOne system directory and at least one path code directory.

## Running Multiple Instances of the JD Edwards EnterpriseOne Enterprise Server

To run multiple instances of the JD Edwards EnterpriseOne enterprise server:

1. The system administrator should create a new user ID that owns the new JD Edwards EnterpriseOne instance.

Create the user ID using the appropriate administration tool, such as `smit`, `SAM`, `admintool`, or `useradd`.

---

**Note.** Although you can run multiple instances of the JD Edwards EnterpriseOne server using the same UNIX or Linux user ID, it is not recommended. The software depends on certain environment variables to function correctly, and these variables are easier to manage under different user IDs.

---

2. Sign on using the new user ID.
3. Copy the `.profile` and `.psft` files from the home directory of the original user ID to the home directory of the new user ID.
4. Change the `.profile` file for the new user ID, if appropriate.
5. Change the `.psft` file for the new user ID to reference the new directory path in which you will create the new JD Edwards EnterpriseOne instance.

For example:

Original `.psft` file:

```
export EVRHOME=/u01/JDEdwards/E812
```

New `.psft` file:

```
export EVRHOME=/u02/JDEdwards/E812
```

6. Create the directory in which the new JD Edwards EnterpriseOne instance will reside.

For example, type these:

```
mkdir -p /u02/JDEdwards/E812
```

7. Copy the system directory, the ini directory, and at least one path code directory from the original instance of JD Edwards EnterpriseOne to the new directory path.

These sample commands accomplish this:

```
cp -R /u01/JDEdwards/E812/system /u02/JDEdwards/E812
cp -R /u01/JDEdwards/E812/ini /u02/JDEdwards/E812
cp -R /u01/JDEdwards/E812/DV812 /u02/JDEdwards/E812
```



---

**Note.** The path code directories for any environments that you intend to use for this second instance of JD Edwards EnterpriseOne must be copied to the new directory. You cannot share path code directories between two or more instances of JD Edwards EnterpriseOne, as this sharing might corrupt specification files.

---

8. Create an empty log directory under the new path using a command such as this:

```
mkdir -p /u02/JDEdwards/E812/log
```

9. In the new JDE.INI file, change all references to the original directory name to the new directory name, including the [INSTALL], [DEBUG], and [BSFN BUILD] sections.

For example:

```
[DEBUG]
DebugFile=/u02/JDEdwards/E812/log/ jdedebug.log
JobFile=/u02/JDEdwards/E812/log/jde.log
```

```
[INSTALL]
B9=/u02/JDEdwards/E812
```

```
[BSFN BUILD]
BuildArea=/u02/JDEdwards/E812/packages
```

10. Change the new JDE.INI file to reference a port number and starting IPC key that are different from the original JD Edwards EnterpriseOne instance.

The values are defined by these parameters; but the numbers are only examples:

```
[JDENET]
serviceNameListen=6009
serviceNameConnect=6009
```

```
[JDEIPC]
startIPCKeyValue=9000
```

11. From the client workstation JDE.INI file, change the serviceName parameters to match those of the server JDE.INI file.



## CHAPTER 4

# Administering the Windows Server

This chapter provides an overview of Windows server administration and discusses how to:

- Set up a printer for Windows.
- Work with network services.
- Administer batch processes for Windows.
- Maintain file security for Windows.
- Run multiple instances of JD Edwards EnterpriseOne on Windows.

---

## Understanding Server Administration for Windows

The JD Edwards company supports Oracle's JD Edwards EnterpriseOne enterprise servers that run the Microsoft Windows Server. You can operate the enterprise server for Microsoft Windows in a logic or database server environment. You need to perform certain administration procedures on the enterprise server to ensure that the software runs properly.

This section discusses:

- JD Edwards EnterpriseOne directory structure for Microsoft Windows.
- JD Edwards EnterpriseOne architecture and process flow for Microsoft Windows.
- JD Edwards EnterpriseOne Initialization for Microsoft Windows.
- JDE.INI settings for starting batch queues on Microsoft Windows.
- Active Directory.

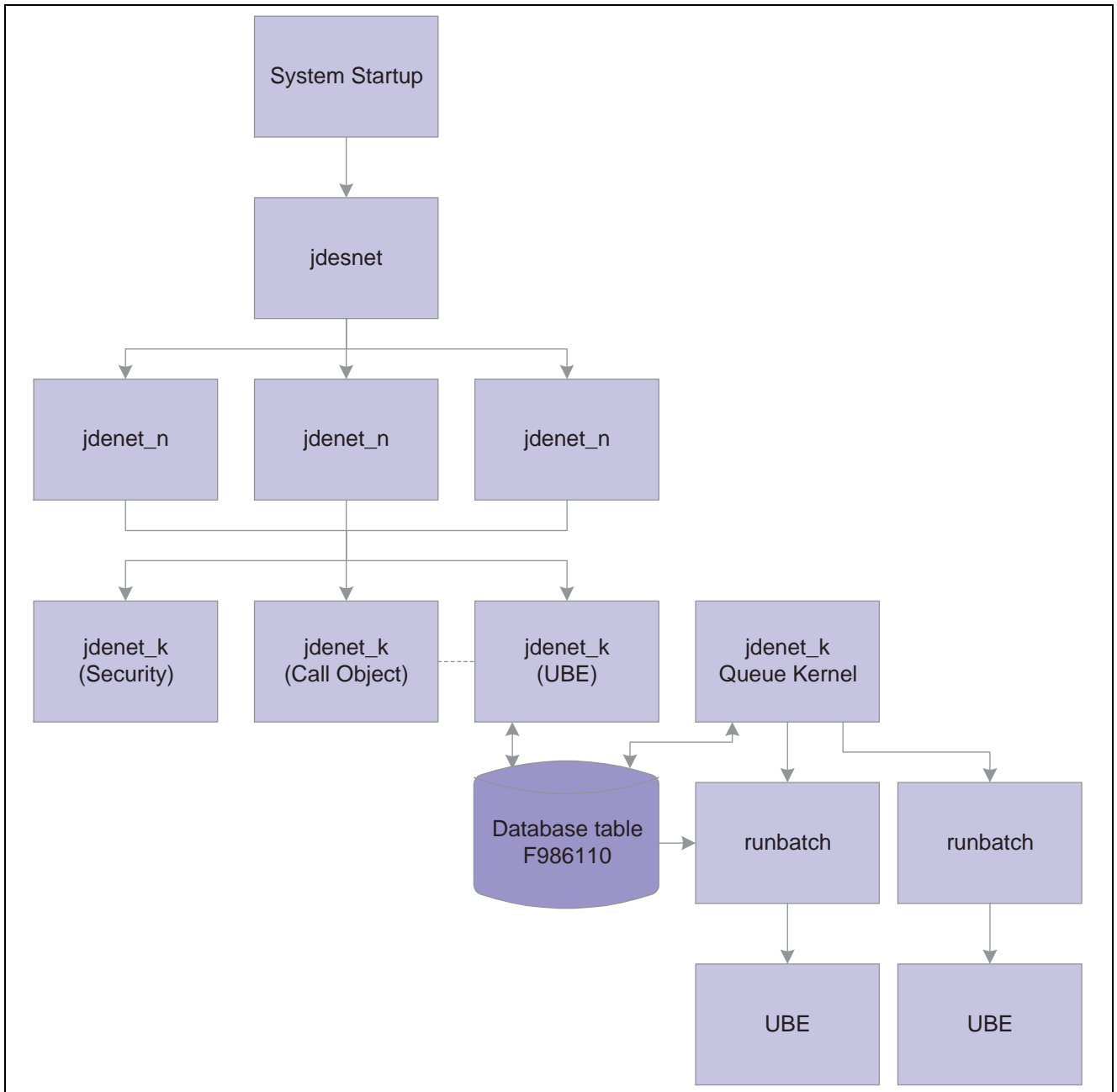
### JD Edwards EnterpriseOne Directory Structure for Windows

This table lists the directories that are copied to the Windows enterprise server when Oracle's JD Edwards EnterpriseOne is installed. They should be installed under the JD Edwards EnterpriseOne base directory (such as z:\JDEdwards\E812\ddp). Indented names indicate subdirectories of the directories.

Directory	Description
pathcode	<p>The main directory for the business function shared libraries, C header files, object files, source files, and specification (spec or TAM) files. Upon installation, this directory will be copied to the correct path codes, such as PD812 and DV812. These subdirectories are included:</p> <ul style="list-style-type: none"> <li>• bin32, which includes business function shared libraries.</li> <li>• spec, which includes specification files. These binary data files are in a JD Edwards proprietary format.</li> </ul>
system	<p>The main directory for the system-level executables, shared libraries, C header files, libraries, and localization files. These subdirectories are included:</p> <ul style="list-style-type: none"> <li>• bin32, which includes system-level executables and shared libraries.</li> <li>• include, which includes system-level C header files.</li> <li>• includev, which includes system-level C header files provided by third-party vendors such as Vertex.</li> <li>• lib, which includes system-level shared libraries and export files.</li> <li>• libv32, which includes system-level shared libraries provided by third-party vendors.</li> </ul>
PrintQueue	The directory to which all .PDF file output for reports is written.
log	The directory to which jde_xxx.log and jdedbug_ xxx.log files are written.
packages	<p>The server package installation base directory. Directories exist here only if a package has been installed. Under the package directory are subdirectories named for each package that has been installed. Located under each package are these subdirectories:</p> <ul style="list-style-type: none"> <li>• bin32, which includes business function shared libraries.</li> <li>• include, which includes business function header files.</li> <li>• obj, which includes business function object files. These are divided among lower-level subdirectories that correspond to each DLL in the bin32 directory.</li> <li>• source, which includes business function source files. These are divided among lower-level subdirectories that correspond to each DLL in the bin32 directory.</li> <li>• spec, which includes specification files. These binary data files are in a JD Edwards proprietary format.</li> </ul>

## JD Edwards EnterpriseOne Architecture and Process Flow for Windows

These host server processes perform the indicated actions:



Windows server processes

All communications between the client and the host server occur using sockets. The communications between jdenet\_n and jdenet\_k occur with shared memory. jdenet\_n and queue kernel communicate using the Job Control Status Master database table (F986110).

This text explains the process flow:

- During Windows system startup, jdesnet runs automatically, provided that it is installed to start automatically. Otherwise, it must be started manually.
- This information applies to the JD Edwards network service:
  - The program is system\bin32\jdesnet.exe.

- Each time that a new server or workstation connects to this server, jdesnet might start another jdenet\_n until the number of jdesnet and jdenet\_n jobs equals the value in the maxNetProcesses field in the [JDENET] section of the JDE.INI file.
- Each time that a new request, such as a batch application or CalloObj is submitted, jdesnet (and any jdenet\_n processes) might start another jdenet\_k process until the number of jdenet\_k jobs equals value in the maxKernelProcesses field in the [JDENET] section of the JDE.INI file.
- Jdenet\_n can be run manually by running system\bin32\jdenet\_n.
- This information applies to the JD Edwards queue service:
  - The program is system\bin32\jdesque.exe.
  - The service runs the number of instances of queue kernels specified in the UBEQueues, PackageQueues, and SpecInstallQueues fields in the [NETWORK QUEUE SETTINGS] section of the JDE.INI.
- When a user submits a batch application, jdesnet or jdenet\_n (as part of the host server) communicates with the client as follows:
  - The host server programs are system\bin32\jdesnet.exe and system\bin32\jdenet\_n.exe.
  - The client environment is initialized.
  - The client tells the host server (using a socket) to initialize its environment.
  - The host server (for example, jdenet\_n) initializes its environment and gets environment and user handles.
  - The host server passes the environment and user handles to the client (using a socket).
  - The client launches the batch application and then sends data to the host server (using a socket).
  - If the maximum number of kernel (for example, jdenet\_k; the k stands for kernel) processes has not been met, jdesnet or jdenet\_n might start a new jdenet\_k process.
  - If the maximum number of jdenet\_k processes has been met, jdesnet or jdenet\_n puts the message in a queue for a jdenet\_k process.
  - The client frees the user environment.
  - The client tells the host server (using a socket) to free the user environment for the server.
  - The host server frees its user environment.
  - The client tells the host server (using a socket) to free the environment for the server.
  - The host server frees its environment.
- When the UBE Jdenet\_k (the kernel) writes to the database (batch application only), this occurs:
  1. The program is system\bin32\jdenet\_k.exe.
  2. Jdenet\_k adds a record in the F986110 database table. The record has a status of W (Waiting).
- The Queue Kernel periodically checks the contents of table F986110 and launches a runbatch process.
- When runbatch processes the batch application, this occurs:
  - The program is system\bin32\runbatch.exe.
  - The system changes the status stored in table F986110 to P (Processing).
  - The system starts the batch application.
  - If the batch application completes successfully, it changes the status in table F986110 to D (Done).
  - If the batch application does not complete successfully, it changes the status in table F986110 to E (Error).

- Unlike the many processes that execute when a batch application is submitted, jdenet\_k performs the processing when a user submits a CallObject and these actions occur:
  - Cannot start the service name service on the enterprise server.
  - Error 1069: The service did not start due to a logon failure.

## JD Edwards EnterpriseOne Initialization for Windows

This initialization occurs when you start JD Edwards EnterpriseOne programs such as queue kernel, runbatch, and so on:

- The environment is passed as a command line argument to the program (such as porttest, queue kernel) or retrieved by jdenet\_k from the QEnv key in the [NETWORK QUEUE SETTINGS] section of the JDE.INI file.
- This environment might be translated to a different environment, based on the settings in the [SERVER ENVIRONMENT MAP] section of the JDE.INI file.
- The environment that is used must be a valid entry in the Library ListMaster File table (F0094) and must have a valid corresponding path code in the Environment Detail - OneWorld table (F00941).
- These JDE.INI settings in the [DB SYSTEM SETTINGS] section specify where the JD Edwards EnterpriseOne server startup tables, such as the Data Source Master (F98611) and Object Configuration Master (F986101) tables, are located:
  - Base Datasource
  - Object Owner
  - Server
  - Database
  - Load Library
  - Type
- Using this information, the F986101 table opens in the specified database on the server.
- When an override exists for a given table, BSFN, or the current user, that data source (OMDATP field in the F986101 table) is used for the given object or user and environment. Otherwise, the data source in which OMOBNM=DEFAULT for the given environment is used. Ignore any inactive records (that is, OMSTSO=NA). We strongly recommend that you do not have any default records (OMOBNM=DEFAULT) for batch applications (OMFUNO=UBE). These records might prevent report interconnections (such as one report calling another report) from starting correctly.
- Each unique data source in the F986101 table should correspond to one entry in the F98611 table.
- The corresponding information in the F98611 table must be correct. In particular, the OMDLLNAME field must display the correct DLL for the database to which the data source points.
- For an Oracle database, the OMDATB field from the F98611 table maps to an entry in the tnsnames.ora file. This tnsnames.ora file must be set up correctly (check with an Oracle database administrator).
- For a DB2 UDB database, the OMDATB field from the F98611 table maps to an entry in the ODBC data source. This datasource must be set up correctly (check with a DB2 UDB database administrator).
- For a Microsoft SQL Server, Microsoft Access, or Client Access database, the OMDATB field from the F98611 table maps to a data source specified in the ODBC Data Source Administrator applet in the Windows Control Panel. This data source must be set up correctly. If multiple users plan to sign on to this Windows platform and run JD Edwards EnterpriseOne or PORTTEST, the data sources must be defined on the System DSN tab. Otherwise, User Data Sources can be used.

If you are using Microsoft Windows 2000 to open the ODBC Data Source Administrator, from the Start menu, select Programs, then Administrative Tools, and then Data Sources (ODBC).

- This information pertains to the setup of SQL Server ODBC drivers, using the ODBC Data Source Administrator applet:
  - The data source name must match the name in the F98611 table.
  - The description can be anything that you want.
  - The server is the name of the database server.
  - The network address includes the database server name, a comma, and a port in which the database user listens.
  - Network Library should be set to Default.
  - Click the Options button for more settings.
  - The database name is usually set to JDE. You can set it to Default.
  - The language name should be set to Default.
  - The Generate Stored Procedure for Prepared Statement option should be turned off.
  - The Use ANSI Quoted Identifiers option should be turned on.
  - The Use ANSI Nulls, Padding and Warnings option should be turned on.
  - The Convert OEM to ANSI characters option should be turned off.
- This information pertains to the setup of Client Access ODBC drivers, using the ODBC Data Source Administrator applet:
  - On the General tab the data source name must match the name in the F98611 table. The system is the name of the database server.
  - On the Server tab, the default libraries should be the iSeries library, and the commit mode should be Commit immediate (\*NONE).
  - On the Format tab, the naming convention should be System naming convention (\*SYS).
  - On the Other tab, if the data that you are transferring using this data source contains a Binary Large Object (BLOB), translation should be set to Do not translate CCSID 65535. If the data that you are transferring using this data source does not contain a BLOB, translation should be set to Translate CCSID 65535.

## JDE.INI Settings for Starting Batch Queues on Windows

These JDE.INI settings are used to start batch queues on the Windows enterprise server:

```
[NETWORK QUEUE SETTINGS]
UBEQueues=number of batch queues
UBEQueue1=batch queue name
UBEQueue2=batch queue name
PackageQueues=number of package queues
PkgQueue1=package queue name
PkgQueue2=package queue name
SpecInstallQueues=number of spec install queues
SpcQueue1=spec install queue name
QEnv=queue environment
QUser=queue user
QPassword=queue user password
```



This table describes each setting:

Setting	Description
number of batch queues	Identifies the number of batch queues available. If you do not specify a number of batch queues that matches the number specified here, JD Edwards EnterpriseOne uses QBATCH when a missing queue is called.
batch queue name	Identifies the name of the batch queue. For example, for UBEQueue2, you might specify the queue as QBATCH2. You should specify a number of batch queue names that is equal to the value that you specify for the number of batch queues.
number of package queues	Identifies the number of package queues that are available. If you do not specify a number of package queues that matches the number specified here, JD Edwards EnterpriseOne uses QBATCH when a missing queue is called.
package queue name	Identifies the name of the package queue. For example, for PkgQueue2, you might specify the queue as XBATCH2. You should specify a number of package queue names that is equal to the value that you specify for the number of package queues.
number of spec install queues	Identifies the number of specification install queues available. If you do not specify a number of specification install queues that matches the number specified here, JD Edwards EnterpriseOne uses QBATCH when a missing queue is called.
spec install queue name	Identifies the name of the specification install queue. For example, for PkgQueue2, you might specify the queue as XBATCH2. You should specify a number of specification install queue names equal to the value that you specify for the number of specification install queues.
queue environment	Identifies the JD Edwards EnterpriseOne environment under which the Windows operating system starts the queues.
queue user	Identifies a valid JD Edwards EnterpriseOne user.
queue user password	Identifies the password for the queue user.

## Active Directory

Windows Active Directory is Microsoft's implementation of a hierarchical, object-based directory service for managing system resources, including developers, end users, and groups. If you publish JD Edwards EnterpriseOne server information in Active Directory, client workstations use this information to locate and connect to the server dynamically. If JD Edwards EnterpriseOne service changes from one server to another, workstations can still connect to the server by referencing published server information in Active Directory.

---

**Note.** Active Directory is a Windows feature, and its use with JD Edwards EnterpriseOne is platform-specific and optional. If you are running JD Edwards EnterpriseOne enterprise servers on Unix or iSeries platforms, client workstations still reference their jde.ini files to connect to the server.

---

### SCP Object in Active Directory

JD Edwards EnterpriseOne NT service installation creates a Service Connection Point (SCP) object in Active Directory. The SCP object specifies the server name and port number.

Starting JD Edwards EnterpriseOne service on a server automatically updates the SCP object with the server name and port number, and establishes the SCP object status as Running. When service stops, the status of the SCP object automatically changes to Stopped.

---

**Note.** JD Edwards EnterpriseOne Windows service installation creates the SCP object in Active Directory only if you have added an [Active Directory] section to the jde.ini file on the server before installation.

---

When a user signs on to JD Edwards EnterpriseOne, JD Edwards EnterpriseOne searches Active Directory for an SCP object with a service name that matches the parameter value in the [Active Directory] section of the workstation jde.ini file. JD Edwards EnterpriseOne selects an SCP object that has a status of Running and retrieves the server name and port number, which enables the workstation to make a connection to the server.

### Additions to the Server JDE.INI file

For each server that you publish in Active Directory, you must add an [Active Directory] section in the JDE.INI file on the server. In the [Active Directory] section, you include the SCPToPublish entry, which identifies the SCP object in the Active Directory.

The value of the SCPToPublish parameter should be unique for each object, and you should consistently adhere to a naming convention for ease of administration. For example, the value of each SCPToPublish parameter might represent a version of JD Edwards EnterpriseOne.

This is a sample entry in the [Active Directory] section of the server JDE.INI file.

```
SCPToPublish      JDEDWARDS_ENTERPRISEONE_812_SP1
```

If you move JD Edwards EnterpriseOne service from one server to another or change the service port number, no changes to the workstation JDE.INI file are needed, so long as the name of the SCP object in Active Directory and the parameter values of the [Active Directory] section of the workstation JDE.INI file match.

---

**Note.** Although users can automatically connect to a new server when a change in service is made, batch processes and business functions are not automatically mapped to the new server. Therefore, you typically need to change OCM mappings for the users so that they use the new data source.

---

### Additions to the Workstation JDE.INI File

You also add an [Active Directory] section to the workstation JDE.INI file that specifies the name of the SCP object that contains port number and server name information.

These parameters are included in the [ActiveDirectory] section of the workstation JDE.INI file:

- JdenetSCP (the connection port).
- SecurityServerSCP (the security server).
- LockManagerSCP (the Lock Manager).
- UnifiedLogonServerSCP (unified logon server).

For each of these parameters, you assign as the value the name of the SCP object in the Active Directory file. For example, enter JDEDWARDS\_ENTERPRISEONE\_812\_SP1.

This table presents an example of the parameters that you add to the [Active Directory] section of the workstation JDE.INI file. The value of each parameter is the SCP object name in Active Directory.

<b>Parameter of [Active Directory] Section of Workstation JDE.INI File</b>	<b>Meaning</b>	<b>Parameter Value: name of SCP Object in Active Directory</b>
JdenetSCP	Connection port	JDEDWARDS_ENTERPRISEONE_812_SP1
SecurityServerSCP	Security server	JDEDWARDS_ENTERPRISEONE_812_SP1
LockManagerSCP	Lock manager	JDEDWARDS_ENTERPRISEONE_812_SP1
UnifiedLogonServerSCP	Unified logon server	JDEDWARDS_ENTERPRISEONE_812_SP1

## Setting Up a Printer for Windows

This section provides an overview of Printer Setup for Windows and Windows Services, Accounts, and Permissions and discusses how to:

- Add a printer.
- Determine or change printer ownership.
- Set up user accounts on an enterprise server.
- Change the domain.
- Add a local account.
- Add a user to the administrators group.

## Understanding Printer Setup for Windows

Setting up a printer for a Microsoft Windows enterprise server involves setting up accounts under which JD Edwards EnterpriseOne runs, establishing printer ownership, and defining the printer. The default printer used for printing reports will be the system default printer.

## Understanding Windows Services, Accounts, and Permissions

Before you can successfully set up a printer for Windows, you should understand the relationship of JD Edwards EnterpriseOne to Windows services, accounts, and permissions, which involves these:

- Assigning permissions to the accounts under which JD Edwards EnterpriseOne services run.
- Making printers accessible from the service programs.
- Assigning ownership for accounts to enable access to printers.

Every Windows printer is associated with one network account called the printer's owner. When JD Edwards EnterpriseOne runs a batch report, service programs must be able to access a printer. You can define this printer to be locally accessible only by the enterprise server or remotely accessible by other network resources (for example, it might be attached to a print server). You can specify a printer that is connected directly to an enterprise server as a local or network printer, depending on how you added the printer from the Control Panel.

When you create a Windows user account, you must associate that account with one of these two domains:

- **Local.** This domain is associated with a particular Windows machine. For example, each Windows machine has a local administrator account. Local accounts cannot access network resources, such as network printers. Any account names that do not begin with a domain name are considered to belong to the local domain.
- **Network.** This domain is spread across a Windows network. Users in the network domain can access network resources, such as printers and disk drives, on other servers. Account names that are assigned to the network domain must begin with a domain name, such as domain1\john\_doe.

In this table, you must define two types of service accounts and printer ownerships for the two types of printers:

Printer Type	Account and Owner
Local	The service account type can be local or network. The printer owner account can be local or network.
Network	The service account type must be network. The printer owner account must be network.

Windows services enable programs to run on a Windows platform even when no user is signed on to the machine. For the JD Edwards EnterpriseOne enterprise server, you must run these two service programs:

- **Network:** This program provides the network connection between the JD Edwards EnterpriseOne workstation and the JD Edwards EnterpriseOne enterprise server.
- **Queue:** This program starts jobs (either batch reports or server package installations) on the enterprise server.

The accounts under which Windows services run must have permissions to start and stop services on the local machine. You must specify permissions for one of these:

- Individual users, such as administrator and guest accounts.
- Groups of users, such as administrators (note the plural; administrators are different than an individual administrator).

The accounts that automatically have permissions to start and stop services include:

- The Administrator user.
- Users specifically designated by the Administrator user.
- Users who belong to the Administrators group (which is different from an individual administrator).
- Users that belong to the Power Users group.

---

**Note.** We strongly recommend that you use an account for a user who belongs to the local Administrators group.

---

You must add a printer in Microsoft Windows before you can use it in JD Edwards EnterpriseOne.

## Adding a Printer

To add a printer:

1. Click the Windows Start button.
2. Select Settings, and then select Printers.
3. Select Add Printer.

4. On Add Printer Wizard, follow the system-guided steps.

For a local printer, these steps include selecting the port to which the printer is attached, specifying the type of printer that you are installing, specifying a name for the printer, and indicating where the drivers are located, if needed.

For a network printer, these steps involve selecting a print server and printer and indicating whether the printer is the default printer for the enterprise server.

---

**Note.** When you are defining a printer, do not use a space character in the name. If you do, JD Edwards EnterpriseOne will not be able to correctly read or access the physical printer.

---

## Determining or Changing Printer Ownership

To determine or change printer ownership:

1. From Control Panel, select Printers.
2. Select a printer, right-click, and select Properties.
3. Click the Security tab.
4. Click the Ownership button.

The Owner dialog box displays the current owner of the printer.

5. On owner, to make the account that you are currently signed onto the owner of the printer, select Take Ownership, and then click OK.

## Setting Up User Accounts on an Enterprise Server

You can set up local users to add local and network accounts to groups.

To set up user accounts on an enterprise server:

1. On the enterprise server, under Windows, select Start, Settings, Control Panel, Administrative Tools, then Computer Management.
2. On the Tree tab, select Local Users and Groups, and then click the Users folder.

## Changing the Domain

To change the domain:

1. From the main menu of User Manager, select User.
2. Select User Domain.

The Select Domain form displays all domains. The local domain is named the same as the enterprise server and does not appear in the list. However, you can still type the name of the enterprise server in the Domain field.

In this example, the name of the local machine is the same as the domain: DEVS5. That name is appears in the title bar as \\DEVS5. Although that syntax might typically indicate a network machine, in this case it represents a local machine name because the name of the machine and the domain are the same.

3. Click OK.

The User Manager form displays all of the accounts for the domain that you chose. If you select a network domain, all listed names represent network accounts. Likewise, if you select the local domain, all listed names represent local accounts.

## Adding a Local Account

If you are using a local printer, you can use either a local or network account to run the JD Edwards EnterpriseOne services.

1. Sign onto Windows as a user with administrative privileges in the local domain.
2. From Computer Management, select System Tools, and then select Local User and Groups.
3. From the Action menu, select New User.
4. On New User, complete these fields:
  - User name
  - Full Name
  - Description
  - Password
  - Confirm Password
5. Complete these options, as appropriate for the installation:
  - User must change password at next logon.
  - User cannot change password.
  - Password never expires.
  - Account disabled.
6. Click Create.
7. Click Cancel.

## Adding a User to the Administrators Group

To add an existing account (either local or network), you must use the local domain.

1. From the User Manager main window, double-click the Administrators group.

The user Administrator belongs to the Administrators group. Local accounts are not preceded by a domain name, and network accounts are preceded by a domain name. For example, the domain member with a name JDE is a local account, and a member with the name JDEMD1\AY5600427 is a network account.
2. On Administrators Properties, click Add.

A list displays all users in the selected domain.
3. On Select Users or Groups, select the domain of the user whom you want to add to the Administrators group.
4. Select the user whom you want to add to the Administrators group.
5. Click Add to add the user to the group, and then click OK.

---

## Working with Network Services

This section provides an overview of network services and discusses how to:

- Set up the network service.
- Start the network service.
- Stop the network services.
- Clean up the enterprise server for Windows.
- Uninstall the network service.
- Start the enterprise server for Windows manually.
- Verify the JD Edwards EnterpriseOne installation.

## Understanding Network Services

JD Edwards EnterpriseOne uses the Network service on the enterprise server. This service is installed during the installation process using the `jdesnet -i` service from the `system\bin32` directory.

When you install this service, the system adds these entries to the Windows registry:

- The name of the service that appears on the Services form (used when controlling the services).
- The location of the JD Edwards EnterpriseOne executable files.

During a new installation, or after you have renamed or moved the directory tree for an existing installation, you should reinstall the services.

After the initial installation, you will need to reinstall the Network service only when it has been uninstalled. You will need to uninstall this service only when the JD Edwards EnterpriseOne directory tree is renamed, moved, or deleted. The process to uninstall this service removes these entries from the Windows registry:

- The names that appear for the service on the Services form.
- The location of the JD Edwards EnterpriseOne executable files.

After the Network service is installed, you must set up the service under a network account, if you are using a network printer, or a local account, if you are using a local printer. If you are using a network account, it must be in either the Administrators or Power Users group.

---

**Note.** We strongly recommend that you use a user who belongs to the local Administrators group.

---

After you have installed and set up the Network service, you must start the service before JD Edwards EnterpriseOne can use it. Later, if you need to stop services, you must do so in the proper order.

After JD Edwards EnterpriseOne is shut down, you can determine whether any processes completed abnormally. If so, you need to clean up the enterprise server. Unforeseen circumstances can cause JD Edwards EnterpriseOne processes to terminate abnormally. Processes that terminate abnormally are called runaway processes. After shutting down JD Edwards EnterpriseOne, look for any runaway processes and, if any exist, manually terminate them.

## Setting Up the Network Service

To set up the network service:

1. From the Start menu, select Programs, Administrative Tools, and then Services.
2. Select the JD Edwards EnterpriseOne Network service.

The name of the service is in the form `JDE release Network`, where *release* is the current JD Edwards EnterpriseOne release. For example, the Network services name for Release E812 is `JDE 812 Network`.

3. Click Action, then click Properties.
4. On the General tab, if you want JD Edwards EnterpriseOne to start automatically when the enterprise server boots, click the Automatic option under Startup Type.
5. On the Log On tab, click the This Account option.
6. Enter the account name under which the JD Edwards EnterpriseOne Network service will run.
7. Enter the password for the account and a confirmation of the password.
8. Click OK.

## Starting the Network Service

To start the Network service:

1. From the Services window, select the JD Edwards EnterpriseOne Network service.  
The name of the service is in the form JDE *release* Network, where *release* is the current JD Edwards EnterpriseOne release. For example, the Network services name for E812 is JDE 812 Network.
2. From the Action menu, click Start.
3. Use the Windows Task Manager to ensure that these processes are running:
  - jdesnet.exe.
  - jdenet\_k.exe processes. (None, one, or more might exist.)

## Stopping the Network Services

When you stop the Network service, follow the steps in the proper sequence.

To stop the Network service:

1. From the Services window, select the Network service.  
The name of the JD Edwards EnterpriseOne Network service is in the form JDE *release* Network. For example, the Network services name for JD Edwards EnterpriseOne 8.10 is JDE 812 Network.
2. Use the Windows Task Manager to ensure that all JD Edwards EnterpriseOne processes are terminated.  
This might take several minutes. These processes should be terminated and, therefore, should not appear in the list of processes in Task Manager:
  - jdesnet.exe
  - jdenet\_n.exe
  - jdenet\_k.exe
  - runbatch.exe
  - ipcsrv.exe

## Cleaning Up the Enterprise Server for Windows

To clean up the enterprise server for Windows:

1. In the Processes tab of Task Manager, search for any JD Edwards EnterpriseOne Host Server processes, such as jdesnet, jdenet\_n, jdenet\_k, and runbatch.



Wait until all the JD Edwards EnterpriseOne Host Server processes are terminated. If all processes terminate, you do not need to perform the remaining steps in this task. Otherwise, continue with the next step.

2. Select a process in Task Manager.
3. Click End Process.
4. If the runaway process does not terminate, continue with the next step.
5. In Task Manager, right-click the process and select debug.
6. When the Visual C++ main window appears, select the Stop debugging option from the Debug menu.
7. Exit from Visual C++, and then repeat these steps for each runaway process.
8. If none of the previous steps stops the runaway process, reboot the enterprise server.

## Uninstalling the Network Service

To uninstall the Network services:

Run this program from the \system\bin32 directory:

```
jdesnet -u
```

## Starting the Enterprise Server for Windows Manually

If JD Edwards EnterpriseOne does not run through the Control Panel Services applet, you can run Network manually.

---

**Note.** If you start JD Edwards EnterpriseOne manually, you must stop the JD Edwards EnterpriseOne processes using the Windows Task Manager.

---

To start the enterprise server for Windows manually:

1. On the enterprise server for Windows, sign on with administrator privileges.  
If you used the user ID that we recommend, the value is *PSFT*.
2. On the Windows toolbar, from the Start menu, select Run, and then enter these commands:

```
drive: installpath\system\bin32\jdenet_n
```

Where installpath is the path to the JD Edwards EnterpriseOne installation.

This command launches an executable program that starts the JD Edwards EnterpriseOne network (JDENet) internal processes.

If you run jdenet\_n from a command prompt, ensure that the working directory is the subdirectory \system\bin32.

## Verifying the JD Edwards EnterpriseOne Installation

You can verify the JD Edwards EnterpriseOne installation with the PORTTEST program.

---

**Note.** When you run PORTTEST, make sure that one of this is true:

If the network service, such as jdesnet.exe, is running, make sure that you are signed on to Windows under the same user account as the net service is running. You can then run PORTTEST from a command prompt.

If the network process, such as jdenet\_n.exe, is run from the command prompt, you can run PORTTEST from the command prompt.

---

To verify the JD Edwards EnterpriseOne installation:

In the command line, enter these commands:

```
cd \JDEdwards\E812\ddp\system\bin32
porttest <userid> <password> <environment>
```

The program initializes an environment, initializes a user, opens the Account Balances table (F0902), and displays up to 99 rows of data. The number of rows of data that the program displays depends on the data in the table. If you run the program before anyone enters data into the table, you will not see any data on the screen. In this case, the lack of data does not indicate an error. Review the messages on the form and the corresponding jde.log file to determine the results of the program.

---

## Administering Batch Processes for Windows

This section provides an overview of batch process administration for Windows and discusses how to:

- Monitor batch processes.
- Review batch output files.
- Run reports from the command line for Windows.
- Schedule reports from the command line for Windows.

## Understanding Batch Process Administration for Windows

Administering batch processes involves knowing the processes that run when JD Edwards EnterpriseOne starts, where files are placed before and after printing, and how to watch those processes.

The user who started the JD Edwards EnterpriseOne software owns the processes that are running for JD Edwards EnterpriseOne; Windows Task Manager cannot track this information. When the software starts, a number of processes start and run under the environment and security of the user who started them. These processes are as follows:

Process	Description
jdesnet.exe	The network listener that listens for connection requests.
jdenet_n.exe	A network listener that listens for connection requests. Depending on the jde.ini setting, zero, one, or more of these processes can run simultaneously.
jdenet_k.exe	The job responsible for coordination between the net and queues. It is not started until the first batch job is submitted to the server.

Process	Description
runbatch.exe	The job responsible for executing the submitted reports.
ipcsrv.exe	The process responsible for passing Binary Large Objects (BLOBs) between other processes.

## Monitoring Batch Processes

You can use the Task Manager to continuously monitor the performance of each job, the amount of CPU time it is consuming, and the amount of memory it is using. By default, the display refreshes every second.

## Reviewing Batch Output Files

All output from each report, regardless of whether it is a preview, is placed in the PrintQueue directory under the JD Edwards EnterpriseOne installation directory before it is printed. Depending on the JDE.INI settings of the workstation that submitted the job, the job might or might not be deleted after being printed. Unless the submitter identified a printer, jobs are printed to the default printer that you specified for the enterprise server.

Two settings, based upon the workstation's JDE.INI file, tell the server whether to print the report immediately upon completion and whether to save the output from the report or delete it. Here are examples of both of these workstation settings:

```
[NETWORK QUEUE SETTINGS]
SaveOutput=TRUE
PrintImmediate=TRUE
```

Setting SaveOutput to TRUE causes the enterprise server to hold the jobs within the PrintQueue directory until the user explicitly deletes them. Setting PrintImmediate to TRUE tells the enterprise server to print the job immediately after completion of the report.

Users should be strongly encouraged to use the SaveOutput=FALSE entry in their JDE.INI file. When users decide to save their output, they should periodically delete the entries through JD Edwards EnterpriseOne. Deleting the output files from the operating system will not delete the corresponding JD Edwards EnterpriseOne print job entries (for example, entries might still exist in the database). These print job entries still have to be deleted manually.

To list all files in the PrintQueue directory, use Windows Explorer to change the working directory to the PrintQueue directory.

These file names are the actual reports that were generated when the job was executed. The file names follow these conventions:

Segment	Description
S_	Identifies the first part of a file name. Indicates that a specification installation was performed by the workstation. The system omits this prefix when no specification installation was performed.
R0006P	Identifies the report name.
XJDE0001	Identifies the report version.
UBE	Identifies the type of request.

Segment	Description
216	Identifies the request number assigned by JD Edwards EnterpriseOne.
PS	Indicates a PostScript file.
PDF	Indicates a PDF (Portable Document Format) file. This file can be viewed on the workstation using Adobe Acrobat.

## Running Reports from the Command Line for Windows

If you are a user with the proper authority and path (equal to that described in the installation instructions), you can run batch report processes from the server command line by first changing to the JD Edwards EnterpriseOne system directory (system\bin32) and then entering these commands:

```
runube UserName Password Environment ReportName VersionName JobQueue
Interactive|Batch Print|Hold Save|Delete [OutQ]
```

For the command parameters Interactive, Batch, Print, Hold, Save, and Delete, only the first character of the parameter name is required. The vertical bar symbol (|) indicates that you must specify one of the parameters on either side of the vertical bar. The bracket symbols ([ and ]) indicate an optional parameter. These options apply to the runube command:

Parameter	Description
Interactive	Runube processes the report and outputs a .pdf file. The queuing mechanism is skipped altogether.
Batch	The runube command starts a runbatch job and returns control of the terminal to the user. Runube writes a record to the Job Control Status Master table (F986110) and sends a message to the Queue Kernel, which launched Runbatch. Runbatch processes the report and outputs a .pdf file.
Print	The batch process report spools to the PrintQueue directory and then prints on the specified printer (OutQ). If you do not specify a printer, the system uses the default printer that you have specified for the enterprise server.
Hold	The system places the spool file in the PrintQueue directory for later printing at the user's request.
Save	The system saves the file after printing. If you specify Delete, the system removes the file from the PrintQueue directory after it is printed.
Delete	The system removes the file from the PrintQueue directory after the report prints.
OutQ	Optional. This is the printer name on which the given report is printed. If this option is not specified, the report will be printed on the enterprise server default printer.

### Example: Running Reports from the Command Line for Windows

This example lists commands for executing a batch process report:

```
cd \JDEdwards\E812\ddp\system\bin32
runube KL5595218 KL5595218 PROD R0006P XJDE0001 QBATCH Interactive
Print Delete printer_1
```

## Scheduling Reports from the Command Line for Windows

You can schedule a report from the command line for processing on a future date, daily, or even on a recurring day of the week. To schedule one-time only reports, use the `at` command.

When you issue jobs with the `at` command, they run in the background. However, the `at` command enables you to schedule a future time of execution. You can use this command to run a batch job during off-peak hours.

---

**Note.** Use of the `at` command depends on how security is configured on the Windows enterprise server. You should limit the amount of access that users have to submit jobs on the server. If possible, only an administrator should do this type of scheduling.

---

The command format for the `at` command is as follows:

```
at [\\computername\ time [/INTERACTIVE] [/EVERY:date[,...]] |
/next:date[,...]] command
```

Where these options apply:

Parameter	Description
\\computername	Identifies the computer on which to run the program. If you do not specify a value, the default is the local machine.
time	Specifies the time to run the job, such as 08:00.
/Windows INTERACTIVE	enables the program to interact with the Windows operating system desktop.
/EVERY:date	Specifies the days on which to run the job. Values are M, T, W, Th, F, S, and Su.
/NEXT:date	Specifies the next date for the first execution. If you do not specify a value, the default value is today's date.
command	Specifies the command to run. To run batch jobs here, use the <code>runube</code> command with any of its parameters.

### Example: Scheduling Reports from the Command Line for Windows

This example lists a sample command that you can use to schedule a JD Edwards EnterpriseOne batch report to run on the DEPLOY machine at 06:00 every Sunday:

```
at \\DEPLOY 06:00 /EVERY:Su z:\b731\system\bin32\runube KL5595218 KL5595218
PROD R0006P XJDE0001 QBATCH Interactive Print Delete printer_1
```

---

## Maintaining File Security for Windows

You should be aware of the security that is set up for the files on a JD Edwards EnterpriseOne enterprise server. System-wide, only these two accounts will ever need operating system access to the JD Edwards EnterpriseOne environment files and version executables:

- The account that starts and stops JD Edwards EnterpriseOne.

- The account that builds the environment specification (SPEC) and business function (BSFN) files (if this account is separate from the startup and shutdown account).

### Specification File Security

Specification files are the first part of the environment files. You access these files using the JD Edwards EnterpriseOne kernel processes. These files should never be accessed directly by an operating system user; therefore, security for these files should be read/write for the user and group. These files are not executables, so you do not need to set the executable option for any user, group, or other.

### Business Function File Security

You should keep business functions secure. In an environment in which development takes place, you must have a strict form of version control on source and object files. If the business function files change without the knowledge of the JD Edwards EnterpriseOne administrators, rebuilding them might produce unknown or undesired results. Most likely, a developer is working to correct a problem, but the problem could become worse.

You should set a high level of security on the source, include, and object files.

### JD Edwards EnterpriseOne Executables Security

You should prevent access to JD Edwards EnterpriseOne executable files to prevent other users from attempting to start up JD Edwards EnterpriseOne. Running the same version of JD Edwards EnterpriseOne on the same system, using the same JDE.INI settings, can cause unpredictable results. In most cases, the second startup will fail, but giving users access to the shutdown procedures enables them to shut down JD Edwards EnterpriseOne.

### JDE.INI File (Enterprise Server) Security

You must keep the JDE.INI file on the Windows enterprise server as secure as possible. This file contains a database user name and password that enables JD Edwards EnterpriseOne security to function. This database account is given read authority to the OneWorld Security table (F98OWSEC), which controls JD Edwards EnterpriseOne access.

---

**Note.** The F98OWSEC table contains privileged database user names and passwords, which could give a user the ability to manipulate any data in the database, regardless of its sensitivity or security. Therefore, access to the enterprise server JDE.INI file should be minimized.

Denying written access to JD Edwards EnterpriseOne is not necessary, but prevents accidental modification of JDE.INI settings that could adversely affect the operation of JD Edwards EnterpriseOne.

Because of the importance of limiting access to the JDE.INI file for security reasons, you also should limit access to the JD Edwards EnterpriseOne account (or the user account that starts and stops JD Edwards EnterpriseOne). Users with access to this account can easily obtain the F98OWSEC user names and passwords, and gain privileged access to the database.

---

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## Running Multiple Instances of JD Edwards EnterpriseOne on Windows

This section provides an overview of running multiple instances of JD Edwards EnterpriseOne on Windows and discusses how to:

- Run Multiple Instances of JD Edwards EnterpriseOne on Windows.
- Generate a unique identifier.

- Modify the server jde.ini files.
- Modify the workstation jde.ini file.
- Uninstall JD Edwards EnterpriseOne services.
- Move or change a JD Edwards EnterpriseOne directory tree.

## Prerequisites

Before you complete the tasks in this section:

- Verify that you have enough disk space to create copies of the current JD Edwards EnterpriseOne system directory and at least one path code directory.
- Verify that you install each new instance of JD Edwards EnterpriseOne in a separate directory tree and that the version-level directories are different. For example, JD Edwards EnterpriseOne version 1 might be installed in the z:\JDEdwards\b9 directory tree, while JD Edwards EnterpriseOne version 2 might be installed in the z:\JDEdwards\E812 directory tree.

## Running Multiple Instances of JD Edwards EnterpriseOne on Windows

You can run multiple instances of JD Edwards EnterpriseOne on a Windows 2000 server. You might do so to test a new service or to upgrade to a new version of JD Edwards EnterpriseOne. You do not need to install a separate machine to run multiple instances of JD Edwards EnterpriseOne, so long as you follow a series of recommended steps.

Each instance of JD Edwards EnterpriseOne must have a unique identifier. You set the value of this identifier in the CLSID parameter of the server JDE.INI file. To generate the identifier, you run the uuidgen program.

For each new instance of JD Edwards EnterpriseOne, you modify the values of parameters in the JDE.INI file on the server. Each value for each JD Edwards EnterpriseOne instance must be unique. This table presents the server jde.ini file parameters that require modification, the purpose of each, and example values for each:

Section of server JDE.INI file	Parameter	Purpose	Example Value
[DEBUG]	DebugFile=	Name of the log file that contains debugging data.	z:\JDEdwards\E812_2\log\jdedebug.log
[DEBUG]	JobFile=	Name of the log file that contains log data.	z:\JDEdwards\E812_2\log\jde.log
[INSTALL]	StartServicePrefix=	Prefix that is used for names of the JD Edwards EnterpriseOne network and queue services.	Instance 2
[INSTALL]	B9=	Base directory of the JD Edwards EnterpriseOne installation.	z:\JDEdwards\E812_2

Section of server JDE.INI file	Parameter	Purpose	Example Value
[JDEIPC]	StartIPCKeyValue=	Integer that indicates an arbitrary starting point in memory for interprocess communications. For multiple instances of JD Edwards EnterpriseOne, differences between the values of the parameter must be at least 1000.	6000
[JDEIPC]	CLSID=	Unique string generated by the NT guidgen program. The string identifies each instance of JD Edwards EnterpriseOne.	1E0CF350-AF81-11D0-BD7B-0000F6540786
[JDENET]	serviceNameListen=	The TCP/IP port number used by the server to receive communication packets from workstations.	6005
[JDENET]	serviceNameConnect=	The TCP/IP port number used by the server to send communications packets to servers.	6005

You are not required to install network and queue services for an existing JD Edwards EnterpriseOne instance unless you change the location of the system\bin32 directory for the new instance. For example, you might decide to put the directory on a new disk.

To move or rename a directory for EnterpriseOne instance after you install its services, you must uninstall the network service and uninstall the IPC Automation Server (ipcserv.exe). You can then move or rename the JD Edwards EnterpriseOne directory and reinstall the network service. The IPC Automation Server automatically reinstalls itself when it is first used.

After you have installed services for each JD Edwards EnterpriseOne installation, you must modify the workstation JDE.INI file so that the values of these parameters match those that you set up in the server JDE.INI file:

- serviceNameListen=
- serviceNameConnect=

## See Also

[Chapter 4, “Administering the Windows Server,” Setting Up the Network Service, page 85](#)

## Generating a Unique Identifier

To generate a unique identifier:

1. From the Start menu on the Windows taskbar, select Run, and then enter this command:

```
uuidgen-oFILENAME
```



Where *FILENAME* is the name of the file that will contain the new identifier.

**Note.** For help about the options for the uuidgen program, run the uuidgen-? command:

The uuidgen program creates a unique identifier and stores it in the file that you specified.

2. Copy the identifier.
3. Open the server JDE.INI file and paste the identifier into the CSLID parameter under the [JDEIPC] section of the file.

## Modifying the Server JDE.INI Files

To modify the server JDE.INI file:

1. In the system\bin32 subdirectory for each new JD Edwards EnterpriseOne instance, open the server JDE.INI file.
2. In the [DEBUG] section of the JDE.INI file, in the DebugFile= parameter, type the name of the log file that will contain debugging information.
3. In the [DEBUG] section, in the JobFile= parameter, type the name of the file that will contain log information.
4. In the [INSTALL] section, in the StartServicePrefix= parameter, type the value to be used for the names of the JD Edwards EnterpriseOne network and queue services. The names are listed in the Services window under Control Panel.

The default value is JDE followed by the current version number, such as 812. The default value produces the service names JDE 812 Network and JDE 812 Queue.

5. In the [INSTALL] section, in the B9= parameter, type the name of the base directory of the JD Edwards EnterpriseOne installation. The JD Edwards EnterpriseOne server uses this value to determine the location of the executables and DLLs used to run JD Edwards EnterpriseOne programs.
6. In the [JDEIPC] section of the JDE.INI file, modify the values of these parameters:

Parameter	Value
StartIPCKeyValue	Type a number for the starting point in memory for interprocess communications. For multiple instances of JD Edwards EnterpriseOne, verify that the difference between starting point values for each instance is at least 1000. The default value is 5000.  <b>Note.</b> To ensure that the difference between starting point values is at least 1000, review the maxNumberOfResources parameter in the [JDEIPC] section of the JDE.INI file. If the parameter value is less than 1000, change the value.
CLSID=	Type the unique string that is generated by the NT guidgen program.

7. In the [JDENET] section of the JDE.INI file, modify the values of these parameters:

Parameter	Value
serviceNameListen=	Type the port number for the TCP/IP port used by the server to receive communications packets from the workstations. Each instance of JD Edwards EnterpriseOne must communicate with workstations through a different port.  The default value is jde_server.
serviceNameConnect=	Type the port number for the TCP/IP port used by the server to send communications packets to the workstations. Each instance of JD Edwards EnterpriseOne must communicate with workstations through a different port.  The default value is jde_server.

## Modifying the Workstation JDE.INI File

To modify the workstation JDE.INI file:

1. In the Windows directory on the workstation, locate and open the jde.ini file.  
Examples of the windows directory include c:\winnt and c:\windows.
2. Modify the values of these parameters to match the values in the server jde.ini file:
  - serviceNameListen=
  - serviceNameConnect=

## Uninstalling JD Edwards EnterpriseOne Services

To delete an instance of JD Edwards EnterpriseOne after you install its services, you must uninstall the services for that instance before you delete the JD Edwards EnterpriseOne directory tree.

To uninstall JD Edwards EnterpriseOne services:

1. From a command line prompt, change directories to the system\bin32 directory of the JD Edwards EnterpriseOne instance.
2. For example, enter this command:

```
C:\> cd d:\E812\system\bin32
```

3. To uninstall network services, enter this command:

```
jdesnet -u
```

This command removes some settings in the Windows registry that were created when you installed JD Edwards EnterpriseOne services.

## Moving or Changing a JD Edwards EnterpriseOne Directory Tree

To move or change a JD Edwards EnterpriseOne directory tree:

1. From a command line prompt, change directories to the system\bin32 directory of the JD Edwards EnterpriseOne instance.

For example, enter this command:

```
C: \> d:\E812\system\bin32
```

2. To uninstall network services, enter this command:

```
jdesnet -u
```

---

**Note.** You do not need to reregister ipcsrv.exe in the new directory because the executable is automatically registered when a binary large object is first transferred using interprocess communications.

---

3. Move or change the directory tree.
4. Reinstall JD Edwards EnterpriseOne Services.



## CHAPTER 5

# Working with Server Administration Workbench

This chapter provides overviews of Oracle's JD Edwards Server Administration Workbench (SAW), the SAW interface, and discusses how to:

- Set Up SAW Security
- Use Web Client Logging with sawJAS

---

## Understanding the Server Administration Workbench

The Server Administration Workbench (SAW) is a tool that is used to monitor various types of servers that are available on the network, such as Oracle's JD Edwards EnterpriseOne, Web, Gateway, or other type of server. SAW is available through a Windows and an interface. The Windows version allows access through a workstation that has a client installed and where SAW has been configured to run on the workstation. The version is accessed through a web browser.

Both the Windows and version of SAW contain four interfaces to enable server monitoring. The SAW interfaces are:

- sawENT
- sawJAS
- sawXPIe
- SMC

The server administrator needs to be aware of JDENET to ensure that JD Edwards EnterpriseOne functions properly. JDENET starts child processes that control additional communication functions and kernel processes that determine the actual JD Edwards EnterpriseOne client requests. For example, these client requests might include Security Server or JDE CallObject.

JD Edwards EnterpriseOne Server Administration Workbench (SAW) provides a unified interface for administrators to use while monitoring the processes of JDENET.

---

## Understanding the SAW Interface

SAW provides a unified interface in which administrators can review information about JD Edwards EnterpriseOne server processes. Administrators can monitor and modify the processes that they access using SAW. For example, you can change the maximum number of kernels and net processes that SAW monitors. From SAW, administrators can also access the jde.ini file for the local JD Edwards EnterpriseOne server and access log files for any server on the network.

The interface includes these two tabs:

- **Query.** This tab lets you add servers and review statistics about their components at a particular point in time.
- **Monitor.** This tab enables you to periodically monitor the JD Edwards EnterpriseOne servers that you have configured for monitoring. When you have configured a server for monitoring, you can quickly see whether processes on the server are running. Under the Monitor tab, SAW also maintains an ongoing record of each test of the server processes.

SAW is a separate JD Edwards EnterpriseOne executable that resides by default in the \E812\SYSTEM\Bin32 directory.

When you sign on to SAW, you must enter your JD Edwards EnterpriseOne user name and password as a validation for all servers. If, after signing on, you add a new server for monitoring, SAW uses the cached signon information to validate the server that you added.

To perform these operations when you work with SAW, you must have system administration privileges:

- Change the maximum number of net processes.
- Change the maximum number of kernel processes.
- Delete server log files.

From SAW you can add servers for querying. Doing so enables you to administer JD Edwards EnterpriseOne processes and resources on the server and review statistics at a specific point in time. To add a server for querying, you must know the server name and port number.

---

**Note.** When you add a server for querying, SAW displays it under the Query tab. SAW does not display the server under the Monitor tab until you have configured it for monitoring.

---

At any time, you can use Server Administration Workbench (SAW) to remove a server from the list of monitored JD Edwards EnterpriseOne servers.

Server Administration Workbench (SAW) stores the server name and port connection number each time that you add a JD Edwards EnterpriseOne server for querying. You can check each server name and port connection and change a port connection, if necessary.

Server Administration Workbench (SAW) enables you to run a test to ensure that you are connecting to the JD Edwards EnterpriseOne server that you want to monitor. SAW returns an error message if you fail to make a connection. When SAW fails to connect to the server, you should verify that the name of the server that you want to monitor is correct. You also might need to verify where the connection to the server exists.

---

## Setting Up SAW Security

This section provides an overview of security access for SAW and discusses how to set up security access for SAW.

### Understanding Security Access for SAW

You set up security access for Server Administration Workbench (SAW) to ensure that only select individuals have access to privileged operations, such as deleting server log files and updating the jde.ini file on the server, from within SAW. Any user can run SAW to monitor servers, but only authorized users can affect the operation of the server.

You use the Security Workbench program (P00950) to restrict permission to privileged operations when a user runs either the web or fat-client versions of SAW. (The fat-client version of SAW is called `ServerAdministrationWorkbench.exe` and is found in the `system\bin32` directory on the fat client.)

After you have completed these steps, you have secured unauthorized individuals from performing privileged actions in the web and fat-client versions of SAW. To grant a user access to privileged actions in SAW, drag the "SERVERADMINISTRATIONWORKBENCH." item from the Secured node to the Unsecured node.

### See Also

*JD Edwards EnterpriseOne Tools 8.96 Security Administration Guide*, "Understanding JD Edwards EnterpriseOne Security"

## Setting Up Security Access for SAW

To setup security access:

1. From the System Administration Tools menu (GH9011), select Security Workbench (P00950).
2. On the Security Workbench form, select Form, Setup Security, External Calls.
3. On the Security Workbench [External Calls Security] form, enter the user's JD Edwards EnterpriseOne ID in the User/System Role field.

Do not enter a system role into this control; you must enter the user ID.

4. Enter `SERVERADMINISTRATIONWORKBENCH.EXE` in the Display Secured Item Executable field, and then click Find.
5. Expand the Unsecured node in the tree at the bottom of the form.
6. Select the Run Security option.
7. Drag the SERVERADMINISTRATIONWORKBENCH item to the Secured node in the tree and click Find.  
The SERVERADMINISTRATIONWORKBENCH. item should appear under the Secured node.
8. Click Close.

---

## Using Web Client Logging with sawJAS

This section provides an overview of web client logging using sawJAS and discusses how to:

- Create a log file
- Delete a log file

## Understanding Web Client Logging using sawJAS

The sawJAS interface provides the capability to remotely monitor JAS servers through a web browser. If the JAS server is available to the network, then it can be monitored. This interface will consist of different screens with different views and options to enable the user to monitor a JAS server and its log files. When launched the user will specify the host server and port number to be monitored and then navigate to the appropriate screen for the server or log file information.

The web version of SAW is accessed by typing an address into a web browser. The address will follow the format of: `http://hostJASserver:port/jde/saw`. Use `https://` if it is a secure server.

## jdelog.properties File

The jdelog.properties file resides on the JAS server and is used to configure log files that are written out by the JAS server and displayed in sawJAS. When launched sawJAS reads the jdelog.properties file and uses the settings to create the sawJAS webpage presentation. Log files specified in the jdelog.properties are available each time sawJAS is launched. These files will include the default files and any additional custom files that have been added to jdelog.properties. Custom files can be added dynamically through a sawJAS session, but they only exist for the lifespan of each individual sawJAS session. Custom files added to jdelog.properties are available to sawJAS until you manually remove them from the jdelog.properties file.

## Message Logging Levels

sawJAS provides four levels of message logging:

- Severe. This level is for errors in which the system will not be able to recover. Typically, system administrators and CNC administrator use this log level.
- Warn. This level is for errors from which the system can recover, however they indicate a deviation from the perfect happy-path scenario and are indicative of failure points in overall system health. Typically system administrators and CNC administrator will use this log level.
- App. This level is for application specific errors used by Application developers to troubleshoot application issues.
- Debug. This level is for debugging errors used by support and tools developers to troubleshoot issues.

## Launching sawJAS

You can access SAW from either a web client or a web development client. A web client can be any computer that has a web browser and an internet connection. A web development client is a workstation with a JD Edwards EnterpriseOne client and a scaled down version of JAS that functions as a web server.

To launch SAW from a web client, type this URL into the address field in a browser:

```
http://(webserver)/jde/saw
```

To launch SAW from a web development client, type this URL into the address field in a browser:

```
http://(webdevclient)/jde/saw
```

After you access SAW you must sign in and then select sawJAS.

## Server Administration Workbench (SAW) for JAS Servers Initial Screen

On the initial sawJAS screen, you can specify the JAS server that you want to monitor by entering the Host, Port, and selecting whether the application server is WebSphere, WebLogic, or Others. You can also select the frequency for the screen refresh. Once the information has been added to the screen, you can access the System Summary page by selecting the Monitor button. This page provides information on the JAS server status, number of users logged in, and additional high-level information. At this point, you may be prompted to sign in.

## Log Summary

On the System Summary page select Work with Log Files from the dropdown Combo Box. This will navigate to the Log Summary page. The Log Summary web page provides a summary overview of the log files that have been configured for viewing in the jdelog.properties file. The Log Summary page can be redisplayed at any time using the Log Summary button.

The sections that display default and custom log files are the E1 Log section, COMPONENT Log section, USER log section, and TRACE Details section.



