



EnterpriseOne Server and Workstation Administration 8.9 PeopleBook

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Overview to Server and Workstation Administration

Configurable Networking Computing (CNC) specialists, ERP 9.0 system administrators, and network/server administrators use the guides that comprise the Configuration Planning and Setup suite. Throughout these guides, we assume that the initial ERP 9.0 installation is complete and the standard data sources, path codes, and environments are defined. These guides tell you how to make changes or additions to the configuration setup after the initial installation.

The Configuration Planning and Setup suite consists of the following guides:

- *Configurable Network Computing Implementation Guide*

Intended primarily for CNC specialists, this guide contains the following information:

- Understanding middleware and verifying that you have specified the correct middleware for your servers
- Understanding data sources and verifying that the necessary ones have been created
- Understanding and creating path codes and environments
- Working with the Object Configuration Manager
- Understanding the different modes of processing
- Understanding a typical ERP 9.0 customer configuration

- *System Administration Guide*

Intended for ERP 9.0 system administrators, this guide contains the following information:

- Understanding and setting up data replication
- Setting up printers
- Using the Work with Servers program
- Setting up user profiles
- Setting up ERP 9.0 security
- Understanding and working with data dictionary administration
- Understanding vocabulary overrides
- Understanding transaction processing
- Working with media objects and imaging
- Using the universal table browser
- Understanding ERP 9.0 naming conventions
- Understanding the jde.ini file

- *Package Management Guide*

Intended for ERP 9.0 system administrators and others who manage custom modifications to the ERP 9.0 environments, this guide contains the following information:

- Package management planning and setup

- ERP 9.0 modification rules
- Object management
- Building packages
- Deploying packages
- Server packages
- Multi-tier deployment
- *Server and Workstation Administration Guide*

Written primarily for ERP 9.0 network administrators, this guide contains the following information:

- Understanding Snapshot (multi-client installer)
- Server administration
- Troubleshooting the workstation
- Troubleshooting the server

Although every attempt has been made to organize the information in these guides according to related tasks, a CNC specialist, ERP 9.0 administrator, or network administrator might find that the information needed to perform that position is described in more than one guide. For example, the person responsible for setting up path codes, environments, and data sources (described in the *Configurable Network Computing Implementation Guide*) might also be responsible for building and deploying packages (described in the *Package Management Guide*).

The Configuration Planning and Setup suite is the central location for all configuration-related tasks except:

- Initial installation of ERP 9.0.
- ERP 9.0 upgrade and cumulative updates.
- Network infrastructure and third-party software setup and maintenance. The applicable software or hardware vendor provides this information. J.D. Edwards does not provide documentation but does provide the following documents on the Knowledge Garden:
 - *ERP 9.0 and Microsoft System Management Server Technology Considerations*
 - *ERP 9.0 and Tivoli TME 10 Technology Considerations*
 - *ERP 9.0 and BMC Software PATROL Technology Considerations*

Understanding ERP 9.0 Roles

The ERP 9.0 implementation methodology defines the following specific roles:

- CNC consultant and CNC administrator
- Custom solution consultant and application developers
- Application consultants and application project leaders
- Hardware, network, and third-party software consultants and administrators

Each of these roles is performed by both a consultant and a customer. After implementation, the role of the consultant is diminished. Therefore, it is critical that the customer ensures that adequate training occurs for each of the roles to be assumed by his or her personnel.

Custom Solution Consultant and Application Developers

ERP 9.0 custom solution consultants resolve business issues by developing applications. Their primary responsibilities include designing the modifications with upgrades in mind and developing, testing, and introducing the customized software. While the CNC administrator performs the version control functions that build and deploy software, the customer solution consultant must help to develop the internal procedures for application development cycle for your business.

Application Consultants and Application Project Leaders

After a release is installed, configured, and rolled out, the application consultants will continue in their role as product experts. Although application consultants do not implement the configurations, they must understand how the software handles distributed processing, data replication, environments, and so on, because these application issues influence the configuration decisions. In addition, application consultants must become good at troubleshooting potential problems.

CNC Consultant and CNC Administrator

The CNC consultant and CNC administrator are involved with the installation of ERP 9.0 and the setup of environments, users, security, distributed processing, and data replication. They are also responsible for the setup of version control and testing of various CNC configurations. The CNC consultant and CNC administrator control the deployment of ERP 9.0 software throughout the company.

Hardware, Network, and Third-Party Software Consultants and Administrators

Implementing ERP 9.0 includes many tasks that are outside the scope of J.D. Edwards services. Third-party consultants provide these services, as well as supplementing our staff as CNC consultants, network architects, custom modification consultants, and so on.

Understanding the Server and Workstation Administration Guide

Although this guide targets ERP 9.0 network administrators, those with other job functions might find the information useful or essential to their positions as well.

The *Server and Workstation Administration Guide* focuses on how to do the following:

- Use the flexibility of the CNC architecture to optimize the ERP 9.0 installation to your enterprise
- Extend an initial installation (CRP) to meet practical requirements
- Recognize, address, and solve daily issues that arise in a dynamic enterprise

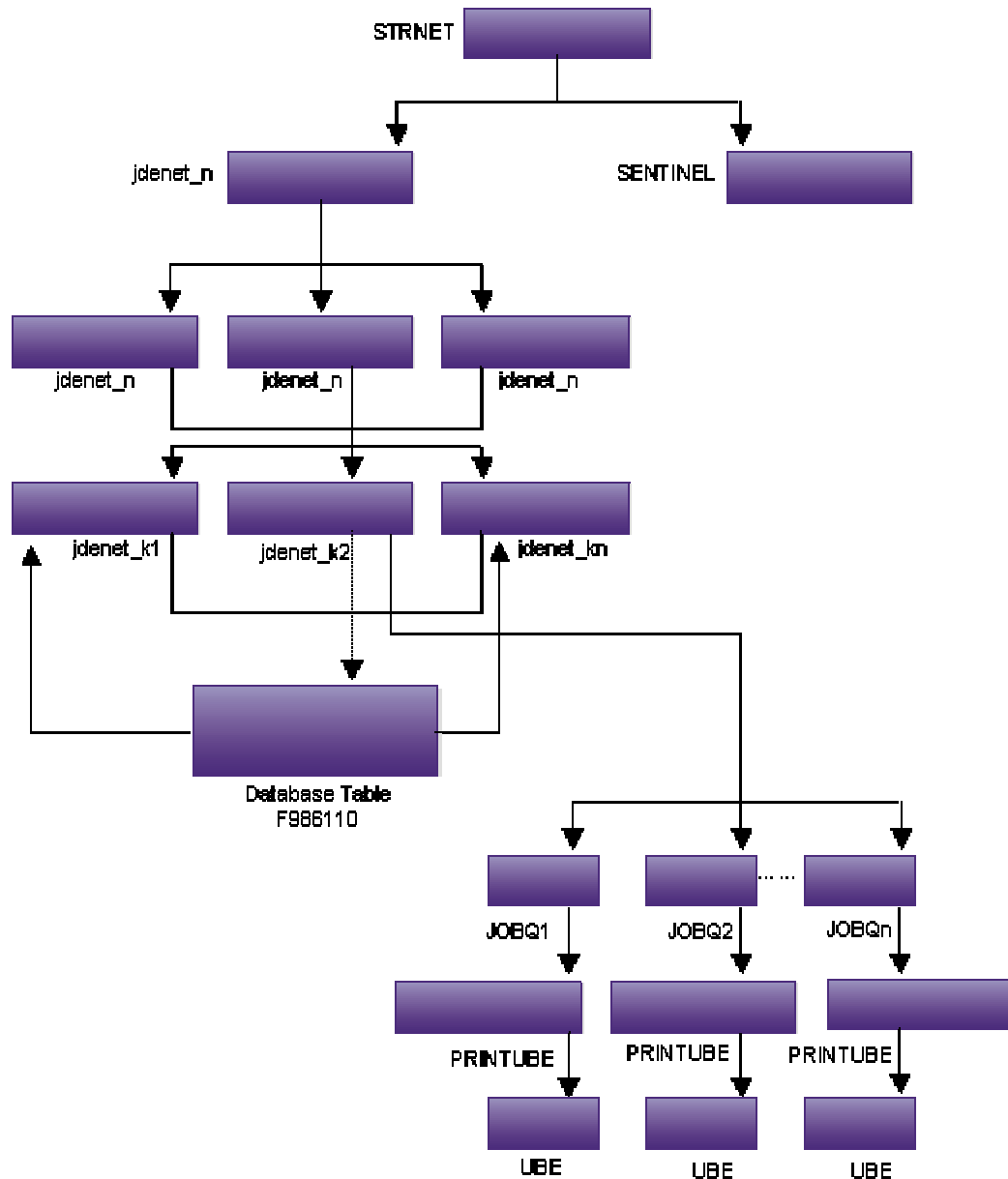
Server Administration - AS/400

J.D. Edwards supports ERP 9.0 enterprise servers on the AS/400 platform. The AS/400 enterprise server can operate in a logic server or database server environment. You need to perform certain administration procedures on your enterprise server to ensure that ERP 9.0 will run properly.

Understanding the ERP 9.0 AS/400 Architecture and Process Flow for AS/400

The following host server processes perform the indicated actions shown in the following graphic:

AS/400® Host Server Processes



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. JDENET_N and jdequeue communicate using the F986110 database table.

The process flow is explained below:

1. An AS/400 JDENET job starts.
 - Executing the ERP 9.0 AS/400 STRNET command results in a single JDENET_N job starting and a SENTINEL job starting in a newly started subsystem. The JDENET_N job handles the communications requests. The SENTINEL job monitors the number of JDB_x programs that are available and in use. The JDB_x programs ensure commitment control is correctly scoped. A SENTINEL job should always be running while ERP 9.0 JDENET is active.
 - Each time a processing request (such as a UBE or business function) is submitted to the server and all previously started NET processes are busy, ERP 9.0 starts another JDENET_N job in the same subsystem until the number of JDENET_N jobs equals the maxNetProcesses field value in the [JDENET] section of the .INI file.
 - Each time a request to the server is submitted, a JDENET_N job may start another JDENET_K job until the number of JDENET_K jobs equals the maxKernelProcesses field value in the [JDENET] section of the .INI file.
2. When a user submits a batch application or a server package installation, JDENET_N (as part of the host server) communicates with the client and the following actions occur:
 - The host server programs are B9SYS/JDENET_N.
 - The client environment is initialized.
 - The client tells the host server (using a socket) to initialize its environment.
 - The host server (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 or deploys the server package installation. It then sends data to the host server (using a socket).
 - If the maximum number of kernel (JDENET_K; the K stands for Kernel) jobs is not met, JDENET_N may start a new JDENET_K job.
 - If the maximum number of JDENET_K jobs is met, JDENET_N will put the message in a queue for each waiting JDENET_K job.
 - The client frees the user environment.
 - The client tells the host server (using a socket) to free the server's user environment.
 - The host server frees its user environment.
3. JDENET_K performs the requested action.
4. Messages from JDENET_K are passed back to the request ERP 9.0 client workstation or ERP 9.0 server via JDENET_N.
5. If a request to run a batch process is submitted, the following events occur:
 - JDENET_K adds a record to the F986110 database table with a status of W for waiting.
 - JDENET_K submits a job to the AS/400 queue. This job calls the ERP 9.0 program PRINTUBE on the AS/400 enterprise server.
 - The PRINTUBE process runs the batch application.

- PRINTUBE changes the status in the F986110 table to P for processing.
- If the batch application runs successfully, ERP 9.0 changes the status in the F986110 table to D for done.
- If the batch application fails, ERP 9.0 changes the status in the F986110 table to E for error.

Understanding ERP 9.0 Initialization for AS/400

The following ERP 9.0 initialization occurs when starting ERP 9.0 programs (for example, PRINTUBE):

- The ONEWORLD environment name is passed as an argument to the program.
- This environment can be translated to a different environment based on the settings in the [SERVER ENVIRONMENT MAP] section of the .INI.
- 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 - One World table (F00941).
- The Library .INI file setting in the [DB SYSTEM SETTINGS] section is used to determine where the ERP 9.0 server startup tables are located (for example, F98611, F986101, and so on).
- Using the above information, the server's F986101 (OCM) table in the specified database is opened.
- If an override for a given table, BSFN, and so on, or the current user exists, that data source (OMDATP column in the F986101 table) is used for the given object or user and environment. Otherwise, the data source where OMOBNM=DEFAULT for the given environment is used. Ignore any inactive records (that is, OMSTSO=NA). J.D. Edwards *highly* recommends that you do not have any default (OMOBNM=DEFAULT) records for reports (OMFUNO=UBE) or for BSFNs 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 show the correct SRVPGM (.DLL) for the database to which the data source points:
 - DBDR for files located on the AS/400 enterprise server
 - JDBNET for files not located on the AS/400 enterprise server

Starting the Enterprise Server for AS/400

You can start the ERP 9.0 enterprise server for the AS/400 either manually or automatically.

Before You Begin

- ❑ These procedures assume that ERP 9.0 has been properly installed as described in the *ERP 9.0 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 clean. If you do not run this command prior to starting a server, the startup process will fail.

Understanding the AS/400 Library Structure for ERP 9.0

You can set up an initial program to create the library list. Also, you should add the following library to the top of your library list before you start ERP 9.0 on the enterprise server: *releaseSYS* (or your system library name). The variable “release” is the ERP 9.0 release level (for example, B9SYS).

The *releaseSYS* library contains the following:

File Type	Description

INI	Identifies the <code>jde.ini</code> file used to initialize ERP 9.0 on the AS/400 enterprise server.
*PGM and *SRVPGM	The various programs and service programs required to run the ERP 9.0 AS/400 enterprise server.
*MODULE	The objects used to create ERP 9.0 database programs that ERP 9.0 uses to interface with DB2/400.
H (*FILE)	The file containing ERP 9.0 header file members required to build new objects on the ERP 9.0 AS/400 enterprise server.
JDE_HP4PS (*WSCST)	The workstation customization file used to transform the EBCDIC PostScript file to ASCII for auto-detecting PostScript printers.
CHGLIBOWN (*CMD)	An ERP 9.0 utility command used to change ownership of all objects contained in a library.
SHOW (*CMD)	An ERP 9.0 utility command used to show runtime output.
UPDLF (*CMD)	An ERP 9.0 utility command used to modify the maintenance attribute of logical files.
DPSPSTMF (*CMD)	Display Stream File is used to display AS/400 Integrated File System (IFS) text stream files. The ERP 9.0 log files, JDE.LOG and JDEDEBUG.LOG, typically reside in a directory called JDE<i>release</i>, where “release” represents the ERP 9.0 release; for example, /JDEB9.
LINKBSFN (*CMD)	A command used to re-link business functions to their respective service programs (*SRVPGM). Typically, the system uses this command during an upgrade of the ERP 9.0 system library.
PID2JOB (*CMD)	The Convert Process ID to Job command 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 only returns job information while the job is still active.
PORTTEST (*CMD)	This command runs the ERP 9.0 test program PORTTEST.
RUNUBE (*CMD)	Command used to interactively run a UBE. If you need to run a batch UBE, use the SBMJOB command to submit the RUNUBE command to batch.
SAW (*CMD)	Command used to start the Server Administration Workbench.
QXTSRV (*FILE)	The file containing the source for the workstation customization object for auto-detecting PostScript.
PRINTQUEUE (*FILE)	The file containing the UBE output. This output is stored as ASCII PDF members.
*PGM and *SRVPGM	The programs and server programs required to run the ERP 9.0 network.

JDENET (*JOBQ)	The job queue used by the ERP 9.0 AS/400 network jobs.
NETJOB (*JOBQ)	The job description used by ERP 9.0 AS/400 network jobs.
DBMONJOB (*JOBQ)	The job description used by the database to monitor jobs.
JDENET (*CLS)	The class used to create the routing entry for the JDENET subsystem.
ENDNET (*CMD)	The command to end the ERP 9.0 AS/400 network jobs and clean up the network runtime structures.
IPCS (*CMD)	The utility command used to determine the status of objects used by the ERP 9.0 AS/400 network jobs and as a backup method for cleaning up the IPCS objects.
STRNET (*CMD)	The command to start the ERP 9.0 AS/400 network jobs.
CLRIPC (*CMD)	The command used to clear IPC structures.
DSPIPC (*CMD)	The command used to display IPC structures.
JDErelease (*SBSD)	The variable <i>release</i> is the ERP 9.0 release level (for example, JDEB9). This is the subsystem description under which the ERP 9.0 network jobs run.

Manually Starting the Enterprise Server for AS/400

You manually start the enterprise server for AS/400 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.

► To manually start the enterprise server for AS/400

1. Sign on to the AS/400 as ONEWORLD.
2. Start JDENet using the following command:

```
STRNET
```

3. Start the PORTTEST program using the following command to verify that the basic ERP 9.0 enterprise server software was correctly installed:

```
PORTTEST userID password environment
```

Where *userID* represents the ERP 9.0 AS/400 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 ERP 9.0 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 shown below:

```
Running porttest for JDESVR on M733ASD2 with password JDESVR
Initializing Environment M733ASD2,...
Environment M733ASD2 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 M733ASD2,...
Cleaned up environment M733ASD2 successfully.
Congratulations! Porttest completed successfully.
All Done!
BYE!
```

If the table in the environment that you specified is empty, the total number of rows printed will equal zero.

4. Enter the following command:


```
WRKACTJOB SBS(JDErelease)
```

WRKACTJOB SBS(JDE*release*)

The variable *release* is the ERP release level of your site (for example, JDEB9).

5. Verify 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).

The STRNET command also starts a second job called SENTINEL. SENTINEL monitors the number of JDB_x programs that exist and are available, where x is an integer. The JDB_x programs connect to the AS/400 database (DB2) and monitor commitment control. Information regarding the number of these programs that is available and in use resides in a user space called JDE_PGMCTL (*USRSPC). When ERP 9.0 starts JDENET for the first time, the system creates these programs based on .INI file settings.

► To automatically start the enterprise server for AS/400

1. Create a CL program.

You will use this program to establish the appropriate ERP 9.0 library list and execute the command to start the ERP 9.0 AS/400 server job (JDENET).

The CL program should be similar to:

```
PGM
CHGLIBL LIBL(B9SYS QTEMP QGPL)
STRNET
ENDPGM
```

2. Identify and modify the program called during the AS/400 IPL to submit a job to call the program described above.

The program name and location are set in the AS/400 system value, QSTRUPPGM.

3. Determine the QSTRUPPGM value by entering the following command:

```
DSPSYSVAL SYSVAL(QSTRUPPGM)
```

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

```
DSPPGM LIBRARY/PROGRAM NAME
```

5. Modify the source of the startup library/program by inserting a SBMJOB command calling 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.

J.D. Edwards recommends that you separate the ERP 9.0 add library list entry (ADDLIBL) and startup (STRNET) commands from the AS/400 startup program. You should create a

separate ERP 9.0 startup program and call that program from the AS/400 startup program. This action ensures that commands subsequent to the ERP 9.0 add library list entry and startup are not associated with the modified library list. Following this recommendation also ensures that your ERP 9.0 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 ERP 9.0 startup commands on the AS/400.

Shutting Down the Enterprise Server for AS/400

You can manually shut down the enterprise server for the AS/400.

Before You Begin

- ❑ Ensure that your library is set correctly before performing this command. See *Understanding the AS/400 Library Structure for ERP 9.0* in the *Server and Workstation Guide*.

► To shut down the enterprise server for AS/400

From an AS/400 console, end JDENet using the following command:

ENDNET

This command is in the system library. For example, B9SYS causes ERP 9.0 to end the JDENet jobs and clean up all JDENet runtime structures.

Using AS/400 Integrated File System Logging Support

To achieve better performance and to allow easier access to log files from the workstation, ERP 9.0 generates log files for the AS/400 in the Integrated File System (IFS) rather than the traditional file system on the AS/400.

With IFS, ERP 9.0 generates log files as stream files (STMF) in an IFS directory based on the AS/400 `jde.ini` file settings.

Example: Easy Access to Log Files

The following examples illustrate how to modify the jde.ini file to allow easier access to log files from the workstation.

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

ERP 9.0 generates log files in the IFS root directory.

```
[DEBUG]
DebugFile=/jdeb9_a/jdedebug
JobFile=/jdeb9_a/jde.log
ERP 9.0 generates log files in the IFS directory called "/jdeb9_a."
```

Note

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

► To view log files on the AS/400

From an AS/400 console, enter either of the following commands:

- WRKLNK to show directory and stream files in the IFS. Page up and down to locate the log files.
- DSPSTMF (shipped with ERP 9.0 in the SYSTEM library) to view the IFS stream file.

For example, DSPSTMF STMF('/jdeb9_a/jdedebug_248135.log').

Cleaning Up the Enterprise Server for AS/400

If ERP 9.0 ends abnormally, you might need to manually perform clean up tasks on the AS/400 enterprise server. It is possible that IPC (Inter-Process Communication) structures might not be cleaned up following an execution of ENDNET, which might cause further problems trying to 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 in order to perform a successful clean up.

The ERP 9.0 AS/400 server is shipped with the DSPIPC and CLRIPC commands, which allow 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 jdedebug files. This action keeps the files from becoming too large and clears out old messages.

Caution

You should never clear IPC structures unless you are ready to restart the JDENet process.

Before You Begin

- ❑ Ensure that your library list is correct before executing the following 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 using the range of 9000 to 9999.

► To clean up the Enterprise server for AS/400

From an AS/400 command line, enter the following IPCS commands:

```
DSPIPC
```

```
CLRIPC
```

► To clear the jde.log and jdedebug files for AS/400

1. To clear the JDE.LOG stream files, enter the command:

```
DEL `/JDErelease/jde_*'
```

Where *release* is the ERP release, for example, JDEB9.

2. To clear the JDEDEBUG log, enter the command:

```
DEL `/JDErelease/jdedebug_*'
```

Where *release* is the ERP release, for example, JDEB9.

Setting Up a Printer for AS/400

For printing, ERP 9.0 AS/400 servers generate PostScript, PCL, or line printer reports. The line printer OUTQ configuration is similar to most typical AS/400 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

- ❑ *Working with the Printers Application* in the *System Administration Guide* for more information about setting up printers

► To create the OUTQ

Enter the following of commands:

```
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 your printer for additional information. For example, you must set this parameter to "PASS" for the IBM Network Printer 4317.

► To start the OUTQ

1. Enter the command:

```
STRMTWTR outqname
```

For example:

```
STRMTWTR QGPL/JDE_HP4PSB
```

2. You might have to release the outqueue before using it. If so, enter the following command:

```
RLSOUTQ outqname
```

For example:

```
DEL '/JDErelease
```

Where *release* is the ERP 9.0 release, for example, JDEB9.

Printing Multiple Copies to a Remote Printer

This task is necessary only if 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.

► To 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.
4. Your output queue should now be able to send multiple copies of your documents to the remote printer.

Administering Batch Processes for AS/400

Administering batch processes involves knowing what processes run when ERP 9.0 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 AS/400. The first subsystem, JDEB9, is created during the installation process and is responsible for running the ERP 9.0 net and kernel processes. QBATCH is the default subsystem that jobs run in, but you can use other subsystems to distribute the workload.

► To monitor batch processes

1. Log on to the AS/400 enterprise server using an administrative account.
2. Enter the following command, substituting Subsystem with the appropriate subsystem name:

```
WRKACTJOB SBS (Subsystem)
```

For WRKACTJOB SBS(JDEB9), the output appears similar to the following example:

```
Work with Active Jobs                                JDED
CPU %: 41.6    Elapsed time: 00:09:10    02/22/97 08:40:21
Active jobs: 261
Type options, press Enter
2=Change 3=Hold 4=End 5=Work with 6=Release 7=Display message
8=Work with spooled files 13=Disconnect ...
Opt Subsystem/Job User      Type CPU % Function      Status
JDEB733      QSYS      SBS      .0      PGM-JDENET_N    DEQW
NETWORK      ONEWORLD    BCH      .6      PGM-JDENET_N    SELW
NETWORK      ONEWORLD    BCI      .4      PGM-JDENET_N    DEQW
```

This output shows that two NETWORK processes are running.

When you send a batch process report to an AS/400 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.

For WRKACTJOB SBS(QBATCH), the output appears similar to the following example:

```
Work with Active Jobs                                JDED
CPU %: 41.6    Elapsed time: 00:09:10    02/22/97 08:40:21
Active jobs: 261
Type options, press Enter.
2=Change 3=Hold 4=End 5=Work with 6=Release 7=Display message
8=Work with spooled files 13=Disconnect ...
Opt Subsystem/Job User      Type CPU % Function      Status
QBATCH      QSYS      SBS      .0      PGM-PRINTUBE    DEQW
R0006P      ONEWORLD    BCH      1.4      PGM-PRINTUBE    RUN
```

The R0006P job is the actual report running at this time. The program PRINTUBE is the job 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 B9SYS/PRINTQUEUE file.

Reviewing Batch Output Files

If users submit a batch report to run on the AS/400, a corresponding output file is created on the enterprise server. It can then be displayed on the user's workstation when the report is completed or printed on the server.

The default location for Portable Document Format (PDF) files is based on the library name for the system programs. This name is normally B733SYS, but the site installation can override the default setting.

The system library contains a PRINTQUEUE file. This file is the location for PDF report requests. Members are added to this file each time a PDF report is completed.

► To review batch output files

1. Sign on to the AS/400 enterprise server using an administrative account.
2. Enter the following command:

```
WRKMBRPDM B9SYS/PRINTQUEUE
```

Output for this command appears similar to the following example:

```
Work with Members Using PDM          JDED

File . . . . . PRINTQUEUE
Library . . . . . B733SYS          Position to . . . . .

Type options, press Enter.
3=Copy  4=Delete  5=Display  7=Rename  8=Display description
9=Save   13=Change text  18=Change using DFU  25=Find string

Opt Member   Date      Opt Member   Date      Opt Member   Date
F22          02/18/97   F46          02/12/97   F61          02/12/97
F30          02/18/97   F47          02/12/97
F36          02/19/97   F48          02/12/97
F41          02/12/97   F49          02/21/97
F42          02/12/97   F50          02/21/97
F43          02/19/97   F53          02/12/97
F44          02/21/97   F58          02/12/97
F45          02/21/97   F59          02/12/97

Bottom
Parameters or command
===>
F3=Exit      F4=Prompt      F5=Refresh    F6=Create
F9=Retrieve   F10=Command entry F23=More options F24=More keys
```

The naming convention for each member is based on the ERP 9.0 job number, which is a unique number assigned 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 AS/400 assigns to the batch job.

If you submit a batch process report to a specific server, the OUTQ for printing is dependent on the jde.ini file settings for the workstation. You must make the following changes to the workstation and enterprise server jde.ini files:

- Change the default OUTQ specified in the jde.ini file of the enterprise server. This setting is under the [Network Queue Settings] section and is called DefaultPrinterOUTQ. This OUTQ is used if an OUTQ is not passed to the enterprise server from the workstation or if 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 the following manner:

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

Setting SaveOutput to TRUE causes the enterprise server to save the PDF files in B9SYS/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, you should encourage them to periodically delete the entries using the correct ERP 9.0 Job Master Search in the Submitted Reports application (P986116).

Note

To display job numbers, end-user workstations can use the Submitted Reports application (P986116). 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 applications use the Job Master Search form to display job numbers that correspond to member names. You can use either application to delete .PDF files by deleting appropriate entries.

Encoding the Passwords of Users Who Submit Batch Jobs

On the AS/400, when you want to encode user passwords for batch jobs, you need to change settings in the [SECURITY] section of the JDE.INI file.

► To encode passwords of users who submit batch jobs

Change the following setting in the JDE.INI file to FALSE to deactivate encoding:

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


Running Batch Process Reports from the Server Command Line

If you have the proper authority, you can run batch process reports from the server command line.

► To run batch process reports from the server command line

On the command line, enter the following command:

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

Example: Running Reports from the Command Line for AS/400

This example shows a command for executing R0006P batch process report:

```
RUNUBE USER(SF5488324) PASSWORD(PASSWORD) ENVIRON(PD7334)
REPORT(R0006P) VERSION(XJDE0001)
```

This command begins processing version XJDE0001 of the batch process report R0006P in the PD9 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 AS/400

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 the following example:

```
SBMJOB CMD(RUNUBE USER(SF5488324) PASSWORD(PASSWORD) ENVIRON(PD9)
REPORT(R0006P) VERSION(XJDE0001)) SCDDATE(*FRI) SCDTIME(0600)
```

This command schedules the XJDE0001 version of 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 view 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 displayed from this command 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 submitted but not yet run.

Output from the WRKSBMJOB command looks similar to the following example:

```

Work with Submitted Jobs                                JDED
Submitted from . . . . . : *USER                      02/22/97 09:40:47

Type options, press Enter.
 2=Change 3=Hold 4=End 5=Work with 6=Release 7=Display message
 8=Work with spooled files

Opt Job      User      Type      -----Status-----  -----Schedule-----
      R0006P    KL5595218  BATCH    OUTQ
      R0006P    KL5595218  BATCH    OUTQ
      QDFTJOB   KL5595218  BATCH    OUTQ
      QDFTJOB   KL5595218  BATCH    OUTQ
      QDFTJOB   KL5595218  BATCH    SCD                      02/28/97 06:00:00

```

This output shows that a job, QDFTJOB (the default job description), was submitted for batch processing by KL5595218. The status, SCD, means the process is scheduled but not yet run. The schedule date and time indicate when this job is started.

Running Multiple Instances of ERP 9.0 on the AS/400

You might want to run multiple instances of ERP 9.0 on an AS/400 server for the following reasons:

- To test a new service pack
- To upgrade to a new version of ERP 9.0

Note

You cannot use ERP 9.0 Planner to help set up data for multiple instances of ERP 9.0. Be prepared to manually copy data and to set up new Object Configuration Manager (OCM) mappings for each new instance.

Identifying an ERP 9.0 Instance on the AS/400

An ERP 9.0 instance on the AS/400 server is uniquely identified by the following:

- ERP 9.0 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 INI settings you use to uniquely define an ERP 9.0 instance are summarized in the following table:

Section in server jde.ini file	Parameter	Purpose
[INSTALL]	DefaultSystem=	The name of the ERP 9.0 System library. This value must be unique for each ERP 9.0 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 JDE will use for an instance of ERP 9.0.
[JDENET]	ServiceNameListen=	The TCP/IP port number the server uses for receiving communications packets from workstations and/or other ERP 9.0 servers.
[JDENET]	ServiceNameConnect=	The TCP/IP port number the server uses for sending communications packets to workstations and/or other ERP 9.0 servers.
[DBSYSTEM SETTINGS]	Default Env=	The default environment for an instance of ERP 9.0.
[DB SYSTEM SETTINGS]	Default PathCode=	The data source for an instance of ERP 9.0.
[DB SYSTEM SETTINGS]	Library=	The database library that stores the system tables used by ERP 9.0 at startup.

Creating an ERP 9.0 Subsystem on the AS/400

On the AS/400 platform, a subsystem is a logical process that is used to run system jobs, whether they are ERP 9.0 or other application jobs. ERP 9.0 network and kernel jobs run under the AS/400 subsystem, which J.D. Edwards ships with a default description. For example, for OneWorld Xe, the default description is JDEB9. You can use this description without modification if you are running a single instance of ERP 9.0 on the AS/400 server.

If you decide to run multiple instances of ERP 9.0, you need to create a new subsystem with a unique description for each instance of ERP 9.0 that you create. To create a new ERP 9.0 subsystem description, you use the CRTOWSBS command.

Identifying an ERP 9.0 Instance for Applying Security on the AS/400

Additionally, to apply ERP 9.0 security over multiple instances, you use the following items to uniquely identify an instance:

- OCM mappings
- Database
- ERP 9.0 User Profile (owner and default user ID under which ERP 9.0 jobs start)
- Selected INI settings

INI settings you use to uniquely define an ERP 9.0 instance when you are applying security over multiple instances are summarized in the following 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 AS/400.
[DB SYSTEM SETTINGS]	Database	Specifies the name of the database where the system tables reside.
[SECURITY]	DataSource	Specifies the name of the ERP 9.0 data source that contains the security tables, used for user validation.

See Also

- ❑ *Setting Up AS/400 ERP 9.0 Database Security in the Server and Workstation Administration Guide* for more information on securing multiple instances of ERP 9.0

Creating an Instance of ERP 9.0 on the AS/400

To create an instance of ERP 9.0 on the AS/400, complete the following:

- Copy needed libraries and directories and modify the values of selected parameters in the INI library.
- Apply security to multiple instances of ERP 9.0, if you desire to do so.
- Create a new ERP 9.0 subsystem identification.
- Start ERP 9.0 services.

Before You Begin

- ❑ Check to see if enough space exists on the Direct Access Storage Device (DASD) to create a new instance of ERP 9.0.
- ❑ Assess data storage and backup requirements.
- ❑ Consider the procedure you will follow for updating the ERP 9.0 server with new versions of ERP 9.0.
- ❑ 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 ERP 9.0 instance.

For information on creating a new environment, see the section *Working with an Environment* in the *Configurable Network Computing Implementation Guide*.

Copying Libraries and Directories

To create an instance of ERP 9.0 on the AS/400, you copy the following:

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

► To copy libraries and directories

1. End ERP 9.0 services, if necessary.
2. Remove ERP 9.0 security, if necessary.
3. From the AS/400 main menu, copy the ERP 9.0 system library in the QSYS file system by typing the following command:

```
CPYLIB B9SYS B9CST
```

Where B9CST is the name for the system library in the new instance of ERP.

4. From the AS/400 main menu, copy the ERP 9.0 system directory in the IFS by first creating a temporary library with the following command:

```
CRTLIB TEMPLIB
```

5. Create a save file in the temporary library for the system directory by typing the following command:

```
CRTSAVF FILE (TEMPLIB/b9SYS)
```

6. Save the system directory into the save file by typing the following command:

```
SAVE DEV ('/QSYS.LIB/TEMPLIB/B9SYS.FILE') OBJ ((' /B9)) USEOPTBLK(*NO)  
DTACPR(*YES)
```

7. Restore the save file for the system directory to a directory with a new name by typing the following command:

```
RST DEV ('/QSYS.LIB/TEMPLIB/B9SYS.FILE') OBJ ((' /B9sys/*' *INCLUDE/B9cst'))
```

Where B9cst is the name of the new system directory.

Note

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

8. From the AS/400 main menu, copy the path code library in the QSYS file system by typing the following command:

```
CPYLIB PRD9 CST9
```

Where CST9 is the name for the path code library in the new instance of ERP 9.0. 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 ERP 9.0 must be copied to the new directory. You cannot share path code directories between two or more instances of ERP 9.0 as this could cause specification file corruption.

9. From the AS/400 main menu, copy the path code directory in the IFS by first creating a save file in the temporary library using the following command:

```
CRTSAVF FILE(TEMPLIB/PRD9)
```

Note

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

10. Save the path code directory into the save file by typing the following command:

```
SAV DEV('QSYS.LIB/TEMPLIB/PRD9.FILE') OBJ('/prd9/*') USEOPTBLK(*NO)  
DTACPR(*YES)
```

11. Restore the save file for the path code directory to a directory with a new name by typing the following command:

```
RST DEV('QSYS.LIB/TEMPLIB/PRD9.FILE') OBJ('/prd9/*' INCLUDE '/cst9'))
```

Where cst9 is the name of the new path code directory.

12. From the AS/400 main menu, create a ERP 9.0 subsystem from the system library by typing the following command:

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

Where <subsystem name> is the name you give to the ERP 9.0 subsystem for the new instance of ERP 9.0, and <system library> is the name of the ERP 9.0 system library in the QSYS file system for the new instance of ERP 9.0.

Note

You can use the same subsystem for multiple instances of ERP 9.0.

13. Modify the following parameters in the INI library:

```
[INSTALL]
DefaultSystem=<System Library>
[JDEIPC]
startIPCKeyValue=<Unused start key not within another instance'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 ERP 9.0 on the AS/400

If you want to apply security to multiple instances of ERP 9.0, complete the steps in the following task. If you do not, you can follow the steps to create an ERP 9.0 subsystem and start ERP 9.0 service.

Before You Begin

- ❑ For information on securing multiple instances of ERP 9.0, see *Setting Up AS/400 Database Security for Multiple ERP 9.0 Instances* in the *Server and Workstation Administration Guide*.

► To apply security to multiple instances of ERP 9.0 on the AS/400

1. Copy the OCM library.
2. Copy the database libraries, such as SYSB9, B9MAP, and so on.
3. Create a new AS/400 user profile for each new instance of ERP 9.0.
4. From the AS/400 main menu, create a new log path in the IFS by typing the following command:

```
CRTDIR DIR('/B9CSTLOG')
```

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

5. Modify the following 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.

Before You Begin

- ❑ Stop ERP 9.0 services before you run the CRTOWSBS command.
- ❑ For more information on subsystems, see *Working with ERP 9.0 Subsystems* in the *System Administration Guide*.

► To create an ERP 9.0 subsystem on the AS/400

1. From the AS/400 main menu, type the following command, and then press Enter or press the F4 key:

```
CRTOWSBS
```

The CREATE New OneWorld Subsystem (CRTOWSBS) form appears.

2. On the CREATE OneWorld Subsystem form, enter character values for the following parameters and press Enter:
 - SUBSYSTEM
 - SYSLIB

Note

The maximum number of characters allowed for the description of each parameter is 10.

Caution

Be sure the name of the system library matches the name that you created when you copied the ERP 9.0 system library in the QSYS file system.

The CRTOWSBS command creates a new subsystem description in the ERP 9.0 system library and updates the STRNET and ENDNET programs with the new subsystem name as the default parameter.

3. To delete the old subsystem description from the system library, type the following 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 you want to delete and SYSTEM LIBRARY NAME is the system library where the subsystem description is located.

4. In the Work with Objects form, type 4 for Delete and press Enter.

Starting ERP 9.0 Services on the AS/400

You start ERP 9.0 services by clearing IPC memory, using the CLRIPC command, and then running the STRNET command.

► To start ERP 9.0 services on the AS/400

1. From the AS/400 main menu, clear IPC memory by typing the following command:

CLRIPC

2. From the AS/400 main menu, start ERP 9.0 AS/400 services by typing the following command:

STRNET

AS/400 ERP 9.0 Database Security

You can secure profiles and objects for ERP 9.0 on the AS/400 with the Set Up OneWorld Authority (SETOWAUT) command. When you enter this command, a form appears that allows you to enter specific security information for your system. The authority is implemented only on the AS/400 machine where the command is executed.

The SETOWAUT command allows you to set up security for a single instance of ERP 9.0 or for multiple instances of ERP 9.0. If you run multiple instances of ERP 9.0, you can set up separate user profiles for each instance. The SETOWAUT command sets up the authorities for each ERP 9.0 instance, adds profile names to an authorization list, and sets object ownership for each ERP 9.0 instance.

Note

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 ERP 9.0 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 ERP 9.0 objects with the exception of the ONEWORLD library and the objects located within.

The USRAUTL parameter value specifies the administrative authorization list. When you run the SETOWAUT program, the program automatically creates an administrative authorization list that secures the ONEWORLD library and all objects within it.

Any user who will perform basic ERP 9.0 administration (Start, End, Clear IPC, etc.) on the AS/400 must be added to this list. CRTOWADPRF is a supplied command that will add administrative users to this list; RMVOWADPRF is a supplied command that will remove such users from the list.

Whether you want to set up security for one instance of ERP 9.0 or for multiple instances, the Setup OneWorld Authority (SETOWAUT) form appears when you run the SETOWAUT command. However, the parameter values that you enter and the parameter fields that appear in the form differ, depending on what you have decided to do. These parameter differences are explained in the following three tables:

Parameters Present in SETOWAUT Form for Both Single and Multiple Instances of ERP 9.0	Meaning	Value to be Entered for a Single Instance of ERP 9.0	Value to be Entered for Multiple Instances of ERP 9.0
USRPRF	ERP 9.0 User Profile	ERP 9.0	Configurable. Enter a new value for each instance of ERP 9.0.
USRAUTL	Admin. Authorization List	OWADMINL	Configurable. Enter a new value for each instance of ERP 9.0.

Parameters Present in SETOWAUT Form for Single Instance of ERP 9.0 Only	Meaning	Value to be Entered for a Single Instance of ERP 9.0	Value to be Entered for Multiple Instances of ERP 9.0
OWPRF	Modify ONEWORLD Profile	Y is default.	Parameter is not present if you enter a value other than ONEWORLD for the USRPRF parameter.
JDEPRF	Modify JDE Profile	Y is default.	Parameter is not present if you enter a value other than ONEWORLD for the USRPRF parameter.

Parameter Present in SETOWAUT Form for Multiple Instances of ERP 9.0 Only	Meaning	Value to be Entered for Multiple Instances of ERP 9.0	Value to be Entered for Single Instance of ERP 9.0
OBJOPT	Secure All Objects	N is default. Enter Y if you want to secure all objects contained in one or more directories. Entering Y is not recommended because it can degrade performance.	Parameter is not present if you enter ONEWORLD as the value for the USRPRF parameter.

The following information provides a summary of the security model when you run a single instance of ERP 9.0:

Library	Description of Security
ERP 9.0 System Library	The ONEWORLD user profile owns the ERP 9.0 system library and the *PUBLIC authority is *AUTL, which is OWADMINL. All objects associated with ERP 9.0 server administration are secured with the *AUTL OWADMINL authorization list. All other objects are secured by the *AUTL ONEWORLD. Administrative programs, such as CLRIPC, STRNET, ENDNET, and PORTTEST (among others) are set to adopt the authority of the owner.

The following information provides a summary of the security model when you run multiple instances of ERP 9.0:

Library	Description of Security
ERP 9.0 System Library	The configurable ERP 9.0 user profile owns the ERP 9.0 system library for a particular instance of ERP 9.0, and the *PUBLIC authority is *AUTL, which is the administrative authorization list that you specify in the USRAUTL parameter in the SETOWAUT command. All other objects are secured with the configurable user profile authorization list. Administrative programs, such as CLRIPC, STRNET, ENDNET, and PORTTEST (among others) are set to adopt the authority of the owner.

Before You Begin

- ❑ For more information on each of the parameters that appear in the SETOWAUT form, see *Explanations of AS/400 Database Security Parameters* in the *Server and Workstation Administration Guide*.

Setting Up AS/400 ERP 9.0 Database Security

You can set up security for a single instance of ERP 9.0, or you can set up security for separate ERP 9.0 instances. In the latter case, the SETOWAUT program creates a user profile and individual authorization lists for each instance, establishing object ownership.

Setting up AS/400 Database Security for a Single ERP 9.0 Instance

You can set up security for a single instance of ERP 9.0. To do so, you enter ONEWORLD as the USRPRF (user profile) parameter value and OWADMINL (admin. authorization list) parameter value.

► To set up AS/400 database security for a single ERP 9.0 instance

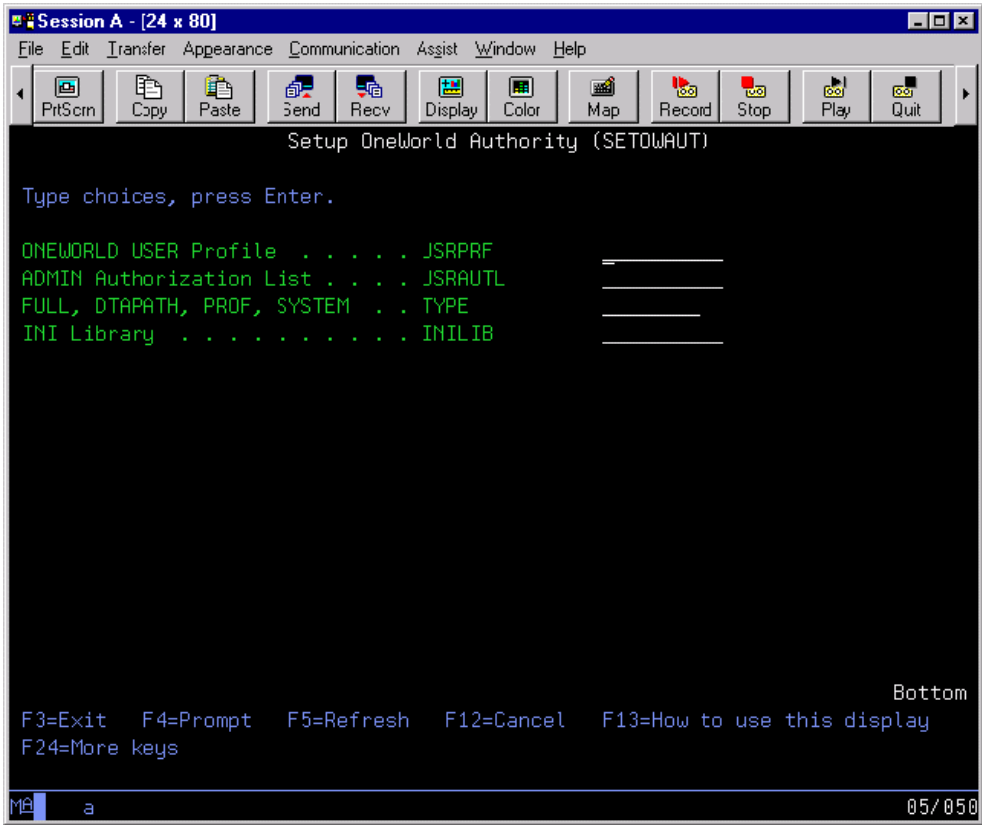
1. In the SETOWAUT library, on the command line, type the following command and press F4 and F11:

SETOWAUT

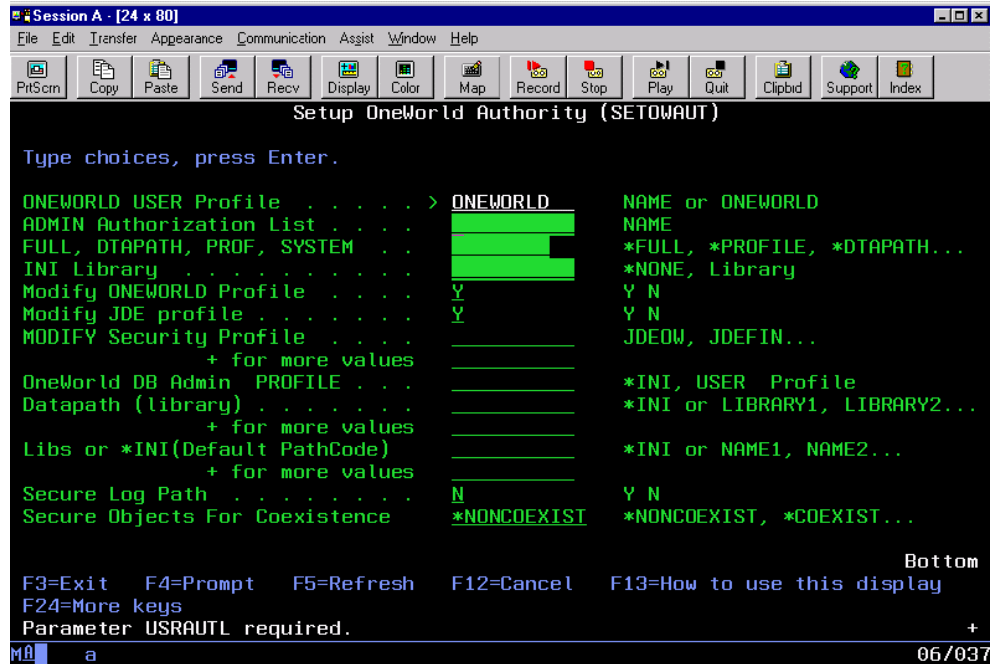
Note

Make sure the SETOWAUT library is in the library list. If it is not, run the ADDLIBLE command.

The Set Up OneWorld Authority (SETOWAUT) form appears.



2. In the OneWorld User Profile field (USPRF), type OneWorld and press enter.
The form expands to reveal additional security parameters. You can determine various security settings, including library access.



3. Complete the following required fields and press Enter:
 - USRAUTL
Enter OWADMINL.
 - TYPE (FULL, DTAPATH Only, PROF Only, ONEWORLD Only)
 - INILIB
4. Complete additional fields as necessary and press Enter.

Caution

Use caution when you lock a library with ERP 9.0 security that contains third-party software. J.D. Edwards does not support AS/400 ERP 9.0 database security with third-party software.

Setting up AS/400 Database Security for Multiple ERP 9.0 Instances

You can set up security for separate instances of ERP 9.0. 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 ERP 9.0 that you run.

Before You Begin

- Before you enter a value for the USRPRF and USRAUTL parameters, you should make sure that the name is not used for an authorization list for any other instance of ERP 9.0. To do so, run the DSPAUTL command. In the Display Authorization form, you can enter the name you intend to use to make sure that it is unique.

► **To set up AS/400 database security for multiple ERP 9.0 instances**

1. In the SETOWAUT library, on the command line, type the following command and press F4:

SETOWAUT

2. In the OneWorld User Profile field (USRPRF), type in a user profile name and press enter.

The SETOWAUT program uses this name when it creates a user profile authorization list.

The form expands to reveal additional security parameters. 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.

Session A - [24 x 80]

File Edit Transfer Appearance Communication Assist Window Help

PrtScrn Copy Paste Send Recv Display Color Map Record Stop Play Quit Clipbid Support Index

Setup OneWorld Authority (SETOWAUT)

Type choices, press Enter.

ONEWORLD USER Profile	USRPRF	> TYLER
ADMIN Authorization List	USRAUTL	
FULL, DTAPATH, PROF, SYSTEM	TYPE	
INI Library	INILIB	
MODIFY Security Profile	JDEOW	
+ for more values		
OneWorld DB Admin PROFILE	OWDBADM	
Datapath (library)	DTAPATH	
+ for more values		
Libs or *INI(Default PathCode)	BSFNLB	
+ for more values		
Secure Log Path	SECLOGPATH	N
SECURE ALL OBJECTS	OBJOPT	N

Bottom

F3=Exit F4=Prompt F5=Refresh F12=Cancel F13=How to use this display

F24=More keys

Parameter USRAUTL required.

MA a 06/050

3. Complete the following required fields and press Enter:
 - USRAUTL
Enter a name that will identify the administrative authorization list.
 - TYPE (FULL, DTAPATH Only, PROF Only, ONEWORLD Only)
 - INILIB
4. Complete additional fields as necessary and press Enter.

See Also

- *Explanations of AS/400® Database Security Parameters in the Server and Workstation Administration Guide* for details on the available options for each field

Explanations of AS/400 Database Security Parameters

You use the AS/400 database security parameters to modify user and administrator profiles, to secure objects, and so on. These parameters appear in the Setup OneWorld Authority form (SETOWAUT).

Type

Depending on the value 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 will direct SETOWAUT to perform all the security routines.
- Use *DTAPATH only if you need to secure one or more datapaths.
- Use *PROF to perform only the user profile routines. SETOWAUT will use the user profile settings in the command to direct the process.
- Use *SYSTEM to perform the System library authority functions. *SYSTEM secures the library and all of the objects contained within it with the AUTL OWADMINL if you are running a single instance of ERP 9.0. If you are running multiple instances of ERP 9.0, *SYSTEM will secure the library and all the objects contained within it with the administrative authorization list created by the SETOWAUT program for each individual instance of ERP 9.0.

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 allow the administration of ERP 9.0.

You can use this parameter to lock other non-system libraries containing objects that you can use to administer ERP 9.0.

More PROFILE Work SETOWAUT Does using Types *FULL or *PROF

When you enter Type *FULL or *PROF, SETOWAUT does the following:

- Creates the ONEWORLD and OWADMINL authorization lists (if they do not already exist) if you are running a single instance of ERP 9.0. If you are running multiple instances of ERP 9.0, SETOWAUT creates both authorization lists and uses the names you specified for each instance of ERP 9.0.
- Changes owner of both lists to ONEWORLD if you are running a single instance of ERP 9.0. If you are running multiple instances of ERP 9.0, SETOWAUT changes the owner of both lists to the user profile name you specified for each instance of ERP 9.0.
- Adds JDE to both lists if you are running a single instance of ERP 9.0.
- Changes *PUBLIC entry to *EXCLUDE in both lists.

INILIB - (INI Library)

This field identifies the library in which the jde.ini file resides to the security application. The *NONE value allows you to specify that the jde.ini file is either not needed or not available.

Caution

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

Use a library name if all of the following requirements are true:

- An ERP 9.0 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.

If Type = *FULL or *SYSTEM, the library and all the objects will be secured with SYSTEM attributes. SETOWAUT will use the jde.ini file to perform all the INI retrievals.

If any of the above requirements are false, use *NONE. This setting will require actual values in any parameter that allows the value *INI.

DTAPATH Datapath (library)

Note

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 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:

- SETOWAUT will modify each library based upon the ALLOBJECTS parameter.
- The INILIB parameter contains the library name where the jde.ini file is located (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 [DB SYSTEM SETTINGS] Library and uses this setting to access the OCM files (F986101 and F98611). SETOWAUT selects all the library names (F98611.OMLIB) that meet the following criteria: F986101.OMDATP = F98611.OMDATP, OMUGRP = *PUBLIC, OMSTSO = 'AV', OMSRVR = *the host name*.

Modify System Profile

A value of Y or N is valid for this field.

Note

This field does not appear if you are setting up authorization for multiple instances of ERP 9.0 and you enter a value other than ONEWORLD in the USRPRF field.

Use Y:

- To modify or create the System profile that has not yet been modified. For example:
 - GRPPRF set to *NONE
 - SUPGRPPRF set to *NONE
 - USRCLS set to *USER
 - INLMNU set to *SIGNOFF
 - INLPGM set to *NONE
 - SPCAUT set to *JOBCTL
- To grant authority to change the profile ONEWORLD to *USE profile QSECOFR
- To revoke *ALL authority from *PUBLIC

Use N:

- Only if the System profile has the correct attributes

Modify JDE Profile

A value of Y or N is valid for this field.

Note

This field does not appear if you are setting up authorization for multiple instances of ERP 9.0 and you enter a value other than ONEWORLD in the USRPRF field.

Use Y:

- To modify or create the JDE profile that has not been modified. For example:
 - GRPPRF set to *NONE
 - SUPGRPPRF set to *NONE
 - USRCLS set to *USER
 - INLPGM set to *NONE
 - SPCAUT set to *JOBCTL *SAVSYS
- To revoke *ALL authority from *PUBLIC

Use N:

- Only if the profile JDE has the correct attributes

Modify Security Profile

Note

It is recommended that you delete existing ERP 9.0 Security Profiles before running SETOWAUT. After running SETOWAUT and creating ERP 9.0 Security Profiles, the passwords must be changed to correspond with passwords that were set up using ERP 9.0 User Security. The Security user is used as the System user in ERP 9.0 User Security.

You can enter up to 10 security profiles at a time in this field to modify with the SETOWAUT program. If you enter a security profile that does not already exist, SETOWAUT creates the profile and modifies the profile accordingly.

- Create or modify the profile. For example:
 - USRCLS set to *USER
 - INLMNU set to *SIGNOFF
 - INLPGM set to *NONE
 - SPCAUT set to *NONE
 - GRPPRF set to ONEWORLD if you are running a single instance of ERP 9.0. If you are running multiple instances of ERP 9.0, GRPPRF is set to the ERP 9.0 User Profile name you entered in the USRPRF parameter field.
 - SUPGRPPRF set to JDE if you are running single instance of ERP 9.0. If you are running multiple instances of ERP 9.0, SUPGRPPRF is set to the ERP 9.0 User Profile name you entered in the USRPRF parameter field.
- Revoke *ALL authority from *PUBLIC
- Grant profile ONEWORLD *CHANGE authority to security profile
- Grant security profile *CHANGE authority to ONEWORLD

See Also

- ❑ *Sample Results for SETOWAUT* in the *Server and Workstation Administration Guide* for more information about specific profile properties

ERP 9.0 DB Admin Profile

If you type *INI in this field, SETOWAUT retrieves the user and password values from the [SECURITY] section in the jde.ini file. If you type a value in this field 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 an ERP 9.0 database administrator.

When to use:

Enter a profile to be used as a database administrator. This profile will have all rights to all ERP 9.0 objects. These database administrator profiles are allowed to perform certain ERP 9.0 processes (RUNUBE and PORTTEST) that an administrator with normal privileges cannot perform.

If the profile does not exist, it creates the profile with a password that is the same name as the profile. Also, if the profile does not exist, set the password to expire (PWDEXP = *YES). For example:

- If BV3C is in library list, SETOWAUT will place this program as the initial program (this program will list all the ERP 9.0 occurrences to allow the user to select one occurrence at signon).
- USRCLS set to *PGMR
- SPCAUT set to *NONE
- GRPPRF set to ONEWORLD if you are running a single instance of ERP 9.0. If you are running multiple instances of ERP 9.0, GRPPRF is set to the ERP 9.0 User Profile name you entered in the USRPRF parameter field.
- SUPGRPPRF set to JDE if you are running a single instance of ERP 9.0. If you are running multiple instances of ERP 9.0, SUPGRPPRF is set to the ERP 9.0 User Profile name you entered in the USRPRF parameter field.

Revokes *ALL authority from *PUBLIC.

Grants ONEWORLD *USE rights to DB ADMIN profile.

BSFNLIB (Libs or *INI (Default PathCode))

Note

If you set the INI library field to *NONE, you must set pathcodes in this field.

Type *INI in this field to use the pathcode library and the associated specification file directory 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.

When to use *INI:

Use *INI when the INILIB parameter contains the library name where 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 OCM files (F986101 and F98611). SETOWAUT will select all the library names (F98611.OMLIB) that meet the following criteria: F986101.OMDATP = F98611.OMDATP, OMUGRP = *PUBLIC, OMSTSO = 'AV', OMDBNM = F00942. SETOWAUT will retrieve EMPATHCD (pathcode) from each record in the F00942 for each library (F98611.OMLIB).

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

Secure Log Path

A value of Y or N is valid for this field. The recommended value is N.

Use N:

- If you do not want to secure JDE log paths.

Use Y:

- Only if there is a need to secure the log paths. One reason to secure JDE log paths might be if 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 ERP 9.0. The parameter appears in the SETOWAUT form only when you configure an instance of ERP 9.0 by entering a value other than ONEWORLD in the USRPRF field.

N is the default value for the Secure All Objects parameter, and J.D. Edwards recommends that you use this value. A value of N secures directories but not the files in the directories.