This table discusses the other options that are available from the System Summary screen are:

Option	Description
Log Files	<p>The Log Files web page displays the log files that have been configured in a hyperlink format. You can select the log files to view the contents.</p> <p>This level can be changed. The change is in effect for the life of the session.</p> <p>You can set the filter level to display only the messages for the logging level selected in the <code>jdolog.properties</code> file or for that level and any inherent levels above it, depending on whether the Yes of No radio button is checked.</p> <p>To display messages only for one level, select the level from the drop down combo box, then click the Yes radio button to the “Display just the selected level of log?” question.</p> <p>To display messages for a level and its inherent levels, select the level from the drop down combo box, then click the No radio button next to the “Display just the selected level of log?” question. In this format:</p> <ul style="list-style-type: none"> <li>• If Severe level is selected, then only Severe messages will be displayed.</li> <li>• If Warn level is selected, then Warn + Severe messages will be displayed.</li> <li>• If App level is selected, then App + Warn + Severe messages will be displayed.</li> <li>• If Debug level is selected, then Debug + App + Warn + Severe messages, or all messages will be displayed.</li> </ul> <p>The log messages will also be on this screen and will be color coded if the release level is 8.96 or higher.</p> <p><b>Note.</b> The New Window hyperlink located in the upper right hand corner of this screen will open this information in a separate web page.</p> <p>You can view other web server files by selecting them from the dropdown combo box for the field Web Server Files.</p> <p>When monitoring a live session you can click the refresh button to get the most recent messages and timestamp. This dynamically appends information to the web page.</p>
Work With Components	<p>Work with Components will also present each log file that is listed on the Log Summary page in hyperlinked format.</p> <p>This screen also provides the option to Add, Reload, or View Log Properties.</p> <p>The Add Log Properties option allows additional custom files to be added during a sawJAS session. The added custom log file will only exist for the lifespan of the sawJAS session unless it is also added to the <code>jdolog.properties</code> file. Log files can be deleted by clicking Remove in the Action column or can be updated by clicking Update in the Action column.</p> <p>The Reload Log Properties option resets the default values from the <code>jdolog.properties</code> file. If the <code>jdolog.properties</code> file has been manually changed either the server will need to be bounced to load in the modified <code>jdolog.properties</code> file, or the Reload Log Properties option can be used to reload the modified file. When this option has been selected, the user will be prompted to either confirm or cancel the reload request.</p> <p>The View Log Properties option will display the current values in the <code>jdolog.properties</code> file and any additions during the session.</p>
Setup User Log	<p>This is screen is similar to the screen that was used previously to add a log file. With this screen you need to provide a user ID.</p>

Option	Description
Load a Log File	This option allows a log file to be loaded into sawJAS from anywhere on the network. If the log is at an 8.96 or higher release the log will be presented in a color coded and sortable format. This option becomes important if a System Administrator has multiple servers to monitor as it enables all of the log files to be consolidated in one interface for viewing.
WebServer Outlog	This button maps to the outlog.log if WebSphere is installed. An entry such as: WebServerOutLog=c:\WebSphere\AppServer\logs\jvm_WebServerOutLog.log will need to be added to the [LOGS] section of the jas.ini on the server.
WebServer ErrLog	This button maps to the errlog.log if WebSphere is installed. An entry such as: WebServerErrLog=c:\WebSphere\AppServer\logs\jvm_WebServerErrLog.log will need to be added to the [LOGS] section of the jas.ini on the server.

## Creating a log file

This section discusses how to create a log file.

A new log file can be created and customized to display the logging level needed. To create a log file:

1. Launch sawJAS. Click on the Monitorbutton to go to the System Summary page. In the Viewdropdown box and click *Work with Log Files*. Click the Work with Components button.
2. On the Work with Components screen, select Add Log Properties from the dropdown combo box.
3. Click the next arrow >>.
4. On the Setup User Log form, complete the appropriate fields on the SAW Working with Component logging properties screen.
  - Section Name: This is the name that will appear on the System Summary screen such as E1 Log, Test Log, and so forth.
  - File Name: This is both the path and the log file name: D:\Jas\ERP\_Staging\test1.log. The file name must end in .log
  - Backup Index: This is how many files will be created and rolled over when it hits the maximum number specified for the backup index. Typically for a JD Edwards EnterpriseOne file it would be set to 10, for an individual log file it would be set to 1.
  - Max. File size(MB): Typically 10 for debug.
  - Log Level: Select either Debug, App, Warn, or Severe.
  - Log Format: Select either Apps (which is the default), Tools (which displays the code line numbers), or Tools\_Thread (which displays the thread ID). These are predefined formats to make the log more readable.
  - Component Name: Select the component or components that needs to have related messages displayed. Use the cntl or shift key to select the specific combination of components that will best provide the right type of messages.
5. Click the next arrow >>.
6. On the success screen, click >> to continue.
7. The added custom log file will now be available to sawJAS.
8. If you click the Log Summary button, the Component Log section of the summary displays the Test Log. It will also list the components that were selected for log tracking: LIB|KERNEL|RUNTIME.

---

**Note.** A log file that has been added using sawJAS exists only for the session in which it is added. If a log file needs to exist for longer than the session, you must manually add it to the `jdelog.properties` file on the JAS server.

---

## Deleting a log file

To delete a log file:

1. Launch sawJAS. Click on the Monitor button to go to the System Summary page. In the View dropdown box and click *Work with Log Files*. Click the Work with Components button.
2. On the Work with Components form, click the Remove hyperlink in the Action column for the log file to be deleted.
3. On the success form, click >> to continue.



## CHAPTER 6

# Monitoring Servers Using SAW on Windows

This chapter discusses how to:

- Monitor JD Edwards EnterpriseOne with SAW on Windows.
- Configure JD Edwards EnterpriseOne server monitoring settings.
- Monitor JD Edwards EnterpriseOne server processes.
- Monitor enterprise server statistics.
- Monitor JD Edwards EnterpriseOne web server statistics.
- Query JD Edwards EnterpriseOne enterprise servers.
- Monitor JD Edwards EnterpriseOne with SAW on the iSeries.
- Monitor JD Edwards EnterpriseOne with SAW on UNIX.
- Monitor JD Edwards EnterpriseOne with the Knowledge Module.

---

## Monitoring JD Edwards EnterpriseOne with SAW on Windows

This section discusses how to:

- Add to the jde.ini file.
- Access SAW.
- Add a JD Edwards EnterpriseOne server for querying.
- Check JD Edwards EnterpriseOne server configurations.
- Check JD Edwards EnterpriseOne server connectivity.
- Remove a JD Edwards EnterpriseOne server from the query list.

### Adding to the JDE.INI File

Before monitoring Oracle's JD Edwards EnterpriseOne on Windows with Server Administration Workbench (SAW), you should add a variable to the [JDENET] section of the jde.ini file on the Windows enterprise server. This variable enables SAW to create, transfer, and remove temporary files that are larger than 5 MB. This is an example of the variable:

```
[JDENET]
netTemporaryDir=<temp_dir>
```

In the new jde.ini entry, <temp\_dir> is a temporary directory that JDENET uses to create temporary files, transfer the log files, and remove them after the transfer.

## Accessing SAW

To access SAW:

1. Open the \E812\SYSTEM\Bin32 directory and then run SERVERADMINISTRATIONWORKBENCH.exe.
2. On Sign On, complete these fields, and then click OK:
  - User ID
  - Password

## Adding a JD Edwards EnterpriseOne Server for Querying

To add a server for querying:

1. On Server Administration Workbench, click the Query tab.
2. Click the Add button on the toolbar.

---

**Note.** You can identify the purpose of any button in the toolbar of the SAW form by passing the cursor over the button.

---

3. On Server Information, in the JD Edwards EnterpriseOne enterprise server type field, select the Windows option to monitor a JD Edwards EnterpriseOne server on Windows.
4. In the Server Name field, enter the name of the server that you want to monitor or click the ellipsis button and select the name of a JD Edwards EnterpriseOne server that is running on the Windows platform.

The ellipsis button is disabled if you select UNIX or iSeries.
5. In the Port Number field, enter the port number for the server that you are adding, and then click OK.

## Checking JD Edwards EnterpriseOne Server Configurations

To check server configurations:

1. On Server Administration Workbench, click the Query tab.
2. Click the Settings button.
3. On Server Configuration, select a server name.
4. If you added more than one server for monitoring, click the scroll button in the Server Name field and select a name.

SAW displays the connection port number when you select a server name.

5. To change the connection port number, enter a new valid number in the Connection Port field, then click OK.

## Checking JD Edwards EnterpriseOne Server Connectivity

To check JD Edwards EnterpriseOne server connectivity:

1. On Server Administration Workbench, click the Query tab.
2. From the File menu, select Servers, and then select Connectivity.
3. On Server Connectivity, select a server name, and then click Start.

SAW displays in the Attempts and Successes fields the number of attempted connections to the server, as well as the number of successful connections made. If these numbers increment simultaneously and consistently, the connection is good.

4. If SAW connects to the server several times successfully, click the Stop button.
5. If SAW displays a form with the message “Unable to Resolve <Server Name>,” click OK and investigate the problem.

## Removing a JD Edwards EnterpriseOne Server from the Query List

To remove a server from the query list:

1. On Server Administration Workbench, click the Query tab.
2. If necessary, expand the Query Servers node on the SAW form.
3. In the expanded tree, click the button of the server that you want to remove.

---

**Note.** You must click the server button, not a server component, such as Processes.

---

4. Click the Remove button.

---

## Configuring JD Edwards EnterpriseOne Server Monitoring Settings

This section provides an overview of JD Edwards EnterpriseOne server monitor settings and discusses how to:

- Select the server, port, and processes to monitor.
- Set up event notification.
- Set up SAW run-time parameters.

## Understanding JD Edwards EnterpriseOne Server Monitoring Settings

You use the Settings button from the Monitor tab to configure each JD Edwards EnterpriseOne server that you want to monitor. Server monitoring configuration enables you to:

- Select the servers that you want to monitor.
- Select the processes that Server Administration Workbench (SAW) monitors.
- Select the server events that trigger notification messages for you.
- Set up the way in which you are notified.
- Set up the frequency of notification.
- Set up thresholds that determine when server events trigger notification.

SAW displays information about servers that you configure for monitoring each time it retrieves server data.

You configure the server monitor settings in SAW using the JD Edwards EnterpriseOne Server Monitor Settings form. For example, after you establish the server events for which you want to receive notification, you can set up the thresholds that trigger notification. You also can set up how often you want SAW APIs to retrieve and display server information, and you can specify the directory to which you want SAW to write server log files.

You make choices from these three tabs to configure the monitoring settings:

- Port/Server Selection, which enables you to set up servers, port connection numbers, and server processes to monitor.
- Notification Configuration, which enables you to select the server events that trigger administrator notification, the ways in which you are notified, and the frequency of notification.
- General, which enables you to configure how frequently SAW tests the server and the thresholds that must be met for server processes in order for you to receive notification.

From the General tab, you specify these run-time parameters:

- Log file, which specifies the directory to which you want SAW to write log files.
- Test frequency, which specifies in seconds how frequently you want SAW APIs to retrieve and display server information.
- Outstanding request threshold, which specifies the maximum number of requests for a kernel process that SAW backs up on the server before administrator notification is triggered.
- Disk usage percent threshold, which specifies the maximum percentage of used space on a server disk before administrator notification is triggered.
- UBE run-time threshold, which specifies the number of minutes for which SAW enables a batch process to run before administrator notification is triggered.
- Queue threshold, which specifies the number of jobs in a queue that SAW enables before administrator notification is triggered.

These threshold settings are recommended:

Threshold Setting	Value
Test frequency (seconds)	300
Outstanding request threshold	10
Disk usage threshold (percentage)	80
UBE run-time threshold (minutes)	90
Queue threshold (number of jobs)	20

After you apply the server configuration parameters, SAW displays a server button for each server that you configured. SAW runs periodic tests on the processes that you specified and displays a message in a window that indicates whether the processes are running or not.

## Selecting the Server, Port, and Processes to Monitor

Using the JD Edwards EnterpriseOne Server Monitor Settings form, you can set up JD Edwards EnterpriseOne servers, ports, and processes for monitoring. Then you can use Server Administration Workbench (SAW) to quickly see whether the processes that you chose for monitoring are running on the server.



To select the server, port, and processes to monitor:

1. On SAW, click the Monitor tab.
2. Click the Settings button on the toolbar.
3. On Server Monitor Settings, select the Port/Server Selection tab.
4. In the Port field, click the + button and enter a port number.
5. In the Server field, click the + button and enter a server name.
6. If the server is a web server, elect the "This is a WebServer" option.
7. To set up server processes to monitor, select any of these options, if applicable:
  - Off line
  - UBE
  - Lock Manager
  - Replication
  - Security

---

**Note.** If you select Off line, SAW does not monitor JD Edwards EnterpriseOne server processes for the server that you specified.

---

8. Click Apply to save the settings.

## Setting up Event Notification

After you have chosen the JD Edwards EnterpriseOne server and port for monitoring and chosen the processes that you want to monitor, you can specify the type of events that will trigger notification to you, as well as the methods of notification.

To set up event notification:

1. On the JD Edwards EnterpriseOne Server Monitor Settings form, select the Notification Configuration tab.
2. Under Notification Events, select from these available options to specify the server events that will trigger administrator notification:
  - Dead processes
  - UBEs exceed run-time threshold
  - Disk usage exceeds threshold
  - Number of jobs in queue exceeds threshold
  - System errors in web CallObjects
3. To set up email notification, click the + button in the Email address field, enter an email address, and then click OK.
4. To set up pager notification, click the + button in the Pager address field, enter a pager address, and then click OK.
5. Under Notification Settings, complete these options to indicate how you want to be notified:
  - Select the Repeat Notification option if you want SAW to notify you again after the first notification
  - Enter the interval (frequency) between notifications, in seconds

- Enter the pager message size in number of lines
6. Click Apply to save the settings.

## Setting up SAW Runtime Parameters

To set up SAW runtime parameters:

1. On the JD Edwards EnterpriseOne Server Monitor Settings form, select the General tab.  
The program displays a list of monitoring parameters to which you can assign values.
2. Set values for these parameters:
  - Log file
  - Test frequency
  - Outstanding request threshold
  - Disk usage percentage threshold
  - UBE run-time threshold
  - Queue threshold
3. Click Apply to save the settings.

---

**Note.** If you enter 0 for a parameter value, SAW does not test that parameter.

---

## Monitoring JD Edwards EnterpriseOne Server Processes

After you have configured JD Edwards EnterpriseOne servers for monitoring, Server Administration Workbench (SAW) runs tests at regular intervals on the processes that you chose. You can quickly determine whether the servers that you are monitoring are up or down and whether the server processes that you are monitoring are running.

The information in the Server Monitor window enables you to see, at a glance, whether a SAW-monitored server process is up or down. A stop sign button indicates that a server process is down, while a stoplight button indicates that a process is running.

This table summarizes the server process parameters that appear in the Server Monitor window:

Parameter	Description
Date & Time	The date and time that SAW ran a server check. The parameter value that you set during server-monitoring configuration determines the frequency of the checks.
Server	The name of the JD Edwards EnterpriseOne server that you are monitoring. Sleep indicates that the Server Monitor has entered sleep mode.
Service Name	The port connection number.
Server Type	The server process that you are monitoring, such as UBE or Lock Manager.
Status	The status of the server process, which is either Up or Down.
Details	Additional information about a server process.

## Prerequisite

Verify that you have configured the monitoring settings for each JD Edwards EnterpriseOne server for which you want to monitor processes. You must configure the monitoring settings before you can monitor the server processes in the Server Monitor window. Adding a JD Edwards EnterpriseOne server for querying is not sufficient.

## Monitoring JD Edwards EnterpriseOne Server Processes

To monitor JD Edwards EnterpriseOne server processes:

1. Sign onto SAW.

During your initial sign-on, a brief delay occurs as SAW retrieves information about server processes.

2. After SAW updates the Server Monitor window, review the Date & Time and Status parameters for Stop values, which indicate whether a server is down or a process on the server terminated abnormally.

---

**Note.** If you change the view in the SAW form and need to return to the Server Monitor window, click the Restore button on the menu bar.

---

---

## Monitoring Enterprise Server Statistics

This section provides an overview of enterprise server statistics and discusses how to:

- Monitor process statistics for enterprise servers.
- Change process settings.
- View log and debug log files for enterprise server processes.
- Print log and debug log files for enterprise server processes.
- Turn logging on and off for enterprise server processes.
- View process user statistics for enterprise servers.
- View statistics for batch processes.
- View statistics for server disks.

## Understanding Enterprise Server Statistics

The Server Administration Workbench (SAW) form displays performance statistics for each enterprise server that you configure for monitoring. A clock button designates a parent node in the Statistics window. The parent node displays the date and time of each data retrieval.

You expand the node to review performance statistics on each server. You can review detailed statistics about these:

- Kernel processes
- Network processes
- Batch processes
- Server disks

The Statistics window offers you another quick way to identify server problems. When a process terminates abnormally or some other problem occurs, SAW displays the monitoring time, the port connection node, and the server node in red. The statistics for the process or server component, such as a disk, that is causing the problem are highlighted in yellow in a separate window. Finally, SAW enables you to view and print log files for kernel and network processes that run on servers that you have configured for monitoring. You can also turn logging on or off for any server process.

To display the processing statistics, you click a server button. Statistics about each process appear in the Process Statistics window.

This table describes the parameters that appear in the Process Statistics window:

Parameter	Description
Process Name	The name of the kernel or network process.
PID	The process identification number.
Start Time	The date and time that the process began.
Total Process Time	The total time, in milliseconds, that the server required to run the process.
Total Requests	The total number of requests for a particular process handled by the server, up to the time that Server Administration Workbench (SAW) retrieved server process data.
In Connections	The number of workstations that are connected to the server.
Outstanding Requests	The number of requests in a queue for a process.
Avg. Processing Time - Overall	The average amount of time the server required to handle a kernel process request (Total Process Time divided by Total Requests).
Avg. Processing Time - Last Period	The average amount of time the server required to handle a kernel process request during the last server session. Compare this parameter value with the value for the Avg. Processing Time - Overall parameter to assess server performance.
Lock Conditions	The number of processes that are trying to access the same resource.
Kernel Max Count	The maximum number of kernel processes that can run.
Kernel Current Count	The number of kernel processes that are currently running.
Version	The current version of SAW. The value is for internal use only

You can right-click any kernel or network process to review additional information and complete these additional tasks:

- View the debug log.
- View the JDE log.
- Print the debug log.
- Print the JDE log.

- Process users.
- Select server logging.
- Clear server logging.
- Change the maximum number of a process type.
- Disable kernels.

---

**Note.** You can change the maximum number of a process type and disable kernels only if you have SAW administrative privileges.

---

If you have administrative rights, you can use Server Administration Workbench (SAW) to change the number of net (jde\_n) and kernel (jde\_k) processes. You might do so when the server is experiencing performance problems. You can also disable processes that are causing problems.

The ability to use SAW to increase the number of jde\_k processes running on the server is constrained by the server's JDE.INI file, specifically the maxNumberOfProcesses parameter in the [JDENET\_KERNEL\_DEF\_x] section and the maxKernelProcesses parameter in the [JDENET] section. The maximum number of processes that you can increase for a kernel of a specific type, such as CallObject, or for a combination of kernel types, must not exceed the product of these formula:

maxKernelProcesses minus the sum of individual kernel type maxNumberOfProcesses.

For example, if the maxKernelProcesses parameter value is 50, and the sum of the values for the maxNumberOfProcesses parameter is 34, you can use SAW to increase the number of processes for an individual kernel type or a combination of kernel types by no more than 16. If the maxNumberOfProcesses for the CallObject kernel is 10, you can use SAW to increase the number of processes to no more than 26 ( $50-34=16$ ,  $10+16=26$ ).

## Monitoring Process Statistics for Enterprise Servers

To monitor process statistics for enterprise servers:

1. On SAW, select the Monitor tab.
2. Click the Refresh button on the toolbar to get the latest server information.
3. On Statistics, expand the top clock button node.
4. Expand the port connection button node for the enterprise server that you want to monitor.
5. Select the server button.

Statistics for kernel and network processes that are running on the enterprise server appear in the Process Statistics window.

6. To sort the items in a column, select the column heading.

## Changing Process Settings

To change process settings:

1. On SAW, select the Monitor tab.
2. Select the server button for the server that you want to monitor.

SAW updates the Process Statistics window with data on each net and kernel process that is running on the server.

3. Select a kernel or net process and right-click.
4. To change the number of net or kernel processes, select Change max number of this process type, enter a new value, and then click OK.
5. To disable a kernel process, select Disable Kernels.

## Viewing Log and Debug Log Files for Enterprise Server Processes

Server Administration Workbench (SAW) enables you to review server log and debug log files for individual kernel and network processes that run on enterprise servers that you have configured for monitoring.

---

**Note.** If you attempt to view a file that has been deleted from the server, SAW displays a message saying that the file is no longer available.

---

To view log and debug log files for enterprise server processes:

1. On Statistics, select an enterprise server button.
2. On Process Statistics, right-click a network or kernel process and select View Debug Log or View JDE Log. The log or debug log file appears in a text editor.

---

**Note.** You can also select a network or kernel process on the Process Statistics form and click the Debug Log or JDE Log buttons on the toolbar.

---

## Printing Log and Debug Log Files for Enterprise Server Processes

You can print server log or debug log files from the workstation. Server Administration Workbench (SAW) prints a text editor document to the local printer. Remember that debug log files can be very large, which might make printing them impractical.

To print log and debug log files for an enterprise server process:

1. On Statistics, select an enterprise server button.
2. On Process Statistics, right-click a network or kernel process and select Print Debug Log or Print JDE Log.

SAW prints the file to the local printer. For server logs, you can also click the Print JDE Log button on the toolbar.

## Turning Logging on and off for Enterprise Server Processes

You can control logging for processes that run on enterprise servers. If you observe that a problem has occurred with a process, you might activate logging so that Server Administration Workbench (SAW) adds information to the log file for that process. When you have enough information, you can deactivate logging so that you can more easily isolate in the log file in which an error occurred. Even with logging turned off, you can view the log file for a process, although the entries stop at the point that you turned off logging.

To turn logging on and off for enterprise server processes:

1. On Statistics, select an enterprise server button.
2. On Process Statistics, right-click a network or kernel process and select Turn on Server Logging or Turn off Server Logging.

## Viewing Process User Statistics for Enterprise Servers

You can view statistics about users who are running business functions on the enterprise server. A separate window in the Server Administration Workbench (SAW) form displays the user's ID and machine name for each CallObject kernel process that you select.

To view process user statistics for enterprise servers:

1. On Statistics, select an enterprise server button.
  2. On Process Statistics, right-click a CallObject kernel process and select Process Users.
- SAW displays user and machine information for the CallObject process that you chose.

## Viewing Statistics for Batch Processes

The UBE button appears as a child of the enterprise server button in the Statistics window only if a batch process is running on the enterprise server. If you select the UBE button, you can review this additional information about the batch process:

- UBE name.
- Process ID number.
- Date and time the process began.
- Running time for the process, in minutes.

To view statistics for batch processes:

1. On Statistics, expand an enterprise server button.
2. Select a UBE button, if one appears.

Statistics for batch processes that run on the enterprise server appear on the Monitor UBE form.

## Viewing Statistics for Server Disks

The disk button appears at all times as a child of the enterprise server button. If you select the disk button, you can review these additional information about server disks:

- Disk name
- Total space
- Used space
- Available space
- Percent used
- Disk type

To view statistics for server disks:

1. On Statistics, expand an enterprise server button.
2. Select the Disk button.

Statistics for each server disk appear on the Monitor Disk form.

## Monitoring JD Edwards EnterpriseOne Web Server Statistics

This section provides an overview of JD Edwards EnterpriseOne web server statistics and discusses how to:

- Monitor data on enterprise servers connected to the web server.
- Monitor web server callobjects.
- Monitor web server connection statistics.
- Monitor web server user statistics.
- Monitor web server user connection statistics.
- Monitor web server logs.

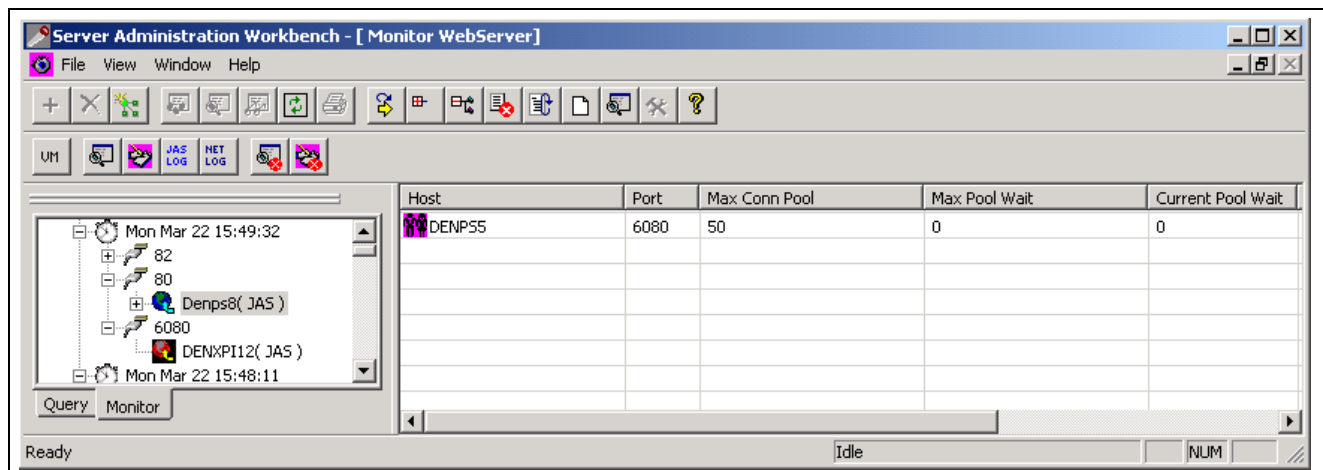
## Understanding JD Edwards EnterpriseOne Web Server Statistics

You can also use Server Administration Workbench (SAW) to monitor statistics about JD Edwards EnterpriseOne web servers from the fat-client workstation. The Statistics window on the SAW form displays no information about kernel and network processes for web servers because these processes run on enterprise servers. However, you can monitor information about web server users, connections to enterprise servers, and business functions that run on enterprise servers.

If you are working on a thin- or zero-client workstation, you can monitor web servers from the workstation using the Web Server Monitor utility.

When you configure a web server for monitoring in SAW, you can set up notification triggers to let you know when system errors occur in business functions that run on enterprise servers that are connected to the web server. The Web Server Monitor does not enable you to set up notification triggers.

When you select a web server button in the Statistics window, Server Administration Workbench (SAW) displays a separate window with information about each enterprise server that is connected to the web server:



Monitor WebServer window

This window contains important connection information, as well as information about business functions running on the enterprise servers.

This table summarizes the data SAW displays on each enterprise server that is connected to the web server:



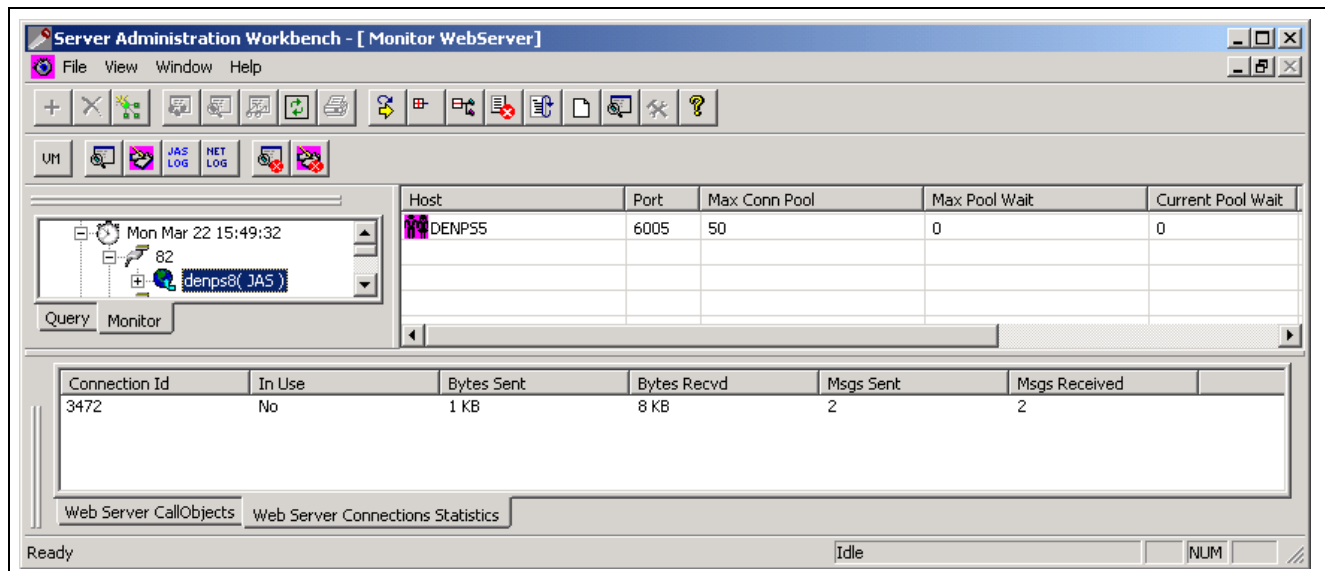
Display Element	Description
Host Name	The enterprise server name.
Port	The enterprise server port connection number.
Max Conn Pool	The maximum number of enterprise servers that can be connected to the web server, as defined in the server INI file.
Max Pool Wait	The number of users waiting for a connection when the Max Conn Pool value has been exceeded. For example, if the Max Conn Pool value is 30, and five users are waiting to connect, the Max Pool Wait value is 5. As soon as the Max Conn Pool value is exceeded, the value is incremented with each new user who attempts to connect.
Current Pool Wait	The number of users who are waiting for a server connection. This parameter has a value only if the Max Conn Pool value is exceeded.
Current Connections	The number of users currently connected to the enterprise server from the web server.
No. of CallObjects	The number of business functions that have run on the enterprise server during a session.

Server Administration Workbench (SAW) enables you to view additional data about business functions running on an enterprise server connected to the web server that you are monitoring. You can troubleshoot the data on business functions from SAW. For example, SAW displays system errors and application errors that occur during the running of business functions.

This table summarizes the data that SAW displays about business functions that run on an enterprise server that is connected to the web server:

Display Element	Description
CallObject Name	The name of the business function.
Min Time	The minimum time, in milliseconds, required to run the business function.
Max Time	The maximum time, in milliseconds, required to run the business function.
Avg. Time	The average time, in milliseconds, required to run the business function.
Timeouts	The number of times a business function timed out before completion.
System Errors	The number of system errors that occurred during the running of a business function.
Application Errors	The number of application errors (usually related to business logic) that occurred during the running of a business function.
Times Called	The number of times a business function was called to run on the enterprise server.

You select the Web Server Connections Statistics tab to review data on the connections made from the web server to the enterprise server:



Web Server Connections Statistics tab

This table summarizes the data that Server Administration Workbench (SAW) displays on connections between the web server and the enterprise server:

Display Element	Description
Connection ID	A number that identifies the socket connection between the web server and the enterprise server.
In Use	The status of the connection, either Active or Inactive.
Bytes Sent	The number of bytes transmitted from the connection socket.
Bytes Received	The number of bytes received from the connection socket.
Messages Sent	The number of JDENET messages transmitted from the connection socket.
Messages Received	The number of JDENET messages received from the connection socket.

You can also use the Statistics window on the Server Administration Workbench (SAW) form to view statistics about web server users.

The Web Users window displays information about each user who is connected to the web server. This table summarizes the data that SAW displays for each web user:

Display Element	Description
Session ID	Unique numeric identifier for each user session.
User Name	User ID.
Environment	The JD Edwards EnterpriseOne environment in which the user is working, such as PDEVNIS2. Environment = Path Code + Object Configuration mappings.
Computer Name	Name of user's local workstation.

Display Element	Description
Login Time	Date and time that the user signed on to the web server.
Idle Time	The amount of time, in minutes, that the user has been inactive.
Browser	The web browser name.
User Type	The way information appears on the workstation: JavaApplet, HTML, or Portal.
Maximum Users (Allowed)	The maximum number of users who can be connected to the web, as defined in the server INI file.
Maximum Users (Used)	The number of users currently connected to the server.
Session Timeout (Minutes)	The amount of time, in minutes, that a user can be idle before the session times out and the user is disconnected from the server.

You can gain additional data about connections that web server users make to enterprise servers by right-clicking a record in the Web Users window.

Selecting Show Web User Connections opens a window that displays each web server user's connection to the enterprise server:

---

**Note.** After you open the window that displays the connection data, you can review each user's connection data by passing the cursor over a record in the Web Users window.

---

This table summarizes the connection data that appears for each web user:

Display Element	Description
Host	The name of the enterprise server to which the web user connects.
Port Number	The number of the port used for the connection.
Number of Kernels	The number of kernel processes the user is running on the enterprise server.
Kernels Being Used (PID)	The process ID number for each kernel the user is running on the enterprise server.

## See Also

[Chapter 5, "Working with Server Administration Workbench," Using Web Client Logging with sawJAS, page 101](#)

## Monitoring Data on Enterprise Servers Connected to the Web Server

To monitor data on enterprise servers connected to the web server:

1. On SAW, select the Monitor tab.

2. In the toolbar, select the Refresh button to get the latest server information
3. On Statistics, expand the top clock button node.
4. Expand the port connection button node for the web server that you want to monitor.
5. Select the web server button.

SAW updates the Monitor WebServer window with the name of and information about each enterprise server that is connected to the web server.

## Monitoring Web Server CallObjects

To monitor web server CallObjects:

1. On Monitor WebServer, right-click a line containing the name of an enterprise server and then select Display CallObjects and Connections.

SAW opens a new window with these two tabs:

- Web Server CallObjects
- Web Server Connections Statistics

2. Select the Web Server CallObjects tab.

SAW updates the window with information about each business function that ran on the enterprise server during a web server session.

## Monitoring Web Server Connection Statistics

To monitor web server connection statistics:

1. On Monitor WebServer, right-click a line containing the name of an enterprise server, and then select Display CallObjects and Connections.
2. Select the Web Server CallObjects tab.

SAW updates the window with information about each business function that ran on the enterprise server during a web server session.

## Monitoring Web Server User Statistics

To monitor web server user statistics:

1. On SAW, select the Monitor tab.
2. In the toolbar, click the Refresh button to get the latest server information.
3. On Statistics, expand a clock button node.
4. Expand the port connection button node for the web server that you want to monitor.
5. Expand the server button.
6. Select the Users button.

SAW updates the Web Users window with data about web server users for the current session.

## Monitoring Web Server User Connection Statistics

To monitor web server user connection statistics:

1. On Web Users, right-click a record that contains a user ID, and then select Show Web User Connections. SAW opens a window that contains connection data for the user you chose.
2. To view connection data for another user, pass the cursor over another record in the Web Users window. SAW changes the connection data in the window to reflect the record that you selected.

## Monitoring Web Server Logs

When you monitor a web server, Server Administration Workbench (SAW) presents additional buttons on the toolbar. You can use these buttons to do any of these:

- Get details about the Java virtual machine, which functions as an interface between the web server and the enterprise server.
- Get the JDE log from the web server.
- Get the debug log from the web server.
- Get the JAS log, which enables you to activate or deactivate JAS logging. JAS log gathers information about processes running on the Java Application Server.
- Get the NET log, which enables you to activate or deactivate Net logging. Net log contains information about JDENET processes.
- Delete the JDE log from the web server, provided that you have SAW administrative privileges.
- Delete the debug log from the web server, provided that you have SAW administrative privileges.

You can accomplish any of these tasks by selecting the appropriate button on the toolbar. If you want to get the JDE log or the debug log from the web server, SAW displays a form that states the length of the file in kilobytes.

You can shorten the file by entering the number of bytes that you want. You must enter an integer between 0 and 20,000.

---

## Querying JD Edwards EnterpriseOne Enterprise Servers

This section provides an overview of JD Edwards EnterpriseOne server queries and discusses how to:

- Query enterprise server process components.
- Query enterprise server disk components.
- Query enterprise server IPC resources.
- Query enterprise server log files.
- Query the enterprise server users.
- Query the enterprise server job queue.

## Understanding JD Edwards EnterpriseOne Enterprise Server Queries

Even if you have not configured an enterprise server for monitoring, you can get detailed statistics about server components, resources, and log files using the Query tab on the Server Administration Workbench (SAW) form. To query a server, you must add the server for monitoring.

Querying an enterprise server offers these types of enterprise server data:

- Processes
- Disks
- Interprocess communications (IPCs)
- Logs
- Users
- Job queues

SAW updates the server component information each time it retrieves data from the enterprise server. Unlike when you use the Statistics window of the Monitor tab, however, you cannot review information from previous data retrievals when you query a server.

SAW arranges server component data in a tree with Query Servers as the parent node. Servers, server components, and server subcomponents are child nodes.

When you select a component or subcomponent button, SAW displays data about the component in a separate window.

For example, if you select the Kernel component under the Processes node, SAW displays data for all kernel processes for the time of the SAW latest data retrieval.

You can also display data on any component by selecting a server button, and then selecting File in the toolbar and choosing Open and the name of a component or subcomponent of the server node.

---

**Note.** SAW displays in the Query Servers tree each web server that you added for monitoring. However, you cannot monitor web servers from the Query Servers tree. Web server monitoring must be done from the Statistics window on the Monitor tab.

---

Querying a server enables you to monitor kernel, network, and queue processes. When you select a process component, Server Administration Workbench (SAW) displays-in a separate window-the most recent data for each process of the type you chose. You can also view and print JDE log and debug logs, as well as turn logging on or off for a process.

SAW displays these data for each server process type:

- Process Type, such as kernel, network, or queue
- Process ID
- Parent Process ID
- User Name
- Start Date/Time
- Last Date/Time
- OW - Status
- OS - Status

From the Query tab, you can gain additional data on each kernel and network process by right-clicking a line in the window and choosing Information.

If you select Information after right-clicking a kernel process, the Detailed Info - Kernel Process form appears.

If you select Information after right-clicking a network process, the Detailed Info - Network Process form appears.

A separate window on the Detailed Info - Network Process form displays these connection information:

- Connection number
- Connection type
- Internet Protocol (IP) address
- Long address

Server Administration Workbench (SAW) enables you to query interprocess communications, which enable applications to share data and memory and enable one application to control another.

SAW monitors these IPC types:

- Mutexes, which are locks that allow only one process to hold the lock. This is the most common type of lock.
- SWMR locks, which allow only one writer to change data but enable multiple readers to access the data. The system grants reader locks if no outstanding writer locks exist; the system grants writer locks if no outstanding reader locks exist.
- Message queues, which enable one process to pass packets to another process.
- Shared memory, which is a segment of memory that appears in the address space of more than one process. For example, network processes might use a shared memory segment to monitor existing processes and their status.
- All.

SAW displays these data for each server process type:

- Resource Name.
- IPC ID.
- Key, which is an ID number the operating system uses to identify one or more groups of IPC resources.
- IPC Type.
- User ID.
- Role.

Server Administration Workbench (SAW) enables you to query for data about users connected to the enterprise server. When you select the View Users button, SAW displays-in a separate window-information about each user. The information is displayed in these columns:

- User Name
- Machine Name
- Using Process

An asterisk in the Using Process column indicates that a user is currently running JD Edwards EnterpriseOne processes on the server.

You can view the list of active processes for a user by double-clicking a line that contains an asterisk in the Using Process column. SAW displays identifying data for the active process.

## See Also

Chapter 6, “Monitoring Servers Using SAW on Windows,” Querying JD Edwards EnterpriseOne Enterprise Servers, page 123

## Querying Enterprise Server Process Components

To query enterprise server process components:

1. On SAW, select the Query tab.
2. Expand the Processes node for an enterprise server you want to monitor and select one of these buttons:
  - Kernel
  - Network
  - Queue
  - AllSAW populates a form window.
3. Select a column heading to sort the data in a column.
4. For additional information on a process, right-click and select Information.
5. To turn logging on or off for the process or to view and print logs, right-click and select the appropriate option.

## Querying Enterprise Server Disk Components

Querying the server disk components produces the same information that is available from the Monitor tab.

To query enterprise server disk components:

1. On SAW, select the Query tab.
2. Expand the Disks node for an enterprise server you want to monitor and select one of these buttons:
  - JD Edwards EnterpriseOne Disks
  - All Disks

## Querying Enterprise Server IPC Resources

To query enterprise server IPC resources:

1. On SAW, select the Query tab.
2. Expand the IPC node for an enterprise server you want to monitor and select one of these buttons:
  - Mutexes
  - SWMR Locks
  - Message Queues
  - Shared Memory
  - All



## Querying Enterprise Server Log Files

Server Administration Workbench (SAW) enables you to query for summary server log and debug log information, as well as summary information for print queue logs. You can also select and display any log or debug log from the SAW sessions. If you have SAW administrator privileges, you can delete log and debug server log files.

To query enterprise server log files:

1. On SAW, select the Query tab.
2. Expand the Logs node for an enterprise server you want to monitor and select one of these buttons:
  - Server Logs
  - Print Queue Logs

A list of log files on the server appears in the workspace with the names of the files, the dates and times when JD Edwards EnterpriseOne created the files, and the sizes of the files.

3. To view a file, right-click a line containing the name of a log and select View Selected.

SAW displays the log file or debug log file.

4. To delete the file, select Delete Selected from File menu.

If you have administrator privileges, SAW deletes the file and then refreshes the workspace. If you do not, SAW displays a form advising you that you must have administrative privileges to perform the deletion.

## Querying the Enterprise Server Users

To query the enterprise server users:

1. On SAW, select the Query tab.
2. Expand the node for an enterprise server you want to monitor and select View Users.

SAW populates a separate window with information on current users on the enterprise server.
3. To view the JD Edwards EnterpriseOne processes being run for an individual user, double-click a line containing an asterisk in the Using Processes column.

## Querying the Enterprise Server Job Queue

Server Administration Workbench (SAW) enables you to query for data about job queues on the enterprise server. When you select the Queue button, SAW displays-in a separate window-information about each job in the queue. The information is displayed in these columns:

- Queue Name
- Queue Type
- Queue Status
- Queue Max Jobs

To query the enterprise server job queue:

1. On SAW, select the Query tab.
2. Expand the node for an enterprise server you want to monitor and select Queues.

SAW populates a separate window with information on jobs in the queue on the enterprise server.

## Monitoring JD Edwards EnterpriseOne with SAW on the iSeries

This section provides an overview of monitoring JD Edwards EnterpriseOne with SAW on the iSeries and discusses how to:

- Access SAW.
- Affect Server Processes.
- Display Disk Processes.
- Display, print, and delete server log files.
- Modify the server jde.ini file.

### Understanding JD Edwards EnterpriseOne Monitoring with SAW on the iSeries

The Server Administration Workbench (SAW) for the iSeries uses the menu structure that is standard to the iSeries interface. Through this interface, SAW provides access to this information:

Application	Description
Work with Servers	This option enables you to view JD Edwards EnterpriseOne services running on different ports on the same server or on other servers.
Work with Server Processes	This option provides the ability to start, stop, and view JD Edwards EnterpriseOne services for the local port and host only. Otherwise, this option enables viewing only of JD Edwards EnterpriseOne services. You can view information for other servers that run on the same port as the host server, but you can only start and stop services that run on the host server.
Work with Server Resources	This option enables you to view information about general JD Edwards EnterpriseOne resources on a server, such as locks and resource users, and disk space resources, such as CPU utilization and disk availability.
Work with Server Log Files	This option provides a list of all log files for JD Edwards EnterpriseOne network, kernel, and batch processes. From this menu, you can view and delete the log files.
Work with Server INI File	This option starts the Source Entry Utility (SEU) which enables you to view and change settings in the local jde.ini file on the local port and host only. Otherwise, this option is not displayed. You cannot access jde.ini files on remote servers.

**Note.** The name of the current server and the port for the host server appear at the top of every form in SAW.

The Work with Server Processes form enables you to start or stop the local JD Edwards EnterpriseOne server and to display the JD Edwards EnterpriseOne processes currently running for any server on the network. You can only start or stop services for the local server on the local port where Server Administration Workbench (SAW) was invoked. To start or stop services on remote servers, you must work with the server directly.

---

**Note.** The menu options for starting and stopping JD Edwards EnterpriseOne server processes do not appear when you switch the host or port using the Work with Servers option.

---

The Work with Server Resources form provides information about current IPC resources and disk space information on the server. The IPC resources available for viewing are:

Resource	Description
Message queues (MSG)	A message queue enables one process to pass packets to another process.
Single Write Multiple Read (SWMR)	SWMR is a lock that enables only one writer to change data, but multiple readers can access the data. The system grants reader locks if no outstanding writer locks exist. The system grants writer locks if no outstanding reader locks exist.
Shared memory (SHM)	Shared memory is a segment of memory that appears in the address space of more than one process. For example, network processes might use a shared memory segment to monitor what processes exist and the status of those processes.
Mutual exclusion (MTX)	A mutual exclusion lock, or a mutex lock, allows only one process to hold the lock. This is the most common type of lock.

If JD Edwards EnterpriseOne is not running on the local port and local host and you try to display local IPC resources, you will quit SAW.

The Work with Servers application enables you to change the server and port that you monitor using Server Administration Workbench (SAW). JD Edwards EnterpriseOne services do not need to be running on the local port and host to run SAW.

## Prerequisite

SAW must reside in the JD Edwards EnterpriseOne system library in the library list before you can access SAW from the command line.

## Forms Used to Monitor JD Edwards EnterpriseOne with SAW on the iSeries

Form Name	FormID	Navigation	Usage
Work with Servers	N/A	SAW, select Work with Servers from the main menu.	Monitor a named server.
Work with Server Processes	N/A	SAW, select Work with Server Processes from the main menu.	Start or stop JD Edwards EnterpriseOne processes. Filter, sort, and view information about kernel, network, and queue processes.
Display JD Edwards EnterpriseOne Processes	N/A	On the Work with Server Processes form, click the Display JD Edwards EnterpriseOne Processes link.	Stop individual server process. View, debug, and delete process log files.
Work with Server Resources	N/A	SAW, select Work with Server Resources from the main menu.	Work with server resources.
Display JD Edwards EnterpriseOne Resources	N/A	SAW, select Display JD Edwards EnterpriseOne Resources from the main menu.	Display IP resources.
Display Disk Space Resources	N/A	On the Display JD Edwards EnterpriseOne Resources form, click the Display Disk Space Resources link.	Display disk resources.
Work with Server Log Files	N/A	SAW, select Work with Server Log Files from the main menu.	Display, print, and delete server log files.

### Accessing SAW

You can access the Server Administration Workbench (SAW) from the command line.

To access SAW:

On the command line, enter SAW.

The SAW main menu appears.

### Affecting Server Processes

Access the Display JD Edwards EnterpriseOne Processes form.

Description	Glossary
Opt	<p>A field where you can enter a value to affect the disposition of the associated log file. Values:</p> <ul style="list-style-type: none"> <li>• 4: Stop the process.</li> <li>• 7: View the log file.</li> <li>• 8: View the debug log file.</li> <li>• 9: Delete all log files for the process.</li> </ul>

---

**Note.** If you view log files for a remote server, you see only the data available at the time when you open the log. As a process continues, the system might add data to the log after you open the file. Reopen the log file at a later time to determine whether the system added new data.

---

## Displaying Disk Resources

Access the Display Disk Resources form.

If you display disk space resources for the host server, disk space resource information appears in the Display System Status (DSPSYSSTS) utility.

If you display disk space resources for a remote server on the network, the Display Disk Space Resources form appears to display the disk space resource information. You can sort information on this form by using key commands and function keys. Press F1 to see a list of these options.

## Displaying, Printing, and Deleting Server Log Files

Access the Work with Server Log Files form.

Description	Glossary
Opt	<p>A field where you can enter a value to affect the disposition of the associated log file. Values:</p> <ul style="list-style-type: none"> <li>• 4: Delete the log file.</li> <li>• 5: View the log file.</li> <li>• 6: Print the log file.</li> </ul>

---

**Note.** If you view log files for a remote server, you see only the data available at the time when you open the log. As a process continues, the system might add data to the log after you open the file. Reopen the log file at a later time to determine whether the system added new data.

---

## Modifying the Server jde.ini File

Server Administration Workbench (SAW) provides access to the jde.ini file for the server that you are using. You can view and modify settings in the jde.ini file only on the local host and local port. You cannot administer the jde.ini file on remote servers.

To modify the server jde.ini file:

1. From the SAW main menu, select Work with Server INI File.

This option starts the Source Entry Utility (SEU) editor. Within this editor, you can view and modify the local jde.ini file.

The SEU editor appears with the jde.ini file displayed.

2. View and modify the jde.ini file as necessary and then press F3.

The Exit form for the SEU editor appears.

3. Save the modifications to the jde.ini file by entering *Y* in the Change/Create Member field.

You can disregard the modifications by entering *N* in this field.

---

## Monitoring JD Edwards EnterpriseOne with SAW on UNIX

This section provides an overview of JD Edwards EnterpriseOne monitoring with SAW on UNIX and discusses how to:

- Access SAW.
- Display, print, and delete server log files.
- Display and delete log files for server processes.
- Stop individual kernel processes..
- Display, print, and delete server log files.
- Modify the server jde.ini file.
- Edit the server jde.ini file.
- Activate or deactivate debugging.
- Change the port number of the server.

## Understanding JD Edwards EnterpriseOne Monitoring with SAW on UNIX

The Server Administration Workbench (SAW) on UNIX provides access to this information:

- Work with Servers

This option enables you to view JD Edwards EnterpriseOne services running on other servers on any port.

- Work with Server Processes

This option provides the ability to start, stop, and view JD Edwards EnterpriseOne services. You can view information for other servers that run on any remote host server, but you can only start and stop services that run on the local host server.

The Work with Server Processes form enables you to start or stop the local JD Edwards EnterpriseOne server and to display the processes currently running for any server and port number on the network. You can only stop kernel and queue services on the local server. To stop services on other servers, you must work with the server directly.

- Work with Server Resources

This option enables you to view information about general JD Edwards EnterpriseOne resources on a server, such as locks and local resources, and disk space resources, such as disk availability. You can select from these options:

- Message queues (MSG)

A message queue enables one process to pass packets to another process on the same host.

- Single Write Multiple Read (SWMR)

SWMR is a lock that allows only one writer to change data, but multiple readers can access the data. The system grants reader locks if no outstanding writer locks exist and grants writer locks if no outstanding reader locks exist.

- Shared memory (SHM)

Shared memory means that a segment of memory appears in the address space of more than one process. For example, network processes might use a shared memory segment to monitor what processes exist and the status of those processes.

- Mutual exclusion (MTX)

A mutual exclusion lock, or a mutex lock, allows only one process to hold the lock. This is the most common type of lock.

- Work with Server Log Files

This option provides a list of all log files for JD Edwards EnterpriseOne network, kernel, and batch processes. From this menu, you can view and delete the log files.

- Work with Server INI File

This option starts the Source Entry Utility (SEU), which enables you to view and change settings in the local JDE.INI file. You cannot access JDE.INI files on remote servers.

---

**Note.** The name of the current server and the port for the host server appear at the top of every form in SAW.

The recommended terminal to use when you monitor the configuration with SAW is xterm with a minimum of 80 columns and 24 lines (default).

---

## Forms Used to Monitor JD Edwards EnterpriseOne with SAW on UNIX

Form Name	FormID	Navigation	Usage
Work with Servers	N/A	SAW, select Work with Servers from the main menu.	Monitor a named server.
Work with Server Processes	N/A	SAW, select Work with Server Processes from the main menu.	Start or stop JD Edwards EnterpriseOne processes. Filter, sort, and view information about kernel, network, and queue processes.
Display JD Edwards EnterpriseOne Processes	N/A	On the Work with Server Processes form, click the Display JD Edwards EnterpriseOne Processes link.	Stop individual server process. View, debug, and delete process log files.
Work with Server Resources	N/A	SAW, select Work with Server Resources from the main menu.	Work with server resources.
Display JD Edwards EnterpriseOne Resources	N/A	SAW, select Display JD Edwards EnterpriseOne Resources from the main menu.	Display IP resources.
Display Disk Space Resources	N/A	On the Display JD Edwards EnterpriseOne Resources form, click the Display Disk Space Resources link.	Display disk resources.
Work with Server Log Files	N/A	SAW, select Work with Server Log Files from the main menu.	Display, print, and delete server log files.
Work with Server INI file	N/A	SAW, select Work with Server INI file from the main menu.	Modify the jde.ini file on the server.

## Accessing SAW

You can access Server Administration Workbench (SAW) from the command line.

To access SAW:

On the command line, enter this command:

```
saw.sh
```

## Displaying, Printing, and Deleting Server Log Files

You can use the Work with Server Log Files option in SAW to access all log files available on a given server.

To display JD Edwards EnterpriseOne server processes:



Access the Display JD Edwards EnterpriseOne Processes form.

If you are viewing processes for the host server, press 5 to view detail information about the selected process.

All other options on the Display JD Edwards EnterpriseOne Process help form are valid for both local and remote servers.

---

**Note.** You only need to press the key to perform the command. For example, press Shift + G or Shift + H and you automatically go to the end of the list or the beginning of the list respectively.

---

To display, print, and delete server log files:

Access the Work with Server Log Files form.

Select a log file, and then do one of these:

- Press 4 to delete one or more log files on the server.

To get a list of options explaining how you can remove files, press the F1 key. When log files are removed, they are marked with <Deleted> in the log list at the end of each line, but they are not actually deleted until you refresh the form (F5). Until you press F5, you can undo a remove if necessary. Once you press F5 to refresh the form, the files are deleted from the server.

- Press 5 to view the log file.
- Press 6 to print the log file.
- Type B to remove all log files bigger than the current size limit.

The current size limit appears at the top of the form. You can undo the remove by typing B again before refreshing the form. Once you refresh the form (F5), the files you marked are deleted from the server.

- Enter l to set the size limit for retrieving log files.

The number is entered in kilobytes. Log files can be big on the server and choosing to view them, especially if you are monitoring a remote server, can be time consuming. Before viewing or transferring a log file, SAW checks the log file size. If the log file exceeds the size limit, SAW verifies that you do want to view the file.

---

**Note.** When you view a log file, press the Enter key for the next page of the file. Type q to stop viewing the log. You can press F4 to view the file using the vi editor.

---

## Displaying and Deleting Log Files for Server Processes

To display and delete log files for server processes:

Access the Display JD Edwards EnterpriseOne Processes form.

On Display JD Edwards EnterpriseOne Processes, select a process, then do one of these:

- Press 7 to view the log file.

Enables you to view the jde.log for the chosen process. If the size of the file you want to view is larger than the maximum allowed size, the system displays a confirmation form before opening the file.

- Press 8 to view the debug log file.

Enables you to view the jddebug.log for the chosen process. If the size of the file you want to view is larger than the maximum allowed size, the system displays a confirmation form before opening the file.

- Press F4 to view the jddebug file using vi.
- Press 9 to delete all log files for the process.

- Press A to delete all log files for all processes.

On the confirmation form that appears, enter Yes.

- Press R to change the maximum time allowed for a UBE process to run.

The value is entered in minutes. The default value is 2880 minutes (48 hours). If a UBE process runs for more than this value, the process is marked with the letter R and will be underlined in the process list. This value is only used in SAW to monitor the execution time for UBEs and does not interfere with the execution of the UBE. UBEs are not stopped by SAW if their execution time exceeds this time limit.

- Type C to change the maximum number of collisions allowed for a kernel process.

If the number of collisions exceeds this number, the process is marked with letter C and underlined in the process list. This value is used only in SAW to monitor the number of collisions for a kernel process and does not interfere with the execution of the process. Kernel processes with the number of collisions set larger than this limit are not stopped by the SAW interface.

A collision occurs when a kernel is processing a manual commit request and the server receives additional manual commit requests for the same process. If a kernel's number is much larger than other kernels, this information can be a warning for that kernel. The warning can mean the kernel process is taking too long to process the commit request and other requests are waiting for the same kernel. Kernel process collisions are harmless and normal. However, it is not normal to have a high number of collisions for a kernel while additional manual commit requests wait for the same kernel. For collisions, the number of outstanding kernel requests does not increment. The kernel process pulls out the request and inserts it into its own list.

---

**Note.** When you view a log file, press the Space bar for the next page of the file. Type q to stop viewing the log.

---

## Stopping Individual Kernel Processes

To stop individual kernel processes:

Access the Display JD Edwards EnterpriseOne Processes form.

Select the process to stop and press 4.

Option 4 is valid only for the local server. This option enables you to stop a kernel process. This option is not active for a remote server or for jdenet processes.

SAW removes the process and then refreshes the form.

## Modifying the Server jde.ini File

To modify the server JDE.INI file:

Access the Work with Server INI file form.

1. Select a section and then press ENTER.

A form appears that lists the settings for the JDE.INI section.

If you don't know the section in which a variable resides but you know the name of the variable, press F7 to perform a search on the variable. SAW returns a list of sections in which the variable resides.

2. Select a setting and then press F6.
3. On Changing Value for Current Variable, enter a new value for the setting and then press any key to return to the settings list.
4. Press the left arrow key to return to the sections list.

## Editing the Server JDE.INI File

To edit the server JDE.INI file:

Access the Work with Server INI file form.

1. Press F8.  
The vi editor opens to display the full JDE.INI.
2. Change the JDE.INI file as necessary and then save and quit vi.

## Activating or Deactivating Debugging

To activate or deactivate debugging:

Access the Work with Server INI file form.

1. Press F5.  
The Turning debug On/Off form appears, informing you that debugging was either turned on or off.
2. Press F5 again to reset debugging to the previous setting.

## Changing the Port Number of the Server

To change the port number of the server:

Access the Work with Server INI file form.

1. Press F6.
2. On Changing port number value, enter a new port number.  
The JDE.INI file immediately reflects the changed port number, but you must stop and restart the server to access information based on the new port number.

---

## Monitoring JD Edwards EnterpriseOne with the Knowledge Module

This chapter provides an overview of monitoring JD Edwards EnterpriseOne with the Knowledge Module and discusses how to:

- Add OWKM files to the PATROL environment.
- Load OWKM files.
- Add a host.
- Add a JD Edwards EnterpriseOne server.
- Monitor enterprise servers using KM commands.

## Understanding JD Edwards EnterpriseOne Monitoring with the Knowledge Module

BMC Software has a product called PATROL, which enables companies to monitor and detect errors across large networks and a variety of third-party software packages, including JD Edwards EnterpriseOne. The PATROL console offers a single interface for data monitoring and collection across an entire distributed enterprise.

If you are using PATROL to monitor the system, you can use the JD Edwards EnterpriseOne Knowledge Module (OWKM) to monitor the processes on the JD Edwards EnterpriseOne server. OWKM uses a command line interface (CLI) to call JDESAW APIs, which retrieve server information and return the data to the CLI. The CLI, in turn, sends the information to OWKM, which displays the information on the PATROL console.

This table lists the components of the OWKM solution and summarizes the role of each component:

Component	Role
JDESAW	Dynamic link library containing SAW APIs, which retrieve data about OW servers running locally or remotely.
OWKM	Program that sends a request from a JD Edwards EnterpriseOne administrator to a CLI, receives the returned server data, and displays the data in the PATROL console.
CLI	Standalone, running program that receives a JD Edwards EnterpriseOne administrator's request from OWKM, calls JDESAW APIs, receives server data from the JDESAW APIs, formats the data, and sends it back to OWKM.

Administrators can access this server information on the PATROL console:

- Process status (active or inactive).
- Server and print queue log files, their size and the percentage of space used.
- Total number of server processes.
- CLI status of data, including partial or corrupted data.
- Kernel process status, outstanding requests, and processing time.
- Network process status, processing time, and server connections.
- Number of resources for each type of interprocess communication resource.
- Free space, used space, and the percentage of disk space used.
- Disk space usage over time displayed in a graph.

The PATROL console, as it is used to monitor JD Edwards EnterpriseOne servers, displays buttons for each server component. You can double-click these buttons to monitor each component. In addition, you can select OWKM commands for each component to gather additional data about each one.

Before you can monitor JD Edwards EnterpriseOne servers using OWKM and PATROL, you must enter information about each server. After you enter the information, a button for each server appears in the PATROL console.

After you have added JD Edwards EnterpriseOne servers for monitoring, you can configure OWKM from the PATROL console. You configure OWKM to set, for example, how frequently the CLI retrieves data from the server or the maximum log size you want to retrieve.

Some OWKM configuration settings are persistent, meaning that they remain until you change them. Others are non persistent, meaning that they revert to default status each time you restart PATROL.

Persistent settings are:

- Max Log Size to Retrieve
- Max Log Lines to Display
- Send Alarm Event When Server Bounced
- UBE Alarm Timeout

Non persistent settings are:

- Data Request Timeout
- Log Request Timeout
- Preserve Non-Error Log Files
- Use Defaults

This table lists and briefly describes each OWKM configuration parameter:

OWKM Configuration Parameter	Explanation
Max Log Size to Retrieve	Determines how many bytes from the bottom of the log file the CLI retrieves from the server. Range is 100 to 2,000 kbytes. Default value is 100 kbytes.
Max Log Lines to Display	Determines how many lines of a log file will be displayed in the PATROL console. Range is 100 to 10,000 lines. Default value is 5,000 lines.
Send Alarm Event When Server Bounced	Sends an alarm whenever a server you are monitoring is bounced. Default value is off.
UBE Alarm Timeout	Sends an alarm if a UBE runs longer than the value you set. Range is 1 to 2,880 minutes. Default value is 60 minutes.
Data Request Timeout	Sets the number of seconds to wait to retrieve data from the server. Value range is 1 to 300 seconds. Default value is 30 seconds.
Log Request Timeout	Sets the number of seconds to wait to retrieve log files from the server. Value range is 1 to 300 seconds. Default value is 180 seconds.
Preserve Non-Error Log Files	Creates a jdedebug.log file each time the CLI retrieves data from the server. Use for debugging purposes only, as the CLI process will create a large number of files in the system. Default value is off.
Use Defaults	Retrieves and sets default values for each configuration parameter after you select the option and click OK. Default value is off.

## Operating System-Specific Considerations

You can monitor JD Edwards EnterpriseOne servers using OWKM and the PATROL console regardless of the operating system you use. However, the monitoring setups for each operating system differ slightly.

This table summarizes the operating system considerations for monitoring JD Edwards EnterpriseOne servers with OWKM and PATROL.

Operating System	Consideration
iSeries	Because PATROL has not been developed for iSeries systems, you monitor the iSeries server by using PATROL and a JD Edwards EnterpriseOne client install from a Windows workstation.
Windows	To monitor JD Edwards EnterpriseOne servers running on Windows, you can either install PATROL on the monitored server and monitor the local server, or use a remote workstation with a JD Edwards EnterpriseOne install of PATROL.
UNIX	To monitor JD Edwards EnterpriseOne servers running on UNIX, you can either install PATROL on the monitored server and monitor the local server, or use a remote workstation with a JD Edwards EnterpriseOne install of PATROL.

## Enterprise Server Components Monitored by OWKM

After you add a server to be monitored by OWKM and PATROL, the PATROL console displays the name of the server. You can expand the server name node or double-click the button to reveal the monitored components. A yellow, blinking component button indicates warning status. A red, blinking component button indicates alarm status. For instance, if a disk runs out of space, the disk button blinks red. If you expand the Disks icon node, the disk that has run out of space also blinks red.

This table lists and briefly describes each monitored enterprise server component and briefly describes what PATROL and OWKM monitor for each one:

Component	Explanation
CLI_Status	Indicates if the CLI is communicating with the server. If the status is OK, communication is occurring properly. If there is a CLI error or the server is down, the CLI_Status button blinks to indicate the problem.
Detailed Status	Provides summary information of all the other components.
Disks	Displays disk usage on the server.
INI	Enables users to view the JD Edwards EnterpriseOne server jde.ini file. Server Administration Workbench (SAW) administrators can edit the file, if necessary.
Logs	Displays all the log and debug log files generated by JD Edwards EnterpriseOne server processes.
Processes	Displays information about JD Edwards EnterpriseOne processes monitored on each server, including business functions, jdenet, queue kernel, replication, SAW, Scheduler, and security.
Resources	Displays information about JD Edwards EnterpriseOne interprocess communication resources, such as shared memory, message queues, and semaphores.

The PATROL console also displays subcomponents of the Disks, Logs, Processes, and Resources components. You can expand the node for each of these components and double-click a subcomponent to view information about it. For example, if you expand the Disks node, you reveal nodes for each disk on the server. If you double-click a button for a particular disk, you can view detailed status information about the disk, as well as data about the percent used, free space, and used space on the disk.

## Prerequisites

On the PATROL console, right-click the MainMap button, and then select these options:

- KM Commands
- Configure
- JD Edwards EnterpriseOne Monitored Servers
- JD Edwards EnterpriseOne KM (CLI)

## Forms Used to Monitor JD Edwards EnterpriseOne with the Knowledge Module

Form Name	FormID	Navigation	Usage
Add Hosts	N/A	On the PATROL console, select Add from the Hosts menu.	Monitor a named server.
Add JD Edwards EnterpriseOne Monitored Server	N/A	On Configure JD Edwards EnterpriseOne Monitored Servers, select the Add option and then click Execute.	Add a JD Edwards EnterpriseOne server.
JD Edwards EnterpriseOne KM Configuration	N/A	On the PATROL console, right-click the OW_SYSTEM button.	Configure OWKM.

## Adding OWKM Files to the PATROL Environment

You add OWKM files to the PATROL environment automatically, on either a Windows or UNIX system, by running an installation script.

To add OWKM files to the PATROL environment:

Run the installation script.

- For Windows, run the script called OW\_install\_km.bat with the name PATROL\_DIRECTORY as the argument of the script:

```
cd: c:\E812\system\owpatrol\owkm\psl
OW_install_km.bat <PATROL_DIRECTORY>
```

- For UNIX, run the script called OW\_install\_km.sh with the name PATROL\_DIRECTORY as the argument of the script:

```
cd /u10/oneworld/system/owpatrol/owkm/psl
OW_install_km.sh <PATROL_DIRECTORY>
cd /u10/oneworld/system/bin32
chmod 6555 owptrl_cli
```

## Loading OWKM Files

You load the OWKM files so that the `SYSTEM_SETUP` button appears in the PATROL console. Once JD Edwards EnterpriseOne and PATROL are set up, you will use the `SYSTEM_SETUP` button to access information about the servers. This procedure needs to be done only once to configure the system.

To load OWKM files:

1. On the PATROL console, select File, then Load KM.
2. Select `OW_ALL.kml`.

The `SYSTEM_SETUP` button should appear in the PATROL console. If you accidentally repeat this procedure at a later time, select Skip All to bring up the SETUP button.

## Adding a Host

Before you can monitor JD Edwards EnterpriseOne servers using OWKM and PATROL, you must use the PATROL console to enter information about the host machine. After you have entered the required information, a button for the host appears in the PATROL console. You can monitor information about the host by double-clicking its button.

To add a host:

Access the Add Hosts form.

Field	Description
Host Name	Enter the name of the local workstation.
Computer Class	From the list, select the name of the operating system for the local workstation.
Connection Mode	Enter the network protocol for the agent. If you started PATROL in operator mode, this field is disabled. If you started PATROL in developer mode, you can check this option to change the alarms and other features.
Protocol	Enter the mode of communication with the PATROL console. Use the default value.
Port	Enter the port number used by PATROL to run on the system. It is not the same as the port number used by the JD Edwards EnterpriseOne server. If there is a conflict with the default value, select an unused port number.

## Adding a JD Edwards EnterpriseOne Server

Access the Add JD Edwards EnterpriseOne Monitored Server form.

Field	Description
Host Name	Enter the name of the local workstation.
Port Number	Enter the server port number.



Field	Description
Web Server	Select this option if you are monitoring a web server.
JDE Base Path	Enter the path to the JD Edwards EnterpriseOne installation directory on the local workstation. The CLI, which communicates with any local or remote server that you monitor, is installed under this directory. For example, for Windows, you might enter d:\E812\system. For UNIX, you might enter /u15/E812/system.

## Monitoring Enterprise Servers Using KM Commands

The KM Commands menu item is a JD Edwards EnterpriseOne-specific addition to PATROL features. The menu appears when you right-click some buttons in the PATROL console. KM Commands give you additional monitoring options for selected server components.

**Note.** You can select any available enterprise server component for monitoring by right-clicking the server button and choosing KM Commands and View.

This table lists and summarizes the KM Commands options for each enterprise server component in the PATROL console:

Component	KM Commands Parameters	Comments
Server	<ul style="list-style-type: none"> <li>View</li> <li>Refresh Parameters</li> <li>Stop Monitoring</li> <li>Detailed Status</li> </ul>	<ul style="list-style-type: none"> <li>View enables user to select an individual server component and view information about it.</li> <li>Refresh Parameters gets server information immediately rather than waiting the normal time of one minute.</li> <li>Stop Monitoring deletes the server from the list of servers to be monitored by PATROL and OWKM.</li> <li>Detailed Status displays information on Disks, Logs, Processes, and Resources components in one form.</li> </ul>
Disks	<ul style="list-style-type: none"> <li>View</li> <li>Detailed Status</li> </ul>	View enables user to view a list of disks and the percentage used for each. Select a disk and click View Details for host, port, path, mount point, and usage data.
INI	<ul style="list-style-type: none"> <li>View</li> <li>Edit</li> </ul>	<ul style="list-style-type: none"> <li>View enables users to view only the server's jde.ini file.</li> <li>Edit enables users with Server Administration Workbench (SAW) administrator privileges to edit the server's jde.ini file.</li> </ul>
Logs	<ul style="list-style-type: none"> <li>View</li> <li>Detailed Status</li> </ul>	<ul style="list-style-type: none"> <li>View displays lists of log files, debug files, server logs, and print queue logs. Users can sort, select, and delete logs. Select an individual log and click Execute to view the log.</li> <li>Detailed Status displays log type, file count, and disk usage information.</li> </ul>

Component	KM Commands Parameters	Comments
Processes	<ul style="list-style-type: none"><li>• View</li><li>• Detailed Status</li><li>• Clear Missing Process Alarms</li></ul>	<ul style="list-style-type: none"><li>• View displays a list of processes with options to view details, view error log, view debug log, or delete logs.</li><li>• Detailed Status displays process ID, type, and name of each process.</li><li>• Clear Missing Process Alarms enables an administrator to delete blinking (alarm) buttons for failed processes.</li></ul>
Resources	<ul style="list-style-type: none"><li>• View</li><li>• Detailed Status</li></ul>	<ul style="list-style-type: none"><li>• View displays a list of resource names and types. Select a resource and click View Details to view additional information about the resource, including the processes used, the time, and the state of the process, such as unlocked.</li><li>• Detailed Status displays each resource name and type.</li></ul>

## CHAPTER 7

# Monitoring Servers Using SAW on the Web

This chapter provides an overview of monitoring servers using Oracle's JD Edwards SAW on the Web and discusses how to:

- Configure SAW and monitoring JD Edwards EnterpriseOne servers from the web.
- Monitor enterprise servers from the web.
- Monitor the JAS servers from the web.
- Monitoring system Web Services Gateway (WSG) servers from the web.

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## Configuring SAW and Monitoring JD Edwards EnterpriseOne Servers from the Web

This section provides an overview of SAW and monitoring Oracle's JD Edwards EnterpriseOne servers from the web and discusses how to:

- Create an SMC file.
- Regenerate an SMC file.
- Modify advanced SMC settings.
- Add JD Edwards EnterpriseOne servers.
- Add ports for multiple servers.
- Add events to multiple server ports.
- Add statistics to multiple server ports.
- Add profiles to events.
- Customize server ports.
- Change server ports.
- Change statistics on a server port.
- Change events on a server port.
- Change the profiles of a single event.
- Run the SAW agent in Windows.
- Run the SAW agent in UNIX.
- Start the SAW agent in iSeries.

## Understanding SAW and Server Monitoring from the Web

The Server Administration Workbench (SAW) provides a unified web interface for administrators to monitor JD Edwards EnterpriseOne servers (enterprise, Java, and WSG) remotely through a browser. From the web, administrators can set up a Server Monitoring Configuration (SMC) to monitor different instances of JD Edwards EnterpriseOne servers and notify assigned users using email or pager when an assigned agent detects a faulty event with any of the instances.

SAW for the web can be installed as a standard part of the JD Edwards EnterpriseOne web server. In future releases, SAW for the web will be installed as standalone. If you install a web server, SAW is automatically installed and can be accessed like any of the other Java server components. However, if you want to use SAW as a standalone product, you must purchase the SAW package and install the included jar file on a web server connected to the JD Edwards EnterpriseOne network. The SAW package includes all the components needed to run SAW and monitor the JD Edwards EnterpriseOne servers.

The process of setting up an SMC consists of these high-level tasks:

- Create an SMC file.
- Set up a group of system servers to monitor.
- Add port numbers to each server.
- Add events and statistics to each server port.
- Add profiles (email and pager addresses) to each event.
- Add, change, or delete ports, processes, and email addresses for selected server ports.

After you have assigned port numbers to servers in Server Monitoring Configuration (SMC), you can assign a predefined event to each of the server ports and alert administrators if the event indicates a malfunction. SMC includes two types of events:

- Events that are either true or false (such as Server down).

SMC will alert assigned administrators if the event occurs.

- Events that require threshold values (such as Disk Percent Used).

You assign Warning and Alarm values to these types of events. For all threshold events, Warning = write in the event file, Alarm = write in the event file and send notification.

You can set up these events and assign each to particular port numbers:

- Server Down

Monitor alerts administrators if it cannot communicate with a server port.

- Dead Process

Monitor alerts administrators if it detects a dead process on an enterprise server.

- Disk Percent Used

Administrator enters a warning and alarm threshold for the percent of disk space used (for example, 80 percent), and the monitor alerts administrators if the used disk space exceeds the threshold.

- Kernel Outstanding Request

Administrator enters a warning and alarm threshold for the number of unprocessed kernel requests, and the monitor alerts administrators if either threshold is exceeded.

- Web CallObject Errors

Administrator enters a warning and alarm threshold for the number of CallObject kernel process errors for a business function activated through a web server, and the monitor alerts administrators if the threshold is exceeded.

- UBE Runtime Limit

Administrator enters a warning and alarm threshold for the maximum time (in minutes) that a UBE can run, and the monitor alerts administrators if either threshold is exceeded.

- WSG Disk Low

Monitor alerts administrators if an Web Services Gateway (WSG) server port indicates it is low on disk space.

After you configure Server Monitoring Configuration (SMC), you can run the SAW agent and begin monitoring the assigned server ports. When the agent is started, it cycles through each of the server ports, monitors the assigned events, and notifies the assigned users when a malfunction or warning threshold is crossed. The agent also collects and stores the statistical and event data in the SAW database.

Before you run the agent, it is important that the monitoring interval is longer than the time it takes the agent to cycle through all the server ports. The cycle time depends on the number of assigned server ports, the monitoring events, the statistics, and the number of emails it sends out. You can measure the cycle time by running the agent manually from the command prompt and noting the start times for each subsequent cycle. You can change or verify the cycle time on the SMC - Advanced Settings form.

The agent sends an email message to assigned users when it first detects a malfunction or event threshold, but it does not send additional messages for the same event on subsequent cycles unless a new threshold is exceeded or a new event occurs.

The Server Monitoring Configuration (SMC) Action field is a pull-down menu of functions that help administrators configure and monitor JD Edwards EnterpriseOne servers. The Action field is available at the top of most SMC forms. The Action fields are discussed in detail in the sections that describe how to configure the server ports. This table briefly describes all of the available functions:

Action Field Function	Description
Work with Servers	Displays the Work with Servers configuration screen.
Work with Ports	Displays the Work with Ports configuration screen.
Work with Events	Displays the Work with Events configuration screen.
Work with Statistics	Displays the Work with Statistics configuration screen.
Work with Profiles	Displays the Work with Profiles configuration screen.
Work with SMC	Displays the SMC - Global Settings screen - same as home page.
Stop Monitoring All Servers	Deactivates all servers/ports in the SMC file so the agent will not monitor them. Servers/ports are not removed from the SMC file.
Start Monitoring All Servers	Activates all servers/ports in the SMC file so the agent will monitor them.
Force Agent Cycle	Manually restarts an agent cycle.
Submit	Validates the SMC settings you have entered.
Advanced Settings	Displays the advanced SMC settings.

Action Field Function	Description
Stop SAW Agent	If the SAW agent is running, stops the agent and cancels the monitoring cycle.
SMC Global View	Displays the SMC Global View.
View Agent log files	Displays agent logs.
Delete Agent log files	Deletes agent logs.
Perform SMC Actions	Access SMC configuration screens.

Server Monitoring Configuration (SMC) includes these views that enable you to view the status of each port and identify problems with the servers and processes:

- Work with SMC
- Port View
- Table View
- Frame View
- SMC Global View

You can access these views from most SMC screens by selecting the appropriate link on the right side of the screen.

Each view gives administrators a different perspective on the data and enables them to perform unique functions:

View	Description	Available Functions
Work with SMC	Displays the SMC configuration screens.	Access configuration screens
Frame View*	Lists all the servers/ports by the type of server (enterprise, web, XPI). This text-based frame view enables users to view the result of their requests in a separate frame in the same window.	<ul style="list-style-type: none"> <li>• Force Agent Cycle</li> <li>• Delete Agent logs</li> <li>• Perform SMC Actions</li> <li>• Display status of server ports (up or down)</li> <li>• Link to a monitoring interface that is specific to the server type (enterprise, web, XPI)</li> <li>• Display agent logs</li> <li>• Display event logs</li> <li>• Display User Connection Chart</li> <li>• Display statistics file</li> </ul>

View	Description	Available Functions
Table View*	Lists all the server ports by the type of server (enterprise, web, XPI). Graphical interface illustrates the status of a server port. The result of the requests will be displayed in a new window.	<ul style="list-style-type: none"> <li>• Force Agent Cycle</li> <li>• Delete Agent logs</li> <li>• Perform SMC Actions</li> <li>• Display status of server ports (up or down)</li> <li>• Link to a monitoring interface that is specific to the server type (enterprise, web, XPI)</li> <li>• Display agent logs</li> <li>• Display event logs</li> <li>• Display User Connection Chart</li> <li>• Display statistics file</li> </ul>
Port View*	Displays an array of server ports by server name and port number. Graphical interface displays the status of each port. This view is created by the agent only if you enter a path for the HTML page secondary path on the Advanced Settings page.	<ul style="list-style-type: none"> <li>• Display status of each port (up or down)</li> <li>• Link to a monitoring interface that is specific to the server type (enterprise, web, XPI)</li> </ul>
SMC Global View	Displays the contents of the entire SMC file and enables users to modify some of the settings.	<ul style="list-style-type: none"> <li>• Force agent cycle</li> <li>• Modify events and email addresses</li> <li>• Start or stop monitoring all servers</li> <li>• Start or stop monitoring all ports on a single server.</li> <li>• Display events and profiles for each server port.</li> <li>• Display global SMC settings</li> </ul>

\* The Frame View and Table View display the same information in different formats.

From the Port View, Table View, and Frame View, you can access a monitoring interface for each server by selecting the link for that server. Each interface enables you to monitor specific data and parameters for the selected server, and the interface is the same regardless of the view from which you start. Although the information on the form depends on the type of server being monitored (Enterprise, JAS, or WSG), the interface is the same.

## Creating an SMC File

Before you can monitor server ports from the web, you must first access an administration web server and create a Server Monitoring Configuration (SMC) file. This file stores the information that is required for monitoring JD Edwards EnterpriseOne servers, such as server names, port numbers, monitored processes, and so on. The SMC file stores all the vital configuration data that is accessed by an agent that runs on the web server and performs the monitoring duties.

To create an SMC file:

1. From a web browser, enter the URL of the Server Administration Workbench (SAW) web page located on the web server where the SAW package is installed. The path to the html page is saw/smc/smc.html.

For example, use these format for the URL:

```
http://host_name:port_number/web_alias/saw/smc/smc.html
```

Where *host\_name* is the name of the web server where the SAW package is installed, *port\_number* is the number of the port that the server is running on, and *web\_alias* is the alias of the configuration for accessing the web pages on the web server.

The web\_alias can point to a directory on the server (for example, c:\internet\distribution) that is configured to access web server documents.

2. Add the URL to the list of favorites.
3. On the Server Administration Workbench (SAW) WEB Version page, complete these fields:

Field	Description
Agent Web Server Name	Type the host name of the web server.
Agent WEB Server port number	Type the port number on which the web server runs.
Agent SMC File Name	Type a path and file name for the configuration file, for example, c:\saw\saw.smc.  <b>Note.</b> The Agent Web Server Name and the Agent WEB Server Port number must be entered the first time you access SAW. These will be values used when you access this page.

4. In the Action field, verify that Work with SMC is selected, and click the action button.
5. If the file name you entered does not exist, the program prompts you to create the new file. Select OK to create the file.
6. On the SAW Home Page, complete these fields:

Field	Description
JAS Install Directory	Type the install directory for the JAS server or the SAW package.  To enter the correct value for this field, search for the file "saw.css" on the web server. For example, if saw.css is found in the directory "/dir1/dir2/saw", then the correct value for this field is "/dir1/dir2."
SAWDB Root directory	Enter a path for the directory to store data collected by the SAW agent.  Note that for AS400 and UNIX, the userid that is running the web server must have full access rights to this directory.
HTML Status Page	Type the name of the HTML Page that SAW agent will create as an interface to SAW. (Use the default value if you run only one SAW Agent, or enter new names if you run additional SAW Agents.)



Field	Description
Java Install directory	Type the directory path to the java.exe file, or java for UNIX and AS400, on the SAW Agent host.  To enter the correct value for this field, look for the file java.exe (or java for UNIX and AS400). If the file is found in the directory "/dir1/dir2/bin", then the correct value for this field is "/dir1/dir2/bin".
Mail Server	Enter the company mail server, for example, mail.company_name.com. The SAW agent uses this server to send email/pager notifications when it detects faulty processes.  To access more information about any of the fields, select the Help button at the top of the screen.

- Click Submit.

## Regenerating an SMC File

To regenerate an SMC file:

If you update SAW to a new version for which the SMC file is no longer compatible, or if the SMC file is corrupted for any reason, you can regenerate the SMC file from a text file.

Each time you change or save the SMC file, SAW creates a text file that contains the same information as the SMC file, but in a text file format. If the SMC file is called saw.smc, then each time you change or save the SMC file, the system will save a text file called saw.smc.txt.

- To regenerate an SMC file from the text file, enter the name of the text file (for example, saw.smc.txt) in the Agent SMC File Name field.
- Select Importing SMC from text file from the action.

SAW regenerates the SMC file with the same name as the name of the text file. The new file does not have the .txt extension.

## Modifying Advanced SMC Settings

The Server Monitoring Configuration (SMC) file includes a list of global parameters that govern the general monitoring process. All of these settings have default values that should work fine under most SMC configurations. However, you can easily change these settings to suite specific requirements.

To modify advanced SMC settings:

- On the SAW Home Page, select Advanced Settings from the Action field.
- On SMC - Advanced Settings, modify any of these fields to suite the SMC configuration:

Field	Description
Agent cycle	Enter time (in seconds) between the start of one agent monitoring cycle and the next.
SAWDB used	Change this value to false if you do not want to save statistics or event data in the SAW database.

Field	Description
Auto Monitoring SAW Agent	Change this value to false if you do not want the SAW agent to automatically restart when the agent fails.
HTML page refresh	Enter time (in seconds) to refresh all html pages (including collected data) used in SAW. This value is not related to the agent cycle.
Agent read SMC cycle	Enter a time interval (in seconds) between times when the SAW Agent checks if the user forced the Agent Cycle. If the user forced the Agent cycle since the last read, the Agent automatically starts a new monitoring cycle.
Check email address	Change this value to false if you do not want the system to verify that the email addresses you enter have the correct format.
Server timeout	Enter time (in seconds) to wait for the response from a server before it assumes the server is down.
HTML page secondary path	Enter a valid network path to store an additional status page. This path is useful if you want to access SAW data from another web server that cannot access the primary web page. This path is required to access the Port View.
HTML first favorite link	Enter the web addresses for up to three web links that you want to include in the result pages of SAW.
Name of first favorite link	Enter the names for each favorite link.

3. Verify that Submit Changes is selected in the Action field and click the Action button.

## Adding JD Edwards EnterpriseOne Servers

After creating the configuration file, you can create a list of the JD Edwards EnterpriseOne web, enterprise, and Web Services Gateway (WSG) servers that you want to monitor.

To add JD Edwards EnterpriseOne servers:

1. On SAW Home Page, verify that Work with Servers is selected in the Action field, and click the Action button.

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**Note.** By default, the agent server name is automatically added to the list. This is to make sure that the agent will be restarted if it needs to be.

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2. In the Action field, verify that Add new Server is selected, and click the Action button.
3. Enter the name of the JD Edwards EnterpriseOne server (enterprise, web, or WSG) in the Server Name field.
4. Enter the type of operating system for the server in the Server OS field
5. Click the Action button.

The program adds a new row to the Work with Servers screen listing the server you entered.

6. Repeat these steps to add additional servers to the SMC configuration.
7. Verify each of the server names and operating systems you entered.

In the upper-right corner of SMC, select the Global View link to view the current configuration. This screen displays at-a-glance the global settings and all the server/port information that you enter as you configure SAW. You can return to this screen at any time during the configuration process to view all the information you enter.

8. If you discover an error, return to the Work with Server screen, and select Modify Server next to the server you need to change, then correct the error.
9. When you have entered all the servers you want to monitor, perform one of these options:
  - To add a port number for several servers at the same time, complete the task Adding Ports for Multiple Servers in the JD Edwards EnterpriseOne Tools 8.94 Implementation Guide: Server and Workstation Administration.
  - To add ports to a single server, complete the task Customizing Server Ports in the JD Edwards EnterpriseOne Tools 8.94 Implementation Guide: Server and Workstation Administration.

---

**Note.** If you want to monitor several servers that have similar port configurations, it is quicker and easier to assign a port number to multiple servers by completing the first task.

---

## Adding Ports for Multiple Servers

You can add port numbers to the SMC file and assign these ports to several servers at once.

Access the SAW Home Page.

1. Select Work with Ports from the Action field.
2. On SMC - Work with Ports, select Add new Port from the Action field and click the Action button.
3. Complete these sub steps to configure a port number:
  - On SMC - Adding new Port, complete these fields:

Field	Description
Port Number	Enter the port number you want to monitor (for example, 6004).
Description	Enter a description of the port (for example, E1_SP4).
Server Type	Select the down arrow and select the type of server from the list.

- Check the box to the left of each server that you want to assign this port number.
- Click the Action button to accept this configuration.

The program adds the port number to SMC - Work with Ports screen.

4. Repeat these steps for each port number that you want to add to multiple servers.  
The screen displays the complete list of ports that you entered.
5. To view the complete configuration, select the Global View link.

## Adding Events to Multiple Server Ports

This task assigns an event to a port number; that is, it assigns the event to all servers that are associated with the port number. If you want to customize a port number on one server to monitor an event differently than other servers, you must customize the server ports.

Access the SAW Home Page.

1. Select Work with Events from the Action field and click the Action button.
2. On the SMC - Work with Events screen, select Activate next to the event you want to configure (in this example, Disk Percent Used).
3. For each of these events, enter a Warning Value and Alarm Value, or accept the default values:

Event	Parameter
Disk Percent Used	Number (in percent) of disk space used.
Kernel Outstanding Request	Number of unprocessed kernel requests.
Web CallObject Errors	Number of CallObject kernel process errors for a business function activated through a web server.
UBE Runtime limit	Time (in minutes) that a UBE should normally take to complete.

4. Check the box next to each port number you want to monitor for this event.

---

**Note.** The event will be monitored on every server you assigned to the selected port numbers.

---

5. Click the Action button.
6. Repeat these steps to assign other events to port numbers.
7. Select the Global View to see the current configuration.

## Adding Statistics to Multiple Server Ports

Currently, the only choice of monitoring statistics is the User Connection Graph. The User Connection Graph is a bar chart displaying the number of users connected to a server port as a function of time. You can configure multiple server ports to view this graph.

Access the SAW Home Page.

1. Select Work with Statistics from the Action field and click the Action button.
2. On SMC - Work with Statistics, select Activate next to User Connection Graph.
3. On SMC - Activate Ports for Statistics, select each port number for which you want to include statistics.
4. Click the Action button.
5. Select the SMC Global View button to see the current configuration.

## Adding Profiles to Events

Once you have assigned events to server ports, you can assign email and pager addresses of administrators to each event so that they are notified when an error is detected or a threshold exceeded with any of the server ports assigned to that event.

The email and pager addresses of administrators are assigned to events as individual profiles. Each profile includes the administrator's name and up to three addresses. When you assign a profile to a particular event, this profile becomes attached to all server ports to which that event is assigned. If you want to assign different profiles to different server ports for the same event, you must customize the server ports.

Access the SAW Home Page.

1. Select Work with Profiles from the Action field and click the Action button.
2. On SMC - Work with Profiles, verify that Add New Profile is selected, and click the Action button.
3. Enter the name and email addresses of a person you want to include on the notification list.

You must enter an email address in the First Email field. The 2nd and 3rd Email fields are optional. However, if you do not enter an email address in the 2nd and 3rd Email fields, make sure to delete the default values from these fields.

4. Check each of the events for which you want the person to be notified.

---

**Note.** The person will be notified for every selected event on every server port to which the event is assigned.

---

5. Click the Action button.
6. Repeat these steps to configure other profiles.

You can view the current configuration in the SMC Global view.

## Customizing Server Ports

In some cases, you may want to modify individual server ports and their events, statistics, and profiles without affecting other ports. You must configure each port for each server separately. If you were to select Work with Ports from the Server Monitoring Configuration (SMC) action field, you would affect the configuration of every server that uses the same port number. Instead, you must go to a particular server configuration and modify each port number and its associated parameters individually.

Access the SAW Home Page.

1. Select Work with Servers in the Action field, and click the Action button.
2. To add a server, verify that Add new Server is selected in the Action field, and click the Action button.
3. On SMC - Adding new Server, complete these fields:
  - Server Name
  - Description
  - Server OS
4. Click the Action button to add the new server to the SMC configuration.
5. Continue with other tasks in this section to add ports, events, statistics, and profiles.
6. To remove a server, select Remove Server next to the server you want to delete.
7. To modify a server configuration, select Modify Server next to the server you want to modify.

8. Change the fields as needed and click the Action button.

## Changing Server Ports

Access the SAW Home Page.

1. Select Work with Servers in the Action field, and click the Action button.
2. In the row that lists the server you want to configure, select Work with Ports for this Server.
3. To add a port, verify that Add new Port is selected in the Action field, and click the Action button.
4. On SMC - Adding new Port, complete these fields:
  - Port Number
  - Description
  - Server Type
5. Click the Action button to add the new port to the SMC configuration.
6. To remove a port, select Remove Port next to the port number you want to delete.
7. To modify a port, select Modify Port next to the port number you want to modify.
8. Change the fields as needed and click the Action button.

## Changing Statistics on a Server Port

Access the SAW Home Page.

1. Select Work with Servers in the Action field, and click the Action button.
2. In the row that lists the server you want to configure, select Work with Ports for this Server.
3. Click Work with Statistics next to the port number you want to modify.
4. To add a statistic, verify that Add new Statistic is selected in the Action field, and click the Action button.
5. On Selecting SMC Statistic, click the Action button.

---

**Note.** SMC currently includes only one statistic you can add.

---

6. To delete a statistic, click Remove Statistic.

## Changing Events on a Server Port

Access the SAW Home Page.

1. Select Work with Servers in the Action field, and click the Action button.
2. In the row that lists the server you want to configure, click Work with Ports for this Server.
3. Click Work with Events next to the port number you want to modify.
4. To add an event, verify that Add new Event is selected in the Action field, and click the Action button.
5. On the SMC - Selecting new SMC Event screen, select an event and click the Action button.
6. If the event includes threshold values, confirm the default values or modify them to suite the configuration.
7. Click the Action button.

8. To delete an event, click Remove Event next to the event you want to delete.
9. To modify an event, click Modify Event next to the event you want to modify.
10. Change the fields as needed and click the Action button.

## Changing the Profiles of a Single Event

Access the SAW Home Page.

1. Select Work with Servers in the Action field, and click the Action button.
2. In the row that lists the server you want to configure, click Work with Ports for this Server.
3. Click Work with Events next to the port number you want to modify.
4. Click Work with Profiles next to the event you want to modify.
5. To add a profile, verify that Add new Profile is selected in the Action field, and click the Action button.
6. On Adding new SMC Profile, enter the name and email address of the person you want to notify.
7. Click the Action button.
8. To delete a profile, click Remove Profile next to the person you want to delete from the notification list.
9. To modify a profile, click Modify Profile next to the person whose profile you want to change.
10. Change the name and email address as needed, then click the Action button.

---

**Note.** You can add new email addresses, modify or delete an existing address, or change the person's name.

---

## Running the SAW Agent in Windows

To run the SAW agent in Windows:

The script file for the SMC file that you create is created under the SAW database directory.

From Windows Explorer, go to the SAW database directory and double-click the SAW Agent script file.

The name of the file for Windows is:

```
SawAgent_SMCFILE.bat
```

Where *SMCFILE* is the name of the current SMC file (for example, saw.smc).

## Running the SAW Agent in UNIX

To run the SAW agent in UNIX:

Go to the SAW database directory and run the script by entering the name of the script.

Make sure that the SAW database directory and the user running the agent have full access rights.

The name of the file for UNIX is:

```
SawAgent_SMCFILE.sh
```

Where *SMCFILE* is the name of the current SMC file (for example, saw.smc).

## Starting the SAW Agent on the iSeries

To start the SAW Agent on the iSeries:

1. Log in to the iSeries.
2. Enter this command:

```
strqsh
```

This will start a Unix-like shell session.

3. Change directory to the SAW database directory.
4. Run the SAW agent by entering the name of the SAW Agent script. If the SMC file is `saw_xe.smc`, there will be a SAW Agent script created in the SAW database directory called:

```
SawAgent_saw_xe.smc.sh
```

5. In order to start the SAW Agent, enter this command:

```
SawAgent_saw_xe.smc.sh
```

---

## Monitoring Enterprise Servers from the Web

This section provides an overview of enterprise server monitoring from the web and discusses how to troubleshoot call-object processes.

### Understanding Enterprise Server Monitoring from the Web

The Enterprise Server Monitor enables you to use the web to monitor a JD Edwards EnterpriseOne enterprise server. The Enterprise Server Monitor uses SAW APIs that have been converted to Java code. To create the web interface for the Enterprise Server Monitor, the JAS server calls newly developed servlets, which in turn call SAW APIs to retrieve information from the enterprise server.

To monitor an enterprise server from the OW-XPI workspace or from the `sawent.html` page, you must enter a valid host name and port number in the Enterprise Server Monitor workspace. Select a view from the dialog box, and then click the Monitor button to view data. Each view contains a header with this information on the enterprise server:

- Enterprise server name and port number, such as `sundev/6012`.
- JD Edwards EnterpriseOne release, such as 812 - Service Pack 1.0.
- Server status, either up or down.
- Percentage of disk space used.
- Server log file size (in kilobytes).
- Number of server log files.
- Size of log files (in kilobytes) of process currently running on the server.

Different views are used to monitor the enterprise server.



## The Server Summary View

The Server Summary view enables you to conveniently monitor the status of the enterprise server and the processes that are running on it.

The Server Summary view displays in a table these essential information about processes running on the server:

- Process name.
- Log file information. Click the magnifying glass to view the process log file.
- Debug log file information. Click the magnifying glass to view the process debug file.
- Process ID.
- Process status. A check mark indicates that the process is active. If the entire row displaying information on the process is red and the status is ZOMBIE, the server process is dead.
- Total number of requests processed.
- Number of outstanding requests for the process. An increase in this number indicates a potential problem with the process.
- Users of server processes. Click the magnifying glass to view the list of users connected to a kernel process.
- Zombie. Click the button to remove the zombie process from the table.

The Server Summary view displays these essential information only if the server you are monitoring supports it:

- Max #. Maximum number of processes to be created on the server. Click the number to change the value.
- Trace. Click to activate or deactivate the debugging for the process.

---

**Note.** To view further details on server processes, click the process name in a row of the table.

---

## The All Log Files View

The Log File Summary view displays the names of all the log files and debug log files on the server, as well as the time each file was created and the size of each file in kilobytes. You can set the threshold file size for the files to be deleted. If you have SAW administrative rights, click the Delete button to start the deletion process.

To view a log file or debug log file for a process, click the URL in the Name column of the table in the Log File Summary view. A web page containing the file appears. A header on the page identifies the file name and its size.

If you have SAW administrative rights, you can delete a log file or debug log file by clicking the trash can button in the Delete column of the table in the Log File Summary view.

## Logging Levels

Enterprise Server Monitor on the web enables you to change the logging level for a particular kernel process on the enterprise server. You can change the logging level at runtime, before an error occurs. This makes it easier to locate errors in the log files and avoids the risk of decreased system performance, which can occur when you increase logging levels across all of JD Edwards EnterpriseOne.

You must have SAW administrative rights to change logging levels. If more than one administrator is using the Enterprise Server Monitor on the web to modify logging levels, the administrator who modifies the settings last determines the logging levels that are used.

To change the logging level for a kernel process, in the Server Summary view, select a kernel process and click the Change Process Log Details link. The program displays the current logging levels for the selected process.

**Note.** If the Output Logging Level is disabled and any of the other settings for logging levels are enabled, the system will continue to format and prepare the logs for the other settings, but will not display the information in the log file. This can result in a degradation in system performance. In addition, use caution when using the higher logging levels, since excessive logging can still have an impact on system performance.

You can change these logging levels:

Setting	Values	Purpose
Output Logging Level	OFF ON	This setting disables or enables output logging. If output logging is disabled (OFF), all other logging, except for event logging, is disabled as well.
IPCTrace Logging Level	OFF 1–3	This settings determines the level of interprocess communications (IPC) messages written to the <code>jddebug.log</code> . Valid values are: <ul style="list-style-type: none"> <li>• OFF: Writes no messages to the debug log.</li> <li>• 1: Writes only general trace messages.</li> <li>• 2: Writes IPC handle state trace messages.</li> <li>• 3: Writes both general and IPC handle state trace messages.</li> </ul>
NetTrace Logging Level	OFF 1–7	This setting determines the level of NetTrace logging. A setting of 1 - 7 enables JDENET debug to log messages. The higher the value, the more information the system logs.
TAMTrace Logging Level	OFF 1–9	This setting determines the level of TAM tracing. The higher the value, the more information the system logs.
PSThread Logging Level	OFF 1–2	This setting determines the thread logging level for the <code>jddebug.log</code> file. The higher the value, the more information the system logs.
SecTrace Logging Level	OFF 1–2	This setting determines the security trace logging level for the <code>jddebug.log</code> file.
CMTrace Logging Level	OFF ON	This setting disables or enables cache logging. This setting works in conjunction with the <code>CMTraceFilter</code> .
Cache Filter	ALL	This setting determines if cache logging messages will appear in the <code>jddebug.log</code> file.  This setting is automatically enabled when you select a CMTrace logging level.

Setting	Values	Purpose
Save Events Doc	OFF ON	This setting disables or enables event logging. If this setting is enabled, you must make sure that the type of event logging is specified in the Events Logging Level setting.
Events Logging Level	EVENTS DATA PERF DOC TRACE	This setting enables you to determine logging levels for events.  See <i>JD Edwards EnterpriseOne Tools 8.96 Interoperability Guide</i> , “Using Classic Real-Time Events,” Using Journaling.

### The Active Log Files View

The Active Log Files view displays log file and debug log file information only on those processes currently running on the server.

### The PrintQueue Log Files View

The PrintQueue Log Files view has the same features as the Log Files view, but it only displays logs in the PrintQueue directory.

### The Disk Usage View

If you click Disk Usage in the dialog box of the Enterprise Server Monitor, the Disk Usage Summary view appears.

The Disk Usage Summary view displays this information on the disks that make up the enterprise server that you are monitoring:

- Disk name.
- Volume ID.
- Used space (in kilobytes).
- Free space (in kilobytes).
- Percentage of space used.
- Type of disk mount.

A green line in the table indicates the disk on which the enterprise server is running. If a line is red, 80 percent or more of the space on the disk has been used.

### The INI Settings View

The INI Settings view displays all the sections of the INI files along with most of their associated variables and values. This view does not display sensitive user information, such as Username and Password. The view enables you to display individual sections or a particular variable (INI File Key) by typing the section or variable in the appropriate field, and clicking the Submit button (>>).

## The Package Build Files View

The Package Build Files view displays the Package Build directory and enables you to navigate through all subdirectories, navigate to individual files, and click a file to view its contents. The Package Build directory is defined by the PackagePath setting in the [Install] section of the JDE.INI file.

## The Environment Variables View

The Environment Variables view displays all the environment variables associated with an enterprise server. You can search for a particular variable by typing the variable name in the Environment Variable name field.

## See Also

Chapter 5, “Working with Server Administration Workbench,” Setting Up SAW Security, page 100

## Troubleshooting Call-Object Processes

When a call-object process dies, JD Edwards EnterpriseOne automatically saves the state of the process and its associated information. You can inspect this information by using the sawent.html page and typing in the server name and port number. The call-object process name will be displayed in the Enterprise Service Monitor table, even if it is no longer active. By clicking the call-object process name, you can view the saved state of the process and its associated information.

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# Monitoring the JAS Servers from the Web

This section provides an overview of JAS server monitoring from the web and discusses how to:

- Monitor the web server system.
- Monitor virtual clients.
- Monitor web server log files.
- Use the Java logging system menu.
- Troubleshoot with the web server monitor.
- Access the web server monitor.
- Configure the web server monitor.
- Work with connected users.
- View Application Failure information..
- Monitor Realtime Events.
- Monitor JDENET connection pools.
- Monitor business functions running on connected enterprise servers.
- Monitor database connection pools.
- Run SAW Web.
- Monitor web server Log files.
- Bouncing or Stopping the Web Server.
- Enable debug.log and net trace.

- Delete log files.

## Understanding JAS Server Monitoring from the Web

The Web Server Monitor provides a unified interface that administrators can use to monitor processes on the web server and business functions running on enterprise servers connected to the web server. Using the Web Server Monitor, you can monitor these, in real time:

- Web server users and their use of the server.
- JDENET connection pools to enterprise servers.
- Business functions running on enterprise servers connected to the web server.
- Drivers used by the web server to connect to data sources.
- Log and debug files.

The Web Server Monitor provides a continuous stream of web server data that can help you troubleshoot and tune performance. The Web Server Monitor enables you to monitor the server when you are running JD Edwards EnterpriseOne on a HTML client. Thus, even with a client configuration that lacks the Server Administration Workbench executable, you can monitor the web server simply-by typing in the server's Universal Resource Locator (URL).

You use the Web Server Monitor only to monitor web server activities. You cannot use it to monitor enterprise servers, although you can monitor the CallObject tasks that a web server submits to an enterprise server. For detailed monitoring of enterprise servers, use the Server Administration Workbench.

The Web Server Monitor will monitor only one server at a time, although you can change monitoring from one web server to another by typing in the name of a different server.

Using the Configure view of the Web Server Monitor, you can set the values of the following four monitoring parameters or accept the monitor's default values for the parameters:

- CallObject Timeout, in minutes. The default setting is 1.5 minutes.
- Maximum Host Pool, in number of enterprise server connections. The default setting is 50 connections.
- Maximum JAS Log Retrieve Size, in kbytes. The default setting is 50 kbytes.
- Maximum JAS Debug Log Retrieve Size, in kbytes. The default setting is 50 kbytes.

In addition, the Configure view contains a Flush OCM button. If the Object Configuration Manager (OCM) mappings on the server change, you can click this button to flush the OCM cache. Subsequent caching stores the new OCM mapping.

---

**Note.** The parameter values that you set in the Configure view are not persistent. You must reset them each time that you use the Web Server Monitor.

---

The System Summary view displays aggregate information about web server users. The User List view displays data about individual users connected to the web server. The list of users displayed in this view includes users who are currently logged on. The Web Server Monitor updates the user data each time you click the Refresh button.

You can use the User List view to see user data, which is not displayed in the System Summary view:

- The maximum number of users allowed on the server.
- The maximum number of users who have connected to the server at any point during a session.
- The number of user sessions serviced by the server.

- The number of minutes a session can be idle before it times out.
- The users who are currently active, that is, those who have not timed out of a session.
- Active users who have accessed the web server in the last 10 minutes.
- The virtual clients associated with each user.

---

**Note.** Starting with SP22, the JD Edwards company introduced the Multiple Application Framework (MAF). MAF enables each user to open multiple applications in separate browsers. Each of these applications is associated with a unique virtual client. SAW enables an administrator to monitor all the virtual clients, and groups them by user. You can view virtual clients by clicking "View Virtual Clients" on the User List view. The virtual clients appear as records under each user session.

---

The User List view displays parameters and values for each user session. This table summarizes the information displayed in the User List view:

Parameter in Table of User List View	Description
User Name	JD Edwards EnterpriseOne login ID.
Environment	The path code and OCM mappings that define the particular environment in which the user is working, such as PDEVNIS2.
Display Type	The way that the JD Edwards EnterpriseOne web page is displayed, such as HTML.
Computer Name	The name of the user workstation.
Login Time	The time and date the user connected to the JD Edwards EnterpriseOne web server.
Idle Time	The amount of time, in minutes, that a user has been inactive during a JD Edwards EnterpriseOne session. The parameter value is Active for any user who has performed an action in JD Edwards EnterpriseOne within the last minute; a row is shaded green for users active in the last five minutes.
Host	The enterprise server to which the user has connected during the session. This parameter can be blank.
Agent ID	The workstation browser type.
Session ID	A unique numerical identifier for each user session.

The table provides user information that can be useful in troubleshooting. For example, you might check the Agent ID parameter to see if the user has a browser that is out of date. You might also correlate problems with business functions running on an enterprise server with a particular environment.

The Web Server Monitor enables you to monitor socket connections made from the web server across the network to an enterprise server, where business functions run.

The JDENET Connection Pool Information view displays connection and messaging data for each enterprise server connected to the web server. The information is displayed in a table in which the connection data displayed in the JDENET Connection Pool Information view and the System Summary view correlate. For example, the Current Size parameter value in the System Summary view represents the current number of socket connections made between the web server and an enterprise server. The Connection Pool Information view also displays the Current Size parameter value.

The Connection Pool Information view also displays the maximum number of connections that can be made between the web server and the enterprise server, as well as the number of users waiting for a connection. Information about the volume of data and messages transmitted and received is contained in this set of parameters:

- Bytes Tx, the value of which represents the number of bytes transmitted from the connection socket.
- Bytes Rx, the value of which represents the number of bytes received from the connection socket.
- msgtx, which represents the number of JDENET messages transmitted from the connection socket.
- msgrx, which represents the number of JDENET messages received from the connection socket.

The Web Server Monitor maintains an ongoing, cumulative list of information about each business function that runs on an enterprise server connected to the web server.

The CallObject Information view displays data for each business function that has run on a connected enterprise server during a web server session. The Web Server Monitor separates the business function data by enterprise server and presents the data in lists that can be sorted.

The Web Server Monitor does not perform a periodic flush of the list of business functions. Items in the list continue to accumulate until a server session ends. To make searching easier, you can sort the items in the list by clicking any heading. For example, you can display the list in descending order by amount of time required to run the business function.

The Web Server Monitor highlights (in red) the total number of business function errors for each enterprise server and the total number of errors for each business function.

A table displays business function data for each enterprise server. Each table displays these general and cumulative information at the top:

- Server name.
- Total number of business functions run on the server.
- Total number of system errors.
- Number of timeouts that occurred during the running of a business function.

The table also displays cumulative data about each type of business function that has run during a server session. This table summarizes the information displayed for each business function in the CallObject Information view:

Parameter in Table of CallObject Information View	Description
CallObject	The name of the business function.
Called	The total number of times the business function was called for processing on the enterprise server.

Parameter in Table of CallObject Information View	Description
First time	The time, in milliseconds, that a business function took to run the first time it was called.
maxTime	The maximum time, in milliseconds, that a business function took to run when it was called.
minTime	The minimum time, in milliseconds, that a business function took to run when it was called.
avgTime	The average time, in milliseconds, required to run a business function.
sysErrors	The total number times a business function produced an error. If this parameter has a value, it appears in red.
Timeouts	The total number of times that a business function timed out before completion. If this parameter has a value, it appears in yellow.

The CallObject Information view also displays the number of business function processes in progress. This number can be important for troubleshooting purposes. A large number of in-progress processes may indicate that the enterprise server is running slowly and alert you that you need to investigate the possible causes.

The JDBC Connection Pool Information view enables you to monitor web server connections to the database and the drivers that facilitate the connections.

From the JDBC Connection Pool Information view, you can view data on each available database connection, including:

- Last used, the value of which represents the number of seconds since a connection was last used.
- First access, the value of which represents the number of seconds that have elapsed since a connection was first created.

The JDBC Connection Pool Information view contains a Pool Cleaner button that, when you click it, starts a thread that goes through all the connections in pools and immediately runs a statement to determine the healthiness of each one. If the Pool Cleaner program finds a connection that does not work, it replaces the connection automatically.

You can also view additional information about an individual database connection by clicking the name of a pool key. The pool keys represent the database connections that meet these criteria:

- Valid connection string, which is the URL for the database.
- Valid database user ID.
- Valid database password.

The JDBC Connection Information view displays connection information for the pool key you chose.

In addition to the connection string, database user ID, and database password, the Connection Information view displays:

- Product information, which includes the database and version and the driver and version.
- Connection properties, which list the database-specific properties used to establish the database connection.
- Supports, which are the attributes of the connection.



---

**Note.** A message in the Connection Information view indicating that a connection could not be established means either that the connection criteria have not been met or that the data source is unavailable. You might use this information for debugging if you are having trouble running applications.

---

Finally, you can view the list of database drivers that are available to the web server by clicking the Loaded Drivers heading.

## Locations of Key Parameter Values for Web Server Monitor Settings

The parameter values displayed by the Web Server Monitor are defined in various locations in the JD Edwards EnterpriseOne system.

This table displays selected Web Server Monitor parameters, the Web Server Monitor view in which each is displayed, and the JD Edwards EnterpriseOne location where each web server monitor parameter is typically defined.

Web Server Monitor View	Parameter	JD Edwards EnterpriseOne Property	JD Edwards EnterpriseOne File Where Property Is Defined
System Summary	Heap Memory Allocated by VM (Java Virtual Machine)	java.mx	C:\WebSphere\AppServer\properties
Configuration	CallObject Timeout	[JDENET] enterpriseServerTimeout=	jas.ini file
Configuration	Maximum Host Pool	[JDENET] maxPoolSize=	jas.ini file
System Summary	Host		Object Configuration Manager table (F986110)
System Summary	Port (displayed together with Host parameter)	[SERVER] serviceNameConnect	jas.ini file
User List	Max users allowed	[OWWEB] MAXUser=	jas.ini file
User List	Session Timeout	[CACHE] UserSession=	jas.ini file
Jdbc Connection Information	Jdbc URL	[JDBC URL] constructed as follows:  <environment>=<jdbcurl type  owner  user password>	jas.ini file

## Monitoring the Web Server System

The Web Server Monitor form initially displays system summary information for the web server. The System Summary view offers a quick synopsis of the system's operations at the point in time that you access it. The page will refresh automatically.

The System Summary view displays these server operations data:

- Length of time the system has been running.
- Number of users currently connected to the web server.
- Number of web server users who have been active in the last 10 minutes.
- Information about enterprise servers connected to the web server.
- Statistical data on tasks performed by the virtual machine software.

In addition, the System Summary view displays a warning message if the log file exceeds 1 megabyte in size.

The most detailed information in the System Summary view relates to the enterprise servers connected to the web server. This table summarizes the information displayed in the table in the System Summary view:

System Summary Table Parameter	Description
Host	Name of the enterprise server connected to the web server and port number.
Max Waited	The number of users waiting. For example, if the maximum number of connections enabled is 10 (as defined in the server's jde.ini file), you see no value for the Max Waited parameter until the eleventh user tries to connect. The Max Waited parameter value is then 1. If another user tries to connect, the value is 2, and so on.
Waiting	The number of users currently waiting for a socket connection. The parameter has no value until the number of users trying to connect exceeds the number of socket connections allowed by the server's jde.ini file.
Current Size	The number of socket connections in the connection pool.
Busy	The number of socket connections currently in use.
CallObjs	The total number of business functions that have run on the enterprise servers while the system has been up.
SysErrors	The total number of system errors logged from business functions running on the enterprise servers.
Timeouts	The total number of business functions that timed out while running on the enterprise servers.

To navigate to another view in the Web Server Monitor, click the scroll button in the upper left-hand corner of the form. This drop-down menu displays each available view in the Web Server Monitor:

Web Server Monitor View	Information Displayed
User List	Data about individual web server users.

Web Server Monitor View	Information Displayed
CallObject Info	Data about business functions running on each enterprise server connected to the web server.
Log Files	JAS.log and JASdebug.log file information, and WebSphere application server information written to the stdout and stderr files.
realtime Events	Events currently being run on the web server.
Environment	Properties of the platform's virtual machine, including its full version and path.
Config	Configuration parameters for the Web Server Monitor (you can change these).
JDENET Pool	Data about pools of enterprise server connections to the web server.
JDBC Pool	Data about database drivers and pools of connections to the database.
Virtual Clients	Data about clients using the HTML interface. The parameter represents a subset of the User List parameter; the User List includes clients using both the HTML and JavaApplet interfaces.
Outstanding Requests	List of all users waiting for a response from the web server.
Thread List	List of all threads, thread groups, and thread pools running on the web server.

## See Also

[Chapter 5, “Working with Server Administration Workbench,” Using Web Client Logging with sawJAS, page 101](#)

## Monitoring Virtual Clients

Multiple Application Framework (MAF) enables you to open multiple applications at the same time, in separate browser windows. As each application is opened, a separate virtual client is created. For example, a user logged into the Web client, with multiple applications open, has a unique virtual client entry for each application. Server Administration Workbench (SAW) displays each virtual client as associated with a distinct user session.

The SAW web application enables the user to view information that is specific to a particular web server and port. The information is similar to that in SAW, but it is specific to a server:port.

The virtual client records can be viewed in the User List View. Under the Location column, the name of the application and the form can be seen, along with the name and IP address of the web server where the virtual client exists. There is also an Action column, which displays View Detail. Click View Detail to view more specific information about the virtual client.

From the Virtual Client Detail form, you can view these:

- The Location row displays the name of the application and the form, as well as the name and IP address of the web server where the virtual client exists.
- The Max. Open Browsers row displays the maximum amount of open browsers that each user is allowed. This value initially is defined in the JAS.INI.
- Virtual Client Environment Properties and Virtual Client User Properties list information specific to the environment, user name, display mode, and user's computer name.

This information is good for pinpointing where, when, and with whom a problem occurred.

You can select Virtual Clients from the list of available options. This view displays all of the virtual clients that are currently active:

You can view and modify certain JAS.INI settings by clicking the link at the top of the grid “Work With INI Settings.”

Note that the initial values for these settings are defined in the JAS.INI and are read when the web instance is started. You can modify these values through SAW without changing the JAS.INI file. The new values are immediately active, and maintain their status until the web instance is stopped. Once the instance is restarted, the JAS.INI values become active again.

The Max. number of open browsers field defines how many browser sessions (JDE applications) each user will can have open at any one time. For example, a user logs into the web client, opening one browser. The user launches an application, opening a second browser. This number of browsers can be limited by setting this value.

The Multiple browser enabled field can be set to True or False. By this value being set to true, the users take advantage of the Multiple Application Framework (MAF), and can launch multiple applications in separate browsers at one time. By setting this value to false, the behavior of the web client is similar to that of the pre-SP22 client, where the user can launch only one application at a time, and the application is run in the same browser session.

### See Also

For more information about these settings, refer to the JD Edwards EnterpriseOne HTML Server Installation Guide for the platform you are using.

## Monitoring Web Server Log Files

You can monitor web server log files from the Web Server monitor. From the Log File view, you can view web server files, view logs, and change logging parameters.

The Log File view provides these menus:

- Log File buttons
- Java Logging System menu
- Web Server Files menu

The yellow buttons at the top of the screen enable you to access log files and a log file summary. A description of each of the buttons follows:

- Log Summary

Click this button to view the size of all logs and the last time they were written.

- JAS.Log

Click this button to view information on Java Application Server functions and records server errors.

- Debug.log

Click this button to view detailed information about the tasks running on the Java Application Server, including the SQL statements that were used.

- stdout

Click this button to view all of the outputs written by Java applications, including instantiation of servlets and business function processes running on the WebSphere Application Server.

- stderr

Click this button to view the error output from the main WebSphere servlet Java process.

- RT Log

Click this button to view routine runtime events.

- RT Debug Log

Click this button to view runtime events for system functions, business functions, table I/O, and other events.

You can also enable the Net Trace function, which offers a detailed view of the JDENET messages. You must enable JASdebug.log to enable Net Trace.

---

**Note.** Enabling both JASdebug.log and Net Trace produces very large files, which could degrade server performance. Do not configure the Web Server Monitor to write these files unless you are performing a specific debugging task.

---

You configure the Web Server Monitor to determine the maximum size of the JAS.log and JASdebug.log files that can be retrieved.

You can also delete JAS.log and JASdebug.log files. However, if you do so, the files are deleted from the server, not from the workstation, and they cannot be retrieved. Do not delete the files unless you have administrative privileges.

## Using the Java Logging System Menu

The Java Logging System pull-down menu (located on the left side of the Log File view) includes these options:

- Work with Property Object
- Work with Components
- Work with Log Files

### Work with Property Object

Select Work with Property Object to display the properties of all the settings in the jdelog.properties file. In this view, you can display and change the properties of each of the keys in the jdelog.properties file.

To view or change a property, click the Key to display its value. To change the value, type a new value and click the Submit (>>) button.

### Work with Components

Select Work with Components to display the list of all the components of a Property Object in the jdelog.properties file. This option enables you to add, modify, or delete a component from the file:

- To add a component

When you click the Submit button next to the Add New Component field, the program displays a form for the new component. Type a name for the new component and select values for the other fields. Click the Submit button to accept the changes.

- To modify a component

When you click the component name in the Component column, the program displays fields for all properties of the component. Enter the new value for each field of the selected component. When you are done, click the Submit button to save the changes.

- To delete a component

Click Remove in the Action column.

## Work with Log Files

Select Work with Log Files to display a list of all the log files and their associated properties. To view the file, click its name in the File Name column.

## Web Server Files Menu

The Web Server Files Menu enables you to view any of these files associated with a particular web server:

- JAS.INI
- Oracle TNS
- MSSQL TNS
- xmlconfig.xsl
- plugin-cfg.xml
- admin.config
- initial\_setup.config
- xmlconfig.xml
- Application Server log files

To view one of these files, select the file from the Web Server Files pull-down menu, and click the Submit button.

---

**Note.** To view the Application Server log files, you must enter the path to these files in the Application Server Log Directory before you click the Submit button. The Application Server log files view displays the log files directory that you enter, and enables you to navigate through all subdirectories, navigate to individual files, and click a file to view its contents.

---

## Troubleshooting with the Web Server Monitor

The available Web Server Monitor views offer data that can be useful to administrators in spotting potential problems. This table lists Web Server Monitor parameters that you can monitor for troubleshooting purposes:

Parameter	Web Server Monitor Views	Parameter Meaning	Possible Problem Indication
MaxWaited	System Summary/JDENET Pool	Number of users demanding socket connections exceeds the number defined in jas.ini if this parameter has a value.	Graphic user interface presentation might be too slow.
Log file size	System Summary	Warning message appears only if file size exceeds 1 mb.	Numerous error messages might be in the log

Parameter	Web Server Monitor Views	Parameter Meaning	Possible Problem Indication
Agent ID	User List	User's browser.	Browser might be out of date.
In Progress	CallObject Information	Many business functions currently running on enterprise server if the parameter value for the In Progress message is anything other than None.	Enterprise server is running slowly, possibly because of problems with business functions.
Connection could not be established	Connection Information (JDBC Pool)	Message appears only if the server has a problem connecting to the database.	Connection parameters might be wrong or the data source is unavailable.
java.class.path	Environment	Virtual machine path.	Troubleshoot path if processing problems occur.
java.fullversion	Environment	Version of virtual machine.	User might need virtual machine upgrade if processing problems are occurring.

## Accessing the Web Server Monitor

Open the web browser and enter a URL with these values:

- Name of the JD Edwards EnterpriseOne web server.
- Directory where the Web Server Monitor files are located.

For example: <http://owweb1/jde/saw/sawWeb.html>

The Web Server Monitor form appears.