Entering Y secures the files as well as the directories. Entering Y can degrade performance because the system must check authority for every object the user wants to access. Entering Y is the equivalent of entering *ALLOBJECTS when you are running a single instance of ERP 9.0.

Adding Administrators

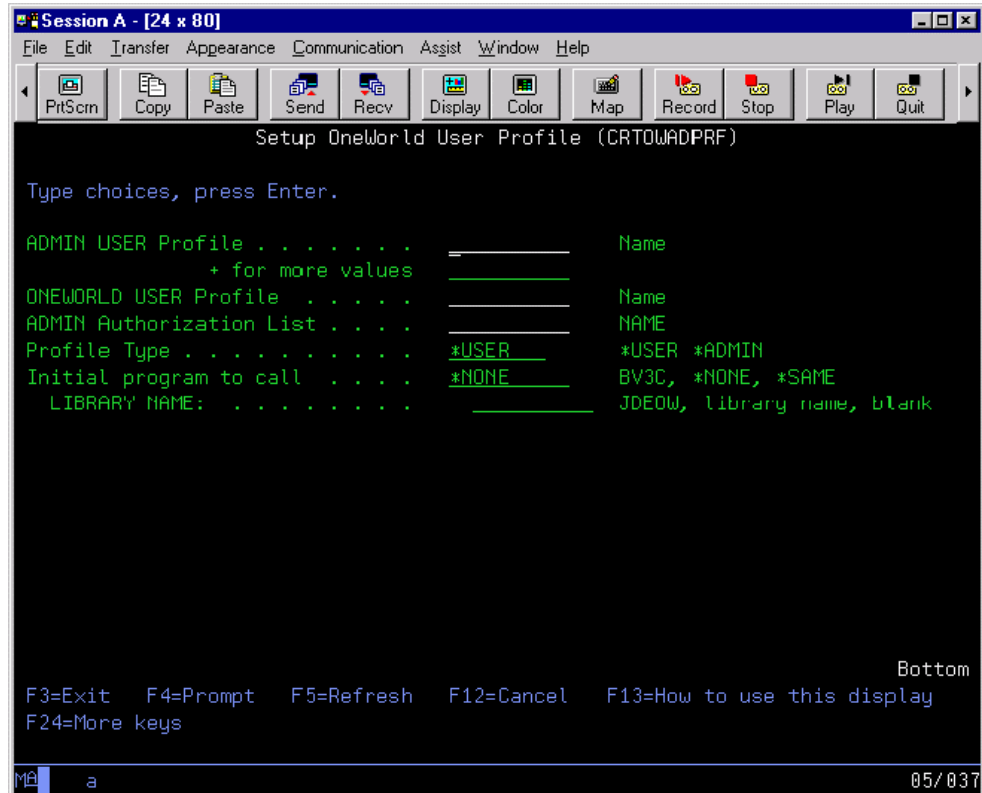
You can add administrators to the administrative authorization list by running the CRTOWADPRF command. The command also allows you to designate levels of authority to the administrators you are adding to the list.

► To add administrators

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

```
CRTOWADPRF USRPRF
```

The Setup OneWorld User Profile (CRTOWADPRF) form appears.



2. Complete the following fields and press Enter:

- ADMIN USER Profile
Type the name of an administrator you want to add to the administrative authorization list. You can add up to 10 administrators at a time.
- ONEWORLD USER Profile
Your entry must match the ERP 9.0 user profile name that you entered during setup (USRPRF parameter).
- ADMIN Authorization List
Your entry must match the Admin. Authorization List name that you entered during setup (USRAUTL parameter).
- Profile Type
Type *USER to grant the profiles with basic administration capabilities, such as STRNET, ENDNET, CLRIPC, 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.
- Initial program to call

Type BV3C if you want the system to display a list of environments when the administrators sign on to ERP 9.0, *SAME to use the current initial program setting, or *NONE to remove the initial program setting.

Note

The initial program to call is BV3C by default for ERP 9.0. This program sets the AS/400 to provide a choice of environments at log on. A user with an administrator profile who logs on to an environment can then perform ERP 9.0 commands on the AS/400 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.

► **To remove administrative authority from user profiles**

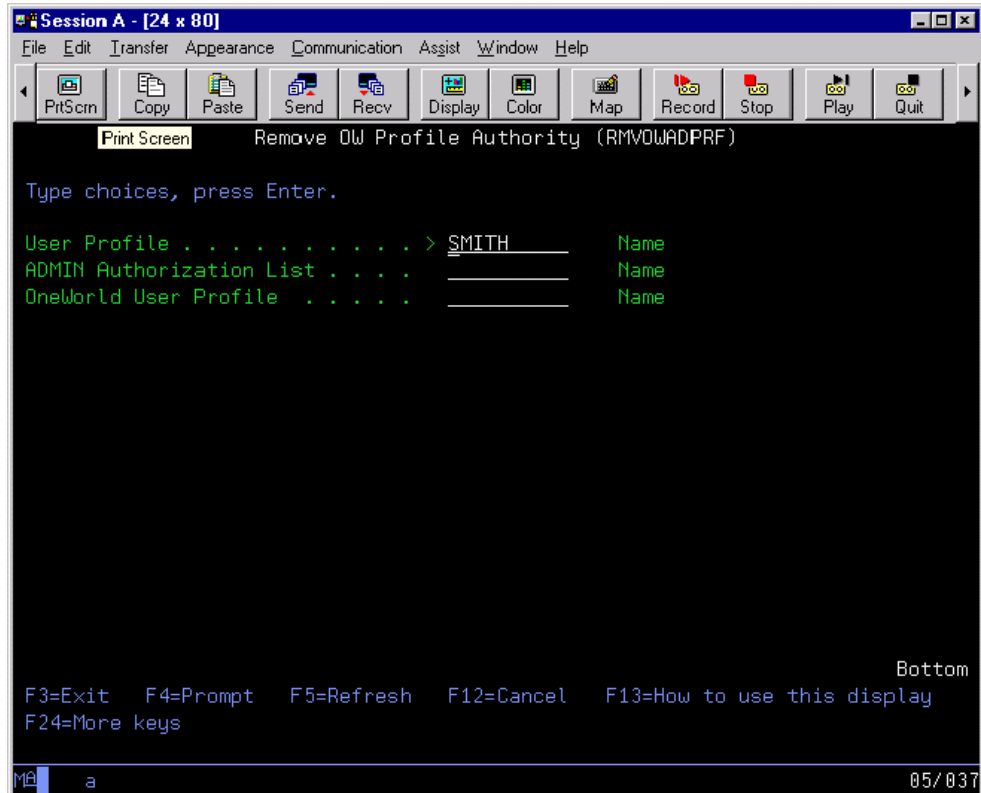
Note

Submit this command to a batch subsystem.

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

RMVOWADPRF

The Remove OW Profile Authority (RMVOWADPRF) form appears.



2. Complete the following fields and press Enter:

- User Profile
Enter the name of the user from whom you want to remove authority.
- Admin. Authorization List
Your entry must match the Admin. Authorization List name that you entered during setup (USRAUTL parameter).
- ERP 9.0 User Profile
Your entry must match the ERP 9.0 user profile name that you entered during setup (USRPRF parameter).

Sample Results for SETOWAUT

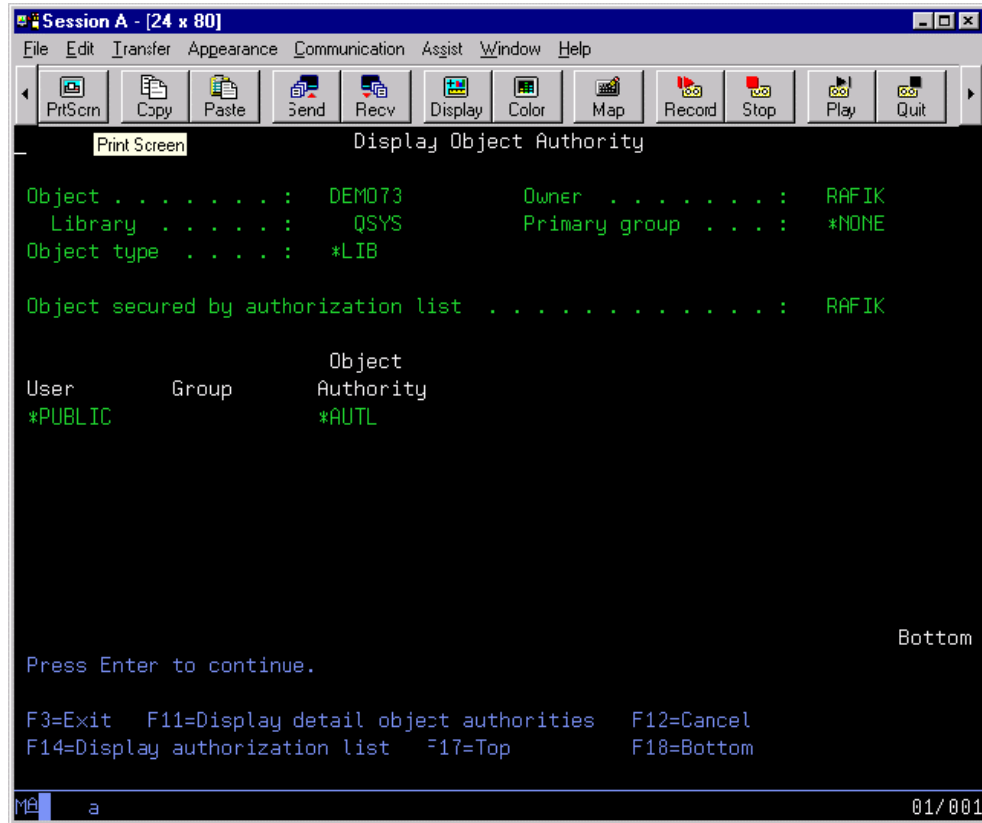
You can expect the following examples for each of the various commands. Using Client Access, sign onto the AS/400, type each command on the command line, and press F4. For libraries (data sources and pathcodes), the required parameters are object type (*LIB) and the name of the library.

Note that if you set up multiple instances of ERP 9.0, the owner for each instance is the ERP 9.0 user profile you entered in the ERP 9.0 User Profile parameter during the authority setup. If you set up a single instance of ERP 9.0, the owner is JDE.

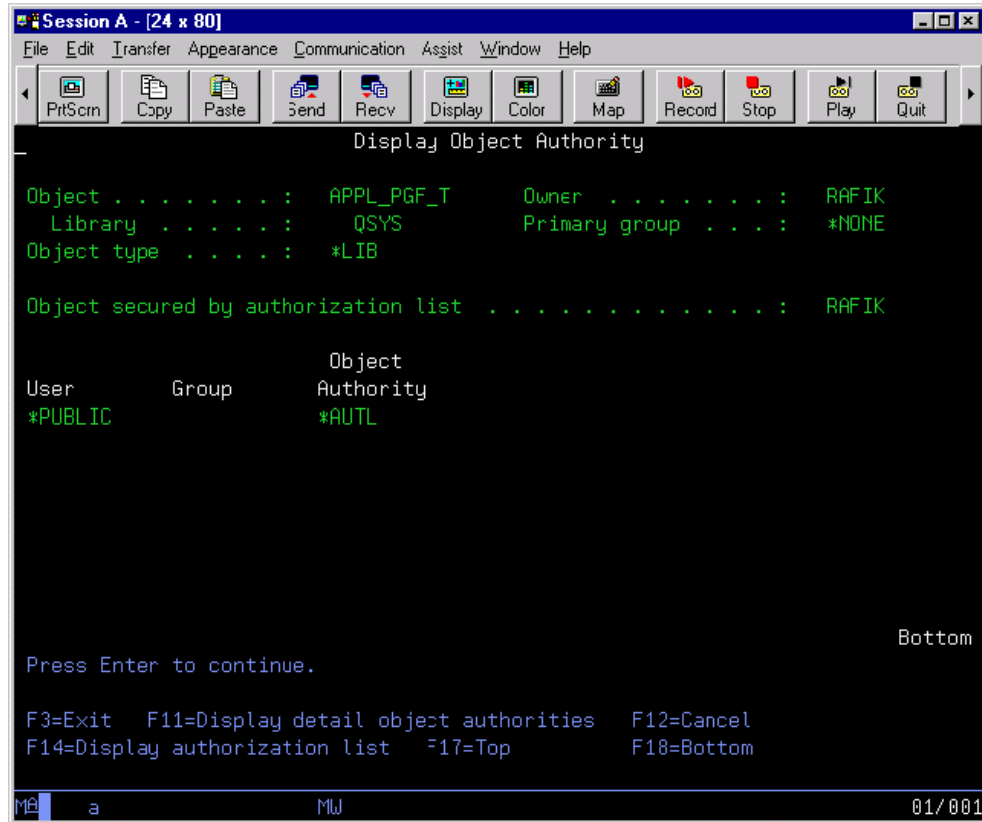
Similarly, if you set up multiple instances of ERP 9.0 and you display object authority, the value displayed is the name of the user profile for all objects except the SYSTEM library. The

object authority for the SYSTEM library when you run multiple instances of ERP 9.0 is the name of the Admin. Authorization List. If you set up a single instance of ERP 9.0, all objects are secured by the authorization list, except the SYSTEM library, which is secured by the OWADMINL authorization list.

Data source DSPOBJAUT:



Pathcode DSPOBJAUT:



Data source DSPLIBD:

```
Session A - [24 x 80]
File Edit Transfer Appearance Communication Assist Window Help
PrtScrn Copy Paste Send Recv Display Color Map Record Stop Play Quit

Display Library Description

Library . . . . . : DEM073
Type . . . . . : PROD
ASP of library . . . . . : 1
Create authority . . . . . : RAFIK
Create object auditing . . . . . : *SYSVAL
Text description . . . . . : Work library for data conversion

Press Enter to continue.

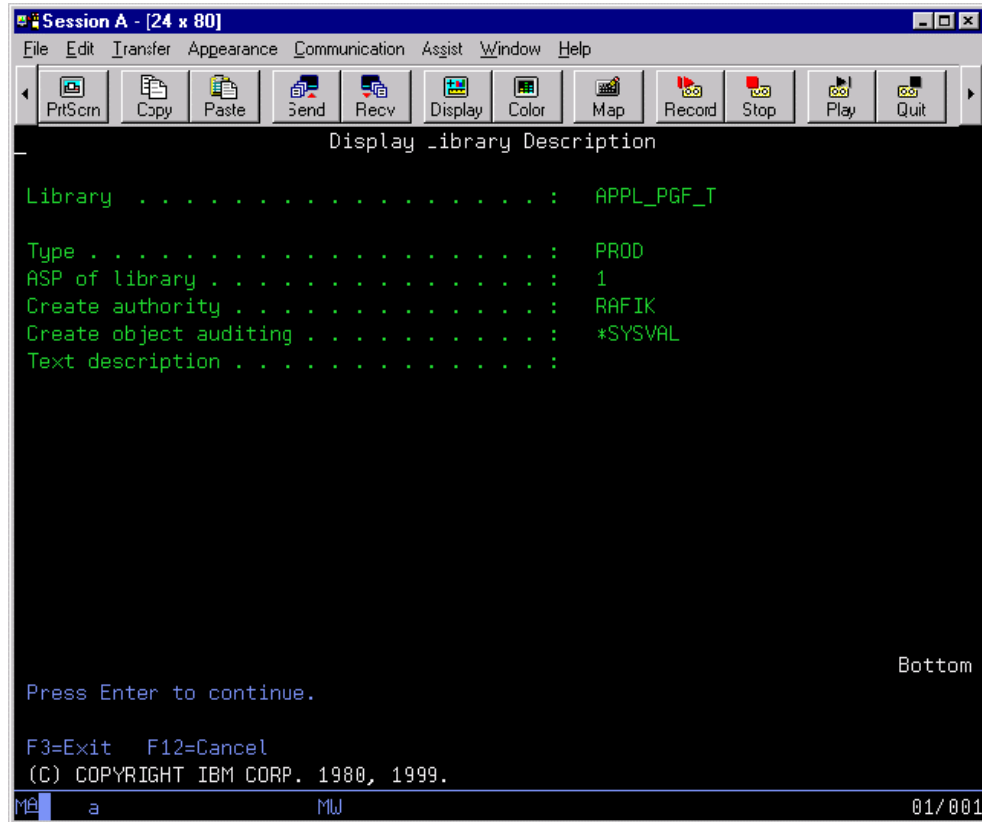
F3=Exit F12=Cancel
(C) COPYRIGHT IBM CORP. 1980, 1999.

Bottom

a

01/001
```

Pathcode DISLIBD:



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 where the object resides.

The following illustration is an example. Your test results might not look exactly the same.

Note

Owner, object security, and authority creation will differ depending on whether you are running a single instance of ERP 9.0 or multiple instances.

```
Display Object Authority

Object .....: F9202          Owner .....: ONEWORLD
Library .....: DEMO73OCM     Primary group ...: *NONE
Object type ...: *FILE

Object secured by authorization list .....: *NONE

      Object
User   Group  Authority
ONEWORLD      *ALL
*PUBLIC       *ALL
```

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

System library DSPOBJAUT:

```
Display Object Authority

Object . . . . .: B733SYS          Owner . . . . .: ONEWORLD
Library . . . . .: QSYS           Primary group . . . . : *NONE
Object type . . . . : *LIB

Object secured by authorization list . . . . .: OMADMINL

      Object
User   Group  Authority
*PUBLIC      *AUTL
```

System library DSPLIBD:

```
Display Library Description

Library .....: B733SYS

Type .....: PROD
ASP of library .....: 1
Create authority .....: ONEWORLD
Create object auditing .....: *SYSVAL
Text description .....
```

The authority will change for objects within system libraries that either contain the attributes CLLE or CLP or that share the same name. You can view the authority on these objects using the following commands. The required parameters are object name, object type (*PGM or *CMD), and the name of the library where these objects reside.

Displaying User Profile Information

After you run SETOWAUT, you can view the following user profiles and authorization lists to verify that the information is correct. Compare the shaded information in the following illustrations for accuracy.

► To display user profile information

1. On the command line, enter the following command:

```
DSPUSRPRF
```

The Display User Profile (DSPUSRPRF) form appears.

2. Type the name of a user profile in the User Profile field and press Enter.

Information similar to the following appears:

```

User profile . . . . . : ONeworld
Previous sign-on . . . . . : 02.18.99 15:47:28
Sign-on attempts not valid . . . . . : 0
Status . . . . . : *ENABLED
Date password last changed . . . . . : 02.18.99
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 . . . . . : *CRTDPT
Initial program . . . . . : *NONE
  Library . . . . . :
Initial menu . . . . . : *SIGNOFF
  Library . . . . . :
Limit capabilities . . . . . : *NO
Text . . . . . :
Display sign-on information . . . . . : *SYSVAL
Limit device sessions . . . . . : *SYSVAL
Keyboard buffering . . . . . : *SYSVAL
Maximum storage allowed . . . . . : *NOMAX
  Storage used . . . . . : 6948244
Highest scheduling priority . . . . . : 3
Job description . . . . . : ONeworld
  Library . . . . . : QCPL
Accounting code . . . . . :
Message queue . . . . . : ONeworld
  Library . . . . . : QUSRST3
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 . . . . . : 05.11.99 16:07:08
Sign-on attempts not valid . . . . . : 0
Status . . . . . : *ENABLED
Date password last changed . . . . . : 03.23.98
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 . . . . . : J.D. Edwards System Profile
Display sign-on information . . . . . : *SYSVAL
Limit device sessions . . . . . : *SYSVAL
Keyboard buffering . . . . . : *SYSVAL
Maximum storage allowed . . . . . : *NOMAX
      Storage used . . . . . : 16019440
Highest scheduling priority . . . . . : 3
Job description . . . . . : JDE
      Library . . . . . : QGPL
Accounting code . . . . . :
Message queue . . . . . : JDR
      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	05.11.99 16:05:11
Sign-on attempts not valid	0
Status	*ENABLED
Date password last changed	01.11.99
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	OneWorld
Display sign-on information	*SYSVAL
Limit device sessions	*SYSVAL
Keyboard buffering	*SYSVAL
Maximum storage allowed	*NOMAX
Storage used	2896
Highest scheduling priority	3
Job description	QDFTJOED
Library	QCPL
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	OWDBADM
Previous sign-on	05.11.99 11:58:08
Sign-on attempts not valid	0
Status	*ENABLED
Date password last changed	05.11.99
Password expiration interval	*SYSVAL
Date password expires	07.10.99
Set password to expired	*NO
User class	*PCMR
Special authority	*NONE
Group profile	ONEWORLD
Owner	*CRPPRF
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
Maximum storage allowed	*NOMAX
Storage used	0
Highest scheduling priority	3
Job description	QDFTJOED
Library	QCPL
Accounting code	
Message queue	OWDBADM
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

Sample Results for Authorization Lists

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

Object	ONEWORLD	Owner	ONEWORLD
Library	QSYS	Primary group	*NONE
User	Object	List	
	Authority	Mgt	
ONEWORLD	*ALL	X	
JDE	*ALL		
*PUBLIC	*EXCLUDE		

Object	: QWADMINL	Owner	: ONEWORLD
Library	: QSYS	Primary group	: *NONE
User	Object	List	
ONEWORLD	*ALL	X	
QWDEADM	*USE		
*PUBLIC	*EXCLUDE		

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

Object	: /APPL_PGF_1
Owner	: ONEWORLD
Primary group	: *NONE
Authorization list	: ONEWORLD
Data --Object Authorities--	
Opt User	Authority Exist Mgt Alter Ref
*PUBLIC	*AUTL
ONEWORLD	*RWX X X X X

If secure all objects = 'Y'	
Object	: /APPL_PGF_1/asvrdbl.ddb
Owner	: ONEWORLD
Primary group	: *NONE
Authorization list	: ONEWORLD
Data --Object Authorities--	
Opt User	Authority Exist Mgt Alter Ref
*PUBLIC	*AUTL
ONEWORLD	*RW X X X X

Important

This folder should be inaccessible through Windows Explorer.

Server Administration - UNIX

J.D. Edwards supports ERP 9.0 enterprise servers for UNIX operating systems on the Hewlett-Packard HP 9000 (HP-UX), the IBM RS/6000 (AIX), and the Sun Microsystems Solaris platforms. You can operate the enterprise server for UNIX in a logic or database server environment. You need to perform administrative procedures on your enterprise server to ensure that ERP 9.0 will run properly.

ERP 9.0 Directory Structure for UNIX

The following is a list of directories that are shipped on the UNIX ERP 9.0 Server Installation CD. They should be installed under the ERP 9.0 base directory; for example, /u01/PeopleSoft/b9. Indented names indicate subdirectories of the directories, which are not indented.

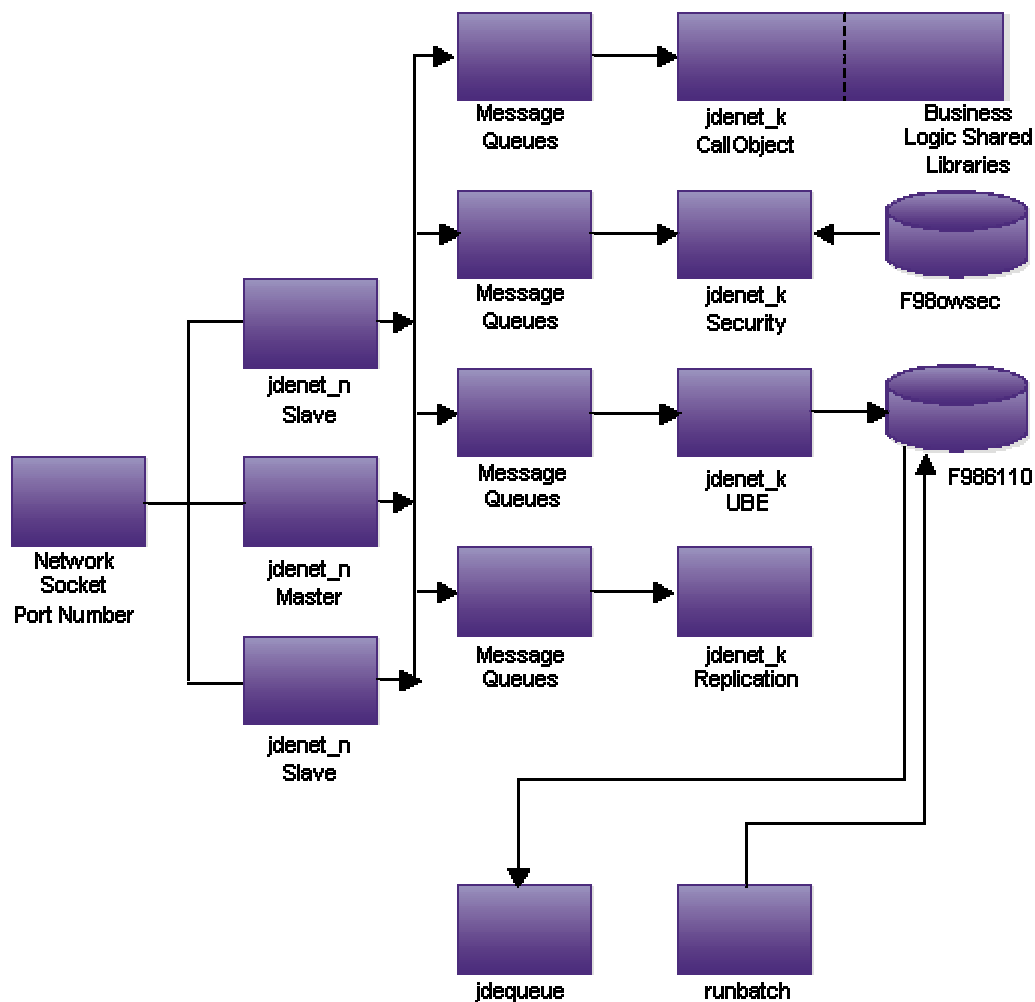
Directory Name	Description
pathcode	The main directory for the business function shared libraries, C header files, object files, source files, and specification (spec or TAM) files. Upon installation, this directory is copied to the correct path codes; for example, PRODB9 and DEVB9. • bin32 - Business function shared libraries • Spec files - Binary data files in a J.D. Edwards proprietary format
system	The main directory for the system-level executables, shared libraries, C header files, libraries, and localization files. • bin32 - System-level executables and shared libraries • include - System-level C header files • includev - System-level C header files provided by third-party vendors (for example, Vertex) • lib - System-level shared libraries and export files • libv32 - System-level shared libraries provided by third-party vendors
ini	The location of the JDE.INI.
PrintQueue	Where all .PDF file outputs for reports are written.
log	Where the jde_xxx.log and jdedbug_xxx.log files are written.
packages	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 the following directories: • bin32 - Business function shared libraries • include - Business function header files • obj - Business function object files These are divided among lower-level subdirectories that correspond to each shared library in the bin32 directory.

- source - Business function source files
These are divided among lower-level subdirectories that correspond to each shared library in the bin32 directory.
- spec - Specification files
These binary data files are in a J.D. Edwards proprietary format.

ERP 9.0 Architecture and Process Flow for UNIX

The following host server processes perform the indicated actions.

UNIX® Host Server Process for UNIX



The process flow is explained below:

6. The jdenet_n Master process spawns jdenet_n Slave and jdenet_k processes at startup or as they are needed. The definitions for the number of processes to start and what type to start are stored in the JDE.INI file.
7. The jdequeue process spawns the runbatch process whenever a relevant UBE job request is placed in the F986110 table. The runbatch process completes the job, updates the F986110 table, and then quits. The jdequeue process continues to run until the system administrator stops it.

Although not shown in the graphic above, nearly all jdenet_k processes access various other database tables as needed. The runbatch process, for instance, accesses and modifies any database table relevant to the particular UBE it is running.

8. Message queues are UNIX IPC resources. They are allocated by the jdenet_n processes by calls to the UNIX operating system. While ERP 9.0 is running, operating system information about the message queues can be obtained by using the UNIX command `ipcs`.

When message packets are routed to the jdenet_n job from a client or another server, the jdenet_n process places them in the appropriate message queue according to the type of packet; for example, UBE, CallObject, security, and so on.

Each message queue has a UNIX identifier (IPC key) so that multiple processes can access them. ERP 9.0 uses the key `startIPCKeyValue` in the JDE.INI file to determine the identifiers.

jdenet_n Operation

The jdenet_n process is usually started by running the supplied ERP 9.0 startup script: `RunOneWorld.sh`. It then starts all other processes, except for jdequeue processes.

The jdenet_n process listens to the socket 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 should be the same for every client who wishes to connect to the ERP 9.0 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 to start of this type.

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. It is the jdenet_n process that 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 UBE kernel waits for requests to run UBE jobs from the client. These UBE jobs are then placed in the F986110 table. The jobs are then picked up by the jdequeue processes that launch runbatch processes, as required.

Many other types of jdenet_k processes exist. See your JDE.INI file for a complete list.

Understanding ERP 9.0 Initialization for UNIX

The following ERP 9.0 initialization occurs when starting ERP 9.0 programs (for example, jdequeue, runbatch, and so on).

- The ERP 9.0 environment name is passed as a command line argument to the program (for example, porttest, jdequeue in system/runque.sh).
- This environment can be translated to a different environment based on the settings in the [SERVER ENVIRONMENT MAP] section of the JDE.INI.
- The environment that is used must be a valid entry in the Library List Master File (F0094) table. Likewise, it must have a valid corresponding pathcode in the Environment Detail (F00941) table.
- The following JDE.INI settings in the [DB SYSTEM SETTINGS] section are used to determine where the ERP 9.0 server startup tables are located (for example, F98611 and F986101):
 - Base Datasource
 - Object Owner
 - Server
 - Database
 - Load Library
 - Type
- Using the above information, the server's F986101 (Object Configuration Master) table in the specified database is opened.
- If an override for a given table or the current user exists, that data source (OMDATP column in the F986101 table) is used for the given object or user and environment. Otherwise, the data source where OMOBNM=DEFAULT for the given environment is used. Ignore any inactive records (that is, OMSTSO=NA).

J.D. Edwards strongly recommends that you do not have any default (OMOBNM=DEFAULT) records for reports (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 show 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 (check with an Oracle database administrator).

- For a SQL Server, 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 are going to log on to this Windows platform and run ERP 9.0 or PORTTEST, the data sources must be defined on the System DSN tab; otherwise, User Data Sources can be used.

Starting the Enterprise Server for UNIX

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 HP-UX, AIX, and Solaris, but the automatic process varies slightly by platform.

Note

If you are running ERP 9.0 on the same server as your Oracle database, you must make sure Oracle is running before you start ERP 9.0. In particular, if you are starting ERP 9.0 at system boot time, you must make sure the Oracle startup processes are completed first.

RunOneWorld.sh

RunOneWorld.sh is the script that starts the ERP 9.0 system on the enterprise server. This script does the following:

- Starts jdenet_n, which is the ERP 9.0 network listener that receives requests from ERP 9.0 workstations.
- Starts one specification installation queue.
- Starts at least one jdequeue process using runque.sh for batch processes. This is the job queue that controls the processing of batch jobs submitted to the server.
- Starts one jdequeue process using runque.sh for Object Packages. Object Packages are groups of objects (for example, tables, business functions, and reports) that are being installed on a server.

The RunOneWorld.sh script runs runque.sh, which, in turn, runs jdequeue. The runque.sh script has the following parameters:

Parameter Description

UID	Identifies a valid ERP 9.0 user ID.
PWD	Identifies the password of a valid ERP 9.0 user ID (UID).
ENV	Identifies an ERP 9.0 environment.
BATCH	Identifies the batch name being used. The default batch name is QBATCH, which corresponds to the workstation jde.ini UBEQueue setting in the [NETWORK QUEUE SETTINGS] section.
TYPE	Identifies the queue type, which is either 001 for specification installation queues, UBE for report queues, or PKG for Object Package Queues.

SLEEP Identifies the number of seconds between polling for new UBEs or PKGs to process. Typically, this value is 5 seconds.

► **To manually start the enterprise server for UNIX**

Note

This procedure is the same for HP-UX, AIX, and Solaris operating systems.

1. Log on to the machine using the appropriate user ID as set up during the installation process.
If you used the J.D. Edwards-recommended user ID, the user ID is jde.
2. Enter the following commands:

```
cd log_directory
rm -f jde*log*
RunOneWorld.sh
```

- **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.

Caution

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

- **RunOneWorld.sh**

This script starts the ERP 9.0 system.

3. Log off.

► **To automatically start the enterprise server for HP-UX**

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

The script should contain only the following:

```
#!/sbin/sh
/bi n/su - oneworld -c `$$SYSTEM/bin32/RunOneWorld.sh`
```

The value *oneworld* is the name of the user who owns the shell script *\$\$SYSTEM/bin32/RunOneWorld.sh*. Make sure that *RunOneWorld.sh* has all necessary permissions for execution.

- Using the following command, create a soft link named S995oneworld to the oneworld script in the directory named /sbin/rc2.d.

```
ln -s /sbin/init.d/oneworld /sbin/rc2.d/S995oneworld
```

- Verify that the following 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.

- Set ORACLE_TERM to hp.
- Set ORAENV_ASK to NO.
- If the following command is in the profile, you must delete it.

```
unset ORAENV_ASK
```

► To automatically start the enterprise server for AIX and Solaris

- Create a script named rc.oneworld in /etc with all necessary permissions for execution.

The script should contain only the following:

```
#!/bin/sh
/bin/su - oneworld -c `$_SYSTEM/bin32/RunOneWorld.sh`
```

The value *oneworld* is the name of the user who owns the shell script \$_SYSTEM/bin32/RunOneWorld.sh. Make sure that RunOneWorld.sh has all the necessary permissions for execution.

- Add the following line at the end of the text file named inittab in /etc:

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

- Verify that the following 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.

- Set ORACLE_TERM to hp.
- Set ORAENV_ASK to NO.

To see a list of valid values for ORACLE_SID, look at the oratab text file in /etc.

- If the following command is in the .profile, you must delete it:

```
unset ORAENV_ASK
```


► To verify the ERP 9.0 installation

After you start ERP 9.0, execute the following commands:

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

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

Note

The parameters for userID, password, and environment should be the same ones you used in RunOneWorld.sh when runque.sh is executed. However, these parameters can be any valid ERP 9.0 user ID, password, or environment.

Database Settings

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. The following path is an example of where you might typically find this file:

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

Shutting Down the Enterprise Server for UNIX

The shutdown process is identical for HP-UX, AIX, and Solaris systems.

EndOneWorld.sh

EndOneWorld.sh is the script that stops the ERP 9.0 system on the enterprise server. This script completes the following functions:

- Shuts down the specification installation queue
- Shuts down the job queue that was started by RunOneWorld.sh
- Shuts down the Object Package queue that was started by RunOneWorld.sh
- Shuts down jdenet_n and jdenet_k processes

The EndOneWorld.sh shell runs a script, killque.sh, for each queue type and name combination. It also runs a program called endnet. The following parameters apply to killque.sh:

Parameter Description

UID	Identifies a valid ERP 9.0 user ID.
PWD	Identifies the password of a valid ERP 9.0 user ID (UID).
ENV	Identifies an ERP 9.0 environment.
BATCH	Identifies the batch name being used. The default batch name is QBATCH, which corresponds to the workstation jde.ini UBEQueue setting in the [NETWORK QUEUE SETTINGS] section.
TYPE	Identifies the queue type, which is either 001 for specification installation queues, UBE for report queues, or PKG for Object Package Queues.

► **To shut down the enterprise server for UNIX**

1. Sign on under the appropriate user ID as set up during the installation process.
2. Execute the following commands:

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

Setting Up a Printer for UNIX

HP-UX, AIX, and Solaris systems 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; and Solaris uses a tool called Admintool. Each of these processes requires a privileged account to access the specific setup tasks. If possible, use the root account of the system. For more information about printer setup, see the appropriate HP-UX, AIX, or Solaris documentation.

See Also

- *Printing ERP 9.0 Reports* in the *System Administration Guide* for information specific to ERP 9.0 printer setup

Administrating Batch Processes for UNIX

Administrating batch processes involves knowing what processes run when ERP 9.0 starts, where files are placed before and after printing, and how to watch those processes.

Processes running for ERP 9.0 are owned by the userID that started the ERP 9.0 software. Generally, this user ID is oneworld or jde, but it is site dependent. When ERP 9.0 starts, the following processes start and run under the environment and security of the user that 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 ERP 9.0 components such as the security server, the transaction monitor, and data replication.

jdequeue The queue job that searches the database queue and starts report processing. The runque.sh shell script starts jdequeue.

► To monitor batch processes

From the operating system prompt, enter the following command, substituting *userid* with the user ID that started ERP 9.0:

```
jdejobs <userid>
```

jdejobs is a script in the ERP 9.0 \$SYSTEM/bin32 directory that uses the UNIX "ps" command to display job information.

Output from this command looks similar to the following:

```
jdeb7333 (OneWorld administrative user):  
Semaphores: 1 Shmem Segs: 5 Msg.Queues: 18  
Jobs on sundev1:  
380 pts/24 0:03 jdenet_k  
6024 pts/24 0:02 jdenet_k  
11429 pts/24 0:03 runbatch  
26118 pts/24 0:01 jdenet_n  
26297 pts/24 0:02 jdequeue  
26298 pts/24 0:02 jdequeue  
26299 pts/24 0:02 jdequeue  
26311 pts/24 0:02 jdequeue  
26318 pts/24 0:03 jdenet_k  
26530 pts/24 0:02 jdenet_k  
27444 pts/24 0:01 jdenet_n  
28476 pts/24 0:01 jdenet_k
```

From the output above, there are three jdenet_n jobs listening for requests, five jdenet_k jobs handling various ERP 9.0 "kernel" functions, and four queues waiting for requests to process. A runbatch job is processing a report.

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

Listing Batch Output Files

All output from each report, regardless of whether it is a preview, is placed in the PrintQueue directory under the installation directory of OneWorld 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 overridden through the ERP 9.0 application. Use the Printers application 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 to print the job immediately after completion of the report.

► To list batch output files

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

```
cd PrintQueue
```

This command changes the directory to the PrintQueue directory.

2. Enter the following command to list the files:

```
ls -al
```

Output looks similar to the following:

```
-rw-rw-r-- 1 OneWorld oneworld 1479 Feb 21 14:29
R31415_XJDE0001_UBE_1914_PS
-rw-rw-r-- 1 OneWorld oneworld 1479 Feb 21 14:27
R3270_XJDE0001_UBE_1912_PS
-rw-rw-r-- 1 OneWorld oneworld 1479 Feb 21 14:28
R3270_XJDE0001_UBE_1913_PS
-rw-rw-r-- 1 OneWorld oneworld 20090 Feb 18 14:03
R41560_XJDE0001_UBE_1870_PS
-rw-rw-r-- 1 OneWorld oneworld 20090 Feb 18 16:02
R41560_XJDE0001_UBE_1878_PS
-rw-rw-r-- 1 OneWorld oneworld 55830 Feb 21 09:46
S_R0006P_XJDE0001_UBE_1896_PDF
-rw-rw-r-- 1 OneWorld oneworld 55830 Feb 21 09:46
S_R0006P_XJDE0001_UBE_1898_PDF
-rw-rw-r-- 1 OneWorld oneworld 75209 Feb 21 17:25
S_R0006P_XJDE0001_UBE_1923_PS
-rw-rw-r-- 1 OneWorld oneworld 75209 Feb 21 17:25
S_R0006P_XJDE0001_UBE_1925_PS
```

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

File Name	Description
R31515	The report name
XJDE00001	The report version executed
UBE	The type of request
1914	The request number assigned by ERP 9.0
PS	A PostScript file
PDF	A PDF file, meant for viewing on the workstation

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, you should encourage them to periodically delete the entries through ERP 9.0. When you delete .PDF files from the operating system, the corresponding ERP 9.0 print job entries in the Job Control Status Master table (F986110) are not deleted. You must manually delete these entries from ERP 9.0 using the Work with Servers program (P986116).

Running Reports from the Command Line for UNIX

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

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

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 bracket symbols ([and]) indicate an optional parameter. The following options apply to the runube command:

Value	Description
Interactive	The system holds the current terminal session until the entire report is processed.
Batch	The runube command starts a runbatch job and returns control of the terminal to the user.
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 you specified for the enterprise server in the Printers application.
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

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

```
runube KL5595218 KL5595218 PROD R0006P XJDE0001 QBATCH Interactive Print
Delete printer_1
```

Scheduling Reports from the Command Line for UNIX

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 "at," "batch," and "cron." The "batch" and "at" utilities are used to schedule single occurrence jobs; "cron" can be used to schedule recurring jobs.

► To schedule a single occurrence report

Use the "at" command or the "batch" command to schedule a report 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 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 allows 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. The following table describes the *CCYYMMDDHHMMSS* variable:

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

Example: Scheduling Single-Occurrence Reports from the Command Line for UNIX

This example shows a command line used to schedule a report to run at 06:00 on February 26, 2000:

```
at -t20000226060000 runube KL5595218 KL5595218 PROD R0006P XJDE0001 QBATCH  
Interactive Print Delete printer_1
```

► To schedule a recurring report

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 the following 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
```

The following table describes the variables for this command:

Value	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 the crontab has been modified.

Example: Scheduling Recurring Reports from the Command Line for UNIX

This example shows 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 KL5595218 KL5595218 PROD R0006P XJDE0001 QBATCH  
Interactive Print Delete printer_1
```

Maintaining File Security for UNIX

Overall, only two accounts ever need operating system access to the ERP 9.0 environment files and version executables: the account that starts and stops ERP 9.0, and the account that builds the environment SPEC and BSFN files. Normally, these accounts are the same.

Setting Specification File Security

Specification (SPEC) files are the first part of the environment files. You access these files by the ERP 9.0 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 group. They are not executables, so no reason exists for setting the executable option for any user, group, or other.

► To set specification file security

Enter the following command:

```
chmod 660 *db
```

This command modifies only the .ddb and .xdb files in the current directory.

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

```
-rw-rw---- oneworld oneworld jdeblc.xdb
-rw-rw oneworld oneworld jdeblc.ddb
```

Setting Business Function File Security

You should keep business functions secure. In an environment where development occurs, you must have a strict form of version control on source and object files. If the business function (BSFN) files change without the knowledge of the ERP 9.0 administrators, rebuilding them could have unknown or undesired results. A developer could be working to correct a problem, but the possibility always exists that the problem could become worse.

► To set business function file security

1. Enter the following command in the BSFN Source directory:

```
chmod 600 *.c
```

2. Enter the following command in the BSFN Include directory:

```
chmod 600 *.h
```

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

```
-rw----- oneworld oneworld b4200100.c
-rw----- oneworld oneworld b4200100.h
```

Setting ERP 9.0 Executables Security

You should prevent access to the ERP 9.0 executable files to prevent other users from attempting to start ERP 9.0. Running the same version of ERP 9.0 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 allows them to shut down ERP 9.0.

► To set ERP 9.0 executables security

Enter the following command:

```
chmod 540 *.sh
```

The access granted by this command allows all users in the ERP 9.0 group read-only permission to the files, but does not grant them execute privilege. You can omit read access if desired.

The security for your ERP 9.0 executables should look similar to the following example:

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

Setting jde.ini File Security

You must keep the jde.ini file as secure as possible. This file contains a database user name and password that enables ERP 9.0 security to function. This database account is given read authority to the F98OWSEC table, which controls ERP 9.0 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.

► To set jde.ini file security

1. Enter the following command:

```
chmod 600 JDE.INI
```

This command sets maximum security for the jde.ini file.

Note

The file name is case-sensitive.

The security for your jde.ini file should look similar to the following:

```
-rw----- oneworld oneworld jde.ini
```

Denying write access to the user "oneworld" is not entirely necessary, but prevents accidental modification of jde.ini settings, which could adversely affect the operation of ERP 9.0.

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

```
chmod 400 JDE.INI
```

Because it is so important to keep access to the jde.ini file as secure as possible, you should also limit the amount of access to the user "oneworld" (or the user that starts and stops ERP 9.0) to a minimum. Users with access to this account could obtain the F98OWSEC user names and passwords, and, thus, gain privileged access to the database.

Setting Up Enhanced UNIX Security in the jde.ini File

You can provide a higher level of security in UNIX environments by running enhanced versions of ERP 9.0 processes. By using enhanced security, you prevent other UNIX system users from obtaining password and security-related values by viewing certain processes using the ps -ef command.

ERP 9.0 automatically invokes these processes when you enable enhanced UNIX security in the jde.ini file and also when you omit certain command line arguments from certain shell scripts. The following lists provide these command line arguments and the shell scripts from which to remove them:

Command Line Arguments

- user_id
- password
- environment

Shell Scripts

- RunOneWorld.sh
- EndOneWorld.sh
- runqueue.sh
- killqueue.sh

The following ERP 9.0 processes support enhanced UNIX security:

- jdequeue
- killqueue
- runbatch

These processes look first to the jde.ini to determine if enhanced UNIX security is enabled. If the server password file flag is set in the jde.ini and you omit all three security-related parameters from the shell script command line, the enhanced security processes use a system of pointers to obtain the values for the user ID, password, and environment.

The applicable processes create these pointers. The processes read values obtained from temporary password files, which they create as needed. Each temporary file contains values for all three security-related parameters (user ID, password, and environment).

The temporary password files are uniquely created by three security-related parameters (user ID, password, and environment) and are associated with the process ID of each currently running jdequeue, killqueue, and runbatch process. ERP 9.0 maintains a set of pointers that associates these files with the appropriate process and parameters, which are passed from values that you specify in the jde.ini file.

► **To set up enhanced UNIX security in the jde.ini file**

1. Locate the enterprise server jde.ini file. 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 the command:

```
echo $JDE_BASE
```

Generally, this file is located in a directory called "ini" in the directory tree under the base installation directory. For example, /u04/PeopleSoft/b9. In this case, the directory with the file is JDE_BASE=/u04/PeopleSoft/b9/ini.

Note

The file name is case-sensitive.

2. In the [SECURITY] section, verify or change your settings for the server password file parameter:

```
[SECURITY]
ServerPswdFile=TRUE/FALSE
```

Setting	Description
ServerPswdFile=TRUE/FALSE	Specifies whether the jdequeue process will pass the password to the jdequeue, killqueue, and runbatch enhanced security processes. When you set the value of TRUE, you activate encoding for enhanced security. The parameter values TRUE and FALSE are case-sensitive. You must specify the values in all upper case.

3. In the [NETWORK QUEUE SETTINGS] section, verify or change your settings for the security-related parameters:

```
[NETWORK QUEUE SETTINGS]
QUSER=user_ID
QPassword=password
QEnv=environment
```

Setting	Description
QUSER=user_ID	Identifies a valid ERP 9.0 user ID. The value you specify here functions identically to the user ID parameter you would have specified in the command line argument.
QPassword=password	Identifies the password of a valid ERP 9.0 user ID. The value you specify here functions identically to the PWD parameter you would have specified in the command line argument.
QEnv=environment	Identifies an ERP 9.0 environment. The value you specify here is functionally identical to the ENV parameter you would have specified in the command line argument.

4. Save the changes and close the jde.ini file.

5. Modify the RunOneWorld.sh and EndOneWorld.sh scripts so that the user ID, password, and environment parameters do not pass from these scripts to the runque.sh and killque.sh scripts. This modification prevents the output from the ps command from displaying these parameters.

Understanding HP-UX and Solaris Kernel Parameter Settings for ERP 9.0

The kernels for HP-UX and Solaris comprise a long list of kernel parameters. These parameters control the quantity of various resources available within the HP-UX and Solaris kernels. Also, the ERP 9.0 server software, specifically the inter-process communication (IPC) facilities, is sensitive to numerous kernel parameters for operation. These parameters differ across the various vendor implementations of UNIX and do not follow POSIX standards. To change the values of kernel parameters for HP-UX, you must shut down the UNIX system in question and recompile the operating system kernel using the modified set of kernel parameters. For Solaris, you must reboot the system after you modify kernel parameters. 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.

In most cases for HP-UX, you set kernel parameters with the System Administration Management (SAM) tool. For Solaris, open the /etc/system file with the editor of your choice to modify these parameters. 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 setup an HP-UX or a Solaris machine for ERP 9.0, 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 viewing the /stand/system file, or by running SAM. On a Solaris system, type the command sysdef -i to see the current kernel settings.

Note for Solaris

Some machines might require an additional parameter in the /etc/system file to activate messaging and semaphore processing. After you enter the sysdef -i command, if some parameters appear with 0 (zero) values, you might need to add one or more of the following parameters to the /etc/system file:

- forceload: sys/msgsys
- forceload: sys/semsys
- forceload: sys/shmsys

ERP 9.0 is not the only software to use the resources that the kernel parameters control. Therefore, for each parameter, the requirements for ERP 9.0 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.

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

Parameter Description

jdenet_n	The maximum number of jdenet_n (net) processes that can be created for an instance ERP 9.0 server software running on the system. This is controlled by the maxNetProcesses parameter in the JDENET section of the jde.ini file for each instance of ERP 9.0.
jdenet_k	The maximum number of jdenet_k (kernel) processes that can be created for an instance of ERP 9.0 server software running on the system. This is controlled by the maxKernelProcesses parameter in the JDENET section of the jde.ini file for each instance of ERP 9.0. Note that the maxNumberOfProcesses parameters in the JDENET_Kernel_Def sections do not matter here.
Jdequeue	The maximum number of jdequeue processes that can be created, including across all instances of ERP 9.0 server software running on the system. The number of invocations of runque.sh in the RunOneWorld.sh scripts controls this.

Note

The number of ERP 9.0 users that a machine serves, the number of instances of ERP 9.0 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 jdequeue processes running should reflect this information.

The following illustration 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; for example, shmmax at the end of the following line:

```
set shmys shminfo_shmmax=4294967295
```

```

SUNDEV1
*      Set an integer variable in the kernel or a module to a new value.
*      This facility should be used with caution.  See system(4).
*
*      Examples:
*
*      To set variables in 'unix':
*
*          set nautopush=32
*          set maxusers=40
*
*      To set a variable named 'debug' in the module named 'test_module'
*
*          set test_module:debug = 0x13
*
* Begin MDD database info (do not edit)
set md:mddb_bootlist1="sd:16:16 sd:8:16 sd:9:16"
* End MDD database info (do not edit)
set max_nprocs=1000
set shmsys:shminfo_shmmax=4294967295
set shmsys:shminfo_shmmin=1
set shmsys:shminfo_shmmni=100
set shmsys:shminfo_shmseg=32
set semsys:seminfo_semmni=64
set semsys:seminfo_semmns=1600
set semsys:seminfo_semmns1=200
set semsys:seminfo_semmnu=128
set semsys:seminfo_semmune=4096
set msgsys:msginfo_msgmap=500
set msgsys:msginfo_msgmnb=65535
set msgsys:msginfo_msgmni=1024
set msgsys:msginfo_msgseg=8192
set msgsys:msginfo_msgtql=4096

```

Message Queues

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

Parameter Description

mesg	This value must be 1. System-V style message queues are valid.
msgmni	The value of msgmni 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, add 64 for a typical ERP 9.0 installation (per ERP 9.0 instance). If you are modifying the maxKernelProcesses parameter, you can use the following equation to estimate the number of message queues necessary for ERP 9.0: $1 + jdenet\_n + 2 \times jdenet\_k + 2 \times jdequeue$
msgtql	The value of msgtql 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 x msgmni for the requirements of ERP 9.0 (640 for a typical installation).
msgmap	The value for msgmap represents the number of entries in the map of free message segments.

The default value of msgtql + 2 should suffice (642 for a typical installation). If the value of msgmap is less than the value of msgtql + 2, attempts to create a message queue or to send a message might fail. Unfortunately, you cannot effectively quantify what ERP 9.0 requires as the value for msgmap.

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 ERP 9.0, 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, messages in message queues reside in message segments. The following parameters 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 ERP 9.0, 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 ERP 9.0, or approximately 4096 per ERP 9.0 instance.

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 ERP 9.0, two identifiers exist for each instance of ERP 9.0, 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. Unfortunately, you cannot effectively quantify what ERP 9.0 requires as the value for semmap.

semmsns The value of semmsns represents the maximum number of semaphores that can exist throughout the system. Each instance of ERP 9.0 allocates 200 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 ERP 9.0 allocates.

For all releases of ERP 9.0, the ERP 9.0 requirement is in addition to the requirements of other software. A good starting point for a typical ERP 9.0 installation (single instance) with Oracle should be 500.

semmnu The value of semmnu represents the maximum number of semaphore undo structures across the entire system. Effectively, this value is the maximum number of semaphores that the system can lock at the same time. For ERP 9.0, allow one for each ERP 9.0 process that can exist across all installations of ERP 9.0 on the system. Use the following equation to determine this value:

$$1 + \text{jdenet\_n} + \text{jdenet\_k} + 2 \times \text{jdequeue} + \text{maximum number of jdeprint processes} + \text{maximum number of runube processes}$$

Notes

This equation is similar to the equation used to calculate the value for msgmni. A good estimate for a typical ERP 9.0 installation would be 128 (per ERP 9.0 instance), but if you will be running a large number of UBE queues or print jobs, you might need to increase the value of this parameter.

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 where pick slips constantly print might have more requests.

The number of UBEs (batch jobs) 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.

The jdequeue parameter is double because each jdequeue process might create a runbatch process. The requirement for ERP 9.0 is in addition to the system default value and the requirements of other software.

semume 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. ERP 9.0 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.

semmsl (Solaris only) The value for semmsl represents the maximum number of semaphores per unique identifier. For ERP 9.0, 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 200.

semaem The value for semaem represents the maximum "adjust on exit" value for any semaphore. This value must be at least 1024. (The default value is greater than 1024.)

semvmx The value of semvmx represents the maximum value for any semaphore. This value must be at

least 1024. (The default value is greater than 1024.)

Shared Memory

Parameter Description

shmem	This 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. It is possible that other software packages such as Oracle might require an increase to this value.
shmmni	The value of shmmni represents the maximum number of shared memory segments throughout the system. For ERP 9.0, allow 20 per instance of the ERP 9.0 server software running on the system. This requirement is in addition to the system default 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

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 ERP 9.0 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 across all instances of ERP 9.0 server software running 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 and the requirements of other software.
maxfiles	The value of maxfiles represents the default soft limit on the number of file descriptors any given process can have. A system call can raise the soft limit of a process as high as maxfiles_lim. For ERP 9.0, 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 in addition to the system default and the requirements of other software.

Note

If this parameter is too small, ERP 9.0 might not open the log file to generate an error message.

maxfiles_lim	The value of maxfiles_lim represents the hard limit of file descriptors any given process can have. For ERP 9.0, 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 in addition to the system default and the requirements of other software.

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 ERP 9.0 installation or multiple instances of ERP 9.0 running under the same user ID. For ERP 9.0, allow $2 \times \text{jdenet\_n} + \text{jdenet\_k} + 2 \times \text{jdequeue}$. Figure this value across all instances of ERP 9.0 software running on the system. The doubling allows ample capacity for all the ancillary processes, such as runube and runprint.

Understanding AIX Kernel Parameter Settings for ERP 9.0

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

See Also

- ❑ Appropriate Oracle and IBM documentation for more information about AIX performance tuning

System Parameters

Setting the kernel parameters requires you to run the system management tool (SMIT). AIX has few configurable parameters that influence ERP 9.0 software; of those that influence ERP 9.0, just one can cause ERP 9.0 to become inoperable. This parameter is maxuproc.

The ERP 9.0 requirements for maxuproc are as follows:

Parameter Description

maxuproc This parameter controls the number of processes a single user can run simultaneously. The value of maxuproc should be 400.

Server Administration - Windows

J.D. Edwards supports ERP 9.0 enterprise servers running the Microsoft Windows Server. The server can use either an Intel Pentium processor or the Compaq AlphaServer processor. You can operate the enterprise server for Windows in a logic or database server environment. You need to perform certain administration procedures on your enterprise server to ensure that ERP 9.0 will run properly.

Understanding the ERP 9.0 Directory Structure for Windows

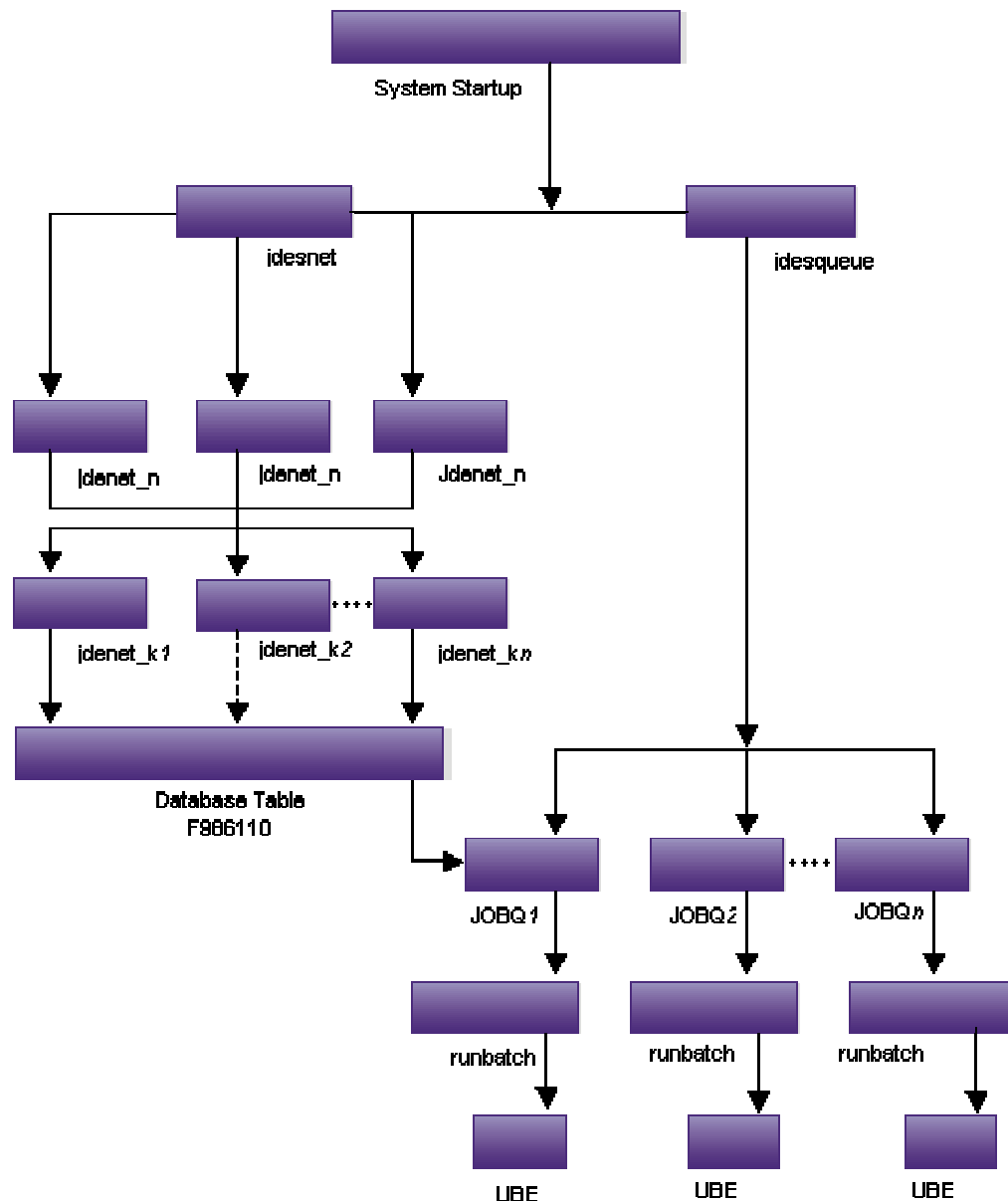
The following table lists the directories that are copied to the Windows enterprise server when ERP 9.0 is installed. They should be installed under the ERP 9.0 base directory (for example, z:\PeopleSoft\b9\ddp). Indented names indicate subdirectories of the directories.

Directory Name	Description
pathcode	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 (for example, PD9 and DV9). • bin32 - Business function shared libraries. • spec - Specification files. These binary data files are in a J.D. Edwards proprietary format.
system	The main directory for the system-level executables, shared libraries, C header files, libraries, and localization files. • bin32 - System-level executables and shared libraries. • include - System-level C header files. • includev - System-level C header files provided by third-party vendors (for example, Vertex). • lib - System-level shared libraries and export files. • libv32 - System-level shared libraries provided by third-party vendors.
PrintQueue	The location to which all .PDF file outputs for reports are written.
log	The location to which jde_xxx.log and jdedbug_xxx.log files are written.
packages	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 the following directories: • bin32 - Business function shared libraries. • include - Business function header files. • obj - Business function object files. These are divided among lower-level subdirectories that correspond to each DLL in the bin32 directory. • source - Business function source files. These are divided among lower-level subdirectories that correspond to each DLL in the bin32 directory. • spec - Specification files. These binary data files are in a J.D. Edwards proprietary format.

Understanding ERP 9.0 Architecture and Process Flow for Windows

The following host server processes perform the indicated actions.

Host Server Processes for Windows NT



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 jdesqueue communicate using the F986110 database table.

The following text explains the process flow:

1. At Windows system startup, the following actions occur:
 - jdesnet runs automatically if it is installed to start automatically. Otherwise, it must be started manually.
 - jdesque runs automatically if it is installed to start automatically. Otherwise, it must be started manually.
2. The following information applies to the J.D. Edwards network service:
 - The program is system\bin32\jdesnet.exe.
 - Each time 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 maxNetProcesses field value in the [JDENET] section of the JDE.INI file.
 - Each time a new request, such as a batch application or CallObj is submitted, jdesnet (and any jdenet_n processes) might start another jdenet_k process until the number of jdenet_k jobs equals the maxKernelProcesses field value in the [JDENET] section of the JDE.INI file.
 - Jdenet_n can be run manually by running system\bin32\jdenet_n.
3. The following information applies to the J.D. Edwards queue service:
 - The program is system\bin32\jdesque.exe.
 - Runs the number of instances of jdequeue specified in the UBEQueues, PackageQueues, and SpecInstallQueues fields in the [NETWORK QUEUE SETTINGS] section of the JDE.INI.
 - Jdequeue might be run manually by running system\bin32\jdequeue followed by the required parameters: user name, password, environment/data source (for example, PD9), queue name (for example, QBATCH), the string "UBE", and the time interval in seconds between fetches of the next record in the database table F986110.
4. 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 may 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.
5. When the UBE Jdenet_k (the kernel) writes to the database (batch application only), the following occurs:
 - The program is system\bin32\jdenet_k.exe.
 - Jdenet_k adds a record in the F986110 database table. The record has a status of W (Waiting).
 6. Jdequeue periodically checks contents of the F986110 database table and runs a runbatch process (batch application only) and the following occurs:
 - The program is system\bin32\jdequeue.exe.
 - Initializes the environment, including the batch name (for example, QBATCH), machine name, and status.
 - At a specified interval, fetches the next record in the database table F986110.
 - If a fetch is successful, changes the status in F986110 to S (Submitted) and runs runbatch.
 - If a fetch was not successful, waits for a predetermined amount of time and then tries another fetch.
 7. When runbatch processes the batch application, the following occurs:
 - The program is system\bin32\runbatch.exe.
 - Changes the status stored in database table F986110 to P (Processing).
 - Starts the batch application.
 - If the batch application completes successfully, it changes the status in F986110 to D (Done).
 - If the batch application, it changes the status in F986110 to E (Error).
 8. As opposed to the many processes that execute when a batch application is submitted, jdenet_k performs the processing when a user submits a CallObject and the following actions occur:
 - Could not start the service name service on enterprise server name.
 - Error 1069: The service did not start due to a logon failure.

Understanding ERP 9.0 Initialization for Windows

The following ERP 9.0 initialization occurs when starting ERP 9.0 programs, for example, jdequeue, runbatch, and so on:

- The environment is passed as a command line argument to the program (for example, porttest, jdequeue) or retrieved from the "QEnv" key in the [NETWORK QUEUE SETTINGS] section of the jde.ini by jdesque.

- This environment may be translated to a different environment based on the settings in the [SERVER ENVIRONMENT MAP] section of the jde.ini.
- The environment that is used must be a valid entry in the Library List Master File table (F0094) and must have a valid corresponding path code in the Environment Detail - One World table (F00941).
- The following jde.ini settings in the [DB SYSTEM SETTINGS] section are used to determine where the ERP 9.0 server startup tables (for example, F98611 and F986101) are located:
 - Base Datasource
 - Object Owner
 - Server
 - Database
 - Load Library
 - Type
- Using the above information, the server's F986101 (OCM) table in the specified database is opened.
- If an override for a given table, BSFN, and so on, or the current user exists, that data source (OMDATP column in the F986101 table) is used for the given object or user and environment. Otherwise, the data source where OMOBNM=DEFAULT for the given environment is used. Ignore any inactive records (that is, OMSTSO=NA). J.D. Edwards *strongly* recommends that you do not have any default records (OMOBNM=DEFAULT) for batch applications (OMFUNO=UBE). These records might prevent report interconnections (for example, 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 show 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 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 are going to log on to this Windows platform and run ERP 9.0 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, go to the Start menu, then Programs, then Administrative Tools, and then Data Sources (ODBC).

- The following details pertain to the setup of different types of ODBC drivers, using the ODBC Data Source Administrator applet:

SQL Server:

- 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 where 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. It could be set to Default.
- The Language Name should be set to Default.
- Generate Stored Procedure for Prepared Statement should be turned off.
- Use ANSI Quoted Identifiers should be turned on.
- Use ANSI Nulls, Padding and Warnings should be turned on.
- Convert OEM to ANSI characters should be turned off.

Client Access:

- The General tab:
The Data Source Name must match the name in the F98611 table. The System is the name of the database server.
- The Server tab:
The Default libraries should be the AS/400 library.

The Commit mode should be Commit immediate (*NONE).
- The Format tab:
The Naming convention should be System naming convention (*SYS).
- The Other tab:
If the data that you are transferring using this data source contains a BLOB (Binary Large Object), 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.

Setting Up a Printer for Windows

Setting up a printer for a Windows enterprise server involves setting up accounts under which ERP 9.0 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 ERP 9.0 relationship to Windows services, accounts, and permissions, which involves the following:

- Assigning permissions to the accounts under which ERP 9.0 services run
- Making printers accessible from the service programs
- Assigning ownership for accounts to enable access to printers

As shown in the following table, you must define two types of service accounts and printer ownerships for the two types of printers:

Printer Type	Description
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 allow programs to run on a Windows platform even when there is no user logged on to the machine. For the ERP 9.0 enterprise server, you must have two ERP 9.0 service programs running:

- Network. This program provides the network connection between the ERP 9.0 workstation and the ERP 9.0 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 the following:

- Individual users (for example, administrator and guest accounts)
- Groups of users (for example, administrators—note the plural, which is different from an individual administrator—and everyone groups)

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

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

Caution

J.D. Edwards *strongly* recommends that you use a user who belongs to the local Administrators group.

Adding a Printer

You must add a printer in Windows before you can use it in ERP 9.0.

► To add a printer

1. Click the Windows Start button.
2. Choose Settings, and then choose Printers.
3. Choose Add Printer.
4. On Add Printer Wizard, follow the system-guided steps.
 - For a local printer, these steps include selecting the port where the printer is attached, what kind of printer is being installed, the name for the printer, and where the drivers are located, if needed.
 - For a network printer, these steps involve selecting a print server and printer, and 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, ERP 9.0 will not be able to correctly read or access the physical printer.

Determining or Changing Printer Ownership

Every Windows printer is associated with one network account called the printer's owner. When ERP 9.0 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, attached to a print server). You can specify a printer that is connected directly to an ERP 9.0 enterprise server as a local or network printer, depending on how you added the printer through the Control Panel.

The type of account that is used to run ERP 9.0 services depends on how you set up the printer, as follows:

- Local printer. Only local accounts can access the printer.
- Network printer. Only network accounts (that is, accounts that do not belong to the local domain) can access the printer. For example, the printer name is in the form `\\print_server\printer_name`.

► To determine or change printer ownership

1. From Control Panel, choose Printers.
2. Choose a printer, right-click, and choose Properties.
3. Click the Security tab.
4. Click the Ownership button. The Owner dialog box displays the current owner of the printer.
5. To have the account you are currently logged onto be the owner of the printer, choose Take Ownership from the Owner dialog box and 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, choose Programs and then Administrative Tools from the Start menu.
2. Choose User Manager for Domains.

The main User Manager window shows the domain (listed in the title bar) and all the users (in the top half of the window) in that domain. In this example, the JDEMD1 domain is a network domain. If you display a local domain, the name of the local machine is displayed in the title bar.

► To set up user accounts on an enterprise server (Windows 2000 users only)

1. On the enterprise server, under Windows, choose Programs, Administrative Tools, and then Computer Management from the Start menu.
2. On the Tree tab, choose Local Users and Groups, and then click on the Users folder.

Changing the Domain

When you create a Windows user account, you must associate that account with one of 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 assigned to the network domain must begin with a domain name; for example, domain1\john_doe.

► To change the domain

1. From User Manager, on the main menu, choose User.
2. Choose User Domain.

The Select Domain window will show all domains. The local domain is named the same as the enterprise server and will not be displayed 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 displayed 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 window displays all the accounts for the domain you chose. If you choose a network domain, all listed names represent network accounts. Likewise, if you choose 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 ERP 9.0 services.

► To add a local account

1. Log onto Windows NT as a user with administrative privileges in the local domain.
2. Run User Manager for Domains.
3. Choose the local domain. The local machine name should be displayed in the title bar of the User Manager window.
4. From the User Manager main window, select User.
5. Choose New User.
6. Complete the following fields:
 - Username
 - Full Name
 - Description
 - Password
 - Confirm Password
7. Complete the following options as appropriate for your installation:
 - User Must Change Password at Next Logon
 - User Cannot Change Password
 - Password Never Expires
 - Account Disabled
8. Click Add.
9. Click Cancel.

► To add a local account (Windows 2000 users only)

1. Log onto Windows NT as a user with administrative privileges in the local domain.
2. Go to Computer Management, choose System Tools, then choose Local User and Groups.
3. From the Action menu, choose New User.
4. On New User, complete the following fields:
 - User name
 - Full Name
 - Description
 - Password
 - Confirm Password
5. Complete the following options as appropriate for your installation:
 - User must change password at next logon

- User cannot change password
 - Password never expires
 - Account disabled
6. Click Create.
 7. Click Cancel.

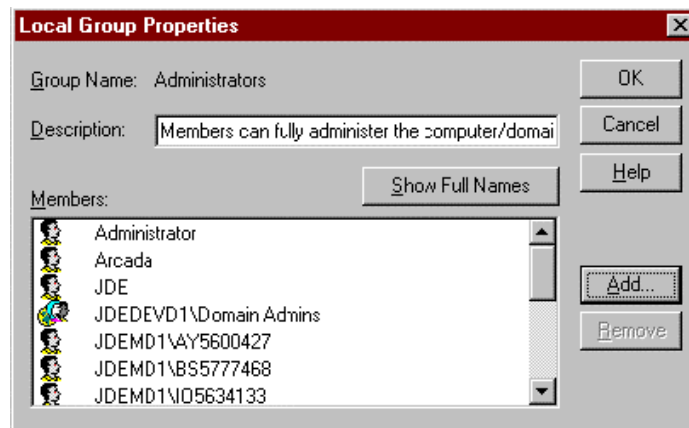
Adding a User to the Administrators Group

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

► To add a user to the Administrators group

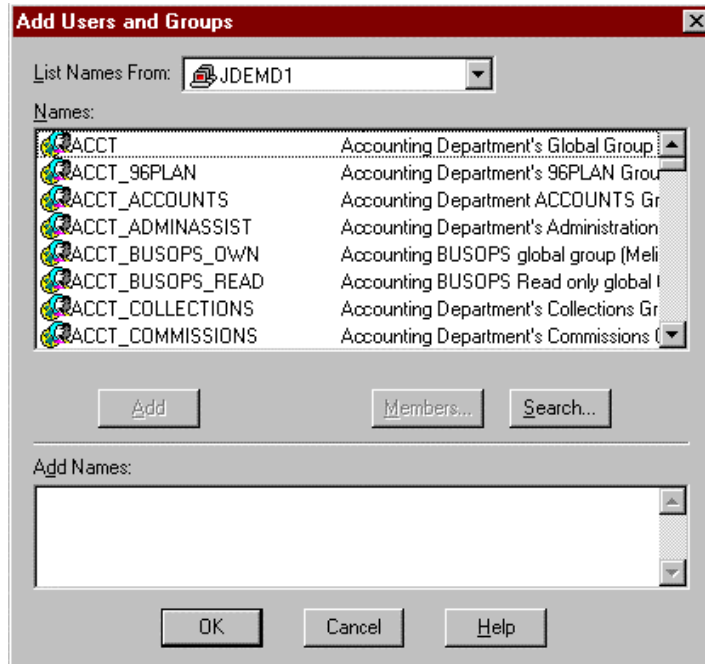
1. From the User Manager main window, double-click on the Administrators group.

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. Click Add.

In the top half of the window, a list is displayed of all users in the selected domain.



3. Choose the domain of the user you want to add to the Administrators group.
4. Choose 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 ERP 9.0 Network and Queue Services

ERP 9.0 uses the Network and Queue services on the enterprise server. These services are installed during the installation process using the following services from the system\bin32 directory:

- jdesnet -i
- jdesque -i

When you install these services, the system adds the following entries to the Windows NT registry:

- The names of the services that are displayed in the Services dialog (used when controlling the services)
- The location of the ERP 9.0 executable files

After the initial installation, you will need to reinstall the Network and Queue services only when they have been uninstalled. You will need to uninstall these services only when the ERP 9.0 directory tree is renamed, moved, or deleted.

Assuming that the Network and Queue services are installed, you must set up the services under a network account if you are using a network printer or a local account if you are using a local printer. If a network account is used, it must be in either the Administrators or Power Users group.

Caution

J.D. Edwards *strongly* recommends that you use a user that belongs to the local Administrators group.

Setting Up the Network and Queue Services

Set up the Network and Queue services under a network account if you are using a network printer or a local account if you are using a local printer. Whether a network or a local account is used, it must be in either the Administrators or Power Users group.

► To set up the Network and Queue services

1. From Control Panel, choose Services.
2. Choose the ERP Network service. The name of the service is in the form "JDE *release* Network" where *release* is the current ERP release. For example, the Network service's name for Release B9 is JDE B9 Network.
3. Click the Startup button.
4. Click the This Account option.
5. Enter the account name under which the ERP 9.0 Network service will run.
6. If you want ERP 9.0 to start automatically when the enterprise server boots, click the Automatic option under Startup Type.
7. Enter the password for the account and a confirmation of the password.
8. Click OK.
9. From the Services window, choose the ERP 9.0 Queue service. The name of the service is in the form JDE *release* Queue where *release* is the current ERP 9.0 release. For example, the Queue service's name for Release B9 is JDE B9 Queue.
10. Click the Startup button.
11. Click the This Account option.
12. Enter the account name under which the ERP 9.0 Queue service will run.
13. If you want ERP 9.0 to start automatically when the enterprise server boots, click the Automatic option under the Startup Type heading.
14. Enter the password for the account and a confirmation of the password.
15. Click OK.

► To set up the Network and Queue services (Windows 2000 users only)

1. From the Start menu, choose Programs, Administrative Tools, and then Services.
2. Choose the ERP 9.0 Network service. The name of the service is in the form "JDE *release* Network" where *release* is the current ERP 9.0 release. For example, the Network service's name for Release B9 is JDE B9 Network.
3. Click Action, and then click Properties.
4. On the General tab, if you want ERP 9.0 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 ERP 9.0 Network service will run.
7. Enter the password for the account and a confirmation of the password.
8. Click OK.
9. From the Services window, choose the ERP 9.0 Queue service. The name of the service is in the form JDE *release* Queue where *release* is the current ERP 9.0 release. For example, the Queue service's name for Release B9 is JDE B9 Queue.
10. From the Action menu, choose Properties.
11. On the General tab, if you want ERP 9.0 to start automatically when the enterprise server boots, click the Automatic option under the Startup Type heading.
12. On the Log On tab, click the This Account option.
13. Enter the account name under which the ERP 9.0 Queue service will run.
14. Enter the password for the account and a confirmation of the password.
15. Click OK.

Starting the Network and Queue Services

After you have installed and set up the Network and Queue services, you must start the services before ERP 9.0 can use them.

You must always start the Network service before you start the Queue service because the Queue service requires access to the Network service program.

► To start the Network and Queue services

1. From the Services window, choose the ERP 9.0 Network service. The name of the service is in the form "JDE *release* Network" where *release* is the current ERP release. For example, the Network services name for Release B9 is JDE B9 Network.
2. Click Start.
3. When the Network starts, choose the ERP 9.0 Queue service. The name of the ERP 9.0 Network service is in the form "JDE *release* Queue." For example, the Queue services name for Release B9 is JDE B9 Queue.
4. Click Start.
5. Use the Windows NT Task Manager to ensure that the following processes are running:
 - jdesnet.exe
 - jdesque.exe
 - jdequeue.exe (there could be one or more identically named jdequeue processes)
 - jdenet_k.exe processes (there could be none, one, or more)

► To start the Network and Queue services (Windows 2000 users only)

1. From the Services window, choose the ERP 9.0 Network service. The name of the service is in the form "JDE *release* Network" where *release* is the current ERP release. For example, the Network services name for Release B9 is JDE B9 Network.

2. From the Action menu, click Start.
3. When the Network starts, choose the ERP 9.0 Queue service. The name of the ERP 9.0 Network service is in the form "JDE *release* Queue." For example, the Queue services name for Release B9 is JDE B9 Queue.
4. From the Action menu, click Start.
5. Use the Windows NT Task Manager to ensure that the following processes are running:
 - jdesnet.exe
 - jdesque.exe
 - jdequeue.exe (there could be one or more identically named jdequeue processes)
 - jdenet_k.exe processes (there could be none, one, or more)

Stopping the Network and Queue Services

Follow the steps for stopping the Network and Queue services in the proper sequence. You must always stop the Queue service before you stop the Network service.

► To stop the Network and Queue services

1. From the Services window, choose the Queue service. The name of the ERP 9.0 Network service is in the form "JDE *release* Queue." For example, the Queue services name for Release B9 is JDE B9 Queue.
2. Click Stop.
3. Click Yes at the next prompt.
4. When the Queue stops, choose the Network service. The name of the ERP 9.0 Network service is in the form "JDE *release* Network." For example, the Network services name for Release B9 is JDE B9 Network.
5. Use the Windows Task Manager to ensure that all ERP 9.0 processes are terminated. This may take several minutes. If the processes do not terminate in a normal manner, see *Cleaning Up the Enterprise Server for Windows* in the *Server and Workstation Administration Guide*. The following processes should be terminated and, therefore, should not appear in the Task Manager list of processes:
 - jdesnet.exe
 - jdesque.exe
 - jdequeue.exe
 - jdenet_n.exe
 - jdenet_k.exe
 - killque.exe
 - runbatch.exe
 - ipcsrv.exe

► To stop the Network and Queue services (Windows 2000 users only)

1. From the Services window, choose the Queue service. The name of the ERP 9.0 Network service is in the form "JDE *release* Queue." For example, the Queue services name for Release B9 is JDE B9 Queue.
2. From the Action menu, click Stop.
3. Click Yes at the next prompt.
4. When the Queue stops, choose the Network service. The name of the ERP 9.0 Network service is in the form "JDE *release* Network." For example, the Network services name for Release B9 is JDE B9 Network.
5. Use the Windows Task Manager to ensure that all ERP 9.0 processes are terminated. This may take several minutes. The following processes should be terminated and, therefore, should not appear in the Task Manager list of processes:
 - jdesnet.exe
 - jdesque.exe
 - jdequeue.exe
 - jdenet_n.exe
 - jdenet_k.exe
 - killque.exe
 - runbatch.exe
 - ipcsrv.exe

See Also

- ❑ *Cleaning Up the Enterprise Server for Windows* in the *Server and Workstation Administration Guide* for more information about terminating ERP 9.0 processes

See Also

- ❑ *Cleaning Up the Enterprise Server for Windows* in the *Server and Workstation Administration Guide* for more information about terminating ERP 9.0 processes

Cleaning Up the Enterprise Server for Windows

After ERP 9.0 is shut down, you can determine if any processes did not complete normally. If so, you need to clean up the enterprise server. Unforeseen circumstances can cause ERP 9.0 processes to not terminate as expected. Processes that do not terminate normally are called runaway processes. After shutting down ERP 9.0, look for any runaway processes and, if any exist, manually terminate the processes.

► To clean up the enterprise server for Windows

1. In the Processes tab of Task Manager, search for any ERP 9.0 Host Server processes (for example, jdesnet, jdesque, jdenet_n, jdenet_k, jdequeue, killque, runbatch).

Wait until all the ERP 9.0 Host Server processes are terminated. This is especially applicable to the killque processes. If all processes terminate, you do not need to perform any clean up tasks; skip to the next section. Otherwise, continue with the next step.

2. Choose a process in Task Manager.
3. Click End Process. If this does not terminate the runaway process, continue with the next step.
4. In Task Manager, right-click on the process and select debug.
5. When the Visual C++ main window appears, choose the Stop debugging option from the Debug menu.
6. Exit from Visual C++. Repeat these steps for each runaway process.

If none of the above procedures stops the runaway process, reboot the enterprise server.

Uninstalling the Network and Queue Services

As an administrator, it is important to consider that before you rename, move, or delete the ERP 9.0 directory tree, you must uninstall ERP 9.0's Network and Queue services. The process to uninstall these services removes the following entries from the Windows registry:

- The names of services that show up in the Services dialog
- The location of the ERP 9.0 executable files

After you have renamed or moved the directory tree, or for new installations, you should reinstall the services.

See Also

- ❑ *Starting the Network and Queue Services in the Server and Workstation Administration Guide* for more information about the Services dialog

► To uninstall the Network and Queue services

Run the following programs from the \system\bin32 directory:

- jdesnet -u
- jdesque -u

Manually Starting the Enterprise Server for Windows

If ERP 9.0 does not run through the Control Panel Services applet, you can run Network and Queue manually.

Note

If you start ERP 9.0 manually, you must stop the ERP 9.0 processes using the Windows Task Manager.

The `jdequeue` command launches a program that sets up the queue environment for ERP 9.0 and has the following parameters:

Parameter	Description
\$USER	Identifies the account name of any valid user of ERP 9.0.
\$PWD	Identifies the password for the user.
\$ENV	Identifies the environment.
\$BATCH	Identifies the name of the batch queue. This value should match that of the Qname field in the [NETWORK QUEUE SETTINGS] section of the jde.ini file on the workstation.
\$TYPE	Identifies the batch process engine. Valid values are: • UBE. Identifies the engine used for processing batch reports. • PKG. Identifies the engine used for processing server package installations.
QueueDelay	Identifies the time in seconds that the host server checks for new jobs to process. Generally, this value is specified as 30 seconds.

See Also

- ❑ *Setting Up the Network and Queue Services in the Server and Workstation Administration Guide* for instructions on automatically starting ERP 9.0

► To manually start the enterprise server for Windows

1. Log on to the enterprise server for Windows with administrator privileges.
If you used the J.D. Edwards recommended user ID, the value is JDE.
2. On the Windows toolbar, from the Start menu, choose Run, and then enter the following commands:

```
drive: OneWorldpath\system\bin32\jdenet_n
drive: OneWorldpath\system\bin32\jdequeue
```

Where *parameters* controls such queue values as user, password, environment, queue name, and delay, and OneWorldpath is the path to the ERP 9.0 installation.

- `jdenet_n`
This command launches an executable program that starts the ERP 9.0 network (JDENet) internal processes.
- `jdequeue parameters`
The `jdequeue` command launches a program that sets up the queue environment for ERP 9.0. The parameters for this command are described in the overview for this task.

If you run `jdenet_n` and `jdequeue` from a command prompt, ensure that the working directory for both commands is the subdirectory `\system\bin32`.

Verifying the ERP 9.0 Installation

You can verify your ERP 9.0 installation with the PORTTEST program.

Note

When you run PORTTEST, make sure that one of the following is true:

- If the network service, such as jdesnet.exe, is running, make sure that you are logged on to NT 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 ERP 9.0 installation

In the command line, enter the following commands:

```
cd \PeopleSoft\b9\ddp\system\bin32
porttest <userid> <password> <environment>
```

The program initializes an environment, initializes a user, opens a 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 screen and the corresponding jde.log file to determine the results of the program.

Note

The parameters for user ID, password, and environment would most likely be the same ones you used in jdequeue. However, these parameters can be any valid ERP 9.0 user ID, password, or environment.

Administering Batch Processes for Windows

Administering batch processes involves knowing the processes that run when ERP 9.0 starts, where files are placed before and after printing, and how to watch those processes.

The user who started the ERP 9.0 software owns the processes running for ERP 9.0; Windows Task Manager cannot track this information. When ERP 9.0 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.
jdesque.exe	The process responsible for starting the queues.

jdequeue.exe The process that searches the database queues and starts report processing.

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.

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 ERP 9.0 installation directory before being 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 you have 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. Both of these workstation settings are shown below:

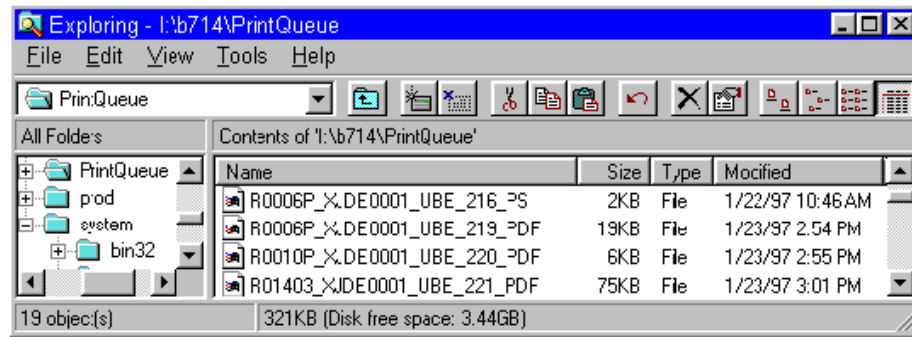
<pre>[NETWORK QUEUE SETTINGS] SaveOutput=TRUE PrintImmediate=TRUE</pre>

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. If users should decide to save their output, they should be encouraged to periodically delete the entries through ERP 9.0. Deleting the output files from the operating system will not delete the corresponding ERP 9.0 print job entries (for example, entries might still exist in the database). These print job entries still have to be cleaned up manually.

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

Output looks similar to the following:



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

Convention Description

S_	Identifies the first part of a file name. Indicates that a spec installation was performed by the workstation. The system will omit this prefix if no specification installation was performed.
R0006P	Identifies the report name.
XJDE0001	Identifies the report version.
UBE	Identifies the type of request.
216	Identifies the request number assigned by ERP 9.0.
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 ERP 9.0 system directory (system\bin32) and then entering the following 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. The following 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 (F986110) table. Jdequeue retrieves this record and starts a runbatch process. Runbatch processes the report and outputs a .pdf file.
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 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 will remove 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's default printer.

Example: Running Reports from the Command Line for Windows

This example shows commands for executing a batch process report:

```
cd \PeopleSoft\b9\ddp\system\bin32
runube KL5595218 KL5595218 PROD R0006P XJDE0001 QBATCH Interactive Print
Delete printer_1
```

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.

The following 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, JDEDWARDS_ONEWORLD_B9_SP1.

The following 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.

Parameter of [Active Directory] Section of Workstation jde.ini File	Meaning	Parameter Value: name of SCP Object in Active Directory
JdenetSCP	Connection port	JDEDWARDS_ONEWORLD_B9_SP2
SecurityServerSCP	Security server	Same as above
LockManagerSCP	Lock manager	Same as above
UnifiedLogonServerSCP	Unified logon server	Same as above

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.

If you issue jobs with the "at" command, they run in the background. However, the "at" command is designed to allow 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 is dependent on the security configured on the Windows enterprise server. You should be careful to 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:

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

Where the following 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 (for example, 08:00).
/Windows INTERACTIVE	Allows the program to interact with the Windows operating system desktop.
/EVERY:date	Specifies the days to run the job. Valid 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 is today's date.
command	Specifies the command to run. To run batch jobs here, use the runube command with any of its parameters.

Example: Scheduling Reports from the Command Line for Windows

This example shows a sample "at" command that you can use to schedule an ERP batch report to run on the DEPLOY machine at 06:00 every Sunday:

```
at \\DEPLOY 06:00 /EVERY:Su z:\b9\system\bin32\runube KL5595218 KL5595218
PROD R0006P XJDE0001 QBATCH Interactive Print Delete printer_1
```

Understanding jde.ini Settings for Starting Batch Queues on Windows

The following 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
```

Variable Value	Description
number of batch queues	Identifies the number of batch queues available.
	Note
	If you do not define a number of batch queues that matches the number defined here, ERP 9.0 uses QBATCH when a missing queue is called.
batch queue name	Identifies the name of the batch queue. For example, for UBEQueue2, you might define the queue as QBATCH2.
	Note

You should define a number of batch queue names equal to the value you define for the number of batch queues.

number of package queues	Identifies the number of package queues available. Note If you do not define a number of package queues that matches the number defined here, ERP 9.0 uses QBATCH when a missing queue is called.
package queue name	Identifies the name of the package queue. For example, for PkgQueue2, you might define the queue as XBATC2. Note You should define a number of package queue names equal to the value that you define for the number of package queues.
number of spec install queues	Identifies the number of spec install queues available. Note If you do not define a number of spec install queues that matches the number defined here, ERP 9.0 uses QBATCH when a missing queue is called.
spec install queue name	Identifies the name of the spec install queue. For example, for PkgQueue2, you might define the queue as XBATC2. Note You should define a number of spec install queue names equal to the value you define for the number of spec install queues.
queue environment	Identifies the ERP 9.0 environment under which the Windows operating system starts the queues.
queue user	Identifies a valid ERP 9.0 user.
queue user password	Identifies the password for the queue user.

Using Active Directory

Windows 2000 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 ERP 9.0 server information in Active Directory, client workstations use this information to locate and connect to the server dynamically. If ERP 9.0 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 2000 feature, and its use with ERP 9.0 is platform specific and optional. If you are running ERP 9.0 enterprise servers on Unix or AS/400 platforms, ERP 9.0 client workstations will still reference their jde.ini files to connect to the server.

SCP Object in Active Directory

ERP 9.0 Windows service installation creates a Service Connection Point (SCP) object in Active Directory. The SCP object specifies:

- The server name
- The port number

Starting ERP 9.0 service on a server automatically updates the SCP object with the server name and port number, and establishes the SCP object status as "running." If service stops, the status of the SCP object automatically changes to "stopped."

Note

ERP 9.0 Windows service installation creates the SCP object in Active Directory only if you have added an [Active Directory] section to the server's jde.ini file *before* installation.

When a user logs on to ERP 9.0, ERP 9.0 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. ERP 9.0 chooses an SCP object whose status is "running" and retrieves the server name and port number, which enables the workstation to make a connection to the server.

See Also

- ❑ *Windows ERP 9.0 Install Guide* for details about Windows installation
- ❑ *Additions to the Server jde.ini file* in the *Server and Workstation Administration Guide* for details on adding an [Active Directory] parameter value to the server jde.ini file

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 server's jde.ini file. 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 ERP 9.0.

The following table demonstrates a sample entry to the [Active Directory] section of the server jde.ini file.

Parameter of [Active Directory] Section of Server jde.ini File Parameter Value

SCPToPublish	JDEDWARDS_ONEWORLD_B9_SP1

If you move ERP 9.0 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 if a change in service is made, UBEs and business functions will not automatically be mapped to the new server. Therefore, you will likely have to change users' OCM mappings in order to point them to the new data source.

Maintaining File Security for Windows

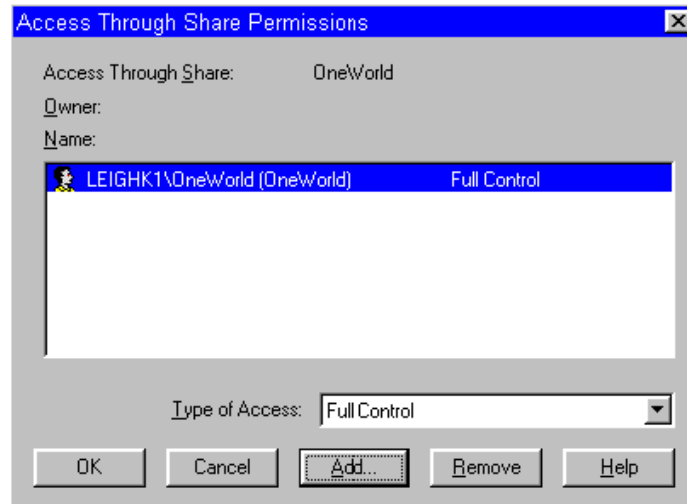
You should be aware of the security that is set for the files on an ERP 9.0 enterprise server. System-wide, only the following two accounts will ever need operating system access to the ERP 9.0 environment files and version executables:

- The account that starts and stops ERP 9.0
- 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

SPEC files are the first part of the environment files. You access these files using the ERP 9.0 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 there is no need to set the executable option for any user, group, or other.

You should assign SPEC file security in a manner similar to the following:



Business Function File Security

You should keep business functions secure. In an environment where 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 ERP 9.0 administrators, rebuilding them could have unknown or undesired results. Most likely, a developer is working to correct a problem, but the possibility always exists that the problem could become worse.

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

ERP 9.0 Executables Security

You should prevent access to ERP 9.0 executable files to prevent other users from attempting to start up ERP 9.0. Running the same version of ERP 9.0 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 allows them to shut down ERP 9.0.

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 ERP 9.0 security to function. This database account is given read authority to the F98OWSEC table, which controls ERP 9.0 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 ERP 9.0 is not necessary but prevents accidental modification of jde.ini settings that could adversely affect the operation of ERP 9.0.

Because of the importance of limiting access to the jde.ini file for security reasons, you also should limit access to the ERP 9.0 account (or the user account that starts and stops ERP 9.0). Users with access to this account could easily obtain the F98OWSEC user names and passwords, and gain privileged access to the database.

Running Multiple Instances of ERP 9.0 on Windows NT/2000

You can run multiple instances of ERP 9.0 on a Windows NT/2000 server. You might do so to test a new service or to upgrade to a new version of ERP 9.0. It is not necessary to install a separate machine to run multiple instances of ERP 9.0, so long as you follow a series of prescribed steps.

Before You Begin

- ❑ Make sure you have enough disk space to create copies of your current ERP 9.0 system directory and at least one path code directory.
- ❑ Make sure that you install each new instance of ERP in a separate directory tree and that the version-level directories are different. For example, ERP 9.0 version 1 might be installed in the z:\OneWorld\b9_1 directory tree, while ERP 9.0 version 2 might be installed in the z:\OneWorld\b9_2 directory tree.

Generating a Unique ERP 9.0 Identifier

Each instance of ERP 9.0 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.

► To generate a unique ERP 9.0 identifier

1. On the Windows taskbar, from the Start menu, choose Run or from a command prompt, enter the following command:

```
uuidgen-oFILENAME
```

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

Note

For help on the uuidgen program's options, run the following command:

```
uuidgen-?
```

The uuidgen program creates a unique ERP 9.0 identifier and stores it in the file you specified.

2. Copy the ERP 9.0 identifier.
3. Open the server jde.ini file and paste the identifier into the CSLID parameter under the file's [JDEIPC] section.

Modifying the Server jde.ini Files

For each new instance of ERP 9.0, you modify the values of parameters in the server jde.ini file. Each value for each ERP 9.0 instance must be unique.

The following 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 log file that will contain debugging data.	z:\OneWorld\b733_2\log\jdedebug.log
[DEBUG]	JobFile=	Name of log file that will contain log data.	z:\OneWorld\b733_2\log\jde.log
[INSTALL]	StartServicePrefix=	Prefix that will be used for names of the JDE network and queue services.	Instance 2
[INSTALL]	B733=	Base directory of the ERP 9.0 installation.	z:\OneWorld\b733_2
[JDEIPC]	StartIPCKeyValue=	Integer that indicates an arbitrary starting point in memory for interprocess communications. For multiple instances of ERP 9.0, 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 ERP 9.0.	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

► **To modify the server jde.ini file**

1. In the system\bin32 subdirectory for each new ERP 9.0 instance, open the server jde.ini file.
2. In the [DEBUG] section of the jde.ini file, modify the values of the following parameters:
 - **DebugFile=**
This is the name of the log file that will contain debugging information.
 - **JobFile=**
This is the name of the file that will contain log information.
3. In the [INSTALL] section of the jde.ini file, modify the values of the following parameters:
 - **StartServicePrefix=**
The value of this parameter will be used for the names of the JDE network and queue services. The names are listed in the Services window under Control Panel.

The default is JDE followed by the current version number, for example, B9. The default produces the service names JDE B9 Network and JDE B9 Queue.
 - **B9=**
The value of this parameter represents the base directory of the ERP 9.0 installation. The ERP 9.0 server uses this value to determine the location of the executables and DLLs used to run ERP 9.0 programs.
4. In the [JDEIPC] section of the jde.ini file, modify the values of the following parameters:
 - **StartIPCKeyValue**
The value of this parameter indicates a starting point in memory for inter-process communications. For multiple instances of ERP 9.0, you should be sure that the difference between starting point values for each instance is at least 1000. The default value is 5000.

Caution

To ensure that the difference between starting point values is at least 1000, check maxNumberOfResources parameter in the [JDEIPC] section of the jde.ini file. If the parameter value is less than 1000, change the value.

- **CLSID=**
The value of this parameter is a unique string that is generated by the NT guidgen program.
5. In the [JDENET] section of the jde.ini file, modify the values of the following parameters:
 - **serviceNameListen=**

The value of this parameter specifies the TCP/IP port used by the server to receive communications packets from the workstations. Each instance of ERP 9.0 must communicate with workstations through a different port.

The default value is `jde_server`.

- `serviceNameConnect=`

The value of this parameter specifies the TCP/IP port used by the server to send communications packets to the workstations. Each instance of ERP 9.0 must communicate with workstations through a different port.

The default value is `jde_server`.

See Also

- ❑ *Generating a Unique ERP 9.0 Identifier in the Server and Workstation Administration Guide* for directions on running the `uuidgen` program

Installing Services for a ERP 9.0 Instance

You are not required to install network and queue services for an existing ERP 9.0 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.

Modifying the Workstation `jde.ini` File

After you have installed services for each ERP 9.0 installation, you must modify the workstation `jde.ini` file so that the values of the following parameters match those you set up in the server `jde.ini` file:

- `serviceNameListen=`
- `serviceNameConnect=`

► To modify the workstation `jde.ini` file

1. In the workstation's Windows directory, for example, `c:\winnt` or `c:\windows`, locate and open the `jde.ini` file.
2. Modify the values of the following parameters to match the values in the server `jde.ini` file:
 - `sericeNameListen=`
 - `serviceNameConnect=`

Uninstalling ERP 9.0 Services

If you want to delete an instance of ERP 9.0 after you install its services, you must uninstall the ERP 9.0 services for that instance before you delete the ERP 9.0 directory tree.

► To uninstall ERP 9.0 services

1. From a command line prompt, change directories to the ERP 9.0 instance's system\bin32 directory. For example:

```
C:\> d:\b9\system\bin32
```

2. To uninstall network services, enter the following command:

```
jdesnet -u
```

3. To uninstall queue services, enter the following command:

```
jdesque -u
```

These commands remove some settings in the NT registry that were created when you installed ERP 9.0 services.

Moving or Changing a ERP 9.0 Directory Tree

If you want to move or rename an ERP 9.0 instance's directory after you install its services, you must uninstall the network and queue services and uninstall the IPC Automation Server (ipcserv.exe). You can then move or rename the ERP 9.0 directory and reinstall network and queue services. The IPC Automation Server automatically reinstalls itself when it is first used.

► To move or change a ERP 9.0 directory tree

1. From a command line prompt, change directories to the ERP 9.0 instance's system\bin32 directory. For example:

```
C: \> d:\b9\system\bin32
```

2. To uninstall network services, enter the following command:

```
jdesnet -u
```

3. To uninstall the queue services, enter the following command:

```
jdesque -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 via inter-process communications.

4. Move or change the directory tree.
5. Reinstall ERP 9.0 Services.

See Also

- ❑ *To set up the Network and Queue services in the Server and Workstation Administration Guide* for complete details on installing network and queue services

Server Administration Workbench

The server administrator needs to be aware of the two main components of ERP 9.0 to ensure that ERP 9.0 functions properly. These components are JDENET and JDEQUEUE. The ERP 9.0 Server Administration Workbench (SAW) provides a unified interface for administrators to use while monitoring the processes of these components.

The following table provides detailed information about the main processes in ERP 9.0:

Process	Description
JDENET	JDENET starts child processes that control additional communications functions and kernel processes that determine the actual ERP 9.0 client requests. For example, these client requests might include Security Server or JDE CallObject.
JDEQUEUE	JDEQUEUE reads a Job Control Status Master (F986110) table, which controls the status of batch applications running on a given server, and then starts a child process to run the batch application. When ERP 9.0 completes a child process, JDEQUEUE reads the next record in F986110.

Setting up 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 (e.g., deleting server log files, updating the server's jde.ini file) 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 (P00950) application 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.)

The SAW application (P9861100) is no longer supported in ERP 9.0 and later releases.

See Also

- ❑ *Security* in the *System Administration Guide* for more information on setting up group and user security and using the Security Workbench application

► To set up security access for SAW

From the System Administration Tools menu (GH9011), choose Security Workbench (P00950).

1. In Security Workbench, click Form on the menu bar, and then choose Setup Security and External Calls.
2. In Security Workbench [External Calls Security], enter the **user's** ERP 9.0 ID in the User/System Role control. Do not enter a system role into this control; for SAW's use, this must be the user's ID.

3. Enter "SERVERADMINISTRATIONWORKBENCH.EXE" in the Display Secured Item Executable field and click Find.
4. Expand the Unsecured node in the tree at the bottom of the form.
5. Choose the Run Security option.
6. Drag the "SERVERADMINISTRATIONWORKBENCH." item to the Secured node in the tree and click Find.

The "SERVERADMINISTRATIONWORKBENCH." item should appear under the Secured node.

7. Click close.

After you have completed these steps, you have secured privileged actions in the web and fat-client versions of SAW from unauthorized individuals. To grant a user access to privileged actions in SAW, you simply drag the "SERVERADMINISTRATIONWORKBENCH." item from the Secured node to the Unsecured node.

Monitoring ERP 9.0 with SAW on Windows

The Server Administration Workbench (SAW) provides a unified interface where administrators can view information regarding ERP 9.0 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 ERP 9.0 server and access log files for any server on the network.

The interface has two tabs:

- Query

The Query tab lets you add servers and view statistics about their components at a particular point in time.

- Monitor

The Monitor tab allows you to periodically monitor the ERP 9.0 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.

Adding to the JDE.INI File

Before monitoring ERP 9.0 on Windows with Server Administration Workbench (SAW), you should add a variable to the [JDENET] section of the Windows enterprise server JDE.INI file, as shown below. This variable allows SAW to create, transfer, and remove temporary files larger than 5 MB.

```
[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

Server Administration Workbench (SAW) is a separate ERP 9.0 executable that resides by default in the \B9\SYSTEM\Bin32 directory.

When you log on to SAW, you must enter your ERP 9.0 user name and password as a validation for all servers. If you add a new server for monitoring after logging on, SAW uses the cached login information as a validation against the server you added.

To perform the following 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

See Also

- ❑ *Setting Up Security Access for SAW in the Server and Workstation Administration Guide* for a discussion of granting SAW administrative rights

► To access SAW

1. Open the \B9\SYSTEM\Bin32 directory and then run SERVERADMINISTRATIONWORKBENCH.exe.
2. On Sign On, complete the following fields and click OK:
 - User ID
 - Password

Adding an ERP 9.0 Server for Querying

From Server Administration Workbench (SAW), you can add servers for querying. Doing so enables you to administer ERP 9.0 processes and resources on the server and view 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.

► 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 ERP 9.0 enterprise server type field, choose the Windows option if you want to monitor a ERP 9.0 server on Windows.
4. In the Server Name field, enter the name of the server you want to monitor or click the ellipsis button and choose the name of an ERP 9.0 server running on the Windows platform.

The ellipsis button is disabled if you choose UNIX or AS/400.

5. In the Port Number field, enter the port number for the server you are adding and click OK.

Checking ERP 9.0 Server Configurations

Server Administration Workbench (SAW) stores the server name and port connection number each time you add an ERP 9.0 server for querying. You can check each server name and port connection and change a port connection, if necessary.

► To check server configurations

1. On Server Administration Workbench, click the Query tab.
2. Click the Settings button.
3. On Server Configuration, choose a server name.
If you added more than one server for monitoring, click the scroll button in the Server Name control and choose a name. SAW shows the connection port number when you choose a server name.
4. To change the connection port number, enter a new valid number in the Connection Port control and click OK.

Checking ERP 9.0 Server Connectivity

Server Administration Workbench (SAW) allows you to run a test to ensure that you are connecting to the ERP 9.0 server that you want to monitor. SAW returns an error message if you fail to make a connection. If SAW fails to connect to the server, you should verify that the name of the server you want to monitor is correct. You also might need to verify where the connection to the server exists.

► To check ERP 9.0 server connectivity

1. On Server Administration Workbench, click the Query tab.
2. From the File menu, choose Servers, and then choose Connectivity.
3. On Server Connectivity, choose a server name from the combo box and click Start.

SAW displays in the Attempts and Successes controls 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 sound.

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 an ERP 9.0 Server from the Query List

At any time, you can use Server Administration Workbench (SAW) to remove a server from your list of monitored ERP 9.0 servers.

► 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 in the SAW form.
3. In the expanded tree, click the icon of the server that you want to remove.

Note

You must click the server icon, not a server component, such as Processes.

4. Click the Remove button.

Configuring ERP 9.0 Server Monitoring Settings

You use the Settings button from the Monitor tab to configure each ERP 9.0 server you want to monitor. Server monitoring configuration allows you to do the following:

- Choose the servers you want to monitor
- Choose the processes that Server Administration Workbench (SAW) monitors
- Choose the server events that will trigger notification to you
- Set up the way you are notified
- Set up the frequency of notification
- Set up thresholds that determine when server events will trigger notification

SAW displays information on servers that you configure for monitoring each time it retrieves server data.

You configure your server monitor settings in SAW using the ERP 9.0 Server Monitor Settings form. You make choices from the following three tabs to configure your monitoring settings:

- Port/Server Selection, which allows you to set up servers, port connection numbers, and server processes to monitor.
- Notification Configuration, which allows you to choose the server events that will trigger administrator notification, the ways that you will be notified, and the frequency of notification.
- General, which allows 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.

After you apply the server configuration parameters, SAW displays a server icon for each server that you configured. SAW runs periodic tests on the processes you specified and displays in a window whether the processes are running or not.

Selecting a Server, Port, and Processes to Monitor

Using the ERP 9.0 Server Monitor Settings form, you can set up ERP 9.0 servers, ports, and processes for monitoring. Once you do so, you can use Server Administration Workbench (SAW) to quickly see whether the processes you chose for monitoring are running on the server.

► To select a server, port, and processes to monitor

1. On SAW, click the Monitor tab.
2. Click the Settings button on the toolbar.
3. On OneWorld Server Monitor Settings, click 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, choose the following option:
 - This is a WebServer
7. To set up server processes to monitor, choose any of the following options, if applicable:
 - Off line
 - UBE
 - Lock Manager
 - Replication
 - Security

Note

If you choose Off line, SAW will not monitor ERP 9.0 server processes for the server that you specified.

8. Click Apply to save the settings.

Setting up Event Notification

After you have chosen the ERP 9.0 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 ERP 9.0 Server Monitor Settings form, click the Notification Configuration tab.
2. Under Notification Events, choose from the 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 e-mail notification, click the + button in the E-mail address field, enter an e-mail address, and click OK.
 4. To set up pager notification, click the + button in the Pager address field, enter a pager address, and click OK.
 5. Under Notification Settings, set up how you will be notified:
 - Choose the Repeat Notification option if you want SAW to notify again after the first notification
 - Enter the interval between notification (referred to as "frequency" in the form), in seconds
 - Enter the pager message size in number of lines
 6. Click Apply to save the settings.

Setting up SAW Run-time Parameters

You can also use the ERP 9.0 Server Monitor Settings form to configure Server Administration Workbench (SAW) run-time parameters. For example, after you establish the server events for which you want to receive notification, you can set up the thresholds that will 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.

From the General tab, you specify the following 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 will allow to back 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 that SAW will allow before administrator notification is triggered
- UBE run-time threshold, which specifies the number of minutes that SAW will allow a batch process to run before administrator notification is triggered
- Queue threshold, which specifies the number of jobs in a queue that SAW will allow before administrator notification is triggered

The following threshold settings are recommended:

Threshold Parameter	Recommended Threshold Setting
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

► **To set up SAW run-time parameters**

1. On the ERP 9.0 Server Monitor Settings form, click the General tab.
SAW displays under a General heading monitoring parameters for which you can assign values.
2. Set values for the following 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.

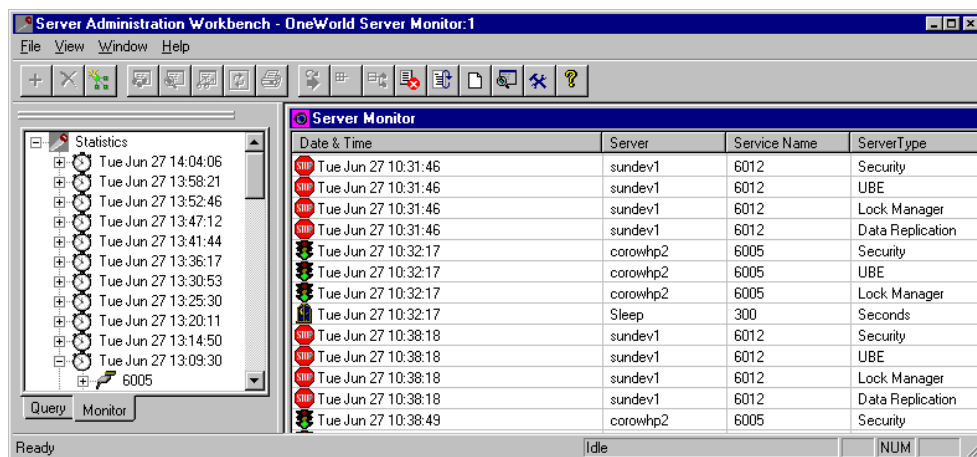
Note:

If you set a parameter's value at 0, SAW does not test that parameter.

Monitoring ERP 9.0 Server Processes

After you have configured ERP 9.0 servers for monitoring, Server Administration Workbench (SAW) runs tests at regular intervals on the processes you chose. You can quickly check if the servers you are monitoring are up or down and if the server processes you are monitoring are running.

SAW displays this information in the Server Monitor window of the SAW form:



The information in the Server Monitor window allows you to see, at a glance, whether a SAW-monitored server process is up or down. A stop sign icon indicates a server process is down, while a stoplight icon indicates a process is running.

The following table summarizes the server process parameters displayed in the Server Monitor window:

Parameter in Server Monitor Window	Parameter Value
Date & Time	The date and time that SAW ran a server check. The frequency of the checks is determined by the parameter value you set during server-monitoring configuration.
Server	The name of the ERP 9.0 server you are monitoring. "Sleep" indicates the Server Monitor has entered sleep mode.
Service Name	The port connection number.
Server Type	The server process you are monitoring, such as UBE or Lock Manager.
Status	The status of the server process, either Up, Down.
Details	Additional information about a server process.

Before You Begin

- ❑ Be sure that you have configured the monitoring settings for each ERP 9.0 server whose processes you want to monitor. If you have not done so, you will not be able to monitor the server processes in the Server Monitor window. Adding an ERP 9.0 server for querying is not sufficient.

- ▶ To monitor ERP 9.0 server processes

1. Log in to SAW.

On initial login, there is a brief delay as SAW retrieves data on server processes.

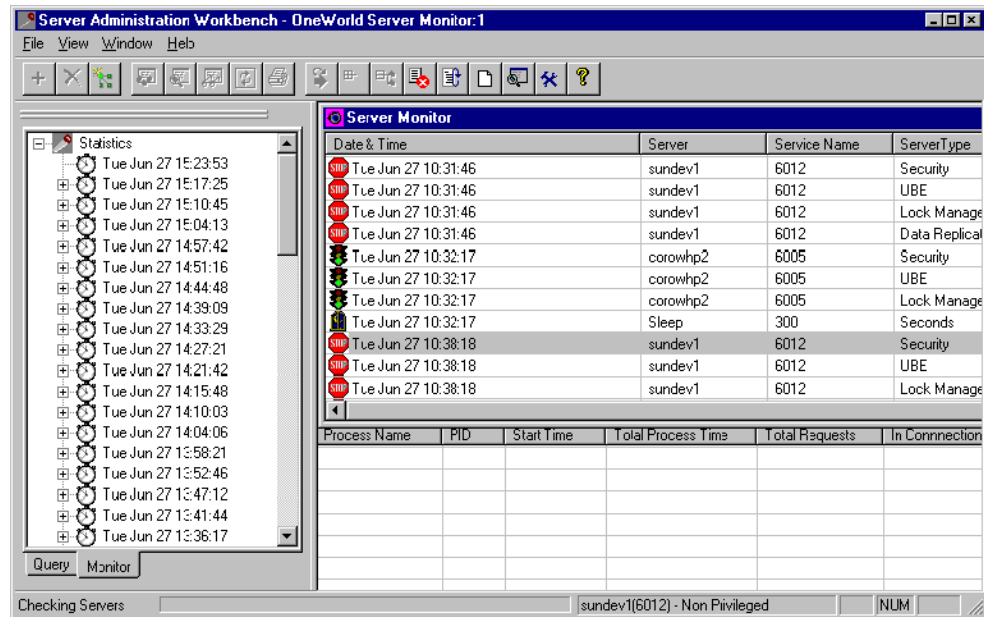
2. When SAW populates the Server Monitor window, check Date & Time and Status parameters for Stop values, which indicate if a server is down or a process on the server has died.

Note:

If you change the view in the SAW form and need to return to the Server Monitor window, click the Restore icon in the menu bar.

Monitoring ERP 9.0 Enterprise Server Statistics

The Server Administration Workbench (SAW) form displays performance statistics for each ERP 9.0 enterprise server you configure for monitoring. A clock icon 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 view performance statistics on each server. You can view detailed statistics about:

- Kernel processes
- Network processes
- UBEs
- Server disks

The Statistics window offers you another quick way to identify server problems. If a process has died or some other problem has occurred, 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.

Process Name	PID	Start Time	Total Process Time	Total Requests
SCHEDULER KERNEL	582	Fri Jun 23 1...	6	15
Net Listener	491	Fri Jun 23 1...	734	49580
CALL OBJECT KERNEL	484	Fri Jun 23 1...	613	12077
CALL OBJECT KERNEL	513	Fri Jun 23 1...	673	12599
Net Listener	520	Fri Jun 23 1...	1718	127477
SAW KERNEL	499	Mon Jun 26 ...	8	67
Net Listener	598	Fri Jun 23 1...	2210	76331
Net Listener	530	Fri Jun 23 1...	434	27785
CALL OBJECT KERNEL	594	Sat Jun 24 ...	307	6403
UBE KERNEL	688	Mon Jun 26 ...	25	175
CALL OBJECT KERNEL	546	Sat Jun 24 ...	412	9127
CALL OBJECT KERNEL	245	Sat Jun 24 ...	939	11434
CALL OBJECT KERNEL	474	Sat Jun 24 ...	905	13588
CALL OBJECT KERNEL	613	Sat Jun 24 ...	914	13413
CALL OBJECT KERNEL	622	Sat Jun 24 ...	505	10033
PACKAGE BUILD KERN...	468	Sun Jun 25 ...	118	14655
WORK FLOW KERNEL	644	Mon Jun 26 ...	106	23
CALL OBJECT KERNEL	639	Mon Jun 26 ...	507	4018
CALL OBJECT KERNEL	693	Mon Jun 26 ...	428	3891
SECURITY KERNEL	653	Mon Jun 26 ...	0	13
UBE KERNEL	668	Mon Jun 26 ...	7	44
LOCK MANAGER KERN...	675	Mon Jun 26 ...	0	2
SAW KERNEL	679	Died	399	2483

Finally, SAW allows you to view and print log files for kernel and network processes running on servers you have configured for monitoring. You can also turn logging on or off for any server process.