## Configuring the Web Server Monitor

To configure the Web Server Monitor:

1. On Web Server Monitor, select Config from the pull-down menu in the Views field.
2. Select or enter values in these fields:
  - CallObject Timeout
  - Maximum Host Pool
  - Maximum JAS Log Retrieve Size
  - Maximum JAS Debug Log Retrieve Size
3. Click Refresh.
4. To flush the OCM cache, click Flush OCM.

After you click Flush OCM, this sentence appears: The OCM cache has 0 entries.

## Working with Connected Users

Complete options in this task to work with all the users connected to the selected JAS Server. In this task you can view user information, send messages to users, save user data, or log users off the system.

To work with connected users:

1. On SAW for JAS Servers, select the User List view.
2. On the User List view, click the Refresh button to get the latest user information.  
The Web Server Monitor displays information on users connected to the web server.
3. Perform any of these actions to modify the view:
  - Click any table column heading to sort the data by that column.
  - Click the “New Window” link in the upper right corner of the screen to start a new browser window with the content of the current window.
  - Click “View With Virtual Clients” on the upper left corner of the user list to view the list of all virtual clients for each user.
4. To send messages to users, save user data, or log users off the system, select the appropriate option from the drop-down menu.
  - Broadcast a message to all virtual clients for all users

---

**Note.** Virtual client users will not see the broadcast message until they refresh their browser.

---

- Broadcast a message to all virtual clients for selected users
- Save data for all users  
(This option saves data currently being entered by all users accessing the web server.)
- Save data for selected users
- Log out all virtual clients for all users

---

**Note.** The virtual client browser will not go away but their connection to the JAS will be terminated.

---

- Log out all virtual clients for selected users

You can perform any of these operations by selecting the appropriate action from the list of available options. To perform the operations for a select group of users, first select the check box next to each user you want to include, then select the appropriate option from the available list. You can perform any of these actions for all the virtual clients for all the users without manually selecting all of them.

## Viewing Application Failure information

The Application Failure Statistics screen provides detailed information for a selected failed application. You can list this information either by the failed application or by the user who accessed the application.

To view Application Failure information:

1. On the User List view, select the Application Failure Statistics link on the right side of the screen.  
The program list application failures according to the name of the application.
2. To view application failures according to the name of the user, click View List By User on the left side of the screen.



Regardless of the option you select to view the failed application (user list or application list) the same detail information is available:

Field	Definition
Name	If viewed by Application, this is the name of the failed application. If viewed by User Name, this is the name of the user working with the failed application.
Label	Label of the failure.
Reason	Reason for the failure.
Description	Description of the failure
Machine Name	Name of the machine on which the failure occurred.
Date and Time	Date and time of the failure.

3. To return to the User List view, click Back to User List on the right side of the screen.

## Monitoring Realtime Events

The RealTime Events application in SAW enables administrator to monitor realtime event metrics and statistics, failed events, and event messages associated with subscribers. By accessing the Work with Real Time Events screen, administrators can perform these actions:

- View Metrics
- Work with Subscribers
- Work with Failed Events
- View Realtime Event Logs

### To access the Work with Real Time Events view

Complete these steps to access the Work with Real Time Events view. Once you access the view, complete the subsequent tasks to view metrics and statistics and to purge messages or failed events.

1. On SAW for JAS Servers, select the Work with Real Time Events view.  
The Web Server Monitor displays the Work with Real Time Events view.
2. On the Work with Real Time Events view, click the Refresh button to get the latest information on Real Time Events.
3. Click any table column heading to sort the column data.

### To view metrics

Access the Work with Real Time Events view.

On the Work with Real Time Events view, select View Metrics from the Select Action drop-down field.

The application displays realtime event metrics and statistics.

## To work with subscribers

Access the Work with Real Time Events view.

On the Work with Real Time Events view, select Work with Subscribers from the Select Action drop-down field.

The application displays all the subscribers on the system.

<b>Select</b>	Use this check box to select a subscriber for purging.
<b>User Name</b>	Type a subscriber's name.
<b>Description</b>	Type a description of the Subscriber.
<b>Queue messages</b>	Number of messages in the subscriber's queue.
<b>Routed messages</b>	Number of events routed to this subscriber.
<b>Action</b>	Click this link to purge all the messages for this subscriber.

## To work with failed events

Access the Work with Real Time Events view.

- On the Work with Real Time Events view, select Work with Failed Events from the Select Action drop-down field.

<b>Select</b>	Use this check box to select a failed event to delete.
<b>User Name</b>	View the name of the user running the event when it failed.
<b>ID</b>	Unique Event ID.
<b>Name</b>	Name of the event.
<b>BSFN</b>	Business function run by the event when it failed.
<b>Environment</b>	Environment used by the Event and business function when it failed.
<b>Application</b>	Name of the application the event was running when it failed.
<b>Host</b>	Name of the machine where the event and business function were running when it failed.
<b>Date &amp; Time</b>	Date and time of the failure.
<b>Message</b>	More detailed information about the failure.
<b>Action</b>	Click this link to delete tis failed event.

- From the Work with Failed Events view, you can delete one or more failed events by performing these actions:

- To delete all failed events from the system:

Select Delete All Failed Events from the available list.

- To delete only selected events:

In the Select column, select the check box for each event you want to delete, and select Delete Selected Failed Events from the available list.

## To view Realtime log files

Access the Work with Real Time Events view.

1. Select “Work with failed events” from the Select Action menu.
2. On Work with Real Time Log Files, complete these fields and click the action (>>) button.

Field	Description
Enterprise Server Name	Type the name of the enterprise server for which you want to view to log files.
Enterprise Server Port	Type the port number of the server for which you want to obtain the log files.

3. Click the name of the log file to view it.

## Monitoring JDENET Connection Pools

To monitor connection pools:

1. In the System Summary view of the Web Server Monitor, click the scroll button and select JDENET Pool.  
The Web Server Monitor displays the JDENET Connection Pool Information view.
2. Click the Refresh button to get the latest connection information.  
The Web Server Monitor displays connection and messaging information for each enterprise server.

## Monitoring Business Functions Running on Connected Enterprise Servers

To monitor business functions running on connected enterprise servers:

1. In the System Summary view of the Web Server Monitor, click the scroll button and select CallObject Info.  
The Web Server Monitor displays the CallObject Information view.
2. Click the Refresh button to get the latest connection information.  
The Web Server Monitor displays connection and messaging information for each enterprise server.
3. To find business function errors, select an enterprise server and click the sysErrors column heading of the table.  
If the calls with errors are not grouped at the top of the table after you click the column heading, click the heading again.
4. Click any of the other column headings to sort the parameter values.

## Monitoring Database Connection Pools

To monitor database connection information:

1. In the System Summary view of the Web Server Monitor, click the scroll button and select JDBC Pool.
2. On Jdbc Connection Pool Information, click Refresh to get the latest additions to the files.
3. To view information on an individual database connection, click the name of a connection string under the Pool Key column.

4. To view information on database drivers used to make connections, click Loaded Drivers.
5. If you are experiencing database problems, scroll to the bottom of the view and click Pool Cleaner.

## Running SAW Web

To run SAW Web:

1. To run SAW Web, enter this in the web browser:

```
http://WebServerName:port/jde/saw/SawWeb.html
```

2. In the SAW Web window, select User List from the available list.

The application displays a list of all the users that are currently logged into this particular web server and port. There is a link at the top of the grid that displays the virtual clients that are assigned to each of the user sessions. Under each user session is a record for each virtual client.

3. To view the virtual clients, click View With Virtual Clients.
4. To hide these records, click View Without Virtual Clients.

Under the Location column, the name of the application and the form can be seen, along with the name and IP address of the web server where the virtual client exists. There is also an Action column, which displays View Detail.

5. Click View Detail to view more specific information on the virtual client.

The Location row displays the name of the application and the form, as well as the name and IP address of the web server where the virtual client exists.

The Max Open Browsers row displays the maximum amount of open browsers that each user is allowed. This value is initially defined in JAS.INI.

Virtual Client Environment Properties and Virtual Client User Properties list information specific to the environment, such as user name, display mode, and the user's computer name.

6. Select Virtual Clients from the available list. This displays all of the virtual clients that are currently active, including the User Name and Location. There is also an option to View Detail.
7. At the top of the Virtual Clients form, click the Work With INI Settings link.

This form enables you to modify settings. Note, the initial values for these settings are defined in JAS.INI, and are read when the web instance is started. By modifying these values through SAW, JAS.INI is not actually changed. The new values are effective immediately, and maintain their status until the web instance is stopped. Once the instance is restarted, the JAS.INI values are again active.

Multiple Browser Enabled can be set to True or False. When True, users can take advantage of MAF and may launch multiple applications in separate browsers at one time. When False, the behavior of the web client is similar to that of the pre-SP22 client, where the user can launch only one application at a time and the application is run in the same browser session.

Max. Number of Open Browsers defines how many browser sessions (JDE applications) each user is allowed to open at any one time.

## Monitoring Web Server Log Files

To monitor web server log files:

1. In the System Summary view of the Web Server Monitor, click the scroll button and select Log Files.

The Web Server Monitor displays the log file summary.

2. Click Refresh to get the latest additions to the files.
3. Click the JAS Log or Debug Log buttons to view the entire jas.log or jasdebug.log file.
4. To troubleshoot the log file, click inside the text file and perform a keyword search on error.

## Bouncing or Stopping the Web Server

Use this option to bounce or stop an instance of the JAS Server running on either the WebSphere or WebLogic Application Server. When you run this option, SAW runs scripts on the Application Server machine (where JAS is running) in order to bounce or stop the JAS instance. These scripts are specific to the Application Server and version you are running. When you log into sawJas using sawJas.html, SAW automatically determines the type of Application Server the JAS is running on (WebSphere or WebLogic).

### To configure the start and stop scripts (WebLogic only)

If you are running the web server on a WebLogic Application Server, before you can bounce the server, you must copy the contents of the start and stop scripts to the SAW scripts in the appropriate directory, and configure these files.

- For Windows machines:

1. From a command line, copy the contents of the startAS\_JS\_[PORT].cmd script (located in the domain directory of the JAS Server) to the sawstartAS\_JS\_[PORT].cmd script.

where [PORT] is the JAS port number.

For example, if the port is 87, enter this command:

```
copy startAS_JS_87.cmd sawstartAS_JS_87.cmd
```

2. Open the sawstartAS\_JS\_87.cmd script in a text editor and add this text before weblogic.Server at the end of the script:

```
-Dweblogic.management.username=%1 -Dweblogic.management.password=%2
```

For example:

```
"%JAVA_HOME%\bin\java" %JAVA_VM% %MEM_ARGS% %JAVA_OPTIONS%
-Dweblogic.Name=%SERVER_NAME% -Dweblogic.ProductionModeEnabled=
%PRODUCTION_MODE% -Djava.security.policy="%WL_HOME%\server\lib\
weblogic.policy" -Dweblogic.management.username=%1
-Dweblogic.management.password=%2 weblogic.Server
```

3. Copy the contents of the stopAS\_JS\_[PORT].cmd script into sawstopAS\_JS\_[PORT].cmd script.

For example, if the port is 87, enter this command:

```
copy stopAS_JS_87.cmd sawstopAS_JS_87.cmd
```

4. Open the sawstopAS\_JS\_87.cmd script in a text editor and remove these lines:

```
set /p WLSUSERNAME=Enter username for WebLogic server:
if /i [%WLSUSERNAME%] == [] (
echo Invalid username.
goto end )
```

5. In the sawstopAS\_JS\_87.cmd script, replace -username %WLSUSERNAME% with -username %1 -password %2 at the end of the script.

The last line of the script should read as follows:

```
%JAVA_HOME%\bin\java" %JAVA_VM% %MEM_ARGS% %JAVA_OPTIONS%
weblogic.Admin -username %1 -password %2 -url %HOST%:%PORT%
SHUTDOWN -ignoreExistingSessions -timeout 5
```

- For Unix and iSeries machines:

1. From a command line, copy the contents of the startAS\_JS\_[PORT].sh script (located in the domain directory of the JAS Server) to the sawstartAS\_JS\_[PORT].sh script.

where [PORT] is the JAS port number.

For example, if the port is 87, enter this command:

```
cp startAS_JS_87.sh sawstartAS_JS_87.sh
```

2. Open the sawstartAS\_JS\_87.sh script in a text editor and add this text before weblogic.Server at the end of the script:

```
-Dweblogic.management.username=$1 -Dweblogic.management.password=$2
```

Here's an example of the last line of the script:

```
${JAVA_HOME}/bin/java ${JAVA_VM} ${MEM_ARGS} ${JAVA_OPTIONS}
-Dweblogic.Name=${SERVER_NAME} -Dweblogic.ProductionModeEnabled=
${PRODUCTION_MODE} -Djava.security.policy="${WL_HOME}/server/lib/
weblogic.policy" -Dweblogic.management.username=$1
-Dweblogic.management.password=$2 weblogic.Server
```

3. Copy the contents of the stopAS\_JS\_[PORT].sh script into sawstopAS\_JS\_[PORT].sh script.

For example, if the port is 87, enter this command:

```
cp stopAS_JS_87.sh sawstopAS_JS_87.sh
```

4. Open the sawstopAS\_JS\_87.sh script in a text editor and remove these lines:

```
read WLSUSERNAME
if [ "${WLSUSERNAME}" = "" ] ; then
echo "Invalid username."
exit 0
fi
```

5. In the sawstopAS\_JS\_87.cmd script, replace -username \${WLSUSERNAME} with -username \$1 -password \$2 at the end of the script.

The last line of the script should read as follows:

```
${JAVA_HOME}/bin/java ${JAVA_VM} ${MEM_ARGS} ${JAVA_OPTIONS}
weblogic.Admin -url ${HOST}:%PORT% -username $1 -password $2
SHUTDOWN -ignoreExistingSessions -timeout 5
```

## To bounce or stop the Web Server

Complete this task to bounce or stop the web server:

1. On the Web Server Monitor, click the scroll button and select Bounce Server.
2. To ensure the system runs the appropriate scripts for the configuration, fill out the fields that are relevant to the Application Server:

Field	Description
SAW script directory	The directory on the JAS Server where the specific scripts are located. Make sure that the default directory points to where the JAS instance is running.  For example: C:\builds\ERP9_PROTOTYPE\Internet\dist\webclient\saw\scripts
Application Server Name	Required for WebSphere only. Note that the JAS Port Number is provided in this name.  For example: AS_JAS_80
Node Name	Required for WebSphere 4.x only. The name of the node for the JAS instance. This value refers to the node name displayed in the WebSphere administrative tool.  For example: AS_JAS_80
User Name & Password	Required for WebSphere (Version 5.0 and higher) and WebLogic.  For example: AS_JAS_80
Broadcast message	If you select to send a broadcast message to all virtual clients before bouncing or stopping the server, type the message in this field.
Bounce or Stop	Select either to bounce the server or stop it.
WebSphere version	Required for WebSphere only. Select the version of the WebSphere Application Server you are running (4.x, 5.x, and so on). Note that each version runs a different script.
First perform these actions	Check any of the options listed to perform that action before you bounce or stop the server. <ul style="list-style-type: none"> <li>• broadcast message to all users</li> <li>• save data for all users</li> <li>• logoff all users</li> </ul> <p><b>Note.</b> Before SAW stops or bounces the server, SAW performs each of the options you select in the order listed.</p>

3. Click the Submit button (>>) to perform the selected action.

## Enabling Debug.log and Net Trace

To enable Debug.log and Net Trace:

1. On the web server, locate the sawLogButtons.jsp file, which is typically in the \E812\internet\dist\jdedwww\saw\ directory.
2. Open the sawLogButtons.jsp file, locate these parameters and change the values to true, as follows:
  - boolean includeDeleteButtons = true
  - boolean includeTraceOnOffButtons = true
3. Click Save.

These parameter changes will also enable the Delete JAS Log and Delete Debug Log buttons in the Log File view of the Web Server Monitor.

4. In the Log File view, click the Debug Log button.

The Debug Log and Net Trace options should both be visible, as should the Delete buttons for both JAS Log and Debug Log.

5. If you want to enable Net Trace, select the Net Trace option.

You can enable Net Trace only if you have enabled the Debug Log option.

6. Make sure the Delete JAS Log and Delete Debug Log files are visible in the Log File view.
7. Click Refresh to update the file.

## Deleting Log Files

To delete log files:

1. In the System Summary view of the Web Server Monitor, click the scroll button and select Work with Log Files.
2. Click Refresh to get the latest additions to the files.
3. To delete the JAS.log files, click Delete JAS Log.
4. To delete the JASdebug.log files, click Delete Debug Log.

---

## Monitoring System Web Services Gateway (WSG) Servers from the Web

The System Web Services Gateway Server Monitor enables you to use the web to monitor a WSG Broker Server. The server-monitoring APIs for ActiveWorks are available in Java code, and JD Edwards EnterpriseOne uses them to provide the WSG Server Monitor.

To monitor an WSG server, you must enter a valid host name and port number in the WSG Server Monitor workspace. From the dialog box in the workspace, you can select from five views:

- Broker Summary
- Event Types
- Client Groups
- Client States
- Broker Logs

### Broker Summary View

The Broker Summary view enables you to monitor information about one or more brokers running on the Broker Server. The broker provides essential system services, such as receiving, sending, and queuing events. Events are messages sent to and received by resources in the system, including client workstations and other servers.

To view broker summary information, enter a host name and port number in the WSG Server Monitor workspace, and then select Broker Summary from the dialog box and click the Monitor button.



The Broker Summary view appears.

The Broker Summary view contains a table with various parameters, the values of which provide information about one or more brokers running on the server. This table identifies the parameters and offers a brief explanation of each one:

Parameter in Table of Broker Summary View	Parameter Meaning
Number	The number of the broker.
Broker Name	The name of the broker. The default name is Broker # 1.
Broker Host	The Broker Server on which the broker is running.
Territory	A set of brokers that share information about event types and client groups.
Description	A full description of the broker, provided when the broker is installed on the server.
Event Types	Types of messages received and sent by the broker.
Client States	Information about a client maintained by the broker. Clients connect to brokers.
Client Groups	A list of all client groups on the broker. A client group is a set of properties shared by broker clients.

The Event Types, Client States, and Client Groups parameter columns contain magnifying glass buttons you can click to view more detailed information about each one. Each of these parameters has its own view, which you can access from the dialog box in the Broker Summary view or in the WSG Server Monitor workspace.

The Broker Summary view also displays:

- Number of non-SSL (Secure Sockets Layer) connections.
- Highest number of non-SSL connections.
- Number of SSL connections.
- Highest number of SSL connections.
- Server disk space, in megabytes.

You can view details about the server on which the broker is running by clicking the Server Statistics URL.

## Event Types View

An event type defines the properties of an event, including the data fields that the event carries, the event's unique name, and a storage type, which defines how the broker stores the event.

The word events, when it is used in discussing the WSG Server Monitor, corresponds to the word messages, as that word is used in discussing the Enterprise Server Monitor. Events are messages exchanged by resources in the system. For example, an event might be processing a purchase order. To process a purchase order, the client and broker communicate.

When you select Event Types from the WSG Server Monitor workspace and click the Monitor button, the Event Types view appears.

The Event Types view contains a table with various parameters, the values of which provide information about the event types handled by the broker. This table identifies the parameters and offers a brief explanation of each one:

Parameter in Table of Event Types View	Parameter Meaning
Event Name	The unique name of the event.
Description	A description of the function of each event.
Storage Type	An event attribute that determines how the event is stored in the broker. Storage types are: <ul style="list-style-type: none"> <li>• Guaranteed, which means that events are stored on disk using a logged commit.</li> <li>• Persistent, which means that events are stored on disk using operating asynchronous input/output.</li> <li>• Volatile, which means that events are stored in memory.</li> </ul>
Time to Live	The amount of time that an event type can exist in the broker.
Fields	The names and types of each data field within the event type.

You can view information about the data fields for each event type by clicking the magnifying glass button in the Fields column. The Event Types Fields view appears; it identifies each field name for the event type and the field type, such as string.

## Client Groups View

A client group is a set of broker clients with particular properties. For example, a client group defines the server on which clients access the broker.

When you select Client Groups from the WSG Server Monitor workspace and click the Monitor button, the Client Groups view appears.

The Client Groups view contains a table with various parameters, the values of which provide information about the client groups that provide control of client access to the broker. This table identifies the parameters and offers a brief explanation of each one:

Parameter in the Client Groups View	Meaning
Client Group Name	The name of the client group. Each group has a specific set of properties defined using the ActiveWorks Manager.
ACL	The Access Control List, which is a list of SSL certificates that define the entities with permission to access the broker or create a client within a client group.
Can Publish	The event types that a client group can publish.

Parameter in the Client Groups View	Meaning
Can Subscribe	The event types that a client group can subscribe to.
Statistics	Additional statistics on the client group, such as how long the group has been on the server and how many events have been published by clients that belong to the group.

Click the magnifying glass in the ACL, Can Publish, Can Subscribe, and Statistics columns to view additional information about each of these parameters.

## Client States View

A client state is information maintained by the broker about a client connected to the server. For example, the client group to which a client belongs is a client state.

When you select Client States from the WSG Server Monitor workspace and click the Monitor button, the Client States view appears.

The Client States view contains a table with various parameters, the values of which provide information about the clients connected to the server. This table identifies the parameters and offers a brief explanation of each one:

Parameter in the Client States View	Meaning
Identifier	A unique identifier for the client connected to the server.
Client Group	The client group to which the client belongs.
App. Name	The name of the application that describes the client's connection to the server.
Access Label	Indicates, if appropriate, the value of the access label required for a client to connect to the client group to which it belongs.
Authenticator	The name of the certification authority that issued the certificate if SSL is enabled for the client.
Can Share	Indicates whether state sharing is enabled. If state sharing is enabled, the number of sessions allowed for a client can be set.
High Seq.	The highest published sequence number used by the client.
Max Shared Connections	The maximum number of server connections that the client can share.
Owner Name	The client owner's user name.
Sessions	Information about a client session. Click the magnifying glass button in the Sessions column to view detailed session information.

## Broker Log View

You can use the WSG Server Monitor to view a broker log containing information about events that have run on the server during a specified time. You can view all log messages, or you can limit the view to warnings, alerts, or information messages.

When you select Broker Log from the WSG Server Monitor workspace and click the Monitor button, the Broker Log view appears.

From the Broker Log, you can specify:

- The starting date from which you want to view log files.
- The maximum number of entries you want to view.
- The type of file you want to view.

Click the View Log button to see the log file entries.

## CHAPTER 8

# Working with JD Edwards EnterpriseOne on Windows Terminal Server

This chapter provides an overview of the Windows Terminal Server (WTS) and discusses how to:

- Set up JD Edwards EnterpriseOne on the terminal server.
- Troubleshoot JD Edwards EnterpriseOne on Windows Terminal Server.

---

## Understanding Windows Terminal Server

Windows Terminal Server (WTS) provides an excellent solution for Oracle's JD Edwards EnterpriseOne in a WAN environment. WTS enables you to set up multiple terminal server client machines that need only contain the WTS client software. You can use less powerful machines to function as terminal server clients. These clients connect to a machine set up with TSE software. Multiple users can simultaneously connect to the same terminal server to run JD Edwards EnterpriseOne.

Windows Terminal Server (WTS) is a multi-user extension to the Microsoft Windows family of operating systems. WTS enables users to share an application that resides on the terminal server. The terminal server performs all the processing for an application, and then sends a picture of the screen to the client terminal. Only keystrokes and mouse movement occur at the terminal. These movement commands travel through the network to the server, which returns the modified screen to the terminal.

This list provides an example of the WTS process flow:

- Step 1: JD Edwards EnterpriseOne client applications execute on terminal server.
- Step 2: The terminal server sends the video for the user interface across any connection.
- Step 3: The terminal server client displays the user interface.
- Step 4: The terminal server client sends keystrokes, mouse clicks and screen shots back to the terminal server where processing occurs.

By sending only the information necessary to re-create the screen and convey mouse and keyboard events, TSE provides LAN-like performance over WAN and dialed connections.

TSE enables you to set up multiple users to work with a single client installation of JD Edwards EnterpriseOne. By sharing a single copy of JD Edwards EnterpriseOne on the terminal server, you reduce the costs of deployment and administration.

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**Note.** Sun-Solaris can be added to the list of enterprise servers that can run in a JD Edwards EnterpriseOne configuration with a terminal server.

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## Incorporating Citrix MetaFrame with WTS

WTS provides multi-user technology that uses a presentation protocol called Remote Desktop Protocol (RDP). RDP, based on the International Telecommunications Union T.120 protocol, is a viable option if you plan to use only Win16/Win32 clients in an uncomplicated configuration.

If the network comprises multiple platforms and requires optimum performance, Citrix offers a product called Citrix MetaFrame with multi-user technology that provides additional functionality to WTS, such as load-balancing and the support of more client platforms. MetaFrame uses the Independent Computing Architecture (ICA) presentation protocol on which Citrix based WinFrame, a successful multi-user product for Windows 3.51.

---

**Note.** If you start JD Edwards EnterpriseOne as a specified application through ICA, you cannot view the jde.ini, jde.log, and jdedebug.log files.

---

This table lists the capabilities of WTS RDP and MetaFrame:

Capability	TSE RDP	MetaFrame
Client Platforms	WTS client software runs on these platforms: <ul style="list-style-type: none"> <li>• Windows 16-bit</li> <li>• Windows 32-bit</li> <li>• Some RDP-equipped Windows terminals</li> <li>• Windows CE</li> </ul>	MetaFrame runs on these platforms: <ul style="list-style-type: none"> <li>• DOS</li> <li>• Windows 16-bit</li> <li>• Windows 32-bit</li> <li>• X-Term</li> <li>• MacIntosh</li> <li>• Solaris</li> <li>• Windows CE</li> <li>• Some ICA-equipped network computers</li> <li>• Some internet browsers as a plug-in</li> </ul>
Network Topologies	WTS RDP supports the TCP/IP standard.	MetaFrame supports these standards: <ul style="list-style-type: none"> <li>• IPX</li> <li>• SPX</li> <li>• PPP</li> <li>• NetBIOS</li> </ul>
Load-balancing	Windows supports load balancing.	You can purchase an option for MetaFrame that provides load-balancing capabilities.
Encryption	N/A	You can purchase an option for MetaFrame that provides the encryption of ICA traffic.
CCPDD:cut/copy/paste /drag/drop	Windows 2000 supports cut, copy, paste, drag, and drop.	MetaFrame enables CCPDD between the session window and the underlying Windows desktop.

Capability	TSE RDP	MetaFrame
Device Mapping	WTS RDP enables you to map local devices for printing through a work-around.	MetaFrame enables you to map devices local to the WTS client from the terminal server. For example, you can locally map hard drives, fax modems, and printers.
Session Shadowing	Windows supports remote control.	With MetaFrame loaded, WTS supports an administration tool called session shadowing. Session shadowing helps administrators audit remote sessions. You might also use session shadowing for video conferencing and in a support desk role.

## WTS Restrictions in Multi-user Mode

JD Edwards EnterpriseOne is WTS-aware. WTS-aware means that when you deploy JD Edwards EnterpriseOne as a client on a terminal server, the software automatically recognizes the terminal server and configures itself to run in multi-user mode. Because of the configuration required by multi-user mode, these restrictions apply to terminal server users:

- Disabled development with Form Design Aid, Report Design Aid, and Table Design Aid, including Object Management Workbench check-in and check-out capabilities.

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**Note.** The restriction on development does not prevent new versions of existing applications, but only the modification of current applications and the creation of new applications. Also, a complete set of development specifications (500+ MB) defeats the purpose of a thin client.

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- Disabled local processing for batch applications.

All batch applications process on a separate batch server to avoid an impact to performance on the terminal server.

- Disabled Just-In-Time-Installation (JITI).

Because you deploy a full client package to the terminal server, JITI is not recommended.

- Disabled intensive specification file access.

Applications that intensively access specification files, such as the Universal Table Browser application, are not active due to the strain put on the terminal server when the application retrieves data. Also, file level locking could prevent access to data in the specification files for other users.

A standard JD Edwards EnterpriseOne configuration and a terminal server configuration are not mutually exclusive within an enterprise. You can mix a standard configuration with a terminal server configuration to maximize the overall performance. For example, you can use a standard JD Edwards EnterpriseOne configuration over a LAN, and use a terminal server configuration to support remote sites across a WAN.

## Network Considerations

The terminal server must reside on the same local area network (LAN) as the enterprise server or database server, or both. Include one normal JD Edwards EnterpriseOne client on the LAN to verify performance and function. Normal JD Edwards EnterpriseOne LAN requirements apply.

For a wide area network (WAN), you must use a 56KB, or faster, line.

## Performance Considerations

When you add any ICA session, change the Window Colors display properties to 16 color mode or to the lowest setting that the software and hardware allow. You can access display properties from the Control Panel.

Also, for the Citrix setup, you need to select the Compress data stream and Cache bitmaps to disk options. See the appropriate Citrix documentation for more information about how to modify these settings.

---

## Setting Up JD Edwards EnterpriseOne on the Terminal Server

Because JD Edwards EnterpriseOne is WTS-aware, running on a terminal server is almost identical to running a standard client.

When performing certain processes, such as creating log files and running UBEs, JD Edwards EnterpriseOne checks whether it resides on a terminal server or standard client. If it detects a terminal server, the software automatically switches to multi-user mode.

In multi-user mode, JD Edwards EnterpriseOne processes data while simultaneously protecting data integrity and maintaining performance on the terminal server. Multi-user mode also masks any of the multi-user activity from a user so that a terminal server session of JD Edwards EnterpriseOne looks no different than a standard JD Edwards EnterpriseOne client session.

### See Also

*JD Edwards EnterpriseOne Hardware and Software Requirements Guide*

## Setting Up JD Edwards EnterpriseOne on the Terminal Server

To set up JD Edwards EnterpriseOne on the terminal server:

1. Install Windows Terminal Server on the machine that you will use as the terminal server.

Refer to the Microsoft documentation for information about how to set up Windows Terminal Server software.

2. Install Microsoft Terminal Server Client software onto the machines that you will use as terminal server clients.

You can connect to the terminal server from the Terminal Server Client option on the Programs menu. This file also resides in the Terminal Server Client subdirectory in the Program Files directory. Refer to Microsoft documentation for information about how to set up Terminal Server Client software.

3. Depending on the type of database you use, you might need to install software so that the client can properly connect with the server where the database resides.

---

**Note.** You must use Add/Remove Programs on the Control Panel to install applications on the terminal server. During installation, make sure that you select the All users begin with common application settings option on the Change User Option dialog box.

---

Install these software packages on the terminal server as necessary:

- Oracle for Windows
- SQL Server client
- Client Access



- DB2 Connect
4. Install a full package of JD Edwards EnterpriseOne. You need to install a full package because JD Edwards EnterpriseOne on the terminal server is multi-user. If you install a partial package, multiple users will simultaneously experience Just-In-Time-Installation, which will negatively affect performance on the terminal server.

---

**Note.** Install JD Edwards EnterpriseOne from the WTS console or use a third-party remote administration software. Do not install through a remote desktop connection. Use Add/Remove Programs on the Control Panel to install JD Edwards EnterpriseOne on the terminal server. During installation, make sure that you select the “All users begin with common application settings” option on the Change User Option dialog box.

---

After you perform these steps, you should be able to successfully run JD Edwards EnterpriseOne from terminal server client machines.

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## Troubleshooting JD Edwards EnterpriseOne on Windows Terminal Server

This section discusses how to:

- Troubleshoot UBE output security on WTS.
- Submit a UBE locally and run it on the WTS.
- Troubleshoot import/export with Microsoft Excel.
- Troubleshoot specification files are locked.
- Reduce JITI frequency.
- Troubleshoot user cannot restart JD Edwards EnterpriseOne.
- Troubleshoot logging off versus disconnecting.
- Troubleshoot shortcuts do not work in email messages.
- Troubleshoot data selection and sequencing criteria lost.
- Troubleshoot run-time error occurs during server connection test.
- Troubleshoot JD Edwards EnterpriseOne development tools are disabled.
- Troubleshoot users experience problems accessing JD Edwards EnterpriseOne.
- Troubleshoot log path is incorrect.
- Troubleshoot shortcut path is incorrect.
- Troubleshoot only one user can log in to JD Edwards EnterpriseOne.

### Troubleshooting UBE Output Security on WTS

A JD Edwards EnterpriseOne WTS user sends PDF files by default from the enterprise server to the local \E812\PrintQueue directories using the Work With Servers (P986116) application. Users select View PDF from the Row menu of the Submitted Job Search form. Because the files are saved to a user's local PrintQueue directory, another user can view the PDF file in Windows Explorer or in Adobe Acrobat.

You can relocate the PrintQueue directory by adding this section to the jde.ini file:

```
[NETWORK SETTINGS]
OutputDirectory=C:\WTSRV\Profiles\USERNAME\Windows
```

Server administrators need to make the jde.ini file modification of each user on each WTS so that the PDF output points to each individual user profile directory. With the PrintQueue directory located in the user profiles directory, the PDF files are protected by Windows security. Only server and system administrators have access to the files.

## Submitting a UBE Locally and Running it on the WTS

You cannot locally submit UBEs to run on the WTS because of resource constraints such as CPU power. You can run UBEs on a dedicated WTS or during hours when no other JD Edwards EnterpriseOne users are using the machine. Complete the task to submit a UBE locally and run it on the WTS.

To submit a UBE locally and run it on the WTS:

1. From the System Administration Tools menu (GH9011), select Logical Data Sources (P986115).
2. On Logical Data Sources, select the WTS machine name with System as the data source and click Select.
3. On Work with Data Sources, click Add.
4. On Data Source Revisions, complete these fields:
  - Data Source User  
Enter DB to specify a Local Data Source.
  - Data Source Name  
Enter WTS Local.
  - Data Source Type  
Enter N to specify MSDE/ODBC.
  - DLL Name  
Enter JDBODBC.DLL.
  - Database Name  
Enter System Local.
  - Server Name  
Enter LOCAL.
  - Platform  
Enter LOCAL.
5. When you run the UBE on the WTS, on the Work with Batch Versions from, select the report you want to run and click Select.
6. On Version Prompting, select Advanced from the Form menu.
7. On Advanced Version Prompting, select the Override Location option and click OK.
8. On Version Prompting, select the Data Selection option and click Submit.
9. On JDE Data Sources, select WTS Local as the data source and click Select.

## Troubleshooting: Import/Export with Microsoft Excel

Importing a Microsoft Excel spreadsheet into a JD Edwards EnterpriseOne grid intermittently fails when users are running WTS.

Please check the MTR (minimum technical requirements) to be sure you are running the latest supported versions of Microsoft Office. You install a single of Microsoft Office 2000 on the WTS. Multiple users then connect to the server and run Microsoft office from the server.

## Troubleshooting: Specification Files are Locked

In these circumstances, JD Edwards EnterpriseOne users get a message box to indicate that a specification file is currently unavailable:

- When another JD Edwards EnterpriseOne session on the same WTS machine performs a data dictionary Just-In-Time-Installation (JITI).
- When another JD Edwards EnterpriseOne session receives a WTS run-time error dialog box. Generally, this type of error occurs when a memory violation occurs.

In both cases, the specification file or files are locked. The specification files will be unlocked when either the WTS completes the JITI process or a user closes the WTS run-time error dialog box.

To prevent the specification files from being locked when JD Edwards EnterpriseOne performs a JITI, reduce the frequency that JD Edwards EnterpriseOne performs JITIs. Complete this task:

## Reducing JITI Frequency

To reduce JITI frequency (B73.3.1, B73.3.2, and B73.3.3):

1. Run the Generate global table spec (R98CRTGL) batch application on a non-WTS JD Edwards EnterpriseOne client to generate full GLBLTBL specification files.
2. Copy the full glbltbl.ddb and glbltbl.xdb to the WTS machines.

## Troubleshooting: User Cannot Restart JD Edwards EnterpriseOne

Occasionally, when a memory violation occurs in a JD Edwards EnterpriseOne WTS session, the terminal server prevents the user from restarting JD Edwards EnterpriseOne. The administrator must then sign onto the terminal server and end the OEXPLORER.exe process from the Task Manager. After the administrator ends the process, the user can sign on to JD Edwards EnterpriseOne again.

When a run-time exception occurs, JD Edwards EnterpriseOne should immediately exit. To instruct JD Edwards EnterpriseOne to immediately exit in this situation, change the EXCEPTION\_Enabled setting in the jde.ini to False:

```
[INTERACTIVE RUNTIME]
EXCEPTION_Enabled=False
```

## Troubleshooting: Logging Off Versus Disconnecting

Users should always log off their WTS session rather than disconnecting. Logging off shuts down all processes completely for the user.

## **Troubleshooting: Shortcuts Do Not Work in Email Messages**

Workflow provides the ability to send shortcuts to JD Edwards EnterpriseOne applications using email messages. This function does not work when the email application, such as Microsoft Outlook, is not currently active on the terminal server. When the email application invokes the shortcut, the operating system attempts to launch the shortcut on the local machine and not on the terminal server.

Run the email application and JD Edwards EnterpriseOne on the same terminal server machine.

## **Troubleshooting: Data Selection and Sequencing Criteria Lost**

This situation occurs when two or more users are signed on to the same terminal server using the same pathcode.

The first user submits a batch application from Batch Versions, changes the data selection criteria, and then stops at the printer screen. The second user then goes into Batch Versions to submit the same version of the batch application, changes the data selection criteria, and then stops at the printer screen. When the users click OK to send the batch application to the enterprise server for processing, the data selection criteria for the second user overrides the selection criteria for the first user.

A modification to batch processing in JD Edwards EnterpriseOne now saves data selection and sequencing criteria in memory rather than in specification files.

## **Troubleshooting: Run-Time Error Occurs During Server Connection Test**

The Server Administration Workbench (SAW) application receives a run-time error when it performs a server connection test. This situation occurs when the user who performs the connection test does not possess the authority to access the pinging mechanism on the target machine.

## **Troubleshooting: JD Edwards EnterpriseOne Development Tools Are Disabled**

JD Edwards EnterpriseOne development tools are disabled on the terminal server. Currently, we instruct customers to perform all development on non-WTS machines.

## **Troubleshooting: Users Experience Problems Accessing JD Edwards EnterpriseOne**

Only administrators can run JD Edwards EnterpriseOne. This situation is a result of the way JD Edwards EnterpriseOne was installed on the terminal server.

As the Administrator, you should use the Add/Remove Programs application on the Control Panel to install JD Edwards EnterpriseOne on the terminal server. During installation, make sure that you select the All users begin with common application settings option on the Change User Option dialog box. This option ensures that the terminal server maintains JD Edwards EnterpriseOne specific files, such as the jde.ini file, across user profiles.

## **Troubleshooting: Log Path is Incorrect**

The log path in the jde.ini for individual users is incorrect.

The JD Edwards EnterpriseOne installation program sets the WTSLogs setting to False. Users should change this setting to True after the installation and before any users run JD Edwards EnterpriseOne.

When the WTSLogs setting is True, the output log directories for each user point to the home directory of the user rather than to the root directory of the drive. The output log directories settings are also defined in the jde.ini file.

## **Troubleshooting: Only One User Can Sign in to JD Edwards EnterpriseOne**

The main JD Edwards EnterpriseOne window fails to appear after entering the password for all other users.

For B73.3.2 with Service Pack 10 or greater, place the JD Edwards EnterpriseOne command line switch /NoLogo, located in the JD Edwards EnterpriseOne shortcuts, on the desktop and on the Start menu if not already present. Separated by a space, append the text to the end of the line in the Target edit box of the shortcut properties window. Do not include the quotation marks. This will prevent the display of the splash screen.



## CHAPTER 9

# Administering JD Edwards EnterpriseOne on a Unix Cluster

This chapter provides an overview of clustering and discusses how to:

- Maintain multiple instances of JD Edwards EnterpriseOne in a clustered environment.
- Set up clustering.
- Set up HACMP for AIX clustering.
- Set up JD Edwards EnterpriseOne for HACMP.
- Create an application server.
- Set up Sun Solaris clustering.
- Troubleshoot HP-UX clustering.

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## Understanding Clustering

High availability clusters provide redundancy of software and hardware so that a single point of failure will not interrupt service. If a failure occurs, the clustering software automatically detects the problem and shifts to an alternate machine without ending processes and interrupting the enterprise.

Clustering enables Oracle's JD Edwards EnterpriseOne processes running on a machine that fails to continue running without interruption on a second machine. The second machine has a setup that supports the given processes. Essentially, JD Edwards EnterpriseOne moves to the alternate machine without requiring you to restart a process that was active on the machine that failed.

---

**Note.** Each node in the cluster must have the appropriate software and hardware to ensure that processing moves successfully from server to server.

---

Make sure you understand the clustering software and the tasks necessary to implement the software on a given platform.

### Hp-UX Clustering

Hewlett-Packard provides two mutually exclusive software products to manage high availability clusters:

- Hewlett-Packard Multi-Computer/ServiceGuard (MC/ServiceGuard)
- Hewlett-Packard Multi-Computer/LockManager (MC/LockManager)

You must use MC/LockManager when you use Oracle Parallel Server (OPS).

You will set up only one of these products for the HP-UX cluster.

JD Edwards EnterpriseOne requires a named IP address for workstations to connect with a server. With the Hewlett-Packard clustering software, you can assign a floating IP address that can move from node to node within the cluster. You should enter this IP address into the WINS or DNS database so that workstations can access the address. If the enterprise servers are not using DNS to resolve host names, you must also add the floating IP address to the `/etc/hosts` file on each node in the cluster where JD Edwards EnterpriseOne might run.

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**Note.** If you do not assign a floating IP address, then whenever JD Edwards EnterpriseOne moves to another node in the cluster, the workstations will be unable to connect with the servers.

---

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## Maintaining Multiple Instances of JD Edwards EnterpriseOne in a Clustered Environment

When you run multiple instances of JD Edwards EnterpriseOne in a clustered environment, you must consider several factors. Even though each instance might begin on a separate node, a situation might arise for which multiple instances need to run on the same node. When this happens, communication to each JD Edwards EnterpriseOne instance must occur on a different port number, or service name, and each instance must use a different range of IPC keys. These parameters in the `jde.ini` file control these settings:

```
[JDENET]
serviceNameListen=Service Name or Port Number
serviceNameConnect=Service Name or Port Number
[JDEIPC]
startIPCKeyValue=Numeric Value
```

where

- *Service Name or Port Number* is the actual port number or the name of a service that you enter into the `/etc/services` file.
- *Numeric Value* is the IPC key value of the JD Edwards EnterpriseOne instance.

The IPC key values should differ by at least 1000 between any two JD Edwards EnterpriseOne instances.

---

## Setting Up Clustering

This section discusses how to:

- Configure Oracle Parallel Server (OPS).
- Set up an Oracle package for MC/ServiceGuard.
- Set up a JD Edwards EnterpriseOne package.

### Configuring Oracle Parallel Server (OPS)

Oracle Parallel Server (OPS) enables concurrent database access from multiple nodes in a cluster. If you use OPS, you must install MC/LockManager, not MC/ServiceGuard.

This task describes how to set up OPS and MC/LockManager. For more information, refer to the Hewlett Packard documentation on setting up OPS and MC/LockManager.

To set up Oracle Parallel Server and MC/LockManager:



1. Install Oracle client software on each node in the cluster where it might run. The JD Edwards EnterpriseOne database should be created on shared disks, or on a machine outside the cluster, so that it can be accessed from multiple nodes.
2. Create a package in MC/ServiceGuard with no services.  
This package should be set up with an associated IP address so that it can be reached from any node where it might run. This package should also specify the shared volume group on which the JD Edwards EnterpriseOne database will reside.
3. Edit the package control script to add the Oracle startup and shutdown commands. This code sample provides an example of the `customer_defined_run_cmds` function from a package control script:

```
function customer_defined_run_cmds
{
# ADD customer defined run commands.
export ORACLE_HOME=/u01/app/oracle/product/8.0.5
export ORACLE_SID=jdel
export ORAENV_ASK=NO
. $ORACLE_HOME/bin/oraenv
su oracle -c '$ORACLE_HOME/bin/lsnrctl start'
su oracle -c '$ORACLE_HOME/bin/svrnmg1' <<EOF1
connect internal
startup
exit
EOF1
test_return 52 }
```

4. You can use these same steps to enter the Oracle shutdown commands into the `customer_defined_halt_commands` section of the package control script.

## Setting Up an Oracle Package for MC/ServiceGuard

If you use MC/ServiceGuard, you should set up a package for Oracle. An Oracle package enables the Oracle processes to move from one node to another when a node fails or during scheduled maintenance.

You do not need to perform this step if you use MC/LockManager.

To set up an Oracle package for MC/ServiceGuard:

1. Install Oracle on each node in the cluster.  
Create the JD Edwards EnterpriseOne database on shareable disks so that multiple nodes can access the database.
2. Create a package in MC/ServiceGuard with no services.  
You should set up this package with an IP address so that any node on the cluster can access and run the package. This package should also specify the shared volume group where the database will reside.
3. Edit the package control script to add the Oracle startup and shutdown commands.  
This code sample provides an example of the `customer_defined_run_cmds` function from a package control script:

```
Function customer_defined_run_cmds
{
```

```
# ADD cusomter defined run commands.
Export ORACLE_HOME=/u01/app/oracle/product/8.0.5
Export ORACLE_SID=jdel
Export ORAENV_ASK=NO
.$ORACLE_HOME/bin/oraenv
su oracle '$ORACLE_HOME/bin/svrmgr1' <<EOF1
connect internal
startup
exit
EAOF1
Test return 52
}
```

You can use the same steps to enter the Oracle shutdown commands into the `customer_defined_halt_commands` section of the package control script.

## Setting Up a JD Edwards EnterpriseOne Package

The standard JD Edwards EnterpriseOne enterprise server software requires minimal modifications to function in a cluster. These modifications include these items:

- Enterprise server `jde.ini`
- `owenv` script file in the `$$SYSTEM/bin32` directory
- Package control script

To set up a JD Edwards EnterpriseOne package for a cluster:

1. In the server `jde.ini` file, locate the `[CLUSTER]` section, then change these setting:

```
[CLUSTER]
PrimaryNode=Package IP name
```

where `Package IP name` represents name given to the IP address that is associated with the JD Edwards EnterpriseOne package that you are creating.

2. Change the `owenv` script file in the `$$SYSTEM/bin32` directory. The `owenv` script file contains the settings for various UNIX environment variables required by JD Edwards EnterpriseOne.
3. Create a package using SAM.

---

**Note.** You can also use the command line to create a package. See HP documentation for details.

---

For JD Edwards EnterpriseOne, set up a package with an associated floating IP address, but with no services. This setup is necessary because the cluster manager needs to start services without environment variables under the root user. The software will not run properly unless you set environment variables. This setup also enables you to utilize the installation defaults and the start and end scripts provided by the JD Edwards company.

Depending on the needs of the enterprise, you might want to install JD Edwards EnterpriseOne on a shared volume group. This setup enables multiple nodes in a cluster to access a single version of JD Edwards EnterpriseOne, but only one node at a time. This setup also enables you to easily update JD Edwards EnterpriseOne through server package installations.

4. Using SAM, modify the package control script on each node to start and stop JD Edwards EnterpriseOne.

---

**Note.** You might need to vary the control scripts for different nodes in the cluster to configure different volume group names or path names. In this case, you must edit the scripts on each node individually instead of using SAM.

---

This code sample provides an example of the `customer_defined_run_cmds` function from a package control script:

```
function customer_defined_run_cmds
{
# ADD customer defined run commands
# wait 60 seconds for Oracle to come up
sleep 60. /home/jde/owenvsu jde
<< EOF1mv $OWHOME/log/jde*.log
$OWHOME/log/oldlogscd
$SYSTEM/bin32RunOneWorld.sh
EOF1
test_return 51
}
```

This code sample provides an example of the `customer_defined_halt_cmds` function from a package control script:

```
function customer_defined_halt_cmds
{
# ADD customer defined halt commands
.. /home/jde/owenv
su jde << EOF2
cd $SYSTEM/bin32
EndOneWorld.sh
sleep 15
rmics.sh
EOF2
test_return 52
}
```

The following list provides explanations for these functions:

`sleep 60`

The "run" function first waits 60 seconds for Oracle processes to start. HP states that you should set the `PKG_SWITCHING_ENABLED` parameter to NO for applications that access OPS. This setting prevents these applications from starting before OPS is active. If you use the sleep command in the script, you do not need to modify this setting. You can remove the sleep command from the script when you use the control script for a backup node with OPS running.

`. /home/jde/owenv`

This line runs the `owenv` script to set up UNIX environment variables. The `owenv` script resides in the `$SYSTEM/bin32` directory. You must edit this script to ensure that the correct setup exists for all necessary environment variables for JD Edwards EnterpriseOne and Oracle. In these examples, the script has been moved to the home directory of the `jde` user. The script might need to move to the home directory if you use a different SID to access Oracle from different nodes.

`su jde`

This line switches to the user ID that owns the JD Edwards EnterpriseOne processes. If you omit this line, the root user owns the JD Edwards EnterpriseOne processes.

```
mv $OWHOMELog/jde*.log $OWHOMELog/oldlogs
```

This line moves any logs in the log directory to a backup log directory, which you create. This command is particularly important if the JD Edwards EnterpriseOne instance resides on a shared disk where a "failed over" instance of JD Edwards EnterpriseOne will use the same physical disk space as the failed instance. You might consider adding the command `rm $OWHOMELog/oldlogs/*` before this line to clean out any older versions of logs.

```
RunOneWorld.sh; EndOneWorld.sh
```

These are the standard start and stop scripts that we provide for the UNIX enterprise server.

The directory that contains the package control script also contains the `control.sh.log` file, which contains the results of starting and stopping a package. This file is the first place to check if problems arise when you start or stop a package. In particular, it will contain any output or error messages from the customer-defined commands you might enter.

---

## Setting up HACMP for AIX Clustering

This section provides an overview of HACMP for AIX clustering and discusses how to create group and user accounts.

### Understanding HACMP for AIX Clustering

If a failure occurs, HACMP provides a transparent recovery for critical applications. You can configure a cluster using any RS/6000 processor and a variety of network adapters and disk subsystems to satisfy the LAN, disk capacity, and performance requirements.

Be careful when you delete or write to shared files. You might want to move old log files rather than delete them. If you move a package running on a shared file system from one node to another, the new instance of JD Edwards EnterpriseOne references the logs and files from the old instance.

### How HACMP Works

HACMP for AIX (Version 4.2) enables customers to automatically detect system failures and recover users, applications, and data on backup systems, minimizing downtime to minutes or seconds. In addition, using HACMP for AIX virtually eliminates planned outages, since users, applications and data can be moved to backup systems during scheduled system maintenance. HACMP Version 4.2 adds new features such as the Cluster Single Point of Control (CSPOC) and Dynamic Reconfig, which enable the system administrator to add users, files, and security functions without stopping mission-critical jobs.

HACMP provides several configuration options, including these:

- Idle standby for up to seven processors being backed up by a single processor.
- Rotating standby for up to seven processors backed up by a standby processor in a predefined or contention takeover sequence.
- Mutual takeover for up to eight processors backing each other up by sharing the application workloads.
- Concurrent access for up to eight processors working on the same jobs and sharing the same data.

The configuration flexibility of HACMP enables customers to select the cluster topology and database manager that best suits the requirements of their computing environment. IBM states that HACMP can support both concurrent and parallel data access within a common cluster. HACMP also operates with the new Parallel Database Products, such as IBM DB2 Parallel Edition and Oracle 8 Parallel Server.

Several components make up the HACMP environment, including these:

- Nodes

Nodes are the core of an HACMP cluster. A node is a processor that runs the AIX operating system, HACMP, and the mission-critical software. Software execution can be spread over several nodes for system load balancing. In the event of a failover, HACMP executes customer-defined scripts that will establish environments and start specific software packages on a standby node.

- Shared external disk

Shared external disks are disks that are physically connected to multiple nodes. The shared disks store mission-critical data, which is shared among processes running on separate nodes.

- Networks

Networks are the independent components of HACMP. TCP/IP is the protocol with which HACMP was designed to function. It has been tested with ethernet, token ring, and Fiber Distributed Data Interface (FDDI) topology.

- Network adapters

- Clients

## Installation Considerations

Installing the HACMP cluster requires that you create logon accounts and use the Oracle Standard Enterprise Database Management System (DBMS).

A major consideration when setting up HACMP and JD Edwards EnterpriseOne is user accounts. When these accounts are created, they are given unique user IDs and unique role IDs. When a node fails over to another node, these unique IDs are matched to names in the `/etc/passwd` and `/etc/role` files. If no matches occur, the unique user and role values are then used as IDs, which can create problems with access and security.

To avoid a problem, before starting the JD Edwards EnterpriseOne installation or configuration, create all user accounts and roles on all nodes that will be used in the cluster environment. Use the same unique number for all users and the same unique number for all roles. The easiest way to do this is to use the `add user/role` function found in the HACMP extension of SMIT.

If JD Edwards EnterpriseOne is already installed, use the existing user and role ID numbers to create accounts on the nodes that are defined in the resource group.

Oracle Standard Enterprise DBMS is used in the HACMP configuration explained in this chapter. The resource control scripts are coded to start and stop the database using standard Oracle program calls. These scripts can be easily modified to allow for changes in database start and stop procedures as well as the introduction of commands for Oracle Parallel Server. To minimize installation and configuration problems, have the database administrator review the commands in the control scripts to ensure that they are correct for the installation.

## Creating Group and User Accounts

By performing this operation using the `add group/user` option in the HACMP component of SMIT, all user accounts and group assignments are synchronized across all nodes. This ensures that when the resource disk volume groups remount on the failover system, the user and group IDs match.

To create group and user accounts:

1. Verify that HACMP is running on all nodes within the resource group.
2. Select a unique ID number that can be assigned to the new group and user that you want to create.

3. Verify the selection by searching all password and group files on the node where the new user and group will be created.
4. Enter this command on the command line:  
  

```
# smit hacmp
```
5. From the menu, select Cluster System Management, then Cluster Users & Groups, then Groups, and then Add a Group to the Cluster.
6. Select the resource group to which you want to add the new group. The resource group identifies the nodes that will need to be updated. Next, add a group called JD Edwards EnterpriseOne and assign it the unique ID number that you chose.
7. Press ENTER.
8. From the Cluster Users & Groups panel, select Users and then Add a User to the Cluster.
9. Select the same resource group that you chose for adding a group.
10. Add a user psft, assign it the pre-selected unique ID number, and select the JD Edwards EnterpriseOne group.
11. Repeat these steps for the Oracle sign on, creating the group dba.

---

## Setting Up JD Edwards EnterpriseOne for HACMP

The standard JD Edwards EnterpriseOne enterprise server software requires minimal modifications to function in a cluster, including editing the enterprise server jde.ini file, the owenv script, the start resource control script, and the stop resource control script.

This section discusses how to:

- Edit the owenv script.
- Edit the Start Resource Control script.
- Edit the Stop Resource Control script.

### Editing the owenv Script

To edit the owenv script:

1. In Windows Explorer, go to the /\$SYSTEM/bin32 directory and open the owenv file.
2. Edit the emphasized lines:

```
#!/bin/ksh
## set OWHOME to point to the base install path for JD Edwards EnterpriseOne
export OWHOME=/ow2/JDEdwards/E812
## set ENVIRON to the path code from which you want to run business functions
export ENVIRON=MSTR
## set up the path to your JD Edwards EnterpriseOne system and path code
export SYSTEM=$OWHOME/system
export APPDEV=$OWHOME/$ENVIRON
## set JDE_BASE to the location of your JDE.INI file
export JDE_BASE=$SYSTEM/ini/aix
```

```
## set up the Oracle environment
export ORACLE_HOME=/u01/app/oracle/product/8.0.5
export ORACLELIB=$ORACLE_HOME/lib
## the remaining variables point to libraries and executables
export SHLIB_PATH=$SYSTEM/lib:$APPDEV/bin32:$ORACLELIB:$SYSTEM/libv32
export LD_LIBRARY_PATH=$SHLIB_PATHexport PATH=$PATH:$SYSTEM/bin32
```

3. Save and close the file.

## Editing the Start Resource Control Script

To edit the start resource control script:

1. In Windows Explorer, go to the /\$SYSTEM/bin32 directory and open the StartResource.sh file.
2. Edit the emphasized lines:

```
# _____
#Global Variables
# _____
#
#export PATH=$PATH
#Set environment variables
#
./usr/sbin/cluster/scripts/owenv
#
loop=0
StartUpError=false
ORACLEPROCESS=oracle
OWStartupDir=$SYSTEM/bin32
StartUpLog=$OWStartupDir/OWStartup.log
ORACLE_UID=oracle
APP_UID=psft
LOGFILES=$OWStartupDir/jde*.log
```

The first emphasized line executes the script that sets various required JD Edwards EnterpriseOne environment variables.

---

**Note.** This script, as well as others, will be relocated into the scripts directory as described in the Control Scripts section under Creating an Application Server in the JD Edwards EnterpriseOne Tools 8.94 Implementation Guide: Server and Workstation Administration.

---

ORACLE\_UID and APP\_UID are the login ID names for Oracle and JD Edwards EnterpriseOne. These are used in the script so that the respective applications are started with the proper application ownership.

---

**Note.** This script is delivered with these IDs undefined. If the script is executed, an error message will be generated.

---

3. Save and close the file.

## Editing the Stop Resource Control Script

To edit the stop resource control script:

1. In Windows Explorer, go to the /\$SYSTEM/bin32 directory and open the StartResource.sh file.
2. Edit the bold lines:

```
# _____
#Global Variables
# _____
export PATH=$PATH:.
#
# Set environment variables
#
./usr/sbin/cluster/scripts/owenv
LogicalVolumn=/ow2
ShutdownDir=$SYSTEM"/bin32"
StartupLog=$OWStartupDir"/OWStartup.log"
APP_UID=psft
```

Similar to the script modification described in the previous procedure, the APP\_ID needs to have the login ID of the application owner. In this example, psft owns the application.

3. Save and close the file.

---

## Creating an Application Server

The application server is a method that invokes predetermined actions of applications. The server is called in the cluster startup or shutdown sequence and executes predefined scripts depending on what activity is occurring. As part of the cluster installation and configuration process, an application server must be created and the access path to the control scripts defined.

This section discusses how to:

- Move the control scripts.
- Define an application server.
- Define cluster resources.

### Prerequisite

The control scripts that are included with JD Edwards EnterpriseOne are located in the /\$SYSTEM/bin32 directory. These scripts are generic and can be modified as needed to meet the requirements. Before you can create an application server, you must move the scripts to a non-shared disk directory.

### Moving the Control Scripts

To move the control scripts:

1. Log in as root and enter these commands:

```
#export SYSTEM=< JD Edwards EnterpriseOne system directory path>
```

Where JD Edwards EnterpriseOne system directory path is the path to the system directory. An example of the path is /ow2/JDEdwards/812/system.

```
# cd /usr/sbin/cluster
```



```
# mkdir scripts
# cd scripts
```

Be sure to include the periods, preceded by a single space, in these commands:

```
# cp $SYSTEM/bin32/StartResource.sh .
# cp $SYSTEM/bin32/owenv .
# chmod 755 *
```

2. Repeat this step on all failover nodes and FTP over the modified script files.

## Defining an Application Server

To define an application server:

1. From the command line, enter this command:

```
# smit hacmp
```

2. From the menu, select Cluster Configuration, then Cluster Resources, then Define Application Servers, and then Add an Application Server.
3. In the Server Name field, enter *OneWorldSrv*. This adds a label to the resource server that controls the starting and stopping of JD Edwards EnterpriseOne.
4. In the Start Script field, enter the path of the StartResource.sh script - for example, */usr/sbin/cluster/scripts/StartResource.sh*.
5. In the Stop Script field, enter the path of the StopResource.sh script - for example, */usr/sbin/cluster/scripts/StopResource.sh*.
6. Press ENTER.

## Defining Cluster Resources

This procedure explains how to let HACMP know that you have defined an application server. This is so that HACMP will know to use the server during a cluster-related event. Within the cluster parameters display is a field in which this resource is defined.

To define cluster resources:

1. From the command line, enter this command:

```
# smit hacmp
```

2. From the menu, select Cluster Configuration, Cluster Resources, Change/Show Resource for a Resource Group.
3. Select the resource group - for example, JD Edwards EnterpriseOne.
4. On Configure Resources for a Resource Group, in the Application Server field, enter the name of the application server that you defined in the previous procedure.