Monitoring Process Statistics for Enterprise Servers

The Statistics window allows you to view network and kernel processing data for each monitored enterprise server. To display the processing statistics, you click a server icon. Statistics on each process appear in the Process Statistics window.

The following table summarizes the parameters displayed in the Process Statistics window:

Parameter in Process Statistics Window for Enterprise Servers	Parameter Values
Process Name	The name of the kernel or network process.
PID	The process identification number.
Start Time	The date and time the process began.

Total Process Time	The total time, in milliseconds, 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 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 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 view additional information and complete additional tasks:

- View Debug Log
- View JDE Log
- Print Debug Log
- Print JDE Log
- Process Users
- Turn on Server Logging
- Turn off Server Logging
- Change 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.

► To monitor process statistics for enterprise servers

1. On SAW, click the Monitor tab.
2. Click the Refresh button on the toolbar to get the latest server information
3. On Statistics, expand the top clock icon node.
4. Expand the port connection icon node for the enterprise server you want to monitor.
5. Click the server icon.

Statistics for kernel and network processes running on the enterprise server appear in the Process Statistics window.

6. To sort the items in a column, click the column heading.

Changing Process Settings

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 if the server is experiencing performance problems. You can also disable processes that are causing problems.

Your 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 the following formula:

$$\text{maxKernelProcesses} - \text{sum of individual kernel type maxNumberOfProcesses}$$

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 ($50 - 34 = 16$, $10 + 16 = 26$).

► To change process settings

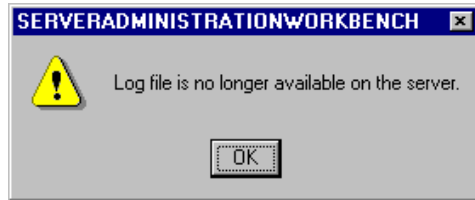
1. On SAW, click the Monitor tab.
2. Click the server icon for the server you want to monitor
SAW populates the Process Statistics window with data on each NET and KERNEL process running on the server.
3. Choose a kernel or network process and right-click.
4. To change the number of NET or KERNEL processes, choose Change max number of this process type, enter a new value, and click OK.
5. To disable a KERNEL process, choose Disable Kernels.

Viewing Log and Debug Log Files for Enterprise Server Processes

Server Administration Workbench (SAW) allows you to view server log and debug log files for individual kernel and network processes running 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 the file is no longer available.



► To view log and debug log files for enterprise server processes

1. On Statistics, click an enterprise server icon.
2. On Process Statistics, right-click a network or kernel process and choose View Debug Log or View JDE Log.

The log or debug log file appears in a text editor.

Note:

You can also choose a network or kernel process in the Process Statistics window and click the Debug Log or JDE Log buttons in the toolbar.

Printing Log and Debug Log Files for Enterprise Server Processes

You can print server log or debug log files from your workstation. Server Administration Workbench (SAW) prints a text editor document to your local printer. Remember that debug log files can be very large, which might make printing impractical.

► To print log and debug log files for an enterprise server process

1. On Statistics, click an enterprise server icon.
2. On Process Statistics, right-click a network or kernel process and choose Print Debug Log or Print JDE Log.

SAW prints the file to your local printer. For server logs, you can also click the Print JDE Log button in the toolbar.

Turning Logging on and off for Enterprise Server Processes

You can control logging for processes running on enterprise servers. If you observe that a problem has occurred with a process, you might turn on logging so that Server Administration Workbench (SAW) adds information to the log file for that process. When you have enough information, you can turn off logging so that you can more easily isolate in the log file where 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 logging off.

► To turn logging on and off for enterprise server processes

1. On Statistics, click an enterprise server icon.
2. On Process Statistics, right-click a network or kernel process and choose Turn on Server Logging or Turn off Server Logging.

Viewing Process User Statistics for Enterprise Servers

You can view statistics on 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 you choose.

► To view process user statistics for enterprise servers

1. On Statistics, click an enterprise server icon.
2. On Process Statistics, right-click a CallObject kernel process and choose Process Users.

SAW displays, in a separate window, user and machine information for the CallObject process you choose.

Viewing Statistics for UBEs

The UBE icon appears as a child of the enterprise server icon in the Statistics window only if a UBE is running on the enterprise server. If you click the UBE icon, you can view the following 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 UBEs

1. On Statistics, expand an enterprise server icon.
2. Click a UBE icon, if one appears.

Statistics for UBEs running on the enterprise server appear in the Monitor UBE window.

Viewing Statistics for Server Disks

The disk icon appears at all times as a child of the enterprise server icon. If you click the disk icon, you can view 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 icon.
2. Click the Disk icon.

Statistics for each server disk appear in the Monitor Disk window.

Monitoring ERP 9.0 Web Server Statistics

You can also use Server Administration Workbench (SAW) to monitor statistics on ERP 9.0 Web servers from your fat client workstation. The Statistics window in the SAW form displays no data on kernel and network processes for Web servers because these processes run on enterprise servers. However, you can monitor data on Web server users, connections to enterprise servers, and business functions running on enterprise servers.

If you are working on a thin or zero client workstation, you can monitor Web servers from your workstation using the Web Server Monitor utility.

Remember that 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 running on enterprise servers connected to the Web server. The Web Server Monitor does not allow you to set up notification triggers.

See Also

- ❑ *Monitoring the Web Server System* in the *Server and Workstation Administration Guide* for more information about monitoring Web server statistics

Monitoring Data on Enterprise Servers Connected to the Web Server

When you click a Web server icon in the Statistics window, Server Administration Workbench (SAW) displays information about each enterprise server connected to the Web server in a separate window.

Host	Port	Max Conn Pool	Max Pool Wait	Current Pool Wait	Current Conn
COROWHP2	6005	30	0	0	3
DWNTS1	6005	30	0	0	3
JDEOW1	6005	30	0	0	2
UNKNOWN	6005	30	0	0	0

This window contains important connection information as well as information about business functions running on the enterprise servers.

The following table summarizes the data SAW displays on each enterprise server connected to the Web server:

Parameter for SAW Window Displaying Host Server Data

Parameter for SAW Window Displaying Host Server Data	Parameter Value
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 once 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. The value is incremented with each new user who attempts to connect once the Max Conn Pool value has been exceeded.
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.

► To monitor data on enterprise servers connected to the web server

1. On SAW, click the Monitor tab.
2. In the toolbar, click the Refresh button to get the latest server information
3. On Statistics, expand the top clock icon node.
4. Expand the port connection icon node for the web server you want to monitor.
5. Click the web server icon.

SAW populates the Monitor WebServer window with the name of and data on each enterprise server connected to the web server.

Monitoring Web Server CallObjects

Server Administration Workbench (SAW) allows 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.

The following table summarizes the data that SAW displays about business functions running on an enterprise server connected to the Web server:

Web Server CallObjects Window Parameter	Parameter Value
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.

► To monitor web server CallObjects

1. On Monitor WebServer, right-click a line containing the name of an enterprise server and then choose Display CallObjects and Connections.

SAW opens a new window with two tabs:

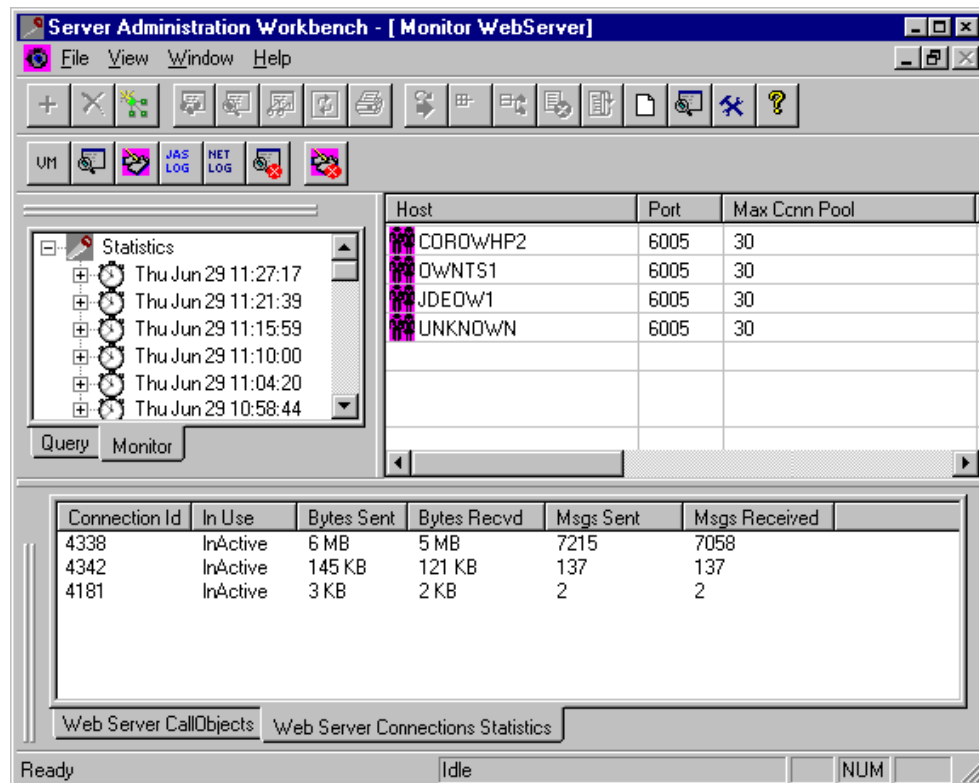
- Web Server CallObjects
- Web Server Connections Statistics

2. Click the Web Server CallObjects tab.

SAW populates the window with data on each business function that has run on the enterprise server during a web server session.

Monitoring Web Server Connection Statistics

You click the Web Server Connections Statistics tab to view data on the connections made from the Web server to the enterprise server.



The following table summarizes the data that Server Administration Workbench (SAW) displays on connections between the Web server and the enterprise server:

Web Server Connection Statistics Window Parameter

Parameter Value

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.

► To monitor web server connection statistics

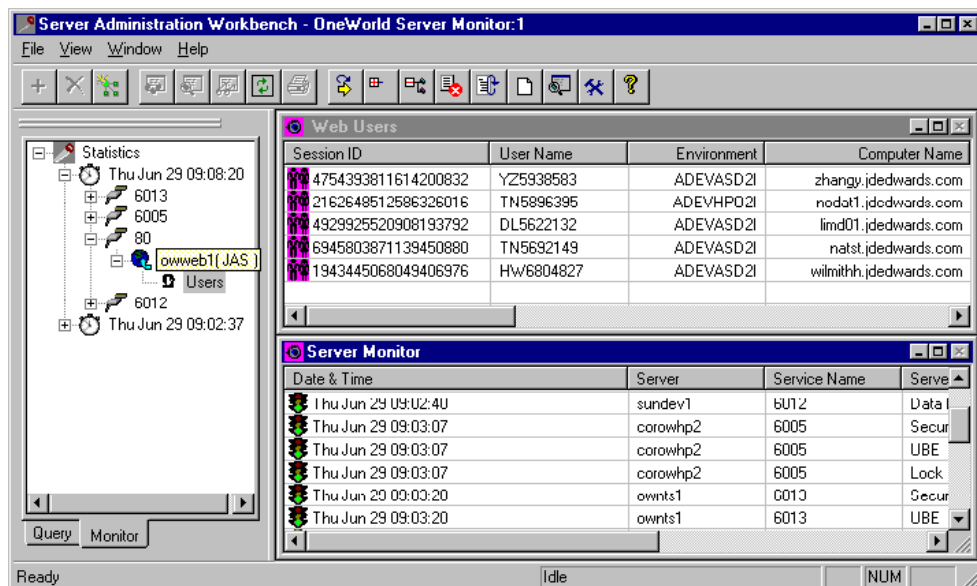
1. On Monitor WebServer, right-click a line containing the name of an enterprise server and then choose Display CallObjects and Connections.
2. Click the Web Server CallObjects tab.

SAW populates the window with data on each business function that has run on the enterprise server during a web server session.

Monitoring Web Server User Statistics

You can also use the Statistics window in the Server Administration Workbench (SAW) form to view statistics about Web server users.

When you expand the node for a Web server, only a User icon appears as a child of the server icon.



The Web Users window displays information about each user connected to the Web server. The following table summarizes the data that SAW displays for each Web user:

Web Users Window Parameter	Parameter Value
Session ID	Unique numeric identifier for each user session.
User Name	User ID.
Environment	The ERP 9.0 environment in which the user is working, such as PDEVNIS2. Environment = Path Code + Object Configuration mappings.
Computer Name	Name of user's local workstation.
Login Time	Date and time user logged on to the web server.
Idle Time	The amount of time, in minutes, that the user has been inactive.
Browser	Web browser name.
User Type	The way information is displayed on the workstation: JavaApplet, HTML, or Portal.
Maximum Users (Allowed)	The maximum number of users that 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.

► To monitor web server user statistics

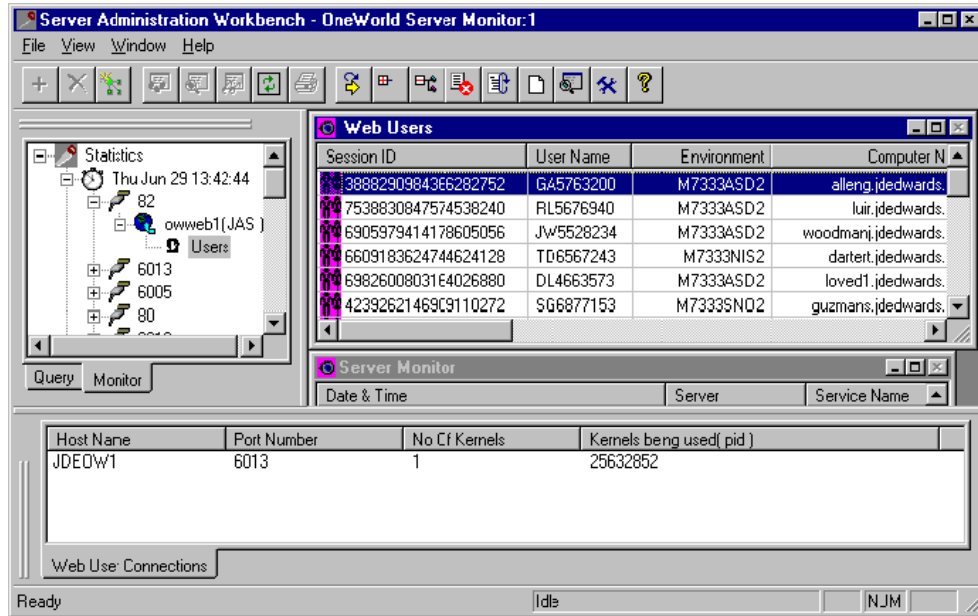
1. On SAW, click the Monitor tab.
2. In the toolbar, click the Refresh button to get the latest server information
3. On Statistics, expand a clock icon node.
4. Expand the port connection icon node for the web server you want to monitor.
5. Expand the server icon.
6. Click the Users icon.

SAW populates the Web Users window with data on web server users for the current session.

Monitoring Web Server User Connection Statistics

You can gain additional data about connections that Web server users make to enterprise servers by right-clicking a row in the Web Users window.

Choosing Show Web User Connections opens a window in the Server Administration Workbench (SAW) form 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 view each user's connection data by passing the cursor over a line in the Web Users window.

The following table summarizes the connection data SAW displays for each Web user:

Web Users Connection Statistics Parameter	Parameter Value
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.

► To monitor web server user connection statistics

1. On Web Users, right-click a line containing a user ID and then choose Show Web User Connections.
SAW opens a window containing connection data for the user you chose.
2. To view connection data for another user, pass the cursor over another line in the Web Users window.
SAW changes the connection data in the window to reflect the line selected by your moving the cursor.

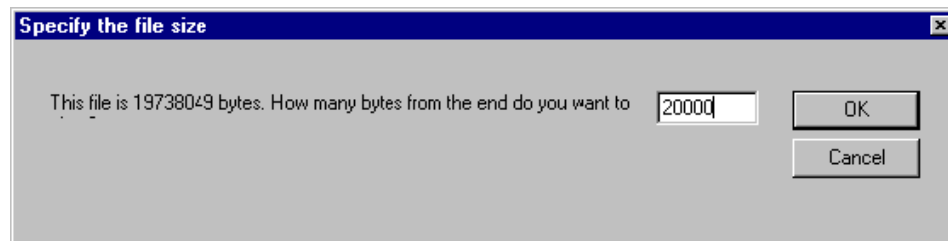
Monitoring Web Server Logs

When you monitor a Web server, Server Administration Workbench (SAW) presents additional buttons on the toolbar. You can use these buttons to:

- Get details on 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 turn on or off JAS logging. JAS log gathers information about processes running on the Java Application Server.
- Get the NET log, which enables you to turn on or off Net logging. Net log contains information about JDENET processes.
- Delete the JDE log from the Web server, provided you have SAW administrative privileges.
- Delete the debug log from the Web server, provided you have SAW administrative privileges.

You can accomplish any of these tasks by clicking 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 kbytes.

You can shorten the file by entering the number of bytes you want. You must enter an integer between 0 and 20,000.



Querying ERP 9.0 Enterprise Servers

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 the following 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 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 click a component or subcomponent icon, SAW displays data about the component in a separate window.

For example, if you click 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 clicking a server icon, and then clicking 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.

See Also

- ❑ *Adding an ERP 9.0 Server for Querying* in the *Server and Workstation Administration Guide* for more information about adding a server for monitoring

Querying Enterprise Server Process Components

Querying a server allows you to monitor kernel, network, and queue processes. When you click 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 and debug logs, as well as turn logging on or off for a process.

SAW displays the following 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

You can gain additional data on each kernel and network process by right-clicking a line in the window and choosing Information.

If you choose Information after right-clicking a kernel process, the Detailed Info - Kernel Process form appears.

Process Type :	Kernel	Total Kernel Process Time :	349
Server System Directory :	/usr/oneworld/b733/system	Total Kernel Requests :	16757
INI File Location On Server :	/usr/oneworld/b733/system/i	Kernel Process Range Index :	5
Process User Group ID :	210	Kernel Process Out Requests :	0
Process Last Active Time :	Fri Jun 30 11:05:25 2000		

OK

If you choose Information after right-clicking a network process, the Detailed Info - Network Process form appears.

ProcessType : Network Total Network Process Time : 251

Server System Directory : /usr/oneworld/b733/system Network Stream Port Number: 52679

INI File Location On Server : /usr/oneworld/b733/system/i Network Data Port Number: 62812

Process User Group ID : 210 Number of In Connections : 79

Process Last Active Time : Fri Jun 30 11:12:37 2000

Connection information:

No.	Type of Ccnn	IP Address	Long Address
1	0	10.0.40.83	.
10	0	10.0.40.83	.
11	0	10.0.40.83	.
12	0	10.0.40.83	.
13	0	10.0.40.83	.
14	0	10.0.40.83	.
15	0	10.0.40.83	.
16	0	10.0.40.83	.
17	0	10.0.40.83	.
18	0	10.0.40.83	.

OK

A separate window on the Detailed Info - Network Process form displays the following connection information:

- Connection number
- Connection type
- Internet Protocol (IP) address
- Long address

See Also

- ❑ *Monitoring Process Statistics for Enterprise Servers* in the *Server and Workstation Administration Guide* for more information on using SAW to monitor logs for individual processes

► To query enterprise server process components

1. On SAW, click the Query tab.
2. Expand the Processes node for an enterprise server you want to monitor and click one of the following icons:
 - Kernel
 - Network
 - Queue
 - All

SAW populates a form window with data on the process type you chose.

3. Click a column heading to sort the data in a column.

4. For additional information on a process, right-click and choose Information.
5. To turn logging on or off for the process or to view and print logs, right-click and choose the appropriate option.

Querying Enterprise Server Disk Components

Querying the server disk components produces the same information that is available from the Monitor tab.

See Also

- ❑ *Viewing Statistics for Server Disks* in the *Server and Workstation Administration Guide* for more information about the disk data that SAW gathers

► To query enterprise server disk components

1. On SAW, click the Query tab.
2. Expand the Disks node for an enterprise server you want to monitor and click one of the following icons:
 - ERP 9.0 Disks
 - All Disks

Querying Enterprise Server IPC Resources

Server Administration Workbench (SAW) allows you to query interprocess communications, which allow applications to share data and memory and allow one application to control another.

SAW monitors the following 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 allow 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 allow 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 the following 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

- Group

► To query enterprise server IPC resources

1. On SAW, click the Query tab.
2. Expand the IPC node for an enterprise server you want to monitor and click one of the following icons:
 - Mutexes
 - SWMR Locks
 - Message Queues
 - Shared Memory
 - All

Querying Enterprise Server Log Files

Server Administration Workbench (SAW) allows you to query for summary server log and debug log information, as well as summary information for print queue logs. You can also choose and display any log or debug log from your 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, click the Query tab.
2. Expand the Logs node for an enterprise server you want to monitor and click one of the following icons:
 - 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 ERP 9.0 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 choose View Selected.

SAW displays in a text editor the log file or debug log file.

4. To delete the file, choose 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.

► To query the enterprise server users

1. On SAW, click the Query tab.
2. Expand the node for an enterprise server you want to monitor and click View Users.
SAW populates a separate window with information on current users on the enterprise server.
3. To view the ERP 9.0 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) allows you to query for data about job queues on the enterprise server. When you click the Queue icon, SAW displays—in a separate window—information about each job in the queue. The information is displayed in the following columns:

- Queue Name
- Queue Type
- Queue Status
- Queue Max Jobs

► To query the enterprise server job queue

1. On SAW, click the Query tab.
2. Expand the node for an enterprise server you want to monitor and click Queues.

SAW populates a separate window with information on jobs in the queue on the enterprise server.

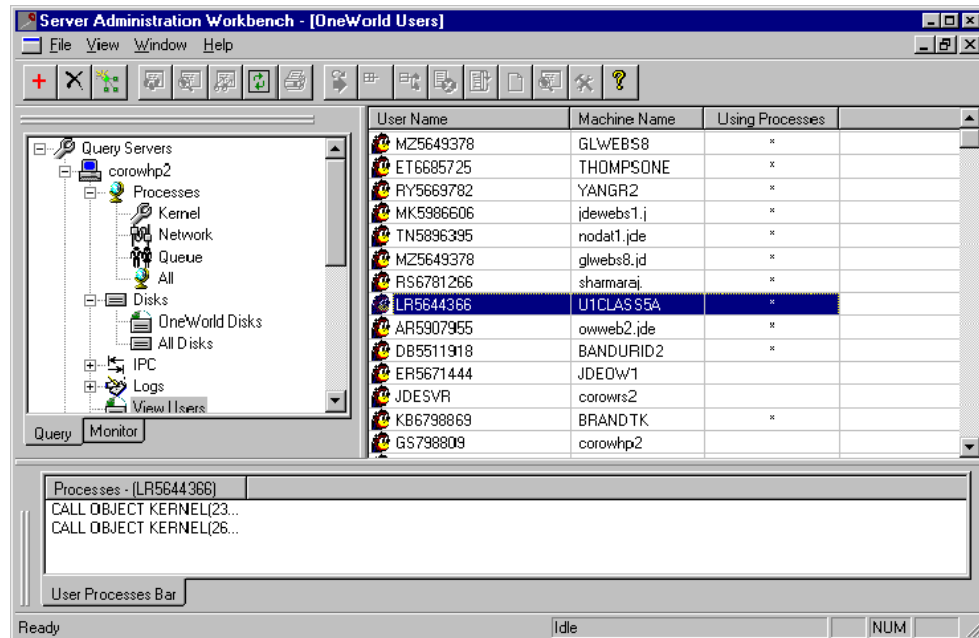
Querying the Enterprise Server Users

Server Administration Workbench (SAW) allows you to query for data about users connected to the enterprise server. When you click the View Users icon, SAW displays—in a separate window—information about each user. The information is displayed in the following columns:

- User Name
- Machine Name
- Using Process

An asterisk in the Using Process column indicates that a user is currently running ERP 9.0 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.

Configuring SAW and Monitoring ERP 9.0 Servers from the Web

The Server Administration Workbench (SAW) provides a unified Web interface for administrators to monitor ERP 9.0 Servers (Enterprise, Java, and XPI) remotely through a browser. From the Web, administrators can set up a Server Monitoring Configuration (SMC) to monitor different instances of ERP 9.0 servers and notify assigned users via e-mail 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 ERP 9.0 Java server. In future releases, SAW for the Web will be installed as standalone. If you install a Java 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 ERP 9.0 network. The SAW package includes all the components needed to run SAW and monitor the ERP 9.0 servers.

The process of setting up an SMC consists of the following:

- Create an SCM 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 (e-mail and pager addresses) to each event.
- Add, change, or delete ports, processes, and e-mail addresses for selected server ports.

Creating an SMC File

Before you can monitor server ports via 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 ERP 9.0 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 the following 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 your list of favorites.
3. On the Server Administration Workbench (SAW) WEB Version page, complete the following fields:
 - Agent Web Server Name
Host name of the web server.
 - Agent WEB Server port number
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`.

Note

The Agent Web Server Name and the Agent WEB Server Port number must be entered the first time you access SAW. These values will default in the next time 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. Press OK to create the file.
6. On the SAW Home Page, complete the following fields:
 - JAS Install Directory
Install directory for the ERP 9.0 JAS server or the SAW package.

To enter the correct value for this field, search for the file “saw.css” on your 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 user under which the web server is running needs full access rights to this directory.

- HTML Status Page

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.)

- Java Install directory

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 your company mail server, for example, mail.company_name.com. The SAW agent uses this server to send e-mail/pager notifications when it detects faulty processes.

Note

To access more information about any of the fields, click the Help button at the top of the screen.

7. Click Submit.

► To regenerate an SMC file

If you update SAW to a new version for which the SMC file is no longer compatible, or if your SMC file is corrupted for any reason, you can regenerate your SMC file from a text file.

Each time you change or save your SMC file, SAW creates a text file that contains the same information as your SMC file, but in a text file format. If your SMC file is called saw.smc, then each time you change or save your SMC file, the system will save a text file called saw.smc.txt.

1. To regenerate an SMC file from the text file, enter the name of the text file field (for example, saw.smc.txt) in the Agent SMC File Name field.
2. Choose Importing SMC from text file from the action.

SAW will regenerate your SMC file with the same name as the name of the text file, but without the .txt extension (for example, saw.smc).

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 your requirements.

► To modify the advanced SMC settings

1. On the SAW Home Page, select Advanced Settings from the Action field.
2. On SMC – Advanced Settings, modify any of the following fields to suite your SMC configuration:
 - Agent cycle
Time (in seconds) between the start of one agent monitoring cycle and the next. See *Performing SMC Actions* in the *Server and Workstation Administration Guide* for more information about Agent cycles.
 - SAWDB used
Change this field to false if you do not want to save statistics or event data in the SAW database.
 - Auto Monitoring SAW Agent
Change this field to false if you do not want the SAW agent to automatically restart when the agent fails.
 - HTML page refresh
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
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 will automatically start a new monitoring cycle.
 - Check e-mail address
Change this value to false if you do not want the system to verify that the e-mail addresses you enter have the correct format.
 - Server timeout
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, which is defined in *Working with SMC Views* in the *Server and Workstation Administration Guide*.
 - 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 of your favorite links.

3. Verify that Submit Changes is selected in the Action field and click the Action button.

Adding ERP 9.0 Servers

After creating the configuration file, you can create a list of the ERP 9.0 Web, Enterprise, and XPIe servers that you want to monitor.

► To add ERP 9.0 servers

1. On SAW Home Page, verify that Work with Servers is selected in the Action field, and click the Action button.

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 accidentally dies.

2. In the Action field, verify that Add new Server is selected, and click the Action button.
3. Complete the following fields:

- Server Name

Type the name of the ERP 9.0 Server (Enterprise, Web, or XPI).

- Server OS

Select the type of operating system for the server.

4. Click the Action button.

The program adds a new row to the Work with Servers screen listing the server you entered.

5. Repeat the steps above to add additional servers to the SMC configuration.

6. Verify each of the server names and operating systems you entered.

In the upper right corner of SMC, click on the Global View link to view the current configuration. This screen shows 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.

7. If you discover an error, return to the Work with Server screen, and click Modify Server next to the server you need to change, then correct the error.
8. When you have entered all the servers you want to monitor, select one of the following options:

- To add a port number for several servers at the same time, complete the task *Adding Ports for Multiple Servers* in the *Server and Workstation Administration Guide*.
- To add ports to a single server, complete the task *Customizing Server Ports* in the *Server and Workstation Administration Guide*.

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 listed above.

Adding Ports for Multiple Servers

You can add port numbers to the SMC file and assign these ports to several servers at once.

► To add ports to multiple servers

1. On SAW Home Page, 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 the following sub steps to configure a port number:
 1. On SMC – Adding new Port, complete the following fields:
 - Port Number
Enter the port number you want to monitor (for example, 6004).
 - Description
Enter a description of the port (for example, Xe_SP20).
 - Server Type
Click the down arrow and select the type of server from the list.
 2. Check the box to the left of each server that you want to assign this port number.
 3. 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, click on the Global View link.

Adding Events to Multiple Server Ports

Once 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.

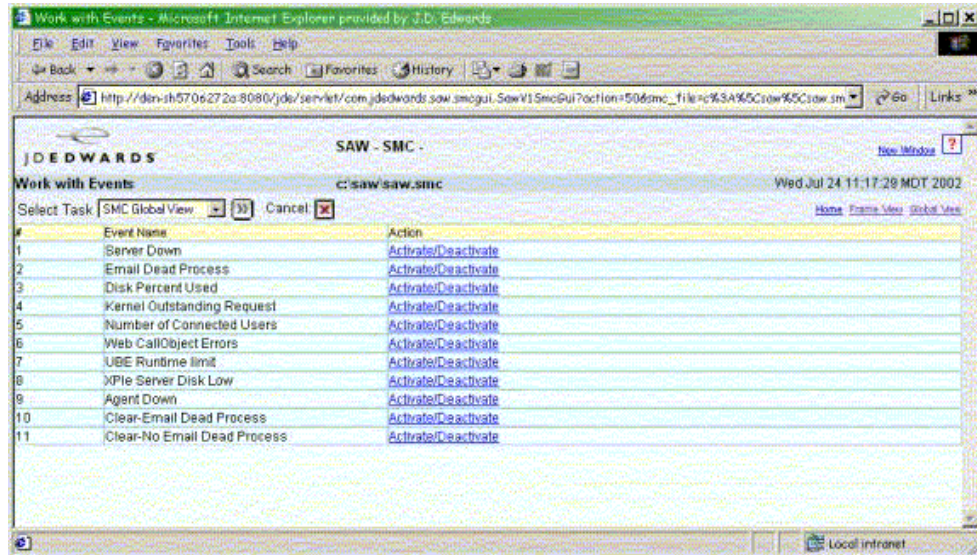
You can set up the following events and assign each to particular port numbers:

- 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%), and the monitor alerts administrators if the used disk space exceeds the threshold.
- Kernal Outstanding Request
Administrator enters a warning and alarm threshold for the number of unprocessed kernal 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 kernal 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.
- XPIe Disk Low
Monitor alerts administrators if an XPI server port indicates it is low on disk space.

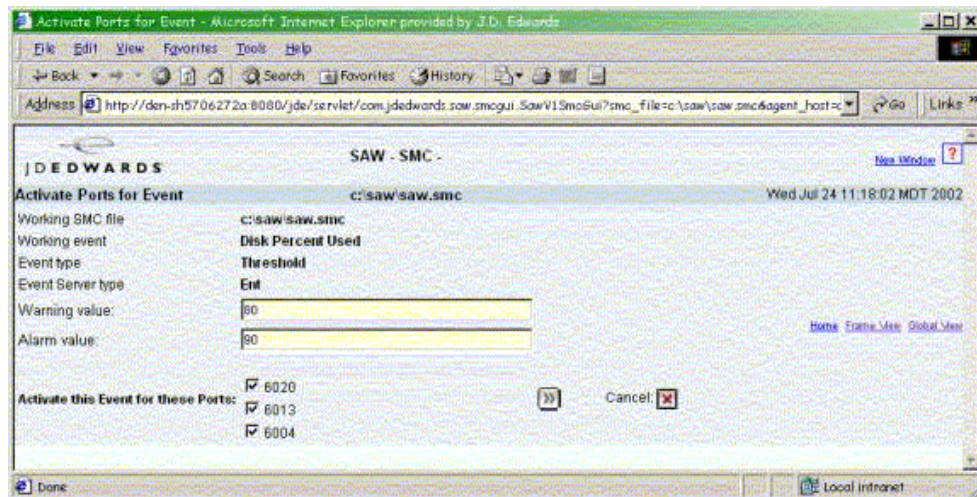
This task assigns an event to a port number; that is, it assigns the event to *all servers* that are associated with the port number. If you want to customize a port number on one server to monitor an event differently than other servers, you must complete customize your server ports.

► To add events to multiple server ports

1. On the SAW Home Page, select Work with Events from the Action field and click the Action button.



2. On the SMC – Work with Events screen, click Activate next to the event you want to configure (in this example, Disk Percent Used).



3. For each of the following events, enter a Warning Value and Alarm Value, or accept the default values:

Event	Parameter
Disk Percent Used	Number (in %) of disk space used.
Kernal Outstanding Request	Number of unprocessed kernal requests.

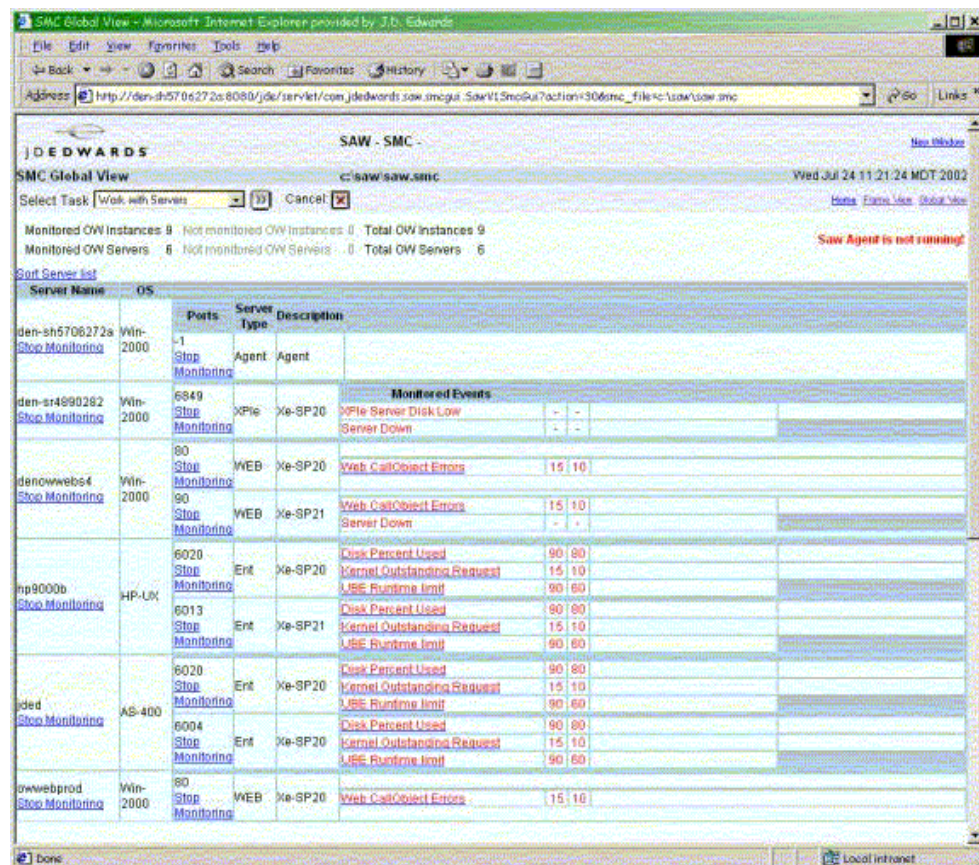
Event	Parameter
Web CallObject Errors	Number of CallObject kernel process errors for a business function activated through a web server.
UBE Runtime limit	Time (in minutes) that a UBE should normally take to complete.

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. Click on 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 showing the number of users connected to a server port as a function of time. You can configure multiple server ports to view this graph.

► To add statistics to multiple server ports

1. On SAW Home Page, select Work with Statistics from the Action field and click the Action button.
2. On SMC – Work with Statistics, click Activate next to User Connection Graph.
3. On SMC – Activate Ports for Statistics, check the box next to each port number for which you want to include statistics.
4. Click the Action button.
5. Click on the SMC Global View icon to see the current configuration.

Adding Profiles to Events

Once you have assigned events to server ports, you can assign e-mail 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 e-mail 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 your server ports.

► To add profiles to events

1. On SAW Home Page, 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 e-mail addresses of a person you want to include on the notification list.

You must enter an e-mail address in the First E-mail field. The 2nd and 3rd E-mail fields are optional. However, if you do not enter an e-mail address in the 2nd and 3rd E-mail 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 will 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 choose 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.

► To change servers

1. On SAW Home Page, 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 the following 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, click Remove Server next to the server you want to delete.
7. To modify a server configuration, click Modify Server next to the server you want to modify.
8. Change the fields as needed and click the Action button.

► To change server ports

1. On SAW Home Page, 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. 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 the following 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, click Remove Port next to the port number you want to delete.
7. To modify a port, click Modify Port next to the port number you want to modify.

8. Change the fields as needed and click the Action button.

► **To change statistics on a server port**

1. On the SAW Home Page, 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 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.

► **To change events on a server port**

1. On the SAW Home Page, 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 your 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.

► **To change the profiles of a single event**

1. On the SAW Home Page, 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, complete the name and e-mail 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 e-mail address as needed, then click the Action button.

Note

You can add new e-mail addresses, modify or delete an existing address, or change the person's name.

Running the SAW Agent

Once 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 your 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 e-mails 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 e-mail 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.

► To run the SAW agent

The script file for the SMC file that you create is created under the SAW database directory.

Windows:

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).

1. From Windows Explorer, go to the SAW database directory and double click on the SAW Agent script file.

UNIX and AS400:

The name of the file for UNIX and AS400 is:

SawAgent_SMCFILE.sh

Where SMCFILE is the name of the current SMC file (for example, saw.smc).

1. Go to the SAW database directory and run the script by entering the name of the script.
Make sure that the SAW database directory has full access rights for the user under which the agent will be running.

► To start the SAW Agent on the AS400

Log in to the AS400 green screen.

1. Enter the following command:

- strqsh

This will start a Unix-like shell session from where you can type Unix commands like “cd”, “ls”, “pwd”, etc.

2. Change directory to your SAW database directory.
3. Run the SAW agent by entering the name of the SAW Agent script. If your 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.

4. In order to start the SAW Agent, enter the following command:

- SawAgent_saw_xe.smc.sh.

Performing SMC Actions

The Server Monitoring Configuration (SMC) Action field is a pull-down menu of functions that help administrators configure and monitor ERP 9.0 servers. The Action field is available at the top of most SMC forms. Although some of the functions in the Action field are discussed in detail in other sections that describe how to configure the server ports, the following 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.

Action Field Function	Description
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.
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.

Working with SMC Views

Server Monitoring Configuration (SMC) includes the following views that allow 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

These views are accessible from most SMC screens by clicking the appropriate link on the right side of the screen.

Each view gives administrators a different perspective on the data and allows them to perform unique functions:

View	Description	Available functions
		• Access configuration screens

SMC	screens.	
Frame View*	Lists all the servers/ports by the type of server (enterprise, Web, XPI). This text-based frame view allows users to view the result of their requests in a separate frame in the same window.	• Force Agent Cycle • Delete Agent logs • Perform SMC Actions • Display status of server ports (up or down) • Link to a monitoring interface that is specific to the server type (enterprise, Web, XPI) • Display agent logs • Display event logs • Display User Connection Chart • Display statistics file
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.	• Force Agent Cycle • Delete Agent logs • Perform SMC Actions • Display status of server ports (up or down) • Link to a monitoring interface that is specific to the server type (enterprise, Web, XPI) • Display agent logs • Display event logs • Display User Connection Chart • Display statistics file
Port View*	Displays an array of server ports by server name and port number. Graphical interface shows 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.	• Display status of each port (up or down) • Link to a monitoring interface that is specific to the server type (enterprise, Web, XPI)
SMC Global View	Displays the contents of the entire SMC file and allows users to modify some of the settings.	• Force agent cycle • Modify events and e-mail addresses • Start or stop monitoring all servers • Start or stop monitoring all ports on a single server. • Display events and profiles for each server port. • Display global SMC settings

* The Frame View and Table View show the same information in different formats.

Note

The Work with SMC and SMC Global View forms are shown in *Adding ERP 9.0 servers in the Server and Workstation Administration Guide*. Examples of the Port View, Table View, and Frame View are shown below.

Frame View

Organized by server type in left frame. The result of the request is displayed in the right frame.

The screenshot shows the J.D. Edwards SAW - Agent Frame View interface. The left pane displays a tree of monitored servers categorized by type: Enterprise Servers, Web Servers, and XPlE Servers. The right pane displays the 'Enterprise Server Monitor' for a selected server, showing server information and a table of running processes.

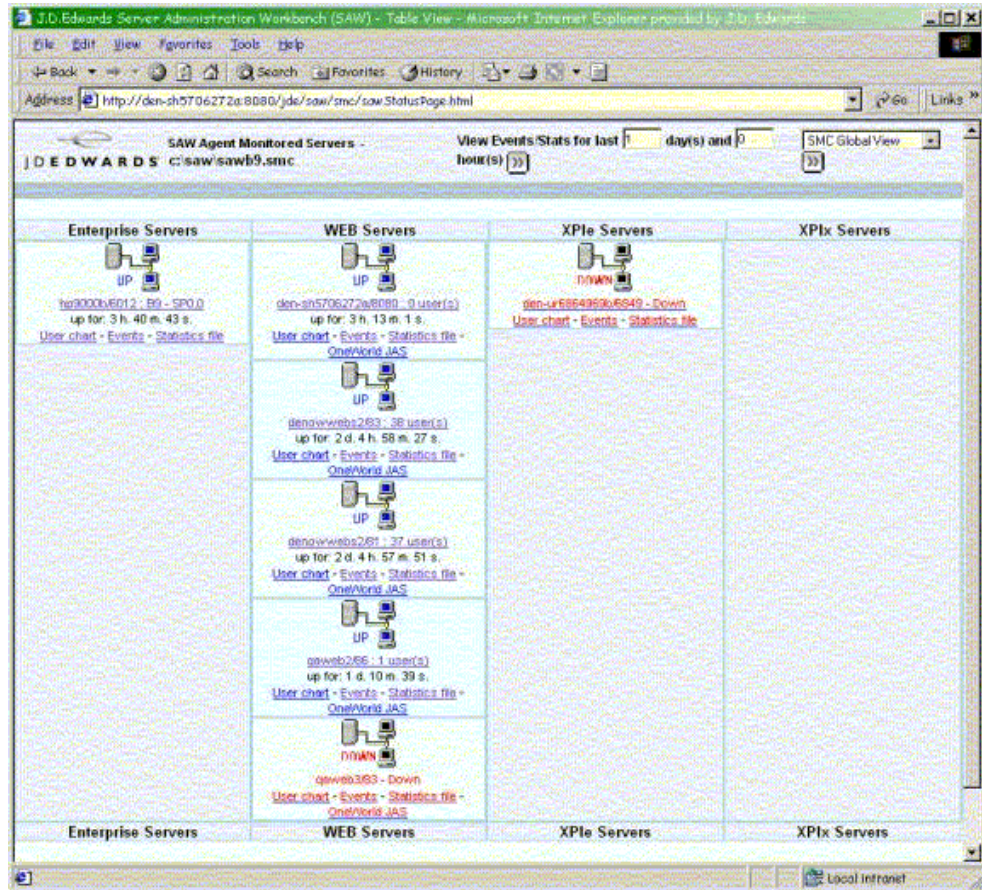
Server Information:

Server Status: Up for: 1 day, 36 minutes and 23 seconds
Version: B9 - SP0.0 Disk Used: 56% Log Size: 85372 K Log Files: 10 Running Processes Log Size: 84638 K

#	Process Name	Log	Debug	Process ID	Status	Requests	Outstand. Rpt	Users	Zombie	Max. #	Trace
1	aut/shahind3_sap/system/bin/32/started_n			17743	✓	1677	-	-	-	1	-
2	REPLICATION KERNEL			17745	✓	5917	0	-	-	1	On - Off
3	SAW/KERNEL			17755	✓	6673	0	-	-	1	On - Off
4	SECURITY KERNEL			17758	✓	5992	0	-	-	1	On - Off

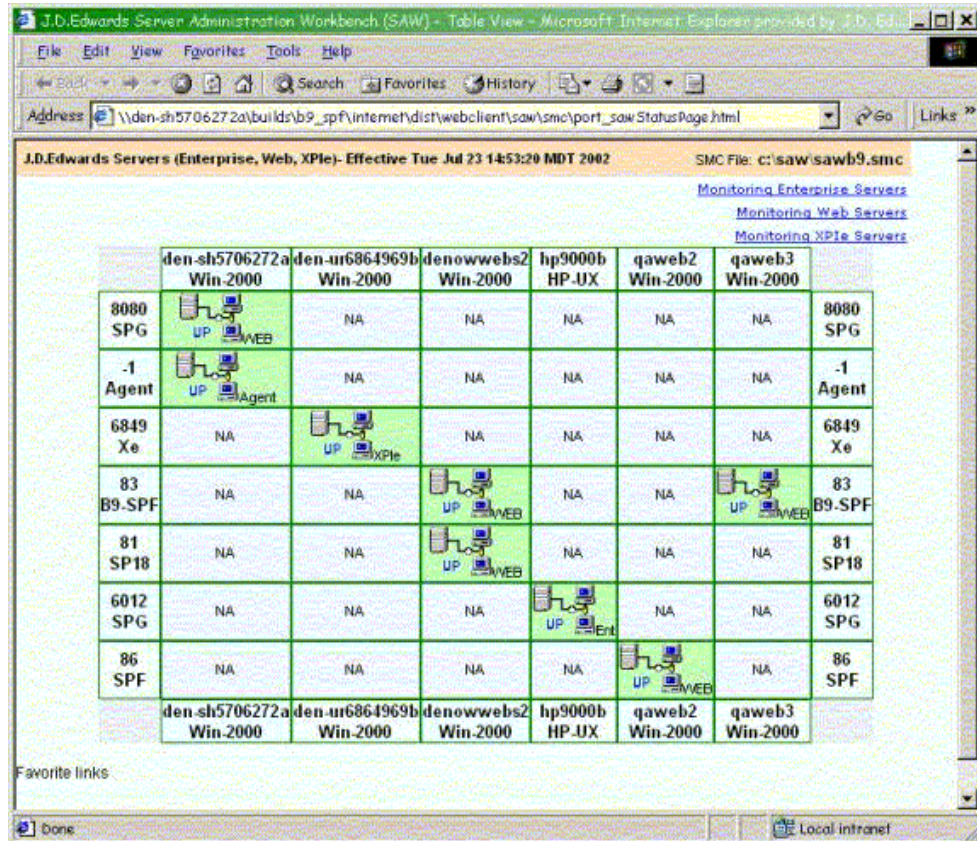
Table View

The result of the request is shown in a separate window.



Port View

One server name is shown per column, and one port number is shown per row. The result of the request is shown in a separate window.



Accessing the Server Monitoring Interface

From the Port View, Table View, and Frame View, you can access a monitoring interface for each server by clicking the link for that server. Each interface allows 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 available depends on the type of server being monitored (Enterprise, JAS, or XPI), the look and feel of each interface is the same.

The forms below show the monitoring interface for each of the three types of servers.

Enterprise Server Monitor

Monitoring Servers - Microsoft Internet Explorer provided by J.D. Edwards

Address: <http://localhost:8080/jde/servlet/com.jdedwards.portal.components.saw.SawEnt?host=hp9000b>

Enterprise Server Monitor

Host: Port:

View: Wed Jul 24 11:49:57 MDT 2002

Server Information:
 Server Status: Up for: 1 day, 37 minutes and 22 seconds
 Version: B9 - SP0.0 Disk Used: 56% Log Size: 85633 k Log Files: 10 Running Processes Log Size: 85098 K

#	Process Name	Log Debug	Process ID	Status	Requests Outstanding	Rqst Users	Zombie	Max	# Trace
1	ai15/shahin/t9_spt/system/bin32/idenet_n		17743		1693	-	-	1	-
2	REPLICATION KERNEL		17745		5921	0	-	1	On - Off
3	SAWV KERNEL		17755		6684	0	-	1	On - Off
4	SECURITY KERNEL		17758		5996	0		1	On - Off

Local intranet

Web Server Monitor

SAW Web - Microsoft Internet Explorer provided by J.D. Edwards

Address: http://qaweb2:86/jde/saw/index.jsp?screen_refresh=300&host=qaweb2&port=86

Web Server Monitor

Host: Port:

Views: Wed Jul 24 11:36:54 MDT 2002

Web Server: qaweb2:86
 Server Status: Up for: 1 day, 20 hours, 54 minutes and 14 seconds

1 user currently logged in.
 1 active user in the last ten minutes:

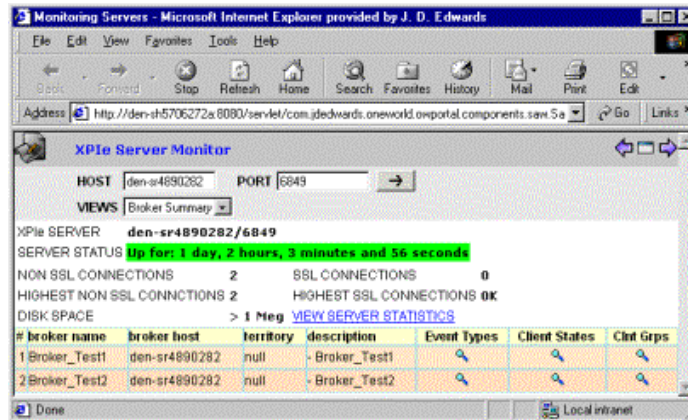
Host	MaxWaited	Waiting	Current Size	Busy	CallObjs	SysErrs	Timeouts
HP9000B:6003	0	0	2	0	19,810	3	0
OWNTS1:6003	0	0	0	0	21	21	0

INFO: Debug logging is turned on, this will negatively impact system performance.

Heap memory allocated by VM: 268,435,448 bytes
 Heap used memory in VM: 102,359,096 bytes
 Available (free) memory in VM: 166,076,352 bytes
 Total threads in VM: 227

Done Local intranet

XPI Server Monitor



Monitoring ERP 9.0 Enterprise Servers from the Web

The Enterprise Server Monitor allows you to use the Web to monitor an ERP 9.0 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. Choose a view from the dialog box, and then click the Monitor button to view data. Each view contains a header with the following information on the enterprise server:

- Enterprise server name and port number, such as sundev/6012
- ERP 9.0 release, such as B9 - 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

Server Summary View

The Server Summary view allows you to conveniently monitor the status of the ERP 9.0 enterprise server and the processes that are running on it.

1 zombie process(es) on the Server, Please refer to the process table

Server Information:
 Server Status: Up for: 5 days, 1 hour, 3 minutes and 33 seconds
 Version: B733 - SP20.0 Disk Used: 79% Log Size: 87210 k Log Files: 26 Running Processes Log Size: 87016 k

#	Process Name	Log Debug	Process ID	Status	Requests	Outstand. Rqst	Users	Zombie	Max. #	Trace
1	aj08/cnewworld/b7333_sp20/system/bin32/idenet_n		20368	✓	31	-	-	-	5	On - Off
2	/idequeue		20382	✓	-	-	-	-	-	On - Off
3	idenet_n		24977	✓	7522	-	-	-	5	On - Off
4	SECURITY KERNEL		20368	✓	1189	0	-	-	1	On - Off
5	CALL OBJECT KERNEL		20386	ZOMBIE	0	0	-		-	-
6	REPLICATION KERNEL		20387	✓	9	0	-	-	1	On - Off
7	idenet_n		20389	✓	7244	-	-	-	5	On - Off
8	SAVV KERNEL		20392	✓	9181	0	-	-	1	On - Off
9	idenet_n		24986	✓	2379	-	-	-	5	On - Off
10	idenet_n		25052	✓	1291	-	-	-	5	On - Off
11	CALL OBJECT KERNEL		3474	✓	1069	0	-	-	1	On - Off

The Server Summary view displays in a table the following 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 icon to remove the zombie process from the table.

The Server Summary view displays the following 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 on_off to activate or deactivate the debugging for the process

Note

You can view further details on server processes by clicking on the process name in a row of the table.

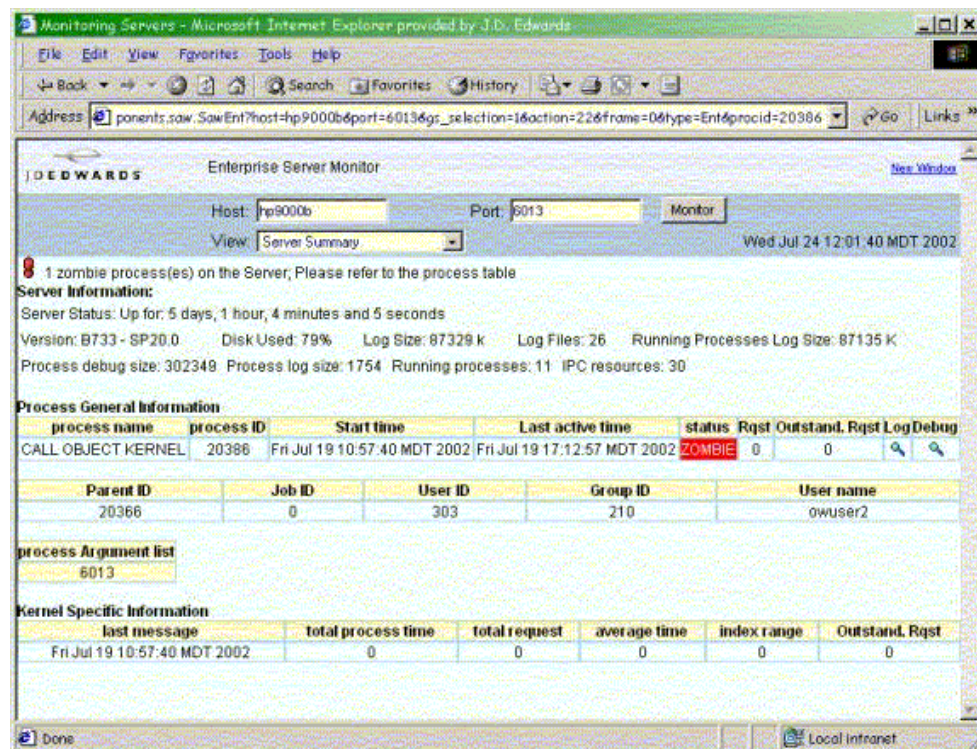
See Also

- ❑ *Monitoring ERP 9.0 Server Processes* in the *Server and Workstation Administration Guide* for a detailed discussion of enterprise server processes that you monitor using SAW

Process Name

You can click the URL that identifies an enterprise server process name to view detailed information about network, kernel, and queue processes.

When you click the URL, the Process information view appears.



In addition to general server information, this view displays the size of the log and debug log files for the process you chose, as well as the total number of processes running on the server and the total number of running interprocess communication (IPC) resources.

A table displays the parameters for the process, with values for each. Many of these parameters also appear in the Server Summary view. However, the view for a specific process contains the following additional information:

- Time and date the process started

- Time and date the process was last active or, for zombie processes, the time and date the process died
- Parent ID of the process
- Job ID of the process
- User ID of the process
- Group ID of the process
- User name

If the process is a security kernel or a CallObject kernel and a current user exists for the process, additional information appears.

You can view the log file and debug log file for a process by clicking the magnifying glass icon under the appropriate column in the table.

Note

You can also view the log file or the debug log file for a process by clicking the magnifying glass icon in the appropriate row and column of the table in the Server Summary view.

Depending on the kind of process that you choose, the Process info view displays additional information. For example, if you choose a network process, the Process info view displays the values for the following network messaging parameters:

- Time of the last message
- Total processing time (in milliseconds)
- Total number of messages
- Average processing time
- Stream port, which is the connection port for the movement of data
- Data port, which is the transfer port for the movement of data
- Number of in connections
- Number of out connections
- Connection type (incoming or outgoing)
- IP address

If you choose a kernel process, the Process information view displays the following kernel-specific information:

- Index range, which defines the kind of kernel process that is running. For example, the value of the index range parameter for a security kernel is 3. These values are defined in the server's jde.ini file.
- Number of outstanding requests for the process.

If you choose a queue process, the Process information view displays the following queue-specific information:

- Server on which the UBE is running
- ERP 9.0 environment on the server on which the UBE is running

- Name of the UBE batch queue and its number

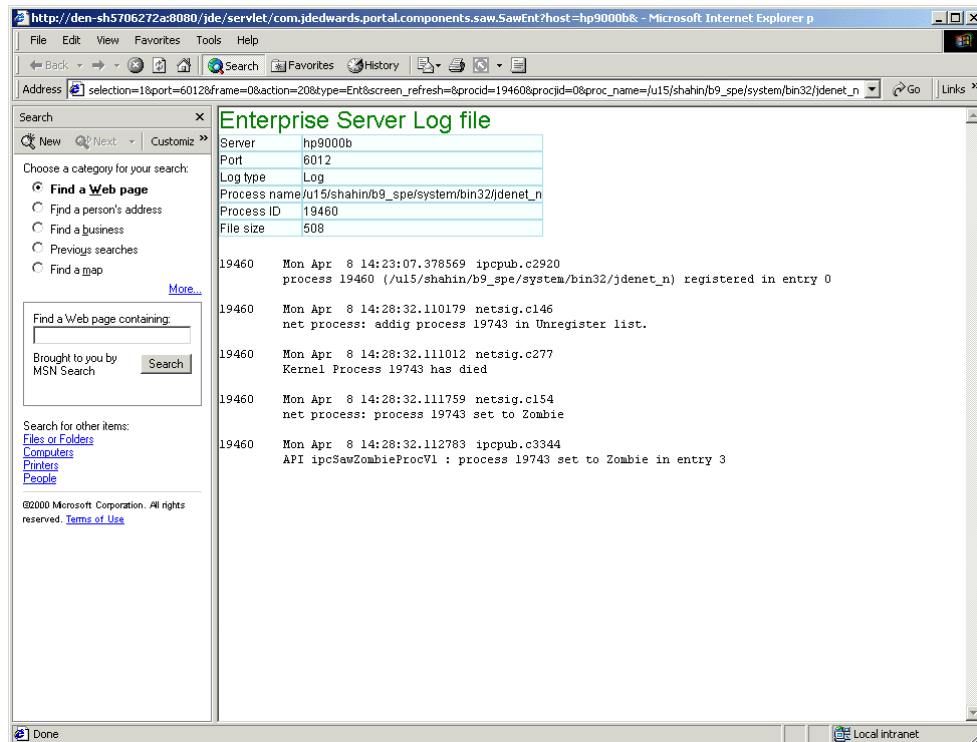
See Also

- ❑ *Users* in the *Server and Workstation Administration Guide* for more information about security kernels and CallObject kernels

Log

From the Server Summary view, you can view the log file for a server process by clicking the magnifying glass icon in the Log column of the table containing the process information.

When you click the magnifying glass icon, an HTML page containing the log file appears.



The HTML page displays the log file with a header that contains the process name, the process ID, and the file size, in kilobytes.

Debug

From the Server Summary view, you can view the debug log file for a server process by clicking the magnifying glass icon in the Debug column of the table containing the process information.

When you click the magnifying glass icon, an HTML page containing the debug log file appears.

http://den-sh5706272a8080/jde/servlet/com.jdedwards.portal.components.saw.SawEnt?host=hp9000b& - Microsoft Internet Explorer p

File Edit View Favorites Tools Help

Back Forward Stop Search Favorites History Print

Address http://hp9000b:6012?selection=1&port=6012&frame=0&action=21&type=Ent&screen_refresh=0&procid=19528&procid=0&proc_name=CALL%20OBJECT%20KERNEL Go Links

Enterprise Server Log file

Server	hp9000b
Port	6012
Log type	Debug
Process name	CALL OBJECT KERNEL
Process ID	19528
File size	27127

```

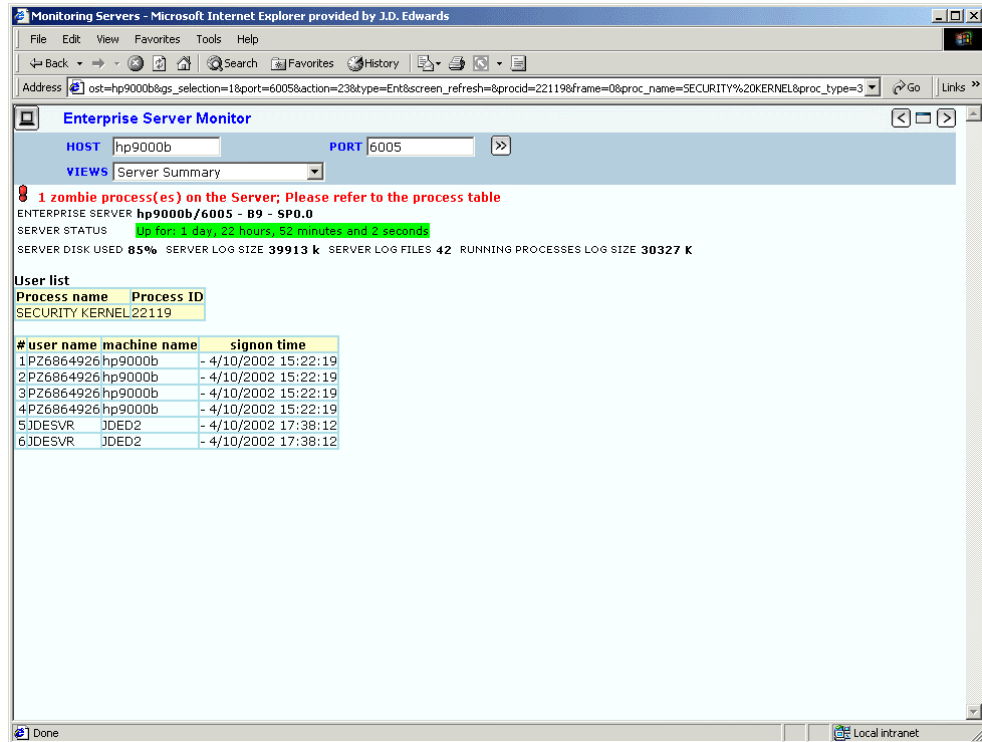
Apr  8 14:23:08.616931  DEBUG INITO      - 19528 ****  jdeDebugInit -- output to file.
Apr  8 14:23:08.635922  ipcpub.c2920    - 19528 process 19528 (jdenet_k) registered in entry 1
Apr  8 14:23:08.636399  ipcpub.c2920    - 19528 process 19528 (jdenet_k) registered in entry 1
Apr  8 14:23:08.637405  jdenet_k.c174   - 19528 setrlimit not needed, open file soft limit (2048) was )= hard limit (2048)
Apr  8 14:23:08.709484  netcfg.c241     - 19528 Starting Kernel of Type:CALL OBJECT KERNEL
Apr  8 14:23:08.710098  netcfg.c241     - 19528 Starting Kernel of Type:CALL OBJECT KERNEL
Apr  8 14:23:08.901631  netflow.c946    - 19528 About to call dispatch function, flags=0x0, Type=11
Apr  8 14:23:08.902828  winansi.c1506   - 19528 Adding library (jdenet_k) to list
Apr  8 14:23:08.903219  winansi.c1506   - 19528 Adding library (/ul5/shahin/b9_spe/system/lib/libjdelib.sl) to list
Apr  8 14:23:08.903517  winansi.c1506   - 19528 Adding library (/ul5/shahin/b9_spe/system/lib/libjdeipc.sl) to list
Apr  8 14:23:08.903730  winansi.c1506   - 19528 Adding library (/ul5/shahin/b9_spe/system/lib/libjdenet.sl) to list
Apr  8 14:23:08.903940  winansi.c1506   - 19528 Adding library (/ul5/shahin/b9_spe/system/lib/libjdethead.sl) to list
Apr  8 14:23:08.904142  winansi.c1506   - 19528 Adding library (/ul5/shahin/b9_spe/system/lib/libnettest.sl) to list
Apr  8 14:23:08.904342  winansi.c1506   - 19528 Adding library (/ul5/shahin/b9_spe/system/lib/libcallobj.sl) to list
Apr  8 14:23:08.904540  winansi.c1506   - 19528 Adding library (/ul5/shahin/b9_spe/system/lib/liberror.sl) to list
Apr  8 14:23:08.904745  winansi.c1506   - 19528 Adding library (/ul5/shahin/b9_spe/system/lib/libgentext.sl) to list
Apr  8 14:23:08.904945  winansi.c1506   - 19528 Adding library (/ul5/shahin/b9_spe/system/lib/libjdb.sl) to list
Apr  8 14:23:08.905139  winansi.c1506   - 19528 Adding library (/ul5/shahin/b9_spe/system/lib/libjde_erk.sl) to list
Apr  8 14:23:08.905339  winansi.c1506   - 19528 Adding library (/ul5/shahin/b9_spe/system/lib/libjdecache.sl) to list
Apr  8 14:23:08.905538  winansi.c1506   - 19528 Adding library (/ul5/shahin/b9_spe/system/lib/libjdeddapi.sl) to list
Apr  8 14:23:08.906060  winansi.c1506   - 19528 Adding library (/ul5/shahin/b9_spe/system/lib/libjdeknet.sl) to list
Apr  8 14:23:08.906290  winansi.c1506   - 19528 Adding library (/ul5/shahin/b9_spe/system/lib/libjderapl.sl) to list
Apr  8 14:23:08.906495  winansi.c1506   - 19528 Adding library (/ul5/shahin/b9_spe/system/lib/libjderchr.sl) to list
Apr  8 14:23:08.906696  winansi.c1506   - 19528 Adding library (/ul5/shahin/b9_spe/system/lib/libjderesc.sl) to list
Apr  8 14:23:08.906894  winansi.c1506   - 19528 Adding library (/ul5/shahin/b9_spe/system/lib/libjderesp.sl) to list
Apr  8 14:23:08.907094  winansi.c1506   - 19528 Adding library (/ul5/shahin/b9_spe/system/lib/libjdetam.sl) to list
Apr  8 14:23:08.907292  winansi.c1506   - 19528 Adding library (/ul5/shahin/b9_spe/system/lib/liblanguage.sl) to list
Apr  8 14:23:08.907498  winansi.c1506   - 19528 Adding library (/ul5/shahin/b9_spe/system/lib/libmisc.sl) to list
Apr  8 14:23:08.907707  winansi.c1506   - 19528 Adding library (/ul5/shahin/b9_spe/system/lib/libpackage.sl) to list
Apr  8 14:23:08.907915  winansi.c1506   - 19528 Adding library (/ul5/shahin/b9_spe/system/lib/libport.sl) to list
Apr  8 14:23:08.908118  winansi.c1506   - 19528 Adding library (/ul5/shahin/b9_spe/system/lib/libqueueknl.sl) to list

```

Done Local intranet

Users

If you click a magnifying glass icon in the Users column of the table in the Server Summary view, the Enterprise Server Monitor displays a User List.



The User List contains the user name, the name of the user's machine, and, if available, the time the user connected to the process.

Zombie

Zombie is the status of a process that dies on the server. When a process dies on the enterprise server, a mechanism on the server keeps the dead process in Server Administration Workbench (SAW) registration shared memory and changes its status from Active to Zombie. The process appears in the process list with a status of Zombie even if a process is created and dies between SAW data-retrieval cycles. Although the process is not present in the operating system on the Server, the process will be listed in the process table until the Administrator removes it.

In the Server Summary view, the row containing the summary information for a process that has died appears in red, and the Zombie parameter column contains a trash can icon. If you have SAW administrative rights, you can click the icon to delete the dead process from the server.

All Log Files View

If you click All Log Files in the dialog box in the Enterprise Server Monitor workspace, the Log File Summary view appears.

Enterprise Server Monitor

HOST: PORT:

VIEWS:

ENTERPRISE SERVER **hp9000b/6012 - B9 - SP0.0**

SERVER STATUS: **Up for: 2 days, 2 hours, 2 minutes and 52 seconds**

SERVER DISK USED: **82%** SERVER LOG SIZE: **19673 k** SERVER LOG FILES: **26** RUNNING PROCESSES LOG SIZE: **19611 k**

Deleting files bigger than

#	file name	process name	creation time	file size	Delete
1	jdedebua_22825.log	SAW KERNEL	Wed Apr 10 16:30:45 MDT 2002	14982477	
2	jdedebua_19960.log	REPLICATION KERNEL	Wed Apr 10 16:29:53 MDT 2002	1446354	
3	jdedebua_19807.log	SECURITY KERNEL	Wed Apr 10 16:29:52 MDT 2002	1372837	
4	jdedebua_26826.log	QUEUE KERNEL	Wed Apr 10 16:29:43 MDT 2002	954931	
5	jde_19960.log	REPLICATION KERNEL	Wed Apr 10 16:29:53 MDT 2002	348947	
6	jde_19807.log	SECURITY KERNEL	Wed Apr 10 16:29:52 MDT 2002	337851	
7	jde_26826.log	QUEUE KERNEL	Wed Apr 10 16:29:43 MDT 2002	96166	
8	jdedebua_19743.log	none	Mon Apr 08 14:28:32 MDT 2002	63899	
9	jdedebua_19528.log	CALL OBJECT KERNEL	Wed Apr 10 16:29:52 MDT 2002	26632	
10	jde_22825.log	SAW KERNEL	Wed Apr 10 16:30:22 MDT 2002	24386	
11	jdedebua_19635.log	SCHEDULER KERNEL	Wed Apr 10 15:44:43 MDT 2002	16912	
12	jdedebua_22267.log	jdenet_n	Wed Apr 10 15:44:22 MDT 2002	5936	
13	jdedebua_13502.log	jdenet_n	Tue Apr 09 14:23:33 MDT 2002	4124	
14	jdedebua_16588.log	jdenet_n	Wed Apr 10 15:44:43 MDT 2002	4122	
15	jdedebua_19691.log	none	Mon Apr 08 14:24:33 MDT 2002	3177	

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. An HTML 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 icon in the Delete column of the table in the Log File Summary view.

See Also

- *Setting up Security Access for SAW in the Server and Workstation Administration Guide* for more information about assigning SAW administrative rights

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.

Monitoring Servers - Microsoft Internet Explorer provided by J.D. Edwards

File Edit View Favorites Tools Help

Back Forward Stop Search Favorites History

Address 06272a:8080/jde/servlet/com.jdedwards.portal.components.saw.SawEnt?host=hp9000b&port=6012&type=Ent&sort=size&frame=0&action=3 Go Links

Enterprise Server Monitor

HOST hp9000b PORT 6012

VIEWS Active Log Files

ENTERPRISE SERVER **hp9000b/6012 - B9 - SP0.0**

SERVER STATUS Up for: 2 days, 2 hours, 13 minutes and 47 seconds

SERVER DISK USED 82% SERVER LOG SIZE 19902 k SERVER LOG FILES 26 RUNNING PROCESSES LOG SIZE 19840 k

Deleting files bigger than 2 M Delete

#	file name	process name	creation time	file size	Delete
1	idedebua_22825.log	SAW KERNEL	Wed Apr 10 16:41:41 MDT 2002	15190103	
2	idedebua_19960.log	REPLICATION KERNEL	Wed Apr 10 16:40:26 MDT 2002	1453355	
3	idedebua_19807.log	SECURITY KERNEL	Wed Apr 10 16:40:26 MDT 2002	1380078	
4	idedebua_26826.log	QUEUE KERNEL	Wed Apr 10 16:39:43 MDT 2002	958113	
5	ide_19960.log	REPLICATION KERNEL	Wed Apr 10 16:40:26 MDT 2002	350649	
6	ide_19807.log	SECURITY KERNEL	Wed Apr 10 16:40:26 MDT 2002	339647	
7	ide_26826.log	QUEUE KERNEL	Wed Apr 10 16:39:43 MDT 2002	96486	
8	idedebua_19528.log	CALL OBJECT KERNEL	Wed Apr 10 16:40:25 MDT 2002	26731	
9	ide_22825.log	SAW KERNEL	Wed Apr 10 16:40:55 MDT 2002	24529	
10	idedebua_19635.log	SCHEDULER KERNEL	Wed Apr 10 15:44:43 MDT 2002	16912	
11	idedebua_22267.log	jdenet_n	Wed Apr 10 15:44:22 MDT 2002	5936	
12	idedebua_13502.log	jdenet_n	Tue Apr 09 14:23:33 MDT 2002	4124	
13	idedebua_16588.log	jdenet_n	Wed Apr 10 15:44:43 MDT 2002	4122	
14	ide_22267.log	jdenet_n	Wed Apr 10 15:44:22 MDT 2002	2972	
15	ide_19635.log	SCHEDULER KERNEL	Mon Apr 08 14:23:10 MDT 2002	2065	

Done Local intranet

Disk Usage View

If you click Disk Usage in the dialog box of the Enterprise Server Monitor, the Disk Usage Summary view appears.

Monitoring Servers - Microsoft Internet Explorer provided by J.D. Edwards

File Edit View Favorites Tools Help

Back Forward Stop Search Favorites History

Address 06272a:8080/jde/servlet/com.jdedwards.portal.components.saw.SawEnt?host=hp9000b&port=6012&type=Ent&sort=size&frame=0&action=4 Go Links

Enterprise Server Monitor

HOST hp9000b PORT 6012

VIEWS Disk Usage

ENTERPRISE SERVER **hp9000b/6012 - B9 - SP0.0**

SERVER STATUS Up for: 2 days, 2 hours, 14 minutes and 19 seconds

SERVER DISK USED 82% SERVER LOG SIZE 20012 k SERVER LOG FILES 26 RUNNING PROCESSES LOG SIZE 19950 k

#	disk name	kilo bytes	used	free	% used	mount
1	/dev/vg00/lvol3 (server disk)	163840	91572	67776	57	/
2	/dev/vg00/lvol1 (server disk)	159509	30697	112861	21	/stand
3	/dev/vg00/lvol8 (server disk)	262144	100569	151564	40	/var
4	/dev/vg00/lvol12 (server disk)	364544	90030	257574	26	/var/tmp
5	/dev/vgdata01/vmqmlog (server disk)	16384	1363	14107	9	/var/vmqm
6	/dev/vg00/lvol11 (server disk)	921600	295015	587596	33	/var/adm/sw
7	/dev/vg00/lvol10 (server disk)	204800	116686	82671	59	/var/adm/sa
8	/dev/vg00/lvol7 (server disk)	1945600	1303220	602250	68	/usr
9	/dev/vgdata01/lvtools (server disk)	1540096	200082	1256324	14	/usr/local/tools
10	/dev/vgdata01/lvusers (server disk)	516096	83447	405639	17	/users
11	/dev/vgdata01/unixtmp (server disk)	25600000	4564	25195516	0	/unixtemp
12	/dev/vgdata01/lvunicode (server disk)	9216000	7311696	1844810	80	/unicode
13	/dev/vgdata01/lvu17 (server disk)	12288000	5079336	6983420	42	/u17
14	/dev/vgdata01/lvu15 (server disk)	12288000	10069732	2153448	82	/u15
15	/dev/vgdata01/lvu14 (server disk)	12288000	10045574	2172440	82	/u14
16	/dev/vgdata01/lvu13 (server disk)	12288000	5554492	6528766	46	/u13
17	/dev/vgdata01/lvu12 (server disk)	12288000	4695860	7357810	39	/u12
18	/dev/vgdata01/lvu11 (server disk)	12288000	11352988	912218	93	/u11
19	/dev/vgdata01/lvu10 (server disk)	12288000	9458172	2753844	77	/u10
20	/dev/vgdata01/lvu08 (server disk)	12288000	10231990	2005926	84	/u08

Done Local intranet

The Disk Usage Summary view displays the following 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.

Troubleshooting Call-Object Processes

When a call-object process dies, ERP 9.0 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.

Note

This feature is only available with SP 18 onwards.

Monitoring the ERP 9.0 JAS Servers 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 the following, 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 aid you in:

- Troubleshooting
- Performance tuning

The Web Server Monitor enables you to monitor a Web server when you are running ERP 9.0 on a Java or HTML client. Thus, even with a light or zero 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).

Web Server Monitor Technical Considerations

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 your monitoring from one Web server to another by typing in the name of a different server.

Accessing the Web Server Monitor

Caution

The URL is case sensitive. If you capitalize the characters you enter, a Page Not Found error will appear.

► To access the Web Server Monitor

Log on to the internet and enter a URL in the address control with the following:

- Name of the ERP 9.0 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

Using the Configure view of the Web Server Monitor, you can set the values of 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 will reflect 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.

► To configure the Web Server Monitor

1. On Web Server Monitor, choose Config from the pull-down menu in the Views field.
2. Choose or enter values in the following 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, the sentence above the button should read, "The OCM cache has 0 entries."

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 the following 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. The following 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 allowed 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 from the System Summary view or from any other view in the Web Server Monitor, click the scroll button in the upper left-hand corner of the form. A drop-down menu displays each available view in the Web Server Monitor, as listed and described below:

Web Server Monitor View	Information Displayed
User List	Data about individual Web server users.
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.
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

- ❑ *Monitoring JDENET Connection Pools in the Server and Workstation Administration Guide* for more information on connections to the enterprise server

- ❑ *Monitoring Business Functions Running on Connected Enterprise Servers* in the *Server and Workstation Administration Guide* for more information on monitoring business functions running on an enterprise server connected to the Web server

Monitoring Web Server Users

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 the following 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, J.D. Edwards 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 allows an administrator to monitor all the virtual clients, and groups them by user. You can view virtual clients by clicking “View Virtual Clients” above the table on the User List view. The virtual clients appear as records under each user session.

JDE EDWARDS Server Administration Workbench (SAW)

HOST: den-sh5706272a PORT: 8080

VIEW: User List Refresh

User List

WEB Server: den-sh5706272a:8080 **Up for 2 days, 15 hours, 26 minutes and 3 seconds** Mon Dec 29 10:13:37 MST 2002 [See Help](#)

Max Users Allowed: 100 Max Users Connected: 2 Session Services: 4 Session Timeout: 60
Current Users: 2 Active Users Last 10 Minutes: 0

[View Without Virtual Clients](#)

User Name	Environment	Display Mode	Computer Name	Login Time	Idle Time	Host ID	Session ID
1 SH5706272	PVT333	Portal	127.0.0.1	12/23/2002 09:58 AM	13 Minutes	DENINTELNTJ-392	2068494232235793296
Virtual Clients							
1 OWVirtual@PDE6666	P01012W01012B-63426-423a178d5f-78b0E4-SH5706272A10.3.161.91						Thread Assigned Action
2 OWVirtual@PDC765a	P01012W01012B-63426-423a178d5f-78b0E4-SH5706272A10.3.161.91						No Thread Assigned View Detail
3 OWVirtual@PDC3c16	P01012W01012B-63426-423a178d5f-78b0E4-SH5706272A10.3.161.91						No Thread Assigned View Detail
2 MC5637596	PVT333	Portal	127.0.0.1	12/23/2002 09:58 AM	14 Minutes	DENINTELNTJ-1062	48827234979982444632
Virtual Clients							
1 OWVirtual@Pde2461	P01012W01012B-63426-423a178d5f-78b0E4-SH5706272A10.3.161.91						Thread Assigned Action
2 OWVirtual@Pde9896	P01012W01012B-63426-423a178d5f-78b0E4-SH5706272A10.3.161.91						No Thread Assigned View Detail

Local Intranet

A table in the User List view displays parameters and values for each user session. The following table summarizes the information displayed in the table in the User List view:

Parameter in Table Description of User List View

User Name	User's ERP 9.0 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 ERP 9.0 Web page is displayed, such as HTML.
Computer Name	The name of the user's workstation.
Login Time	The time and date the user connected to the ERP 9.0 Web server.
Idle Time	The amount of time, in minutes, that a user has been inactive during an ERP 9.0 session. The parameter value is Active for any user who has performed an action in ERP 9.0 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's browser type.
Session ID	A unique numerical identifier for each user session.

The table provides at a glance 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.

► To monitor web server users

1. In the System Summary view of the Web Server Monitor, click the scroll button and choose User List.

The Web Server Monitor displays the User List view.

2. Click the Refresh button to get the latest user information.

The Web Server Monitor displays information on users connected to the web server.

3. Click on any table column heading to sort the column data.

Monitoring JDENET Connection Pools

The Web Server Monitor allows 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, as follows.

The screenshot shows the J.D. Edwards Web Server Monitor interface. The top navigation bar includes 'File', 'Edit', 'View', 'Favorites', 'Tools', and 'Help'. The address bar shows 'http://qaweb2.86/jde/saw/index.jsp?screen_refresh=300&host=qaweb2&port=86'. The main content area is titled 'Web Server Monitor' and shows the 'JDENET Pool' view. The status section indicates the host is 'qaweb2.86', the server is 'Up for 1 day, 23 hours, 3 minutes and 39 seconds', and the server time is 'Wed Jul 24 13:46:19 MDT 2002'. Below the status section, there are two tables. The first table shows connection data for 'HP9000B:6003' with columns for 'MaxPool', 'MaxWaited', 'Waiting', 'Current Size', 'Bytes Tx', and 'Bytes Rx'. The second table shows connection data for 'OWNTS1:6003' with the same columns. The 'Current Size' column in both tables shows a value of 0.

Host	MaxPool	MaxWaited	Waiting	Current Size	Bytes Tx	Bytes Rx
HP9000B:6003	50	0	0	3	84.2M	65.3M

ID	port	inUse	bytesTx	bytesRx	msgTx	msgRx	inUseTime
3943	60003	false	74,890,829	58,058,628	53,010	53,001	n/a
3997	59893	false	13,407,883	10,377,065	9,512	9,512	n/a
4104	59919	false	5,166	4,188	4	4	n/a

Host	MaxPool	MaxWaited	Waiting	Current Size	Bytes Tx	Bytes Rx
OWNTS1:6003	50	0	0	0	0	0

Note that 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 the following 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

► To monitor connection pools

1. In the System Summary view of the Web Server Monitor, click the scroll button and choose JDENET Pool.

The Web Server Monitor displays the JDENET Connection Pool Information view.

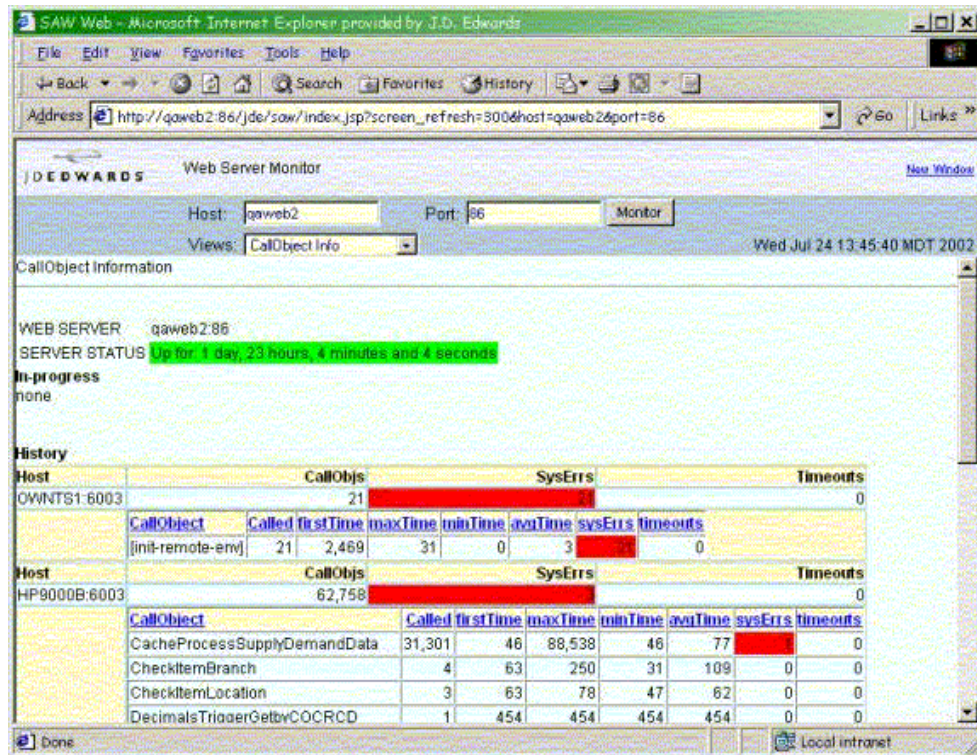
2. Click the Refresh button to get the latest connection information.

The Web Server Monitor displays connection and messaging information for each enterprise server.

Monitoring Business Functions Running on Connected Enterprise Servers

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 sortable lists.



Note that 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 a heading. For example, you can display the list in descending order by amount of time required to run the business function, thereby displaying at the top of the list those that took the most time to run. These business functions might cause performance problems.

The Web Server Monitor displays 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 the following 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. The following table summarizes the information displayed for each business function in the CallObject Information view:

Parameter in Table of CallObject Information View	Description
CallObject	Name of the business function.
Called	Total number of times the business function was called for processing on the enterprise server.
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, if any. This number can be important for troubleshooting purposes. A large number of in-progress processes indicates that the enterprise server is running slowly, and you can investigate the possible causes.

► 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 choose 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, choose 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

The JDBC Connection Pool Information view allows 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 the following 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.

See Also

- ❑ *The jde.ini File* in the *System Administration Guide* for more information on database connections

► To monitor database connection information

1. In the System Summary view of the Web Server Monitor, click the scroll button and choose 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.

Monitoring Virtual Clients

A new enhancement of the ERP Web product is Multiple Application Framework (MAF). MAF allows 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 SawWeb application allows 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 on View Detail to view more specific information about the virtual client.

The screenshot shows the 'Virtual Client Detail' form in the Server Administration Workbench (SAW). The form is titled 'Virtual Client Detail' and includes a 'Mon Dec 23 10:14:53 MST 2002' timestamp. The form is divided into several sections, each with a yellow header bar. The sections and their contents are as follows:

Property	Value
Virtual Client Properties	
Session ID	2009494232235703296
Virtual	OWVirtualClient7656
Location	PD1012W010120493428423e178d5f-78DEN-SH5706272A/10.3.161.81
Thread Name	No Thread Assigned
Max. Open Browsers	10
Parent URL	/servercom.jdedwards.runtime.virtual.LoginServlet
URL	null
Server Poll Interval	3000
Stack ID	2
Status	Ready
Page Timeout	300000
Virtual Client Environment Properties	
Environment	Pv7333
User Language	en
Language Preference	
User ID	SH5706272
User Name	com.jdedwards.services.login.UserName@086ca0
Virtual Client User Properties	
User Name	SH5706272
Environment	Pv7333
Display Mode	Portal
Computer Name	127.0.0.1
Login Time	12/23/2002 09:59 AM

From the Virtual Client Detail form, you can view the following variables.

- 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 drop down list. This view displays all of the virtual clients that are currently active.

Server Administration Workbench (SAW)

HOST: PORT: [sawWeb](#)

VIEWS: Refresh

Mon Dec 23 10:15:04 MST 2002 [Help](#) [Info](#) [Log](#)

Virtual Clients

WEB Server: sh5706272a:8060 **Up for > 2 days, 15 hours, 17 minutes and 15 seconds**

Max Users Allowed: 100 Max Users Connected: 2 Session Services: 4 Session Timeout: 60
Current Users: 2 Active Users Last 10 Minutes: 0

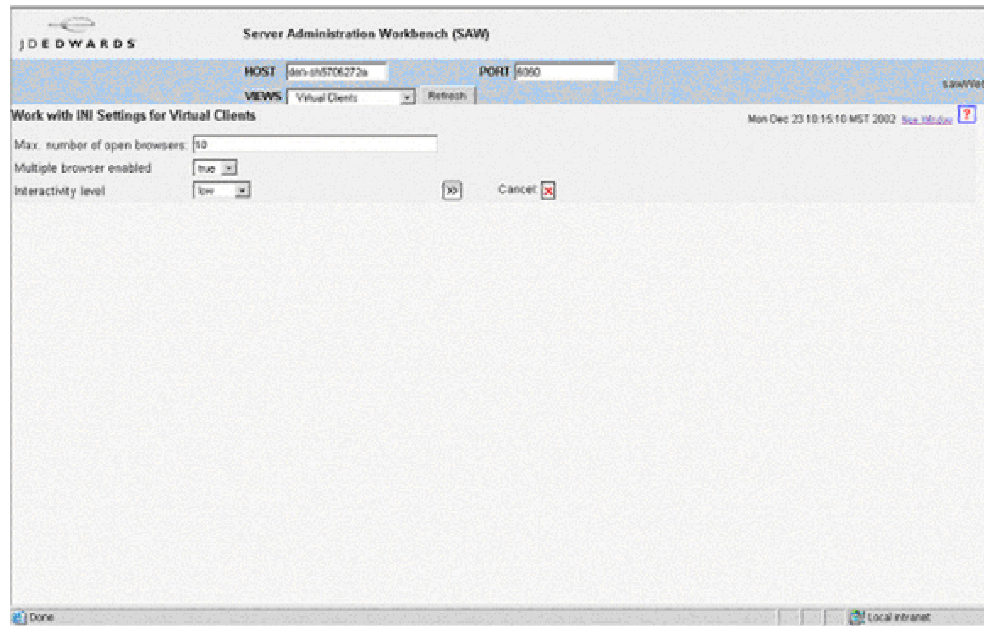
[Work With INI Settings](#)

#	User Name	Session ID	City/Virtual	Location	Thread Assigned	Action
1	SH5706272	2088484232235763306	OWVirtual@ms6566	P01012W01012B-83428f23a179d9f-7f9CEN-SH5706272A/10.3.161.91	No Thread Assigned	View Detail
2	SH5706272	2088484232235763306	OWVirtual@ms6765b	P01012W01012B-83428f23a179d9f-7f9CEN-SH5706272A/10.3.161.91	No Thread Assigned	View Detail
3	SH5706272	2088484232235763306	OWVirtual@ms63c16	P01012W01012B-83428f23a179d9f-7f9CEN-SH5706272A/10.3.161.91	No Thread Assigned	View Detail
4	MC5627596	4182234978882444632	OWVirtual@ms62491	P01012W01012B-83428f23a179d9f-7f9CEN-SH5706272A/10.3.161.91	No Thread Assigned	View Detail
5	MC5627596	4182234978882444632	OWVirtual@ms66796	P01012W01012B-83428f23a179d9f-7f9CEN-SH5706272A/10.3.161.91	No Thread Assigned	View Detail

Done Local intranet

You can view and modify certain JAS.INI settings by clicking the hyperlink 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.



Below is a description of the fields on this form:

- -Max. number of open browsers 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.
- Multiple browser enabled 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.

Note

For more information about these settings, refer to the Web Server Installation guide for your platform.

► To run SawWeb

1. To run SawWeb, enter the following in your Web browser:
http://WebServerName:port/jde/saw/SawWeb.html
2. In the SawWeb window, select User List from the drop down list.
This displays all of the users that are currently logged into this particular web server and port. There is a hyperlink at the top of the grid that shows 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 on 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. Choose Virtual Clients from the drop down 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 hyperlink.

This form allows you to modify couple 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

You can monitor Web server log files from the Web Server monitor. From the Log File view, you can view:

- A log file summary, which displays the size of all logs and the last time they were written
- The JAS.log file, which contains information on Java Application Server functions and records server errors
- The JASdebug.log file, which contains detailed information on the tasks running on the Java Application Server, including the SQL statements that were used
- The stdout file, which displays all of the outputs written by Java applications, including instantiation of servlets and business function processes running on the WebSphere Application Server

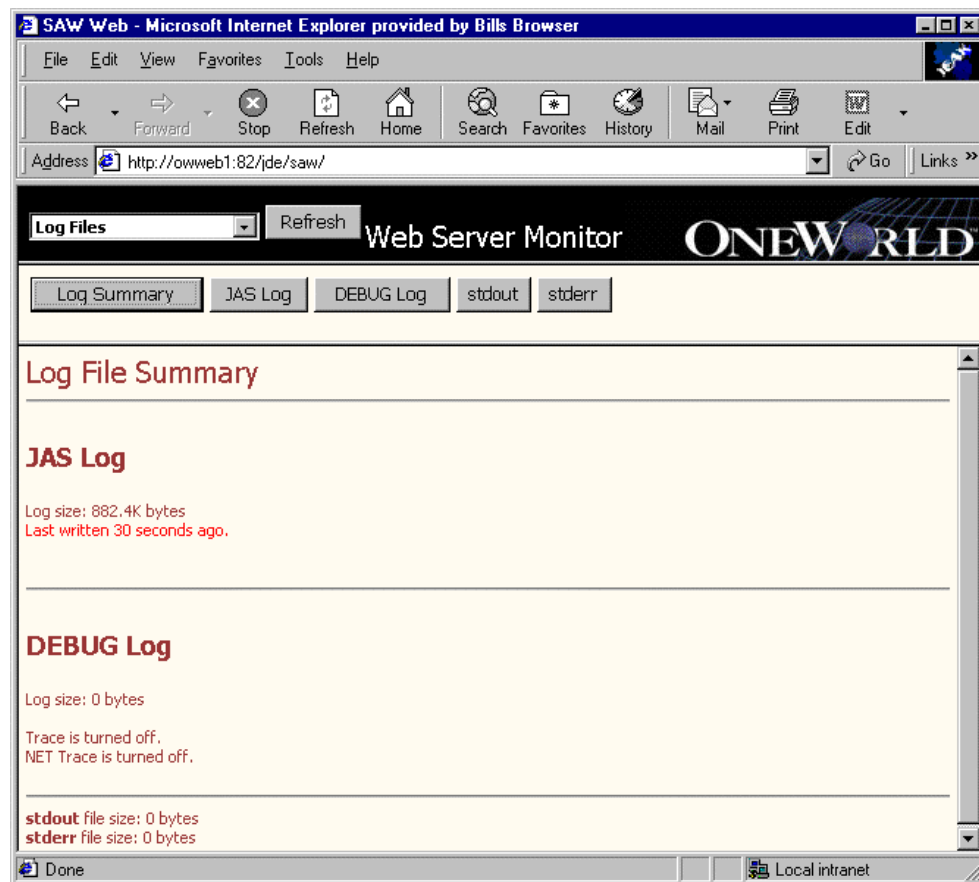
- The stderr file, which displays the error output from the main WebSphere servlet Java process

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.

Caution

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.

The Log Files view contains buttons you use to access log files and log file summaries.



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 your workstation, and they cannot be retrieved. Do not delete the files unless you have administrative privileges.

► To monitor web server log files

1. In the System Summary view of the Web Server Monitor, click the scroll button and choose 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."

► To enable Debug.log and Net Trace

1. On the web server, locate the sawLogButtons.jsp file, which is typically in the \b9\internet\dist\jdewww\saw\ directory.
2. Open the sawLogButtons.jsp file, locate the following 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, choose the Debug Log option.
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, choose 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.

► To delete log files

1. In the System Summary view of the Web Server Monitor, click the scroll button and choose 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.

Troubleshooting with the Web Server Monitor

The available Web Server Monitor views offer data that can be useful to administrators in spotting potential problems. The following table lists Web Server Monitor parameters that you can monitor for troubleshooting purposes:

Parameter	Web Server Monitor View(s)	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
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.

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 ERP 9.0 system.

The following table displays selected Web Server Monitor parameters, the Web Server Monitor view in which each is displayed, and the ERP 9.0 location where each Web Server monitor parameter is typically defined.

Web Server Monitor View	Parameter	ERP 9.0 Property	ERP 9.0 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 System XPlE Servers from the Web

The System XPlE Server Monitor allows you to use the Web to monitor an XPlE Broker Server. The server-monitoring APIs for ActiveWorks are available in Java code, and ERP 9.0 uses them to provide the XPlE Server Monitor.

To monitor an XPlE server, you must enter a valid host name and port number in the XPlE Server Monitor workspace. From the dialog box in the workspace, you can choose from five views:

- Broker Summary
- Event Types
- Client Groups
- Client States
- Broker Logs

Broker Summary View

The Broker Summary view allows 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 XPlE Server Monitor workspace, and then choose 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. The following 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 icons 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 XPIe 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.

See Also

- ❑ *Event Types View, Client States View, and Client Groups View* in the *Server and Workstation Administration Guide* for more information about the Broker Summary Table parameters

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 XPIe 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 choose Event Types from the XPlE 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. The following 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: • Guaranteed, which means that events are stored on disk using a logged commit. • Persistent, which means that events are stored on disk using operating asynchronous input/output. • Volatile, which means that events are stored in memory.
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 icon 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 choose Client Groups from the XPlE 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. The following 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	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.
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 icon 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 choose Client States from the XPIe 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. The following 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's owner's user name.
Sessions	Information about a client session. Click the magnifying glass icon in the Sessions column to view detailed session information.

Broker Log View

You can use the XPIe 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 your view to warnings, alerts, or information messages.

When you choose Broker Log from the XPIe 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.

Monitoring ERP 9.0 with SAW on the AS/400

The Server Administration Workbench (SAW) for the AS/400 uses the menu structure that is standard to the AS/400 interface. Through this interface, SAW provides access to the following information:

Application	Description
Work with Servers	This option allows you to view ERP 9.0 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 ERP 9.0 services for the local port and host only. Otherwise, this option allows viewing only of ERP 9.0 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 allows you to view information about general ERP 9.0 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 ERP 9.0 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) to allow 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.

Accessing SAW

You can access the Server Administration Workbench (SAW) from the command line.

Before You Begin

- ❑ SAW must reside in your ERP 9.0 system library in the library list before you can access SAW from the command line.

► To access SAW

On the command line, enter SAW.

The SAW main menu appears.

Monitoring Remote ERP 9.0 Servers

The Work with Servers application allows you to change the server and port that you monitor using Server Administration Workbench (SAW). ERP 9.0 services do not need to be running on the local port and host to run SAW.

► To monitor remote ERP 9.0 servers

From the SAW main menu, choose Work with Servers.

On Work with Servers, enter a new server name in the field.

When a valid server name and port are entered, the ERP 9.0 Server Administration Workbench screen displays the new server name and port shown.

Starting, Stopping, and Displaying ERP 9.0 Server Processes

The Work with Server Processes form allows you to start or stop the local ERP 9.0 server and to display the ERP 9.0 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 ERP 9.0 server processes do not appear when you switch the host or port using the Work with Servers option.

► To start ERP 9.0 processes on a server

From the SAW main menu, choose Work with Server Processes.

On Work with Server Processes, choose Start ERP 9.0 Processes.

If ERP 9.0 processes have already been started, this option will not appear on the form.

► **To stop ERP 9.0 processes on a server**

From the SAW main menu, choose Work with Server Processes.

1. On Work with Server Processes, choose Stop ERP 9.0 Processes.

Caution:

Use caution when you stop ERP 9.0 processes on a server to avoid interrupting important server processes.

If ERP 9.0 processes are not active or if the host or port were not the default when starting SAW, this option will not appear on the form.

► **To display ERP 9.0 server processes**

From the SAW main menu, choose Work with Server Processes.

1. On Work with Server Processes, choose Display ERP 9.0 Processes.
2. On Display ERP 9.0 Processes, you can view information about kernel processes, network processes, and queue processes. You can also display and delete logs for the ERP 9.0 processes. When you display ERP 9.0 processes for the host server, you can end the processes and display detail information about the processes.
3. You can filter, sort, and view different information on this form by using key commands and function keys. Press F1 to see a list of these options.
4. If you are viewing processes for the host server, enter 5 in the Opt field in front of a process to view detail information about the process.

► **To display and delete log files for ERP 9.0 server processes**

From the SAW main menu, choose Work with Server Processes.

1. On Work with Server Processes, choose Display ERP 9.0 Processes.
2. On Display ERP 9.0 Processes, enter one of the following values in the Opt field in front of a process:
 - 7
This value allows you to view the log file.
 - 8
This value allows you to view the debug log file.
 - 9
This value allows you to delete all log files for the process.

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.

► **To end individual ERP 9.0 server processes**

Note

You can only end ERP 9.0 processes for the host server. You cannot end processes for remote servers.

From the SAW main menu, choose Work with Server Processes.

1. On Work with Server Processes, choose Display ERP 9.0 Processes.
2. On Display ERP 9.0 Processes, enter 4 in the Opt field in front of the process that you want to stop.

SAW stops the process and then refreshes the form.

Displaying Server IPC and Disk Space Resources

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 allows one process to pass packets to another process.
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. 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 ERP 9.0 is not running on the local port and local host and you try to display local IPC resources, you will quit SAW.

► **To display ERP 9.0 IPC resources**

From the SAW main menu, choose Work with Server Resources.

1. On Work with Server Resources, choose Display ERP 9.0 Resources.
2. On Display ERP 9.0 Resources, you can filter and sort information on this form by using key commands and function keys. Press F1 to see a list of these options.

► **To display disk space resources**

From the SAW main menu, choose Work with Server Resources.

On Work with Server Resources, choose Display Disk Space Resources.

If you display disk space resources for the host server, disk space resource information appears in the Display System Status (DPSYSSTS) 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

You can use the Work with Server Log Files option in Server Administration Workbench (SAW) to access all log files available on a specific server.

► **To display, print, and delete server log files**

From the SAW main menu, choose Work with Server Log Files.

The Work with Server Log Files displays all log files for network, kernel, and batch processes. SAW measures the size of the log files in Kilobytes.

1. You can sort information on this form by using key commands and function keys. Press F1 to see a list of these options.
2. In the Opt field in front of a process, enter one of the following values:
 - 4
This value allows you to delete the log file.
 - 5
This value allows you to view the log file.
 - 6
This value allows you to print the log file.

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**

From the SAW main menu, choose 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.

1. View and modify the jde.ini file as necessary and then press F3 when you finish.
The Exit form for the SEU editor appears.
2. Save your 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 ERP 9.0 with SAW on UNIX

The Server Administration Workbench (SAW) on UNIX provides access to the following information:

- **Work with Servers**
This option allows you to view ERP 9.0 services running on other servers on any port.
- **Work with Server Processes**
This option provides the ability to start, stop, and view ERP 9.0 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.
- **Work with Server Resources**
This option allows you to view information about general ERP 9.0 resources on a server, such as locks and local resources, and disk space resources, such as disk availability.
- **Work with Server Log Files**
This option provides a list of all log files for ERP 9.0 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) to allow 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 your configuration with SAW is xterm with a minimum of 80 columns and 24 lines (default).

Accessing SAW

You can access Server Administration Workbench (SAW) from the command line.

► To access SAW

On the command line, enter the following command:

```
saw.sh
```

Monitoring Remote ERP 9.0 Servers

This application allows you to change the server that you monitor using Server Administration Workbench (SAW). The services on the remote server can run on any port number.

► To monitor remote ERP 9.0 servers

From the SAW main menu, choose Work with Servers.

You can either use the arrow keys to move focus to the appropriate option and press Enter or enter the number of the option on the command line.

On Work with Servers, enter a new server name and port number.

When you enter a valid server name, the name of the server replaces the previous server in the upper left corner of the form.

If you enter a server name that does not exist on the current port, or if the network fails to make a connection, SAW stops the process after fifteen seconds. You need to reset the server using Work with Servers.

Starting, Stopping, and Displaying ERP 9.0 Server Processes

The Work with Server Processes form allows you to start or stop the local ERP 9.0 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.

► To start a ERP 9.0 server

From the SAW main menu, choose Work with Server Processes.

You can either use the arrow keys to move focus to the appropriate option and press Enter or enter the number of the option on the command line.

On Work with Server Processes, choose Start ERP 9.0 Processes.

If the server is already running, the Stop ERP 9.0 Processes option appears in bold, while the Start ERP 9.0 Processes option appears in a normal font.

► **To stop a ERP 9.0 server**

From the SAW main menu, choose Work with Server Processes.

On Work with Server Processes, choose the Stop ERP 9.0 Processes option.

If the server is not currently running, the Start ERP 9.0 Processes option appears in bold, while the Stop ERP 9.0 Processes option appears in a normal font.

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 ERP 9.0 server processes**

From the SAW main menu, choose Work with Server Processes.

1. On Work with Server Processes, choose Display ERP 9.0 Processes.

The Display ERP 9.0 Processes form appears. On this form you can view detailed information about kernel processes, network processes, and queue processes. You can also display and delete logs for the ERP 9.0 processes. When you display ERP 9.0 processes for the local host server, you can end the processes.

You can modify the appearance of this form by using key commands and function keys. Press F1 to see a list of these options.

2. If you are viewing processes for the host server, press 5 to view detail information about the selected process. The following screen is an example of detailed information for a kernel process:

All other options on the Display ERP 9.0 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 and delete log files for ERP 9.0 server processes**

From the SAW main menu, choose Work with Server Processes.

1. On Work with Server Processes, choose Display ERP 9.0 Processes.
2. On Display ERP 9.0 Processes, choose a process, then do one of the following:

- Press 7 to view the log file.

Allows 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, a confirmation form is displayed before viewing this file.

- Press 8 to view the debug log file.

Allows you to view the jdedebug.log for the chosen process. If the size of the file you want to view is larger than the maximum allowed size, a confirmation form is displayed before viewing this file.

- Press F4 to view the jdedebug file using vi.
- Press 9 to delete all log files for the process.
- Press the "A" key to delete all log files for all processes.

On the confirmation form that appears, enter Yes.

- Press the "R" key 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 key for the next page of the file. Type q to stop viewing the log.

► To stop individual ERP 9.0 kernel and queue processes

From the SAW main menu, choose Work with Server Processes.

1. On Work with Server Processes, choose Display ERP 9.0 Processes.
2. On Display ERP 9.0 Processes, choose the process to stop and press 4.
3. Click Yes to confirm.

Option 4 is valid only for the local server. This option allows you to stop a kernel or jdequeue process. This option is not active for a remote server or for jdenet processes.

SAW removes the process and then refreshes the form.

Displaying Server IPC and Disk Space Resources

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:

- Message queues (MSG)
A message queue allows 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.

► To display ERP 9.0 IPC resources

From the SAW main menu, choose Work with Server Resources.

On Work with Server Resources, choose Display ERP 9.0 Resources.

The Display ERP 9.0 Resources form appears.

You can modify the appearance of this form by using key commands and function keys. Press F1 to see a list of these options.

► To display disk space resources

From the SAW main menu, choose Work with Server Resources.

On Work with Server Resources, choose Display Disk Space Resources.

The Display Disk Space Resources form appears.

SAW measures disk space in KB. You can modify the appearance of this form by using key commands and function keys. Press F1 to see a list of these options.

Note

The underlined disk resource represents the ERP 9.0 disk resource for the current server.

► To display, print, and delete server log files

From the SAW main menu, choose Work with Server Log Files.

The Work with Server Log Files displays all log files for currently running network, kernel, and batch processes including log files for previously run processes. SAW measures the size of the log files in KB. Press F1 to see a list of options for this screen.

On Work with Server Log Files, choose a log file, then do one of the following:

- 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. These files are marked <Deleted>, but they are not actually deleted until you refresh the form by pressing the F5 key. This allows you to undo a remove if necessary. Once you choose F5 to refresh the form, the files are deleted from the server.

The following form shows how log files look after they have been marked for deletion but before F5 is chosen.

- Press 5 to view the log file.
- Press 6 to print the log file.
- Enter 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 pressing b again before refreshing the form. Once you refresh the form using 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's 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 chosen file using vi.

Working with the Server jde.ini File

SAW provides access to the local jde.ini file. You can view and modify settings in the jde.ini file *only* on the local server. You cannot administrate the jde.ini file on remote servers.

► **To modify the server JDE.INI file**

From the SAW main menu, choose Work with Server INI File.

1. On Work with Server INI file, choose 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. Choose 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.

► **To edit the server JDE.INI file**

From the SAW main menu, choose Work with Server INI File.

1. On Work with Server INI file, Press F8.

The vi editor opens to display the full JDE.INI.



```
xterm
[DEBUG]
Output=FILE
Trace=TRUE
DebugFile=/u15/shahin/bdev/system/bin32/log/jdedebug.log
JobFile=/u15/shahin/bdev/system/bin32/log/jde.log
ClientLog=1
GlobalCompactSizeInit=1024
GlobalCompactSizeDestroy=0
LogErrors=1
JDETSFile=JDETS.log

[TAM]
TAMTraceLevel=0

[MEMORY DEBUG]
Frequency=10000
Full=1

[SVR]
EnvType=1
EnvironmentName=A733HP01
SpecPath=spec
SourcePath=source
"/u15/shahin/bdev/system/ini/hpux/./JDE.INI" 265 lines, 5410 characters
```

2. Change the JDE.INI file as necessary and then save and quit vi.

Note

See UNIX online manual for the commands available in the vi editor. To access the manual, type `man vi` at the UNIX prompt.

► **To turn on or turn off debugging**

From the SAW main menu, choose Work with Server INI file.

1. Work with Server INI file, 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.

► **To change the port number of the server**

From the SAW main menu, choose Work with Server INI File.

1. On Work with Server INI file, 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 ERP 9.0 with ERP 9.0 Knowledge Module

BMC Software has a product called PATROL, which allows companies to monitor and detect errors across large networks and a variety of third-party software packages, including J.D. Edwards ERP 9.0. The PATROL console offers a single interface for data monitoring and collection across an entire distributed enterprise.

If you are using PATROL to monitor your system, you can use the ERP 9.0 Knowledge Module (OWKM) to monitor the processes on your ERP 9.0 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.

The following 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 an ERP 9.0 administrator to a CLI, receives the returned server data, and displays the data in the PATROL console.
CLI	Standalone, running program that receives an ERP 9.0 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 the following ERP 9.0 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 ERP 9.0 servers, displays icons for each server component. You can double-click these icons to monitor each component. In addition, you can choose OWKM commands for each component to gather additional data about each one.

Operating System-Specific Considerations

You can monitor ERP 9.0 servers using OWKM and the PATROL console regardless of the operating system you use. However, the monitoring setups for each operating system differ slightly.

The following table summarizes the operating system considerations for monitoring ERP 9.0 servers with OWKM and PATROL.

Operating System	Consideration
AS/400	Because PATROL has not been developed for AS/400 systems, you monitor the AS/400 server by using PATROL and an ERP 9.0 client install from a Windows workstation.
Windows	To monitor ERP 9.0 servers running on Windows, you can either install PATROL on the monitored server and monitor the local server, or use a remote workstation with an ERP 9.0 install of PATROL.
UNIX	To monitor ERP 9.0 servers running on UNIX, you can either install PATROL on the monitored server and monitor the local server, or use a remote workstation with an ERP 9.0 install of PATROL.