---

## Setting Up Sun Solaris Clustering

This section provides an overview of Sun Solaris clustering and discusses how to:

- Modify the SunStartResource.sh script.
- Modify the SunStopResource.sh script.
- Modify the owenv script.
- Modify the SunOracleMgr.sh script.
- Register JD Edwards EnterpriseOne with SUNClustering.

## Understanding Sun Solaris Clustering

This software provides higher availability for the applications because it enables you to recover almost instantaneously from a power failure or hardware problem. It also enables applications to be available during scheduled downtime.

This documentation assumes that you have successfully installed Oracle and the SUNClustering software. If you are having trouble with either of these products, you should contact Oracle or Sun as needed.

You must have a disk that is accessible to all machines in the cluster, and this disk must be large enough to accommodate the JD Edwards EnterpriseOne installation. If you wish to place the database on the same cluster as well, the database file must also be placed on a shared disk accessible to all machines in the cluster (although not necessarily on the same shared disk as the one that the JD Edwards EnterpriseOne server is on).

The SUNClustering 2.2 or greater API is recommended.

Four cluster-specific scripts are delivered with JD Edwards EnterpriseOne:

- SunStartResource.sh
- SunStopResource.sh
- owenv
- SunOracleMgr.sh

These scripts can be found in the system/bin32 directory under the base JD Edwards EnterpriseOne installation directory.

The SunStartResource.sh script runs whenever a node in the cluster starts the JD Edwards EnterpriseOne service. It must be registered with the SUNClustering software and should handle everything that needs to happen when the JD Edwards EnterpriseOne service starts or is switched from one node to another.

The SunStopResource.sh script runs whenever a node in the cluster stops the JD Edwards EnterpriseOne service. It is registered with the SUNClustering software, and handles shutting down various processes and any cleanup that needs to happen when the JD Edwards EnterpriseOne service is stopped.

The owenv script sets various UNIX environment variables that are needed by JD Edwards EnterpriseOne. The script is called from within the SunStartResource.sh and SunStopResource.sh scripts.

The SunOracleMgr.sh script is necessary if you are running the database on the same cluster as the JD Edwards EnterpriseOne server. If you are not running the database on the same cluster, you can ignore this section.

### See Also

Chapter 9, “Administering JD Edwards EnterpriseOne on a Unix Cluster,” Registering JD Edwards EnterpriseOne with SUNClustering, page 209

## Modifying the SunStartResource.sh Script

To modify the SunStartResource.sh script:

1. Under Global Variables, there is a call to /suncldata/JDEdwards/E812\_sp1/system/bin32/owenv. Change /suncldata/JDEdwards/E812\_sp1/ to the same path that *OWHOME* was set to in the owenv script.
2. Set the APP\_UID to the user name that JD Edwards EnterpriseOne is to be run under.
3. Set ORACLE\_UID to the user that is to run Oracle if the database is on the same cluster as JD Edwards EnterpriseOne.
4. If you are using Oracle, uncomment the section under Check for ORACLE running and Check to see if ORACLE started/running.

## Modifying the SunStopResource.sh Script

To modify the SunStopResource.sh script:

1. Under Global Variables, change the call to /suncldata/JDEdwards/E812\_sp1/system/bin32/owenv to the same thing that is in the SunStartResource.sh script.
2. Set APP\_UID and ORACLE\_UID to the users running JD Edwards EnterpriseOne and Oracle, respectively. These values will be the same as in SunStartResource.sh.
3. Under the Shutdown JD Edwards EnterpriseOne section, set LOGDIR to be the location where all the log files are located.

## Modifying the owenv Script

To modify the owenv script:

1. Set OWHOME to be the base directory of JD Edwards EnterpriseOne, for example, /suncldata/JDEdwards/E812\_sp1/.
2. Set ENVIRON to the pathcode that you are using, for example, PROD or CRP.
3. Once OWHOME and ENVIRON are set, SYSTEM, APPDEV, AND JDE\_BASE should be correct.
4. Set ORACLE\_HOME to be the location of the ORACLE installation on the machine, for example, /suncldata/app/oracle/product/8.0.5.
5. Set ORACLE\_SID as needed.

## Modifying the SunOracleMgr.sh Script

To modify the SunOracleMgr.sh script:

1. In the Setup Global Variables section of the script, set ORACLE\_UID to the user ID that is used to start Oracle.
2. Set ORACLE\_HOME to the appropriate value for the Oracle installation.

## Registering JD Edwards EnterpriseOne with SUNClustering

You must register JD Edwards EnterpriseOne with the SUNClustering software.

To register JD Edwards EnterpriseOne with SUNClustering:

1. To register JD Edwards EnterpriseOne with SUNClustering, log in as the root user and enter this command:

```
/opt/SUNWcluster/bin/hareg -r[service name] -m start_net=[absolute path of
SunStartResource.sh] -mstop_net=[absolute path of SunStopResource.sh]
```

Where service name can be anything you want, but you may want to make it something easy to remember like JD Edwards since you will need to use that name when modifying JD Edwards EnterpriseOne registry with SUNClustering.

2. Enter this command with no options:

```
/opt/SUNWcluster/bin/hareg
```

If the line containing the service name you assigned to JD Edwards EnterpriseOne contains off, then enter this command:

```
/opt/SUNWcluster/bin/hareg -y [service name]
```

This sets the data service to “on,” which enables the data service to switch physical hosts when appropriate.

3. To test whether the ccluster switches, enter this command:

```
/opt/SUNWcluster/bin/haswitch
```

Also, try pulling the plug on the current active host.

---

**Note.** You should not use reboot or shutdown on the primary node as a test as doing so will result in an error and not in a switchover.

---

## Troubleshooting HP-UX Clustering

These sections address specific problems with HP-UX clustering.

### Problems with Oracle Parallel Server (OPS)

Complete these steps if you experience problems with OPS:

- Verify that the cluster software is operational. OPS requires the cluster software to start before OPS can start.
- Verify that DLM is enabled in the DLM configuration. Oracle Group Management Services (OGMS) will not start if DLM is disabled.

### JD Edwards EnterpriseOne Does Not Start

Complete these steps if JD Edwards EnterpriseOne fails to start:

- When you start JD Edwards EnterpriseOne using the package control script, first check the control script log for errors. Look for errors in the script that occur before the RunOneWorld.sh command.
- Check the log directory for log files. If none reside, verify that the JD Edwards EnterpriseOne processes exist in the proper directory and that you correctly set the \$SYSTEM environment variable.
- If the log file names are in all capital letters, the \$JDE\_BASE environment variable might be set incorrectly. If you incorrectly set this environment variable, the process will be unable to locate the jde.ini file.
- Verify whether an entry exists in the /etc/hosts table for the floating IP address. If no entry exists, jdenet\_n will start, but all other processes will return this message in the log: 239-gethostbyname returned Connection refused.
- If no entry for the floating IP address exists that the workstation can reference, it will fail to connect and return this message in the log: 11001-gethostbyname returned 11001 (WSAHOST\_NOT\_FOUND): The host was not found.

**Problem with Workstation Connection to a JD Edwards EnterpriseOne Server; Endnet Works Improperly on the Server**

You must associate an IP address with the JD Edwards EnterpriseOne package. The package must be operational for the IP address to be active. Otherwise, workstations will not connect to the server and endnet will not work properly on the server.

**JD Edwards EnterpriseOne Does Not Work From the Package Control Script**

Oracle must be operational and the owenv must reference the proper SID for JD Edwards EnterpriseOne to work from within the package control script.

**Package Does Not Switch to the Backup Node upon Failure or Removal from the Cluster**

You must enable automatic switching in the package failover options. If you do not enable this setting, the package will not switch to the backup node when the node fails or you remove the node from the cluster. If you do not want the package to switch, for example, you might want to stop JD Edwards EnterpriseOne, you can disable this flag and then halt the package.

**Package Halt Fails**

If JD Edwards EnterpriseOne does not end cleanly during a package halt, the package halt might fail. This could occur if Oracle is not operational or if JD Edwards EnterpriseOne cannot access the database. You might need to change the test condition in the package control script, or add commands to search for remaining JD Edwards processes and end them.

**Placement of the owenv File**

Generally, the owenv file should not reside on the shared disk. Different environment settings, particularly ORACLE settings, might exist depending on which node you run a package. If you placed the JD Edwards EnterpriseOne bin32 directory on a shared disk, move the owenv file to another directory.



## CHAPTER 10

# Administering JD Edwards EnterpriseOne on a Windows Cluster

Configuration of MSCS has changed with Oracle's JD Edwards EnterpriseOne 8.9. This information is only valid beginning with JD Edwards EnterpriseOne 8.9 and should not be used with previous releases. For more information about how to install and set up a Microsoft cluster, see the appropriate Microsoft documentation.

This section discusses how to:

- Upgrade JD Edwards EnterpriseOne in a Windows cluster environment.
- Set up JD Edwards EnterpriseOne on a Windows cluster.
- Create a static IP address for the JD Edwards network name.
- Test JD Edwards EnterpriseOne connections on the cluster.
- Set Advanced Options for JD Edwards EnterpriseOne resources.
- Set failover and failback parameters.
- Troubleshoot a Windows cluster.

---

## Prerequisites

Before you complete the tasks in this section:

- Partition the disk array to logically divide the software components. Typically, you will set up these partitions:
  - A partition that contains the cluster software.
  - A partition that contains the JD Edwards EnterpriseOne software.
  - A partition that contains the database management system (DBMS) software and database if these reside on the cluster system.
- If you will be using Microsoft clustering in conjunction with a DBMS, such as Oracle Fail Safe, SQL Server, or UDB DB2, consult the installation documentation for the appropriate DBMS before installing Windows enterprise server.
- Configure the network, which includes setting up connections among servers, workstations, and printers.

---

**Note.** Microsoft cluster server software only supports TCP/IP. Microsoft cluster server software does not support the use of Dynamic Host Configuration Protocol (DHCP) for the assignment of IP addresses.

---

Although you need only one network card in each node, you should use two cards to ensure redundancy. One network card will communicate with the public network, and the second card will connect between nodes. This setup enables the cluster to remain active when the primary node loses the network connection. If you use only one network card, when a node loses the network connection that node also loses the connection to other nodes in the cluster.

- If the database and Oracle's JD Edwards EnterpriseOne are both running on the cluster, they can be configured to run on separate nodes. To accomplish this, separate JD Edwards EnterpriseOne resources and database resources into different groups. Also, be sure that JD Edwards EnterpriseOne and the database do not share disk resources. JD Edwards EnterpriseOne resources will need to be in the same group as the cluster network name and cluster IP address. This can be the cluster group.

When the JD Edwards EnterpriseOne and database groups are in separate groups, the database group must be online before bringing the JD Edwards EnterpriseOne resources online.

If you do not require JD Edwards EnterpriseOne and database resources to run on separate nodes, place all database and JD Edwards EnterpriseOne resources in the cluster group.

### See Also

Starting the Windows Enterprise Server in the *JD Edwards EnterpriseOne Installation Guide*

*JD Edwards EnterpriseOne Tools 8.96 System Administration Guide*, "Working with Servers," Managing Server Jobs

---

## Upgrading JD Edwards EnterpriseOne in a Windows Cluster Environment

If you are already running JD Edwards EnterpriseOne in a cluster but are upgrading to JD Edwards EnterpriseOne 8.9 or later, you must change the cluster configuration for the cluster to operate properly. JD Edwards EnterpriseOne 8.9 and later releases require use of an IP address, and a network name separate from the cluster IP address and network name. (In previous releases, we used the cluster network name and IP address for the JD Edwards EnterpriseOne enterprise server name.)

Since the cluster name exists in JD Edwards EnterpriseOne ini files and tables, the recommended solution is to rename the cluster and create new resources for the JD Edwards EnterpriseOne group using the old cluster name and a different IP address. This requires changing the static IP address associated with the old cluster name to avoid an IP address conflict. Consult the Microsoft documentation on renaming a cluster. After the cluster is renamed, continue with these instructions.

---

## Setting Up JD Edwards EnterpriseOne on a Windows Cluster

This task explains how to set up JD Edwards EnterpriseOne on a Windows cluster. This example is for a two node cluster.



---

**Note.** JD Edwards EnterpriseOne executables (such as runube) running from a command line on a Windows Cluster server node on Microsoft Windows 2003 and later releases, return the node name instead of the cluster name for the enterprise server name. This happens because the executable is not a defined resource in Windows Cluster Services. This creates an issue when trying to retrieve the job in JD Edwards EnterpriseOne.

To resolve this problem, add the following setting to the jde.ini file of the enterprise server. You can add this setting to any location, but we recommend adding it after the [DEBUG] section:

[CLUSTER]

PrimaryNode=*Cluster Name*

---

To set up JD Edwards EnterpriseOne on a Windows cluster:

1. Consult the JD Edwards MTRs to determine the appropriate Windows OS level. Install the OS on each node. Use member servers and not domain controllers.
2. Install Microsoft Cluster Server (MSCS) software on each node using an account that has administrator authority.  
Refer to the appropriate Microsoft documentation for specific instructions on the installation of MSCS.
3. Access the cluster to verify the installation of MSCS.
4. Install JD Edwards EnterpriseOne on the disk designated for JD Edwards EnterpriseOne enterprise server. All nodes will share a single copy of JD Edwards EnterpriseOne. The name used for the enterprise server will be the JD Edwards EnterpriseOne network name and used by JD Edwards EnterpriseOne to reference the cluster.
5. On the node which currently owns the JD Edwards EnterpriseOne disk, install the network service, open a DOS command window. Change the directory location to the system/bin32 directory for JD Edwards EnterpriseOne.
6. Type *jdesnet -I*.  
A message will be returned stating that the service was installed.
7. Exit the command prompt and open services.
8. Right click the JD Edwards Network Service and select Properties.
9. Click This Account and change the account to a valid domain account that is in the local administrators group.
10. In the server jde.ini, verify that all references to the enterprise server are set to the JD Edwards EnterpriseOne Network name.
11. Open cluster administrator.
12. Right click the cluster name, and select New, Group.
13. Type in the cluster name and a description.
14. Click Next.
15. Add the required nodes to the preferred owners list.
16. Click Finish.
17. When the cluster group is successfully created, click OK.
18. Right click the cluster administrator screen and select New, then Resource.

Three resources will need to be created to complete the setup. The first resource is the IP address resource for JD Edwards EnterpriseOne.

19. Type a name and description for the JD Edwards EnterpriseOne IP address. Resource type is the IP Address. The group name should be the group just created
20. Click Next.
21. Verify that all required nodes are preferred owners.
22. Click Next.

The next screen defines dependencies. The IP resource should not have any dependencies.

23. Click Next.
24. Add the IP address and subnet mask.
25. Select Public from the available list, and select Enable NetBios for this address.
26. Click Finish.

A pop-up should appear verifying successful configuration of the resource.

27. To set up the Network Name resource, right-click the cluster administrator screen and select New — Resource.
28. Fill in the name with the JD Edwards EnterpriseOne Network name you have chosen. Add a description, select Network Name from the available list and select the group you created earlier
29. Click Next.
30. Verify that all required nodes are preferred owners.
31. Click Next.

The next screen defines dependencies. The Network Name should have the IP address as a dependency

32. Click Next.

Specify the Network Name in the Name field.

33. Select the DNS registration check box. Do not select the Enable Kerberos Authentication check box.
34. Click Finish. The program should display a message verifying successful configuration of the resource
35. Click OK.
36. Right click the cluster administrator screen and select New — Resource.
37. Fill in a name and a description that will help you identify the JD Edwards network service. Select Generic Service as the resource type, and select the JD Edwards group you created earlier.
38. Click Next.
39. Verify that all required nodes are preferred owners.
40. Click Next.

The next screen defines dependencies. The only required dependency that needs to be added is the JD Edwards Network Name resource.

41. Click Next.
42. Type in the service name exactly as it appears in Microsoft services. Leave start parameters blank.
43. Select the check box for Use Network Name.
44. Click Next.

Do not change the Registry Replication screen.

45. Click Finish.

The program should display a message verifying successful configuration of the resource

The installation of the resources is complete.

JD Edwards EnterpriseOne can be started and stopped as necessary by using the cluster administrator, right click the network service resource, and selecting online or offline as needed. Because the network IP address and the network name are dependent on the JD Edwards network service resource, all of the resources will start in the proper order when the network service resource is brought online.

## Adding JD Edwards EnterpriseOne Network Resources to the Group

To add the JD Edwards EnterpriseOne network resources to the cluster group:

1. From the Cluster Administrator main menu, select File, New, Resource.
2. On New Resource, complete these fields for the JDE network resources, and then click Next.
  - Name
  - Description
  - Resource Type  
Select Generic Service from the list.
  - Group Name  
Select the cluster group.

---

**Note.** Do not select the option to Run this resource in a separate Resource Monitor.

---

3. On Possible Owners, verify that the possible owners match the preferred owners, and then click Next.
4. On Dependencies, select the JD Edwards EnterpriseOne physical disk resource and the cluster network name, click Add, and then click Next.

You establish this dependency to ensure that the resources are available when the network service starts. Network and queue resources will not function if the drive is unavailable.
5. On Generic Service Parameters, complete these steps, and then click Next:
  - Type the JDE network service name as it appears in the NT Services applet.
  - Leave the Startup Parameters field blank.
6. On Registry Replication, click Finish.
7. On Cluster Administration, click OK.

## Starting and Stopping the JD Edwards EnterpriseOne Resources on the Cluster

In a cluster environment, use Cluster Administrator to start and stop JD Edwards EnterpriseOne network and queue services. JD Edwards EnterpriseOne resources should be started and stopped in the same order as in the Windows Services applet: start the network service first and then the queue service. When stopping, stop the queue service first and then the network service.

To start and stop the JD Edwards EnterpriseOne resources on the cluster:

1. To start network or queue services or both services, in Cluster Administrator, right-click the JD Edwards EnterpriseOne resource and select Online.
2. To stop network or queue services or both services, in Cluster Administrator, right-click the JD Edwards EnterpriseOne resource and select Offline.

## Testing JD Edwards EnterpriseOne Connections on the Cluster

JD Edwards EnterpriseOne network and queue services must be set up before you can test connections on the cluster.

To test JD Edwards EnterpriseOne connections on the cluster:

1. Sign on to Windows.
2. Using Cluster Administrator, verify that all JD Edwards EnterpriseOne resources are online for the JD Edwards EnterpriseOne group.
3. To verify that JD Edwards EnterpriseOne is installed correctly on the cluster server, enter these commands to run porttest:

```
cd \JDEdwards\ddp\xxxx\System\Bin32
porttest userID password environment
```

Where *xxxx* is the specific release of JD Edwards EnterpriseOne (for example, 812), *userID* is a valid JD Edwards EnterpriseOne user, *password* is the password for that user, and *environment* is the environment you are verifying. These parameters are case-sensitive. Enter the porttest command for each environment.

The porttest program initializes a user and an environment, assuming that JD Edwards EnterpriseOne is correctly installed and configured. The program should display messages indicating the selection of records out of a JD Edwards EnterpriseOne table. If it does not, review the *jde\_####.log* file specified in the *jde.ini* file on the enterprise server.

4. Sign on to a JD Edwards EnterpriseOne workstation, and then run a batch application.  
For example, submit the Business Unit Master All Companies report (R0006P). Verify that the report processed successfully on the UBE server.
5. Using the Cluster Administration tools, stop JD Edwards EnterpriseOne on the first node by right-clicking the node name and selecting *Cluster Service*.  
All groups will failover to the second node.
6. Verify that all resources are online on the second node, and repeat these steps.

## Setting Advanced Options for JD Edwards EnterpriseOne Resources

To set advanced options for JD Edwards EnterpriseOne resources:

1. From the Cluster Administrator main menu, open the group that contains the resource you want to modify.
2. Select a resource, and then select Properties from the File menu.
3. Select the Advanced tab, and then select one of these options:
  - Do Not Restart

- Restart

If you want to disable failover, select Do Not Restart.

4. Review the values on the form. For more information about these values, see the appropriate Microsoft clustering documentation.

## Setting Failover and Failback Parameters

To set failover and failback parameters:

1. From the Cluster Administrator main menu, select the appropriate group, and then select Properties from the File menu.
2. Select the Failover tab, and review these fields:
  - Threshold  
This field determines the number of failovers attempted by MSCS.
  - Period  
This field determines the period of time during which MSCS attempts failovers.
3. Select the Failback tab and review these options:
  - Prevent Failback
  - Allow Failback  
The setting for this option can be immediate or during a set period of time.

For more information about these parameters, see the appropriate Microsoft clustering documentation.

## Troubleshooting Windows Clustering

This section includes these troubleshooting tasks:

### Changing an IP Address

After moving the cluster equipment to another area, we had to change the IP address for cluster nodes and any virtual machines connected to them. In order to perform this task, we had to uninstall Microsoft Cluster Services (MSCS), which required the removal of all resources and groups already defined. It also required uninstalling database management system (DBMS) cluster software, which included SQL Server Cluster Manager and Oracle Failsafe. The final steps were uninstalling MSCS, changing the physical IP address in the nodes, reinstalling MSCS using the new IP address for the virtual machine, and reinstalling SQL Server Cluster Manager and Oracle Failsafe.

### Reinstalling MSCS

If you have already installed a version of Microsoft Cluster Server (MSCS) software and you need to uninstall it, you must use the Add/Remove Programs tool to uninstall MSCS.

---

## Creating a Static IP Address for the JD Edwards Network Name

Starting with JD Edwards EnterpriseOne 8.9, you must create a network name for JD Edwards. The network name is used for the enterprise cluster server name. If you are installing a cluster aware DBMS, it also requires one or more static IP addresses.

---

**Note.** Microsoft cluster server software only supports TCP/IP. Microsoft cluster server software does not support the use of Dynamic Host Configuration Protocol (DHCP) for the assignment of IP addresses.

---

Although each node only requires one network card, Microsoft recommends using two network cards as a backup. One network card will communicate with the public network, and the second card will connect between nodes. This setup enables the cluster to remain active when the primary node loses the network connection. If you use only one network card, when a node loses the network connection, that node also loses the connection to other nodes in the cluster.

If the database and JD Edwards EnterpriseOne are both running on the cluster, they can be configured to run on separate nodes. To accomplish this, separate JD Edwards EnterpriseOne resources and database resources into different groups. Also ensure that JD Edwards EnterpriseOne and the database do not share disk resources. JD Edwards EnterpriseOne resources should be in a group other than the cluster group. JD Edwards EnterpriseOne resources will have their own network name and IP address.

When the JD Edwards EnterpriseOne and database groups are in separate groups, the database group must be online before bringing the JD Edwards EnterpriseOne resources online.

If you do not require JD Edwards EnterpriseOne and database resources to run on separate nodes, place all database and JD Edwards EnterpriseOne resources in the same cluster group.

If you use Oracle, SQLServer, or IBM UDB cluster services, the cluster might experience dependencies on database resources. Consult the appropriate Oracle, SQLServer, or IBM UDB documentation for more information.

---

## Testing JD Edwards EnterpriseOne Connections on the Cluster

Complete this task to test the JD Edwards EnterpriseOne connection.

---

**Note.** JD Edwards EnterpriseOne network and queue services must be set up before you can test connections on the cluster.

---

To test a JD Edwards EnterpriseOne Connection:

1. Sign on to Windows.
2. Using Cluster Administrator, verify that all JD Edwards EnterpriseOne resources are online for the JD Edwards EnterpriseOne group.
3. To verify that JD Edwards EnterpriseOne is installed correctly on the cluster server, enter these commands to run porttest:
  - `cd \jdedwardsoneworld\ddp\xxx\System\Bin32`  
where xxx is the specific release of JD Edwards EnterpriseOne, for example, E812.

- `porttest userID password environment`

Where *userID* is a valid JD Edwards EnterpriseOne user, *password* is the password for that user, and *environment* is the environment you are verifying.

---

**Note.** These parameters are case-sensitive.

---

If JD Edwards EnterpriseOne is installed and configured correctly, the porttest program initializes a user and an environment. The program should display messages indicating the selection of records out of a JD Edwards EnterpriseOne table. If it does not, review the `jde_####.log` file that was specified in the `jde.ini` file on the enterprise server.

4. Sign on to a JD Edwards EnterpriseOne workstation, then run a batch application.  
For example, submit the Business Unit Master List - All Companies report (R0006P). Verify that the report processed successfully on the UBE server.
5. Stop JD Edwards EnterpriseOne on the first node using the Cluster Administration tools.
6. To stop cluster services on the first node, right-click the node name and select Cluster Service. All groups will failover to the second node.
7. Verify that all resources are online on the second node and repeat these steps.

### See Also

*JD Edwards EnterpriseOne Tools 8.96 System Administration Guide*, “Working with Servers,” Managing Server Jobs

---

## Setting Advanced Options for JD Edwards EnterpriseOne Resources

This task explains how to set up advanced options for JD Edwards EnterpriseOne on a Windows NT cluster in a two-server configuration.

1. From the Cluster Administration main menu, open the group that contains the resource that you want to modify.
2. Select a resource, and then select Properties from the File menu.
3. Select the Advanced tab, and select one of these options:
  - Do Not Restart
  - Restart

If you want to disable failover, select Do Not Restart.

4. Review the values on the form.

For more information about these values, see the appropriate Microsoft clustering documentation.

---

## Setting Failover and Failback Parameters

This task explains how to set up fail parameters for JD Edwards EnterpriseOne on a Windows NT cluster in a two-server configuration.

1. From the Cluster Administrator main menu, select the appropriate group, then select Properties from the File menu.
2. Select the Failover tab, and review these fields:
  - Threshold: Determines the number of failovers attempted by MSCS.
  - Period: Determines the period of time during which MSCS attempts failovers.
3. Select the Failback tab and review these options:
  - Prevent Failback
  - Allow Failback

The setting for this option can be immediate or during a set period of time.

For more information about these parameters, see the appropriate Microsoft clustering documentation.

---

## Troubleshooting a Windows Cluster

If you encounter problems with the Windows cluster, review these topics for possible solutions.

### Changing an IP Address

If you move the cluster equipment to another area, you may have to change the IP address for cluster nodes and any virtual machines connected to them. To perform this task, complete these steps:

1. Remove all defined resources and groups.
2. Uninstall the DBMS cluster software.
3. Uninstalling MSCS.
4. Change the physical IP address in the nodes.
5. Reinstall MSCS using the new IP address for the virtual machine.
6. Reinstall SQL Server Cluster Manager and Oracle Failsafe.

### Reinstalling MSCS

If you already installed a version of Microsoft Cluster software, before you reinstall, you must uninstall the software using Add/Remove programs.



## CHAPTER 11

# Administering JD Edwards EnterpriseOne on an iSeries Cluster

This section includes an overview of iSeries clustering and discusses how to:

- Running the SETOWCLST Command
- Identify the cluster name.
- Set up the enterprise servers.
- Set up the client for clustering.
- Set up the deployment server.
- Set up logical data sources.
- Set up database data sources.
- Set up Object Configuration Manager for clustering.
- Distribute ODBC setup from the deployment server.
- Identify the cluster name on the deployment server.

---

## Understanding iSeries Clustering

iSeries clustering is a platform-specific software solution that provides users with continuous access to Oracle's JD Edwards EnterpriseOne even when the primary server becomes unavailable. You can switchover from a primary server to a backup server either automatically or manually.

An iSeries cluster consists of more than one node, although not necessarily more than one physical machine. For example, you can use logical partitioning to represent several nodes on a single machine, or you can maintain more than one iSeries machine, each of which represents a cluster node.

A cluster name is associated with a floating or takeover IP address. Each node in the cluster has an IP address associated with a TCP/IP interface. At any time, only one node in the cluster has the interface activated. That node is the primary node, on which JD Edwards EnterpriseOne services are running. All other nodes in the cluster are designated as backup nodes, and the TCP/IP interface is inactive.

iSeries nodes participating in a single cluster use the cluster software to do these tasks:

- Replicate object and data changes from the primary node to backup nodes so that any backup node can assume the primary server role when an interruption in service occurs.
- Read a specifier file that identifies the objects and data that must be replicated and the locations of those specified objects and data.
- Use a backup node to monitor the primary node for availability.

- If the primary node becomes unavailable, use an exit program to activate the floating IP address on the first backup node associated with the cluster name.
- Restart JD Edwards EnterpriseOne on the first backup node, thus making it the primary node.
- Queue changes to objects and data so that an original primary node can be updated once it becomes available for service.

You can use JD Edwards EnterpriseOne and iSeries clustering software to support two-tier configurations (iSeries functioning as data server only), virtual three-tier configurations (iSeries functioning as both logic server and data server), and three-tier server configurations (separate iSeries machines functioning as a logic server and a data server).

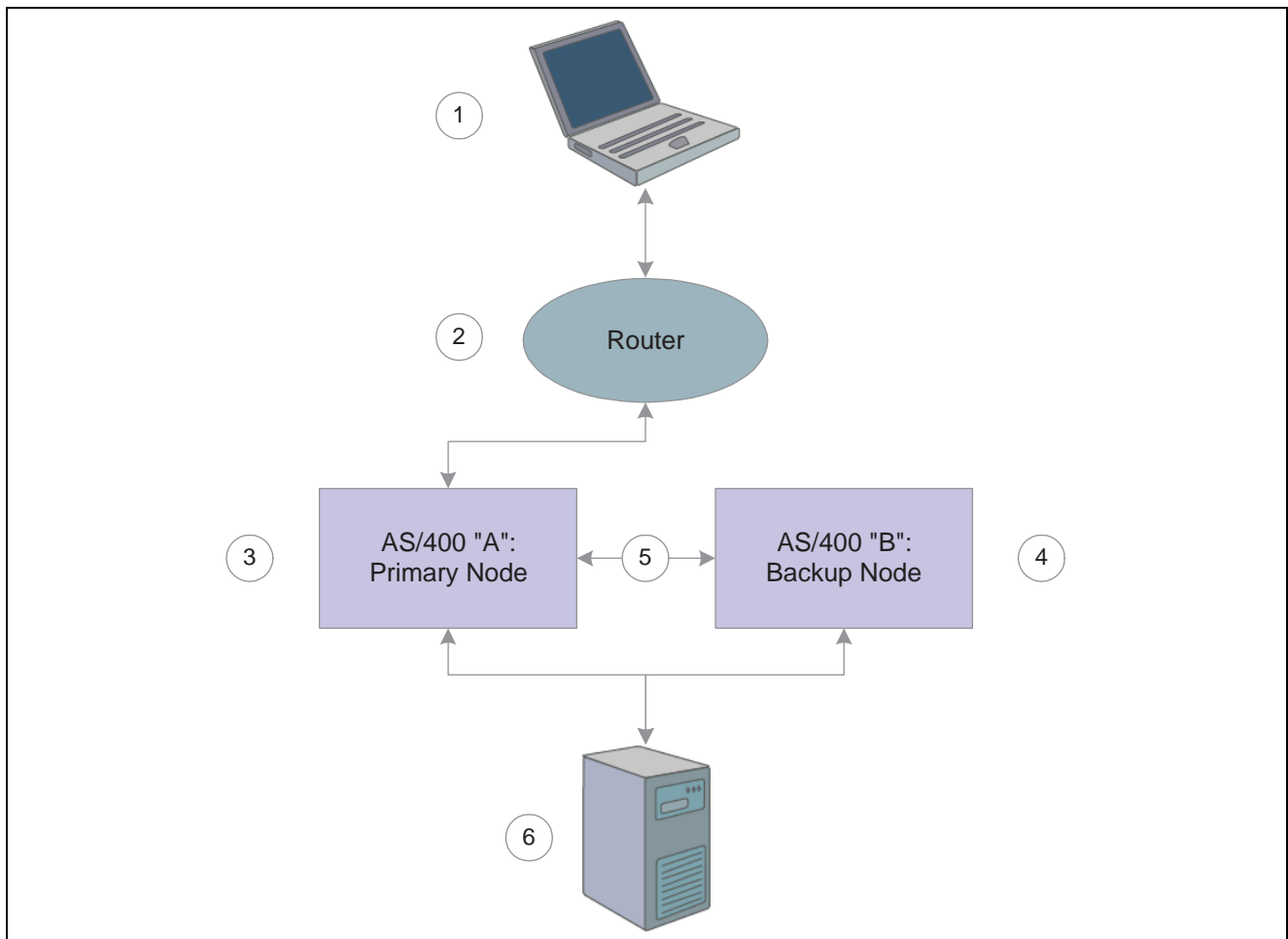
IBM recognizes three partners who market the iSeries clustering solution:

- DataMirror Corporation
- Lakeview Technologies
- Vision Solutions

For more details on these vendor solutions, consult the CNC specialist.

### iSeries-JD Edwards EnterpriseOne Architecture with Clustering

This graphic illustrates the main components of a virtual three-tier clustering setup:

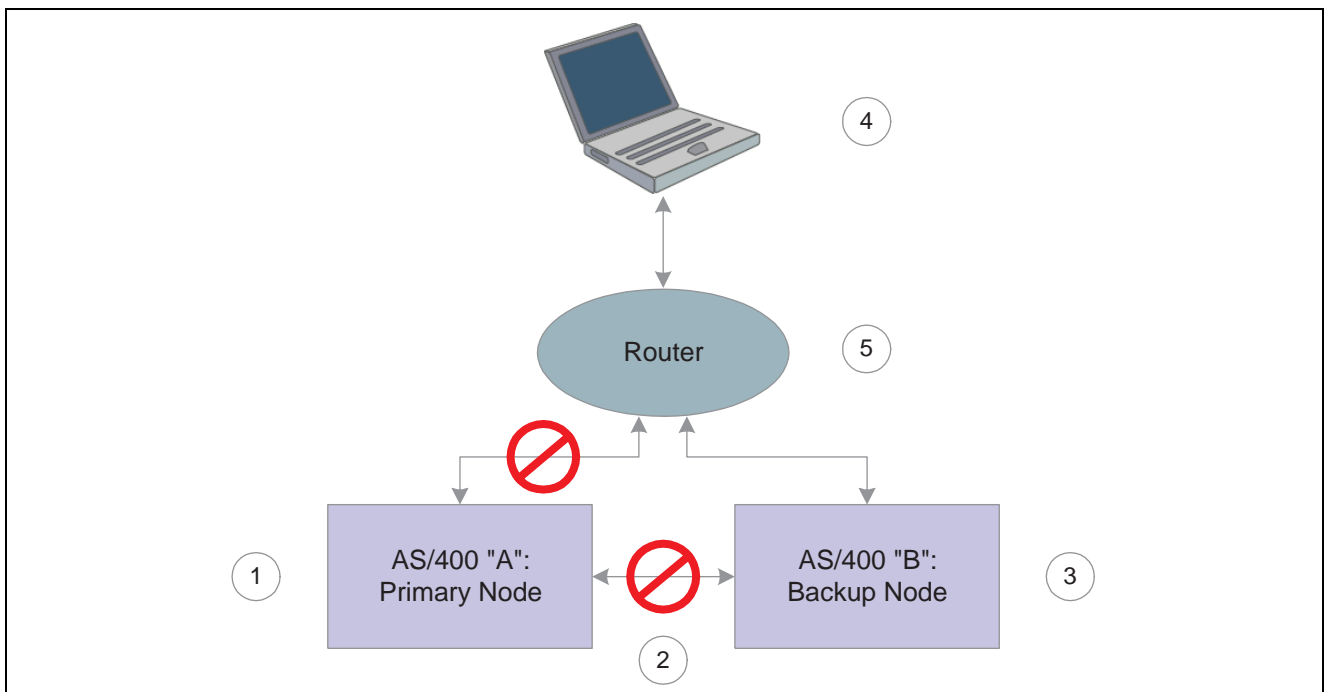


iSeries Clustering Architecture — normal operation

The roles of each component in the cluster are as follows:

- Workstation (1) attempts to access the primary node.
- Router (2) directs workstation access request to the primary node using the cluster name and the associated floating IP address.
- Primary node (3) provides services to the workstation and sends changes to objects specified in the specifier file to the backup node.
- Backup node (4) monitors primary node and applies changes to data and replicated objects using static IP address (5).
- Deployment server (6) updates both primary and backup nodes with changes to application objects using package deployment.

This graphic illustrates the role of each component in the clustering environment when a failover scenario occurs:

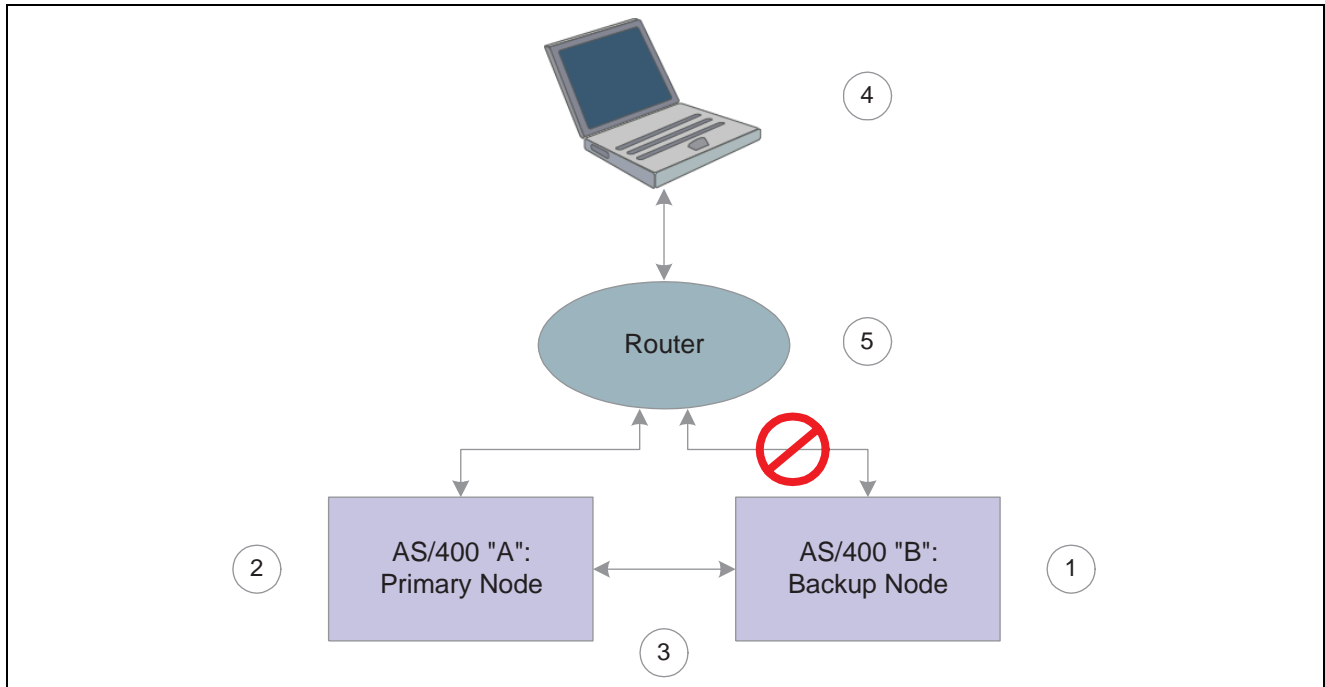


iSeries Clustering Architecture — failover scenario

The roles of each component in the cluster in the failover scenario are as follows:

- Ex-primary node (1) ends communication with the workstation and the backup node.
- Object and data changes using static IP address end, as does monitoring of nodes(2).
- Clustering software on iSeries B detects failure of iSeries A, activates failover TCP /IP interface, applies queued changes to objects listed in clustering specifier file, and makes JD Edwards EnterpriseOne services available on iSeries B (3).
- Workstation (4) requests server services and waits for a response for a length of time specified in its jde.ini file. After JD Edwards EnterpriseOne notifies the workstation of a lost server connection, the workstation attempts to reconnect.
- Router (5) receives reconnection attempt from workstation and directs request to the new primary node using the cluster name and the associated floating IP address.

After the failover, the ex-primary node should eventually become available once again for service. This graphic illustrates the role of each component in the clustering environment when the return to normal operations occurs:



iSeries Clustering Architecture — return to normal

The roles of each component in the cluster in the return to normal operations are as follows:

- The clustering software stops the failover interface on iSeries B (1), ending communication with the workstation.
- The clustering software starts the failover interface on iSeries A (2) and applies any queued changes to objects listed in the clustering specifier file.
- Replication and monitoring services restart (3).
- Workstation (4) requests server services, waits for a response for a length of time specified in its jde.ini file. After JD Edwards EnterpriseOne notifies the workstation of a lost server connection, the workstation attempts to reconnect.
- Router (5) receives the reconnection attempt from workstation and directs the request to the primary node using the cluster name and the associated floating IP address.

For a full discussion of platform, hardware, and LAN and WAN configurations, consult IBM clustering documentation as well as documentation provided by each of IBM's approved clustering software partners.

### JD Edwards EnterpriseOne Objects Used with iSeries Clustering

The JD Edwards company requires you to download the latest iSeries Clustering objects from the Update Center. This topic discusses each of the JD Edwards EnterpriseOne objects required for use with iSeries clustering software:

- Specifier file
- SETOWCLST command
- Application data areas

- Exit program

Consult the CNC specialist if you need to modify any of these files.

### *Specifier File*

The specifier file identifies all JD Edwards EnterpriseOne objects and data that must be replicated from the primary server node to the backup node. Replication ensures that you have a backup of essential business information on the backup node should the primary node fail.

The information in the specifier file enables the creation of application and data cluster resource groups (CRGs). Application CRGs identify nodes in a cluster that can be used to run a particular program or group of programs on the enterprise server. Data CRGs represent the locations of data and objects in the cluster. With this information established, the clustering software is able to replicate the specific set of objects and data to a specific server node.

---

**Note.** Do not attempt to modify the specifier file directly. To customize the file, consult the CNC specialist.

---

This table summarizes the items that must be replicated for JD Edwards EnterpriseOne-iSeries clustering:

Replication Item	Files and Directories for Replication
All data used for an environment	Examples: PRODDTA/*PF PRODCTL/*PF
Object Librarian	OL812/*PF
Central Objects	COPD812/*PF
Data dictionary	DD812/*PF
PrintQueue Directory	/E812SYS/printqueue
JD Edwards EnterpriseOne jobs table (F986110)	SVM812/F986110

---

**Note.** Clustering vendor solutions shouldn't replicate JD Edwards EnterpriseOne specification files in the integrated file system (IFS).

---

### *SETOWCIST Command*

You can use the SETOWCIST command to access the specifier file. This command is necessary to update the specifier file if you add, remove, or modify the name or location of a JD Edwards EnterpriseOne iSeries library or object.

### *Application Data Areas*

A data area is an object used to communicate data such as variable values between programs within a job and between jobs. Application data areas contain information about resilient resources in the JD Edwards EnterpriseOne clustering setup. Resilient resources are objects and other information located on more than one cluster node. Important resilient resources include data and programming objects critical to running JD Edwards EnterpriseOne.

The clustering software uses JD Edwards EnterpriseOne information to create and keep track of CRGs, which identify nodes in a cluster and the types and locations of JD Edwards EnterpriseOne resilient resources.

There are two application data areas in the JD Edwards EnterpriseOne-iSeries clustering environment:

- Input application data area.
- Output application data area.

#### *Input Application Data Area*

The input data area is used to communicate information about the JD Edwards EnterpriseOne application to the IBM cluster middleware business partner. The cluster middleware uses this information to create CRGs. The input application data area will contain information about JD Edwards EnterpriseOne, its resilience information, and information about required data.

#### *Output Application Data Area*

The output data area is used by the IBM cluster middleware business partner software to track the use of the CRG it created for use in JD Edwards EnterpriseOne. The CRG identifies the nodes in a cluster used to run programs on the enterprise server and the locations of data and objects in the cluster.

### **Cluster Exit Program**

The iSeries clustering software invokes the exit program, which is called CLSTR\_EXIT, when a failure on the primary node requires a failover to the backup node. The program stops JD Edwards EnterpriseOne services running on the backup node until replication of all JD Edwards EnterpriseOne objects and data identified in the specifier file has been completed. After replication has completed, JD Edwards EnterpriseOne services restart.

### **Technical Considerations**

To aid in the implementation of iSeries clustering software with JD Edwards EnterpriseOne, we make these suggestions:

- Represent iSeries nodes either by a logical partition or by an entire machine, depending on the system.
- Use separate pipes (LAN cards) to minimize the effects of clustering software functions on end user activities. For example, dedicate one pipe to running applications and one pipe to object/data replication and node monitoring.
- Consult IBM documentation on iSeries clustering solutions for further details on handling LAN card setup.
- Use the JD Edwards EnterpriseOne deployment server to deliver JD Edwards EnterpriseOne packages to server cluster nodes. Do not attempt to use the clustering replication processes to deploy JD Edwards EnterpriseOne packages between cluster nodes.
- Use the clustering software to replicate object/data changes made by JD Edwards EnterpriseOne users.
- Define to the specifier file on each node any changes you make to JD Edwards EnterpriseOne library names or the locations of JD Edwards EnterpriseOne-supplied objects, if those libraries and objects were listed in the specifier file provided by the JD Edwards company.
- Evaluate each JD Edwards EnterpriseOne cumulative release, electronic software update (ESU), service pack, or program temporary Fix (PTF) to determine if any changed objects are listed in the specifier file. If any are, be sure to define the changes to the file.

The setup and configuration of JD Edwards EnterpriseOne discussed in this chapter assumes a virtual three-tier setup for a two-node server cluster. The setup should be used as a general reference guide only. Many variations on the setup are possible and will be determined by the specific requirements of the organization. Consult the Cluster Middleware Vendor or CNC specialist for additional details on how to configure the iSeries system to use clustering.

## Minimum Setup Requirements for iSeries Server Nodes

Each node in a virtual three-tier cluster configuration must be set up with these components:

- A host table and domain names server (DNS) entry with the cluster name that is associated with a floating IP address.
- An IP interface with the same floating IP address as was entered in the host table. The floating IP address is used to find the backup node when the primary node is unavailable.
- A second IP interface with a unique address. This address is used for object and data replication.
- Identical operating system releases (such as OS/400 V5R2 or higher) Identical OS/400 PTF levels.
- Identical versions of JD Edwards EnterpriseOne at identical service pack levels.
- Identical clustering exit programs, object specifier files, and data areas for JD Edwards EnterpriseOne.
- Identical copies of the business data objects listed in the clustering object specifier file.
- iSeries clustering software installed and configured. Download it from the Update Center.
- A server jde.ini file with a [CLUSTER] section that defines the cluster name.

---

**Note.** This requirements list applies only to a virtual three-tier configuration. With additional nodes, you can have different clustering exit programs, object specifier files, data areas, and so on.

---

## Running the SETOWCLST Command

To run the SETOWCLST Command:

1. Sign onto the iSeries system and add the JD Edwards EnterpriseOne system library to the library list.
2. Enter this command:

```
setowclst
```

3. Enter one of these commands and press ENTER:

```
*ADD
```

```
*REMOVE
```

```
*CHANGE
```

```
*CLEARALL
```

---

**Note.** The \*CLEARALL command removes all replicated objects. If you select this command, no further steps are required.

---

4. In the IFS Object field, enter one of these:
  - Y if the clustering object is an IFS object
  - N if the clustering object is a QSYS object
  - If the clustering object is an IFS object, enter the name and the path of the IFS clustering object.

---

**Note.** Replicate all objects in a directory by typing \* and the path, for example, /E812SYS/PRINTQUEUE/\*.

---

- If the clustering object is a QSYS object, enter the name and the library of the QSYS clustering object.

---

**Note.** Special values of \*ALL and \*PF (physical file) can also be used as valid objects.

---

---

## Identifying the Cluster Name

In an iSeries clustering environment, JD Edwards EnterpriseOne uses a logical cluster name to make services available to clients and to manage connections between nodes. You must define the name on the DNS and in the iSeries host names table. The cluster name is associated with a floating IP address.

For example, you might set up two iSeries machines that you name DEINS3 and DENIS4. The cluster name you set up in the DNS might be DENISZ. DENISZ is the cluster name associated with a floating IP address that is defined as a TCP /IP interface and listed in the host table of each node in the cluster.

The client references the cluster name when it requests JD Edwards EnterpriseOne services from the enterprise server. Therefore, services are not tied to a single physical machine. The node with the active TCP /IP interface associated with the cluster name provides the services to the client that requests them.

---

## Setting up the Enterprise Servers

You must identify the cluster to each node in the cluster by adding a [CLUSTER] section to the server jde.ini file. If the cluster name is DENISZ, you add this entry to the jde.ini file:

```
[CLUSTER]
PrimaryNode=DENISZ
```

---

**Note.** If you referenced the logical cluster name or virtual host name (for example, DENISZ) in the installation plan, you only need to modify the enterprise server's jde.ini file as described previously. You don't need to complete any of these setups since all the data sources and ODBC setting are already pointing to the logical host name.

---

---

## Setting up the Client for Clustering

You must set up the client jde.ini file for it to connect to the cluster name you identified. To set up the client jde.ini file, make changes to these parameters:

```
[DB system settings]
Server=DENISZ
[SECURITY]
SecurityServer=DENISZ
```

where DENISZ is the logical cluster name you specified in the DNS and iSeries host names table.



---

## Setting up the Deployment Server

You must set up the deployment server to connect to each designated enterprise server node in the cluster. You configure the [DB SYSTEM SETTINGS] section and [SECURITY] section of the deployment server jde.ini so that it can connect to the logical data source of the enterprise server.

You should review these Deployment server jde.ini section entries:

```
[DB SYSTEM SETTINGS]
Base Datasource=System - 812
Server=DENIS3
Database=System - 812
Load Library=JDBODBC.DLL
Decimal Shift=Y
Julian Dates=Y
Use Owner=N
Secured=Y
Type=I
DatabaseName2=SY812

[SECURITY]
DataSource=System - 812
```

where System - 812 is the logical data source used to establish initial Object Configuration Manager (OCM) settings, and DENIS3 is the name of an enterprise server node in the cluster.

After you configure the deployment server jde.ini file for a server node in the cluster, you log onto JD Edwards EnterpriseOne on the deployment server as an administrative user and set up logical data sources, database data sources, and OCM for the node. You then configure the deployment server jde.ini for another cluster node. You repeat the sequence of tasks for each node in the cluster.

---

## Setting Up Logical Data Sources

After you configure the deployment server jde.ini file for clustering, you must set up the logical data sources on each enterprise server node for both system map and server map.

---

**Note.** System map configures the client connection to logical data on the enterprise server. Server map configures the server connection to logical data on the enterprise server.

---

This topic discusses the steps required to complete these tasks:

- Setting up the logical data source for the system map.
- Setting up the logical data source for the server map.

### Setting up the logical data source for the system map

To set up the logical data source for the system map:

1. On the Systems Administration Tools menu (GH9011), select Logical Data Sources(P986115).

2. Select the logical data source you identified in the Base Datasource= parameter of the [DB SYSTEM SETTINGS] section of the deployment server jde.ini file and click Select.

The default is System – 812

3. In the Work With Data Sources form, click Add.

The Data Source Revisions form appears.

4. Complete these fields to create the logical data source, and then click OK:

Field	Description
Data Source Name	Enter the name of the cluster.
Data Source Use	Type <i>SVR</i>
Platform	Type <i>AS400</i>
Logical Server Name	Enter the name of the cluster. Make sure the name matches the logical cluster name you created in the DNS or in the iSeries host names table.
Server Map Data Source Name	Type <Server Name> - 812 Server Map

5. JD Edwards EnterpriseOne launches a form prompting you to create a new ODBC data source. Because you are configuring a logical ODBC data source for the cluster, not a database data source, click Cancel.

## Setting up the logical data source for the server map

To set up the logical data source for the server map:

1. On the Systems Administration Tools menu (GH9011), select Logical Data Sources (P986115).
2. Select the logical data source for the enterprise server node server map and click Select.

The default is <Server Name> - 812 Server Map.

3. In the Work With Data Sources form, click Add.
4. Complete these fields to complete the logical data source for the server, and then click OK:

Field	Description
Data Source Name	Enter the name of the cluster.
Data Source Use	Type <i>SVR</i>
Platform	Type <i>AS400</i>
Logical Server Name	Enter the name of the cluster. Make sure the name matches the logical cluster name you created in the DNS or in the iSeries host names table.
Server Map Data Source Name	Type <Server Name> - 812 Server Map

For a full description of the fields in the Data Source Revisions form, see Adding or Modifying a Data Source in the JD Edwards EnterpriseOne Tools 8.94 Implementation Guide: Configurable Network Computing Implementation.

---

## Setting Up Database Data Sources

After you set up the logical data sources for the cluster, you must set up the database data sources for the enterprise server node. A database data source identifies to JD Edwards EnterpriseOne the database information JD Edwards EnterpriseOne needs to identify and connect to a database, including the type and location of the data.

### Setting Up the Server Map Database Data Sources

To set up the server map database data sources:

1. On the Systems Administration Tools menu (GH9011), select Database Data Sources (P986115).
2. On the Machine Search and Select form, select the logical data source for the enterprise server node server map and click Select.

The default is *<Server Name>* - 812 Server Map.

3. On the Work With Data Sources form, click Find.
4. Select a data source, such as Business Data -PROD, for the enterprise server node and click Select.
5. In the Data Source Revisions form, change the value in the Database Server Name field to the name of the logical cluster.
6. Repeat steps 4 and 5 for each data source.

---

## Setting Up Object Configuration Manager for Clustering

After you have set up logical data sources and database data sources, use OCM to map objects in each clustering environment.

---

**Note.** Complete OCM configuration requires that you complete the steps discussed in this topic for each clustering environment.

---

This topic discusses the tasks you complete to set up OCM for clustering:

- Configuring OCM for logical data sources for the server map.
- Configuring OCM for logical data sources for the system map.
- Configuring OCM for database data sources.
- Configuring ODBC connections.

### Configuring OCM for Logical Data Sources for the Server Map

Access the Machine Search and Select form. You can access this form in the Microsoft Windows client or the web client by entering *P986110* in the Fast Path.

1. On the Machine Search and Select form, select the logical data source for the enterprise server node server map and click Select.

The default is *<Server Name>* - 812 Server Map.

2. On the Work With Object Mappings form, click Add.
3. Complete these fields and click OK:

Field	Description
Environment Name	Enter the name of an environment that will use the cluster.
Object Name	Enter <i>DEFAULT</i> .
Primary Data Source	Enter the name of the logical cluster.
System Role	Type <i>*PUBLIC</i>
Object Type	Enter <i>BSFN</i> for business functions.
Data Source Mode	Type <i>P</i>

4. Click OK.
5. On the Work With Object Mappings form, make sure that the business function DEFAULT OCM mapping for the environment is active.
6. Click Close.
7. Repeat this task for each clustering environment.

## Configuring OCM for Logical Data Sources for the System Map

Access the Machine Search and Select form. You can access this form in the Microsoft Windows client or the web client by entering *P986110* in the Fast Path.

1. On the Machine Search and Select form, select the logical data source you identified in the Base Datasource parameter of the [DB SYSTEM SETTINGS] section of the deployment server jde.ini file and click Select.  
The default is System - 812.
2. On the Work With Object Mappings form, click Add.
3. Complete these fields and click OK:

Field	Description
Environment Name	Enter the name of an environment that will use the cluster.
Object Name	Enter <i>DEFAULT</i>
Primary Data Source	Enter the name of the logical cluster.
System Role	Type <i>*PUBLIC</i>
Object Type	Type <i>BSFN</i>
Data Source Mode	Type <i>P</i>

---

**Note.** If you want to run UBEs on the server by DEFAULT, then you must set up another logical data source for UBEs and use the logical cluster name.

---

4. Determine the business functions that should be run on client workstations, not on the enterprise server.

---

**Note.** You can run the batch application Create Server Business Function OCM Records (R986140) to accomplish this task. Be sure to create a new version in proof mode. To do so, select enter a value of O to Processing Option 1 when you submit the report.

---

5. For each business function that runs locally, launch the Work With Object Mappings form, complete these fields and click OK:

Field	Description
Environment Name	Enter the name of an environment that will use the cluster.
Object Name	Enter the name of the business function that you want to run on the client workstation.
Primary Data Source	Type <i>LOCAL</i>
System Role	Type a system role
Object Type	Type <i>BSFN</i>

6. On the Work With Object Mappings form, make sure that the business function DEFAULT and LOCAL OCM mappings for the environment are active. If they are not, change the status to active
7. Click Close.
8. Repeat this task for each clustering environment.

## Configuring OCM for database data sources

To configure OCM for database data sources:

1. On the Systems Administration Tools menu (GH9011), select Database Data Sources (P986115).
2. On the Machine Search and Select form, select the logical data source for the system map and click Select.
3. On the Work With Data Sources form, click Find.
4. Select a data source used by the clustering environment and click Select.
5. On the Data Source Revisions form, enter the name of the logical cluster in the Server Name field and click OK.
6. Repeat steps 3 through 5 for each data source used by the clustering environment.
7. Repeat this task for each clustering environment.

---

**Note.** If more than one environment shares a data source, verify that you set up all the environments for clustering. If an environment sharing a data source is not a clustering environment, you might need to set up independent data sources for the environments.

---

## Configuring ODBC connections

To configure ODBC connections:

1. On the ODBC Data Source Administrator form, select the System DSN tab.
2. Select a data source used by the environment that will use clustering and click Configure.  
The Client Access Express ODBC Setup (32-bit) form appears.
3. Select the General tab.
4. From the iSeries combo box, select the name of the logical cluster and click OK.
5. Repeat these steps for each data source used in the cluster.

---

## Distributing the ODBC Setup from the Deployment Server

After you have completed the configuration of all enterprise server nodes in the cluster, you must distribute the ODBC configuration you set up on the deployment server to all clients (workstations and servers) that will connect to enterprise server nodes in the cluster. Servers that might connect to enterprise server cluster nodes include Windows Terminal Servers and web servers. The deployment server handles the distribution of the ODBC configuration information.

To accomplish the ODBC setup distribution task, you create a .reg file on the deployment server. The .reg file is an executable that contains the ODBC registry settings you set up on the deployment server. After you create the .reg file, client machines must run it to get the saved ODBC settings and set up their ODBC connections.

Administrators can deploy the .reg file to clients that connect to enterprise servers in the cluster.

To distribute the ODBC setup from the deployment server:

1. From the Windows Start menu, run regedit.exe.
2. In the Registry Editor, browse to HKEY\_LOCAL\_MACHINE\SOFTWARE\ODBC\ODBC.INI.
3. Click Registry and select Export Registry File.
4. Save the .reg file.

---

## Identifying the Cluster Name on the Deployment Server

To complete setup for clustering, you identify the cluster name in the deployment server jde.ini file. Doing so enables the deployment server to look for the cluster when it attempts to connect to an enterprise server node. The active node makes the connection.

---

**Note.** Remember to identify the cluster name in the jde.ini files of any servers, such as web servers or Windows Terminal Servers that need to connect to enterprise servers in the cluster.

---

To identify the cluster name on the deployment server:

1. Open the jde.ini file of the deployment server.

2. Replace any reference to the server (for example, Server=DENIS3) with the cluster name (for example, Server=DENISZ).





## CHAPTER 12

# Backing Up JD Edwards EnterpriseOne Tables

This section provides an overview of backup requirements for server and discusses how to backup Oracle's JD Edwards EnterpriseOne tables on servers.

---

## Understanding Backup Requirements for Servers

A well-planned backup strategy is essential to protect the enterprise information assets. Rigorously following the backup strategy will provide insurance against data lost by acts of nature, hardware or software failure, or human error. The backup strategy must balance the level of protection you need against the physical constraints of the system, such as information storage capacity.

We recommend that the backup strategy include these:

- Perform a full system backup whenever data is at risk, such as when you are installing or upgrading software. In this circumstance, at least back up the database completely.
- Each night, back up changed objects, such as tables and JD Edwards EnterpriseOne objects.
- Each week, back up the deployment server, enterprise servers, and the full database.

When you perform a backup on a server, you can back up either the entire server or only the changed objects and data. You do not need to perform a complete backup of the server nightly. Only directories that change daily require daily backups.

---

**Note.** You should outline and implement the backup strategy before you begin the Prototype phase of implementation.

---

### Backing Up a Deployment Server

JD Edwards EnterpriseOne on the deployment server includes these items:

- JD Edwards EnterpriseOne directory (all subdirectories and contents).
- jde.ini file on c:\winnt.
- Services file on c:\winnt\system32\drivers\etc.
- Registry export file.
- JD Edwards EnterpriseOne files in the root directory (c:\):
  - jdeapp.ddp
  - jdeapp.xdp
  - jdeauth.dda
  - jdeauth.xda

- jdemod.ddm
- jdemod.xdm
- jdesec.dds
- jdesec.xds
- jdecode.ddm
- jdecode.xdm

If you modify objects, build new packages, or update the Access database delivered during a workstation installation, create backups of the PD812, DV812, and PY812 directories. If you modify help files, create a backup of the HELPS directory. If the media objects reside on the deployment server, create a backup of the MEDIA OBJ directory.

If important data, such as system data, resides on the deployment server, create nightly backups of the JD Edwards EnterpriseOne data sources (Oracle or SQL Server). For example, if the central objects or Object Management Workbench resides on the deployment server, create a nightly backup.

## Backing Up an Enterprise Server

JD Edwards EnterpriseOne on the enterprise server runs on the iSeries, UNIX, or Windows operating systems. You back up key libraries on the iSeries and key files on the UNIX and Windows operating systems.

### *iSeries*

These JD Edwards EnterpriseOne iSeries libraries should be backed up:

---

**Note.** Shut down the database before you create any backups.

---

- All JD Edwards EnterpriseOne system libraries.
  - JDEOW
  - SYS812
  - E812SYS
  - SVM812
  - JD Edwards EnterpriseOne data dictionary library: DD812.
  - JD Edwards EnterpriseOne Object Management Workbench library: OL812.
- All JD Edwards EnterpriseOne production libraries (This example is for pristine and production):
  - PD812
  - PY812
  - PRODDTA
  - PRSTDTA
- All JD Edwards EnterpriseOne business data libraries:
  - PRODDTA
  - CRPDTA
  - PRSTDTA
  - TESTDTA

- All JD Edwards EnterpriseOne control libraries:
  - PRODCTL
  - CRPCTL
  - TESTCTL
  - PRSTCTL
- All JD Edwards EnterpriseOne versions libraries:
  - PD812DNT
  - PY812DNT
  - PS812DNT
  - DV812DNT
- IFS (Integrated File System) libraries:
  - PD812
  - PY812
  - PS812
  - TS812
  - DV812
- IBM libraries that require backups:
  - OCPA
  - OGPL
  - Central objects on the deployment server in Oracle or Microsoft SQL Server database.

### *UNIX*

On a JD Edwards EnterpriseOne UNIX system, backup these database files:

---

**Note.** Shut down the database before you create any backups using Backup Manager. If you export or import using Data Manager, you do not need to shut down the database.

---

- System files  
Create backups of all host files under the JDEdwards/E812 directory. For example, /u03/JDEdwards/E812/\*.
- Database files  
Create backups of all data files that reside in the JD Edwards EnterpriseOne tablespaces.  
Use the Oracle Data Manager Tool on the deployment server to make a .dmp file of the desired database, and then back up the .dmp file on tape or hard disk.

### *Windows*

On a JD Edwards EnterpriseOne Windows system, back up these database files:

---

**Note.** Shut down the database before you create any backups.

---

- System files.

JDEdwards\ddp\E812 directory.

- Oracle database files.

Create backup files for all data files that reside in the JD Edwards EnterpriseOne tablespaces

Use the Oracle Data Manager Tool on the deployment server to make a .dmp file of the desired database, and then back up the .dmp file on tape or hard disk.

- Microsoft SQL Server database files.

Create backup files for all tables that reside in the JD Edwards EnterpriseOne databases.

Use the SQL Server Database/Object Transfer tool on the enterprise server to copy the desired tables or database (for example, PSFT812) to a backup database.

---

**Note.** We recommend that you use the backup tool provided by the RDBMS vendor.

---

## JD Edwards EnterpriseOne Tables and Object Owner IDs

These tables list JD Edwards EnterpriseOne tables by type and with the associated object owner IDs.

---

**Note.** If any of the control table merges fail or if the specification merge fails, you might need to restore the tables to a pre-merge condition and run the merge again. Follow the restore instructions for the database.

---

### *System Tables*

The Object Owner for System tables is sys812.

- F00053
- F000531
- F000532
- F0092
- F00921
- F00924
- F0093
- F0094
- F00941
- F00942
- F00945
- F00946
- F00948
- F00950
- F00960
- F98121
- F986101
- F98611
- F986115

- F986116
- F98613
- F986150
- F986151
- F986152
- F98616
- F986161
- F986162
- F986163
- F986164
- F986165
- F98701
- F98800D
- F98812D
- F9882
- F98825
- F9883
- F9885
- F9886
- F9887
- F9888
- F98881
- F98882
- F98885
- F98887
- F9889
- F98891
- F98892
- F98980
- F98CONST
- F98DRENV
- F98DRLOG
- F98DRPCN
- F98DRPUB
- F98DRSUB
- F98EVDTL

- F98EVHDR
- F98MOQUE
- F98OWSEC
- F98TMPL
- F98VAR

#### *Object Management Workbench (OMW) Tables*

The Object Owner for OMW tables is obj812.

- F00165
- F9860
- F9861
- F9862
- F9863
- F9865

#### *Data Dictionary Tables*

The Object Owner for the Data Dictionary tables is dd812.

- F00165
- F9200
- F9202
- F9203
- F9207
- F9210
- F9211

#### *Server Map Tables*

The Object Owner for Server Map tables is svm812.

- F986101
- F98611
- F986110
- F986111
- F986113
- F98DRPCN
- F98DRLOG

#### *Control Tables*

The Object Owners for the Control Tables are:

- Control Tables - PROD: prodctl
- Control Tables - CRP: crpctl

- Control Tables - TEST: testctl
- Control Tables - PS812: prstctl

The Control Tables are listed:

- F0002
- F00021
- F0004
- F0004D
- F0005
- F0005D
- F0082
- F00821
- F00825
- F00826
- F0083
- F0084

#### *Versions Tables*

The Object Owners of the Versions tables are:

- Versions - PD812: PD812
- Versions - PY812: PY812
- Versions - DV812: DV812
- Versions - PS812: PS812

The Versions tables are listed:

- F983051
- F98306

#### *Central Objects*

The Object Owners of the Central Objects tables are:

- Central Objects - PD812: pd812
- Central Objects - PY812: py812
- Central Objects - DV812: dv812
- Central Objects - PS812: PS812

The Central Objects tables are listed:

- F980011
- F980021
- F983051
- F98306

- F98710
- F98711
- F98712
- F98713
- F98720
- F98740
- F98741
- F98743
- F98745
- F98750
- F98751
- F98752
- F98753
- F98760
- F98761
- F98762
- F98950

#### *Business Data*

The Object Owners of the Business Data tables are:

- Business Data - PROD: proddta
- Business Data - CRP: crpdta
- Business Data - TEST: testdta
- Business Data - PS812: prstdta

---

## **Backing Up JD Edwards EnterpriseOne Tables on Servers**

This section discusses how to:

- Create a backup for iSeries.
- Creating a backup for Oracle on UNIX or Windows.
- Creating a backup for SQL Server.
- Restoring a backup file for Oracle on UNIX or Windows.
- Restoring a backup file for iSeries.
- Restoring a backup file for SQL Server.
- Restoring a backup file for SQL Server on Windows.



## Prerequisites

Before you complete the tasks in this section:

- If you are using SQL Server or Oracle, verify that you have enough disk space for the backup copy before you begin the backup.
- If you are using SQL Server, verify that the Select Into/Bulk Copy option on the Options form is turned on for the database into which you will transfer objects. Double-click the database in the tree structure to access the Options form.

## Creating a Backup for iSeries

To create a backup for iSeries:

1. On a tape drive, back up these libraries, depending on which path codes you have installed:

Library name	Description
SYS812	System library
SVM812	Server Map
OL812	Object Librarian
DD812	Data Dictionary
COPY812	Central Objects - Prototype
COPS812	Central Objects - PS812
COPD812	Central Objects - PROD
CODV812	Central Objects - DEV
PRODDTA	Production Business Data
PRODCTL	Production Control Tables
CRPDTA	Prototype Business Data
CRPCTL	Prototype Control Tables
TESTDTA	Test Business Data
TESTCTL	Test Control Tables
PRSTDTA	Pristine Business Data
PRSTCTL	Pristine Control Tables
PY812DNT	Versions for CRP
PD812DNT	Versions for PROD
PS812DNT	Versions for PRST

Library name	Description
DV812DNT	Versions for DEV
E812SYS	Server system library
JDEOW	JD Edwards Installation
PY812	Server modules - Prototype
PY812FA	Package Library - Prototype
PS812	Server modules - PS812
PS812FA	Package Library - PS812
PD812	Server modules - PROD
PD812FA	Package Library - PROD
DV812	Server modules - DEV
DV812FA	Package Library - DEV

2. Back up these IFS structure with the subdirectories:

Library name	Description
PSFT812	Logging directory
E812SYS	Kernel spec and XML
PY812	Spec files for Prototype
PS812	Spec files for PSFT
PD812	Spec files for PROD
DV812	Spec files for DEV
JD Edwards	Contains the spec files for each path code. \JDEdwards\PACKAGES\PY812FA\SPEC\*.* \JDEdwards\PACKAGES\PS812FA\SPEC\*.* \JDEdwards\PACKAGES\PD812FA\SPEC\*.* \JDEdwards\PACKAGES\DV812FA\SPEC\*.*

## Creating a Backup for Oracle on UNIX or Windows

To create a backup for Oracle on UNIX or Windows:

1. From the Oracle Enterprise Manager Tool, open Data Manager and from the Data menu, select Export.
2. Type the name for the export utility .dmp file.

Click the Browse button to select the directory where the .dmp file will reside.

3. Click Next.
4. On the Object Selection form, select the objects you want to back up, and then click Next.

---

**Note.** Objects selected in the tree on the Data Manager form appear in the Selected Objects form. You can move objects between forms using the arrow buttons or by dragging and dropping.

---

To export objects, expand the Available Objects tree and select the item to export. Use the arrows to move objects to and from the Selected Objects form.

5. On the Tuning form, select generate a log file, if needed.
6. Click Next.

---

**Note.** Select the Generate Log File option and enter a log file name or use Browse to select a log file.

---

7. On the Advanced Options form, take the default values or select the desired options, and click Next.
8. On the Summary form, verify that all of the chosen objects and options are correct.
9. Click Finish to begin exporting objects.

A message window opens that displays information about the progress of the export process.

When the export process is completed, you will receive these message: "Export terminated successfully without warnings."

10. If errors or warnings exist, check the log file to review the export process.

## Creating a Backup for SQL Server

To create a backup for SQL Server:

1. From SQL Enterprise Manager, select Database/Object Transfer from the Tools menu.
2. On the Database/Object Transfer form, select a destination server and database on which to create backup copies of the tables.

---

**Note.** The source server and the destination server can be the same, but the database must be different.

---

3. Keep all default settings and then click the Start Transfer button.

The Database/Object Transfer tool moves the objects.

4. Perform either of these tasks to verify whether the backup was successful:
  - When the process completes the transfer, click the View Logs button to review the transfer process.
  - Run a SELECT statement to verify that the backup tables transferred to the new database with data.

## Restoring a Backup File for Oracle on UNIX or Windows

To restore a backup file for Oracle on UNIX or Windows:

1. From the Oracle Enterprise Manager Tool, open Data Manager and from the Data menu, select Import.
2. Type the name of the import utility .dmp file.
3. Click Next.

4. On the Object Selection form, select the objects you want to restore and click Next.

The Importable Objects tree contains the objects that are importable in the file you specified. To move the object to the Selected Objects tree, select an object in the tree and click the down arrow.

---

**Note.** When the .dmp file is on a remote machine, Data Manager uses the Console job and event system to retrieve the file before displaying the data through the Import Wizard. The Remote Import page of the Import Wizard has a status line at the top of the page that displays the progress of data retrieval. The Oracle Enterprise Manager Console must be running.

---

Three conditions can be displayed: Job Submitted, Job Started, and Job Completed.

---

**Note.** Data retrieval must complete successfully before beginning the import operation.

---

The Selected Objects/Available Objects tree contains the objects to be imported. To remove an object from the list, select the object and use the up arrow or drag and drop.

5. Click Next.
6. On the Associated Objects form, accept the defaults and click Next.
7. On the Tuning form, you can generate a log file, if needed.
8. Click Next.

---

**Note.** Select the Generate Log File options and enter a log file name or use Browse to select a log file.

---

9. On the Advanced Options form, select the Increment Type. If you followed the instructions to create a backup, select None for Increment Type and click Next.
10. On the Summary form, verify that all selected objects and options are correct.

---

**Note.** You must drop the existing objects in the database that you want to restore or the import process will fail.

---

11. Click Finish to begin importing objects.
  12. When the import process is completed, you will receive these message: "Process terminated successfully with no warnings."
- If errors or warnings exist, check the log file to review the export process.
13. Perform a SELECT statement to verify that the backup tables are populated with data.

## Restoring a Backup File for iSeries

To restore a backup file for iSeries:

Restore the libraries and IFS directories that you backed up from tape.

## Restoring a Backup File for SQL Server

To restore a backup file for SQL Server:

1. Verify that the Choose Into/Bulk Copy option on the Options form is turned on for the database into which you will transfer objects.
- Double-click the database in the tree structure to access the Options form.

2. From SQL Enterprise Manager, select Database/Object Transfer from the Tools menu.
3. On the Database/Object Transfer form, select a destination server and database from which to transfer backup copies of the tables.

---

**Note.** The source server and the destination server can be the same, but the database must be different.

---

4. Deselect the Transfer All Objects option, but keep all of the other default settings.
5. Click the Choose Objects button, select the objects that you want to transfer, and then click OK to return to the Database/Object Transfer form.
6. Click the Start Transfer button.

The Database/Object Transfer tool moves the objects.

7. Perform either of these to verify whether the backup was successful:
  - When the process completes the transfer, click the View Logs button to review the transfer process.
  - Run a SELECT statement to verify that the backup tables transferred to the new database with data.

## Restoring a Backup File for SQL Server on Windows

To restore a backup file for SQL Server on Windows:

1. Verify that the Select Into/Bulk Copy option on the Options form is turned on for the database into which you will transfer objects.

Double-click the database in the SQL Enterprise Manager tree structure to access the Options form.

2. Generate scripts for the tables you want to restore and then drop the tables.
3. Use SQL to recreate the scripts for the tables.
4. From the command line, type this command:

```
bcp [[database_name.]owner.] table_name(in|out) datafile /n /u /p /s
```

5. Perform a SELECT statement to verify that data populates the backup tables.



## CHAPTER 13

# Generating Serialized Objects for the JD Edwards EnterpriseOne Web Server

This chapter provides an overview of serialized object generation.

---

## Understanding Serialized Object Generation

To run the web server, the server must have access to a set of serialized Oracle's JD Edwards EnterpriseOne JAS objects. These objects can be generated directly from Oracle's JD Edwards EnterpriseOne objects using the appropriate set of JD Edwards EnterpriseOne specifications.

Generating JD Edwards EnterpriseOne serialized objects requires a specific machine configuration. While it is possible to configure a web server to generate JD Edwards EnterpriseOne serialized objects, the recommended method is to dedicate a separate generation machine for this process.

---

**Note.** The eGenerator software can change with each Tools Release.

---

See the Generating JD Edwards EnterpriseOne Serialized Objects appendix in the *JD Edwards EnterpriseOne Tools 8.96 HTML Web Server Installation Guide*

There are eight versions of this guide which depend on platform and application server.





## CHAPTER 14

# Understanding Executable Files on the Workstation

This chapter discusses:

- JD Edwards EnterpriseOne linked executable files.
- JD Edwards EnterpriseOne standalone executable files.

---

### JD Edwards EnterpriseOne Linked Executable Files

This section provides a list of linked executable files (executables) that are in the workstation system/bin32 directory.

Linked executables:

- Are called by other Oracle's JD Edwards EnterpriseOne programs.
- Are called by the JD Edwards EnterpriseOne kernel.
- Have no value if they are run independently of JD Edwards EnterpriseOne.
- Will not run unless they are called by JD Edwards EnterpriseOne.

This table includes descriptions and instructions for running the linked executable files:

Executable	Description	Call Details
Ap22.exe	JD Edwards EnterpriseOne uses this program to display spreadsheets in a dialog box. This executable is obsolete and has no function in SP10 and beyond.	Obsolete.
BLC2Text.exe	JD Edwards EnterpriseOne uses this program to read workstation JDEBLC spec files and generate a text file with details about each business function source file that is listed in the spec file.	Called by an internal business function build program that is not shipped to customers.
Dir2txt.exe	This program takes a path and a text file name as arguments and places the directory name of the highest branch in the path into the text file.	Called from makefiles that are generated by BusBuild.

Executable	Description	Call Details
Drilldwn.exe	JD Edwards EnterpriseOne uses this utility when generating Balance Auditor functions in Tabular reports.	Called by the JD Edwards EnterpriseOne UBE kernel.
DSArguments.exe	JD Edwards EnterpriseOne uses this utility program to create a CID argument when attempting to connect to a JD Edwards EnterpriseOne Data Source.	Called by the JD Edwards EnterpriseOne kernel.
GBLib.exe	The JD Edwards EnterpriseOne process BusBuild uses this program to determine whether the object files exist.	Called from makefiles generated by BusBuild.
Guimole.exe	JD Edwards EnterpriseOne uses this program to create a bridge between the workstation and the iSeries server to enable green screens to be displayed through JD Edwards EnterpriseOne.	Called by the JD Edwards EnterpriseOne kernel.
InstMon.exe	JD Edwards EnterpriseOne uses this program during sign-in to install update packages if an update package is selected.	Called by the JD Edwards EnterpriseOne kernel.
JDEGenEx.exe	This program generates a list of exports for each dll.	Called from makefiles that are generated by BusBuild.
Rtt.exe	We ship this program for use by business partners only.  JD Edwards EnterpriseOne uses this program to build resource files for language translation. The risk is that the existing resource files could be confused with the newly generated files. The user would have to intentionally continue through multiple screens for this to happen.	Do not use this program.
Ubemon.exe	This program monitored long-running UBEs and reported their completion. This program is obsolete and was disabled in SP10.	Obsolete.
Vdt.exe	This Business View Design Tool creates business views when called from Object Librarian or Object Management Workbench (OMW).	Called from Object Librarian or Object Management Workbench (OMW).

Executable	Description	Call Details
owptrl_cli.exe	owptrl_cli is the communication bridge between BMC Patrol Monitoring Tool and JD Edwards EnterpriseOne enterprise and web servers. owptrl_cli converts SAW data to BMC data so that the Agent will understand. The Agent sends a request to the owptrl_cli (for example, give me the list of all processes running on HP9000B port 6012); the owptrl_cli returns detailed information about all the processes running on the server in a format known by the Agent. In this way, BMC can monitor JD Edwards EnterpriseOne servers.	Called by BMC Patrol Agent with a predefined argument list.
DbidCapture.exe	This utility program is called by Autopilot or EventCapture to capture database IDs that are necessary for Autopilot to access JD Edwards EnterpriseOne tables. It is not an end-user program and has no purpose apart from Autopilot or EventCapture.	Called by Autopilot or EventCapture.
ubeprint.exe	ubeprint.exe is not for direct customer use, although the JD Edwards EnterpriseOne product suite does use it.	Called by the JD Edwards EnterpriseOne kernel.
genver.exe	genver creates the win32 version information for the build process.	Called by the JD Edwards EnterpriseOne kernel.
poda.exe	Processing Option Design Aid. All design tools are client side only. OMW passes the executable a set of parameters that are similar to RDA, TDA, and BDA.	Called from OMW when you design a processing option.
RDA.exe	Report Design Aid. All design tools are client side only. OMW passes the executable a set of parameters similar to PODA, TDA, and BDA.	Called from OMW when you design a batch application. RDA can also be opened without command line parameters.
guimole.exe	A secondary executable that is called to pass parameters into the WorldVision session.	Called by WorldVision.
FDA.exe	Form Design Aid (FDA) is used to create interactive applications. FDA is currently configured to run on a fat client.	Called from the design window in OMW for an application.

Executable	Description	Call Details
JdeCabExtract.exe	JdeCabExtract creates self-extracting.exe files.	JD Edwards internal tool.
JdeCompress.exe	JdeCompress creates JD Edwards-compatible cabinet files.	JD Edwards internal tool.
pssg.exe	An obsolete file that is not called by any JD Edwards EnterpriseOne applications.	Obsolete.
GLBUILD.exe	GLBUILD was replaced by Busbuild.exe. It was used to build the business functions.	Obsolete.
krnlspec.exe	This program is used to generate jdekrnl.xdb and jdekrnl.ddb specs from the pristine database.	JD Edwards internal tool.

## JD Edwards EnterpriseOne Standalone Executable Files

You can run standalone executable files directly from either the command line or through Windows Explorer.

This table includes descriptions and instructions for running the standalone executable files:

Executable	Description	Run Instructions
JDECOMConnector2.exe	This program sets up COM connections to the server using the COM Connector product and only works in that context. Contact Customer Support for full documentation.	Run from the command line with a -regserver option.
LogViewer.exe	This program employs a user friendly interface to view and modify plain ASCII JD Edwards EnterpriseOne files such as: <ul style="list-style-type: none"> <li>• jdedebug.log</li> <li>• jde.log</li> <li>• olt.log</li> <li>• jde.ini</li> </ul>	Double-click the executable.
MOConv.exe	This utility converts all records to use a period as the decimal separator. Use this utility when records are entered into a single table using both commas and periods as decimal separators. This utility is driven by the MOConv.ini file.	Quit JD Edwards EnterpriseOne and then double-click the executable.

Executable	Description	Run Instructions
Nettest.exe	This utility tests basic JDENET connectivity using the "netecho" function against an enterprise server. Enter the name of the enterprise server in the Host Name box and press Send. The returned data indicates success or failure.	Double-click. Required argument: Enterprise Server Name
Regdlls.exe	This program adds these dynamic link libraries (DLLs) to the registry:  jdetapitest.dll jdetapicomtek.dll  Register these DLLs before using RunTAPI.exe.	Run from a DOS window in the JD Edwards EnterpriseOne system/bin32 directory.
RunTAPI.exe	This program controls interoperability between JD Edwards EnterpriseOne and telephone switching systems. It is a snap-in (harness) to ComTech CTI Server objects. It requires jde.ini file changes and Regdlls.exe before it can be run. Contact Customer Support for full documentation.	Double-click.
SABridge.exe	This Object Export Facility displays the names of the JD Edwards EnterpriseOne objects along with their descriptions and corresponding product codes.	Double-click the executable.
SnapShot.exe	This program manages multiple workstation installations on the same PC.  You can install a new instance of JD Edwards EnterpriseOne by clicking Save to store the current workstation installation in a newly named location. Click Restore to toggle between the current and saved versions.	Exit JD Edwards EnterpriseOne and then double-click the executable.
VerifyOCM.exe	This program reads the OCM tables from the database and verifies that the mappings in OCM are correct.	Run from a DOS window. Required arguments are: <ul style="list-style-type: none"><li>• JD Edwards EnterpriseOne user</li><li>• JD Edwards EnterpriseOne password</li><li>• JD Edwards EnterpriseOne Environment</li></ul>

Executable	Description	Run Instructions
Vercheck.exe	This program displays, on one screen, the properties of all the files in a directory. The properties are the same as those that are displayed when you right-click a file and select Properties.	Open a DOS window, change the directory to the desired target, and double-click the executable.
GenCOM.exe	This program generates COM wrappers for the business functions that are specified in the script.	Run GenCom.exe from the command line with the name of the script file.
GenCORBA.exe	Creates CORBA wrappers around JD Edwards EnterpriseOne business functions. This is a command line utility that requires a script file as an input.  GenCORBA generates CORBA interfaces for JD Edwards EnterpriseOne business functions.	Syntax: GenCORBA[options] [libraries] For example: GenCORBA /Cat /UserID Devuser1 /Password Denuser1 /Environment ADEVHPO2 CAEC
GenJava.exe	GenJava provides access to JD Edwards EnterpriseOne business functions by generating pure Java interfaces to them.	Run GenJava. Syntax: GenJava [options] [libraries] For example: GenJava /Cat /UserID Devuser1 /Password Denuser1 /Environment ADEVHPO2 CAEC
LaunchUBE.exe	LaunchUBE.exe is used to launch the UBE job stand-alone (not going through JD Edwards EnterpriseOne). It replaces the User Interface of UBEPrint.exe.	Double-click the executable or start using the command line.
Autopilot.exe	Autopilot is the centerpiece of all automated testing tools. Using Autopilot, a person can script JD Edwards EnterpriseOne applications to run automatically and save the scripts to run many times. Autopilot is used throughout the company and by many customers for a wide variety of purposes.	Normally started from a desktop button or from the Start menu without command line options.

Executable	Description	Run Instructions
EventCapture.exe	EventCapture is a small program that can be activated alongside JD Edwards EnterpriseOne (in lieu of Autopilot) to capture performance and debugging information. EventCapture is often used instead of Autopilot because it is simpler and quicker than creating an Autopilot script for a single use. With EventCapture, the user drives JD Edwards EnterpriseOne; with Autopilot, the script drives JD Edwards EnterpriseOne.	Normally started from a desktop button or the Start Menu without command line options.
APTTestMgr.exe	Autopilot Test Manager is used to run multiple Autopilot scripts in a batch and to manage batches for repeated execution. It has some ability to summarize results, and it is frequently used for regression testing.	Normally started from a desktop button or from the Start Menu without command line options.
VSMerge.exe	Visual ER Compare Tool is used to compare and merge Event Rules (ER) for JD Edwards EnterpriseOne Applications, Reports, Table Conversions, NERs (Named Event Rules), and TERs (Table Event Rules). It also can be used to compare and merge C Business functions.	You can launch Visual ER Compare tool from OMW or from the command line.
VSMEditor.exe	VSM Editor is a rarely used GUI tool that creates .VSM files. VSM files are super scripts that name one or more virtual Autopilot scripts to be run in succession by VAPPlayer.	Normally run by double-clicking vsmeditor.exe in bin32.
VirtualRunner.exe	VirtualRunner is a GUI tool for controlling multiple VAPPlayer processes on a single workstation.	Run the tool from a shortcut on the desktop or in the Start Menu. This tool does not use command line arguments.
vapplayer.exe	Virtual Autopilot Player enables you to simulate multiple concurrent JD Edwards EnterpriseOne users on a single workstation. It is used primarily for concurrency testing during development and for performance and scalability testing of JD Edwards EnterpriseOne applications. VAPPlayer requires a proper vap.ini (initialization) file. VAPPlayer has many command line arguments, which are optional if vap.ini is fully utilized. See documentation for details. VAPPlayer has no user interface. It produces output in log files.	VAPPlayer can be run from a command line, from the VirtualRunner graphical user interface, or from the Mercury LoadRunner (third-party) software console.

Executable	Description	Run Instructions
Analyzer.exe	Analyzer.exe is better known as JD Edwards EnterpriseOne Analyzer. It is a powerful instrument that is used to analyze performance data and other debugging information that is generated by a JD Edwards EnterpriseOne application that is run under Autopilot or EventCapture.	Create a desktop button or Start Menu button. No command line arguments are used.
UTBrowse.exe	<p>UTB is a tool that is used for viewing the records in tables. We also use it to view local JD Edwards EnterpriseOne object specifications.</p> <p>UTBrowse.exe uses these two libraries in the bin32 directory:</p> <ul style="list-style-type: none"> <li>• datautils.dll</li> <li>• envtool.dll.</li> </ul>	Type <i>UTB</i> in the EnterpriseOne Fast Path field or click the executable.
tda.exe	Use TDA to modify JD Edwards EnterpriseOne tables.	<p>On the Command Line, type tda.exe -idtablename, where tablename is the name of the table that you want to modify. For example, F0101.</p> <p>You do not need to run JD Edwards EnterpriseOne before running tda.</p>
tc.exe	tc.exe opens the JD Edwards EnterpriseOne Table Conversion Design Tool. This tool is used to design JD Edwards EnterpriseOne Table Conversion batch applications.	Double-click the executable, or run it from the command line using the optional parameter idXXXX, where XXXX is the name of an existing Table Conversion object.
Tamvrfy.exe	tamvrfy checks the integrity of all the tam files that are listed in the tamvrfy.lst.	Double-click the executable.
tamtool.exe	<p>tamtool can perform these functions:</p> <ul style="list-style-type: none"> <li>• Recreate a tam file.</li> <li>• Copy a tam file.</li> <li>• Print index information.</li> <li>• Print the index key.</li> <li>• Verify the tam file.</li> </ul>	Run from the command line.



Executable	Description	Run Instructions
tampack.exe	<p>tampack.exe is a backup utility in case tamftp.exe does not work for the customer. tampack.exe has about half the functionality of tamftp.exe.</p> <p>tampack.exe is included with the workstation and the deployment server. tampack.exe creates a translated copy of TAM files (RDASPEC.DDB, GBRSPEC.DDB, and so on) on the PC.</p> <p>The translated copies are known as pack files. When the program is finished, the user can manually run ftp.exe to transfer them to a remote enterprise server. When the pack files are on a remote enterprise server, the user can unpack them on the enterprise server.</p>	You must run tampack.exe from a DOS shell and pass in parameters.
ServerAdministrationWorkbench.exe	Starts the SAW interface.	Double-click the executable.
tamftp.exe	tamftp.exe comes with the workstation and the deployment server. tamftp.exe transfers TAM files (RDASPEC.DDB, GBRSPEC.DDB, and so on) from the PC to a remote enterprise server that is operational.	You must run the program from a DOS shell and pass it parameters.
pdf2pdl.exe	pdf2pdl is an MFC application that converts PDF files into files containing the printer-specific protocol language for a selected printer. This application is intended only for development to troubleshoot problems with a customer's JD Edwards EnterpriseOne output. The tool can help solve configuration problems.	Double-click the executable.
pdfcompare.exe	Displays the objects in the PDF document as a list and compares them.	Double-click the executable.



## CHAPTER 15

# Troubleshooting the Workstation

This chapter provides an overview of error messages and discusses how to:

- Troubleshoot the production workstation.
- Troubleshoot the development workstation.
- Work with the workstation log files.

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## Understanding Error Messages

Use this section as a general guide for basic troubleshooting techniques on the Oracle JD Edwards EnterpriseOne workstation. To troubleshoot problems, you will need a thorough understanding of the interactive error messages, Oracle's EnterpriseOne Work Center, logging process, and associated log files.

This section provides solutions to these problems that you might encounter on the workstation:

### Report Batch Process

You might encounter these issues when running a batch process:

- Report displays no data.  
It displays only the report headers and the text No Data Selected.
- Batch process displays errors on the report.
- Batch process gives unexpected data on the report.

### Environment Issues

You might encounter these environment issues:

- Works when the batch process or business function runs locally but not when it runs on the enterprise server.
- For store-and-forward operation, data entered to the local database is not moved to the server as expected.
- Tables are missing.

### Data Source Setup Problems

You might encounter these problems with the data source setup:

- Unable to connect to the enterprise server environment.
- Data is displayed incorrectly on the interactive form or batch report.

## Error Message Details

When you encounter an error, right-click the error message in the error message window and select Detail to provide additional information about the error. This information provides the source file and the source line that caused the error. If you try to set up an Item/Branch record in P41026 with an invalid item number, you will receive error number 0267 (Item Number Invalid).

When indicating the source file that generated the error, the system provides the entire path of the source location. In this example, the source file is `c:\E812\MSTR812\X4101.C`, and business function X4101 created the error. The other pieces of the path are directory names. The important information in this example is the file with the `.C` extension (`X4101.C`).

If the detail for the error includes the name of the source file, you can identify the process that the file performs to determine what might occur to cause an error. For example, the name of the source file might include system code that indicates the process performed by the file. The process might attempt to run in a module that is not fully functional. The cause of the error might be a constant set to perform a function that is currently unavailable. When you disable the constant, you avoid the error.

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**Note.** If you see a source file description that begins with `c:\E812\SYSTEM`, the error did not occur through a business function. Possibly, the error occurred through an event rule or the tool, while automatically triggering a data dictionary edit.

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Look for conditional statements that determine whether to activate the error message. Look for table names to determine whether the program attempts to retrieve data. Look for other programs that the program might call. Also, read the programmer comments that are included in the source, which might provide a literal explanation for why the code issues an error.

Also look at the data item that caused the error. The data item represents a control on the form. If you get a Blanks Invalid error without an indication of what field you left blank, look at the data item in this error detail box to see which control triggered the error. The field that contains the error might be a hidden field. For example, if you process a transaction that requires a supplier number determined by an Item/Branch combination decided by JD Edwards EnterpriseOne (not by a value that you define on the form) but no supplier number exists for the Item/Branch combination, the software returns the Blanks Invalid error. The field for supplier number does not appear on the form, so the cause of the error is not readily apparent. The data item might alert you to the hidden field and help you resolve the error.

## Error Messages Generated by Applications

These error messages are maintained in the data dictionary and are intentionally set to inform the user of a problem. The error message might indicate that the setup is incorrect or that the user is attempting an invalid action. Examples of these kinds of error messages include Record Invalid and Blanks Invalid. Some generic errors lack applicable descriptions; techniques for troubleshooting these errors are discussed in this chapter.

## Frequent Generic Error Messages

Some error messages are too generic to immediately explain an error. Examples are Null Pointer and File Can Not Be Accessed. The full descriptions of these error messages do not provide much information as to how to resolve the problem.

To troubleshoot generic errors, retrace the exact steps that led to the original error. The goal is to reproduce the error. If you cannot duplicate an error condition, then the application is accessing different lines of code than it did when the error occurred. Also look at the information in the error detail box, such as the source file, the source line, and the data item.

## Memory Violations

Memory violations occur when you encounter memory leaks in an application. A memory leak is a bug that prevents a program from freeing memory that the program no longer needs. The program continues to consume more memory until no memory remains, and the program crashes. JD Edwards EnterpriseOne applications set aside memory while they run. When the application no longer needs that memory, the application should free the memory for other applications to use. When an application does not properly free memory or when an application attempts to use invalid memory, you receive a memory violation.

Use these techniques to troubleshoot these errors:

- Look at the `jdedebug.log` to find information about the processing that occurred at the time of the error, such as programs called and tables accessed.
- Follow the exact steps that led to the error to reproduce the memory violation.

If you cannot duplicate the violation, then the application is accessing different lines of code than it did when the violation occurred. Also look at the information in the error detail box, such as the source file, the source line, and the data item. For UBEs, if the UBE uses a business function that causes memory violations, the UBE will simply stop. In this case, the `ube.log` is the only way to find out what failed.

## Form and Grid Add Failures

The two error messages that follow indicate that an attempt to add a new record to the database failed. The first message indicates that an add within a fix/inspect form failed. The second message indicates that an add within a grid failed. If you receive these errors, you could be attempting to add a duplicate record.

- Attempt to add form record failed.
- Attempt to add grid record failed.

The `jde.log` is a helpful reference when these errors occur. In general, it includes detailed information about the table into which the user attempted to add a duplicate record.

## Communication Failure

When submitting batch processes to a server, you might receive an error telling you that a communication failure has occurred.

When you submit a batch job to a server, you are first asked whether you would like to install the specifications. If the job is submitted successfully, JD Edwards EnterpriseOne reverts to the initial form.

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## Troubleshooting the Production Workstation

This section provides an overview of production workstation troubleshooting and discusses how to:

- Perform preliminary troubleshooting.
- Troubleshoot interactive application problems.
- Troubleshoot batch processes resulting in no data.
- Troubleshoot batch processes displaying errors on the report.
- Troubleshoot batch processes displaying unexpected data on the report.

- Troubleshoot batch processes ending in an error when submitted on the server.
- Troubleshoot local data-availability problems.
- Troubleshoot .DLL problems on a production workstation.
- Troubleshoot data source setup problems.

## Understanding Production Workstation Troubleshooting

The troubleshooting procedures that you use for a workstation depend on whether the workstation is a production or development machine. Production machines contain only JD Edwards EnterpriseOne applications, so the scope of problems that can occur is limited. In addition to containing prebuilt applications, development machines are equipped with JD Edwards EnterpriseOne and third-party tools. These tools enable developers to create, modify, compile, generate, and troubleshoot JD Edwards EnterpriseOne applications.

As a system administrator, you can perform preliminary troubleshooting on the production workstation to verify the nature of the problem. You will also want to isolate problems to a user's particular workstation and environment.

In general, when you are running an interactive application, the system displays errors at the bottom of a form. The system highlights the fields with errors in red. You can select Details on an error message to see information about where the error was set. For example, if the error resulted from within a business function, the system displays the business function and line number where the error was set.

If the errors cannot be resolved through the error messages that are received in the application, check the error messages in the log files for additional information.

If an application has stopped running, you might need to create or retrieve a new set of specifications for that application. You can overwrite a single application by building a partial package and deploying that package.

A user might encounter several problems when attempting to run a batch process. For example, the output might display only the report headings or it might print a message such as "No Data Selected." If the result of a batch process is no data, several factors could be causing the problem.

Some batch processes will give error messages directly on the report. These messages should include both the short description and error message number. You can view the full description of the error by opening the message in Data Dictionary Design.

If errors are received when you are attempting to sign in to a JD Edwards EnterpriseOne environment, a possible cause is an incorrect data source setup on the workstation. Some indications of incorrect setup are:

- A form continues to request a user ID, a password, and a data source even after valid ones are entered.
- Data is displayed incorrectly on an interactive application.
- Messages in the logs refer to problems connecting to data sources or concerning incorrect passwords.

### Troubleshooting a Standalone Installation of JD Edwards EnterpriseOne

If you find that you cannot perform a force checkout on a PC running a standalone installation of JD Edwards EnterpriseOne, it is because the software cannot determine the system name for a standalone installation.

The solution is to disable the DNS name in Microsoft Windows.

## Troubleshooting Enterprise Server Data-Availability Problems

If the workstation is running a report against any enterprise server database, such as Oracle, SQL Server, or DB2/400, you need to check the database to see whether the SQL statement can find data in the tables. With the help of a database administrator, you can run the same SQL statement against the server database to verify that the expected data exists in the tables.

As an alternative or in addition to these procedures, you can also use the Universal Table Browser to verify table structure and data availability.

If you do not find any data in the tables for the environment against which you are running, then the SQL statement might be incorrect or the table is empty. Check the data selection and processing options, and verify that they are selecting data that is in the tables. If you do not have data in the tables to match what you are searching, then you will get unexpected results or no data on the report.

For example, if you leave the processing options blank (even though that may be a valid entry for a JD Edwards EnterpriseOne batch process), the process might be searching for blank values or for all values. If the data selection is selecting on a company that does not have any records, then the report batch process does not find any records.

## Troubleshooting Printing Problems

Most printing errors are written to the batch process log. However, some errors might appear on reports or be visible in another form. For example, the report prints an error message, prints in the wrong font, or prints landscape instead of portrait.

These printing problems can occur:

- The batch application produces error messages on the report, for example, Invalid Company Number.
- The report batch process displays the wrong font on the report.

Check the report properties of the version that you just ran. Also, for the section that is not printing the correct font, check the section properties for the font. If the font is correct, then try printing to a different printer. Otherwise, try using another workstation to see whether the font that is being sent to the printer is not interpreted correctly.

- The report batch process prints portrait instead of landscape or landscape instead of portrait.

Check the report properties of the version that you just ran and verify that the properties are correct.

## See Also

*JD Edwards EnterpriseOne Tools 8.96 Package Management Guide*, “Building Packages,” Understanding the Package Build Process

*JD Edwards EnterpriseOne Tools 8.96 Workflow Tools Guide*, “Getting Started with JD Edwards EnterpriseOne Workflow”

*JD Edwards EnterpriseOne Tools 8.96 System Administration Guide*, “Using the Universal Table Browser”

## Performing Preliminary Troubleshooting

To perform preliminary troubleshooting:

1. Determine whether you can consistently duplicate the problem.
2. If you can duplicate the problem, restart the current application.
3. If the error recurs, restart JD Edwards EnterpriseOne.

4. If the error recurs, reboot the workstation.

These steps clear any memory or caching problems with the workstation.

## Troubleshooting Interactive Application Problems

To troubleshoot interactive application problems:

1. Select one of these to see the text of the message:
  - Display Errors from the Help menu selection.
  - Display button on the toolbar.
  - F8.
2. To see the full description of an error message, right-click and select Full Description.

The system displays a full glossary of the error and includes information for resolving the issue.

## Troubleshooting Batch Processes Resulting in No Data

This task provides a solution to previously discussed problems.

To troubleshoot batch processes resulting in no data:

1. Verify that the data selection on the batch process is appropriate and that data should result.  
Data selection on an item that has no data, such as an inactive company, or an incorrect value will result in a batch process with no data.
2. Check the Work Center to see whether the batch process resulted in an error.  
Most error messages are not printed on the report but are sent as an email message to the user who submitted the report.  
These messages will give the user an example of why the batch process ended without producing the desired results. For example, when the system runs a GL post that ends in error, the report will print only the report headings. All error messages are sent to the Work Center.  
Upon quitting the Work Center, the user receives error messages and a glossary description that indicate why the batch process resulted in no data. Some error messages include hot links that link the user directly to the appropriate interactive application to correct the error.
3. If checking the data selection and correcting any errors does not resolve the issue, activate the applicable logs and continue with these steps.
4. Run the batch process and locate the batch process log for the report that you ran.  
JD Edwards EnterpriseOne names this log with these conventions:  
  
`report name_version_other identifiers.log`  
This log is located in the local directory under \E812\PrintQueue. If you ran report R04431, it would appear in the local directory, E812\PrintQueue, like this:  
`R04431_XJDE0001_D960823_T104512.log`
5. View the log file using the JD Edwards EnterpriseOne Log Viewer or an ASCII editor such as Notepad or Wordpad.



Inspect the log for errors or failures of any kind. Also examine the SQL statements that were created by the batch process and verify that they should result in data on the report. The batch process log is the main source for debugging batch processes. However, you can look in the jde.log and jdedebug.log for errors or failures of any kind.

6. Verify that data exists in the tables for the database that you are accessing.

Use the Universal Table Browser tool to view the database table.

## Troubleshooting Batch Processes Displaying Errors on the Report

Access Error Messages from the Data Dictionary Design menu (GH951).

Error Messages form

To troubleshoot batch processes displaying errors on the report:

1. On Error Messages, complete the Glossary Group field.
2. Complete these optional fields:
  - Language
  - Alpha Description
3. On the grid, enter values in the Data Item field and click Find to narrow the search to the particular error code.  
For example, enter 0002 to search for the data item that is associated with the Record Invalid error condition.
4. To see an extended description of the error, select Glossary from the Row menu.

## Troubleshooting Batch Processes Displaying Unexpected Data on the Report

To troubleshoot batch processes displaying unexpected data on the report:

1. Verify that the data selection on the batch process is correct and should result in the data output that is expected.

2. Activate the batch process log and run the report.
3. Examine the report process flow and SQL statements to see why the data output on the report is selected.

## Troubleshooting Batch Processes Ending in an Error When Submitted on the Server

The default processing location for batch jobs is the server. If a job gives incorrect results or ends in error when run on the server, the problem could lie with the batch process or with the server. When you troubleshoot batch processes ending in an error when submitted on the server

1. Rerun the report, but override the location to run on the workstation rather than the server.  
You should be aware that if this is a very large report, the processing may take a significant amount of time. You may want to select less material to speed up the processing time.
2. Verify whether the outcome is the same as when the report was run on the server. If so, use the other troubleshooting procedures for batch processing to resolve the issue.

## Troubleshooting Local Data-Availability Problems

Inspect the local database at \E812\pathcode\data\JDELocal\_PD812.mdf to verify that data exists in the tables that the batch application is accessing.

To troubleshoot local data-availability problems:

1. To find the calling SQL statement, open the batch process log.  
JD Edwards EnterpriseOne names this log using these conventions: report\_name\_version\_other identifiers.log. This log is located in the local directory, \E812\PrintQueue.
2. Highlight the SQL statement, right-click, and copy the contents to the clipboard.
3. To view data in the local database, open the Universal Table Browser (UTB) and retrieve the table that the batch application is accessing from the local data source.
4. Use the information that you copied from the SQL statement to query the table in UTB.  
If this action causes the expected records to be found, the data that you specified in the data selection matches the SQL statement, which means that data selection is not the cause of the problem.

## Troubleshooting .DLL Problems on a Production Workstation

Problems with workstation .DLL files are indicated if you receive an error message such as this:

```
CALLBSFN.DLL Load Lib failed
```

Such a message might indicate that the object does not exist on the workstation. Use a tool such as Explorer to verify whether the file exists. You can find consolidated .DLLs in the \E812\path code\bin32 directory.

If the .DLL does not exist on the workstation or if it exists but you continue to get the error even after restarting JD Edwards EnterpriseOne, you can get the correct parent .DLL by reinstalling JD Edwards EnterpriseOne on the workstation from the deployment server. Another option is to copy the parent .DLL from the deployment server package location or another functioning workstation. This option will be successful if the business functions that are built into the parent .DLL are the same on the workstation that you are copying to as they are on the one that you are copying from. Use caution when copying .DLLs. A workstation installation is the preferred method.

## Troubleshooting Data Source Setup Problems

To troubleshoot data source setup problems:

1. From the Control Panel, verify that the ODBC settings are correctly defined and that the data source exists.  
The proper settings vary by data source.
2. If other users will sign in to the same workstation, verify that the data sources are set up as system data sources rather than user data sources.  
Data sources that are set up as user data sources must be set up for each user who is accessing JD Edwards EnterpriseOne on the workstation.

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## Troubleshooting the Development Workstation

This section provides an overview of development workstation troubleshooting and discusses how to:

- Troubleshoot .DLL problems on a development workstation.
- Troubleshoot event rule problems.
- Troubleshoot business function problems.

### Understanding Development Workstation Troubleshooting

The troubleshooting procedures that you use on a workstation depend on whether the workstation is a production or development machine. Production machines contain only JD Edwards EnterpriseOne applications, so the scope of the problems that can occur is limited. In addition to containing prebuilt JD Edwards EnterpriseOne applications, development machines are equipped with JD Edwards EnterpriseOne and third-party tools. These tools enable developers to create, modify, compile, generate, and troubleshoot JD Edwards EnterpriseOne applications.

You can perform troubleshooting procedures to isolate and resolve a problem with a JD Edwards EnterpriseOne development workstation.

Problems with workstation .DLL files are indicated if you receive an error message such as this:

```
CALLBSFN.DLL Load Lib failed
```

Such a message might indicate that the object does not exist on the workstation. Use a tool such as Explorer to verify whether the file exists. You can find consolidated .DLLs in the directory E812\path code\bin32 and E812\system\bin32.

If the .DLL does not exist on the workstation or if it does exist but you continue to get the error even after restarting JD Edwards EnterpriseOne, the workstation has a problem with the build of one or more consolidated .DLLs. You can rebuild libraries or .DLLs using the BusBuild application from Microsoft Windows Explorer. The path to busbuild.exe is E812\system\bin32\busbuild.exe.

### Troubleshooting .DLL Problems on a Development Workstation

Use this procedure if you are receiving the error on a specific business function that cannot be found in the parent .DLL.

To troubleshoot .DLL problems on a development workstation:

1. Verify that the correct parent .DLL for the business function that is being run is referenced when you receive the error.
2. If the wrong parent .DLL is referenced, select Synchronize JDEBLC from the Tools menu within BusBuild to correctly synchronize the parent .DLLs.
3. Attempt to rebuild the business function from the BusBuild.exe.  
The rebuild should include the business function in the parent .DLL.
4. To verify which business functions are part of a parent .DLL, select Dumpbin from the Tools menu within Busbuild.

This option lists all of the business functions that are included in the parent .DLL.

## Troubleshooting Event Rule Problems

When you encounter problems with event rules on an interactive or batch application, several tools are available to help resolve the problem.

- Review the event rules that are attached to the application or batch process for obvious problems such as disconnected assignments or incorrect parameters that were passed to business functions.
- When the system generates the application, a compile error log is generated, which documents errors in the event rules.

Review this log for errors within the Event Rules.

- The Debug Application within JD Edwards EnterpriseOne enables you to debug the event rules for an application or batch process.

## Troubleshooting Business Function Problems

You might be having business function problems if you are getting unexpected results or getting a .DLL error when you run a business function.

Microsoft Visual C++ enables you to debug a business function. You can use this tool to step through the logic and inspect variables, which often helps you detect the error.

---

## Working with the Workstation Log Files

This section provides an overview of the workstation log files and discusses how to:

- View log files.
- Set up the workstation jde.log.
- Set up the workstation jdedebug.log.
- Set up the batch process log.
- Troubleshoot with the compile error log.
- Troubleshoot with jdecpy.log.
- Troubleshoot with the sql.log.
- Activate sql.log.

- Troubleshoot ODBC problems using sql.log.
- Troubleshoot with the jdeinst.log.

## Understanding the Workstation Log Files

You should be familiar with the various logs that are used to troubleshoot problems on the workstation. By using these logs and the procedures that are outlined in this chapter, you can troubleshoot problems with interactive applications, batch applications, or business functions running locally on the JD Edwards EnterpriseOne workstation. Determine whether you can duplicate the problem consistently or whether it is intermittent.

Do not leave the debugging logs active when the logs are not in use. The logs consume disk and processor resources, and therefore affect performance.

If you do not use data replication in the configuration, ignore error messages that refer to these tables in the jde.log and jdedebug.log:

- F98DRPUB
- F98DRENV
- F98DRSUB
- F98DRLOG
- F98DRPCN

### Global Tables

Each JD Edwards EnterpriseOne workstation uses global tables (glbltbl.xdb and glbltbl.ddb) to write disk cache files containing internal session-specific and workstation-specific information. For example, information about data dictionary tables and business views is cached. By maintaining a history of this cached session information, individual workstations will improve runtime performance based on their usage.

If you are doing application development, you might need to delete the global tables to see the results of the changes. This is because the system looks first to the disk cache to read certain table information. The information that is contained in the disk cache might not be synchronized with the current development. You cannot edit the contents of the disk cache.

We recommend that normal startup of JD Edwards EnterpriseOne in a production environment *not* include the deletion of these global tables. These files should be deleted only as a troubleshooting technique or a development aid.

If the global table files do not exist when JD Edwards EnterpriseOne is started, they will be created. If they do exist, they will be appended, not overwritten. The files are located in the E812/pathcode/spec directory.

In general, on JD Edwards EnterpriseOne workstations, logs are classified in these categories:

- Logic processing.
- Batch processing.
- Application development (compiling and generating).
- Object Management Workbench transactions.

### Logic Processing Logs

You use two major log file sources for troubleshooting processing faults on the workstation:

- `jde.log`

This log displays fatal errors. `Jde.log` can track any fault that might occur within JD Edwards EnterpriseOne.

- `jddebug.log` (JDEDEBUG on iSeries)

This log tracks API calls and SQL statements as well as other messages. You can use this file to determine the point in time when normal processing stopped. The system does not use `jddebug.log` to track errors. Instead, this log is used to track the timing of JD Edwards EnterpriseOne processes.

## Application Development Logs

For JD Edwards EnterpriseOne workstations in application development environments, you can use these logs to identify faults in processing that are related to compiling and generating applications and business functions:

- `compile_error.log`

The `compile_error.log` contains compile errors for event rules. You can use this log to view event rules that might not properly compile and run. These include Named Event Rules, Table Event Rules, and event rules that are embedded in applications.

- `jdecpy.log`

This log is produced each time you run the copy table program (`cpytbl.exe`). Copy table error messages and IDs are logged. This log also indicates whether any inserts failed that could indicate a possible error.

- `sql.log`

You use this log to view exactly what is being sent through the ODBC driver. This is not a JD Edwards EnterpriseOne log; another software vendor provides this log process.

For workstations in production environments, you can use `jdeinst.log` to identify faults in JD Edwards EnterpriseOne silent installation.

If you use the silent installation process for JD Edwards EnterpriseOne installations on a workstation, you can use this log to view the status of the silent installation.

## Workstation `jddebug.log`

The workstation `jddebug.log` file contains messages relating to API calls and SQL statements, as well as other messages. You can use this file to determine the point in time when normal processing stopped. The system does not use `jddebug.log` to track errors. Instead, it uses this log to track the timing of JD Edwards EnterpriseOne processes.

You can use `jddebug.log` to determine where a process has ended. For example, log data can include what the ODBC was trying to connect to, the SQL statement that was being run for a specific table, and whether memory has been freed.

If the process failed and you have logging turned on, look in the `jddebug.log` for these messages:

- Not Found
- Failure

Also, look at the end of the log to see what process ran last. In general, important lines in the log are:

- SELECT

The SELECT lines indicate which table you are selecting. The log tells you in which library (for the iSeries) or environment (for the non- iSeries) the table resides. You should verify that the selected libraries and environments are correct.

- ODBC Version

The ODBC lines indicate whether you are having problems connecting to the driver.

## Batch Process log

You can use the batch process log to identify faults in JD Edwards EnterpriseOne processing that are related to batch processes. The batch process log resides in the \E812\PrintQueue directory. The log file name is batch\_process.log, where batch\_process represents the report name, version name, date, and time.

Based on the setting of the UBESaveLogFile parameter in the [UBE] section of the jde.ini file, this log file is deleted or saved on successful completion of batch processes. This log file displays different types of messages that can help in tracking errors in the batch process. The messages are:

- Section Level Process
- Object Level Process
- ER Level Process
- DB Level Process

The batch process log can contain ER references, batch process flow, and SQL statements, among other messages. You can use the batch process log file to determine when normal processing stopped.

The batch process log file displays the process flow in batch processes. This flow is completed in these steps:

1. When batch processes complete a section, starting with the INIT section, a business view is opened.  
After the INIT Section log, you should see a SQL statement.
2. After INIT Section, the batch engine calls Adv Section to retrieve a record.
3. After the retrieve, batch engine processes the Do Section Processing.
4. From Do Section, each object is processed in Init Object - Do Object - End Object order.
5. After Do Object message, you should see Printed value in the log.

ER events are logged in a different event level.

## sql.log

In sql.log, the important lines for you to search are:

- **SELECT \* FROM** (bolded in these example)
- SQLBindCol
- Table not found

Verify that you are reading the correct table. For example, in the sql.log example, a line exists for every column in the selected table, which indicates that the correct table is selected.

If you are having difficulty reading the table, verify that the table has the correct number of columns. If you have added columns to the table and you cannot locate the correct number of columns, you need to configure the table. This information is also provided in jde.log.

## Use of Log Files to Troubleshoot Strategies

You can create a normal (successful) jde.log by logging on to JD Edwards EnterpriseOne and then immediately logging off. Use this log of successful startup statements to compare against logs that have a problem.

If you know the problem is not related to startup, you can clear and save the log without quitting JD Edwards EnterpriseOne. When you re-create the problem, the contents of the log should contain only errors that occurred since you cleared the log.

You can also rename the log to indicate the kind of problem. For example, you might delete the jde.log and then run a report that causes an error condition. You could rename the jde.log to report.log.

Another alternative is to add comment lines to the jde.log indicating the sequence of events that you are performing. For example, you might be running an application that you know causes an error. Just before you run the application, you could edit the jde.log to add a comment line stating that you are about to start the suspect application.

Most error messages in the jde.log have a unique number assigned to them. You can view an extended description of the error, including possible causes and resolutions, by searching on the error number in the Error Messages application (P92002).

## Viewing Log Files

You can view JD Edwards EnterpriseOne log files from within any application. If you want to view log files outside of JD Edwards EnterpriseOne, you can use a text editor like Notepad or Wordpad.

To view log files:

1. From within any JD Edwards EnterpriseOne application, right-click to open the pop-up menu.
2. On the pop-up menu, select the View System Log option.
3. On Log Viewer, select File, Open to locate and open a JD Edwards EnterpriseOne log file.

You can also use the View menu selection to select log files. If you have viewed log files previously, the File menu keeps a history of those files.

## Setting Up the Workstation jde.log

You can use the workstation jde.log as a general purpose log to track fatal errors that are generated by JD Edwards EnterpriseOne processing. The jde.log tracks any fault that might occur within JD Edwards EnterpriseOne. When you are looking for startup errors, you should read the jde.log from the top down. For other errors, you should read from the bottom up.

The workstation jde.log is created (if it does not exist) or overwritten (if it already exists) at the start of every JD Edwards EnterpriseOne session.

To set up the workstation jde.log:

1. Locate the workstation jde.ini file.

The JD Edwards EnterpriseOne setup program places this file in the working Microsoft Windows directory; for example, c:\Windows\jde.ini. If you are unsure of the workstation's working Microsoft Windows directory, use the Find command to locate the jde.ini file.

2. Use an ASCII editor (like Notepad or Wordpad) to open the file.
3. In the [DEBUG] section, verify or change this setting for the job file variable:



Setting	Purpose
JobFile=	<p>Specifies the location and name of the jde.log file. The default value is c:\jde.log.</p> <p><b>Note.</b> You can disable the jde.log on the workstation by specifying a blank or invalid value for JobFile. If you delete or disable (comment out) the JobFile parameter, JD Edwards EnterpriseOne automatically creates and writes to a log file called jde.log in the c:\ directory of the workstation.</p>

4. Save the changes and close the jde.ini file.

## Setting Up the Workstation jdedebug.log

To set up the workstation jdedebug.log:

1. Locate the workstation jde.ini file.

The JD Edwards EnterpriseOne setup program places this file in the working Microsoft Windows directory, for example, c:\Windows\jde.ini. If you are unsure of the workstation's working Microsoft Windows directory, use the Find command to locate the jde.ini file.

2. Use an ASCII editor (like Notepad or Wordpad) to open the file.
3. Verify or change the name of the jdedebug.log file.

The location and file name of the jdedebug.log file is defined by this setting in the jde.ini file:

Setting	Purpose
DebugFile=	Specifies the location and name of the jdedebug.log file. The default value is c:\jdedebug.log.

4. Enable or disable the logging of events to the jdedebug.log file through this setting in the [DEBUG] section:

Setting	Purpose
Output=	<p>Valid values are:</p> <ul style="list-style-type: none"> <li>• NONE: No trace information is written to jdedebug.log.</li> <li>• FILE: Database and runtime trace information is written to the file that is specified by the DebugFile= parameter in the [DEBUG] section.</li> <li>• EXCFILE: Runtime trace information is written to the file that is specified by the DebugFile= parameter in the [DEBUG] section.</li> <li>• BOTH: Trace information is written to both jde.log and jdedebug.log.</li> </ul>

**Note.** The primary method of disabling the jdedebug.log is by using the Output parameter. However, if you set Output=FILE and you leave the DebugFile value blank (or specify an invalid location), JD Edwards EnterpriseOne still performs debug tracing but does not write the results to any jdedebug.log file. If you delete or disable (comment out) the DebugFile parameter, JD Edwards EnterpriseOne automatically creates and writes to a log file called jdedebug.log in the c:\directory of the workstation.

5. Set the level of debugging information that you want written to the jdedebug.log file.

The debug level is determined by this parameter in the [DEBUG] section:

Setting	Purpose
Output=	<p>Specifies the debug level. You can specify any combination of allowable values using commas as delimiters. The default setting is LEVEL=BSFN,EVENTS. Valid values are:</p> <ul style="list-style-type: none"> <li>• EVENTS</li> <li>• BSFN</li> <li>• SF_x</li> <li>• GRID</li> <li>• PARENT_CHILD</li> <li>• GENERAL</li> <li>• MESSAGING</li> <li>• WORKFLOW</li> <li>• WORKFLOW_ADMIN</li> <li>• MEDIA_OBJ</li> <li>• CONTROL</li> </ul>

For example, LEVEL=SF\_CONTROL. In addition, you can specify multiple system functions by separating them with commas. For example, LEVEL=SF\_GRID,SF\_CONTROL. You can also specify numeric values:

- 1: Traces critical errors. This is the default level. That is, whether you specify this value or not, the system will always trace critical errors.
- 2: Traces critical errors. This is the default level. That is, whether you specify this value or not, the system will always trace critical errors.
- 3: Traces statements as the software enters and exits each event. Specifying this value is the equivalent of specifying the EVENTS value.
- 4: Traces main messages that the software sends to a controlling parent of a child. These messages concern the processing functions such as the grid.
- 5: Provides a detailed trace report of every function that the software calls in the interactive runtime module. This setting is applicable only to developers of the runtime module.
6. Save the changes and close the jde.ini file.