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 automatically

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:\b9\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 c:/u10/oneworld/system/owpatrol/owkm/psl
```

```
OW_install_km.sh <PATROL_DIRECTORY>
```

Loading OWKM Files

You load the OWKM files so that the SYSTEM_SETUP icon appears in the PATROL console. Once ERP 9.0 and PATROL are set up, you will use this icon to access information about your servers. This procedure needs to be done only once to configure your system.

► To load OWKM files

1. On the PATROL console, choose File, then Load KM.
2. Choose OW_ALL.kml.

The SYSTEM_SETUP icon should appear in the PATROL console. If you accidentally repeat this procedure at a later time, choose Skip All to bring up the SETUP icon.

Adding a Host

Before you can monitor ERP 9.0 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, an icon for the host appears in the PATROL console. You can monitor information about the host by double-clicking its icon.

► To add a host

1. On the PATROL console, choose Add from the Hosts menu.
2. On Add Hosts, complete the following fields:
 - Host Name
Enter the name of the local workstation.
 - Computer Class
From the list, choose the name of the operating system for the local workstation.
 - Connection Mode
This option specifies 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
This option specifies the mode of communication with the PATROL console. Use the default value.
 - Port
This option specifies the port number used by PATROL to run on the system. It is not the same as the port number used by the ERP 9.0 server. Use the default value unless there is a conflict. If there is a conflict, choose an unused port number.
 - Username
Enter your network user name.

- Password
Enter your network password.
 - Verify Password
Reenter your network password.
3. Click OK.
 4. On the PATROL console, double-click the PatrolMainMap icon or expand the node.
An icon labeled with the name of the host that you added appears in the PATROL console.

Adding an ERP 9.0 Server

Before you can monitor ERP 9.0 servers using OWKM and PATROL, you must enter information about each server. After you enter the information, an icon for each server appears in the PATROL console.

► To add a ERP 9.0 server

1. On the PATROL console, right-click the MainMap icon, and then choose the following:
 - KM Commands
 - Configure
 - ERP 9.0 Monitored Servers
2. On Configure ERP 9.0 Monitored Servers, choose the Add option and then click Execute.
3. On Add ERP 9.0 Monitored Server, complete the following fields:
 - Host Name
Enter the name of the local or remote server.
 - Port Number
Enter the server's port number.
 - Web Server
Choose this option if you are monitoring a web server.
 - ERP 9.0 Userid
Enter your ERP 9.0 ID.
 - ERP 9.0 Password
Enter your ERP 9.0 password.
 - JDE Base Path
Enter the path to the ERP 9.0 installation directory on your 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:\b9\system. For UNIX, you might enter /u15/oneworld/system.

4. Click OK.

After you add a server to be monitored, OW_SYSTEM is added to the MainMap icon, indicating that you have configured at least one server.

Configuring OWKM

After you have added ERP 9.0 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 nonpersistent, 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

Nonpersistent settings are:

- Data Request Timeout
- Log Request Timeout
- Preserve Non-Error Log Files
- Use Defaults

The following 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	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	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	Creates a JDEDEBUG log file each time the CLI retrieves data from the server.

Files	Use for debugging purposes only, as the CLI process will create a large number of files in your system. Default value is off.
Use Defaults	Retrieves and sets default values for each configuration parameter after you choose the option and click OK. Default value is off.

► To configure OWKM

1. On the PATROL console, right-click the OW_SYSTEM icon, and then choose the following:
 - KM Commands
 - Configure
 - ERP 9.0 KM (CLI)
2. On ERP 9.0 KM Configuration, make any necessary changes to the following configuration settings:
 - Data Request Timeout
 - Log Request Timeout
 - Preserve Non-Error Log Files
 - Max Log Size to Retrieve
 - Max Log Lines to Retrieve
 - Send Alarm Event When Server Bounced
 - UBE Alarm Timeout
 - Use Defaults
3. If you want to retrieve the default values for each setting, choose the Use Defaults option and click OK.
4. Review all configuration settings and click OK.

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 icon to reveal the monitored components. A yellow, blinking component icon indicates warning status. A red, blinking component icon indicates alarm status. For instance, if a disk runs out of space, the disk icon blinks red. If you expand the Disks icon node, the disk that has run out of space also blinks red.

The following 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 icon blinks to indicate the problem.
Detailed	Provides summary information of all the other components.

Status	
Disks	Displays disk usage on the server.
INI	Allows users to view the ERP 9.0 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 ERP 9.0 server processes.
Processes	Displays information about ERP 9.0 processes monitored on each server, including business functions, jdenet, jdequeue, replication, SAW, Scheduler, and security.
Resources	Displays information about ERP 9.0 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 an icon 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.

Monitoring Enterprise Servers Using KM Commands

The KM Commands menu item is an ERP 9.0-specific addition to PATROL features. The menu appears when you right-click some icons in the PATROL console. KM Commands give you additional monitoring options for selected server components.

Note

You can choose any available enterprise server component for monitoring by right-clicking the server icon and choosing KM Commands and View.

The following table lists and summarizes the KM Commands options for each enterprise server component in the PATROL console:

Component	KM Commands Parameters	Comments
Server	• View	• View allows user to choose an individual server component and view information about it.
	• Refresh Parameters	• Refresh Parameters gets server information immediately rather than waiting the normal time of one minute.
	• Stop Monitoring	• Stop Monitoring deletes the server from the list of servers to be monitored by PATROL and OWKM.
	• Detailed Status	• Detailed Status displays information on Disks, Logs, Processes, and Resources components in one form.
Disks	• View	• View allows user to view a list of disks and the percentage used for each. Choose a disk and click View Details for host, port, path, mount point, and usage data.
	• Detailed Status	

INI	• View • Edit	• View allows users to view only the server's jde.ini file. • Edit allows users with Server Administration Workbench (SAW) administrator privileges to edit the server's jde.ini file.
Logs	• View • Detailed Status	• View displays lists of log files, debug files, server logs, and print queue logs. Users can sort, select, and delete logs. Choose an individual log and click Execute to view the log. • Detailed Status displays log type, file count, and disk usage information.
Processes	• View • Detailed Status • Clear Missing Process Alarms	• View displays a list of processes with options to view details, view error log, view debug log, or delete logs. • Detailed Status displays process ID, type, and name of each process. • Clear Missing Process Alarms allows an administrator to delete blinking (alarm) icons for failed processes.
Resources	• View • Detailed Status	• View displays a list of resource names and types. Choose 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. • Detailed Status displays each resource name and type.

Monitoring ERP 9.0 Enterprise Server Components

After you have configured OWKM, you are ready to use the PATROL console to monitor ERP 9.0 enterprise server components.

Monitoring ERP 9.0 Enterprise Server Components from the PATROL Console

You can monitor the components of each enterprise server that you have added for monitoring.

► To monitor ERP 9.0 enterprise server components from the PATROL console

1. On the PATROL console, double-click the OW_SYSTEM icon.
2. Double-click an enterprise server icon to view the components monitored by PATROL and OWKM.
3. Double-click one of the following component icons to view its status:
 - CLI_Status
 - Detailed Status
 - Disks
 - Logs
 - Processes
 - Resources

Editing the Enterprise Server jde.ini File

If you have Server Administration Workbench (SAW) administrator privileges, you can edit the enterprise server's jde.ini file from the PATROL console. Without administrator privileges, you are permitted only to view the file.

► To edit the enterprise server jde.ini file

1. On the PATROL console, double-click an enterprise server icon.
2. Right-click the INI icon and choose the following:
 - KM Commands
 - Edit

The enterprise server's jde.ini file appears.

3. Edit and save the file.

Monitoring ERP 9.0 Enterprise Server Log Files

You can access and view the log files for each enterprise server that you monitor from the PATROL console. You can also sort and select the files using options in the ERP 9.0 Server Log Files form.

► To monitor ERP 9.0 enterprise server log files

1. On the PATROL console, double-click an enterprise server icon.
2. Right-click the Logs icon and choose the following:
 - KM Commands
 - View
 - All Server Logs
3. On ERP 9.0 Server Log Files, choose one of the following options to change the view of the list of logs:
 - View Log
 - Sort by Size
 - Sort by Date
 - Sort by Name
 - Select by Number
 - Reverse Selections
 - Clear Selections
4. To view a log file, select the log, choose the View Log option, and click Execute.
The ERP 9.0 web server log file or debug file appears in the PATROL console.
5. To search the file, right-click inside the file, choose Find and enter a word to search for, such as "Error," and a direction to search, either up or down.

Note

Remember that the maximum size of the file you can retrieve when you use this form is set when you configure OWKM. If the size of the file you want to retrieve exceeds this size, you will need to reconfigure OWKM and increase the value of this parameter.

Viewing Log Files for an ERP 9.0 Enterprise Server Process

You can monitor an ERP 9.0 enterprise server process and view the related log files.

► To view log files for an ERP 9.0 enterprise server process

1. On the PATROL console, choose a server whose processes you want to monitor and double-click the icon.
2. Double-click the Processes icon.
3. Right-click a process and choose the following:
 - KM Commands
 - View
 - Log File or Debug Log File

PATROL displays the contents of the log file or debug log file.

Deleting Log Files for an ERP 9.0 Enterprise Server Process

You can delete the log or debug log files for an ERP 9.0 enterprise server process. You should do this periodically to free up space on your disk.

► To delete log files for an ERP 9.0 enterprise server process

1. On the PATROL console, select a process whose log file you want to delete.
2. Right-click the process icon and choose the following:
 - KM Commands
 - Delete
 - Log File or Debug Log File
3. On Confirmation, click Yes if you are sure you want to delete the file.

Viewing ERP 9.0 Enterprise Server Disk Information

You can view disk information for each server you monitor from the PATROL console.

► **To view ERP 9.0 enterprise server disk information**

1. On the PATROL console, double-click the icon for the server whose disk information you want to view.
2. Right-click a disk icon and choose the following:
 - KM Commands
 - View
3. On ERP 9.0 Disks, select the name of a disk and then click View Details.

The Disk Detailed Status form appears, containing the following disk information:

- Host
 - Port
 - Name
 - Volume
 - Used space
 - Free space
 - Percent used
 - Mount Point
4. Click OK to exit the form.

Note

Clicking Detailed Status after KM Commands launches the Detailed Status form, which allows you to view disk name, mount point, used space, free space, and percent used.

Changing Alarm Ranges

Some server component settings have alarm ranges that are adjustable by administrators. The alarm settings determine when a component will blink yellow, indicating a warning status, or blink red, indicating an alarm status. To change the alarm status, you must run the PATROL console as a developer, not as an operator.

► **To change alarm ranges**

1. Log on to PATROL as a developer.
2. On the PATROL console, click the KM tab.
3. Expand the Knowledge Module and Application Classes nodes.
4. Choose an Application Class, such as OW_FILESYS, and expand the node.
5. Expand the Parameters node.
6. Double-click a parameter.
7. On Parameter Properties, click the Alarm Ranges tab.

8. Change the alarm ranges by making any necessary adjustments to the following controls:
 - Border, which is the range of valid values for the alarm
 - Alarm 1, which sets the range for a warning
 - Alarm 2, which sets the range for an alarm
9. Click Apply.

You can use PATROL and OWKM to monitor web servers as well as enterprise servers. When you add a web server to be monitored, the PATROL console again displays the name of the server, and you can view the monitored components by clicking the server icon node or by double clicking the icon. The PATROL console again indicates a warning status for a component with a yellow, blinking icon, and an alarm status for a component with a red, blinking icon.

Monitoring ERP 9.0 Web Server Components

You can use BMC PATROL and OWKM to monitor Web server components, including logging files, users, and connection pools.

Web Server Components Monitored by OWKM

The following table lists each monitored Web 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 icon blinks to indicate the problem.
Detailed Status	Provides summary information for all the other components.
Server Status	Indicates whether the Web server you are monitoring is running or not.
Connection Pools	Provides information on all the ERP 9.0 enterprise servers that users connect to through the Web server.
Users	Displays information on all the users connected to the Web server.

The PATROL console also displays subcomponents of the Connection Pools and Users components. You can expand the node for each of these components and double-click a subcomponent icon to view more information about it. For example, if you expand the Connection Pools node, you reveal nodes for each enterprise server that users connect to through the Web server. If you double-click an icon for a particular enterprise server, you can view detailed status information about the enterprise server, as well as data about the number of business functions running on that server.

Monitoring Web Servers Using KM Commands

The KM Commands menu item is an ERP 9.0-specific addition to PATROL features. The menu appears when you right-click some icons in the PATROL console. KM Commands give you additional monitoring options for selected Web server components.

Note

You can choose any available Web server component for monitoring by right-clicking the server icon and choosing KM Commands and View.

The following table lists and summarizes the KM Commands options for each Web server component in the PATROL console:

Component	KM Commands Parameters	Comments
Server	• View	• View allows user to choose an individual Web server component and view information about it.
	• Delete	• Delete allows user to delete the log file and debug log file for the monitored Web server.
	• Set Logging Flags	• Setting Log Flags allows user to enable or disable logging for JAS and network files.
	• Refresh Parameters	• Refresh Parameters gets server information immediately rather than waiting the normal time of one minute.
	• Stop Monitoring	• Stop Monitoring deletes the server from the list of servers to be monitored by PATROL and OWKM.
	• Detailed Status	• Detailed Status displays information on Users and Connection Pools components in one form.
Connection Pools	• View	• View displays list of enterprise servers connected to the Web server. Choose an enterprise server and click View Details for a list of all business functions running on the enterprise server.
	• Detailed Status	• Detailed Status displays in one form business function data for all enterprise servers connected to the Web server.
Users	• View	• View: Displays list of users logged on to the Web server, by user ID and machine name. Select a user and click View Details for additional user data.
	• Detailed Status	• Detailed Status displays in one form data about each user logged on to the Web server, including user ID, Web server host, enterprise server host, environment, log-in time, browser name, and machine name.

Monitoring ERP 9.0 Web Server Components from the PATROL Console

You can monitor the components of each Web server that you have added for monitoring.

► To monitor ERP 9.0 web server components from the PATROL console

1. On the PATROL console, double-click the OW_SYSTEM icon.
2. Double-click a web server icon to view the components monitored by PATROL and OWKM.
3. Double-click one of the following component icons to view its status:
 - CLI_Status
 - Connection Pools
 - Detailed Status
 - Server Status
 - Users

Monitoring ERP 9.0 Web Server Log Files

A separate component icon for Web server logs in the PATROL console does not exist. You access the files from the Web server icon.

► To monitor ERP 9.0 web server log files

1. On the PATROL console, right-click the server icon and choose the following:
 - KM Commands
 - View
 - Logs
 - Log File or Debug File

The ERP 9.0 web server log file or debug file appears in the PATROL console.

2. To search the file, right click inside the file, choose Find and enter a word to search for, such as "Error," and a direction to search, either up or down.

Deleting ERP 9.0 Web Server Log Files

You can delete ERP 9.0 Web server log and debug logs. You access the command to delete the files from the Web server icon.

► To delete ERP 9.0 web server log files

1. On the PATROL console, right-click the server icon and choose the following:
 - KM Commands
 - Delete
 - Log File or Debug File

2. On Confirmation, click Yes if you are sure you want to delete the file.

Setting Logging Flags

The Set Logging Flags parameter allows you to enable or disable the log files for the JAS server and for the network. Note that you cannot view the Web network files from the PATROL console. When you view the log files for the server, the PATROL console simply notifies you that the network trace is turned on.

► To set logging flags

1. On the PATROL console, right-click the server icon and choose the following:
 - KM Commands
 - Set Logging Flags
2. On Set Web Log Flags, choose the following options if you want to enable JAS and network server logging:
 - Enable Java Server Log
 - Enable Net Server Log
3. Click OK.

An Information form notifies you whether or not the flag was set successfully.

Monitoring ERP 9.0 Web Server Users

You can monitor the users who are currently logged on to ERP 9.0 Web servers. You can choose an individual user and view data about that user, or you can view, in a single form, data about all the logged-on users.

► To monitor ERP 9.0 web server users

1. On the PATROL console, double-click the web server icon.
2. Right-click the Users icon and choose the following:
 - KM Commands
 - View
3. On ERP 9.0 Web Users, choose a user and click View Details.
4. On User Detailed Status, click OK.

To view in a single form data on all of the users, choose KM Commands and Detailed Status.

Monitoring ERP 9.0 Web Server Connection Pools

You can monitor the connection pools of enterprise servers that are connected to the ERP 9.0 Web server. You can choose an individual enterprise server and view business data about business functions running on that server, or you can view, in a single form, business function data about all the enterprise servers connected to the ERP 9.0 Web server.

You monitor the following types of information about enterprise servers connected to Web servers:

- Names of business functions that have run on an enterprise server during a server session
- Minimum time required to run a business function
- Maximum time required to run a business function
- Average time required to run a business function
- Number of timeouts that occurred during the running of a business function
- Number of system errors that occurred during the running of a business function
- Number of application errors that occurred during the running of a business function
- Number of times a business function was called during a server session

► To monitor ERP 9.0 web server connection pools

1. On the PATROL console, double-click the web server icon.
2. Right-click the Connection Pools icon and choose the following:
 - KM Commands
 - View
3. On ERP 9.0 Connection Pools, choose an enterprise server and click View Details.
4. On Connection Pools Detailed Status, click OK.
 To view in a single form data on all the enterprise servers connected to the ERP 9.0 web server, choose KM commands and Detailed Status.

► To set the value of maxuproc

1. Log on as the root user.
2. On the command line, enter the following command:

```
smit
```

3. In SMIT, choose the System Environments item and then choose the Change/Show Characteristics of Operating System item.
4. Change the value of Maximum number of processes allowed per user to 400.
 All other system parameters can remain at default values. The following list provides these system parameters for general reference:

Parameter Description

maxbuf max pages in block I/O buffer cache

maxmbu max real memory for MBUFS

autorestart auto 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

► To view the system parameters

Enter the following command:

```
lsattr-E-lsys0
```

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

Tune Parameters

Setting the tune parameters requires you to run the following 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 ERP 9.0 configuration.

Performance tuning for AIX running ERP 9.0 or Oracle involves the setting of 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 the following tune parameters are set:

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

For AIX machines with multiple processors, it is possible to bind a particular process to a particular processor in the machine. Doing so provides higher priority to those processes and can be used to evenly distribute the load across the machine.

Running Multiple Instances of the ERP 9.0 Enterprise Server

Common reasons for running multiple instances of the ERP 9.0 enterprise server are to test a new service pack or to upgrade to a new version of ERP 9.0. You can run multiple instances of the ERP 9.0 server on the same machine by following a few simple guidelines.

Note

The following 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 ERP 9.0 that was installed. If you want to create a completely separate set of database tables, follow the instructions for setting up a new environment in the *Configuration Network Computing Implementation Guide*.

Before You Begin

- ❑ Make sure you have enough disk space to create copies of your current ERP 9.0 system directory and at least one path code directory.

► To run multiple instances of the ERP 9.0 enterprise server

1. The system administrator should create a new UNIX user ID that owns the new ERP 9.0 instance. Create the ID using the appropriate administration tool, such as `smit`, `sam`, or `admintool`.

Note

Although it is possible to run multiple instances of the ERP 9.0 server using the same UNIX user ID, it is not recommended. ERP 9.0 depends on certain UNIX environment variables to function correctly, and these variables are easier to manage under different UNIX user IDs.

2. Using the new UNIX user ID, log on to your original ERP 9.0 instance.
3. Copy the .profile and .oneworld files from the original user ID's home directory to the new user ID's home directory.
4. Change the .profile file for the new user ID as appropriate.
5. Change the new user ID's .oneworld file to reference the new directory path where you will create your new ERP instance.

For example:

Original .oneworld file:

```
export EVRHOME=/u01/PeopleSoft/b9
```

New .oneworld file:

```
export EVRHOME=/u02/PeopleSoft/b9
```

6. Create the directory where your new ERP instance will reside.

For example:

```
mkdir -P /u02/PeopleSoft/b9
```

7. Copy the system directory, the ini directory, and at least one path code directory from the original instance of ERP 9.0 to the new directory path.

The following sample commands would accomplish this:

```
cp -R /u01/PeopleSoft/b9/system /u02/PeopleSoft/b9
cp -R /u01/PeopleSoft/b9/ini /u02/PeopleSoft/b9
cp -R /u01/PeopleSoft/b9/DEVB9 /u02/PeopleSoft/b9
```

Note

The path code directories for any environments that you intend to use for this second instance of ERP 9.0 must be copied to the new directory. You cannot share path code directories between two or more instances of ERP 9.0, as this sharing could cause specification file corruption.

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

```
mkdir -P /u02/PeopleSoft/b9/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/PeopleSoft/b9/log/ jdedebug.log
JobFile=/u02/PeopleSoft/b9/log/jde.log
[INSTALL]
B9=/u02/PeopleSoft/b9
```

```
[BSFN BUILD]
BuildArea=/u02/PeopleSoft/b9/packages
```

10. Change the new jde.ini file to reference a port number and starting IPC key that are different from the original ERP 9.0 instance.

These are defined by the following parameters, the numbers shown are examples only:

```
[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.

Once you have made all of the changes described in this chapter, you can start and stop the new ERP 9.0 instance independent of the original ERP 9.0 instance.

All existing ERP 9.0 environments will be valid for the new ERP 9.0 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.

```
smit
lsattr-E-lsys0
no
chdev
chnfs
vmtune
bindprocessor 1234 0
```

ERP 9.0 on Windows Terminal Server Edition

Windows Terminal Server Edition (TSE) provides an excellent solution for ERP 9.0 in a WAN environment. TSE allows you to set up multiple terminal server client machines that need only contain the TSE 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 ERP 9.0.

Understanding Windows Terminal Server Edition

Windows Terminal Server Edition (TSE) is a multi-user extension to the Microsoft Windows family of operating systems. TSE allows 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.

The following provides an example of the TSE process flow:

Step 1: ERP 9.0 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.

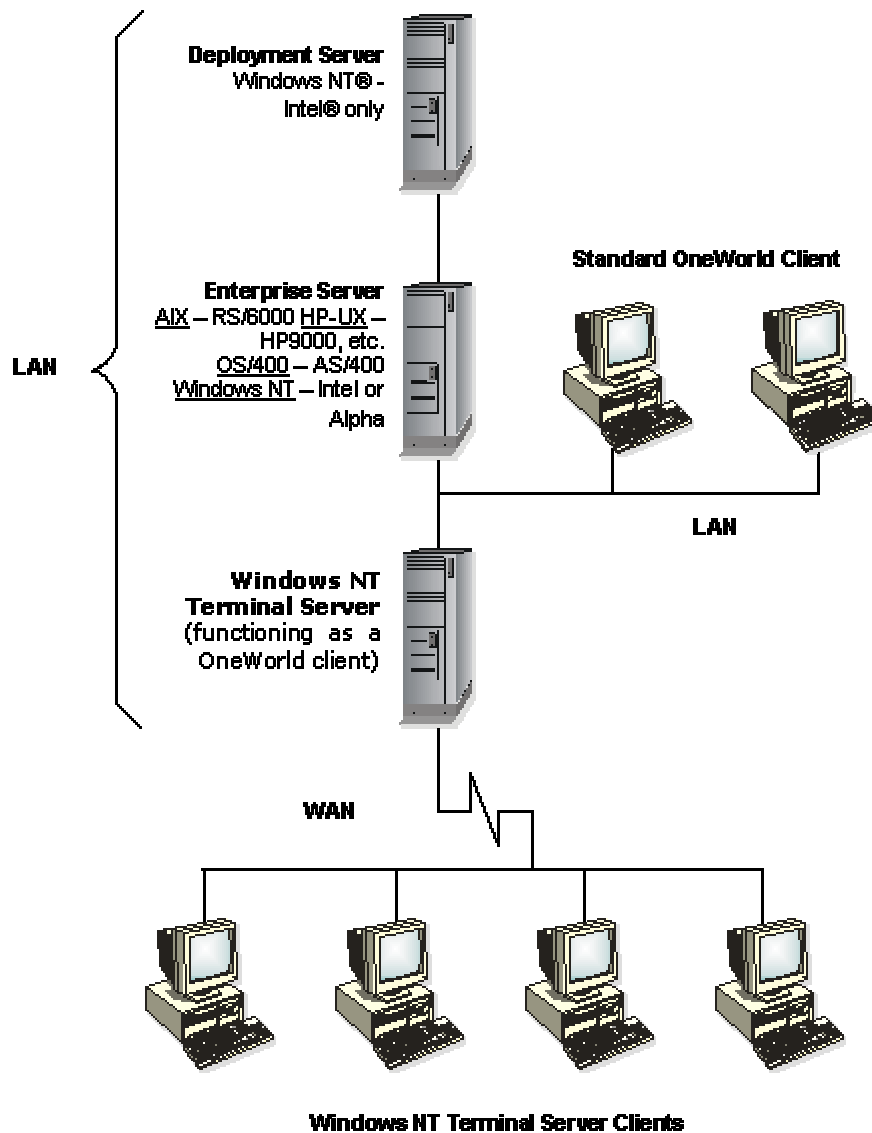
Step 4: The terminal server client sends actions, such as keystrokes and mouse movement, back to the terminal server where processing occurs.

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 allows you to set up multiple users to work with a single client installation of ERP 9.0. By sharing a single copy of ERP 9.0 on the terminal server, you reduce the costs of deployment and administration.

The following illustration provides an example of an ERP 9.0 configuration with a terminal server:

OneWorld Configuration: Terminal Server



Note

Sun-Solaris can be added to the list of enterprise servers that can run in an ERP 9.0 configuration with a terminal server.

Incorporating Citrix MetaFrame with TSE

TSE 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 your network comprises multiple platforms and requires optimum performance, Citrix offers a product called Citrix MetaFrame with multi-user technology that provides additional functionality to TSE, 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 ERP 9.0 as a specified application through ICA, you cannot view the jde.ini, jde.log, and jdedebug.log files.

The following table lists the capabilities of TSE RDP and MetaFrame:

Capability	TSE RDP	MetaFrame
Client Platforms	TSE client software runs on the following platforms: - Windows 16-bit - Windows 32-bit - Some RDP-equipped Windows terminals - Windows CE	MetaFrame runs on the following platforms: - DOS - Windows 16-bit - Windows 32-bit - X-Term - MacIntosh - Solaris - Windows CE - Some ICA-equipped network computers - Some Internet browsers as a plug-in
Network Topologies	TSE RDP supports the TCP/IP standard.	MetaFrame supports the following standards: - IPX - SPX - PPP - NetBIOS
Load-balancing	Windows 2000 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.
Capability	TSE RDP	MetaFrame
CCPDD:cut/copy/paste/drag/drop	Windows 2000 supports cut, copy, paste, drag, and drop.	MetaFrame allows CCPDD between the session window and the underlying Windows desktop.

Device Mapping	TSE RDP allows you to map local devices for printing through a work-around.	MetaFrame allows you to map devices local to the TSE client from the terminal server. For example, you can locally map hard drives, fax modems, and printers.
Session Shadowing	Windows 2000 supports remote control.	With MetaFrame loaded, TSE 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.

TSE Restrictions in Multi-user Mode

Starting with version B73.2.1 SP9, ERP 9.0 is "TSE-aware." TSE-aware means that when you deploy ERP 9.0 as a client on a terminal server, ERP 9.0 automatically recognizes the terminal server and configures itself to run in multi-user mode. Because of the configuration required by multi-user mode, the following restrictions apply to ERP 9.0 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

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. The reason for this restriction is that Microsoft recommends against using Visual C++ remotely through TSE under any circumstances. Also, a complete set of development specifications (500+ MB) defeats the purpose of a thin client.

- 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 ERP 9.0 configuration and an ERP 9.0 terminal server configuration are not mutually exclusive within an enterprise. You can mix a standard configuration with a terminal server configuration to maximize your overall ERP 9.0 performance. For example, you can use a standard ERP 9.0 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 ERP 9.0 client on the LAN to verify ERP 9.0 performance and function. Normal ERP 9.0 LAN requirements apply.

For a wide area network (WAN), you must use a 56-KB 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 your software and hardware allow. You can access display properties from the Control Panel or by right-clicking on your Windows desktop.

Also, for your Citrix setup, you need to choose 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 ERP 9.0 on the Terminal Server

Because ERP 9.0 is "TSE-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, ERP 9.0 checks whether it resides on a terminal server or standard client. If it detects a terminal server, ERP 9.0 automatically switches to multi-user mode.

In multi-user mode, ERP 9.0 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 ERP 9.0 looks no different than a standard ERP 9.0 client session.

► To set up ERP 9.0 on the Terminal Server

1. Install Windows Terminal Server Edition on the machine that you will use as your terminal server.

Refer to the Microsoft documentation for information about how to set up Windows Terminal Server edition 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 your 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 choose the All users

begin with common application settings option on the Change User Option dialog box.

Install the following software on the terminal server as necessary.

- Oracle for Windows
 - SQL Server client
 - Client Access
 - DB2 Connect
4. Install a full package of ERP 9.0. You need to install a full package because ERP 9.0 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

Use Add/Remove Programs on the Control Panel to install ERP 9.0 on the terminal server. During installation, make sure that you choose 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 ERP 9.0 from terminal server client machines.

See Also

- ❑ *ERP 9.0 Hardware and Software Requirements* in the *ERP 9.0 Installation Guide* for information about additional requirements or service packs needed to run software packages

Troubleshooting ERP 9.0 on Windows Terminal Server Edition

This chapter details situations that can exist when you run ERP 9.0 on a Microsoft Windows Terminal Server Edition (TSE).

Troubleshooting: UBE Output Security on TSE

An ERP 9.0 TSE user sends PDF files by default from the enterprise server to the local \b7\PrintQueue directories using the Work With Servers (P986116) application. Users choose View PDF from the row exit 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 the following section to the jde.ini file:

<pre>[NETWORK SETTINGS] OutputDirectory=C:\WTSRV\Profiles\USERNAME\Windows</pre>

Server administrators need to make the jde.ini file modification of each user on each TSE so that the PDF output points to each individual's user profiles 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.

Troubleshooting: Submit UBE Locally to TSE

You cannot locally submit UBEs to run on the TSE because of resource constraints such as CPU power.

You can run UBEs on a dedicated TSE or during hours when no other ERP 9.0 users are using the machine. Complete the task to submit a UBE locally and run it on the TSE.

► To submit a UBE locally and run it on the TSE

From the System Administration Tools menu (GH9011), choose Logical Data Sources (P986115).

1. On Logical Data Sources, choose the TSE machine name with System as the data source and click Select.
2. On Work with Data Sources, click Add.
3. On Data Source Revisions, complete the following fields:
 - Data Source User (enter DB, for Local Data Source)
 - Data Source Name (enter TSE Local)
 - Data Source Type (enter A, for Access)
 - DLL Name (enter JDBODBC.DLL)
 - Database Name (enter OneWorld Local)
 - Server Name (enter LOCAL)
 - Platform (enter LOCAL)
4. When you run the UBE on the TSE, on the Work with Batch Versions from, choose the report you want to run and click Select.
5. On Version Prompting, choose Advanced from the Form menu.
6. On Advanced Version Prompting, choose the Override Location option and click OK.
7. On Version Prompting, choose the Data Selection option and click Submit.
8. On JDE Data Sources, choose TSE Local as the data source and click Select.

Troubleshooting: Import/Export with Microsoft Excel

Importing a Microsoft Excel spreadsheet into an ERP 9.0 grid intermittently fails when users are running TSE.

J.D. Edwards recommends using Microsoft Office 2000 on TSE. To install Microsoft Office 2000 in a TSE environment, please access the following URL: <http://www.microsoft.com/Office/ORK/2000/Two/3053.htm>. You install a single of Microsoft Office 200 on the TSE. Multiple users then connect to the server and run Microsoft office from the server.

Troubleshooting: Specification Files are Locked

In the following circumstances, ERP 9.0 users get a message box that states that a specification file is currently unavailable:

- When another ERP 9.0 session on the same TSE machine performs a data dictionary Just-In-Time-Installation (JITI).
- When another ERP 9.0 session receives a TSE run-time error dialog box. Generally, this type of error occurs when a memory violation occurs.

In both of the above cases, the specification file or files are locked. The specification files will be unlocked when either the TSE completes the JITI process or a user closes the TSE run-time error dialog box.

To prevent the specification files from being locked when ERP 9.0 performs a JITI, reduce the frequency that ERP 9.0 performs JITIs. Complete the task appropriate to your release number to change the frequency of JITIs:

- Reduce JITI frequency (B73.2 and B73.3)
- Reduce JITI frequency (B73.3.1, B73.3.2, and B73.3.3)

► To reduce JITI frequency (B73.2 and B73.3)

1. On a non-TSE workstation, create the business function B98CRTGL.
2. Go to Design and type GenGbltblSpec in the Function Name field.
3. Choose the row and then choose Parameters from the Row menu.
4. Type D9800330, click Find, and then click Select.
5. Click OK.
6. On Business Function Design, click OK.
7. Copy B98CRTGL.c to the ..\b7\PRODB732\source directory and B98CRTGL.h to the ..\b7\PRODB732\include directory.

Important

The contents of the specification files are different for B732 and B733. Make sure that you copy the correct specification files for your release.

8. On Business Function Source Librarian, click Build.
Verify that the project configuration in BusBuild is Optimize.
9. Create a report (UBE) without a business view. On this report, create a group section that calls B98CRTGL (business function created in step 1).

Note

Parameter passing is not necessary.

10. Create a version of the UBE and then run the version locally on the workstation.
Copy the full gbltbl.ddb and gbltbl.xdb to the TSE machines.

The UBE should take less than an hour, during which time, you will see that the JITI process is running on the machine. The UBE generates the full GLBLTBL specification in the ..\b7\PRODB732\spec directory.

► **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-TSE ERP 9.0 client to generate full GLBLTBL specification files.
2. Copy the full glbltbl.ddb and glbltbl.xdb to the TSE machines.

Troubleshooting: User Cannot Restart ERP 9.0

Occasionally, when a memory violation occurs in an ERP 9.0 TSE session, the terminal server might prevent the user from restarting ERP 9.0. The administrator must then sign onto the terminal server and end the OEXPLORER.exe process for the user from the Task Manager. After the administrator ends this process, the user can sign on to ERP 9.0 again.

When a run-time exception occurs, ERP 9.0 should immediately exit. To instruct ERP 9.0 to immediately exit in this situation, set the following jde.ini setting to False as in the following:

```
[INTERACTIVE_RUNTIME]
EXCEPTION_Enabled=False
```

Troubleshooting: Logging Off Versus Disconnecting

Users should always log off their TSE session rather than disconnecting. Logging off shuts down all processes completely for the user.

Troubleshooting: Shortcuts Do Not Work in E-Mail Messages

Workflow provides the ability to send shortcuts to ERP 9.0 applications via e-mail messages. This function does not work when the e-mail application, such as Microsoft Outlook, is not currently active on the terminal server. When the e-mail application invokes the shortcut, the operating system attempts to launch the shortcut on the local machine and not on the terminal server.

Run the e-mail application on the same terminal server machine as ERP 9.0 resides.

Troubleshooting: Data Selection and Sequencing Criteria Lost

The following 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 ERP 9.0 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 SAW 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: ERP 9.0 Development Tools Are Disabled

ERP 9.0 development tools are disabled on the terminal server. Currently, J.D. Edwards instructs customers to perform all development on non-TSE machines.

Troubleshooting: Users Experience Problems Accessing ERP 9.0

Only administrators can run ERP 9.0. This situation is a result of how ERP 9.0 was installed on the terminal server.

Administrators should use the Add/Remove Programs application on the Control Panel to install ERP 9.0 on the terminal server. During installation, make sure that you choose the "All users begin with common application settings" option on the Change User Option dialog box. This option ensures that the terminal server maintains ERP 9.0 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 ERP 9.0 installation program sets the WTSLogs setting to False. Users should change this setting to True after ERP 9.0 installation and before any users run ERP 9.0.

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: Shortcut Path is Incorrect

The shortcut path on the terminal server is incorrect. This situation occurs when the terminal server uses the server-based profiles.

The resolution involves "Shortcuts Created Under TSE 4.0 Resolve to UNC Paths." For more information, see the following web address:

<http://support.microsoft.com/support/kb/articles/Q195/8/87.ASP>

Troubleshooting: Only One User Can Log in to ERP 9.0

The main ERP 9.0 window fails to appear after entering the password for all other users.

For B73.3.2 with Service Pack 10 or greater, place the ERP 9.0 command line switch "/NoLogo", located in the ERP 9.0 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. There is no resolution for ERP 9.0 version B73.3.2 Service Pack 9.

ERP 9.0 on a Cluster

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 your enterprise.

Clustering allows ERP 9.0 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, ERP 9.0 "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 your HP-UX cluster.

ERP 9.0 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 your 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 ERP 9.0 might run.

Note

If you do not assign a floating IP address, then whenever ERP 9.0 moves to another node in the cluster, the workstations will be unable to connect with the servers.

Configuring Oracle Parallel Server (OPS)

Oracle Parallel Server (OPS) allows concurrent database access from multiple nodes in a cluster. If you use OPS, you must install MC/LockManager, not MC/ServiceGuard.

► To set up Oracle Parallel Server and MC/LockManager

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.

1. Install Oracle client software on each node in the cluster where it might run. The ERP 9.0 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 ERP 9.0 database will reside.

3. Edit the package control script to add the Oracle startup and shutdown commands. The following 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/svrmgrl' <<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 allows 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 ERP 9.0 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 ERP 9.0 database will reside.

3. Edit the package control script to add the Oracle startup and shutdown commands.

The following 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=jde1

    Export ORAENV_ASK=NO

    .${ORACLE_HOME}/bin/oraenv

    su oracle '${ORACLE_HOME}/bin/svrnmgr1'<<EOF1

    connect internal

    startup

    exit

    EAOFL

    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 an ERP 9.0 Package

The standard ERP 9.0 enterprise server software requires minimal modifications to function in a cluster. These modifications include the following items:

- Enterprise server `jde.ini`
- `owenv` script file in the `$SYSTEM/bin32` directory
- Package control script

► To set up a ERP 9.0 package for a cluster

1. In the server `jde.ini` file, locate the `[CLUSTER]` section, then change the following setting:

<pre>[CLUSTER] PrimaryNode=<i>Package IP name</i></pre>

Variable Value	Description
ERP 9.0 Package IP Name	This value represents name given to the IP address that is associated with the ERP 9.0 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 ERP 9.0.
3. Create a package using SAM.

Note

You can also use the command line to create a package. See HP documentation for details.

For ERP 9.0, 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. To run properly, ERP 9.0 requires you to set environment variables. This setup also allows you to utilize the ERP 9.0 installation defaults and the start and end scripts provided by J.D. Edwards.

Depending on the needs of your enterprise, you might want to install ERP 9.0 on a shared volume group. This setup allows multiple nodes in a cluster to access a single version of ERP 9.0, but only one node at a time. This setup also allows you to easily update ERP 9.0 through server package installations.

4. Using SAM, modify the package control script on each node to start and stop ERP 9.0.

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.

The following 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/owenv
su jde << EOF1
mv $OWHOME/log/jde*.log $OWHOME/log/oldlogs
cd $SYSTEM/bin32
RunOneWorld.sh
EOF1
```

```
test_return 51
}
```

The following 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 your 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 provided by J.D. Edwards 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 ERP 9.0 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 ERP 9.0 processes. If you omit this line, the root user owns the ERP 9.0 processes.

`mv $OWHOME/log/jde*.log $OWHOME/log/oldlogs`

This line moves any logs in the ERP 9.0 log directory to a backup log directory, which you create. This command is particularly important if your ERP 9.0 instance resides on a shared disk where a “failed over” instance of ERP 9.0 will use the same physical disk space as the failed instance. You might consider

adding the command `rm $OWHOME/log/oldlogs/*` before this line to clean out any older versions of ERP 9.0 logs.

RunOneWorld.sh; EndOneWorld.sh

These are the standard start and stop scripts that J.D. Edwards provides 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.

Maintaining Multiple Instances of ERP 9.0

When you run multiple instances of ERP 9.0 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 ERP 9.0 instance must occur on a different port number, or service name, and each instance must use a different range of IPC keys. The following 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
```

Variable Value	Description
Service Name or Port Number	The service name parameters can use an actual port number or the name of a service that you enter into the <code>/etc/services</code> file.
Numeric Value	The IPC key values should differ by at least 1000 between any two ERP 9.0 instances.

Troubleshooting: HP-UX Clustering

The sections below address specific problems with HP-UX clustering.

Problems with Oracle Parallel Server (OPS)

Complete the following 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.

ERP 9.0 Does Not Start

Complete the following steps if ERP 9.0 fails to start:

- When you start ERP 9.0 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 OneWorldlog directory for log files. If none reside, verify that the ERP 9.0 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 the following 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 the following message in the log: 11001–gethostbyname returned 11001 (WSAHOST_NOT_FOUND): The host was not found.

Problem with Workstation Connection to a ERP 9.0 Server; Endnet Works Improperly on the Server

You must associate an IP address to the ERP 9.0 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.

ERP 9.0 Does Not Work From the Package Control Script

Oracle must be operational and the owenv must reference the proper SID for ERP 9.0 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 ERP 9.0, you can disable this flag and then halt the package.

Package Halt Fails

If ERP 9.0 does not end cleanly during a package halt, the package halt might fail. This could occur if Oracle is not operational or if ERP 9.0 cannot access the database. You might need to change the test condition in the package control script, or add commands to search for remaining J.D> 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 ERP 9.0 bin32 directory on a shared disk, move the owenv file to another directory.

HACMP for AIX Clustering

This chapter explains how to set up a cluster environment using High Availability Cluster Multi-Processor (HACMP) software. 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 your LAN, disk capacity, and performance requirements.

Shared File Considerations

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 ERP 9.0 references the logs and files from the old instance.

How HACMP Works

HACMP for AIX (Version 4.2) allows 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 allows the system administrator to add users, files, and security functions without stopping mission-critical jobs.

HACMP provides several configuration options, including the following:

- 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 allows customers to choose 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's DB2 Parallel Edition and Oracle 8 Parallel Server.

Several components make up the HACMP environment, including the following:

- 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).

User Logon Accounts

A major consideration when setting up HACMP and ERP 9.0 is user accounts. When these accounts are created, they are given unique user IDs and unique group IDs. When a node fails over to another node, these unique IDs are matched to names in the `/etc/passwd` and `/etc/group` files. If no matches occur, the unique user and group values are then used as IDs, which can create problems with access and security.

To avoid a problem, before starting the ERP 9.0 installation or configuration, create all user accounts and groups 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 groups. The easiest way to do this is to use the `add user/group` function found in the HACMP extension of SMIT.

If ERP 9.0 is already installed, use the existing user and group ID numbers to create accounts on the nodes that are defined in the resource group.

Oracle Database

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 your 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 your selection by searching all password and group files on the node where the new user and group will be created.
4. Enter the following command on the command line:

```
# smit hacmp
```
5. From the menu, choose Cluster System Management, then Cluster Users & Groups, then Groups, and then Add a Group to the Cluster.
6. Choose 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 ERP 9.0 and assign it the unique ID number that you chose.
7. Press Enter.
8. From the Cluster Users & Groups panel, choose Users and then Add a User to the Cluster.
9. Choose the same resource group that you chose above for adding a group.
10. Add a user "oneworld," assign it the pre-selected unique ID number, and choose the ERP 9.0 group.
11. Repeat these steps for the Oracle sign on, creating the group "dba".

Setting Up ERP 9.0 for HACMP

The standard ERP 9.0 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.

► To edit the owenv script

1. In Windows Explorer, go to the /\$SYSTEM/bin32 directory and open the owenv file.
2. Edit the bold lines shown below:

```
#!/bin/ksh
## set OWHOME to point to the base install path for ERP 9.0
export OWHOME=/ow2/PeopleSoft/b9
## set ENVIRON to the path code from which you want to run business
functions
```



```

export ENVIRON=MSTR
## set up the path to your ERP 9.0 system and path code
export SYSTEM=$OWHOME/system
export APPDEV=$OWHOME/$ENVIRON
## set JDE_BASE to teh location of your JDE.INI file
export JDE_BASE=$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_PATH
export PATH=$PATH:$SYSTEM/bin32

```

3. Save and close the file.

► 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 bold lines as shown below:

```

# _____
#Global Variables
# _____
#
#export PATH=$PATH
#
Set environment variables
#
./usr/sbin/cluster/scripts/owenv
#
loop=0
StartUpError=false
ORACLEPROCESS="oracle"
OWStartupDir=$SYSTEM"/bin32"
StartUpLog=$OWStartupDir"/OWStartup.log"
ORACLE_UID=oracle
APP_UID=oneworld
LOGFILES=$OWStartupDir"/jde*.log"

```

The first bold line executes the script that sets various required ERP 9.0 environment variables. 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 *Server and Workstation Administration Guide*.

ORACLE_UID and APP_UID are the login ID names for Oracle and ERP 9.0. 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.

► 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 line as shown below:

```
# _____
#Global Variables
# _____
export PATH=$PATH:.
#
# Set environment variables
#
./usr/sbin/cluster/scripts/owenv
LogicalVolumn=/ow2
ShutdownDir=$SYSTEM"/bin32"
StartupLog=$OWStartupDir"/OWStartup.log"
APP_UID=oneworld
```

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, oneworld 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.

Before You Begin

- ❑ The control scripts that are included with ERP 9.0 are located in the /\$SYSTEM/bin32 directory. These scripts are generic and can be modified as needed for your requirements. Before you can create an application server, you must move the scripts to a non-shared disk directory.

► To move the control scripts

Sign in as root and enter the following commands:

```
#export SYSTEM=<OneWorld system directory path>
```

Where ERP 9.0 system directory path is the path to your ERP 9.0 system directory. An example of the path is /ow2/PeopleSoft/b9/system.

```
# cd /usr/sbin/cluster
# mkdir scripts
# cd scripts
```

Be sure to include the periods, preceded by a single space, in the following commands:

```
# cp $SYSTEM/bin32/StartResource.sh .
# cp $SYSTEM/bin32/StartResource.sh .
# cp $SYSTEM/bin32/owenv .
# chmod 755 *
```

Repeat this step on all failover nodes and FTP over the modified script files.

► To define an application server

1. From the command line, enter the following command:

```
# smit hacmp
```

2. From the menu, choose Cluster Configuration, then Cluster Resources, then Define Application Servers, and then Add an Application Server.
3. Complete the following fields:
 - Server Name
Enter OneWorldSrv. This adds a label to the resource server that controls the starting and stopping of ERP 9.0.
 - Start Script
Enter the path of the StartResource.sh script - for example, /usr/sbin/cluster/scripts/StartResource.sh.
 - Stop Script
Enter the path of the StopResource.sh script - for example, /usr/sbin/cluster/scripts/StopResource.sh.
4. Press Enter.

► To define 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.

1. From the command line, enter the following:

```
# smit hacmp
```
2. From the menu, choose Cluster Configuration, then Cluster Resources, and then Change/Show Resource for a Resource Group.
3. Choose the resource group - for example, ERP 9.0.
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.

Maintaining Multiple Instances of ERP 9.0

Several considerations exist when you run multiple instances of ERP 9.0 in a clustered environment. 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 ERP 9.0 instance must occur on a different port number or service name, and each instance must use a different range of IPC keys. The following 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
```

Variable Name	Description
Service Name or Port Number	The service name parameters can use an actual port number or the name of a service that you enter into the /etc/services file.
Numeric Value	The IPC key values should differ by at least 1000 between any two ERP 9.0 instances.

Troubleshooting: AIX Clustering

This section explains how to work through several basic problems that can occur with AIX clustering.

ERP 9.0 Does Not Start

Follow these steps if ERP 9.0 fails to start:

- When you start ERP 9.0 using the control script, first check the control script log for errors.
- Check the ERP 9.0 log directory for log files. If no log files reside in the directory, verify that the ERP 9.0 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 so, the process will not be able to locate the JDE.INI file.

To resolve this, 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 the following message in the log:

Error 239 -- gethostbyname returned Connection refused

- If no entry for the floating IP address exists that the workstation can reference, the workstation fails to connect and returns the following message in the log:

11001 -- gethostbyname returned 11001 (WSAHOST_NOT_FOUND):
The host was not found

Note

See the task *To edit the enterprise server JDE.INI file* in the *Server and Workstation Administration Guide*.

Resource Does Not Switch to the Backup Node Upon Failure

Verify that the control scripts are in the correct directory and set to be executable. Verify that the application server name is correct in the resource group.

Resource Shutdown Request Fails

Check the OWShutdown script log to determine why the shutdown request failed. This log is located in the /\$SYSTEM/bin32 directory.

- If ERP 9.0 does not end cleanly during a failover, the node will not failover. This failure might occur if Oracle is not operational or if ERP 9.0 cannot access the database. You might need to change the test condition in the resource control script, or add commands to search for leftover JDE processes and end them.
- If the script is failing during the unmount of the file system, you may need to add a delay between the fuser command and unmount command. The fuser command should remove any processes accessing the file system. Adding a one-second delay will allow this command to complete before the unmount is attempted.

► To edit the enterprise server JDE.INI file

1. Open the enterprise server's JDE.INI file.
2. Edit the following line in the [CLUSTER] section so it looks like this:

```
[CLUSTER]
```

```
Primary Node=Resource IP Name
```

Where Resource IP Name represents the IP address associated with the ERP 9.0 server. This IP is not a UNIX server IP, but is a separate address given to this resource. This address must be defined on all servers to which this resource might failover.

3. Save and close the JDE.INI file.

Sun Solaris Clustering

This chapter explains how to set up ERP 9.0 to work with Sun's clustering software. This software provides higher availability for your applications because it allows you to recover almost instantaneously from a power failure or hardware problem. It also allows 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.

Requirements for Clustering on Sun

You must have a disk that is accessible to all machines in the cluster, and this disk must be large enough to accommodate your ERP 9.0 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 ERP 9.0 server is on).

The SUNClustering 2.2 or greater API is recommended.

Clustering Scripts and How to Modify Them

Four cluster-specific scripts are delivered with ERP 9.0:

- SunStartResource.sh
- SunStopResource.sh
- owenv
- SunOracleMgr.sh

These scripts can be found in the system/bin32 directory under the base ERP 9.0 installation directory.

SunStartResource.sh

This script runs whenever a node in the cluster starts the ERP 9.0 service. It must be registered with the SUNClustering software and should handle everything that needs to happen when the ERP 9.0 service starts or is switched from one node to another.

See Also

- ❑ *Registering ERP 9.0 with SUNClustering in the Server and Workstation Administration Guide* for more information about SunStartResource.sh

► To modify the SunStartResource.sh script

1. Under Global Variables, there is a call to `/suncldata/oneworld/b733_sp7/system/bin32/owenv`. Change `/suncldata/oneworld/b733_sp7/` to the same path that OWHOME was set to in the `owenv` script.
2. Set the APP_UID to the user name that ERP 9.0 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 ERP 9.0.
4. If you are using Oracle, uncomment the section under "Check for ORACLE running" and "Check to see if ORACLE started/running."

SunStopResource.sh

This script runs whenever a node in the cluster stops the ERP 9.0 service. It is also registered with the SUNClustering software, and should handle shutting down various processes and any cleanup that needs to happen when the ERP 9.0 service is stopped.

► To modify the SunStopResource.sh script

1. Under Global Variables, change the call to `/suncldata/oneworld/b733_sp7/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 ERP 9.0 and Oracle, respectively. These values will be the same as in `SunStartResource.sh`.
3. Under the "Shutdown ERP 9.0" section, set LOGDIR to be the location where all the log files are located.

owenv

This script sets various UNIX environment variables that are needed by ERP 9.0. The script is called from within the `SunStartResource.sh` and `SunStopResource.sh` scripts.

► To modify the owenv script

1. Set OWHOME to be the base directory of ERP 9.0, for example, `/suncldata/oneworld/b9_sp1/`.
2. Set ENVIRON to the pathcode that you are using, for example, PD or PY.
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.

SunOracleMgr.sh

This script might be needed if you are running the database on the same cluster as the ERP 9.0 server. If you are not running the database on the same cluster, you can ignore this section.

► **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 your Oracle installation.

Registering ERP 9.0 with SUNClustering

You must register ERP 9.0 with the SUNClustering software.

► **To register ERP 9.0 with SUNClustering**

1. To register ERP 9.0 with SUNClustering, log in as the root user and enter the following 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 "oneworld" since you will need to use that name when modifying ERP 9.0's registry with SUNClustering.

2. Enter the following command with no options:

```
/opt/SUNWcluster/bin/hareg
```

If the line containing the service name you assigned to ERP 9.0 contains "off," then enter the following command:

```
/opt/SUNWcluster/bin/hareg -y [service name]
```

This sets the data service to "on" which allows the data service to switch physical hosts when appropriate.

3. To test whether the cluster switches, enter the following 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.

Windows Clustering

This section provides information regarding the installation of ERP 9.0 on Microsoft Cluster Services (MSCS).

Note

For more information about how to install and set up a Microsoft cluster, see the appropriate Microsoft documentation.

Before You Begin

- ❑ Partition your disk array to logically divide the software components. Typically, you will set up the following partitions:
 - A partition that contains the cluster software
 - A partition that contains the ERP 9.0 database
 - A partition that contains the DBMS software and database if these reside on the cluster system
- ❑ If you will be using Microsoft clustering in conjunction with a database management system (DBMS), such as Oracle Fail Safe or SQL Server, consult the installation documentation for the appropriate DBMS before installing Windows enterprise server.
- ❑ Configure your 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 recoverability. One network card will communicate with the public network, and the second card will connect between nodes. This setup allows your 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 ERP 9.0 are both running on the cluster, they can be configured to run on separate nodes. To accomplish this, separate ERP 9.0 resources and database resources into different groups. Also be sure that ERP 9.0 and the database do not share disk resources. ERP 9.0 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 ERP 9.0 and database groups are in separate groups, the database group must be online before bringing the ERP 9.0 resources online.

This change is effective as of OneWorld release B73.3.

If you do not require ERP 9.0 and database resources to run on separate nodes, place all database and ERP 9.0 resources in the cluster group.

Troubleshooting: Upgrading SQL Server 7.0 From a Pre-Release Build to a Release Build

In the initial SQL Server 7.0 installation, J.D. Edwards used a passive-active configuration. This means that SQL Server 7.0 was installed to the shared disk. During the upgrade J.D. Edwards uninstalled SQL Server Clustering, then performed the upgrade on node1 to a partition on the shared disk. Forgetting the active-passive configuration, J.D. Edwards installed to the local drive on node2 and started the SQL Server cluster reinstallation. The reinstallation would not work. SQL Server was confused about whether the shared or local drive was the correct installation. Attempting to uninstall SQL Server would not work because it looked to SQL Server like SQL Server clustering was still installed. SQL Server clustering would not uninstall because it was not completely installed. Editing the registry caused more problems. A registry entry for one of the shared drives in the MCSC cluster was mistakenly deleted. Restoring the registry from a very recent copy of the Emergency Repair Disk did not work as an error was received reading the SYSTEM key. The final result was backing up the whole disk, and reinstalling Windows 4.0, MSCS, and SQL Server.

Troubleshooting: Changing an IP Address

After moving the cluster equipment to another area, J.D. Edwards had to change the IP address for cluster nodes and any virtual machines connected to them. In order to perform this task, J.D. Edwards had to uninstall MSCS. This required the removal of all resources and groups already defined. It also required uninstalling 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.

Troubleshooting: Reinstalling MSCS

If you have already installed a version of Microsoft Cluster Server software and you need to uninstall it, you must use the Add/Remove Programs tool to uninstall MSCS.

Setting Up ERP 9.0 on a Windows Cluster

The following task explains how to set up ERP 9.0 on a Windows cluster. The Windows cluster uses a two-server configuration.

► To set up ERP 9.0 on a Windows cluster

1. Install Windows Enterprise Server version 4.0 SP5 or later on each node.
You can install these nodes as stand-alone servers, PDC-BDC combinations, or BDC-BDC combinations.
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.
Access the cluster to verify the installation of MSCS.

Note

If you already installed a version of Microsoft Cluster Software, before you reinstall, you must uninstall the software using Add/Remove programs.

3. If you want to manage the cluster remotely, for example, at your desk rather than physically at the cluster, you can install Cluster Administrator on workstations. Refer to the appropriate Microsoft documentation for specific instructions on the installation of Cluster Administrator.

4. Install ERP 9.0 on the cluster disk using the cluster name as the enterprise server name.

All nodes will share a single copy of ERP 9.0.

5. Install the ERP 9.0 network and queue services on each node. Make sure that the ERP 9.0 partition (that is, cluster disk resource) is owned by the node on which you are installing the ERP 9.0 network and queue services.
6. Go to Settings, then Control Panel, then Services, and then Startup to assign a generic ERP 9.0 user ID and password for the network and queue services to allow workstations to connect to the ERP 9.0 server.

7. If the server database will reside on the cluster disk, then all server entries in the ERP 9.0 tables must contain the name of the cluster.

If you use Oracle Fail Safe or SQL Server Failover support, additional considerations exist, such as database resource dependencies. For Oracle Fail Safe, the database must reside on the shared disk storage. For SQL Server, active/passive or active/active configurations will be different. Please consult the appropriate Oracle or SQL Server documentation for more information.

8. In the server jde.ini file, set all server parameters, except the database system settings, to the cluster name. Set the database system settings to the name of the database server. For Oracle Fail Safe, you can set the database server setting to the Oracle cluster alias.

Adding the ERP 9.0 Network and Queue Resources to the Group

The following task explains how to add ERP 9.0 on a Windows cluster. The Windows cluster uses a two-server configuration.

► To add the ERP 9.0 network and queue resources to the cluster group

1. From the Cluster Administrator main menu, choose New and then Resource from the File menu.
2. On New Resource, complete the following fields for the JDE network resources, and then click Next.

- Name
- Description
- Resource Type

Choose Generic Service from the list.

- Group Name
Choose the cluster group.
3. Do not turn on the option to Run this resource in a separate Resource Monitor.
 4. On Possible Owners, verify that the possible owners match the preferred owners, then click Next.
 5. On Dependencies, choose the ERP 9.0 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.
 6. On Generic Service Parameters, do the following, and then click Next:
 - Type the JDE network service name as it appears in the NT Services applet.
 - Leave the Startup Parameters field blank.
 7. On Registry Replication, click Finish.
 8. On Cluster Administrator, click OK.
 9. Repeat these steps to set up the JDE queue service with the following modifications:
 - On Dependencies, choose your JDE network resource from the Available Resources listbox, click Add, and then click Next to continue.

Starting and Stopping the ERP 9.0 Resources on the Cluster

Important

In a cluster environment, use Cluster Administrator to start and stop ERP 9.0 network and queue services. ERP 9.0 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 ERP 9.0 resources on the cluster

1. To start network and/or queue services, in Cluster Administrator, right-click on the ERP 9.0 resource and choose Online.
2. To stop network and/or queue services, in Cluster Administrator, right-click on the ERP 9.0 resource and choose Offline.

Testing ERP 9.0 Connections on the Cluster

Important

ERP 9.0 network and queue services must be set up before you can test connections on the cluster.

See Also

- ❑ *Starting the ERP 9.0 Windows Enterprise Server* in the *ERP 9.0 Installation Guide* for information about testing connections on the cluster

► To test ERP 9.0 connections on the cluster

1. Sign on to Windows.
2. Using Cluster Administrator, verify that all ERP 9.0 resources are online for the ERP 9.0 group.
3. Run porttest to verify that ERP 9.0 is installed correctly on the cluster server. Enter the following commands to run porttest:

```
cd \PeopleSoft\ddp\xxxx\System\Bin32
```

```
porttest userID password environment
```

Where *xxxx* is the specific release of ERP 9.0, for example, B9, *userID* is a valid ERP 9.0 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 ERP 9.0 is installed and configured correctly. The program should display messages indicating the selection of records out of a ERP 9.0 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 ERP 9.0 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 ERP 9.0 on the first node using the Cluster Administration tools.
6. Stop cluster services on the first node by right-clicking on the node name and choosing 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

- ❑ *Working with Server Jobs* in the *System Administration Guide* for more information about verifying batch processing

Setting Advanced Options for ERP 9.0 Resources

The following task explains how to set up advanced options for ERP 9.0 on a Windows cluster. The Windows cluster uses a two-server configuration.

► To set advanced options for ERP 9.0 resources

1. From the Cluster Administrator main menu, open the group that contains the resource that you want to modify.
2. Choose a resource, and then choose Properties from the File menu.
3. Click the Advanced tab, and choose one of the following options:
 - Do Not Restart

- Restart

If you want to disable failover, choose 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

The following task explains how to set up fail parameters for ERP 9.0 on a Windows cluster. The Windows cluster uses a two-server configuration.

► To set failover and failback parameters

1. From the Cluster Administrator main menu, choose the appropriate group, then choose Properties from the File menu.
2. Click the Failover tab, and review the following 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. Click the Failback tab and review the following 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.

Backing Up ERP 9.0 Tables

A well-planned backup strategy is essential to protect your enterprise's information assets. Rigorously following the backup strategy will provide insurance against data lost by acts of nature, hardware or software failure, or human error. Your backup strategy must balance the level of protection you need against the physical constraints of your system, such as information storage capacity.

J.D. Edwards recommends that your backup strategy include the following:

- Perform a full system backup whenever data is at risk, such as when you are installing or upgrading software. At least, back up the database completely.
- Each night, back up changed objects, such as tables and J.D. Edwards objects.
- Each week, back up the deployment server, enterprise servers, and the full database.

Note

You should outline and implement your backup strategy before you begin the Prototype phase of implementation.

Understanding Backup Requirements for Servers

When you perform a backup on a server, you can either create a backup of the entire server or back up 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.

Deployment Server

ERP 9.0 on the deployment server includes the following items:

- ERP 9.0 directory (all subdirectories and contents)
- jde.ini file on c:\winnt
- Services file on c:\winnt\system32\drivers\etc
- Registry export file
- ERP 9.0 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 PD9, DV9, and PY9 directories.

If you modify help files, create a backup of the HELPS directory.

If your media objects reside on the deployment server, create a backup of the MEDIA OBJ directory.

If important data, such as system data, resides on your deployment server, create nightly backups of the ERP 9.0 data sources (Oracle or SQL Server). For example, if your central objects or Object Management Workbench resides on the deployment server, create a nightly backup.

Enterprise Server

ERP 9.0 on the enterprise server runs on the AS/400, UNIX, or Windows operating systems. You back up key libraries on the AS/400 and key files on the UNIX and Windows operating systems.

AS/400

The ERP 9.0 AS/400® libraries comprise the following:

Note

Shut down the database before you create any backups.

- All ERP 9.0 system libraries
 - JDEOW
 - SYS9
 - B9SYS
 - SVM9
- ERP 9.0 data dictionary library
 - DD9
- ERP 9.0 Object Management Workbench library
 - OL9
- All ERP 9.0 production libraries (This example is for pristine and production)
 - PD9
 - PY9
 - PRODDTA
 - PRISTDTA
- All ERP 9.0 business data libraries
 - PRODDTA

- CRPDTA
- PRISTDTA
- TESTDTA
- All ERP 9.0 control libraries
 - PRODCCTL
 - CRPCTL
 - TESTCTL
 - PRISTCTL
- All ERP 9.0 versions libraries
 - PD9DNT
 - PY9DNT
 - JD9DNT
 - DV9DNT
- IFS (Integrated File System) libraries
 - PD9
 - PY9
 - JD9
 - TS9
 - DV9
- IBM libraries that require backups
 - QCPA
 - QGPL
- Central objects on the deployment server in Oracle or Microsoft SQL Server database

UNIX

The ERP 9.0 UNIX® system and database files comprise the following:

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 PeopleSoft/b9 directory. For example, /u03/PeopleSoft/b9/*.
- Database files
Create backups of all data files that reside in the ERP 9.0 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

The ERP 9.0 Windows® system and database files comprise the following:

Note

Shut down the database before you create any backups.

- System files
PeopleSoft\ddp\B9 directory.
- Oracle database files
Create backup files for the following:
 - All data files that reside in the ERP 9.0 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 ERP 9.0 databases.

Use the SQL Server Database/Object Transfer tool on the enterprise server to copy the desired tables or database (for example, JDE9) to a backup database.

Note

J.D. Edwards recommends that you use the backup tool provided by the RDBMS vendor.

ERP 9.0 Tables and Object Owner IDs

The following tables provide lists of ERP 9.0 tables by type 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 your database.

System Tables

F00053

F000531

F000532

F0092

F00921

F00924

F0093

F0094

F00941

F00942

F00945

F00946

F00948

F00950

F00960

F98101

F986101

F98611

F986115

F986116

F98613

F986150

F986151

F986152

F98616

F986161

F986162

F986163

F986164

F986165

F98701
F98800D
F98810D
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 Owner

sys7334

Object Management Workbench Tables

F00165

F9860

F9861

F9862

F9863

F9865

Object Owner

obj7334

Data Dictionary Tables

F00165

F9200

F9202

F9203

F9207

F9210

F9211

Object Owner

dd7334

Server Map Tables

F986101

F98611

F986110

F986111

F986113

F98DRPCN

F98DRLOG

Object Owner

svm7334

Control Tables

F0002

F00021

F0004

F0004D

F0005

F0005D

F0082

F00821

F00825

F00826

F0083

F0084

Object Owners

Control Tables - PROD: prodctl

Control Tables - CRP: crpctl

Control Tables - TEST: testctl

Control Tables - JDE: pristctl

Versions Tables

F983051

F98306

Object Owners

Versions - PD7334: pd7334

Versions - PY7334: py7334

Versions - DV7334: dv7334

Versions - JD7334: jd7334

Central Objects

F980011

F980021

F983051

F98306

F98710

F98711

F98712

F98713

F98720

F98740

F98741

F98743

F98745

F98750

F98751

F98752

F98753

F98760

F98761

F98762

F98950

Object Owners

Central Objects - PD7334: pd7334

Central Objects - PY7334: py7334

Central Objects - DV7334: dv7334

Central Objects - JD7334: jd7334

Business Data

Business Data - PROD: proddta

Business Data - CRP: crpdta

Business Data - TEST: testdta

Business Data - JDE: prisdta

Backing Up ERP 9.0 Tables on Servers

Depending on your platform and database type, the procedures you need to perform for backups vary.

Before You Begin

- ❑ If you are using SQL Server or Oracle, verify that you have enough disk space for your 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.

► To create a backup for AS/400

1. On a tape drive, back up the following libraries, depending on which path codes you have installed:

Library name Description

SYS9	System library
SVM9	Server Map
OL9	Object Librarian
DD9	Data Dictionary
COPY9	Central Objects - Prototype
COJD9	Central Objects - JDE
COPD9	Central Objects - PROD
CODV9	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
PRISTDTA	Pristine Business Data
PRISTCTL	Pristine Control Tables
PY9DNT	Versions for CRP
PD9DNT	Versions for PROD
JD9DNT	Versions for PRIST
DV9DNT	Versions for DEV
B9SYS	Server system library
JDEOW	PeopleSoft Installation
PY9	Server modules - Prototype
PY9FA	Package Library - Prototype
JD9	Server modules - JDE
JD9FA	Package Library - JDE
PD9	Server modules - PROD
PD9FA	Package Library - PROD
DV9	Server modules - DEV
DV9FA	Package Library - DEV

2. Back up the following IFS structure with the subdirectories:

Library name Description

JDEB9	Logging directory
B9SYS	Kernel spec and XML
PY9	Spec files for Prototype
JD9	Spec files for JDE

PD9	Spec files for PROD
DV9	Spec files for DEV
PeopleSoft	Contains the spec files for each path code. \PeopleSoft\PACKAGES\PY9FA\SPEC*. * \PeopleSoft\PACKAGES\JD9FA\SPEC*. * \PeopleSoft\PACKAGES\PD9FA\SPEC*. * \PeopleSoft\PACKAGES\DV9FA\SPEC*. *

► **To create a backup for Oracle on UNIX or Windows**

1. From the Oracle Enterprise Manager Tool, open Data Manager and choose Export from the Data menu.
2. Type the name for your export utility .dmp file.
Click the Browse button to choose the directory where your .dmp file will reside.
3. Click Next.
4. On the Object Selection form, choose the objects you want to back up, and then click Next.

Note

Objects chosen 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 choose the item to export. Use the arrows to move objects to and from the Selected Objects form.

5. On the Tuning form, you can choose to generate a log file, if needed.
6. Click Next.

Note

Choose the Generate Log File option and enter a log file name or use Browse to choose a log file.

7. On the Advanced Options form, take the default values or choose 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.
10. When the export process is completed, you will receive the following message:
Export terminated successfully without warnings.

If you are informed that errors or warnings exist, check your log file to review the export process.

► To create a backup for SQL Server

1. From SQL Enterprise Manager, choose Database/Object Transfer from the Tools menu.
2. On the Database/Object Transfer form, choose a destination server and database on which to create backup copies of your 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 your objects.
4. Perform either of the following 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 your backup tables transferred to the new database with data.

► 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, and choose Import.
2. Type the name of your import utility .dmp file.
3. Click Next.
4. On the Object Selection form, choose 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, choose 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, which shows 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.

Important

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, choose the object and use the up arrow or drag and drop.

5. Click Next.
6. On the Associated Objects from, you can accept the defaults and click Next.
7. On the Tuning form, you can choose to generate a log file, if needed.
8. Click Next.

Note

Choose the Generate Log File options and enter a log file name or use Browse to choose a log file.

9. On the Advanced Options form, choose the Increment Type. If you followed the instructions to create a backup, choose None for Increment Type and click Next.
10. On the Summary form, verify that all chosen objects and options are correct.

Important

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 the following message:

Process terminated successfully with no warnings.

If you are informed that errors or warnings exist, check your log file to review the export process.
13. Perform a SELECT statement to verify that your backup tables are populated with data.

► To restore a backup file for AS/400

Restore the libraries and IFS directories that you backed up from tape.

SQL Server Parameters

The following material on SQL Server parameters is reprinted from *SQL Server Books Online - Transact SQL Reference 6.0* with permission from Microsoft Corporation.

Variable Name	Description
database_name	Specifies the database. If the table being copied is in your default database, this parameter is optional.
owner	The owner's name. This name is optional if you own the table being copied. If no owner is specified and you do not own a table of that name, the program will not execute.
table_name	Specifies which database table to copy.
in out	Specifies the direction of the copy. The in option copies from a file into the database table; the out option copies to a file from the database table.
datafile	The full path of an operating system file when copying a table to or from multiple diskettes; datafile is a drive specifier only (such as C:).
/n	Performs the copy operation using the data's native (database) data types as the default. This option does not prompt for each field because it uses the default values.
/u login_id	The user ID.
/p password	A user-specified password. If the /p option is not used, bcp prompts for a password. If the /p option is used at the end of the command line without any password, bcp uses the default password (NULL).
/s servername	Specifies which SQL Server to connect to. The servername is the name of the server machine on the network. This option is required when you perform bcp from a remote machine on the network.

► To restore a backup file for 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.

1. From SQL Enterprise Manager, choose Database/Object Transfer from the Tools menu.
2. On the Database/Object Transfer form, choose a destination server and database from which to transfer backup copies of your tables.

Note

The source server and the destination server can be the same, but the database must be different.

3. Turn off the Transfer All Objects option, but keep all of the other default settings.

4. Click the Choose Objects button, choose the objects that you want to transfer, and then click OK to return to the Database/Object Transfer form.
5. Click the Start Transfer button.

The Database/Object Transfer tool moves your objects.

6. Perform either of the following 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 your backup tables transferred to the new database with data.

► To restore a backup file for SQL Server on Windows

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.

1. Generate scripts for the tables you want to restore and then drop the tables.
2. Use SQL to recreate the scripts for the tables.
3. From the command line, type the following command:

```
bcp [[database_name.]owner.] table_name(in/out) datafile /n /u /p /s
```

4. Perform a SELECT statement to verify that your backup tables populate with data.

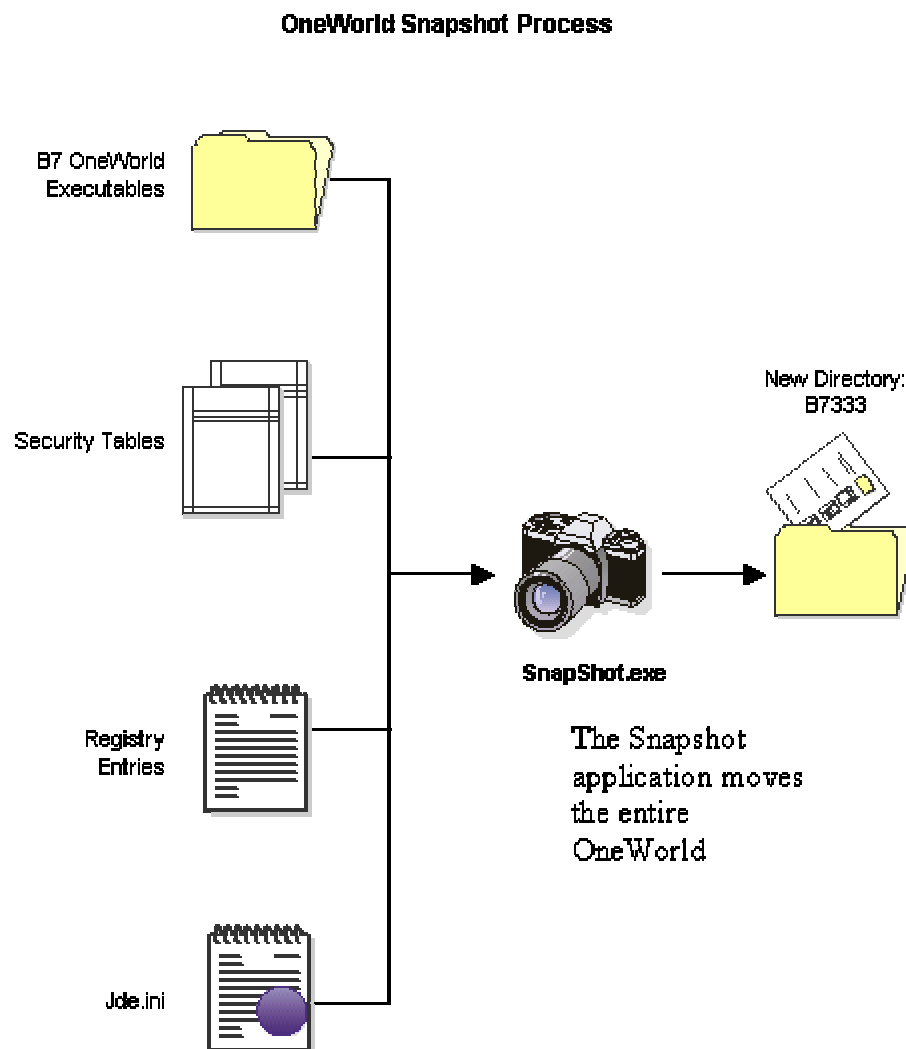
Snapshot

The SnapShot application enables you to install multiple versions of ERP 9.0 on a single workstation. Use SnapShot to rename the ERP 9.0 installation directory, named \B7 by default, and to move various files and registry settings to the renamed directory. Once you rename the ERP 9.0 installation directory, you can install a new version of ERP 9.0 without overwriting the previous version. SnapShot also allows you to switch between the versions without requiring you to perform any administrative tasks.

Using SnapShot

To run ERP 9.0, you cannot begin an instance from the SnapShot file. You must first restore the SnapShot file to a true ERP 9.0 installation before you can run ERP 9.0 from that installation.

The following illustration provides an example of the SnapShot process:



Complete the following tasks to save and restore an instance from the SnapShot file:

- To save ERP 9.0 in a SnapShot file
- To restore a SnapShot
- To delete a SnapShot
- Running SnapShot from the command line

Before You Begin

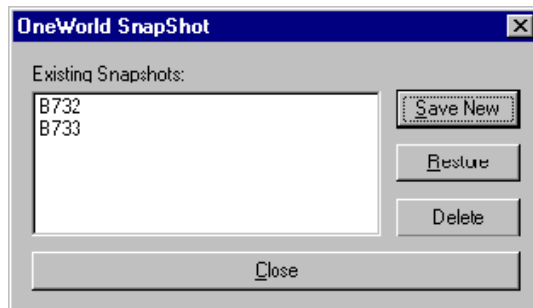
- ❑ Before you run SnapShot, copy SnapShot.exe to another directory outside the \B9 directory. If you try to run SnapShot from inside the \B9 directory with ERP 9.0 open or with an ERP 9.0 directory open, you will receive an error message.

► To save ERP 9.0 in a SnapShot file

1. Run SnapShot.exe.

The default directory for SnapShot is \B9\SYSTEM\Bin32.

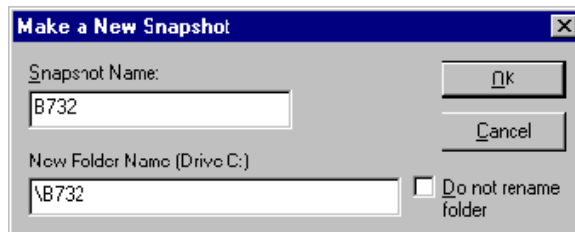
The ERP 9.0 SnapShot form appears.



On this form you can review a list of previously created SnapShot files, create a new SnapShot of ERP 9.0, restore a SnapShot file to a working installation of ERP 9.0, or delete a SnapShot file.

2. Click the Save New button.

The Make a New SnapShot form appears.



On this form, you can define the name of your SnapShot file and determine the folder name where your SnapShot file will reside.

3. Click OK to complete the SnapShot.

Your new SnapShot file appears in the list box on the ERP 9.0 SnapShot form.

4. You can now install a new version of ERP 9.0 either by installing a new package on the workstation or restoring another SnapShot file.

► To restore a SnapShot

1. Run SnapShot.

The ERP 9.0 SnapShot form appears. On this form you can review a list of previously created SnapShot files, create a new SnapShot of ERP 9.0, restore a SnapShot file to a working installation of ERP 9.0, or delete a SnapShot file.

2. From the list box, choose a SnapShot to restore and then click the Restore button.

SnapShot restores your ERP 9.0 installation and removes the SnapShot file name from the list box.

Note

If a viable installation of ERP 9.0 exists on the workstation, SnapShot prompts you to save the current installation to a SnapShot directory before you restore the alternative installation.

► To delete a SnapShot

1. Run SnapShot.

The ERP 9.0 SnapShot form appears. On this form you can review a list of previously created SnapShot files, create a new SnapShot of ERP 9.0, restore a SnapShot file to a working installation of ERP 9.0, or delete a SnapShot file.

2. From the list box, choose a SnapShot to delete and then click the Delete button.

SnapShot deletes the directory that stores your SnapShot file and removes the SnapShot file name from the list box.

Running Snapshot from the Command Line

You can run SnapShot from the command line for batch processing and for the implementation of shortcuts that automatically save and restore SnapShot files.

► To run SnapShot from the command line

Enter one of the following commands in the command line:

- To save the current installation of ERP 9.0 in a SnapShot file:

```
SnapShot [/SSnapShot name]
```

You do not need to specify a SnapShot name when you save an installation. If you do not specify a name when you save ERP 9.0 in a SnapShot file, the current version of the system will be used to define the name for the SnapShot, such as B9.

- To restore a SnapShot file:

```
SnapShot [/RSnapShot name]
```

You do not need to specify a SnapShot name when you restore an installation. If you do not specify a name when you restore a SnapShot file, you must specify a target directory in which to locate the SnapShot file.

Note:

For SnapShot names that contain embedded spaces, enclose the entire name in quotation marks.

Depending on your needs, you can also use the following switches in the command line:

- /U - This switch disables the user interface, including warnings and errors. Use the following syntax:

SnapShot [/SSnapShot name] [/U]

SnapShot [/RSnapShot name] [/U]

- /D - This switch informs SnapShot not to rename the installation directory. Use this switch when ERP 9.0 resides in uniquely named directories. Use the following syntax:

SnapShot [/SSnapShot name] [/D]

SnapShot [/RSnapShot name] [/D]

- /A - The Disable Autosave switch turns off the autosave feature in SnapShot. By default, when you restore a previous ERP 9.0 installation, SnapShot automatically saves the current active ERP 9.0 installation. When you turn on the Disable Autosave switch, SnapShot overwrites the current active installation with the restored ERP 9.0 SnapShot file.

SnapShot [/RSnapShot name] [/A]

- /T - This switch designates the target directory where you save your SnapShot file. If you do not specify a SnapShot name in the /R switch, you must specify a target directory. For a target directory with an embedded space, enclose the entire name in quotation marks. Use the following syntax:

SnapShot [/R] [/Ttarget dir]

Database Driver Files

For each combination of platform and database, you must use a unique database driver file. This file is specified in the [DB SYSTEM SETTINGS] section of the enterprise server jde.ini file. The following table lists the driver file for specific machines and databases:

Platform	Database	Driver File
AS/400	DB2/400	DBDR
AS/400	any other server DBMS	JDBNET
HP9000	DB2/400	libjdbnet.sl
HP9000	Microsoft SQL Server	libjdbnet.sl
HP9000	Oracle (Version 8.0.5 and 8i) UNIX	libora80.sl
RS6000	DB2/400	libjdbnet.so
RS6000	Microsoft SQL Server	libjdbnet.so
RS6000	Oracle (Version 8.0.5 and 8i)	libora80.so
Sun Solaris	Oracle (Version 8.0.5 and 8.i)	libora80.so
Sun Solaris	DB2 and SQL Server	libjdbnet.so
Windows	AS/400	jdbodbc.dll
Windows	Oracle (Version 8.0.5 and 8i) NT	jdboci80.dll
Windows	SQL Server	jdbodbc.dll
Compaq AlphaServer	AS/400	jdbnet.dll
Compaq AlphaServer	Oracle (Version 8.0.5 and 8i) NT	jdboci80.dll
Compaq AlphaServer	SQL Server	jdbodbc.dll

Generating Serialized Objects for the ERP 9.0 Web Server

To run an ERP 9.0 Web server, you must generate serialized objects, using the appropriate set of ERP 9.0 specifications, so that the server has access to the objects. To generate serialized objects for the Web server, your developers must install and use the Java & HTML Generator, an ERP 9.0 tool that turns ERP 9.0 specifications into Java code. Java code allows you to generate ERP 9.0 applications in Java, HTML, or both. The ERP 9.0 forms and applications that you generate using the tool are Java or HTML objects. ERP 9.0 stores the objects in a database and retrieves them at runtime.

You also can deliver the objects from a set of pre-generated, pristine objects that are automatically loaded into two tables (F989998 and F989999) when you install ERP 9.0. If you install a pristine set of ERP 9.0 objects or an upgraded environment with few or no custom modifications, the best choice is to deliver the pre-generated objects.

Before You Begin

- ❑ Ensure that the developers who will use the Java & HTML Generator have installed and are running a Win32 (fat) client. For instructions on installing a Win32 client, see *ERP 9.0 Installation Guide for Windows-Based Systems*.
- ❑ Set the default storage parameter on your ERP 9.0 database so that you have enough space to transfer all the standard ERP 9.0 Java objects. See *ERP 9.0 Java Server Installation Guide (Windows 2000/NT-Based Systems)* for details.
- ❑ See the *Java Server Installation Guide* for details on delivering a set of pre-generated, pristine ERP 9.0 JAS objects.

Setting Up the Win32 Client to Generate Serialized Objects

With a Win32 client installed, you are ready to begin the process of generating serialized objects. You will use the Win32 client to generate serialized objects.

► To set up the Win32 client to generate serialized objects

1. In Windows Explorer, find the directory that stores the jde.ini file.
2. In the [INSTALL] section of the jde.ini file, add the following parameter and value:

WebAdmin=1

Setting the value for this parameter to 1 means that you will be able to view and use the eight tabs in the Java & HTML Generator, thus enabling the generation of all serialized objects for the default user.

3. Click Save.

Copying the JAS Build to the Generation Machine

After you have set up the Win32 client, you copy to this machine the JAS build you want to use to generate serialized objects. In most cases, the System directory on the JAS build contains all the files you need to run ERP 9.0 properly.

► To copy the JAS build to the generation machine

Note:

The tasks for installing JAS and configuring the generation machine can change with each Service Pack release. For the most up-to-date instructions, refer to the *Web Server Installation* guide on the Knowledge Garden.

1. On the Java server, share the drive that includes the JAS directory (located in the path PeopleSoft\B9\internet\JAS).
2. On the ERP 9.0 client machine that you will use to generate Java objects (your generation machine), map to the shared drive on the Java server.
3. On the generation machine, open a command prompt and create the following new folder under the \B9 directory:

```
\B9\tempjar
```

4. On the Java server, locate the following files:

```
JAS.JAR
Collections.jar
OWResources.jar
gen.bat
```

These files are typically located in the following directory:

```
\PeopleSoft\B9\JAS
```

5. Copy the .jar and .bat files from your Web server to the tempjar directory on your generation machine.
6. On your Java server, locate the following file:

```
genapp.ini
```

This file is typically located in the following directory:

```
\PeopleSoft\B9\JAS
```

7. Copy the genapp.ini file from your Java server to the following directory on your generation machine:

```
C:\WINNT
```

Preparing ERP 9.0 for Serialized Objects

Before you generate serialized Java objects in ERP 9.0, you must populate the Data Dictionary and global specs on the Java generation machine.

► To populate the data dictionary

1. On the Java generation machine, log on to a valid environment in ERP 9.0.

2. In the Fast Path, type BV and press Enter.
 3. On Batch Applications - [Work with Batch Versions - Available Versions], type R92TAM in the Batch Application field and click Find.
 4. Choose the XJDE001 version and click Select.
 5. On Batch Applications - [Version Prompting], click Advanced on the Form menu.
 6. On Batch Applications - [Advanced Version Prompting], choose Override Location and click OK.
 7. On Batch Applications - [Version Prompting], click Submit.
 8. On Batch Applications - [JDE Data Sources], choose Local and click Submit.
- The application starts a UBE that populates databases stored in the x:\B7 directory. This process runs for an hour or more.
9. When the process is complete, copy the following files from the x:\B7 directory to the \spec directory under the path code of the environment you will use to generate the serialized Java objects (for example, x:\B7\PY7334\spec):
 - dddict.xdb
 - ddtex.xdb
 - dddict.ddb
 - ddtex.ddb

► **To populate the global specs**

1. In the Fast Path, type BV and press Enter.
 2. On Batch Applications - [Work with Batch Versions - Available Versions], type R98CRTGL in the Batch Applications field and click Find.
 3. Choose the XJDE001 version and click Select.
 4. On Batch Applications - [Version Prompting], click Advanced on the Form menu.
 5. On Batch Applications - [Advanced Version Prompting], choose Override Location and click OK.
 6. On Batch Applications - [Version Prompting], click Submit.
 7. On Batch Applications - [JDE Data Sources], choose Local and click Submit.
- The application starts a UBE that runs for an hour or more.

Generating Serialized Objects

You need to generate all serialized objects after you initially promote the JAS build. The Java & HTML Generator, once it is installed on your Win32 client with a JAS build, can generate objects of compiled Java bytecode, and you have access to all ERP 9.0 objects when you run your Java server.

► **To generate serialized objects**

From your generation machine, log off of ERP 9.0.

1. Under the /JAS directory on your generation machine, run gen.bat.

This batch file calls an initialization file called genapp.ini. You use this file to configure specifications applications for serialized object generation.

Note

Ensure that the genapp.ini file is located in the WINNT directory of your generation machine before you run gen.bat.

2. Log on to a Java environment in ERP 9.0 (for example, JPY7334).

Note

Verify that the system displays the message "Login to the server successful" in the DOS window before you proceed. This message can take up to 10 minutes to display.

3. On Java & HTML Generator Version 2.0, complete the following field by entering the name of your ERP 9.0 Java Server:

- Web Server Name

Note

If you are running multiple Web server ports on your generation machine, type machine name:port, where "machine name" is the name of your generation machine and "port" is the port number.

4. Click Advanced Settings.
5. On Log Files, type the name and path to the Status Log and Error Log files and click OK.
6. Choose the Generate all objects option.
7. Choose the following options and click OK:
 - Business Views
 - Tables

The system generates all ERP 9.0 business views and tables.

8. Verify the DOS window indicates the generation process has completed successfully.
9. Choose the Generate all objects option.
10. Choose all options except Business Views and Tables and click OK.

The generation process takes about five to ten hours, depending on the speed of your generation machine.

11. Verify the DOS window indicates the generation process has completed successfully.

Note

If you are upgrading the Java server from a previous release, stop and restart the virtual Web host after the generation process is complete. For details, see the *ERP 9.0 Java Server Installation Guide (Windows 2000/NT-Based Systems)*.

Executable Files on the Workstation

The following tables present an alphabetical list of executable files in the workstation system/bin32 directory. Each table includes a description of the executable file and instructions for running it.

ERP 9.0-Linked Executable Files

The executables listed in the following table are:

- Called by other ERP 9.0 programs
- Called by the ERP 9.0 kernel
- Have no value if run independently of ERP 9.0
- Will not run unless called by ERP 9.0

Executable	Description	Call Details
Ap22.exe	ERP 9.0 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	ERP 9.0 uses this program to read workstation JDEBLC spec files and generate a text file with details about each Business Function source file 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 generated by BusBuild.
Drilldwn.exe	ERP 9.0 uses this utility when generating Balance Auditor functions in Tabular reports.	Called by the ERP 9.0 UBE kernel.
DSArguments.exe	ERP 9.0 uses this utility program to create a CID argument when attempting to connect to an ERP 9.0 Data Source.	Called by ERP 9.0 kernel.
GBLib.exe	The ERP 9.0 process BusBuild uses this program to determine if object files exist.	Called from makefiles generated by BusBuild.
Guimole.exe	ERP 9.0 uses this program to create a bridge between the workstation and the AS/400 server to allow green screens to be displayed through ERP 9.0.	Called by ERP 9.0 kernel.
InstMon.exe	ERP 9.0 uses this program during log-on to install update packages if an update package is selected.	Called by ERP 9.0 kernel.

Executable	Description	Call Details
JDEGenEx.exe	This program generates a list of exports for each dll.	Called from makefiles generated by BusBuild.
Rtt.exe	J.D. Edwards ships this program for use by business partners only. ERP 9.0 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.
Servermon.exe	This obsolete J.D. Edwards internal tool was created before the SAW interface for monitoring the server. It sent e-mail alerts to specified users when events occurred on the servers.	Obsolete. Called by an internal script.
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).
owptrl_cli.exe	owptrl_cli is the communication bridge between BMC Patrol Monitoring Tool and ERP 9.0 Enterprise and Web Servers. owptrl_cli converts SAW data to BMC data so 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 ERP 9.0 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 necessary for Autopilot to access ERP 9.0 tables. It is not an end-user program and has no purpose apart from Autopilot or EventCapture.	Called by Autopilot or EventCapture.
ubepriint.exe	ubepriint.exe is not for direct customer use, although the ERP 9.0 product suite does use it.	Called by ERP 9.0 kernel.
genver.exe	genver creates the win32 version information for the build process.	Called by ERP 9.0 kernel.

Executable	Description	Call Details
poda.exe	Processing Option Design Aid. All design tools are client side only. OMW passes the executable a set of parameters 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 also can be opened without command line parameters.
guimole.exe	A secondary executable 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.
JdeCabExtract.exe	JdeCabExtract creates self-extracting.exe files.	J.D. Edwards internal tool.
JdeCompress.exe	JdeCompress creates J.D. Edwards-compatible cabinet files.	J.D. Edwards internal tool.
krnlspec.exe	Generates jdekrnl.xdb and jdekrnl.ddb specs from the pristine database.	J.D. Edwards internal tool.
netmon.exe	netmon is the very first (primitive) monitoring tool for ERP 9.0 Enterprise Servers. It sends requests to different Server Kernel processes to verify that they are running. It is obsolete and was replaced by SAW.	Obsolete.
pssg.exe	An obsolete file not called by any ERP 9.0 applications.	Obsolete.
GLBUILD.exe	GLBUILD was replaced by Busbuild.exe. It was used to build the business functions.	Obsolete.
krnlspec.exe	Used to generate jdekrnl.xdb and jdekrnl.ddb specs from the pristine database.	J.D. Edwards internal tool.
XFDA.exe	XFDA.exe only exists in ERP 9.0. It is the previous FDA executable that was restructured and saved for testing purposes. It might be included in some beta releases of ERP 9.0, but will not be released with the GA version.	Test only. Obsolete.

Standalone Executable Files

You can run the following executable files directly from either the command line or through Windows Explorer.

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 ERP 9.0 files such as: • jdedebug.log • jde.log • olt.log • jde.ini	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.	Exit ERP 9.0 and then double-click the executable.
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 the following dynamic link libraries (DLLs) to the registry: • jdetapitest.dll • jdetapicomtek.dll You should register these DLLs before using RunTAPI.exe.	Run from a DOS window in the ERP 9.0 system/bin32 directory.
RunTAPI.exe	This program controls interoperability between ERP 9.0 and telephone switching systems. It is a snap-in (harness) to ComTech's CTI Server objects. It requires ide.ini file	Double-click.

Executable	Description	Run Instructions
	changes and Regdlls.exe before it can be run. Contact Customer Support for full documentation.	
SABridge.exe	This Object Export Facility displays the names of the ERP 9.0 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 ERP 9.0 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 ERP 9.0 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: • ERP 9.0 user • ERP 9.0 password • ERP 9.0 Environment
Vercheck.exe	This program displays, on one screen, the properties of all the files in a directory. The properties are the same as those displayed when you right-click a file and choose 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 specified in the script.	Run GenCom.exe from the command line with the name of the script file.
GenCORBA.exe	Creates CORBA wrappers around ERP 9.0 business functions. This is a command line utility that requires a script file as an input. GenCORBA generates COBRA interfaces for ERP 9.0 business functions.	Syntax: GenCORBA[options] [libraries] For example: GenCORBA /Cat /UserID Devuser1 /Password Denuser1 /Environment ADEVHPO2 CAEC
GenJava.exe	ERP 9.0 GenJava provides access to ERP 9.0 business functions by generating pure Java interfaces to them.	Run GenJava. Syntax:

Executable	Description	Run Instructions
		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 ERP 9.0). It replaces the User Interface of UBEPrint.exe.	Double-click the executable or start via the command line.
oexplore.exe	"It is obsolete" used to start ERP 9.0 FAT client.	Double-click the executable.
Autopilot.exe	Autopilot is the centerpiece of all J.D. Edwards ERP 9.0) automated testing tools. Using Autopilot, a person can script ERP 9.0 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 icon or from the Start menu without command line options.
EventCapture.exe	EventCapture is a small program that can be activated alongside ERP 9.0 (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 ERP 9.0; with Autopilot, the script drives ERP 9.0.	Normally started from a desktop icon 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 icon 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 ERP 9.0 Applications, Reports, Table Conversions, NERs (Named Event Rules), and TERs (Table Event Rules). It also can be used to compare and merge C	You can launch Visual ER Compare tool from OMW or from the command line.

Executable	Description	Run Instructions
	Business functions.	
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 executed 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 allows you to simulate multiple concurrent ERP 9.0 users on a single workstation. It is used primarily for concurrency testing during development and for performance and scalability testing of ERP 9.0 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.
VAPPerf.exe	VAPPerf is better known as ERP 9.0 Analyzer; it has been renamed Analyzer.exe in ERP 9.0. It is a powerful instrument used to analyze performance data and other debugging information generated by an ERP 9.0 application run under Autopilot or EventCapture.	Create a desktop icon or Start Menu icon. No command line arguments are used.
UTBrowse.exe	UTB is a tool used for viewing the records in tables. We also use it to view local ERP 9.0 object specifications. UTBrowse.exe uses the following two libraries in the bin32 directory: • datautils.dll • envtool.dll.	Type UTB in the ERP 9.0 fast path or click the executable.
tda.exe	Use TDA is to modify ERP 9.0 tables.	On the Command Line, type tda.exe - <i>idtablename</i> , where <i>tablename</i> is the name of the table you want to

Executable	Description	Run Instructions
		modify. For example, F0101. You do not need to run ERP 9.0 before running tda.
tc.exe	tc.exe opens the ERP 9.0 Table Conversion Design Tool. This tool is used to design ERP 9.0 Table Conversion batch applications.	Double-click the executable, or execute 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 listed in the tamvrfy.lst.	Double-click the executable.
tamtool.exe	tamtool can perform the following functions: • Recreate a tam file • Copy a tam file • Print index information • Print the index key • Verify the tam file	Run from the command line.
tampack.exe	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. tampack.exe is included with the workstation and the deployment server. tampack.exe creates a translated copy of TAM files (RDASPEC.DDB, GBRSPEC.DDB, etc.) on the PC. The translated copies are known as pack files. Once the program is finished, the user can manually run ftp.exe to transfer them to a remote enterprise server. Once the pack files are on a remote enterprise server, the user can unpack them on the enterprise server.	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	You must run the program from a DOS

Executable	Description	Run Instructions
	server. tamftp.exe transfers TAM files (RDASPEC.DDB, GBRSPEC.DDB, and so on) from the PC to a remote enterprise server that is operational.	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 ERP 9.0 printer. This application is only intended to allow development to troubleshoot problems with a customer's ERP 9.0 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.

Troubleshooting the Workstation

Use this section as a general guide for basic troubleshooting techniques on the ERP 9.0 workstation. In order to troubleshoot problems, you will need a thorough understanding of the interactive error messages, ERP 9.0 Message Center, logging process, and associated log files.

This section provides solutions to the following potential problems that you could encounter on the workstation:

- Error message appearing at the bottom of a form (press F8 or click the Display Errors button to view an error description)
- Report batch process:
 - Report does not show any data. It just shows the report headers and the text "No Data Selected."
 - Batch process shows errors on the report.
 - Batch process gives unexpected data on the report.
- Environment issues:
 - Works when the batch process or business function is run locally, but not when it is run 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:
 - Unable to connect to the enterprise server environment.
 - Data is displayed incorrectly on the interactive form or batch report.

See Also

- ❑ *Running the Verify Object Configuration Manager in the Object Configuration Manager section of the Configurable Network Computing Implementation Guide for instructions about running the Verify OCM report*

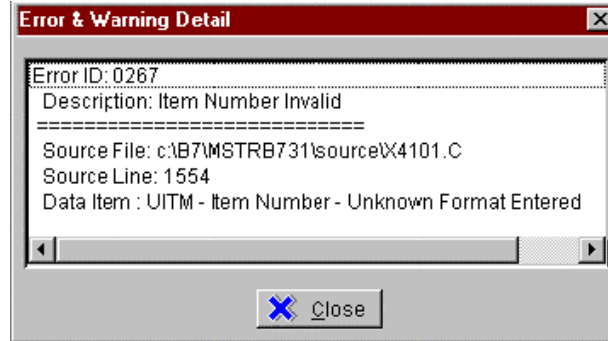
Understanding ERP 9.0 Error Messages

A variety of error messages are provided while you use ERP 9.0. This chapter explains the nature of some of these error messages to help you correct the errors that are occurring or determine the exact steps that caused the error.

Troubleshooting: Looking At Error Message Details

When you encounter an error, right-click the error in the error message window and choose Detail to provide additional information about the error. This information provides the source file and the source line that turned the error on. 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).

Message details provide the following information:



When indicating the source file that generated the error, the entire path of the source location is provided. In this example, the source file is c:\B9\MSTRB9\X4101.C, and the 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 extension .C (X4101.C).

If the detail for your error includes the name of your 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. Once you turn off the constant, you avoid the error.

Note

If you see a source file description that begins with c:\B9\SYSTEM, the error did not occur through a business function. The error possibly occurred through an event rule or by the tool while automatically triggering a data dictionary edit.

Look above the source line for conditional statements that determine whether to turn on the error message. Look for table names to see if the program attempts to retrieve data. Look for other programs that the program might call. Also, read the programmer comments included in the source, which might provide a literal explanation of 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 ERP 9.0 (not by a value you define on the form) but no supplier number exists for the Item/Branch combination, ERP 9.0 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.

Troubleshooting: Error Messages Generated By Applications

These error messages are maintained in the data dictionary and are set intentionally to inform the user of a problem. The error might indicate that something is not set up properly or that the user is attempting to perform an invalid action. Examples of these kinds of errors include Record Invalid and Blanks Invalid. Some generic errors occur that lack applicable descriptions. Techniques for troubleshooting these errors will also be discussed.

Troubleshooting: 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.

Troubleshooting: 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. ERP 9.0 applications set aside memory for various things 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.

You can troubleshoot these errors using the following techniques:

- 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 violation, then the application is accessing different lines of code from 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. With UBEs, if the UBE uses a business function that causes memory violations, the UBE will just stop. In these cases, the `ube.log` is the only way you can find out what failed.

Troubleshooting: Form and Grid Add Failures

The following two error messages 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.

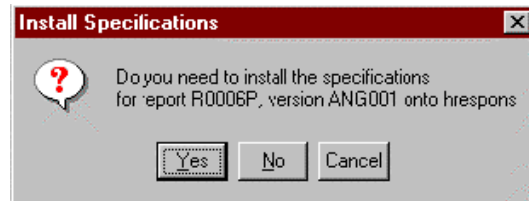
- Attempt to add form record failed.
- Attempt to add grid record failed.

The `jde.log` is a helpful reference when having problems with these errors. It generally includes detailed information about the table into which the user attempted to add a duplicate record.

Troubleshooting: 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 onto a server, you are first asked if you would like to install the specifications. The window prompting you looks like this:



If the job is submitted successfully, ERP 9.0 reverts to the initial form.

Troubleshooting the Production Workstation

The troubleshooting procedures that you use for a workstation depend on whether the workstation is a production or development machine. Production machines contain only ERP 9.0 applications, so the scope of problems that can occur is limited. In addition to containing pre-built ERP 9.0 applications, development machines are equipped with ERP 9.0 and third-party tools. These tools enable developers to create, modify, compile, generate, and troubleshoot ERP 9.0 applications.

Performing Preliminary Troubleshooting

As a system administrator, you can perform some preliminary troubleshooting on your production workstation to verify the nature of the problem. You will also want to isolate problems to a user's particular workstation and environment.

► To perform preliminary troubleshooting

1. Determine whether you can consistently duplicate the problem.
2. If so, restart the current application.
3. If the error recurs, restart ERP 9.0.
4. If the error recurs, reboot the workstation.

These steps clear any memory or caching problems with the workstation.

Troubleshooting Interactive Application Problems

Generally, when you are running an interactive application, the system displays errors at the bottom of a form. The system highlights (in red) the fields in error. You can choose 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 encountered cannot be resolved through the error messages 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.

See Also

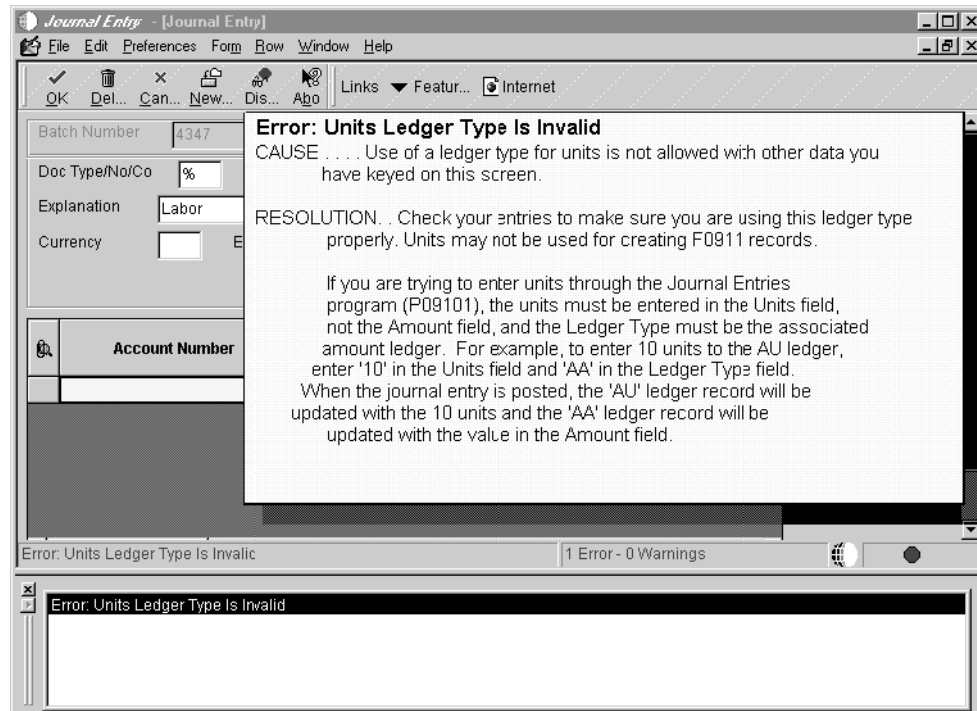
- ❑ *Working With Packages* in the *Package Management Guide* for details on building partial packages

► To troubleshoot interactive application problems

1. You can see the text of the message by choosing the following:
 - Display Errors from the Help menu selection
 - Display icon on the toolbar
 - F8
2. You can see the full description of an error message by right clicking and choosing Full Description. The system displays a full glossary of the error and generally includes some information on how to resolve the issues.

Example: Interactive Application Error

This example shows the full description of an error encountered in the Journal Entry application.



Troubleshooting Batch Process Problems

A user might encounter several problems when attempting to run a batch process. For example, the output shows only the report headings or prints a message such as No Data Selected.

If the result of a batch process is no data, several factors could be causing the problem.

This section contains the following tasks that provide solutions to these problems.

► To troubleshoot batch processes resulting in no data

1. Verify that the data selection on the batch process is appropriate and should result in data.

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 if the batch process resulted in an error.

Most error messages are not printed on the report, but are instead sent as an e-mail 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 executing a G/L post that ends in error, the report will print only the report headings. All error messages are sent to the Work Center.

Upon exiting to the Work Center, the user receives error messages and glossary description that indicate why the batch process resulted in no data. Some error messages even include hot links that will exit the user directly to the appropriate interactive application to correct the error.

3. If checking the data selection and correcting any errors still does not resolve the issue, turn on the applicable logs and continue with the following steps.
4. Run your batch process, and locate the batch process log for the report you ran. ERP 9.0 names this log with the convention *report name_version_other identifiers.log*. This log is located in the local directory under \b9\PrintQueue. For example, if you ran report R04431, it would appear in your local directory, b9\PrintQueue, as follows:

```
R04431_XJDE0001_D960823_T104512.log
```

R04431_XJDE0001_D960823_T104512.log

5. View the log file using the ERP 9.0 Log Viewer or an ASCII editor such as Notepad or Wordpad. You should inspect the log for errors or failures of any kind. Also examine the SQL statements that are created by the batch process and verify that they should result in data on the report. The batch process log is your main source for debugging batch processes. However, you can look in your jde.log and jddebug.log for errors or failures of any kind.
6. Verify that there is data in the tables for the database that you are accessing. You can use the ERP 9.0 tool called Universal Table Browser to directly view the database table.

See Also

- ❑ *Enterprise Workflow Management Guide* for more information on the Work Center
- ❑ *Universal Table Browser* in the *System Administration Guide* for more information about how to directly view the database table
- ❑ *Troubleshooting Local Data Availability Problems* and *Troubleshooting Enterprise Server Data Availability Problems* in the *Server and Workstation Administration Guide* for more information on troubleshooting batch processes

► To troubleshoot batch processes showing errors on the report

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.

From the Data Dictionary Design menu (GH951), choose Error Messages.

Error Messages - [Work With Glossary Items]

File Edit Preferences Form Row Window Help

Select Find Add Del... Close Seg... New... Glo... Dis... Abo Links Print... Internet

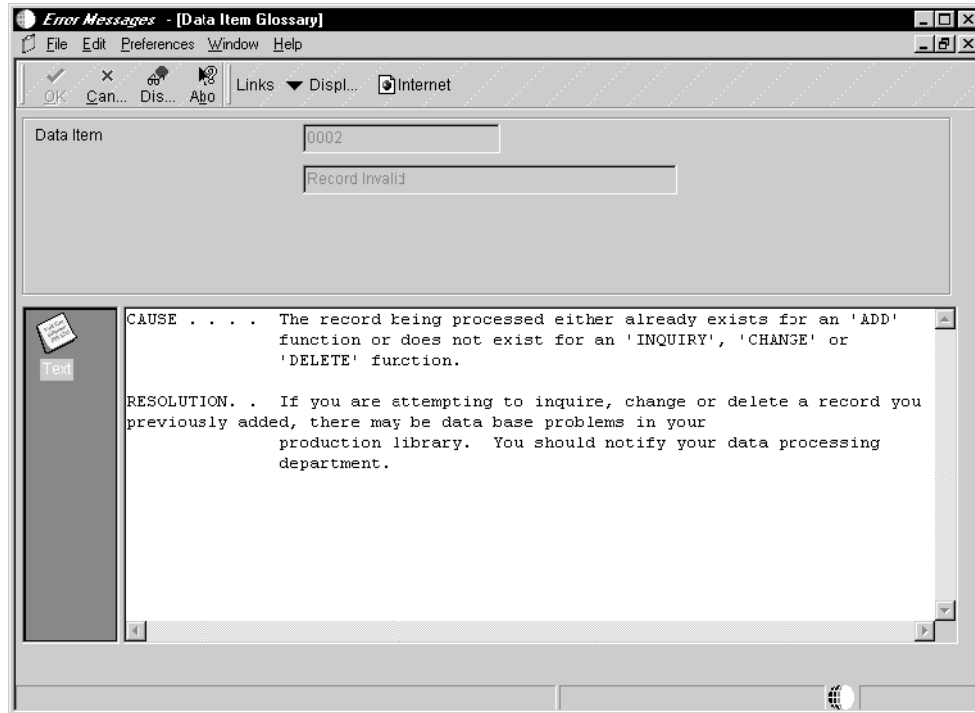
Glossary Group Error Messages

Language Domestic Language

Alpha Description

Description	Data Item	Language	System Code	Form Name	Glossary Group

1. On Error Messages, complete the following field:
 - Glossary Group
2. Complete the following optional fields:
 - Language
 - Alpha Description
3. On the grid, enter values in the Data Item field and click Find to narrow the search to your particular error code. For example, enter 0002 to search for the data item associated with the Record Invalid error condition.
4. To see an extended description of the error, choose Glossary from the Row menu.



► To troubleshoot batch processes showing unexpected data on the report

1. Verify that the data selection on the batch process is correct and should result in the data output expected.
2. Turn on the batch process log and run the report. Examine the report process flow and SQL statements to see why the data output on the report is selected.

► To troubleshoot 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.

1. Rerun the report, but override the location to execute 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 if the outcome is the same as when the report was executed on the server. If so, use the other troubleshooting procedures for batch processing to resolve the issue.

See Also

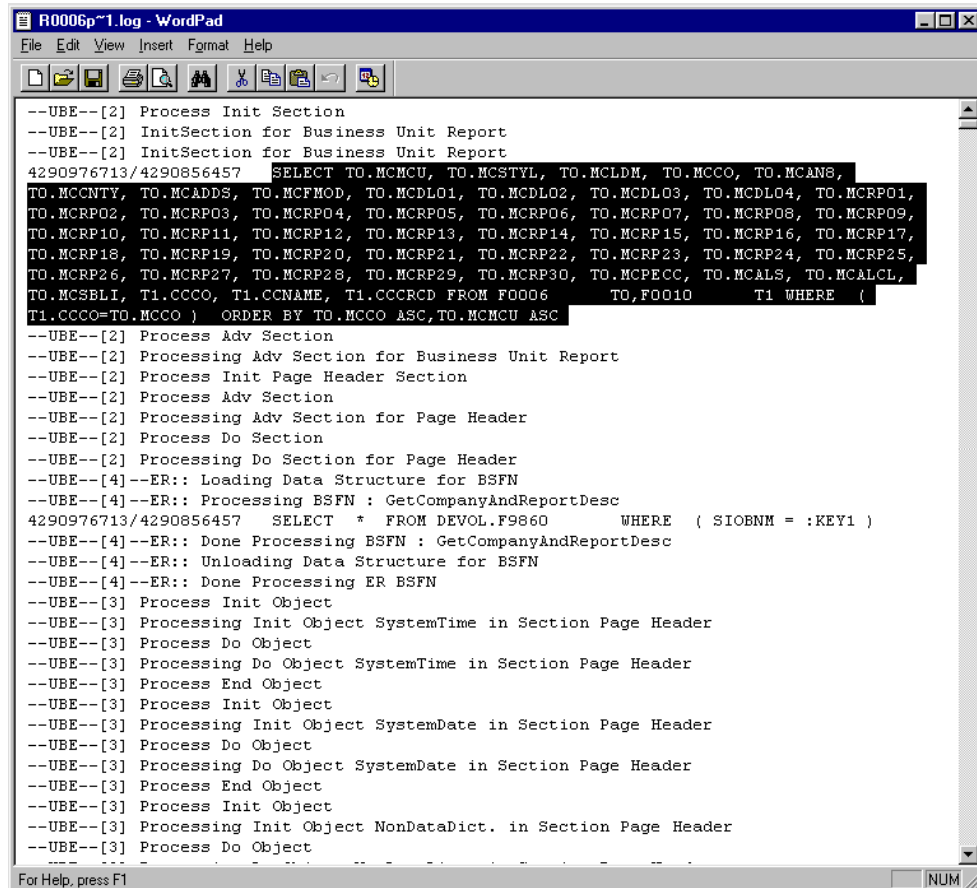
- ❑ *Troubleshooting the Enterprise Server* in the *Server and Workstation Administration Guide* for more information about reports that do not execute correctly on the server

Troubleshooting: Local Data Availability Problems

Inspect the local database at `\b9\pathcode\data\JDELocal_Data.mdf` to verify that there is data 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. ERP 9.0 names this log with the convention *report name_version_other identifiers.log*. This log is located in your local directory, `\b9\PrintQueue`.
2. Highlight the SQL statement, right-click, and copy the contents to the clipboard.