## Setting Up the Batch Process Log

To set up the batch process log:

1. Locate the workstation jde.ini file.  
The JD Edwards EnterpriseOne setup program places this file in the working Microsoft Windows directory, for example, c:\Windows\jde.ini. If you are unsure of the workstation's working Microsoft Windows directory, use the Find command to locate the jde.ini file.
2. Use an ASCII editor (such as Notepad or Wordpad) to open the file.
3. Set the level of batch report debugging information that you want written to the batch process log file, and set whether you want the file to be saved.

These settings are controlled by these parameters in the [UBE] section:

Setting	Purpose
UBEDebugLevel=	<p>Specifies the level of UBE debug logging. The default value is 0, and values are:</p> <ul style="list-style-type: none"> <li>• 0: No message in a log file.</li> <li>• 1: Error messages, and log entry and section level messages.</li> <li>• 2: Object level messages (plus Level 1 messages).</li> <li>• 3: ER messages and database mapping messages (plus Level 1 and 2 messages).</li> <li>• 4: SQL statements (plus Level 1, 2, and 3 messages).</li> <li>• 5: Batch process function calls and printed output values (plus Level 1, 2, 3, and 4 messages).</li> <li>• 6: Batch process function calls and printed output values (plus Level 1, 2, 3, 4, and 5 messages).</li> </ul>
UBESaveLogFile=	<p>Specifies whether the &lt;batch_report&gt;.log file will be saved. Values are:</p> <ul style="list-style-type: none"> <li>• 0: The &lt;batch_report&gt;.log file is not saved.</li> <li>• 1: The &lt;batch_report&gt;.log file is saved in the workstation JD Edwards EnterpriseOne print queue directory (E812\PrintQueue).</li> </ul>

4. Save the changes and close the jde.ini file.

## Troubleshooting with the Compile Error Log

For JD Edwards EnterpriseOne workstations in development environments, use this log to identify faults in JD Edwards EnterpriseOne processing that are related to compiling and generating applications and business functions. This log for compiled event rules provides an account of event rules (Named Event Rules, Table Event Rules, and applications) that do not properly compile and process. JD Edwards EnterpriseOne generates this log file every time the Code Generator program (cg.exe) is run and errors occur with compiled event rules.

The <compile\_error> portion of the log file name refers to a variable value for the name of the event rules being compiled. For example, a name of a log file for compiling NER N3200780 is N3200780.log. The error log from an application containing compiled event rules replaces the first letter of the application name with an E; for example, P0101 generates an error log named E0101.log.

Use this log when errors have occurred within the Code Generator while you were compiling an application, Named Event Rules, or Table Event Rules. When this happens, a message box appears beneath the JD Edwards EnterpriseOne Code Generation form with the source member and the problem description. You can use the log file to keep a record of such problems. The compile error log resides in the log folder under the path code portion of the E812 directory tree, for example, c:\E812\PD812\LOG.

## Troubleshooting with jdecpy.log

The system produces output for jdecpy.log each time the copy table program (cpytbl.exe) is run on the workstation. In general, the file contains records of those tables that were successfully copied from the local database to the chosen server. This log also indicates whether any inserts failed. Such failures indicate a possible error. This log is automatically stopped after cpytbl.exe finishes.

The jdecpy.log resides in the root directory of the workstation, usually in c:\. JD Edwards EnterpriseOne automatically generates this log every time you run cpytbl.exe. The log is created or overwritten each time it runs.

After you use `jdecpy.log` to determine that a copy table error has occurred, you should refer to the `jde.log`. If a table does not copy properly, the detail of the error text is written to `jde.log`. The `jde.log` contains the actual error message and message ID. The message ID relates to the line prefix numbers in the `jdecpy.log`. This ID will help you locate the applicable error text that was written to the `jde.log`.

## Troubleshooting with the `sql.log`

You can use `sql.log` to view exactly what is being sent through the ODBC driver. This log is not a JD Edwards EnterpriseOne log; another software vendor provides this log process. For workstations, `sql.log` resides in the default root directory of the workstation, usually in `c:\`. You can direct the output to any file in any location. In general, instead of using the `sql.log`, you can use the `jddebug.log` because it also tracks SQL statements.

In `sql.log`, the important lines to search for are:

- `SELECT * FROM`
- `SQLBindCol`
- Table not found

If you experience a problem with the ODBC settings or can't connect to a JD Edwards EnterpriseOne ODBC database, activate logging for `jde.log`, `jddebug.log`, and `sql.log`. Duplicate the problem, check `jde.log` or `jddebug.log` to view the ODBC error messages, and check the end of `sql.log` to determine the last process. The majority of ODBC problems occur when these processes are called:

- Process SQL Statements
- Receive Results

## Activating `sql.log`

To activate `sql.log`:

1. From the Microsoft Windows Control Panel, select 32bitODBC.
2. On Data Sources, click Options.

---

**Note.** Leave the Stop Tracing Automatically option selected. Because this log grows rapidly, we recommend that you stop the trace in this way to preserve disk space resources and CPU cycles.

---

Ensure that Trace ODBC Calls is cleared when you are not debugging. The log files can consume large amounts of disk space as well as CPU cycles.

## Troubleshooting ODBC Problems Using `sql.log`

To troubleshoot ODBC problems using `sql.log`:

- Ensure that the data source names are set up correctly (as system data sources) and that a driver has been set up in the 32bitODBC in Control Panel.
- Make sure that Client Access has the correct parameters.
- Ensure that the library to which you are pointing is set up correctly.
- Look for these ODBC error messages in `jde.log` and `jddebug.log`:

- Table not in library

If the table that is specified couldn't be found in the specified location, go to the appropriate DBMS and attempt to locate the table.

If the table does not exist, you must generate the table.

If the table exists but has been moved, you must change the data source to point at the new library.

- Not Binding Column Data Types

This error message means that the row is in use and that another program has a lock on that data. As a result, you cannot use this row until the program that is currently using it releases it.

## **Troubleshooting with the jdeinst.log**

Use jdeinst.log to view the status of the JD Edwards EnterpriseOne silent installation. The silent installation mode enables you to submit a workstation installation request through command line arguments. JD Edwards EnterpriseOne creates a log file that records error conditions that were encountered during the silent installation, and it indicates whether the silent installation was successful. The jdeinst.log file is located in the root directory of the workstation.



## CHAPTER 16

# Troubleshooting the Enterprise Server

This chapter provides an overview of enterprise server troubleshooting and discusses how to:

- View enterprise server logs from the workstation.
- Set up the enterprise server jde.log.
- Set up the enterprise server jdedebug.log.
- Set up the <batch process>.log file.
- Troubleshoot the enterprise server.
- Troubleshoot the iSeries enterprise server.
- Troubleshoot the UNIX/Linux enterprise server.
- Troubleshoot the Microsoft Windows enterprise server.
- Troubleshoot web servers.

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## Understanding Enterprise Server Troubleshooting

Using these techniques, you can troubleshoot batch applications and business functions that process on the Oracle JD Edwards EnterpriseOne enterprise server. Platform-specific procedures are presented in other sections of this guide.

You might encounter these types of general problems on a JD Edwards EnterpriseOne enterprise server. The information presented applies to all operating systems:

- Communication failure when submitting a UBE or when trying to run business function logic on the server.
- Error message appearing at the bottom of a form (press F8 or click Bitmap to view an error description).

You should be familiar with the various logs used to troubleshoot problems on the server. Using these logs, you can troubleshoot batch applications and business functions that are executing on the enterprise server.

### *Types of Enterprise Server Log Files*

In general, logs on JD Edwards EnterpriseOne enterprise servers are classified as either logic processing logs or batch processing logs.

### *Logic Processing Logs*

You can use these two major log file sources for troubleshooting processing faults on the enterprise server:

- jde.log

This log displays fatal errors. It can track any fault that might occur within JD Edwards EnterpriseOne.

- `jddebug.log`

This log tracks API calls and SQL statements as well as other messages. You can use this file to determine the point in time when normal execution stopped. The system does not use `jddebug.log` to track errors; instead, this log is used to track the timing of JD Edwards EnterpriseOne processes.

### *Batch Processing Logs*

You can use the batch process log to identify faults in JD Edwards EnterpriseOne processing related to batch processes. This log can contain event rule (ER) references, batch application process flow, and SQL statements, as well as other messages.

## **The Enterprise Server `jde.log` File**

You can use the enterprise server `jde.log` to track fatal error messages generated by batch applications and business functions that are executing on the enterprise server. The `jde.log` tracks any fault that might occur within JD Edwards EnterpriseOne. When you are looking for startup errors, you should read the `jde.log` from the top down. For other errors, you should read from the bottom up.

If `jde.log` is enabled, a uniquely identified log file is created each time you start a JD Edwards EnterpriseOne job (including JD Edwards EnterpriseOne startup) on the enterprise server. These logs are associated with an enterprise server process ID (Job Number for iSeries).

The process ID (Job Number for iSeries) is appended to the file name, before the `.log` extension, with an underscore character (for example, `jde_442.log`).

### *`jde.log` File Creation*

The enterprise server `jde.log` file is created (if it does not exist) or overwritten (if it exists) at the start of every JD Edwards EnterpriseOne session. For a Microsoft Windows enterprise server `jde.log` file, JD Edwards EnterpriseOne appends new information to the end of the `jde.log`.

### *Troubleshooting: Enabling and Disabling `jde.log`*

Normally, the enterprise server should be set to enable the `jde.log` and disable the `jddebug.log`. This example has combinations for the `jde.ini` parameter setting for enabling or disabling server logs.

#### *Enable `jde.log`*

This is an example of the `jde.log` file with debug logging enabled:

```
[DEBUG]
Output=NONE
LogErrors=1
JobFile=valid location/name (1)
DebugFile=valid location/name (2)
```

#### *Enable `jde.log` and `jddebug.log`*

This is an example of the `jde.log` file with debug logging enabled and output to a file:

```
[DEBUG]
Output=FILE
LogErrors=1
JobFile=valid location/name (1)
DebugFile=valid location/name (2)
```

#### *Disable `jde.log`*

This is an example of the `jde.log` file with debug logging disabled:



```
[DEBUG]
Output=NONE
JobFile=blank/invalid location/name (1)
DebugFile= blank/invalid location/name (2)
```

Files and members generated by the `jde.log` will be located in `JobFile`. JD Edwards EnterpriseOne uses these naming conventions:

```
jde_process_ID.log
```

Where `jde` is the file or member name prefix, `process_ID` is a uniquely named process ID, and `log` is the file or member suffix or extension.

For non-iSeries enterprise servers, files generated by the `jddebug.log` will be located in `DebugFile`. JD Edwards EnterpriseOne uses these naming conventions:

```
jddebug_process_ID.log
```

Where `jddebug` is the file name prefix, `process_ID` is a uniquely named process ID, and `log` is the file suffix or extension.

---

**Note.** Verify whether the paths for the `JobFile` and the `DebugFile` settings are valid. If the paths for these settings are invalid, JD Edwards EnterpriseOne does not create logs.

---

For iSeries enterprise servers, the members generated by `jddebug` will be located in `DebugFile`. JD Edwards EnterpriseOne uses these naming conventions:

```
jddebug_process_ID
```

Where `jddebug` is the file name prefix and `process_ID` is a uniquely named process ID.

#### *Troubleshooting: Recommendations for the Enterprise Server jde.log*

You can create a normal (successful) `jde.log` by signing on to JD Edwards EnterpriseOne and then immediately signing off. Use this log of successful startup statements to compare against logs that have a problem.

You can also rename the log to indicate the nature of the problem. For example, you might delete the `jde.log` and then run a report that causes an error condition. Then you could rename the `jde.log` to `report.log`.

If you are the only user running an instance of JD Edwards EnterpriseOne, you can add comment lines to the `jde.log` indicating the sequence of events you are performing. For example, you might be running an application that you know causes an error. Before you run the application, you could edit the `jde.log` to add a comment line stating you are about to start the suspect application.

#### *Troubleshooting: Recommendations for Setting Up Server Locations*

JD Edwards EnterpriseOne recommends that you create a separate directory on the enterprise server for logs. You should set up the `jde.ini` file to explicitly direct log files to that directory. For `jde.log`, the location and name of the log file are controlled by this default setting:

```
[DEBUG]
JobFile=jde.log
```

Files generated by the `jde.log` are located in `JobFile`. JD Edwards EnterpriseOne uses this syntax for naming files:

```
jde_process_ID.log (jde_jobnumber.log for iSeries)
```

If you do not specify a location, JD Edwards EnterpriseOne places the log files in the directory where you ran the JD Edwards EnterpriseOne startup executable (the default). On a UNIX machine, if you start JD Edwards EnterpriseOne with these commands and if logging is enabled, the system places the log files in the `/u13/JDEdwards/E812/system/bin32` directory:

```
cd /u13/JDEdwards/E812/system/bin32
RunOneWorld.sh
```

If you start JD Edwards EnterpriseOne with these commands and if logging is enabled, the system places the log files in the /usr/JDEdwards directory because that is the working directory:

```
cd /usr/JDEdwards

/u13/JDEdwards/E812/system/bin32/RunOneWorld.sh
```

If you set up the UNIX machine to automatically start JD Edwards EnterpriseOne when the machine is started, it is especially important that you specify the full path of the log file in the jde.ini file.

### *Naming Conventions for jde.log*

JD Edwards EnterpriseOne processes create logs as jde\_processID.log (jde\_JobNumber.log for iSeries), where processID is the process ID of the process that creates the log.

Non-iSeries JD Edwards EnterpriseOne processes move logs for batch jobs to the PrintQueue directory and rename them as report\_version\_date\_time.log, where report is the report name and version is the version name; for example, R014021\_XJDE0001\_D990312\_T161854215.log.

### *Example: Enterprise Server jde.log*

This example of the jde.log from the enterprise server displays errors caused by signon tables that were not properly closed after fetching data. Normally, the only way this can happen is if a business function program did not close the table. Therefore, generated code applications cannot have this problem.

Most entries in the jde.log file are significant, and you should examine them closely. This information is also used by developers to indicate problems with the application that need to be addressed.

## **The Enterprise Server jdedebug.log File**

You can use the enterprise server jdedebug.log to determine the point in time when normal execution stopped. The system does not use jdedebug.log to track errors. Instead, it uses this log to track the timing of JD Edwards EnterpriseOne processes. The log contains API calls and SQL statements as well as other messages.

You can use jdedebug.log to find out where a process ended. For example, log data can include what ODBC was trying to connect to, the SQL statement that was being executed for a specific table, and whether memory has been freed.

If jdedebug is enabled, each jdenet\_n job and batch process started on a server creates a uniquely identified jdedebug.log. These logs are associated with an enterprise server process ID. Each time JD Edwards EnterpriseOne is started on the enterprise server and each time a batch process job is executed on the enterprise server, a new jdedebug.log is created.

For enterprise servers, the process ID (Job Number for iSeries) is appended to the file name with an underscore character before the .log extension. For example, the file name might be jdedebug\_442.log. The enterprise server jdedebug.log is created (if it doesn't exist) or overwritten (if it exists) at the start of every JD Edwards EnterpriseOne session. For a Microsoft Windows enterprise server jde.log file, JD Edwards EnterpriseOne appends new information to the end of jde.log.

---

**Note.** Server administrators are responsible for clearing and deleting jde.log and jdedebug\_\*.log files from the enterprise server.

---

### *Troubleshooting: Reading the jdedebug.log*

If the process failed and you have logging turned on, look in the jdedebug.log for these messages:

- Not Found
- Failure

Also, look at the end of the log to see what task was executed last. In general, important lines in the log are:

- SELECT

The SELECT lines indicate which table you are selecting. The log tells you where the table resides. For the iSeries, this location is a library. For non- iSeries servers, this location is an environment. You should verify that the selected libraries and environments are correct.

- ODBC Version

The ODBC lines indicate whether you are having problems connecting to the driver.

#### *Troubleshooting: Enabling and Disabling jdedebug.log*

Normally, the enterprise server should be set to enable the jde.log and disable the jdedebug.log. This example has valid setting combinations for enabling or disabling server jdedebug.log.

#### *Troubleshooting: Enabling and Disabling jdedebug.log*

These are the settings for enabling the jdedebug.log file:

```
[DEBUG]
Output=FILE
LogErrors=1
JobFile=valid location/name (1)
DebugFile=valid location/name (2)
```

#### *Enable jde.log and jdedebug.log*

These are the settings for enabling the jde.log and jdedebug.log files:

```
[DEBUG]
Output=BOTH
LogErrors=1
JobFile=valid location/name (1)
DebugFile=valid location/name (2)
```

#### *Disable jdedebug.log*

These are the settings for disabling the jdedebug.log file:

```
[DEBUG]
Output=NONE
LogErrors=0
JobFile=valid location/name (1)
DebugFile=valid location/name (2)
```

The [DEBUG] section of the jde.ini file contains the files and members generated by the jde.log. JD Edwards EnterpriseOne uses these naming conventions:

```
jde_<pid>.log
```

Where jde is the file or member name prefix and <pid> is a uniquely named process ID.

For enterprise servers, the files generated by the jdedebug.log will be located in the jde.ini file. JD Edwards EnterpriseOne uses these naming conventions:

```
jdedebug_<pid>.log (jdedebug_<JobNumber>.log)
```

*Troubleshooting: Recommendations for the Enterprise Server jdedebug.log*

You can create a normal (successful) jdedebug.log (JDEDEBUG for iSeries) by logging on to JD Edwards EnterpriseOne and then immediately logging off. Use this log of successful start up statements to compare against logs that have a problem.

You can also rename the log to indicate the nature of the problem. For example, you might delete the jdedebug.log and then run a report that causes an error condition. Then you could rename the jdedebug.log to report.log.

Another alternative is to add comment lines to the jdedebug.log that indicate the sequence of events you are performing. For example, you might be running an application that you know causes an error. Before you run the application, you could edit the jde.log to add a comment line stating that you are about to start the suspected application.

*Troubleshooting: Recommendations for Setting Up Server Locations*

We recommend that you create a separate directory on the enterprise server for logs. You should set up the jde.ini file to explicitly direct log files to that directory. For jdedebug.log, these setting controls the location:

```
[DEBUG]
DebugFile=jdedebug.log
```

For enterprise servers, the files generated by the jdedebug.log will be located in DebugFile. JD Edwards EnterpriseOne uses these naming conventions:

```
jdedebug_process_ID.log (jdedebug_JobNumber.log for iSeries)
```

Where jdedebug is the file name prefix and process\_ID is a uniquely named process ID.

By default, JD Edwards EnterpriseOne places the log files in the directory where you ran the startup executable. For example, on a UNIX machine, if you start JD Edwards EnterpriseOne with this command:

```
cd /u13/JDEdwards/E812/system/bin32 RunOneWorld.sh
```

and assuming that logging is enabled, the system places the log files in the /u13/JDEdwards/E812/system/bin32 directory. Similarly, on a UNIX machine, if you start JD Edwards EnterpriseOne with this command:

```
cd /usr/JDEdwards /u13/JDEdwards/E812/system/bin32 RunOneWorld.sh
```

and assuming that logging is enabled, the system places the log files in the /usr/JDEdwards directory. This is the working directory. If you set up the UNIX machine to automatically start JD Edwards EnterpriseOne when the machine is booted, it is especially important that you specify the full path of the log file.

*Naming Conventions for jdedebug.log on the Enterprise Server*

JD Edwards EnterpriseOne processes create logs as jdedebug\_process\_ID.log, where process\_ID (Job Number for iSeries) is the process ID of the process creating the log. For example, a batch report running on a UNIX server as process 123456 would produce a file named jdedebug\_123456.log.

**The Batch Process Log File**

Whenever you run a batch process requested from a workstation, an individual log file is created in the JD Edwards EnterpriseOne print queue directory (E812\PrintQueue) on that workstation. For any batch process request issued from a workstation, this file is created even if you have specified that the batch process report is to run on the enterprise server. For batch processes requested from a server, the jdedebug.log file is created on the server in the print queue directory.

Based on the setting of the UBESaveLogFile parameter in the [UBE] section of the jde.ini file, this log file is deleted or saved on successful completion of batch processes. This log file displays different types of messages that can help track errors in the batch process. The messages are:

- Section Level Process
- Object Level Process
- ER Level Process
- DB Level Process

The batch process log can contain ER references, batch process flow, and SQL statements, among other messages. You can use the batch process log file to determine when normal execution stopped.

The batch process log file displays the process flow in batch processes. This example describes the event flow within the batch engine and provides sample messages that would be written to the log at each point in the event flow, assuming `UBEDebugLevel` is set to 6. Note that each message written to the log file displays the error level of that message in brackets. For example, `-UBE--[2]-` indicates a section-level message.

When a UBE processes a section, it begins by opening the business view for that section within the INIT section event. As a result, a SELECT statement follows directly after the INIT section for each section.

```
--UBE--[2]-- 355/392 Process Init Section
--UBE--[2]-- 355/392 InitSection for Business Unit Report Driver
--UBE--[2]-- 355/392 InitSection for Business Unit Report LBH
--UBE--[4]-- 355/392 SELECT T0.MCMCU, T0.MCSTYL, T0.MCLDM, T0.MCCO, T0.MCAN8,
T0.MCCNTY, T0.MCADDs, T0.MCFMOD, T0.MCDL01, T0.MCDL02, T0.MCDL03, T0.MCDL04,
T0.MCRP01, T0.MCRP02, T0.MCRP03, T0.MCRP04, T0.MCRP05, T0.MCRP06, T0.MCRP07,
T0.MCRP08, T0.MCRP09, T0.MCRP10, T0.MCRP11, T0.MCRP12, T0.MCRP13, T0.MCRP14,
T0.MCRP15, T0.MCRP16, T0.MCRP17, T0.MCRP18, T0.MCRP19, T0.MCRP20, T0.MCRP21,
T0.MCRP22, T0.MCRP23, T0.MCRP24, T0.MCRP25, T0.MCRP26, T0.MCRP27, T0.MCRP28,
T0.MCRP29, T0.MCRP30, T0.MCPECC, T0.MCALS, T0.MCALCL, T0.MCSBLI, T1.CCCO,
T1.CCNAME,
T1.CCRCD FROM F0006 T0,F0010 T1 WHERE ( T1.CCCO=T0.MCCO ) ORDER BY T0.MCCO ASC,
T0.MCMCU ASC
```

After INIT Section, the engine calls Advance Section to retrieve a record from the SELECT statement:

```
--UBE--[2]-- 355/392 Process Adv Section
--UBE--[2]-- 355/392 Processing Adv Section for Page Header
```

After the retrieve, the engine performs the DO Section processing. This includes any event rules attached to the DO Section event:

```
--UBE--[2]-- 355/392 Process DO Section
--UBE--[2]-- 355/392 Processing DO Section for Page Header
--UBE--[4]-- 355/392 --ER: Line(1): Loading Data Structure for BSFN
--UBE--[4]-- 355/392 --ER: Line(1): Processing BSFN : GetCompanyAndReportDesc
--UBE--[4]-- 355/392 --ER: Line(1): Done Processing BSFN : GetCompanyAndReportDesc
--UBE--[4]-- 355/392 --ER: Line(1): Unloading Data Structure for BSFN
--UBE--[4]-- 355/392 --ER: Line(1): Done Processing ER BSFN
```

Within DO Section, each object is processed and eventually printed in INIT, DO, and END object order:

```
--UBE--[3]-- 355/392 Process Init Object
--UBE--[3]-- 355/392 Processing Init Item SystemTime in Section Page Header
--UBE--[3]-- 355/392 Process DO Object
--UBE--[3]-- 355/392 Processing Do Object SystemTime in Section Page Header
--UBE--[6]-- 355/392 Printing Object Value = 14:35:46
--UBE--[3]-- 355/392 Process End Object
--UBE--[3]-- 355/392 Process Init Object
```

```
--UBE-- [3]-- 355/392 Processing Init Item SystemDate in Section Page Header
--UBE-- [3]-- 355/392 Process Do Object
--UBE-- [3]-- 355/392 Processing Do Object SystemDate in Section Page Header
--UBE-- [6]-- 355/392 Printing Object Value = 3/6/00
--UBE-- [3]-- 355/392 Process End Object
```

After all the objects for a section have been processed, the engine calls Process Last Object and then begins processing for the next section in the report:

```
--UBE-- [3]-- 355/392 Processing Do Object
ModelAccountsandConsolid in Section Page Header
--UBE-- [6]-- 355/392 Printing Object Value = MD
--UBE-- [3]-- 355/392 Process End Object
--UBE-- [3]-- 355/392 Process Last Object
--UBE-- [2]-- 355/392 Process End Page Header Section
--UBE-- [2]-- 355/392 Process Do Section
--UBE-- [2]-- 355/392 Process Do Section for Business Unit Report Driver
```

When all sections have been processed, if the report finishes without errors, these messages are displayed at the end of the log:

```
--UBE-- [6]-- Successfully Finishing Engine
...
UBE Job Finished Successfully.
```

The level of detail provided by the batch process log is controlled by the UBEDebugLevel parameter of the jde.ini file. These are values for UBEDebugLevel:

Value	Description
0	No error messages.
3	Object-level messages.
4	Event rule messages and SQL statements (plus levels 1-3).

## See Also

*JD Edwards EnterpriseOne Tools 8.96 System Administration Guide*, “Working with Servers”

[Chapter 14, “Understanding Executable Files on the Workstation,” page 255](#)

[Chapter 2, “Administering the iSeries Server,” Understanding Server Administration for iSeries, page 3](#)

---

## Viewing Enterprise Server Logs from the Workstation

You must log on to the server to view logs for the server. You can also view portions of log files from the workstation that initiated the calls to the server.

To view server logs from the workstation:

1. In the [DEBUG] section of the enterprise server jde.ini file, set the ClientLog parameter to 1.

This setting enables the server to send logs to workstations. For example:

```
[DEBUG]
ClientLog=1
```

2. In the [DEBUG] section of the Workstation jde.ini file, set the ServerLog parameter to 1.

This setting enables the workstation to receive log information from the enterprise server. For example:

```
[DEBUG]
ServerLog=1
```

## Setting Up the Enterprise Server jde.log

To set up the enterprise server jde.log:

1. Locate the enterprise server jde.ini file (JDE member for iSeries).
  - For iSeries enterprise servers, the JDE member is located under the file .INI, which is located within the releaseSYS library. The variable release is the JD Edwards EnterpriseOne release level (for example, E812SYS).
  - For UNIX enterprise servers, you can locate the jde.ini file by examining the UNIX environment variable JDE\_BASE (the variable name is case-sensitive). For example, you might enter this command:

```
echo $JDE_BASE
```

In general, this file is located in a directory called ini in the directory tree under the base install directory; for example, /u04/JDEdwards/E812. In this case, the directory with the JDE.INI file (the file name is case-sensitive) is JDE\_BASE=/u04/JDEdwards/E812/ini.

- For Microsoft Windows enterprise servers, you can locate the jde.ini file in the JD Edwards EnterpriseOne installation directory under system\bin32.
2. Use a text editor to open the jde.ini file.
  3. In the [DEBUG] section, verify or change the settings for the job file variable:

```
[DEBUG]
JobFile=job file
```

Where JobFile=job file specifies the location and name of the jde.log file/member. The default value is jde.log.

4. Enable or disable the logging of errors to the jde.log file by modifying this setting in the [DEBUG] section:

Setting	Purpose
LogErrors=	<p>A parameter controls whether the logging function (for both jde.log and jdedebug.log) is enabled. Valid values are:</p> <ul style="list-style-type: none"> <li>• 0 (Default): disabled</li> <li>• 1: enabled</li> </ul>

5. Save the changes and close the file.

---

## Setting Up the Enterprise Server jdedebug.log

To set up the enterprise server jdedebug.log:

1. Locate the enterprise server jde.ini file (JDE member for iSeries).
2. Use a text editor to open the jde.ini file.
3. In the [DEBUG] section, verify or change the settings for the debug file variable:

```
[DEBUG]
DebugFile=debug file
```

Where debug file specifies the name of the jdedebug.log file (JDEDEBUG member for iSeries). For non-iSeries enterprise servers, the default value is jdedebug.log. For iSeries enterprise servers, the default value is JDEDEBUG.

4. Enable or disable the logging of events to the jdedebug.log file (JDEDEBUG member for iSeries) by setting these parameter in the [DEBUG] section:

```
[DEBUG]
LogErrors=0/1
Output=output parameter
```

Where LogErrors=0/1 is the parameter that controls whether the logging function (for both jde.log and jdedebug.log) is enabled. Values are:

- 0: Disabled.

Do not write errors to the jde.log file/member or events to the jdedebug.log file (JDEDEBUG member for iSeries).

- 1: Enabled.

Write errors to the jde.log file and, if enabled, events to the jdedebug.log file (JDEDEBUG member for iSeries).

And where Output=output parameter has these values:

NONE: No trace information is written to jdedebug.log (JDEDEBUG member for iSeries).

FILE: Database and runtime trace information is written to the file/member specified by the DebugFile= parameter in the [DEBUG] section.

EXCFILE: Runtime trace information is written to the file/member specified by the DebugFile= parameter in the [DEBUG] section.

BOTH: Trace information is written to both jde.log and jdedebug.log (JDEDEBUG member for iSeries).

5. Save the changes and close the jde.ini file.

---

## Setting Up the <batch process>.log File

To set up the <batch\_process>.log file:

1. Locate the workstation jde.ini file.



The JD Edwards EnterpriseOne setup program places this file in the working Windows directory (for example, c:\WINNT40\jde.ini). If you are unsure of the workstation's working Microsoft Windows directory, use the Find command to locate the jde.ini file.

2. Use an ASCII editor (such as Microsoft Notepad or Microsoft Wordpad) to open the file.
3. Set the level of batch report debugging information that you want written to the batch process log file and whether you want the file to be saved.

These settings are controlled by these parameters in the [UBE] section:

Setting	Purpose
UBEDebugLevel=	<p>A parameter that specifies the level of UBE debug logging. Valid values are:</p> <ul style="list-style-type: none"> <li>• 0 (default): No error messages.</li> <li>• 1: Warnings and high-level information.</li> <li>• 2: Section-level messages (plus Level 1 messages)</li> <li>• 3: ER messages and database mapping messages (plus Level 1-2 messages)</li> <li>• 4: SQL statements (plus Level 1-3 messages)</li> <li>• 5: Database output (plus Level 1-4 messages)</li> <li>• 6: Batch process function calls and printed output values (plus Level 1-5 messages)</li> </ul>
UBESaveLogFile=	<p>A parameter that specifies whether the batch_report.log file will be saved. Valid values are:</p> <ul style="list-style-type: none"> <li>• 0: The batch_report.log file is not saved.</li> <li>• 1: The batch_report.log file is saved in the workstation's JD Edwards EnterpriseOne print queue directory (E812\PrintQueue).</li> </ul>

4. Save the changes and close the jde.ini file.

---

## Troubleshooting the Enterprise Server

This section discusses how to:

- Troubleshoot general problems.
- Troubleshoot communication problems.
- Troubleshoot deadlock collision problems.
- Troubleshoot server map problems.

### Troubleshooting General Problems

You can troubleshoot general enterprise server problems using the Server Administration Workbench (SAW), a JD Edwards executable that enables you to monitor server components, processes, and resources.

To troubleshoot general problems:

1. Use SAW to verify that you are looking at the correct port and the server is operational on that port.

SAW runs only on workstations and Microsoft Windows enterprise servers. On other platforms, you can use the tool to view network connections to enterprise servers.

2. Verify the netTrace setting in the enterprise server jde.ini file:

```
[JDENET]
netTrace=0/1 (disabled/enabled)
```

When the variable netTrace=0, JD Edwards EnterpriseOne does not generate Net log information. When netTrace=1, JD Edwards EnterpriseOne generates Net log information.

---

**Note.** Using SAW for Microsoft Windows, you can turn logging on or off for a particular kernel process.

---

3. Return to JD Edwards EnterpriseOne and duplicate the problem.

The trace facilities write debugging information to the jde.log and jdedebug.log files.

4. After running the business function again, look at the jde.log files on the server.

Search for these message (you must search for lower case): "jdenet\_n process."

If you cannot find this message, bring the server down and back up. If you do find this message, look at the jde.log file with the same process ID as the net process.

5. Verify that the user is running in the correct environment or path code; for example PD812 or DV812.

If this environment is not set up on the server, you receive errors on the workstation jde.log as well as the enterprise server jde.log.

6. In the jde.logs on the enterprise server, look for a JDENET\_SendMSg Failed Error=12 message.

This message means that the JDENET server is down and you must restart it.

7. In the jde.log file on non-iSeries enterprise servers, look for any "Unable to connect to Oracle" messages. Search on ORA-.

If you find messages, they indicate problems connecting to Oracle. You get an indication of an Oracle connection problem if, in a business function, you select find/browse, data is not found, and no errors are received from the application. You need help from an Oracle database administrator at this point. To debug this problem, see the section in this document about sql.log.

8. Look in the jdexxx.log file (where xxx is the ID of the process that created the log) on the server for these message: "Could not find symbol in the <BSFN dll name>."

If present, this message might mean that the business function did not build on the enterprise server.

9. If you have not found a problem indicating why you are unable to run an application on the enterprise server, you will need to debug it on the server.

---

**Note.** For Microsoft Windows enterprise servers, if you cannot identify a problem by reading the log, you need to put the business function through debug on the server. This action requires knowledge of C++ and how to debug. See Microsoft documentation for Debugging C++.

---

## Troubleshoot Communication Problems

When you submit an application to an enterprise server through an override of the master business function set in Object Configuration Manager, you might experience communication problems with the enterprise server. The business function then runs locally on the client workstation. JD Edwards EnterpriseOne displays a window to inform you that the business function is running in a new location.

To troubleshoot communication problems:

---

**Note.** Use this procedure if JD Edwards EnterpriseOne displays a window to inform you that a business function is running in a new location.

---

1. Check the jde.ini on the workstation to make sure the JDENET service name (port number) is correct and valid.

This port number must match the settings in the server jde.ini file, and the JD Edwards EnterpriseOne server must be running to successfully submit reports or to run business logic on a server. Security services and transaction management services also require the JD Edwards EnterpriseOne server to be running:

```
[JDENET]
serviceNameListen=service name
serviceNameConnect=service name
```

If serviceNameListen=service name specifies the communications service port on the TCP/IP network, JD Edwards EnterpriseOne uses this port address to listen for requests on the network. Using a file called services, you can associate the port number with a unique name. The default value is jde\_server (port number 6003).

If serviceNameConnect=service name specifies the communications service port on the TCP/IP network, JD Edwards EnterpriseOne uses this port address to connect to the network. Using a file called services, you can associate the port number with a unique name. The default value is jde\_server (port number 6003).

2. On the workstation, exit JD Edwards EnterpriseOne and turn logging on in the jde.ini.
3. Run the application on the server again, and then check the jde.log file to see if any of these errors are logged:

- JDENET\_SendMsg Failed Error=8

This error can mean you are not using the correct TCP/IP service port or that the enterprise server does not have that JDENET listing.

- JDENET\_SendMsgFailed Error=5, 11, or 12

These errors can mean that the message is being sent to the correct port, but the enterprise server JDENET is down.

4. From within SAW, change the port address to determine if both the workstation and server are using the same port.

Generally, network administrators run SAW using workstation JD Edwards EnterpriseOne software, although you can run a standalone version on Windows server platforms.

5. Check the services file on the workstation (located in the operating system directory\System32\drivers\etc for Windows).

Ensure that a blank line exists at the end of the file and that you have the service name mentioned in Step 1 (for example, jde\_server) going to the correct port address on the server. Verify the port address with the server administrator.

6. If you receive a Communication Failure message, try resubmitting the application.

A time-out may have occurred.

```
[JDENET]
netTrace=0/1 (disabled/enabled)
```

7. Look in the log file for these message:

Could not find symbol in the <BSFN dll name>

## Troubleshoot Deadlock Collision Problems

When a business function performs a manual commit inside a CallObject process, no other business function can access the tables that the original manual commit locks. Deadlock collisions occur when other business functions attempt to access a table or other resource locked by the original manual commit.

To handle the deadlock collision, the CallObject process puts the processing request in a queue. The number of deadlock collisions grows during the life of a CallObject kernel process and provides evidence of how many times a request has been placed in a queue because the needed resources were locked.

The longer the time a CallObject process requires to run a request, the greater the number of deadlock collisions that are likely to occur. If the number of deadlock collisions grows quickly, the likelihood is that too many users are attempting to connect to the same CallObject process. This, in turn, might be an indication that you do not have enough CallObject processes running on the enterprise server.

You can monitor the number of deadlock collisions for each process running on the enterprise server using SAW. If you observe the value for the Lock Conditions parameter in the SAW form increasing rapidly, you can increase the number of CallObject kernel processes on the server and monitor the effect of that action.

### See Also

[Chapter 6, “Monitoring Servers Using SAW on Windows,” Monitoring Enterprise Server Statistics, page 113](#)

## Troubleshooting Server Map Problems

If you change the Object Configuration Manager or the Data Source Master files in the Server Map data source, you can test the changes using the PORTTEST program. This test is designed to validate the environments.

See the section specific to the platform type for more information about the PORTTEST program.

---

# Troubleshooting the iSeries Enterprise Server

This section provides an overview of iSeries enterprises server troubleshooting and discusses how to:

- Troubleshoot iSeries enterprise server installation.
- Troubleshoot multiple release setup.
- Troubleshoot JDBNET.
- Troubleshoot interprocess communications.
- Troubleshoot jde.ini file.

## Understanding iSeries Enterprise Server Troubleshooting

This subsection explains how to troubleshoot problems that can occur on an iSeries enterprise server. When troubleshooting, follow these guidelines:

- Try to narrow the definition of any problem that you have, particularly when communicating the issue to someone, such as JD Edwards Worldwide Customer Support Services.

For example, rather than reporting that the batch application failed, explain how the batch application failed. The more specific the information, the faster the problem can be solved. Rather than reporting that "The report had the wrong data," say that "The batch status is E."

- When communicating an error message to someone, be sure to include all parts of the error message exactly as they appear in the log file or on the screen.

Parts of the message that might not seem important might actually hold the key as to why an error occurs. Also, distinguish between characters that might be misinterpreted, for example, the capital letter "O" and the numeral zero.

- As soon as you notice an error, examine the log files.

Messages near the end of the log files sometimes reveal the most important information about the cause of the error.

- Before you restart JD Edwards EnterpriseOne on the server, either delete or move all the files from the log directories. Refer to the JDE.INI file for the locations of the log files.
- When you first try to get JD Edwards EnterpriseOne running, verify that you have logging turned on. Examine the jde.log and jdedebug.log files carefully.
- Carefully examine the JOBLOGs and jde.log files of the JD Edwards EnterpriseOne jobs to ensure that authorities and OCM are set correctly. Look for messages such as these in the jde.log files:

```
JDB3100011 - Failed to get location of table F983051 for environment PD812
Look for messages similar to these in the JOBLOGs:
File F98306 not found in library PRODDTA.
```

You might want to temporarily modify the job description of the JD Edwards EnterpriseOne user profile to always write the joblog until you are satisfied that all setup is correct.

---

**Note.** To complete the resolutions provided for this issues, you must sign on to the enterprise server using an account that has administrative privileges.

---

## See Also

Chapter 6, "Monitoring Servers Using SAW on Windows," Monitoring Enterprise Server Statistics, page 113

## Troubleshooting iSeries Enterprise Server Installation

This section explains topics that might create issues during the installation of an iSeries enterprise server.

### Troubleshooting: Library Installation Verification

Issue	Resolution
You want to verify that the correct libraries and data dictionary items are installed on the iSeries.	See the list of libraries and data dictionary items and descriptions of their contents.

## Troubleshooting: Database Table Configuration

Issue	Resolution
Strange database results or errors imply that Object Configuration Manger (OCM) is not set up correctly. For example, you see these message in the jde.log file:  Databases: iSeries:table configuration problems iSeries  JDB3300011 - Failed to get location of table F983051 for environment PD812	<ul style="list-style-type: none"> <li>• Verify that environments set up in the OCM are correct.</li> <li>• Review the description of how OCM is used by JD Edwards EnterpriseOne in JD Edwards EnterpriseOne Initialization.</li> <li>• Run the VerifyOCM program to ensure that the OCM tables are set up correctly. You must have one valid environment available to run VerifyOCM.</li> </ul>

## Troubleshooting: Setting up the iSeries .INI File

Issue	Resolution
You cannot find the .INI file	Find it in IFS. The file should be located in the /<release>/ini directory. For example, /E812sys/ini/JDE.INI.
You need more information on using the iSeries .INI file	Review the notes and descriptions of .INI settings.

## Troubleshooting: You Cannot Find the Log Files

The logging is performed to the iSeries Integrated File System (IFS). The naming convention is similar to that of the UNIX enterprise servers. That is, the default names of the files are JDE\_AS400JobNumber.log, JDEDEBUG\_AS400JobNumber.log, and JDETS.LOG, where AS400JobNumber is the iSeries Job Number of the job that generated the file. The system creates these files automatically, but the path to the files must exist before logging begins. The created log file directory should match the JOBLOG and JDELOG settings in the JDE.INI file.

The path to the log files stored in the IFS can be created by performing successive calls to the iSeries command MKDIR. For example, to create the path /PSFT812/LogFiles, enter this command:

```
MKDIR DIR('/PSFT812') DTAAUT(*RWX) OBJAUT(*ALL)
```

Followed by:

```
MKDIR DIR('/PSFT812/LogFiles') DTAAUT(*RWX) OBJAUT(*ALL)
```

Logging might be turned off in the .INI. Activate logging in the .INI using these settings in the [DEBUG] section:

```
[DEBUG]
```

```
LogErrors=1
```

```
Output=FILE
```

Where variable names and descriptions are as follows:

LogErrors values are:

0 = Do not generate logs.

1 = Create logs.

Output values (always in upper case) are:

NONE = Do not write debug messages to any output device.

FILE = Write messages to log files.

### **Troubleshooting: Not Enough Relevant Information Is Written to the Log Files**

Additional logging information may need to be turned on in the .INI. Set these keys in the .INI for additional information to be output to the log files:

[JDENET]

netTrace=1

[JDEIPC]

ipcTrace=1

[DEBUG]

TAMTraceLevel=1

[UBE]

UBEDebugLevel=6

[TCEngine]

TraceLevel=10

Where variable names and descriptions are as follows:

netTrace values are:

0 = Do not generate JDENet error messages (that is, communication between platforms).

1 = Generate JDENet error messages.

ipcTrace values are:

0 = Do not generate Interprocess Communication (IPC) error messages (that is, communication between processes on a single platform).

1 = Generate IPC error messages.

TAMTraceLevel values are:

0 = Do not generate Table Access Management (TAM) error messages (that is, regarding specification files).

1 = Generate TAM error messages.

UBEDebugLevel values are:

0 = Do not generate batch application error messages.

1-6 = Generate increasingly detailed error messages (1 indicates the least specific message; 6 indicates the most detailed message).

TraceLevel values are:

0 = Do not generate Table Conversion (TC) error messages.

1-10 = Generate increasingly detailed error messages (1 indicates the least specific message; 10 indicates the most detailed message).

**Note.** Because NetTrace and ipcTrace messages are written to the debug log associated with that job, the [DEBUG] section of the jde.ini file requires the Output=FILE setting.

## Troubleshooting: Testing with PORTTEST

In general, activate logging when running the PORTTEST program. Review the jde.log and jdedebug members generated by running the PORTTEST program. Also review the iSeries job log generated by running the PORTTEST program. These logs provide valuable information about the JD Edwards EnterpriseOne iSeries configuration and setup.

Issue	Resolution
An error with OCM occurred.	Verify that the OCM is correct for the environment. Disable the security server in the JDE.ini file and make sure that porttest runs successfully. For this work, you must log on with a User ID that has administrative privileges.
An error with the security server occurred.	<p>The JD Edwards EnterpriseOne network might not be running. Clear the Interprocess Communication (IPC) structures using the JD Edwards EnterpriseOne iSeries CLRIPC command and restart JD Edwards EnterpriseOne. If you have different versions of JD Edwards EnterpriseOne running, make sure that they are on different ports and have different values for startIPCKeyValue. In the [JDEIPC] section of the JDE.INI file. Also, note that the different versions of JD Edwards EnterpriseOne should have different JD Edwards EnterpriseOne libraries, database files, and IFS directories</p> <p>Successful running of CLRIPC should result in the appearance of no messages on the screen. If messages appear as a result of CLRIPC, one or more jobs (including an interactive job that ran the PORTTEST program) might have locked some of the IPC shared memory. Determine which job locked shared memory and end it. Try logging off of a session in which you ran the PORTTEST program and running CLRIPC. If all attempts fail, you may change the .INI setting [JDEIPC] startIPCKeyValue to at least 1000 more or less than the current setting. Log off and back on again to ensure the new value is read. Attempt CLRIPC again, and restart JD Edwards EnterpriseOne if CLRIPC is successful.</p>
An error with the security server occurred.	<p>The JD Edwards EnterpriseOne network might be running as a service under one library list and you are trying to run the PORTTEST program under another library list. Display all the libraries in the current library list and correct the list if the displayed library list is wrong. Then run the PORTTEST program.</p> <p>If the library list is correct, the problem could be because the activation group under which the job is running on the iSeries may retain some of the information from previous attempts. Log off, log on, and run the PORTTEST program again.</p>
An error with the security server occurred.	<p>The supplied user name or password might not match any names or passwords in the JD Edwards EnterpriseOne security table. Try one of these:</p> <ul style="list-style-type: none"> <li>• Run the PORTTEST program with a valid user name and password.</li> <li>• Add the given user name and password to the JD Edwards EnterpriseOne security table.</li> </ul>



Issue	Resolution
<p>You get these message on the screen:</p> <p>Invalid parms PORTTEST &lt;USER&gt; &lt;PWD&gt; &lt;ENV&gt;</p>	<p>You might not have included the correct number of arguments in the PORTTEST program. Use these arguments:</p> <p>User - A valid JD Edwards EnterpriseOne user ID.</p> <p>Password - Password for the JD Edwards EnterpriseOne user ID.</p> <p>Environment - A valid JD Edwards EnterpriseOne environment.</p>
<p>Fewer than 99 F0902 records are written to the screen by PORTTEST.</p>	<p>A possible PORTTEST program failure. Examine the log files.</p> <ul style="list-style-type: none"> <li>• Fewer than 99 records might exist in the F0902 table. This is not an error, but you should review the log files for any errors.</li> <li>• The F0902 database table might not be accessible. Verify that you can query the F0902 table using SQL. Use the STRSQL command on the iSeries.</li> </ul>
<p>An error initializing the environment occurs in the log file.</p>	<p>The environment might not be set up correctly. Any errors in the affected .INI keys or database tables could cause the JD Edwards EnterpriseOne initialization to fail. The environment that the PORTTEST program uses is passed as a command line argument.</p>

## Troubleshooting: Running JDENET

Issue	Resolution
NETWORK dies immediately.	<p>IPCs might not have been cleared before starting JD Edwards EnterpriseOne (that is, starting JDENET using the JD Edwards EnterpriseOne iSeries command STRNET). End JD Edwards EnterpriseOne (ENDNET). Clear IPCs (using the CLRIPC command) and restart JD Edwards EnterpriseOne.</p> <p>The startIPCKeyValue in the .INI file could be used by another version of JD Edwards EnterpriseOne. Try one of these:</p> <ul style="list-style-type: none"> <li>• Change the startIPCKeyValue and restart the software. This problem is not easily evident by examining the log files or reviewing error messages. Symptoms of the problem include:</li> <li>• You attempt to run more than one version of JD Edwards EnterpriseOne on the iSeries.</li> <li>• One environment can be successfully started by itself. A second environment cannot be successfully started (that is, the JDENET_N job ends almost immediately after starting) for the second version.</li> <li>• Look in the jde_xxx and jdedebug_xxx log files for specific error messages.</li> <li>• Determine if the PORTTEST program runs correctly.</li> </ul> <p>If not, correct those problems, and then try restarting JD Edwards EnterpriseOne using STRNET.</p> <ul style="list-style-type: none"> <li>• The configuration for the local host name, local domain name, and IP address might be incorrect. In the command line, enter CFGTCP to access the Configure TCP/IP form. Select option 12 (Change local domain and host names) and verify the settings for the local domain name and the local host name (for example, YOURCOMPANY.COM and SRVR1 respectively). Then select option 10 (Work with TCP/IP host table entries) and verify that two names exist in connection with the IP address for the iSeries. One name is a combination of the local host name and the local domain name (for example, SRVR1.YOURCOMPANY.COM). The other name is just the local host name (for example, SRVR1).</li> <li>• Verify that the Relational Database Directory name is set up correctly. Use the WRKRDBDIRE command to verify that the name of the *LOCAL database is the same as the server. If they are different, refer to the iSeries Configuration guide to determine how to set this up correctly.</li> </ul>
An error initializing the environment occurs in the log file.	<ul style="list-style-type: none"> <li>• Examine the issues in this section about the PORTTEST program.</li> <li>• Determine if the PORTTEST program runs correctly. If not, correct those problems, and then try restarting JD Edwards EnterpriseOne using STRNET.</li> </ul>

## Troubleshooting: Testing JD Edwards EnterpriseOne by Submitting a Report

Issue	Resolution
<p>You get these message:</p> <p>Communication Failure with &lt;server name&gt;</p>	<p>You might see a message referencing an error of 11, indicating a time out occurred because the server was started after the client was run. Try resubmitting the report.</p> <p>A time out might have occurred because of heavy network traffic or server load. Increase the time out value for the JDENETTimeout setting in the [NETWORK QUEUE SETTINGS] section of the jde.ini file on the workstation.</p> <p>The wrong communications port might have been used. Verify that the serviceNameListen value in the [JDENET] section of the jde.ini file on the workstation matches the serviceNameConnect value in the [JDENET] section of the jde.ini on the server. In addition, the serviceNameConnect value in the client jde.ini must match the serviceNameListen in the jde.ini on the server.</p> <p>Other communications problems might exist. Run SERVERADMINISTRATIONWORKBENCH.exe (found in the system\bin32 directory on the workstation). This program displays only the machines on the specified port (also known as service) that are running JD Edwards EnterpriseOne (either client or server). Use this information to track down the problem:</p> <ul style="list-style-type: none"> <li>• If the remote machine is visible, a time-out probably occurred. Rerun the report.</li> <li>• If the remote machine is not visible, try to ping the remote machine using the name of the machine.</li> <li>• If the ping fails, try to ping the remote machine using its IP address.</li> <li>• With this information, determine if the client and server agree on the IP address for the server.</li> <li>• If none of these steps identify the problem, a general network error probably occurred (for example, the network is down or a machine is disconnected). Track it down.</li> </ul>

Issue	Resolution
<p>The report does not display any data.</p>	<p>No data might exist in the database for the report that you are running, or you do not have access to the data. Try these:</p> <ul style="list-style-type: none"> <li>• Select a different report to verify that some reports do produce data.</li> <li>• Verify the database contains data that should be included in the report. Add data if necessary.</li> <li>• Change the processing options for the report.</li> <li>• Change the OCM and data sources to reference the correct library.</li> <li>• If the report is launched on the server, make sure that the vertical tables in the server OCM match those of the OCM for the workstation.</li> </ul> <p>If no data is found, it could be because:</p> <ul style="list-style-type: none"> <li>• No data exists.</li> <li>• The processing options are incorrect.</li> <li>• The OCM for either the client or server is pointing to the wrong data source.</li> <li>• The data sources for either the client or server are pointing to the wrong database.</li> <li>• The SQL statement is incorrect (possibly due to a program bug).</li> <li>• The database drivers are out of date.</li> </ul>
<p>The report does not display any data.</p>	<p>An error might have occurred with the report. Review the jddebug.log and jde.log files for errors.</p>
<p>An error initializing the environment occurs in the log file.</p>	<p>The environment might not be set up correctly:</p> <ul style="list-style-type: none"> <li>• Look for errors in .INI keys or database tables that can cause an initialization failure.</li> <li>• Stop JD Edwards EnterpriseOne and determine if the PORTTEST program runs correctly. If not, correct the problems, and then rerun JD Edwards EnterpriseOne manually.</li> </ul>
<p>You get these message:</p> <p>Communication Failure with &lt;server name&gt;</p> <p>This error occurs sometimes on the workstation</p> <p>Restarting JDENET_N sometimes gets rid of the error</p> <p>SAW (running on the workstation) cannot always see the server</p> <p>You can ping the server from the workstation</p>	<p>The server might have two network cards, which can confuse JDENET when the net communications are initialized between the client and server. One machine tries to connect using one network card, and the other machine connects using the other network card.</p> <p>The hosts file on the server should list two different IP addresses for the server: one for each network card. The solution for the error involves setting the NetHostName field in the [JDENET] section of the JDE.INI to one of the names for the server given in the hosts file. JDENET then uses the IP address associated with the given network card.</p>

## Troubleshooting: Shutting Down JDENET

Running the iSeries command CLRIPC immediately after shutdown (that is, after running the iSeries command ENDNET) each time you shut down will help you avoid most restart problems.

## Troubleshooting: Email and PPAT

Issue	Resolution
<p>The batch application, server package installation, or table conversion log file (in the PrintQueue directory) displays the message:</p> <p>PPAT:troubleshooting iSeries</p> <p>XE Email:troubleshooting: iSeries</p> <p>DoSendMessage Error: User 5600427 does not exist in the address book file (F0101).</p>	<p>The particular user may not be found in the F0101 table. Add the user to the F0101 table.</p>

## See Also

[Chapter 2, “Administering the iSeries Server,” Understanding the iSeries Library Structure for JD Edwards EnterpriseOne, page 6](#)

[Chapter 16, “Troubleshooting the Enterprise Server,” Troubleshooting the JDE.INI File, page 310](#)

## Troubleshooting Multiple Release Setup

This table explains how to troubleshoot problems that can occur with multiple releases on the iSeries:

Issue	Resolution
When you try to run multiple releases of JD Edwards EnterpriseOne at the same time, conflicts seem to occur between each release.	<p>Each installed release of JD Edwards EnterpriseOne may not have its own unique set of keys in the .INI. Change these keys in one or both .INI files:</p> <p>[JDEIPC]</p> <p>startIPCKeyValue</p> <p>[JDENET]</p> <p>serviceNameListen</p> <p>serviceNameConnect</p> <p>Variable names and descriptions:</p> <p>startIPCKeyValue</p> <p>An integer value that indicates an arbitrary starting memory offset for interprocess communications. For multiple instances of JD Edwards EnterpriseOne server, be sure that the differences between these values are 1000 or more. The default value is 5000.</p> <p><b>Note.</b> IBM Opti-Connect and Opti-Mover products use the IPC shared memory address 9999. Avoid setting the jde.ini file setting IPCStartKey to a starting value using the range of 9000 to 9999.</p> <p>serviceNameListen</p> <p>Port through which JDENet listens for communications attempts. The default is jde_server (translated using the services file). Each instance of the JD Edwards EnterpriseOne server needs to communicate with JD Edwards EnterpriseOne clients through different ports.</p> <p>serviceNameConnect</p> <p>Port through which JDENet tries to initialize connections with other platforms. The default is jde_server (which is translated using the services file). Each instance of JD Edwards EnterpriseOne server needs to communicate with JD Edwards EnterpriseOne clients through different ports.</p> <p>Also, verify that each version of JD Edwards EnterpriseOne has a unique set of libraries and database files. This is done using the ApplicationPathAddendum setting in the JDE.INI file.</p>

## Troubleshooting JDBNET

This table explains how to troubleshoot problems that can occur with JDBNET:

Issue	Resolution
You do not know how JDBNET is used.	<p>JDBNET processes database requests using a client and server. It can also be configured to process server-to-server requests. This is, one server functions as a JDBNET client and the other as a JDBNET server.</p> <p>JDBNET eliminates the need for database-specific network software. All database requests are transported to the JDBNET server, processed in a local database, and the results are transported back to the JDBNET client.</p>

Issue	Resolution
You get an error that the data source on the JDBNET server is not found.	The correct data source on the JDBNET server may not exist. Create a data source on the server that will be used by JDBNET. This is a normal configuration for a server data source that can be accessed by JDENet running on that server. Note the data source name (OMDATP) that will be used for the JDBNET client configuration.
You get an error that the data source on the JDBNET client is not found.	<p>The correct data source on the JDBNET client may not exist. Use the P98611 application to create a JDBNET data source in the F98611 table using this information:</p> <ul style="list-style-type: none"> <li>• Data source name (OMDATP field) is used to access tables as specified in the F986101 table.</li> <li>• Server name (OMSRVR field) identifies the JDBNET server.</li> <li>• Database name (OMDATB field) matches exactly the data source name (that is, the OMDATP field) to be used by the JDBNET server.</li> <li>• All other columns must match the values in the corresponding columns of the server data source. Set this data source as an active override in the F986101 table for all tables that will be accessed through JDBNET.</li> </ul>
JDBNET does not transfer any data	The network may not be running. End JD Edwards EnterpriseOne, clear IPC (using the iSeries CLRIPC command), and restart JD Edwards EnterpriseOne.
JDBNET does not transfer any data	The JDBNET server and client may not be using the same server port number. Modify the serviceNameListen and serviceNameConnect fields in the [JDENET] section of both the JDBNET jde.ini files on the server and on the workstation. These values must match on both the JDBNET server and JDBNET client.

## Troubleshooting Interprocess Communications

This subsection explains how to troubleshoot problems that can occur with Interprocess Communication (IPC).

Issue	Resolution
<p>JD Edwards EnterpriseOne jobs cannot communicate with one another with these symptoms:</p> <ul style="list-style-type: none"> <li>• The PORTTEST program fails.</li> <li>• The security server on the iSeries fails.</li> <li>• UBE submissions fail.</li> </ul> <p>If you activated ipcTrace in the [JDEIPC] section of the server jde.ini file, an error similar to this should appear in the JDEDEBUG.log:</p> <p>IPC2100017 createIPC Msgq (name Port6005) failed, errno=3484: A damaged object was encountered</p>	<p>This could be because the iSeries release is pre-V4R2. In these releases, damaged IPC message queues might result when you end JD Edwards EnterpriseOne jobs using the command ENDJOB*IMMED.</p> <ul style="list-style-type: none"> <li>• Use the *CNTRL D option to end an iSeries job.</li> </ul> <hr/> <p><b>Note.</b> You might still have damaged IPC message queues if the iSeries-controlled ending times out.</p> <hr/> <ul style="list-style-type: none"> <li>• Run these program to verify whether a damaged message queue exists. You must have V4R1 PTF# SF45946.</li> </ul> <p>CALL QPOZIPCS PARM('aqE')</p> <p>This program generates a spool file called IPCS that contains information about message queues on the system. Look for these output:</p> <pre>KEY MODE 0x00000000 ----- 0x00000000 --RW----- 0x00000000 --RW----- 0x00000000 --RW----- 0x00001234 D-RW----RW-</pre> <p>In this example, the message queue 0x00001234 is damaged. To fix, stop, and restart JDENET using these commands:</p> <pre>ENDNET CLRIPC STRNET</pre> <p>Also, if the ipcTrace setting in the [JDEIPC] section of the jde.ini file on the server is not set, activate the setting and run the PORTTEST program to determine whether any message queues are damaged. Look for the word damage in the JDEDEBUG.log file.</p> <p><b>Note.</b> Some of the message queues might be damaged even if the JDEDEBUG.log file does not indicate that any damage exists.</p>

## Troubleshooting the JDE.INI File

This section explains how to troubleshoot problems that can occur with the JDE.INI file. These notes apply to the .INI file in the E812SYS library:

- It is composed of several sections.
  - The section names are enclosed in square brackets, for example [JDENET].
- Within each section are one or more keys or settings.



The key name is on the left side of the equals sign, and the value of the key is on the right side.

- Do not include spaces in the names or values of the keys unless you know that a space is required.

Do not include spaces immediately before or after the equals sign.

- Keys may be commented out by adding a semicolon (;) at the start of the key name.
- We recommend that you place any incidental comments on a separate line adjacent to the key to which the comment applies.

Be sure to include a preceding semicolon. Comments can be included at the end of the key's values, but these comments can be wrongly interpreted if they are not separated from the keys' values by enough white space. Because the amount of white space needed between the keys' values and the comments is not strictly defined, we recommend that you do not place comments after the values of the keys.

- The section and key names are not case sensitive.
- Many key values are case sensitive.
- Although all of the following values may be used to turn a feature on, they may not be interchangeable as values in the .INI. Use a value that is comparable to the default value provided in the original .INI. Also, many values are case sensitive. If you have any questions about values, contact JD Edwards Global Support Center.
  - YES
  - ON
  - TRUE
  - 1

Likewise, these values may be used to turn a feature off. They are not necessarily interchangeable as values in the .INI.

- NO
- OFF
- FALSE
- NONE
- 0

If you are told by JD Edwards Worldwide Customer Support Services to modify a key that does not exist, you can add the key. Just be sure that it is in the correct section.

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## Troubleshooting the UNIX/Linux Enterprise Server

This section provides an overview for UNIX/Linux enterprise server troubleshooting and discusses how to:

- Troubleshoot the jde.ini file.
- Troubleshoot JD Edwards EnterpriseOne file copying to a server.
- Troubleshoot database table configuration.
- Troubleshoot printer setup.
- Troubleshoot email.
- Troubleshoot multiple release setup.

- Troubleshooting report file output location.
- Troubleshoot JDBNET server not found.
- Troubleshoot JD Edwards EnterpriseOne testing.

## Understanding UNIX/Linux Enterprise Server Troubleshooting

This section discusses some typical problems that you might encounter and their solutions. When troubleshooting, follow these guidelines:

- Check the logs.

Many times, the logs point to the problem. As soon as you notice an error, examine the log files. Messages near the end of the log files will probably reveal the most important information about the cause of the error.

- Try to narrow down the definition of any problem that you may have, particularly when communicating the issue to someone, such as JD Edwards Worldwide Customer Support Services.

For example, rather than reporting that the batch application failed, explain how the batch application failed. The more specific the information, the faster the problem can be solved. For example, rather than reporting that "The report had the wrong data," say that "The batch status is E."

- When communicating an error message to someone, include all parts of the error message exactly as they appear in the log file or on the screen.

Parts of the message that may not seem important may actually hold the key as to why an error occurred. Also, distinguish between characters that might be misinterpreted, such as the capital letter O and the numeral zero (0).

- Before you restart JD Edwards EnterpriseOne on the server, either delete or move the jde\_xxx.log and jdedebug\_xxx.log files (where xxx is a number).

Do not rename the log files because it is easier to work with logs that use the standard naming convention (jde\_xxx.log and jdedebug\_xxx.log). If you need to save the log files until the problem is solved, then create a temporary directory and move the files.

- Clear the log directory regularly to avoid filling the file system.

If the file system fills up, then the specification files can become corrupted.

- Always keep a backup of the specification files handy in case they become corrupted.

Specification files should be backed up regularly for easy recovery of specification installs. If spec files have to be replaced, all specification installations will be lost if backups are not kept.

- To find problems that occur due to server failure, go to the system/bin32 directory:

```
grep -n failed *log* > problems.txt
```

The file problems.txt will contain a list of errors with the file and line number.

- Remember that UNIX is case-sensitive: jde.ini is not the same file as JDE.INI.

---

**Important!** To complete the resolutions provided for this issues, you must sign on to the UNIX enterprise server using an account that has administrative privileges.

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## Troubleshooting the JDE.INI File

To locate the JDE.INI file, search in the system/bin32 subdirectory. For example, /u01/JDEdwards/E812/ini/JDE.INI. These notes apply to the JDE.INI:

- It is composed of several sections.

The section names are enclosed in square brackets; for example, [JDENET].

- The environment variable \$JDE\_BASE should contain the location of the JDE.INI file.
- If you copy the JDE.INI file to other directories (for example, the \$SYSTEM/bin32 directory), the JD Edwards EnterpriseOne programs could read the wrong JDE.INI file.

This error occurs because some programs might look for the JDE.INI file in the current directory before looking at the JDE\_BASE environment variable.

- Each section contains one or more keys.

The key name is on the left side of the equal sign, and the value of the key is on the right side.

- Do not include spaces in the key names or key values unless you know that a space is required.

Do not include spaces immediately before or after the equal sign.

- Keys can be commented out by adding a semicolon (;) at the start of the key name.
- We recommend that you place incidental comments on a separate line adjacent to the key to which the comment applies.

Be sure to include a preceding semicolon. Comments can be included at the end of the key value, but these comments can be incorrectly interpreted if they are not separated from the values of the keys by sufficient white space. Because the amount of white space between the values of the keys and the comments is not strictly defined, we recommend that you do not place comments after the values of the keys.

- Section and key names are not case sensitive.
- Many key values are case sensitive.
- Although all of the following values activate a feature, they may not be interchangeable as values in the JDE.INI.

Use a value that is comparable to the default value provided in the original JDE.INI. Also, many of these values are case sensitive. If you have any questions about values, contact JD Edwards Worldwide Customer Support Services.

- YES
- ON
- TRUE
- 1

These values turn a feature off. They are not necessarily interchangeable as values in the JDE.INI.

- NO
- OFF
- FALSE
- NONE
- 0

If you are told by JD Edwards Worldwide Customer Support Services to modify a key that does not exist, you can add the key. Ensure that the key is in the correct section and entered with the correct spelling and case.

## Troubleshooting JD Edwards EnterpriseOne File Copying to a Server

If you cannot copy files from the deployment server to the temporary directory on the enterprise server, this could be because ftp cannot connect. See the system administrator.

## Troubleshooting Database Table Configurations

If results or errors occur that imply that OCM is not set up correctly, review the description in this guide of how OCM is used by JD Edwards EnterpriseOne.

## Troubleshooting Printer Setup

If reports do not print from a server, verify the name of the default printer. Send a simple text file to the default printer using the lp command. If you get an error similar to these, then the printer is not configured on the server or is not online:

```
"lp: destination aPrinter non-existent"
```

Contact the system administrator for assistance.

For Linux, do not set up a print queue that translates files to postscript. The Linux print queues that are used by JD Edwards EnterpriseOne should generally be "raw" print queues that simply redirect the output of the file to the printer.

## Troubleshooting Email

If the report, server package installation, or table conversion log file (in the PrintQueue directory) displays the message DoSendMessage Error: User 5600427 does not exist in the address book file (F0101), the particular user might not be found in the F0101 table. Add the user to the F0101 table.

## Troubleshooting Multiple Release Setup

Each installed release of JD Edwards EnterpriseOne has its own JDE.INI in its ini directory. Point the user entries in the JDE.INI files to the directories of the log and other files. If the log files do not go to separate directories, change the appropriate keys in one or both JDE.INI files to point to unique directories for each installed instance of JD Edwards EnterpriseOne.

## Troubleshooting Report File Output Location

If you cannot find the report output files, consider this information:

- The location is specified as the OutputDirectory key of the [NETWORK QUEUE SETTINGS] section in the JDE.INI on the server.

If this key is not found, the location is the PrintQueue subdirectory of the JD Edwards EnterpriseOne base directory (for example, /u01/JDEdwards/E812SYS/PrintQueue).

- The JDE.INI file on the workstation may have the SaveOutput key of the [NETWORK QUEUE SETTINGS] section set to FALSE.

This is because a problem after the report has been printed. After the report is printed, then the record will be deleted, as will the .PDF file. Change the value of the SaveOutput key of the [NETWORK QUEUE SETTINGS] section in the JDE.INI on the workstation to TRUE.

## Troubleshooting JDBNET Server Not Found

If you get an error that the data source on the JDBNET server is not found, the correct data source on the JDBNET server might not exist. Create a data source on the server that will be used by JDBNET. This is a normal configuration for a server data source that can be accessed by JDENet running on that server. Note the data source name (OMDATP) that will be used for the JDBNET client configuration.

If you get an error that the data source on the JDBNET client is not found, the correct data source on the JDBNET client might not exist. Create a JDBNET data source in the F98611 table using this information:

- Data source name (OMDATP field).  
Used to access tables as specified in the F986101 table.
- Server name (OMSRVR field).  
Identifies the JDBNET server.
- Database name (OMDATB field).  
Matches exactly the data source name (that is, the OMDATP field) to be used by the JDBNET server.
- Shared library name (OMDLLNAME field).  
Identifies the JDBNET client .DLL. (libjdbnet.sl on HP-UX, libjdbnet.so on AIX).
- All other columns must match the values in the corresponding columns of the server data source.

Set this data source as an active override in the F986101 table for all tables that will be accessed through JDBNET.

## Troubleshooting JD Edwards EnterpriseOne Testing

If the PORTTEST program does not run successfully after startup:

- If you have Oracle or UDB running on the enterprise server and the database and JD Edwards EnterpriseOne services are set to start automatically at system startup, JD Edwards EnterpriseOne services may start before the database is running completely.  
You must ensure that the database software is running before starting any JD Edwards EnterpriseOne processes.
- If JD Edwards EnterpriseOne loses the connection to the database because either the network or database went down, you should see some sort of network or database error in the log files.
- Stop the JD Edwards EnterpriseOne services, clear the logs, and then restart the JD Edwards EnterpriseOne services to see if the problem is resolved.

---

## Troubleshooting the Microsoft Windows Enterprise Server

This section provides an overview of Microsoft Windows enterprise server troubleshooting and discusses how to:

- Troubleshoot JD Edwards EnterpriseOne account setup.
- Troubleshoot JD Edwards EnterpriseOne file copying to a server.
- Troubleshoot database table configuration.

- Troubleshoot printer setup.
- Troubleshoot jde.ini file setup.
- Troubleshoot finding the log files.
- Troubleshoot testing with the PORTTEST program.
- Troubleshoot running JD Edwards EnterpriseOne manually.
- Troubleshoot finding report files.
- Troubleshoot testing JD Edwards EnterpriseOne by submitting a report.
- Take ownership of a printer.
- Stop all JD Edwards EnterpriseOne processes.
- Stop all JD Edwards EnterpriseOne processes without rights.
- Troubleshoot email.

## Understanding Microsoft Windows Enterprise Server Troubleshooting

This section discusses some typical problems that you might encounter and their solutions. When troubleshooting, follow these guidelines:

- Narrow the definition of any problem that you might have, particularly when communicating the issue to someone, such as JD Edwards Worldwide Customer Support Services.  
  
For example, rather than reporting that the batch application failed, explain how the batch application failed. The more specific the information, the faster the problem can be solved. For example, rather than reporting that "The report had the wrong data," say that "The batch status is E."
- When communicating an error message to someone, be sure to include all parts of the error message exactly as they appear in the log file or on the screen.  
  
Parts of the message that may not seem important may actually hold the key to why an error occurs. Also, distinguish between characters that might be misinterpreted (for example, the capital letter O and the number 0).
- As soon as you notice an error, examine the log files.  
  
Messages near the end of the log files sometimes reveal the most important information about the cause of the error.
- Before you restart JD Edwards EnterpriseOne on the server, either delete or move the jde\_xxx.log and jdedebug\_xxx.log files (where xxx is a number).  
  
Do not rename the log files; it is easier to work with logs that use the standard naming convention (jde\_xxx.log and jdedebug\_xxx.log). If you need to save the log files until the problem is solved, create a temporary directory and move the files there.
- Clear the log directory regularly to avoid filling the file system. If the file system fills up, the specification files become corrupt.
- Always keep a backup of the specification files in case they become corrupt.  
  
Specification files should be backed up regularly for easy recovery of spec installs. If specification files have to be replaced, all specification installations are lost unless backups are kept.

---

**Note.** To complete the resolutions provided for this issues, you must sign on to the Microsoft Windows enterprise server using an account that has administrative privileges.

---

## Troubleshooting JD Edwards EnterpriseOne Account Setup

If you cannot set up any accounts in the User Manager program, the account you are logged into in Microsoft Windows may not have the privileges to modify or add accounts. Log out of Microsoft Windows and log back on under the Administrator account or an account in the Administrators group.

## Troubleshooting JD Edwards EnterpriseOne File Copying to a Server

If you cannot copy files from the CD to the JD Edwards EnterpriseOne directory on the enterprise server, verify that the CD is in the CD-ROM drive. Another cause is that one or more of the files to be copied is currently open on the CD:

- Close any files on the CD that are open.
- Close any applications that may have files open on the CD.

If one or more of the files that will be overwritten in the target directory is open:

- Close any files in the target directory that are open.
- Close any applications that may have files open in the target directory.

If the target disk is full:

- Delete or move files from the target disk.
- Copy JD Edwards EnterpriseOne to a different disk.

## Troubleshooting Database Table Configuration

If the OCM is not set up correctly and errors occur, run the VerifyOCM program to ensure that the OCM tables are set up correctly.

## Troubleshooting Printer Setup

If you cannot set up a printer:

- The printer may not be attached (local printer) or the print server may not be available (network printer).  
Attach to the local printer or determine why the print server is not available.
- The printer drivers may not be installed.  
Install the correct printer drivers.

## Troubleshooting jde.ini File Setup

If you cannot find the jde.ini file:

- Search in the system\bin32 subdirectory in the JD Edwards EnterpriseOne tree. For example, z:\JDEdwards\E812\ddp\system\bin32\jde.ini.

- Make sure you have access rights to the system\bin32 directory by logging on to Microsoft Windows as a user who has administrative rights.

## Troubleshooting Finding the Log Files

If you cannot find the log files:

- Log files are listed in the DebugFile and JobFile keys in the [DEBUG] section of the jde.ini.

If there are no paths, the logs are in the system\bin32 directory. The log files are named according to these scheme:

An underscore ( \_ ) and the process ID of the process that creates the log file are inserted before the period for example, jde\_123.log or jdedebug\_123.log for a process with an ID of 123.

The log file associated with the DebugFile key contains the sequence of JD Edwards EnterpriseOne events. The default value for this key is jdedebug.log. The log file associated with the JobFile key contains error messages that occur in JD Edwards EnterpriseOne. The default value for this key is jde.log.

- When a batch application is run and the jde.ini on the workstation has [NETWORK QUEUE SETTINGS] SaveOutput=TRUE, the jde\_XXX.log and jdedebug\_XXX.log files for the runbatch that processed the batch application is copied to a file in the PrintQueue directory.

The root name of the files are the same as the name of the PDF file. The extension is .jde.log and .jdedebug.log. The duplication of these log files does not occur if the batch application runbatch.exe dies before duplication.

- Verify that logging in the jde.ini is turned on using these settings in the [DEBUG] section:

```
[DEBUG]
LogErrors=1
Output=FILE
Variables and their descriptions:
LogErrors
0 = Do not generate logs.
1 = Create logs.
Output
NONE = Do not write messages to any output device.
AUX = Write messages to a console window.
FILE = Write messages to log files.
BOTH = Write messages to log files and console window.
```

If not enough relevant information is written to the log files, this could be because additional logging information needs to be turned on in the jde.ini. Set these keys in the jde.ini for additional output to the log files:

```
[JDENET]
netTrace=1
[JDEIPC]
ipcTrace=1
[DEBUG]
TAMTraceLevel=1
[UBE]
UBEDebugLevel=6
[TCEngine]
TraceLevel=10
```



These are the variables that you use to set logging options::

- netTrace
- 0 = Do not generate JDENet error messages (that is, communication between platforms).
- 1 = Generate JDENet error message.
- ipcTrace
- 0 = Do not generate Interprocess Communication (IPC) error messages (that is, communication between processes on a single platform).
- 1 = Generate IPC error messages.
- TAMTraceLevel
- 0 = Do not generate Table Access Management (TAM) error messages (that is, regarding specification files).
- 1 = Generate TAM error messages.
- UBEDebugLevel
- 0 = Do not generate batch application error messages.
- 1 = Generate increasingly detailed error messages (1 gives the least specific messages, whereas 6 gives the most detailed messages).
- TraceLevel
- 0 = Do not generate Table Conversion (TC) error messages.
- 1-10 = Generate increasingly detailed error messages (1 gives the least detail, whereas 10 gives the most detail).

## Troubleshooting Testing with the PORTTEST Program

If an error with the security server occurred:

- Verify the JD Edwards EnterpriseOne network is running either as a service or started from a command prompt.
- If the security server is inactive, or if it is active on a server and port that is different from the ones the PORTTEST program uses, perform one of these tasks:

Start JD Edwards EnterpriseOne net on the server and port where the PORTTEST program is being run. The security server key in the [SECURITY] section of the jde.ini specifies the security server, and the serviceNameListen and serviceNameConnect settings in the [JDENET] section specify the ports.

Change the name of the security server or the names of the ports, or both, in the jde.ini file to point to the correct security server.

- Make sure that the JD Edwards EnterpriseOne network and the PORTTEST program are running under the same account:

To determine under which account PORTTEST is running, press the Control, Alt, and Delete keys at the same time. If the JD Edwards EnterpriseOne network is running as a service, determine under which account it is running. To do this, select the service in Microsoft Windows Control Panel, then go to Services and click Startup.

For initial testing, you can stop the JD Edwards EnterpriseOne network service, open a Windows command prompt, cd to the system\bin32 directory, run jdenet\_n without any parameters, and rerun the PORTTEST program. When finished, stop jdenet\_n from the Microsoft Windows Task Manager.

To run the PORTTEST program under the same account as the JD Edwards EnterpriseOne network service, log out of Windows, log into the same account under which the service is running, open a Microsoft Windows command prompt, cd to the system\bin32 directory, and rerun the PORTTEST program.

- To make sure the supplied user name and password, or both, match names and passwords, or both, in the JD Edwards EnterpriseOne security table:

Run the PORTTEST program with a valid user name and password. Add the given user name and password to the JD Edwards EnterpriseOne security table.

If you get the message Invalid parms PORTTEST: <USER> <PWD> <ENV>, the correct number of arguments to PORTTEST may not have been included. Use these arguments:

- User - A valid JD Edwards EnterpriseOne account name.
- Password - Password for the JD Edwards EnterpriseOne account.
- Environment - A valid JD Edwards EnterpriseOne environment.
- Fewer than 99 records are written to the screen by PORTTEST.

If PORTTEST failed, examine the log files.

If fewer than 99 records exist in the F0902 table, this is not an error. You should review the log files for errors.

If the F0902 table is not accessible, verify that you can query the F0902 table using SQL.

If an error initializing the environment occurs in the log file, the environment may not have been set up correctly. See the chapter Understanding the JD Edwards EnterpriseOne Initialization for Windows in this guide for more information about how JD Edwards EnterpriseOne programs use OCM. Any errors in the affected jde.ini keys or database tables could cause the JD Edwards EnterpriseOne initialization to fail. The environment that PORTTEST uses is passed as a command line argument.

## Troubleshooting Running JD Edwards EnterpriseOne Manually

- If the JD Edwards EnterpriseOne network is not running, start the JD Edwards EnterpriseOne network service.
- Verify the JD Edwards EnterpriseOne network is running by doing these:
  - The JD Edwards EnterpriseOne network should either be running as a service or from a Windows command prompt.
  - If it is running as a service, determine under which account it is running.

To do this, select the JD Edwards EnterpriseOne network service in Microsoft Windows Control Panel, select Services, and then select Startup. Note the account name. If you are using Microsoft Windows 2000, select the JD Edwards EnterpriseOne network service in the Windows Control Panel, select Services, and then select Properties.

- If it is run from a command prompt, the network is running under the Microsoft Windows account you signed on to.

When you log off Microsoft Windows, network processes started from a command prompt and all child processes will terminate.

- If the setup of some part of JD Edwards EnterpriseOne, such as the jde.ini file or OCM, is incorrect, determine if PORTTEST runs correctly.

If not, correct those problems and then try running JD Edwards EnterpriseOne manually.

If an error initializing the environment occurs in the log file, the setup for some part of JD Edwards EnterpriseOne, such as the jde.ini file or OCM, may be incorrect. Examine the applicable problems in the “Testing with the PORTTEST Program” section in this chapter. Determine if the PORTTEST programs runs correctly. If not, correct those problems, and then try running JD Edwards EnterpriseOne manually.

## Troubleshooting Finding the Report Files

If you cannot find the report output files:

- Check the OutputDirectory key of the [NETWORK QUEUE SETTINGS] section in the jde.ini file on the server.

If there is no location, listed, the files are in the PrintQueue directory of the JD Edwards EnterpriseOne base directory. For example, z:\JDEdwards\E812\ddp\PrintQueue.

- Verify that SaveOutput in the [NETWORK QUEUE SETTINGS] section in the jde.ini file on the workstation is TRUE.

## Troubleshooting Testing JD Edwards EnterpriseOne by Submitting a Report

- If a time-out occurred because the JD Edwards EnterpriseOne server was started after the client, resubmit the report.
- If a time-out occurred due to heavy network traffic or server load, increase the time-out value in the jde.ini file on the workstation and resubmit the report.

Use the JDENETTime-out setting in the [NETWORK QUEUE SETTINGS] section.

- If the wrong communications port is being used, perform one of these tasks:
  - Verify that the serviceNameListen value in the [JDENET] section of the jde.ini file on the workstation matches the serviceNameConnect value in the [JDENET] section of the jde.ini file on the server.

In addition, the serviceNameConnect value in the jde.ini file on the workstation must match serviceNameListen in the jde.ini file on the server. If the values of these keys are strings, the numeric value is retrieved from the services file in the c:\winnt\system32\drivers\etc directory (Microsoft Windows: client or server).

- The services file contains a list of strings and their corresponding port numbers.

If the port that you are interested in is on the last line of the services file, be sure to include a return at the end of the line or else the string will not be translated to the corresponding port number.

- If the client is using Dynamic Host Configuration Protocol (DHCP) and the server does not have an entry for itself in its hosts file in the c:\winnt\system32\drivers\etc directory, add an entry for the server in the hosts file on the server.

- Run the Server Administration Workbench (SAW) program.

This program lists only the machines on the specified port (also known as service) that are running JD Edwards EnterpriseOne (either client or server). Troubleshoot using these steps:

- If the remote machine is visible, a time-out probably occurred.

Rerun the report.

- If the remote machine is not visible, ping the remote machine using the name of the machine.
- If the ping fails, ping the remote machine using its IP address.
- If these pings fail, run SAW from the other machine (either client or server) and repeat these steps.

- With this information, determine if the client and server agree on the IP address for the server.
- If none of these steps identify the problem, a general network error probably occurred (for example, the network is down or a machine is disconnected).
- These situations can occur:
  - Communications failure error message on the workstation.
  - Restarting Network Service or jdenet\_n sometimes gets rid of the error.
  - SAW (running on the workstation) cannot always see the server.
  - You can ping the server from the workstation.

These issues can occur because the server has two network cards, which confuses JDENET when the net communications are initialized between the client and server. One machine tries to connect using one network card, and the other machine connects using the other network card.

The hosts file on the server should list two different IP addresses for the server--one for each network card. Resolve the error by setting the NetHostName field in the [JDENET] section of the jde.ini to one of the names for the server given in the hosts file. JDENET then uses the IP address associated with the given network card.

- For the error Cannot connect to printer in the jde\_xxx.log or the log file in the PrintQueue subdirectory:
  - If a general printing error occurred, try to print a text document from Notepad.  
Resolve any issues.
  - If no default printer is set up on the enterprise server, set up a printer using the task Add a new printer or Modify an existing printer in the JD Edwards EnterpriseOne Tools 8.94 Implementation Guide: System Administration.
  - If you do not have privileges to the printer, define the owner as a local or network account.

The type of account depends on the type of printer. If the printer is a local printer, the owner could be either a local or network account but either type must have privileges to access the printer. If the printer is a network printer, the owner must be a network account with access privileges.

- All jobs sent to this printer using the current server will conform to the selected orientation.

Note that the report template or other programs may override this default orientation. If you cannot change the printer orientation, you may not have the right to change the orientation. Log on to Microsoft Windows in an account that has administrative rights for the printer. For a local printer, use an account that has administrative privileges. For a network printer, use an account given administrative privileges by a network administrator.

If the report does not list any data, the data may not exist in the database for the report that you are running, or you do not have access to the data. Perform one or more of these tasks to resolve the data issue:

- Select a different report.
- Add data to the database.
- Change the processing options for the report.
- Change the OCM and data sources to point to the correct database.
- If the report is launched on the server, verify the vertical tables in the server OCM match those in the workstation OCM.

If you believe data should have been found, edit the report jddebug.log found in the PrintQueue subdirectory.

Search for the SQL select statement used to retrieve data from the database. You must have some idea what data is being read to do this.

- Copy the SQL statement.
- Open the specific database SQL command interface - for example, SQL Plus or ISQL\_w.
- Paste the SQL statement into the SQL command interface.
- Submit the SQL statement.
- If no data is found, one of these conditions may be true:
  - No data exists.
  - The processing options are incorrect.
  - The OCM for either the client or server is pointing to the wrong data source.
  - The data sources for either the client or server are pointing to the wrong database.
  - The SQL statement is incorrect (possibly due to a program bug).
  - The database drivers are out of date.
  - If an error occurred with the report, look in the jde\_xxx.log for error messages.
- If an error initializing the environment occurs in the log file, the environment may not be set up correctly. Stop JD Edwards EnterpriseOne and determine if the PORTTEST program runs correctly. If not, correct those problems and then run JD Edwards EnterpriseOne manually.

## Taking Ownership of a Printer

To take ownership of a printer:

1. From the Microsoft Windows Start menu, select Settings, Printers.
2. Right-click the desired printer.
3. Select Properties,, and then select the Privileges tab.
4. Click Ownership and Take Ownership.

If the printer drivers are not installed, see the section Database Driver Files in this guide for information about which drivers you need.

If the report printouts are in portrait mode but should be in landscape mode (or vice versa), verify that the orientation specified in RDA for the report is correct.

If the default printer is set to the wrong orientation, set the orientation using these task:

5. From the Microsoft Windows Start menu, select Settings, Printers.
6. Right-click the desired printer.
7. Select Document Defaults.
8. Select the desired default orientation.
9. Click OK.

## Stopping All JD Edwards EnterpriseOne Processes

If you need to stop the JD Edwards EnterpriseOne processes that you started from the command prompt, for example, jdenet\_n, stop any of these processes that are running:

- Jdenet\_n.exe
- Jdenet\_k.exe
- Runbatch.exe
- ipcsrv.exe

These additional processes, such as jdenet\_k and runbatch, are started by jdenet\_n and queue kernel.

To stop all JD Edwards EnterpriseOne processes:

1. Run the Microsoft Windows Task Manager.
2. Select the Processes tab.
3. Select one of the running processes.
4. Click End Process.
5. Repeat for each process to be stopped.

## Stopping JD Edwards EnterpriseOne Processes Without Rights

Use this task if you do not have the rights to stop the processes.

To stop JD Edwards EnterpriseOne processes without rights:

1. Log on to Microsoft Windows in an account that has rights to stop processes.
2. Stop processes using Visual C++.
3. Run the Microsoft Windows Task Manager.
4. Select the Processes tab.
5. Select one of the running processes.
6. Click Debug Process.  
Visual C++ starts.
7. Click the X in the upper right-hand corner to close Visual C++.  
Do not save the project workspace. This ends the runaway process.
8. Repeat these steps for each runaway process.  
If they still do not end, reboot the machine.

## Troubleshooting Email

If the report, server package installation, or table conversion log file in the PrintQueue directory displays the message DoSendMessage Error:

```
User 5600427 does not exist in the address book file (F0101).
```

This could be because the particular user is not found in the F0101 table. Add the user to the F0101 table.

### See Also

*JD Edwards EnterpriseOne Tools 8.96 System Administration Guide*, “Understanding the jde.ini File Settings”

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## Troubleshooting Web Servers

This section provides an overview of web server troubleshooting and discusses how to:

- Troubleshoot IIS and IBM HTTP web servers.
- Troubleshoot JAS.
- Troubleshoot serialized database and generation issues.
- Troubleshoot SQL server issues.
- Troubleshoot problems using log files.

### Understanding Web Server Troubleshooting

This section discusses some typical issues you might encounter when using WebSphere and Java Application Server (JAS). It also explains other issues you might encounter with web servers and how to track down problems by using the log files in SAW.

### Troubleshooting IIS and IBM HTTP Web Servers

If you need to configure with IIS and an IBM HTTP Server, refer to the installation documentation.

If you receive the message Recursive error - page not found, you need to make sure IIS is running for a particular instance of JAS. IIS instances can be stopped easily, and the user may forget to restart them. To make sure IIS is running for the particular instance of JAS, verify IIS instance properties by selecting the appropriate instance, and then right-clicking and choosing Properties. Confirm that the correct paths are listed for the desired JAS code.

### Troubleshooting JAS

If no logs appear, verify that the [LOGS] setting in the jas.ini has logging turned on and points the log files to reside in the desired location (for example, ;log=d:\E812\internet\jas.log or ;debuglog=d:\E812\internet\jasdebuglog). If the log file paths are not correctly stipulated, the logs may be writing to a file located elsewhere.

If JAS seems slow, check to see whether jdbcTrace is set to TRUE or FALSE. If tracing is turned on or set to TRUE, the additional logging will dramatically slow JAS performance.

### Troubleshooting Serialized Database and Generation Issues

If you receive the message “Form is out of date...most likely needs to be regenerated,” this error usually occurs because the specifications used to construct the serialized database do not match the JAS code. Ensure that the date the JAS code was written matches the date of the jdecom.dll that resides in the E812\system\bin32 directory of the generating machine.

Also be sure to register the jdecom.dll. After you run the regsvr32 jdecom.dll command, the eGenerator recognizes the jdecom.dll and uses it to fetch JD Edwards EnterpriseOne specs and convert them into Java serialized objects.

If the menu does not appear when the user signs on to JD Edwards EnterpriseOne, check for these conditions:

- [JDBC URL] section in jde.ini is set correctly or [JDBC DRIVERS] is set correctly.

The [JDBC URL] points to the serialized database (the one you just set up).

- Bounce the WebSphere application server.  
Menus are cached, and by bouncing the server you clear the cached information.
- Ensure that the host database for serialized objects is running.

## Troubleshooting SQL Server Issues

If SQL Server process or Oracle process consumes excess CPU in a web server environment, the serialized objects for the web server are stored in either SQL server or the Oracle database. The web server must access these tables frequently when running an application. Indexes may be missing, which can cause severe performance problems.

Ensure that all existing JD Edwards EnterpriseOne indexes are created for tables F989998 and F989999. You should have one index for F989998 for columns WBJOBID and WBOID. You should also have one index for F989999 for columns WBUID, WBOID, WBLNGPREF. If these indexes do not exist in the database, generate them using Object Librarian.

Add a new index to the F989999. This index should include columns WBOID, WBUID, and WBJVER. Generate this index over the F989999 table.

Update statistics on both tables as follows:

- For Oracle, issue these commands in SQL \*Plus:

```
ANALYZE TABLE owner.F989999 COMPUTE STATISTICS
```

- For SQL Server, issue these commands:

```
UPDATE STATISTICS owner.F989999  
UPDATE STATISTICS owner.F989998
```

Improvements vary depending on the number of users accessing the serialized database.

## Troubleshooting Problems Using Log Files

If you need to view logging information for the Java client, open the Java Console by choosing Java Console from the View menu in Internet Explorer. The Java Console displays all problems that the Java Virtual Machine on the client is having. Errors appear as uncaught exceptions in the console.

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**Note.** You must have the appropriate internet options turned on to view the Java Console.

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To enable the Java Console in Internet Explorer, select Tools, and then select Internet Options. In Internet Options, click the Advanced tab, scroll down to the section titled Java VM, and select these options:

- Java Console enabled.
- Java logging enabled.
- JIT compiler for virtual machine enabled.

If you need to troubleshoot errors in web applications:

- Verify that the problem is only a problem on the web.

Test the fat client version of the same application against the same enterprise server that the web is using. Make sure that you use the same JD Edwards EnterpriseOne accounts and environments.

- Determine whether the problem happens in HTML, Java, or both.



Since both Java and HTML use the Java runtime engine, they should behave the same. Some variation exists based on the inherent differences between the Portal, HTML page processing and Java interactive processing, but underlying functionality and processing should be the same.

- Re-create the problem on the web server.

The logs will work in the Portal, HTML, and Java.

- Open a separate Internet Explorer browser and use it to access the Web Server Monitor for the web server being used.
- Check the Standard Error Log (stderr.log) for errors.

A common error you might see here is BSFN Failed. If you see this error, verify that the enterprise server is up and that the BSFN is not a T1 BSFN.

T1 refers to Type 1 business functions, which are client-only business functions. They cannot run on a server.

- Check the Standard Output Log (stdout.log) for more information.

For example, you can view the time and date stamps from the errors found in both the Jas.log and the standard error log to find more detailed information about what was occurring at about the same time that the errors occurred.

If you need more information, enable Debug.log and set Net Trace, which you can do in the [LOGS] section of jas.ini file. Re-create the problem, view the Debug.log, and look for more information.

You can also use the Server Administration Workbench (SAW) to monitor web servers.

Try to find SQL statement information. SQL statements can give you an idea of what values are being passed. Some common failures include:

- Form Interconnects are passing incorrect information.

Verify that the fat client is working correctly. Watch especially for null, blank, and zero problems, as well as special characters.

- String is too big.

Note carefully what you did to get this error.

- Null values are being passed.

The SQL statement information search results in nothing being found. Check the SQL statements and make sure that correct values were passed. Determine where the failure occurred and make a note of it.

- The application stops responding.

Check logs for BSFN failures.

## See Also

Chapter 7, “Monitoring Servers Using SAW on the Web,” page 145

Chapter 6, “Monitoring Servers Using SAW on Windows,” Configuring JD Edwards EnterpriseOne Server Monitoring Settings, page 109



# Glossary of JD Edwards EnterpriseOne Terms

<b>activity</b>	A scheduling entity in JD Edwards EnterpriseOne tools that represents a designated amount of time on a calendar.
<b>activity rule</b>	The criteria by which an object progresses from one given point to the next in a flow.
<b>add mode</b>	A condition of a form that enables users to input data.
<b>Advanced Planning Agent (APAg)</b>	A JD Edwards EnterpriseOne tool that can be used to extract, transform, and load enterprise data. APAg supports access to data sources in the form of relational databases, flat file format, and other data or message encoding, such as XML.
<b>application server</b>	A server in a local area network that contains applications shared by network clients.
<b>as if processing</b>	A process that enables you to view currency amounts as if they were entered in a currency different from the domestic and foreign currency of the transaction.
<b>alternate currency</b>	<p>A currency that is different from the domestic currency (when dealing with a domestic-only transaction) or the domestic and foreign currency of a transaction.</p> <p>In JD Edwards EnterpriseOne Financial Management, alternate currency processing enables you to enter receipts and payments in a currency other than the one in which they were issued.</p>
<b>as of processing</b>	A process that is run as of a specific point in time to summarize transactions up to that date. For example, you can run various JD Edwards EnterpriseOne reports as of a specific date to determine balances and amounts of accounts, units, and so on as of that date.
<b>back-to-back process</b>	A process in JD Edwards EnterpriseOne Supply Management that contains the same keys that are used in another process.
<b>batch processing</b>	<p>A process of transferring records from a third-party system to JD Edwards EnterpriseOne.</p> <p>In JD Edwards EnterpriseOne Financial Management, batch processing enables you to transfer invoices and vouchers that are entered in a system other than JD Edwards EnterpriseOne to JD Edwards EnterpriseOne Accounts Receivable and JD Edwards EnterpriseOne Accounts Payable, respectively. In addition, you can transfer address book information, including customer and supplier records, to JD Edwards EnterpriseOne.</p>
<b>batch server</b>	A server that is designated for running batch processing requests. A batch server typically does not contain a database nor does it run interactive applications.
<b>batch-of-one immediate</b>	<p>A transaction method that enables a client application to perform work on a client workstation, then submit the work all at once to a server application for further processing. As a batch process is running on the server, the client application can continue performing other tasks.</p> <p>See also direct connect and store-and-forward.</p>
<b>business function</b>	A named set of user-created, reusable business rules and logs that can be called through event rules. Business functions can run a transaction or a subset of a transaction (check inventory, issue work orders, and so on). Business functions also contain the application programming interfaces (APIs) that enable them to be called from a form, a database trigger, or a non-JD Edwards EnterpriseOne application. Business functions can be combined with other business functions, forms, event rules,

and other components to make up an application. Business functions can be created through event rules or third-generation languages, such as C. Examples of business functions include Credit Check and Item Availability.

<b>business function event rule</b>	See named event rule (NER).
<b>business view</b>	A means for selecting specific columns from one or more JD Edwards EnterpriseOne application tables whose data is used in an application or report. A business view does not select specific rows, nor does it contain any actual data. It is strictly a view through which you can manipulate data.
<b>central objects merge</b>	A process that blends a customer's modifications to the objects in a current release with objects in a new release.
<b>central server</b>	A server that has been designated to contain the originally installed version of the software (central objects) for deployment to client computers. In a typical JD Edwards EnterpriseOne installation, the software is loaded on to one machine—the central server. Then, copies of the software are pushed out or downloaded to various workstations attached to it. That way, if the software is altered or corrupted through its use on workstations, an original set of objects (central objects) is always available on the central server.
<b>charts</b>	Tables of information in JD Edwards EnterpriseOne that appear on forms in the software.
<b>connector</b>	Component-based interoperability model that enables third-party applications and JD Edwards EnterpriseOne to share logic and data. The JD Edwards EnterpriseOne connector architecture includes Java and COM connectors.
<b>contra/clearing account</b>	A general ledger account in JD Edwards EnterpriseOne Financial Management that is used by the system to offset (balance) journal entries. For example, you can use a contra/clearing account to balance the entries created by allocations in JD Edwards EnterpriseOne Financial Management.
<b>Control Table Workbench</b>	An application that, during the Installation Workbench processing, runs the batch applications for the planned merges that update the data dictionary, user-defined codes, menus, and user override tables.
<b>control tables merge</b>	A process that blends a customer's modifications to the control tables with the data that accompanies a new release.
<b>cost assignment</b>	The process in JD Edwards EnterpriseOne Advanced Cost Accounting of tracing or allocating resources to activities or cost objects.
<b>cost component</b>	In JD Edwards EnterpriseOne Manufacturing, an element of an item's cost (for example, material, labor, or overhead).
<b>cross segment edit</b>	A logic statement that establishes the relationship between configured item segments. Cross segment edits are used to prevent ordering of configurations that cannot be produced.
<b>currency restatement</b>	The process of converting amounts from one currency into another currency, generally for reporting purposes. You can use the currency restatement process, for example, when many currencies must be restated into a single currency for consolidated reporting.
<b>database server</b>	A server in a local area network that maintains a database and performs searches for client computers.
<b>Data Source Workbench</b>	An application that, during the Installation Workbench process, copies all data sources that are defined in the installation plan from the Data Source Master and Table and Data Source Sizing tables in the Planner data source to the system-release number data source. It also updates the Data Source Plan detail record to reflect completion.

<b>date pattern</b>	A calendar that represents the beginning date for the fiscal year and the ending date for each period in that year in standard and 52-period accounting.
<b>denominated-in currency</b>	The company currency in which financial reports are based.
<b>deployment server</b>	A server that is used to install, maintain, and distribute software to one or more enterprise servers and client workstations.
<b>detail information</b>	Information that relates to individual lines in JD Edwards EnterpriseOne transactions (for example, voucher pay items and sales order detail lines).
<b>direct connect</b>	A transaction method in which a client application communicates interactively and directly with a server application.  See also batch-of-one immediate and store-and-forward.
<b>Do Not Translate (DNT)</b>	A type of data source that must exist on the iSeries because of BLOB restrictions.
<b>dual pricing</b>	The process of providing prices for goods and services in two currencies.
<b>edit code</b>	A code that indicates how a specific value for a report or a form should appear or be formatted. The default edit codes that pertain to reporting require particular attention because they account for a substantial amount of information.
<b>edit mode</b>	A condition of a form that enables users to change data.
<b>edit rule</b>	A method used for formatting and validating user entries against a predefined rule or set of rules.
<b>Electronic Data Interchange (EDI)</b>	An interoperability model that enables paperless computer-to-computer exchange of business transactions between JD Edwards EnterpriseOne and third-party systems. Companies that use EDI must have translator software to convert data from the EDI standard format to the formats of their computer systems.
<b>embedded event rule</b>	An event rule that is specific to a particular table or application. Examples include form-to-form calls, hiding a field based on a processing option value, and calling a business function. Contrast with the business function event rule.
<b>Employee Work Center</b>	A central location for sending and receiving all JD Edwards EnterpriseOne messages (system and user generated), regardless of the originating application or user. Each user has a mailbox that contains workflow and other messages, including Active Messages.
<b>enterprise server</b>	A server that contains the database and the logic for JD Edwards EnterpriseOne.
<b>EnterpriseOne object</b>	A reusable piece of code that is used to build applications. Object types include tables, forms, business functions, data dictionary items, batch processes, business views, event rules, versions, data structures, and media objects.
<b>EnterpriseOne process</b>	A software process that enables JD Edwards EnterpriseOne clients and servers to handle processing requests and run transactions. A client runs one process, and servers can have multiple instances of a process. JD Edwards EnterpriseOne processes can also be dedicated to specific tasks (for example, workflow messages and data replication) to ensure that critical processes don't have to wait if the server is particularly busy.
<b>Environment Workbench</b>	An application that, during the Installation Workbench process, copies the environment information and Object Configuration Manager tables for each environment from the Planner data source to the system-release number data source. It also updates the Environment Plan detail record to reflect completion.
<b>escalation monitor</b>	A batch process that monitors pending requests or activities and restarts or forwards them to the next step or user after they have been inactive for a specified amount of time.

<b>event rule</b>	A logic statement that instructs the system to perform one or more operations based on an activity that can occur in a specific application, such as entering a form or exiting a field.
<b>facility</b>	An entity within a business for which you want to track costs. For example, a facility might be a warehouse location, job, project, work center, or branch/plant. A facility is sometimes referred to as a “business unit.”
<b>fast path</b>	A command prompt that enables the user to move quickly among menus and applications by using specific commands.
<b>file server</b>	A server that stores files to be accessed by other computers on the network. Unlike a disk server, which appears to the user as a remote disk drive, a file server is a sophisticated device that not only stores files, but also manages them and maintains order as network users request files and make changes to these files.
<b>final mode</b>	The report processing mode of a processing mode of a program that updates or creates data records.
<b>FTP server</b>	A server that responds to requests for files via file transfer protocol.
<b>header information</b>	Information at the beginning of a table or form. Header information is used to identify or provide control information for the group of records that follows.
<b>interface table</b>	See Z table.
<b>integration server</b>	A server that facilitates interaction between diverse operating systems and applications across internal and external networked computer systems.
<b>integrity test</b>	A process used to supplement a company’s internal balancing procedures by locating and reporting balancing problems and data inconsistencies.
<b>interoperability model</b>	A method for third-party systems to connect to or access JD Edwards EnterpriseOne.
<b>in-your-face-error</b>	In JD Edwards EnterpriseOne, a form-level property which, when enabled, causes the text of application errors to appear on the form.
<b>IServer service</b>	This internet server service resides on the web server and is used to speed up delivery of the Java class files from the database to the client.
<b>jargon</b>	An alternative data dictionary item description that JD Edwards EnterpriseOne appears based on the product code of the current object.
<b>Java application server</b>	A component-based server that resides in the middle-tier of a server-centric architecture. This server provides middleware services for security and state maintenance, along with data access and persistence.
<b>JDBNET</b>	A database driver that enables heterogeneous servers to access each other’s data.
<b>JDEBASE Database Middleware</b>	A JD Edwards EnterpriseOne proprietary database middleware package that provides platform-independent APIs, along with client-to-server access.
<b>JDECallObject</b>	An API used by business functions to invoke other business functions.
<b>jde.ini</b>	A JD Edwards EnterpriseOne file (or member for iSeries) that provides the runtime settings required for JD Edwards EnterpriseOne initialization. Specific versions of the file or member must reside on every machine running JD Edwards EnterpriseOne. This includes workstations and servers.
<b>JDEIPC</b>	Communications programming tools used by server code to regulate access to the same data in multiprocess environments, communicate and coordinate between processes, and create new processes.

<b>jde.log</b>	The main diagnostic log file of JD Edwards EnterpriseOne. This file is always located in the root directory on the primary drive and contains status and error messages from the startup and operation of JD Edwards EnterpriseOne.
<b>JDENET</b>	A JD Edwards EnterpriseOne proprietary communications middleware package. This package is a peer-to-peer, message-based, socket-based, multiprocess communications middleware solution. It handles client-to-server and server-to-server communications for all JD Edwards EnterpriseOne supported platforms.
<b>Location Workbench</b>	An application that, during the Installation Workbench process, copies all locations that are defined in the installation plan from the Location Master table in the Planner data source to the system data source.
<b>logic server</b>	A server in a distributed network that provides the business logic for an application program. In a typical configuration, pristine objects are replicated on to the logic server from the central server. The logic server, in conjunction with workstations, actually performs the processing required when JD Edwards EnterpriseOne software runs.
<b>MailMerge Workbench</b>	An application that merges Microsoft Word 6.0 (or higher) word-processing documents with JD Edwards EnterpriseOne records to automatically print business documents. You can use MailMerge Workbench to print documents, such as form letters about verification of employment.
<b>master business function (MBF)</b>	An interactive master file that serves as a central location for adding, changing, and updating information in a database. Master business functions pass information between data entry forms and the appropriate tables. These master functions provide a common set of functions that contain all of the necessary default and editing rules for related programs. MBFs contain logic that ensures the integrity of adding, updating, and deleting information from databases.
<b>master table</b>	See published table.
<b>matching document</b>	A document associated with an original document to complete or change a transaction. For example, in JD Edwards EnterpriseOne Financial Management, a receipt is the matching document of an invoice, and a payment is the matching document of a voucher.
<b>media storage object</b>	Files that use one of the following naming conventions that are not organized into table format: Gxxx, xxxGT, or GTxxx.
<b>message center</b>	A central location for sending and receiving all JD Edwards EnterpriseOne messages (system and user generated), regardless of the originating application or user.
<b>messaging adapter</b>	An interoperability model that enables third-party systems to connect to JD Edwards EnterpriseOne to exchange information through the use of messaging queues.
<b>messaging server</b>	A server that handles messages that are sent for use by other programs using a messaging API. Messaging servers typically employ a middleware program to perform their functions.
<b>named event rule (NER)</b>	Encapsulated, reusable business logic created using event rules, rather than C programming. NERs are also called business function event rules. NERs can be reused in multiple places by multiple programs. This modularity lends itself to streamlining, reusability of code, and less work.
<b><i>nota fiscal</i></b>	In Brazil, a legal document that must accompany all commercial transactions for tax purposes and that must contain information required by tax regulations.
<b><i>nota fiscal factura</i></b>	In Brazil, a <i>nota fiscal</i> with invoice information. See also <i>nota fiscal</i> .

<b>Object Configuration Manager (OCM)</b>	In JD Edwards EnterpriseOne, the object request broker and control center for the runtime environment. OCM keeps track of the runtime locations for business functions, data, and batch applications. When one of these objects is called, OCM directs access to it using defaults and overrides for a given environment and user.
<b>Object Librarian</b>	A repository of all versions, applications, and business functions reusable in building applications. Object Librarian provides check-out and check-in capabilities for developers, and it controls the creation, modification, and use of JD Edwards EnterpriseOne objects. Object Librarian supports multiple environments (such as production and development) and enables objects to be easily moved from one environment to another.
<b>Object Librarian merge</b>	A process that blends any modifications to the Object Librarian in a previous release into the Object Librarian in a new release.
<b>Open Data Access (ODA)</b>	An interoperability model that enables you to use SQL statements to extract JD Edwards EnterpriseOne data for summarization and report generation.
<b>Output Stream Access (OSA)</b>	An interoperability model that enables you to set up an interface for JD Edwards EnterpriseOne to pass data to another software package, such as Microsoft Excel, for processing.
<b>package</b>	JD Edwards EnterpriseOne objects are installed to workstations in packages from the deployment server. A package can be compared to a bill of material or kit that indicates the necessary objects for that workstation and where on the deployment server the installation program can find them. It is point-in-time snapshot of the central objects on the deployment server.
<b>package build</b>	<p>A software application that facilitates the deployment of software changes and new applications to existing users. Additionally, in JD Edwards EnterpriseOne, a package build can be a compiled version of the software. When you upgrade your version of the ERP software, for example, you are said to take a package build.</p> <p>Consider the following context: “Also, do not transfer business functions into the production path code until you are ready to deploy, because a global build of business functions done during a package build will automatically include the new functions.” The process of creating a package build is often referred to, as it is in this example, simply as “a package build.”</p>
<b>package location</b>	The directory structure location for the package and its set of replicated objects. This is usually \\deployment server\release\path_code\package\package name. The subdirectories under this path are where the replicated objects for the package are placed. This is also referred to as where the package is built or stored.
<b>Package Workbench</b>	An application that, during the Installation Workbench process, transfers the package information tables from the Planner data source to the system-release number data source. It also updates the Package Plan detail record to reflect completion.
<b>planning family</b>	A means of grouping end items whose similarity of design and manufacture facilitates being planned in aggregate.
<b>preference profile</b>	The ability to define default values for specified fields for a user-defined hierarchy of items, item groups, customers, and customer groups.
<b>print server</b>	The interface between a printer and a network that enables network clients to connect to the printer and send their print jobs to it. A print server can be a computer, separate hardware device, or even hardware that resides inside of the printer itself.
<b>pristine environment</b>	A JD Edwards EnterpriseOne environment used to test unaltered objects with JD Edwards EnterpriseOne demonstration data or for training classes. You must have this environment so that you can compare pristine objects that you modify.



<b>processing option</b>	A data structure that enables users to supply parameters that regulate the running of a batch program or report. For example, you can use processing options to specify default values for certain fields, to determine how information appears or is printed, to specify date ranges, to supply runtime values that regulate program execution, and so on.
<b>production environment</b>	A JD Edwards EnterpriseOne environment in which users operate EnterpriseOne software.
<b>production-grade file server</b>	A file server that has been quality assurance tested and commercialized and that is usually provided in conjunction with user support services.
<b>program temporary fix (PTF)</b>	A representation of changes to JD Edwards EnterpriseOne software that your organization receives on magnetic tapes or disks.
<b>project</b>	In JD Edwards EnterpriseOne, a virtual container for objects being developed in Object Management Workbench.
<b>promotion path</b>	<p>The designated path for advancing objects or projects in a workflow. The following is the normal promotion cycle (path):</p> <p>11&gt;21&gt;26&gt;28&gt;38&gt;01</p> <p>In this path, <i>11</i> equals new project pending review, <i>21</i> equals programming, <i>26</i> equals QA test/review, <i>28</i> equals QA test/review complete, <i>38</i> equals in production, <i>01</i> equals complete. During the normal project promotion cycle, developers check objects out of and into the development path code and then promote them to the prototype path code. The objects are then moved to the productions path code before declaring them complete.</p>
<b>proxy server</b>	A server that acts as a barrier between a workstation and the internet so that the enterprise can ensure security, administrative control, and caching service.
<b>published table</b>	Also called a master table, this is the central copy to be replicated to other machines. Residing on the publisher machine, the F98DRPUB table identifies all of the published tables and their associated publishers in the enterprise.
<b>publisher</b>	The server that is responsible for the published table. The F98DRPUB table identifies all of the published tables and their associated publishers in the enterprise.
<b>pull replication</b>	One of the JD Edwards EnterpriseOne methods for replicating data to individual workstations. Such machines are set up as pull subscribers using JD Edwards EnterpriseOne data replication tools. The only time that pull subscribers are notified of changes, updates, and deletions is when they request such information. The request is in the form of a message that is sent, usually at startup, from the pull subscriber to the server machine that stores the F98DRPCN table.
<b>QBE</b>	An abbreviation for query by example. In JD Edwards EnterpriseOne, the QBE line is the top line on a detail area that is used for filtering data.
<b>real-time event</b>	A service that uses system calls to capture JD Edwards EnterpriseOne transactions as they occur and to provide notification to third-party software, end users, and other JD Edwards EnterpriseOne systems that have requested notification when certain transactions occur.
<b>refresh</b>	A function used to modify JD Edwards EnterpriseOne software, or subset of it, such as a table or business data, so that it functions at a new release or cumulative update level, such as B73.2 or B73.2.1.
<b>replication server</b>	A server that is responsible for replicating central objects to client machines.
<b>quote order</b>	In JD Edwards Procurement and Subcontract Management, a request from a supplier for item and price information from which you can create a purchase order.

	In JD Edwards Sales Order Management, item and price information for a customer who has not yet committed to a sales order.
<b>selection</b>	Found on JD Edwards EnterpriseOne menus, a selection represents functions that you can access from a menu. To make a selection, type the associated number in the Selection field and press Enter.
<b>Server Workbench</b>	An application that, during the Installation Workbench process, copies the server configuration files from the Planner data source to the system-release number data source. It also updates the Server Plan detail record to reflect completion.
<b>spot rate</b>	An exchange rate entered at the transaction level. This rate overrides the exchange rate that is set up between two currencies.
<b>Specification merge</b>	A merge that comprises three merges: Object Librarian merge, Versions List merge, and Central Objects merge. The merges blend customer modifications with data that accompanies a new release.
<b>specification</b>	A complete description of a JD Edwards EnterpriseOne object. Each object has its own specification, or name, which is used to build applications.
<b>Specification Table Merge Workbench</b>	An application that, during the Installation Workbench process, runs the batch applications that update the specification tables.
<b>store-and-forward</b>	The mode of processing that enables users who are disconnected from a server to enter transactions and then later connect to the server to upload those transactions.
<b>subscriber table</b>	Table F98DRSUB, which is stored on the publisher server with the F98DRPUB table and identifies all of the subscriber machines for each published table.
<b>supplemental data</b>	<p>Any type of information that is not maintained in a master file. Supplemental data is usually additional information about employees, applicants, requisitions, and jobs (such as an employee's job skills, degrees, or foreign languages spoken). You can track virtually any type of information that your organization needs.</p> <p>For example, in addition to the data in the standard master tables (the Address Book Master, Customer Master, and Supplier Master tables), you can maintain other kinds of data in separate, generic databases. These generic databases enable a standard approach to entering and maintaining supplemental data across JD Edwards EnterpriseOne systems.</p>
<b>table access management (TAM)</b>	The JD Edwards EnterpriseOne component that handles the storage and retrieval of use-defined data. TAM stores information, such as data dictionary definitions; application and report specifications; event rules; table definitions; business function input parameters and library information; and data structure definitions for running applications, reports, and business functions.
<b>Table Conversion Workbench</b>	An interoperability model that enables the exchange of information between JD Edwards EnterpriseOne and third-party systems using non-JD Edwards EnterpriseOne tables.
<b>table conversion</b>	An interoperability model that enables the exchange of information between JD Edwards EnterpriseOne and third-party systems using non-JD Edwards EnterpriseOne tables.
<b>table event rules</b>	Logic that is attached to database triggers that runs whenever the action specified by the trigger occurs against the table. Although JD Edwards EnterpriseOne enables event rules to be attached to application events, this functionality is application specific. Table event rules provide embedded logic at the table level.
<b>terminal server</b>	A server that enables terminals, microcomputers, and other devices to connect to a network or host computer or to devices attached to that particular computer.

<b>three-tier processing</b>	The task of entering, reviewing and approving, and posting batches of transactions in JD Edwards EnterpriseOne.
<b>three-way voucher match</b>	In JD Edwards Procurement and Subcontract Management, the process of comparing receipt information to supplier's invoices to create vouchers. In a three-way match, you use the receipt records to create vouchers.
<b>transaction processing (TP) monitor</b>	A monitor that controls data transfer between local and remote terminals and the applications that originated them. TP monitors also protect data integrity in the distributed environment and may include programs that validate data and format terminal screens.
<b>transaction set</b>	An electronic business transaction (electronic data interchange standard document) made up of segments.
<b>trigger</b>	One of several events specific to data dictionary items. You can attach logic to a data dictionary item that the system processes automatically when the event occurs.
<b>triggering event</b>	A specific workflow event that requires special action or has defined consequences or resulting actions.
<b>two-way voucher match</b>	In JD Edwards Procurement and Subcontract Management, the process of comparing purchase order detail lines to the suppliers' invoices to create vouchers. You do not record receipt information.
<b>User Overrides merge</b>	Adds new user override records into a customer's user override table.
<b>variance</b>	<p>In JD Edwards Capital Asset Management, the difference between revenue generated by a piece of equipment and costs incurred by the equipment.</p> <p>In JD Edwards EnterpriseOne Project Costing and JD Edwards EnterpriseOne Manufacturing, the difference between two methods of costing the same item (for example, the difference between the frozen standard cost and the current cost is an engineering variance). Frozen standard costs come from the Cost Components table, and the current costs are calculated using the current bill of material, routing, and overhead rates.</p>
<b>Version List merge</b>	The Versions List merge preserves any non-XJDE and non-ZJDE version specifications for objects that are valid in the new release, as well as their processing options data.
<b>visual assist</b>	Forms that can be invoked from a control via a trigger to assist the user in determining what data belongs in the control.
<b>vocabulary override</b>	An alternate description for a data dictionary item that appears on a specific JD Edwards EnterpriseOne form or report.
<b>wchar_t</b>	An internal type of a wide character. It is used for writing portable programs for international markets.
<b>web application server</b>	A web server that enables web applications to exchange data with the back-end systems and databases used in eBusiness transactions.
<b>web server</b>	A server that sends information as requested by a browser, using the TCP/IP set of protocols. A web server can do more than just coordination of requests from browsers; it can do anything a normal server can do, such as house applications or data. Any computer can be turned into a web server by installing server software and connecting the machine to the internet.
<b>Windows terminal server</b>	A multiuser server that enables terminals and minimally configured computers to display Windows applications even if they are not capable of running Windows software themselves. All client processing is performed centrally at the Windows

terminal server and only display, keystroke, and mouse commands are transmitted over the network to the client terminal device.

<b>workbench</b>	A program that enables users to access a group of related programs from a single entry point. Typically, the programs that you access from a workbench are used to complete a large business process. For example, you use the JD Edwards EnterpriseOne Payroll Cycle Workbench (P07210) to access all of the programs that the system uses to process payroll, print payments, create payroll reports, create journal entries, and update payroll history. Examples of JD Edwards EnterpriseOne workbenches include Service Management Workbench (P90CD020), Line Scheduling Workbench (P3153), Planning Workbench (P13700), Auditor's Workbench (P09E115), and Payroll Cycle Workbench.
<b>work day calendar</b>	In JD Edwards EnterpriseOne Manufacturing, a calendar that is used in planning functions that consecutively lists only working days so that component and work order scheduling can be done based on the actual number of work days available. A work day calendar is sometimes referred to as planning calendar, manufacturing calendar, or shop floor calendar.
<b>workflow</b>	The automation of a business process, in whole or in part, during which documents, information, or tasks are passed from one participant to another for action, according to a set of procedural rules.
<b>workgroup server</b>	A server that usually contains subsets of data replicated from a master network server. A workgroup server does not perform application or batch processing.
<b>XAPI events</b>	A service that uses system calls to capture JD Edwards EnterpriseOne transactions as they occur and then calls third-party software, end users, and other JD Edwards EnterpriseOne systems that have requested notification when the specified transactions occur to return a response.
<b>XML CallObject</b>	An interoperability capability that enables you to call business functions.
<b>XML Dispatch</b>	An interoperability capability that provides a single point of entry for all XML documents coming into JD Edwards EnterpriseOne for responses.
<b>XML List</b>	An interoperability capability that enables you to request and receive JD Edwards EnterpriseOne database information in chunks.
<b>XML Service</b>	An interoperability capability that enables you to request events from one JD Edwards EnterpriseOne system and receive a response from another JD Edwards EnterpriseOne system.
<b>XML Transaction</b>	An interoperability capability that enables you to use a predefined transaction type to send information to or request information from JD Edwards EnterpriseOne. XML transaction uses interface table functionality.
<b>XML Transaction Service (XTS)</b>	Transforms an XML document that is not in the JD Edwards EnterpriseOne format into an XML document that can be processed by JD Edwards EnterpriseOne. XTS then transforms the response back to the request originator XML format.
<b>Z event</b>	A service that uses interface table functionality to capture JD Edwards EnterpriseOne transactions and provide notification to third-party software, end users, and other JD Edwards EnterpriseOne systems that have requested to be notified when certain transactions occur.
<b>Z table</b>	A working table where non-JD Edwards EnterpriseOne information can be stored and then processed into JD Edwards EnterpriseOne. Z tables also can be used to retrieve JD Edwards EnterpriseOne data. Z tables are also known as interface tables.
<b>Z transaction</b>	Third-party data that is properly formatted in interface tables for updating to the JD Edwards EnterpriseOne database.

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