```
--UBE--[2] Process Init Section
--UBE--[2] InitSection for Business Unit Report
--UBE--[2] InitSection for Business Unit Report
4290976713/4290856457 SELECT TO.MCMCU, TO.MCSTYL, TO.MCLDM, TO.MCCO, TO.MCANS,
TO.MCCTNY, TO.MCADD, TO.MCFMOD, TO.MCDL01, TO.MCDL02, TO.MCDL03, TO.MCDL04, TO.MCRP01,
TO.MCRP02, TO.MCRP03, TO.MCRP04, TO.MCRP05, TO.MCRP06, TO.MCRP07, TO.MCRP08, TO.MCRP09,
TO.MCRP10, TO.MCRP11, TO.MCRP12, TO.MCRP13, TO.MCRP14, TO.MCRP15, TO.MCRP16, TO.MCRP17,
TO.MCRP18, TO.MCRP19, TO.MCRP20, TO.MCRP21, TO.MCRP22, TO.MCRP23, TO.MCRP24, TO.MCRP25,
TO.MCRP26, TO.MCRP27, TO.MCRP28, TO.MCRP29, TO.MCRP30, TO.MCPECC, TO.MCALS, TO.MCALCL,
TO.MCSBLI, T1.CCCO, T1.CCNAME, T1.CCCRD FROM F0006 TO,F0010 T1 WHERE (
T1.CCCO=TO.MCCO ) ORDER BY TO.MCCO ASC,TO.MCMCU ASC
--UBE--[2] Process Adv Section
--UBE--[2] Processing Adv Section for Business Unit Report
--UBE--[2] Process Init Page Header Section
--UBE--[2] Process Adv Section
--UBE--[2] Processing Adv Section for Page Header
--UBE--[2] Process Do Section
--UBE--[2] Processing Do Section for Page Header
--UBE--[4]--ER:: Loading Data Structure for BSFN
--UBE--[4]--ER:: Processing BSFN : GetCompanyAndReportDesc
4290976713/4290856457 SELECT * FROM DEVOL.F9860 WHERE ( SIOBNM = :KEY1 )
--UBE--[4]--ER:: Done Processing BSFN : GetCompanyAndReportDesc
--UBE--[4]--ER:: Unloading Data Structure for BSFN
--UBE--[4]--ER:: Done Processing ER BSFN
--UBE--[3] Process Init Object
--UBE--[3] Processing Init Object SystemTime in Section Page Header
--UBE--[3] Process Do Object
--UBE--[3] Processing Do Object SystemTime in Section Page Header
--UBE--[3] Process End Object
--UBE--[3] Process Init Object
--UBE--[3] Processing Init Object SystemDate in Section Page Header
--UBE--[3] Process Do Object
--UBE--[3] Processing Do Object SystemDate in Section Page Header
--UBE--[3] Process End Object
--UBE--[3] Process Init Object
--UBE--[3] Processing Init Object NonDataDict. in Section Page Header
--UBE--[3] Process Do Object
```

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 OneWorld Local data source.
4. Use information you copied from the SQL statement to perform a query of the table in UTB.

If this action causes the expected records to be found, the data you specified in the data selection matches your SQL statement. This means that the cause of the problem is not data selection.

Troubleshooting: Standalone Installation of ERP 9.0

If you find you cannot perform a force checkout on a PC running a standalone installation of ERP 9.0, it is because ERP 9.0 cannot determine your system name for a standalone installation of ERP 9.0.

The solution is to disable the DNS name in Windows.

Troubleshooting: Enterprise Server Data Availability Problems

If your 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 if your SQL statement can find data in the tables. With the help of a database administrator, you can execute 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 your 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 your report.

For example, if you leave your processing options blank (even though that may be a valid entry for a ERP 9.0 batch process), the process might be searching for blank values or for all values. If your 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 show on reports or be visible in some other form, for example, the report prints an error message, prints in the wrong font, or prints landscape instead of portrait.

The following printing problems can occur:

- If your batch application produces error messages on the report, for example, Invalid Company Number.
- If your report batch process shows the wrong font on the report, check the report properties of the version 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 if the font that is being sent to the printer is not interpreted correctly.
- If your report batch process prints portrait instead of landscape or landscape instead of portrait, then check the report properties of the version you just ran and verify that the properties are correct.

Troubleshooting: .DLL Problems on a Production Workstation

Problems with workstation .DLL files are indicated if you are receiving an error message such as:

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 if the file exists. You can find consolidated .DLLs in the `\b9\path code\bin32` directory.

If the .DLL does not exist on the workstation, or if it does exist but you continue to get the error even after restarting ERP 9.0, you can get the correct parent .DLL by reinstalling ERP 9.0 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 assumes that the business functions built into this parent .DLL are the same on the workstation that you are copying to as they are on the one you are copying from. Use caution when copying .DLLs. The preferred method is a workstation installation.

Troubleshooting: Data Source Setup Problems

When attempting to sign onto an ERP 9.0 environment, if errors are received, one possible cause might be incorrect data source setup on the workstation. Some indications of incorrect setup are as follows:

- 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.

See Also

- ❑ *Running the Verify Object Configuration Manager in the Distributed Processing section of the Configurable Network Computing Implementation Guide*

► 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 log onto the same workstation, verify that the data sources are set up as system data sources rather than user data sources. Data sources set up as user data sources must be set up for each user accessing ERP 9.0 on the workstation.

Troubleshooting the Development Workstation

The troubleshooting procedures that you use on a workstation depend on whether the workstation is a production or development machine. Production machines contain only ERP 9.0 applications so the scope of troubleshooting the problems that can occur is limited. In addition to containing prebuilt ERP 9.0 applications, development machines are equipped with ERP 9.0 and third-party tools. These tools enable developers to create, modify, compile, generate, and troubleshoot ERP 9.0 applications.

You can perform troubleshooting procedures to isolate and resolve a problem with an ERP 9.0 development workstation.

Troubleshooting: .DLL Problems on a Development Workstation

Problems with workstation .DLL files are indicated if you are receiving an error message such as:

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 if the file exists. You can find consolidated .DLLs in the directory `b9\path code\bin32` and `b9\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 ERP 9.0, 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 Windows Explorer. The path to `busbuild.exe` is `b9\system\bin32\busbuild.exe`.

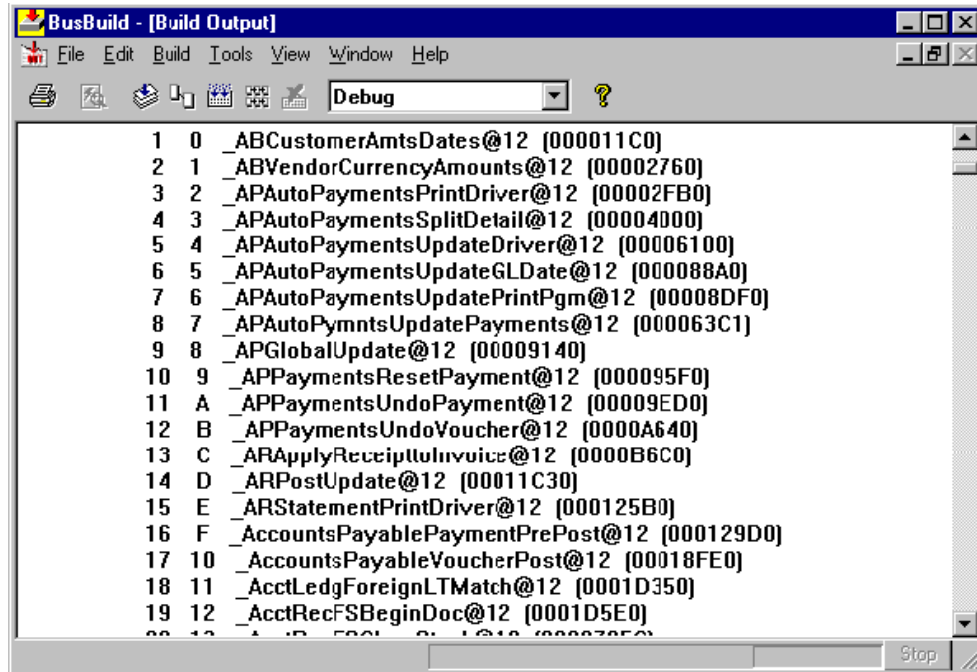
► To troubleshoot .DLL problems on a development workstation

Use this procedure if you are receiving the error on a specific business function that cannot be found in the parent .DLL.

1. Verify that the correct parent .DLL for the business function being executed is being referenced when you receive the error.
2. If the wrong parent .DLL is referenced, choose 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, choose Dumpbin from the Tools menu within Busbuild. This option lists all of the business functions included in the parent .DLL.

Example: Listing Business Functions Included in the Parent .DLL

This example shows the build output from the ERP 9.0 BusBuild application. The output lists the business functions that are included in the parent .DLL that is created as a result of building a business function.



Troubleshooting: Event Rule Problems

When encountering problems with event rules on an interactive or batch application, several tools are available to help resolve the problem.

- Review the event rules attached to the application or batch process for obvious problems such as disconnected assignments or incorrect parameters passed to business functions.
- When generating the application, a compile error log is generated that documents errors in the event rules. Review this log for errors with the Event Rules.
- The Debug Application within ERP 9.0 allows you to debug the event rules for an application or batch process.

See Also

- ❑ *Debugging* in the *ERP 9.0 Development Tools Guide* for more information about the debug application

Troubleshooting: Business Function Problems

You might be having business function problems if you are getting unexpected results upon executing a business function or getting a .DLL error.

Microsoft Visual C++ allows you to debug a business function. Using this tool, you can step through the logic and inspect variables. This will often help you detect the error.

See Also

- ❑ *Debugging* in the *ERP 9.0 Development Tools Guide* for more information about debugging business functions
- ❑ *Business Function Problems* in the *Configurable Network Computing Implementation Guide* for more information about debugging business functions

Working with the Workstation Log Files

You should be familiar with the various logs used to troubleshoot problems on the workstation. By using these logs and the procedures outlined in this chapter, you can troubleshoot problems with interactive applications, batch applications, or business functions running locally on the ERP 9.0 workstation. Determine whether you can duplicate this 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, impact performance.

Note

If you do not use data replication in your configuration, ignore error messages that refer to the following tables in the JDE.LOG and JDEDEBUG.LOG:

- F98DRPUB
 - F98DRENV
 - F98DRSUB
 - F98DRLOG
 - F98DRPCN
-

Global Tables

Each ERP 9.0 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 is cached regarding data dictionary tables and business views. By maintaining a history of this specifically cached session information, individual workstations will improve run-time performance based on their usage.

If you are doing application development, you might need to delete the global tables to see the results of your changes. This is because the system looks first to the disk cache to read certain table information. In this case, the information contained in the disk cache may not be synchronized with your current development. You cannot edit the contents of the disk cache.

J.D. Edwards recommends that normal start up of ERP 9.0 in a production environment not include the deletion of these global tables. The deletion of these files should only be used as a troubleshooting technique or a development aid, not as a normal practice.

If the global table files do not exist when ERP 9.0 is started, they will be created. If they do exist, they will be appended, not overwritten. The files are located in the *b9/pathcode/spec* directory.

On ERP 9.0 workstations, logs are generally classified in the following 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 shows fatal errors. Jde.log can track any fault that might occur within ERP 9.0.
- `jddebug.log` (JDEDEBUG on AS/400)
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 ERP 9.0 processes.

Application Development Logs

For ERP 9.0 workstations in application development environments, you can use the following logs to identify faults in ERP 9.0 processing related to compiling and generating applications and business functions:

- `compile_error.log`
The compile_error.log file contains compile errors for event rules. You can use this log to view event rules that may not properly compile and execute. This includes Named Event Rules, Table Event Rules, and event rules embedded in applications.
- `jdecpy.log`
This log is produced each time that you run the copy table program (cpytbl.exe). Copy table error messages and IDs are logged. This log also indicates if 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 an ERP 9.0 log; another software vendor provides this log process.

For ERP 9.0 workstations in production environments, you can use the following log to identify faults in ERP 9.0 silent installation:

- `jdeinst.log`
If you use the silent installation process for ERP 9.0 installations on a workstation, you can use this log to view the status of the silent installation.

Troubleshooting Strategies Using Log Files

You can create a normal (successful) jde.log by logging on to ERP 9.0 and then immediately logging off. Use this log of successful start-up statements to compare against logs that have a problem.

If you know your problem is not related to start-up, you can clear and save the log without exiting ERP 9.0. When you recreate the problem, the contents of the log should only contain 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. Then 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 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).

See Also

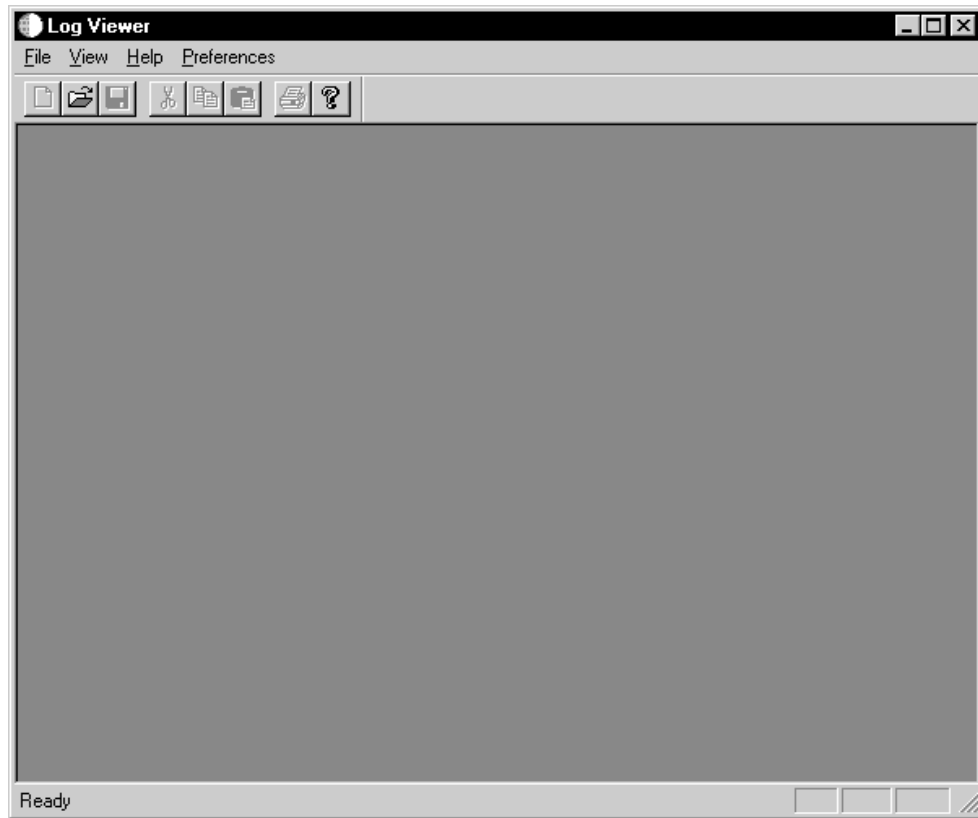
- ❑ *Working With Error Messages* in the *Server and Workstation Administration Guide* for more information about the Error Messages application

Viewing Log Files

You can view ERP 9.0 log files from within any ERP 9.0 application. If you want to view log files outside of ERP 9.0, you can use a text editor like Notepad or Wordpad.

► To view log files

1. From within any ERP 9.0 application, right-click to open the pop-up menu.
2. On the pop-up menu, choose the View System Log option.

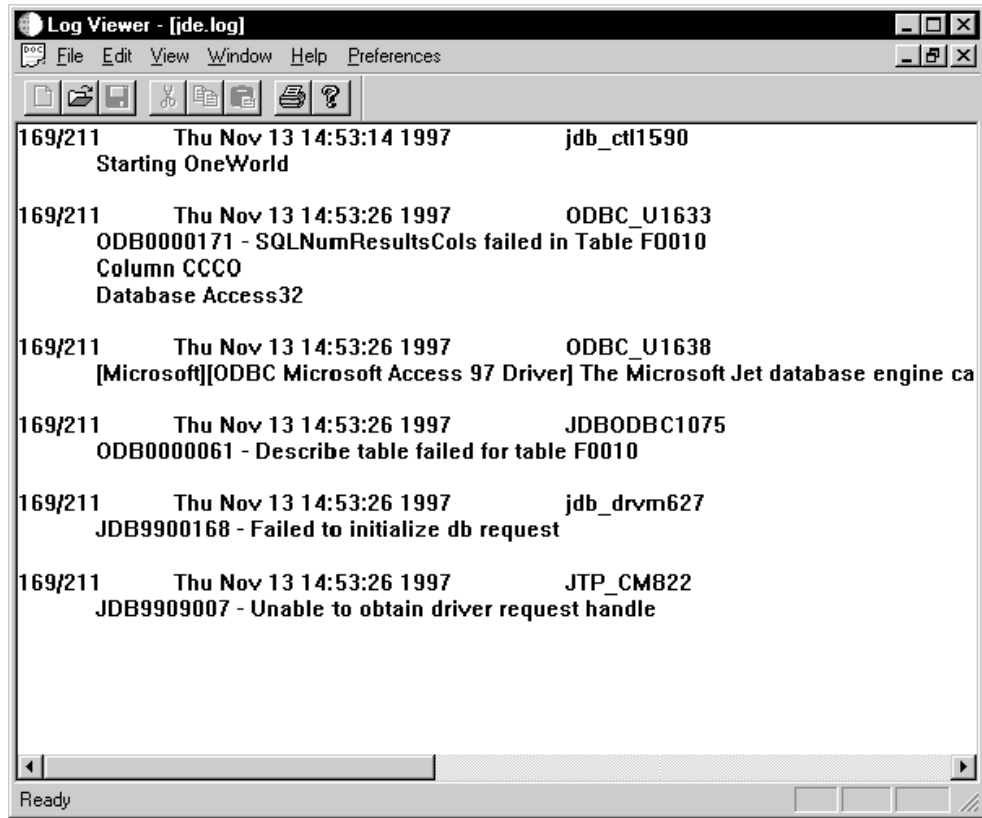


3. On Log Viewer, choose Open from the File menu to locate and open an ERP 9.0 log file.

You can also use the View menu selection to choose log files. In addition, if you have previously viewed log files, a history of those files is kept under the File menu.

Example: Log Viewer

This example, jde.log, shows errors due to a missing table:



Setting Up the Workstation jde.log

You can use the workstation jde.log as a general purpose log to track fatal errors generated by ERP 9.0 processing. The jde.log tracks any fault that might occur within ERP 9.0. 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 not previously existing) or overwritten (if previously existing) at the start of every ERP 9.0 session.

► To set up the workstation jde.log

1. Locate the workstation jde.ini file.

The ERP 9.0 setup program places this file in the working Windows directory; for example, c:\Windows\jde.ini. If you are unsure of your workstation's working 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 your settings for the job file variable as shown below:

[DEBUG]

JobFile=job file

Setting	Description

JobFile=job file	Specifies the location and name of the jde.log file. The default value is c:\jde.log.

Note

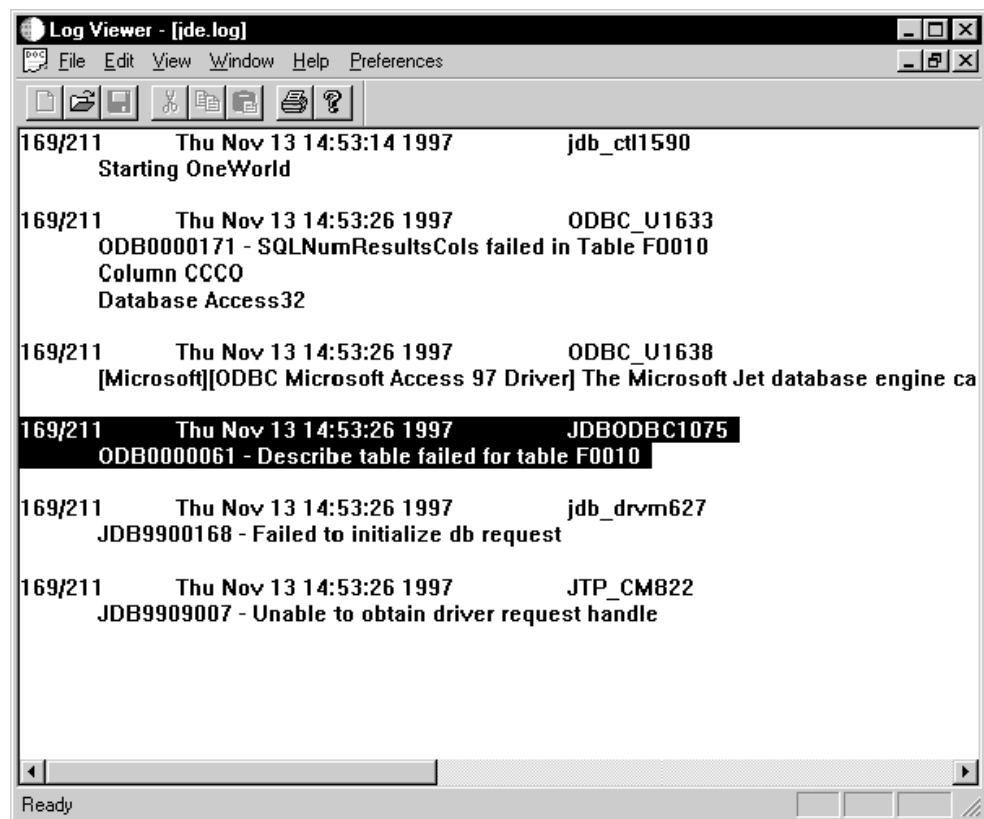
You can disable the jde.log on the workstation by specifying a blank or invalid value for JobFile. If you delete or disable (comment out) the JobFile parameter, ERP 9.0 automatically creates and writes to a log file called jde.log in the c:\ directory of the workstation.

4. Save the changes and close the jde.ini file.

Example: Workstation jde.log

This example log shows errors due to a missing table. The highlighted lines indicate the unique error message number that can be used to search for an extended description in the Data Dictionary Error Message application.

Most entries in the jde.log are significant, and you should examine them closely. Developers also use this information to indicate problems with an application that need to be addressed.



Setting Up the Workstation jdedebug.log

The workstation jdedebug.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 execution stopped. The system does not use jdedebug.log to track errors. Instead, it uses this log to track the timing of ERP 9.0 processes.

You can use jdedebug.log to find out 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 executed for a specific table, and if memory has been freed.

If your process failed and you have logging turned on, look in your jdedebug.log for the following messages:

- Not Found
- Failure

Also, look at the end of the log to see what process was executed last. Generally, 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 AS/400) or environment (non-AS/400) that the table resides. You should verify that the selected libraries and environments are correct.
- ODBC Version
The ODBC lines will indicate whether you are having problems connecting to the driver.

► To set up the workstation jdedebug.log

1. Locate the workstation jde.ini file.
The ERP 9.0 setup program places this file in the working Windows directory; for example, c:\Windows\jde.ini. If you are unsure of your workstation's working 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 the following setting in the jde.ini file:

<pre>[DEBUG] DebugFile=location and name</pre>

Setting	Description
DebugFile=location and name	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 by setting the following parameter in the [DEBUG] section:

<pre>[DEBUG] Output=output parameter</pre>

Setting	Description
Output= <i>output parameter</i>	Valid values are:
	NONE No trace information is written to jdedebug.log.
	FILE Database and runtime trace information is written to the file specified by the DebugFile= parameter in the [DEBUG] section.
	EXCFILE Runtime trace information is written to the file specified by the DebugFile= parameter in the [DEBUG] section.
	BOTH Trace information is written to both jde.log and jdedebug.log.

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), ERP 9.0 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, ERP 9.0 automatically creates and writes to a log file called jdedebug.log in the c:\ directory of the workstation.

- Set the level of debugging information that you want written to the jdedebug.log file. The debug level is determined by the following parameter in the [DEBUG] section:

[DEBUG]
Output=debug level

Setting	Description
LEVEL= <i>debug level</i>	This parameter controls 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:
	EVENTS Traces the start and stop of events.
	BSFN Traces when business functions are entered and when they return.
	SF_x Traces when system functions execute. The x variable is any allowable system function value. Valid values are listed below:
	GRID
	PARENT_CHILD
	GENERAL
	MESSAGING
	WORKFLOW
	WORKFLOW_ADMIN
	MEDIA_OBJ

CONTROL

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 invalid parameters passed into a function.
- 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 only applicable to developers of the runtime module.

6. Save the changes and close the jde.ini file.

Example: jdedebug.log (Workstation - Output Enabled)

The example shows a sample excerpt of jdedebug.log on the workstation when the output is enabled. The areas in bold type are especially useful as described above. The prefix number for each line in output refers to the process ID of the running job. This number will change depending on the log file (such as jde.log) and the process that is writing to the log.


```

73/72 Entering JDB_InitEnv
73/72 Entering JDB_SetEnv
73/72 Entering JDB_InitUser
73/72 Entering JDB_BeginTransaction
73/72 Entering JDB_InitUser
73/72 Entering JDB_BeginTransaction
73/72 Entering JDB_FreeUser
73/72 Entering JDB_InitUser
73/72 Entering JDB_BeginTransaction
73/72 Entering JDB_OpenTable(idTable=150)
73/72 Entering JDB_InitUser
73/72 Entering JDB_BeginTransaction
73/72 Entering JDB_OpenTable(idTable=35432)
73/72 RT: >>>Beginning ER: Select/OK Button Clicked App: P00825
Form: W00825A [T:48 F:...\JDEUSER\jdecgrt\RT_ER.cpp Ln:2972 Lv:LEVEL3]
73/72 RT: >>>Calling : BSFN: ValidateUser App: P00825
Form: W00825A [T:48 F:...\JDEUSER\JDECGRT\RT_BSFN.cpp Ln:1127
Lv:LEVEL3]
73/72 Entering JDB_InitUser
73/72 Entering JDB_BeginTransaction
73/72 Entering JDB_OpenTable(idTable=36632)
73/72 ODBC version which the Driver Manager conforms : 03.00.0000
       ODBC version which the driver supports : 02.50
       The DBMS product accessed by the driver : - ACCESS
73/72 Entering JDB_SetSelection
73/72 Entering JDB_SelectKeyed
73/72 SELECT OMENHV, OMAPPLID, OMOBNM, OMDATP, OMDATS, OMUGRP,
OMOAPP, OMDATM, OMOVRE, OMSY, OMSTSO, OMFUNO, OMOCM2 FROM F986101
WHERE ( OMENHV = 'DEMOB7A' AND OMSTSO = 'AV' ) ORDER BY OMSTSO
ASC,OMAPPLID ASC
73/72 Entering JDB_Fetch
73/72 Entering JDB_Fetch
73/72 Entering JDB_CloseTable
73/72 Entering JDB_ClearSequencing
73/72 Entering JDB_ClearSelection
73/72 Entering JDB_OpenTable(idTable=24208)
73/72 Entering JDB_SelectAll
73/72 SELECT * FROM F98611
73/72 Entering JDB_Fetch

```

Example: jddebug.log (Workstation - Output Enabled and Running Journal Entry)

This example shows a sample of jddebug.log with the output enabled on the workstation, which is running the Journal Entry application. The [DEBUG] parameters are set as Output=EXCFILE and LEVEL=EVENTS,BSFN,SF_GRID,SF_CONTROL.

```

RT: >>>Beginning ER: Dialog is Initialized App: P0911
Form: W0911I
RT: <<<Finished ER: Dialog is Initialized App: P0911
Form: W0911I
RT: >>>Beginning ER: Post Dialog is Initialized App: P0911
Form: W0911I
RT: <<<Finished ER: Post Dialog is Initialized App: P0911
Form: W0911I
RT: >>>Beginning ER: Add Button Clicked App: P0911
Form: W0911I
RT: >>>Beginning ER: Dialog is Initialized App: P0911
Form: W0911A
RT: SYSFN: Hide Control < > 0
RT: SYSFN: Disable Control <ICU> 5258
RT: SYSFN: Hide Grid Column COL: 5
RT: SYSFN: Hide Control <ATDOW> 5392
RT: SYSFN: Hide Control <REMA> 5405
RT: SYSFN: Hide Control < > 5295
RT: SYSFN: Hide Control < > 5385
RT: SYSFN: Hide Control <DOC> 5297
RT: SYSFN: Hide Control <KCO> 5299
RT: SYSFN: Hide Grid Column COL: 7
RT: SYSFN: Hide Grid Column COL: 8
RT: SYSFN: Hide Grid Column COL: 9
RT: SYSFN: Hide Grid Column COL: 11
RT: BSFN: Calling : BatchOpenOnInitialization App: P0911
Form: W0911A
RT: BSFN: Returned 0: BatchOpenOnInitialization App: P0911
Form: W0911A
RT: BSFN: Calling : GetAuditInfo App: P0911
Form: W0911A
RT: BSFN: Returned 0: GetAuditInfo App: P0911
Form: W0911A
RT: <<<Finished ER: Dialog is Initialized App: P0911
Form: W0911A
RT: >>>Beginning ER: Clear Screen Before Add App: P0911
Form: W0911A
RT: SYSFN: Enable Control <PCTOW> 5390
RT: SYSFN: Hide Control <ATDOW> 5392
RT: SYSFN: Hide Grid Column COL: 5
RT: SYSFN: Hide Control <REMA> 5405
RT: SYSFN: Enable Control <CRCD> 5273
RT: SYSFN: Enable Control <LT> 5292
RT: SYSFN: Enable Control <LT> 5351
RT: SYSFN: Show Grid Column COL: 6
RT: SYSFN: Hide Grid Column COL: 12
RT: SYSFN: Show Control <LT> 5292
RT: SYSFN: Show Control <CRDC> 5271
RT: SYSFN: Hide Control <LT> 5351
RT: SYSFN: Hide Control <CCD0> 5358
RT: BSFN: Calling : GetLocalComputerId App: P0911
Form: W0911A
RT: BSFN: Returned 0: GetLocalComputerId App: P0911
Form: W0911A
RT: <<<Finished ER: Clear Screen Before Add App: P0911
Form: W0911A
RT: >>>Beginning ER: Post Dialog is Initialized App: P0911
Form: W0911A
RT: <<<Finished ER: Post Dialog is Initialized App: P0911
Form: W0911A
RT: >>>Beginning ER: Add Last Entry Row to Grid App: P0911
Form: W0911A
RT: <<<Finished ER: Add Last Entry Row to Grid App: P0911
Form: W0911A

```

Example: jdedebug.log (Workstation - Output Not Enabled)

This example shows a sample of jdedebug.log when the output is not enabled on the workstation.

```
4294849873/4294749677 **** jdeDebugInit -- output disabled in INI file
```

Setting Up the Batch Process Log

You can use the batch processing log to identify faults in ERP 9.0 processing related to batch processes. The batch processing log resides in the \B9\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 shows 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 execution stopped.

Before You Begin

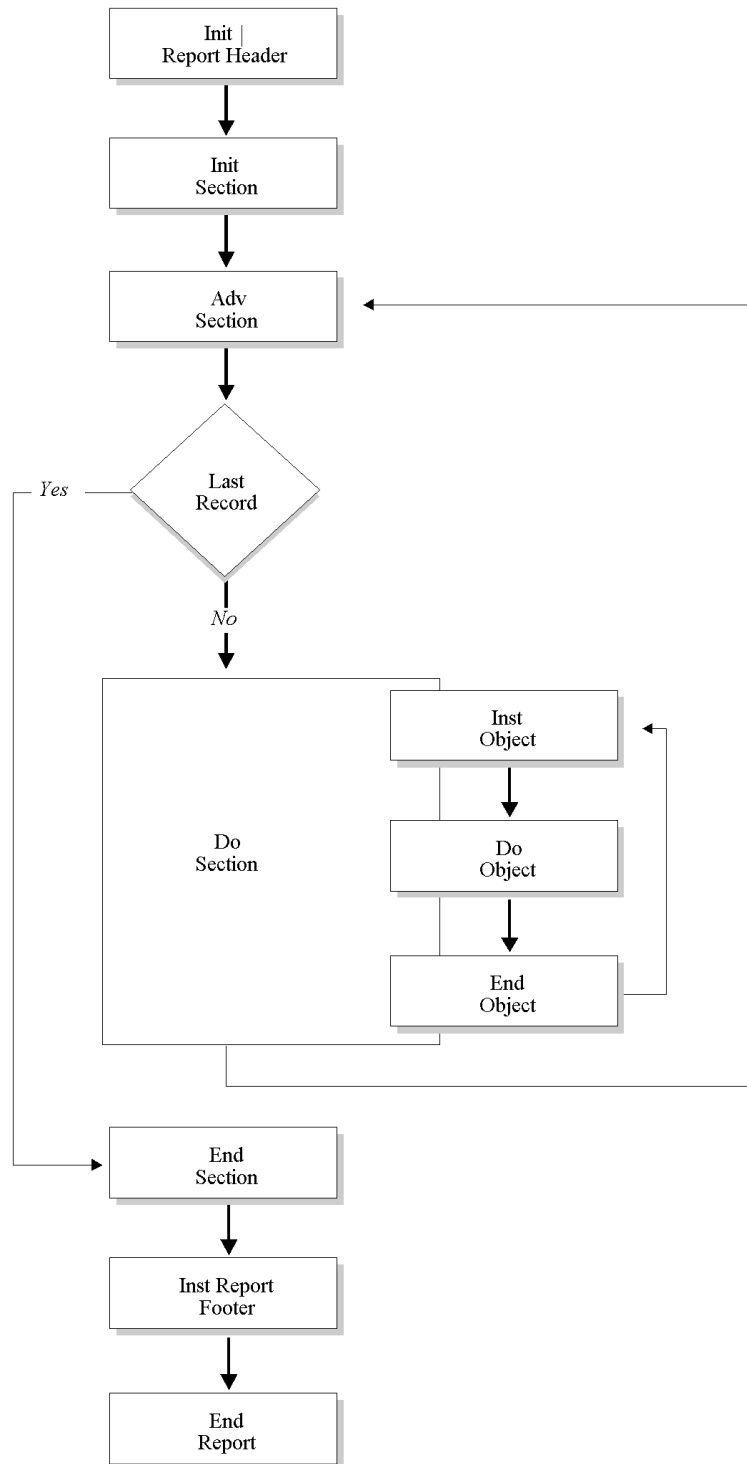
- ❑ See *Working with the Enterprise Server jdedebug.log File* in the *Server and Workstation Administration Guide* for more information about turning on the debug log file.

Batch Processes: General Event Flow

The batch process log file shows you the process flow in batch processes. This flow is completed in the following steps:

- When batch processes complete a section, with the INIT section first, a business view is opened. As a result, after the INIT Section log, you should see a SQL statement.
- After INIT Section, the batch engine calls Adv Section to retrieve a record.
- After the retrieve, batch engine processes the Do Section Processing.
- From Do Section, each object is processed in Init Object - Do Object - End Object order.
- After Do Object message, you should see Printed value in the log. ER events are logged in a different event level.

The following figure shows a graphical depiction of the general event flow for batch processes:



► To set up the batch process log

1. Locate the workstation jde.ini file.

The ERP 9.0 setup program places this file in the working Windows directory; for example, c:\Windows\jde.ini. If you are unsure of your workstation's working 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. 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 the following parameters in the [UBE] section:

[UBE]	
UBEDebugLevel=debug level	
UBESaveLogFile=0/1	

Variable Name	Description
UBEDebugLevel=debug level	Specifies the level of UBE debug logging. The default value is 0. Valid values are: 0 No message in a log file 1 Error messages, and log entry and section level messages 2 Object level messages (plus Level 1 messages) 3 ER messages and database mapping messages (plus Level 1 and 2 messages) 4 SQL statements (plus Level 1, 2, and 3 messages) 5 Batch process function calls and printed output values (plus Level 1, 2, 3, and 4 messages) 6 Batch process function calls and printed output values (plus Level 1, 2, 3, 4, and 5 messages)
UBESaveLogFile=0/1	Specifies whether the <batch_report>.log file will be saved. Valid values are: 0 The <batch_report>.log file is not saved 1 The <batch_report>.log file is saved in the workstation's ERP 9.0 print queue directory (b9\PrintQueue).

4. Save the changes and close the jde.ini file.

Example: Batch Process Log

This example shows the type of messages that you can encounter when you edit the jde.ini file to enable error tracking:

```
Opening UBE Log for report R04575, version ZJDE0001
--UBE-- UBEEntryPoint START
--UBE-- K2Print START
PrintInfo struct is uninitialized, using default.
Connecting to printer ''
Connecting to default printer 'devdes3'
--UBE-- K2StartEngine Start
Currency Flag for the UBE is N
--UBE--Process Init Report Header Section
4294748759/4290842259  SELECT * FROM DEVOL.F9860 WHERE (
SIAPPLID = :KEY1 )
4294748759/4290842259  SELECT * FROM APPL_PGF.F983051 WHERE (
VRVERSIONID = :KEY1 ) ORDER
BY VRPID ASC,VRVERS ASC
--UBE--Process Init Section
--UBE--InitSection for Driver Section
--UBE-->ER:: Processing Expression Eval
--UBE-->ER:: Done Processing Expression Eval
--UBE-->ER:: Processing Assign
--UBE-->ER:: Done Processing Assign
--UBE-->ER:: Loading Data Structure for BSFN
--UBE-->ER:: Processing BSFN : BatchOpenOnInitialization
4294748759/4290842259  SELECT ICICUT, ICICU, ICIST, ICAICU, ICDICJ,
ICNDO, ICAME, ICDOCN, ICPOB
FROM F0011 WHERE ( ICICUT = ? AND ICICU = ? )
4294748759/4290842259  SELECT * FROM F0002 WHERE ( NNSY = ? )
4294748759/4290842259  UPDATE F0002 SET
NNSY=?,NNUD01=?,NNUD02=?,NNUD03=?,NNUD04=?,NNUD05=?,NNUD06=?,NNUD07=?,N
NUD08=?,NNUD09=?,NNUD10=?,NNN001=?,NNN002=?,NNN003=?,NNN004=?,NNN005=?,
NNN006=?,NNN007=?,NNN008=?,NNN009=?,NNN010=?,NNCK01=?,NNCK02=?,NNCK03=?
,NNCK04=?,NNCK05=?,NNCK06=?,NNCK07=?,NNCK08=?,NNCK09=?,NNCK10=? WHERE
( NNSY = ? )
4294748759/4290842259  INSERT INTO F0011 VALUES
(?,?,?,?,?,?,?,?,?,?,?,?,?,?,?,?,?)
--UBE-->ER:: Done Processing BSFN : BatchOpenOnInitialization
--UBE-->ER:: Unloading Data Structure for BSFN
--UBE-->ER:: Done Processing ER BSFN
--UBE-->ER:: Processing Assign
--UBE-->ER:: Done Processing Assign
--UBE-->ER:: Processing Assign
--UBE-->ER:: Done Processing Assign
```

Troubleshooting: Working with the Compile Error Log

For ERP 9.0 workstations in development environments, you can use this log to identify faults in ERP 9.0 processing that are related to compiling and generating applications and business functions. This log for compiled event rules provides you with an account of event rules that do not properly compile and execute. This includes Named Event Rules, Table Event Rules and applications. ERP 9.0 generates this log file every time that 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.

You should 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 ERP 9.0 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 pathcode portion of the b9 directory tree. For example, c:\B9\PD9\LOG.

Example: Compile Error Log

This example shows a compile error message log explaining that the number of data structure parameters in the application is not in agreement with the specifications:

```
*****
/* CER ERROR #3034 : Datastructure parameter count mismatch */
Function Name: P0101_22633_129_0
Function Description: ER for P0101_68502
Form: 22633 - Work With Addresses
Control: 129 - A/&R    Revise Accounts Receivable
Event: 0 - Button Clicked
Seq #: 3
Line #: 1
Line Text: CALL (Application Revise A/R Information, Form A/R Customer
Master Information)
/* DS has 10 elements : spec has 2 */
*****
```

Troubleshooting: Working with jdecpy.log

The system produces output for jdecpy.log each time that the copy table program (cpytbl.exe) is run on the workstation. Generally, the file contains records of which tables were successfully copied from the local database to the chosen server. This log also indicates if any inserts failed. Such failures indicate a possible error. This log is automatically stopped after cpytbl.exe completes.

The jdecpy.log resides in the root directory of the workstation, generally in c:\. ERP 9.0 automatically generates this log every time you run cpytbl.exe. The log is created or overwritten each time it runs.

Once you use the 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 and will aid you in locating the applicable error text written to the jde.log.

For example, the following jdecpy.log examples (unsuccessful copy) show a message ID of 116/75 for a copy failed message. The corresponding detail error text is written to the jde.log and also contains the same message ID, 116/75, as shown in the excerpt of the jde.log in that example.

Example: jdecpy.log (Successful Copy)

A successful copy generates a log similar to the one shown below:

```
91/104   STARTING NEW TABLE COPY
91/104   File F0002
91/104   Creating - F0002
91/104   Created Table
91/104   Copied 20 records for table F0002      from DS Access32 to DS
SQLSERVER JDFDTA71 - from Env PRODLOC to Env PRODLOC.
91/104   0 Inserts failed - check jde.log
91/104   DONE
91/104   STARTING NEW TABLE COPY
91/104   File F00021
91/104   Creating - F00021
91/104   Created Table
91/104   Copied 2 records for table F00021     from DS Access32 to DS
SQLSERVER JDFDTA71 - from Env PRODLOC to Env PRODLOC.
91/104   0 Inserts failed - check jde.log
91/104   DONE
```

Example: jdecpy.log (Unsuccessful Copy)

The following example shows how the copy to the Oracle data source failed:

```
116/75
116/75   STARTING NEW TABLE COPY
116/75   File F0002
116/75   Creating - F0002
116/75   Copy failed
```

By looking in jde.log for this specific error condition (excerpt of the jde.log file shown in the example below), you can further examine the Oracle error. In this case, the associated message ID from the jdecpy.log (116/75) shows that the Oracle error is ORA-01017. The Oracle documentation for error ORA-01017 explains the reason that the table copy failed is that the user ID and password supplied were invalid.

```
**** Module: ORACLE   Fri Jan 31 14:05:49 1997      FILE:
\B7\SYSTEM\JDBDRV\ORACLE\DBINITCN.C LINE: 133
116/75      Error - ORA-01017: invalid username/password;
logon denied
```

Troubleshooting: Working with the sql.log

You can use sql.log to view exactly what is being sent through the ODBC driver. This is not an ERP 9.0 log. This log process is provided by another software vendor. For workstations, sql.log resides in the default root directory of the workstation, generally in c:\. However, you can direct the output to any file in any location. Generally, instead of using the sql.log, you can use the jdedebug.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 cannot connect to an ERP 9.0 ODBC database, turn on logging for jde.log, jdedebug.log, and sql.log. Duplicate the problem, check jde.log or jdedebug.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 the following processes are called:

- Process SQL Statements
- Receive Results

Troubleshooting: Reading sql.log

In sql.log, the important lines for you to search are:

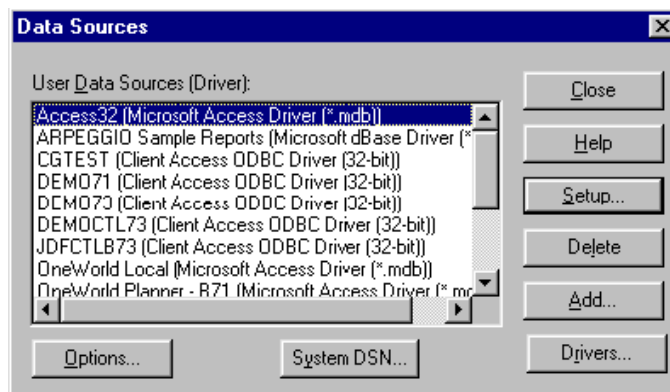
- **SELECT * FROM** (bolded in the example below)
- SQLBindCol
- Table not found

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.

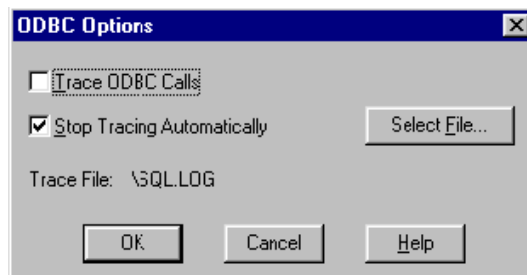
If you are having difficulty reading the table, verify that the table has the correct number of columns. If you have added columns to the table and you cannot locate the correct number of columns, you need to configure the table. This information is also provided in jde.log.

► To turn on sql.log

1. From the Windows Control Panel, choose 32bitODBC.



2. On Data Sources, click Options.



Caution

Leave the Stop Tracing Automatically option turned on. Because this log grows at a rapid pace, J.D. Edwards recommends you stop the trace in this manner to preserve your disk space resources and CPU cycles.

Ensure that Trace ODBC Calls is turned off when you are not debugging. The log files can consume large amounts of disk space as well as CPU cycles.

► To troubleshoot ODBC problems using sql.log

1. Ensure 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.
2. Make sure that Client Access has the correct parameters.
3. Ensure that the library to which you are pointing is set up correctly.
4. Look for the following ODBC error messages in jde.log and jdedebug.log:

- Table not in library

If the table specified cannot be found in the specified location, you should 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 your 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 it has been released by the program that is currently using it.

See Also

- The applicable appendices in the *ERP 9.0 Installation Guide* for information about Client Access parameters
- *ERP 9.0 Installation Guide* for more information about table generation

Example: sql.log

This example shows a sql.log with a SQL select statement shown in bold type.

```
SQLAllocEnv(phenv008F80AC);
SQLAllocConnect(henv008F80AC, phdbc008F78E0);
SQLDriverConnect(hdbc008F78E0, hwnd00000000,
"DSN=Access32;UID=MS889022;PWD=*****", 38, szConnStrOut, 355,
pcbConnStrOut, 0);
SQLGetInfo(hdbc008F78E0, 17, rgbInfoValue, 30, pcbInfoValue);
SQLGetInfo(hdbc008F78E0, 1, rgbInfoValue, 2, pcbInfoValue);
SQLAllocStmt(hdbc008F78E0, phstmt008F8DAC);
SQLPrepare(hstmt008F8DAC, "SELECT * FROM F0009", -3);
SQLNumResultCols(hstmt008F8DAC, pccol);
SQLDescribeCol(hstmt008F8DAC, 1, szColName, 20, pcbColName, pfSqlType,
pcbColDef, pibScale, pfNullable);
SQLDescribeCol(hstmt008F8DAC, 2, szColName, 20, pcbColName, pfSqlType,
pcbColDef, pibScale, pfNullable);
SQLDescribeCol(hstmt008F8DAC, 3, szColName, 20, pcbColName, pfSqlType,
pcbColDef, pibScale, pfNullable);
SQLDescribeCol(hstmt008F8DAC, 4, szColName, 20, pcbColName, pfSqlType,
pcbColDef, pibScale, pfNullable);
SQLDescribeCol(hstmt008F8DAC, 5, szColName, 20, pcbColName, pfSqlType,
pcbColDef, pibScale, pfNullable);
SQLDescribeCol(hstmt008F8DAC, 6, szColName, 20, pcbColName, pfSqlType,
pcbColDef, pibScale, pfNullable);
SQLDescribeCol(hstmt008F8DAC, 7, szColName, 20, pcbColName, pfSqlType,
pcbColDef, pibScale, pfNullable);
SQLDescribeCol(hstmt008F8DAC, 8, szColName, 20, pcbColName, pfSqlType,
pcbColDef, pibScale, pfNullable);
SQLDescribeCol(hstmt008F8DAC, 9, szColName, 20, pcbColName, pfSqlType,
pcbColDef, pibScale, pfNullable);
SQLDescribeCol(hstmt008F8DAC, 10, szColName, 20, pcbColName, pfSqlType,
pcbColDef, pibScale, pfNullable);
SQLDescribeCol(hstmt008F8DAC, 11, szColName, 20, pcbColName, pfSqlType,
pcbColDef, pibScale, pfNullable);
SQLDescribeCol(hstmt008F8DAC, 12, szColName, 20, pcbColName, pfSqlType,
pcbColDef, pibScale, pfNullable);
SQLDescribeCol(hstmt008F8DAC, 13, szColName, 20, pcbColName, pfSqlType,
pcbColDef, pibScale, pfNullable);
```

Working with the jdeinst.log

You can use jdeinst.log to view the status of the ERP 9.0 silent installation. The silent installation mode allows you to submit a workstation installation request through command line arguments. ERP 9.0 creates a log file that records error conditions encountered during the silent installation and also indicates if the silent installation was successful. This file, called jdeinst.log, is located in the root directory of the workstation.

Example: jdeinst.log

This example shows a jdeinst.log indicating a successful ERP 9.0 silent installation completed on a workstation. Comments are included.

```
File Warning: Directory d\b9\PROD exists, contents are not erased.
Congratulations: Install completed!
```

Troubleshooting the Enterprise Server

This chapter is a general guide for basic troubleshooting techniques on the ERP 9.0 enterprise server. By using these procedures, you can troubleshoot batch applications and business functions that process on the enterprise server. Other chapters in this guide describe procedures that are platform-specific for the various ERP 9.0 enterprise servers.

Troubleshooting for Enterprise Servers - General Information

You might encounter the following types of general problems on an ERP 9.0 enterprise server. The following information 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)

Working with the Enterprise Server Log Files

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

On ERP 9.0 enterprise servers, logs are generally classified as either logic processing logs or batch processing logs.

Logic Processing Logs

You can use the following two major log file sources for troubleshooting processing faults on the enterprise server:

- `jde.log`
This log shows fatal errors. It can track any fault that might occur within ERP 9.0.
- `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 ERP 9.0 processes.

Batch Processing Logs

You can use the following log to identify faults in ERP 9.0 processing related to batch processes:

- Batch process log

Use batch process logs to view the process flow in batch processes. This log can contain event rule (ER) references, batch application process flow, and SQL statements, as well as other messages.

You can also view logs using the Work With Servers application.

See Also

- ❑ *Work with Servers Program* in the *ERP 9.0 System Administration Guide* for more information about viewing logs using the Work with Servers application

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 enterprise server jde.ini file, in the [DEBUG] section, set the ClientLog parameter to 1.

This setting enables the server to send logs to workstations. For example:

```
[DEBUG]
ClientLog=1
```

2. In the workstation jde.ini file, in the [DEBUG] section, set the ServerLog parameter to 1.

This setting enables the workstation to receive log information from the enterprise server. For example:

```
[DEBUG]
ServerLog=1
```

See Also

- ❑ *Enabling and Disabling jde.log* in the *Server and Workstation Administration Guide*

Working with the Enterprise Server jde.log File

You can use the enterprise server jde.log to track fatal error messages generated by ERP 9.0 batch applications and business functions that are executing on the enterprise server. The jde.log tracks any fault that might occur within ERP 9.0. 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 ERP 9.0 job (including ERP 9.0 startup) on the enterprise server. These logs are associated with an enterprise server process ID (Job Number for AS/400).

The process ID (Job Number for AS/400) is appended to the file name, before the .log extension, with an underscore character. For example, the file name might be jde_442.log.

jde.log File Creation

The enterprise server jde.log is created (if not previously existing) or overwritten (if previously existing) at the start of every ERP 9.0 session.

For a Windows enterprise server jde.log file, ERP 9.0 appends new information to the end of the jde.log.

Troubleshooting: Enabling and Disabling jde.log

For normal use, the enterprise server should be set to enable the jde.log and disable the jdedebug.log. Valid jde.ini parameter setting combinations for enabling or disabling server logs are listed below.

Enable jde.log:

```
[DEBUG]
Output=NONE
LogErrors=1
JobFile=valid location/name (1)
DebugFile=valid location/name (2)
```

Enable jde.log and jdedebug.log:

```
[DEBUG]
Output=FILE
LogErrors=1
JobFile=valid location/name (1)
DebugFile=valid location/name (2)
```

Disable jde.log:

```
[DEBUG]
Output=NONE
JobFile=blank/invalid location/name (1)
DebugFile= blank/invalid location/name (2)
```

Note

JobFile is the location that will contain the files/members generated by the jde.log. The name is the naming convention that ERP 9.0 uses to create the files/members with the syntax *jde_process_ID.log*, where *jde* is the file/member name prefix, *process_ID* is a uniquely named process ID, and *log* is the file/member suffix or extension.

For non-AS/400 enterprise servers, DebugFile is the location that will contain the files generated by the jdedebug.log. The name is the naming convention that ERP 9.0 uses to create files with the syntax *jdedebug_process_ID.log*, where *jdedebug* is the file name prefix, *process_ID* is a uniquely named process ID, and *log* is the file suffix or extension.

Caution

Verify whether the paths for the JobFile and the DebugFile settings are valid. If the paths for these settings are invalid, ERP 9.0 creates no logs at all.

For AS/400 enterprise servers, DebugFile is the location that will contain the members generated by the jdedebug. The name is the naming convention that ERP 9.0 uses to create members with the syntax `jdedebug_process_ID`, where `jdedebug` 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 ERP 9.0 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 on an instance of ERP 9.0, 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. Just before you run the application, you could edit the jde.log to add a comment line stating you are about to start the suspected application.

Troubleshooting: Recommendations for Setting Up Server Locations

J.D. Edwards recommends that you create a separate directory on your 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 the following default setting:

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

Note

JobFile is the location that will contain the files generated by the jde.log. The name is the naming convention that ERP 9.0 uses to create the files with the syntax `jde_process_ID.log` (`jde_jobnumber.log` for AS/400), where `jde` is the file/member name prefix, `process_ID` is a uniquely named process ID, and `log` is the file suffix or extension.

If you do not specify a location, by default, ERP 9.0 places the log files in the directory where you ran the ERP 9.0 startup executable. For example, on a UNIX machine if you start ERP 9.0 with the following commands and assuming that logging is enabled, the system places the log files in the `/u13/PeopleSoft/b9/system/bin32` directory:

```
cd /u13/jdedwardsloneworld/b9/system/bin32
RunOneWorld.sh
```

Similarly, on a UNIX machine, if you start ERP 9.0 with the following commands and assuming that logging is enabled, the system places the log files in the /usr/PeopleSoft directory because that is the working directory:

```
cd /usr/PeopleSoft
/u13/PeopleSoft/b9/system/bin32/RunOneWorld.sh
```

If you set up your UNIX machine to automatically start ERP 9.0 when the machine is booted, it is especially important that you specify the full path of the log file in the jde.ini file.

Naming Conventions for jde.log

ERP 9.0 processes create logs as jde_*processID*.log (jde_*JobNumber*.log for AS/400) where *processID* is the process ID of the process that creates the log.

Non-AS/400 ERP 9.0 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.

► To set up the enterprise server jde.log

1. Locate the enterprise server jde.ini file (JDE member for AS/400).
 - For AS/400 enterprise servers, the JDE member is located under the file .INI, which is located within the *releaseSYS* library. The variable *release* is the ERP 9.0 release level (for example, B9SYS).
 - 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 the command:

```
echo $JDE_BASE
```

Generally, this file is located in a directory called "ini" in the directory tree under the base install directory; for example, /u04/PeopleSoft/b9. In this case, the directory with the JDE.INI file (the file name is case-sensitive) is JDE_BASE=/u04/PeopleSoft/b9/ini.

- For Windows enterprise servers, you can locate the jde.ini file in the ERP 9.0 installation directory under system\bin32.
2. Use a text editor to open the jde.ini file.
 3. In the [DEBUG] section, verify or change your settings for the *job file* variable:

```
[DEBUG]
```

```
JobFile=job file
```

Setting	Description
JobFile= <i>job file</i>	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 setting the following parameter in the [DEBUG] section:

```
[DEBUG]
```

```
LogErrors=0/1
```


Setting	Description
	This parameter controls whether the logging function (for both jde.log and jdedebug.log) is enabled. Valid values are:
LogErrors=0/1	0 Disabled. Do not write errors to the jde.log file/member or events to the jdedebug.log file (JDEDEBUG member for AS/400).
	1 Enabled. Write errors to the jde.log file and, if enabled, events to the jdedebug.log file (JDEDEBUG member for AS/400).

5. Save the changes and close the file.

See Also

- ❑ *Server Administration - AS/400* in the *Server and Workstation Administration Guide* for a complete list of libraries and their contents

Example: Enterprise Server jde.log

This enterprise server example log shows errors caused by signon tables not being 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 following shows an example of the jde.log from the enterprise server:

```

jde.log - Notepad
File Edit Search Help
3859 Wed Nov 12 14:49:24 1997 JDEKRNL_A/C/JDEKINIT351
KNT0000032 - InitEnv on server hp9000b failed

3859 Wed Nov 12 14:49:24 1997 JDBDRV_A/C/JDBNSNRC26
BNT0000078 - Unable to start or find: remote environment or remote user

3859 Wed Nov 12 14:49:24 1997 JDBDRV_A/C/JDBNINC113
BNT0000026 - Unable to find remote environment or user for new environment

3859 Wed Nov 12 14:49:24 1997 JDEKRNL_A/C/JDB_DRVM513
JDB9900164 - Failed to connect to ORACLE PTC

3859 Wed Nov 12 14:49:24 1997 JDEKRNL_A/C/JTP_CM238
JDB9909003 - Could not init connect.

3859 Wed Nov 12 14:49:24 1997 JDEKRNL_A/C/JTP_TM857
JDB9909100 - Get connect info failed: Transaction ID =

3859 Wed Nov 12 14:49:24 1997 JDEKRNL_A/C/JDB_RQ11485
JDB3100013 - Failed to get connectinfo

3859 Wed Nov 12 14:49:24 1997 JDEKRNL_A/C/ENVAPI57
MSC0000050 - The JDB_OpenTable for F00941 Failed.

3859 Wed Nov 12 14:49:25 1997 JDEKRNL_A/C/JDB_RST295
JDB9900299 - Failed to find global table specs.

```

Working with 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 ERP 9.0 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 has ended. For example, log data can include what the ODBC was trying to connect to, the SQL statement that was being executed for a specific table, and if memory has been freed.

If jdedebug is enabled, each jdenet_n job and batch process that is started on a server creates a uniquely identified jdedebug.log. These logs are associated with an enterprise server process ID. Each time that ERP 9.0 is started on the enterprise server and each time that 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 AS/400) is appended to the file name with an underscore character before the .log extension. For example, the file name might be jdedebug_442.log.

Server administrators are responsible for clearing and deleting jde.log and jdedebug_*.log files from the enterprise server.

The enterprise server jdedebug.log is created (if not previously existing) or overwritten (if previously existing) at the start of every ERP 9.0 session.

For a Windows enterprise server jde.log file, ERP 9.0 appends new information to the end of jde.log.

Troubleshooting: Reading the jdedebug.log

If your process failed and you have logging turned on, look in your jdedebug.log for the following messages:

- Not Found
- Failure

Also, look at the end of the log to see what task was executed last. Generally, 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 AS/400, this location will be a library. For non-AS/400 servers, this location will be an environment. You should verify that the selected libraries and environments are correct.

- ODBC Version

The ODBC lines will indicate whether you are having problems connecting to the driver.

Troubleshooting: Enabling and Disabling jdedebug.log

For normal use, the enterprise server should be set to enable the jde.log and disable the jdedebug.log. Valid setting combinations for enabling or disabling server jdedebug.log are listed below.

Enable jdedebug.log:

```
[DEBUG]
Output=FILE
LogErrors=1
JobFile=valid location/name (1)
DebugFile=valid location/name (2)
```

Enable jde.log and jdedebug.log:

```
[DEBUG]
Output=BOTH
LogErrors=1
JobFile=valid location/name (1)
DebugFile=valid location/name (2)
```

Disable jdedebug.log:

```
[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/members generated by the jde.log. The name is the naming convention that ERP 9.0 uses to create the files/members with the syntax jde_<pid>.log, where jde is the file/member name prefix, <pid> is a uniquely named process ID, and log is the file/member suffix or extension.

For enterprise servers, the jde.ini file is the location that will contain the files generated by the jdedebug.log. The name is the naming convention that ERP 9.0 uses to create files with the syntax jdedebug_<pid>.log (jdedebug_<JobNumber>.log), where jdedebug is the file name prefix, <pid> is a uniquely named process ID, and log is the file suffix or extension.

Troubleshooting: Recommendations for the Enterprise Server jdedebug.log

You can create a normal (successful) jdedebug.log (JDEDEBUG for AS/400) by logging on to ERP 9.0 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 indicating the sequence of events 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 suspected application.

Troubleshooting: Recommendations for Setting Up Server Locations

J.D. Edwards recommends that you create a separate directory on your enterprise server for logs. You should setup the `jde.ini` file to explicitly direct log files to that directory. For `jddebug.log`, the location is controlled by the following setting:

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

For enterprise servers, `DebugFile` is the location that will contain the files generated by the `jddebug.log`. The name is the naming convention that ERP 9.0 uses to create files with the syntax `jddebug_process_ID.log` (`jddebug_JobNumber.log` for AS/400), where `jddebug` is the file name prefix, `process_ID` is a uniquely named process ID, and `log` is the file suffix or extension.

By default, ERP 9.0 places the log files in the directory where you ran the ERP 9.0 startup executable. For example, on a UNIX machine if you start ERP 9.0 with the following commands:

```
cd /u13/PeopleSoft/b9/system/bin32 RunOneWorld.sh
```

and assuming that logging is enabled, the system places the log files in the `/u13/PeopleSoft/b9/system/bin32` directory. Similarly, on a UNIX machine, if you start ERP 9.0 with the following commands:

```
cd /usr/PeopleSoft /u13/PeopleSoft/b9/system/bin32 RunOneWorld.sh
```

and assuming that logging is enabled, the system places the log files in the `/usr/PeopleSoft` directory. This is the working directory. If you set up your UNIX machine to automatically start ERP 9.0 when the machine is booted, it is especially important that you specify the full path of the log file.

Naming Conventions for `jddebug.log` on the Enterprise Server

ERP 9.0 processes create logs as `jddebug_process_ID.log` where `process_ID` (Job Number for AS/400) 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 `jddebug_123456.log`.

► To set up the enterprise server `jddebug.log`

1. Locate the enterprise server `jde.ini` file (JDE member for AS/400).
2. Use a text editor to open the `jde.ini` file.
3. In the `[DEBUG]` section, verify or change your settings for the *debug file* variable:

```
[DEBUG]
DebugFile=debug file
```

Setting	Description
DebugFile= <i>debug file</i>	Specifies the name of the <code>jddebug.log</code> file (JDEDEBUG member for AS/400).
	For non-AS/400 enterprise servers, the default value is <code>jddebug.log</code> .

For AS/400 enterprise servers, the default value is JDEDEBUG.

4. Enable or disable the logging of events to the jdedebug.log file (JDEDEBUG member for AS/400) by setting the following parameter in the [DEBUG] section:

[DEBUG]	
LogErrors=0/1	
Output=output parameter	

Setting	Description
LogErrors=0/1	This parameter controls whether the logging function (for both jde.log and jdedebug.log) is enabled. Valid values are: 0 Disabled. Do not write errors to the jde.log file/member or events to the jdedebug.log file (JDEDEBUG member for AS/400). 1 Enabled. Write errors to the jde.log file and, if enabled, events to the jdedebug.log file (JDEDEBUG member for AS/400).
Output=output parameter	Valid values are: NONE No trace information is written to jdedebug.log (JDEDEBUG member for AS/400). 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 AS/400).

5. Save the changes and close the jde.ini file.

Example: jdedebug.log (Output Enabled)

This example shows a sample of jdedebug.log when the output is enabled. The areas of the following log that are presented in bold type are especially useful in the debugging process. The prefix number for each line in the output refers to the process ID of the running job. This number will change, depending on the log file (such as jde.log) and the process that is writing to the log.

```

4294817365/4294727505 Entering JDB_InitUser
4294817365/4294727505 Entering JDB_BeginTransaction
4294817365/4294727505 Entering JDB_InitUser
4294817365/4294727505 Entering JDB_BeginTransaction
4294817365/4294727505 Entering JDB_OpenTable(idTable=36632)
4294817365/4294727505 Entering JDB_SetSelection
4294817365/4294727505 Entering JDB_SelectKeyed
4294817365/4294727505 SELECT OMENHV, OMAPPLID, OMOENM, OMDATP,
OMDATS, OMUGRP, OMOAPP, OMDATM, OMOVRE, OMSY, OMSTSO, OMFUNO, OMOCM2
FROM PVC.F986101 WHERE ( OMENHV = 'TESTB71LOC' AND OMSTSO = 'AV' )
ORDER BY OMSTSO ASC, OMAPPLID ASC
4294817365/4294727505 Entering JDB_Fetch
4294817365/4294727505 Entering JDB_Fetch
4294817365/4294727505 Entering JDB_Fetch
4294817365/4294727505 Entering JDB_CloseTable
4294817365/4294727505 Entering JDB_ClearSequencing
4294817365/4294727505 Entering JDB_ClearSelection
4294817365/4294727505 Entering JDB_OpenTable(idTable=24208)
4294817365/4294727505 Entering JDB_SelectAll
4294817365/4294727505 SELECT * FROM PVC.F98611
4294817365/4294727505 Entering JDB_Fetch LMLL = :KEY1 )
4294817365/4294727505 Entering JDB_Fetch
4294817365/4294727505 Entering JDB_OpenTable(idTable=99634)
4294817365/4294727505 Entering JDB_FetchKeyed
4294817365/4294727505 RESET: SELECT * FROM PVC.F00942 WHERE (
EMPATLCD = :KEY1 )
4294817365/4294727505 Entering JDB_CloseTable
4294817365/4294727505 Entering JDB_ClearSequencing
4294817365/4294727505 Entering JDB_ClearSelection
4294817365/4294727505 Entering JDB_OpenTable(idTable=5)
4294817365/4294727505 ODBC version which the Driver Manager conforms
: 02.50.0000
ODBC version which the driver supports : 02.50
The DBMS product accessed by the driver : - DB2/400 SQL
4294817365/4294727505 Entering JDB_FetchKeyed
4294817365/4294727505 SELECT * FROM DEMO73/F0009 WHERE (
GCSY = ' ' )
4294817365/4294727505 Entering JDB_OpenTable(idTable=6)
4294817365/4294727505 Entering JDB_FetchKeyed
4294817365/4294727505 SELECT * FROM DEMO73/F0010 WHERE (
CCCO = '00000' )
4294817365/4294727505 Entering JDB_OpenTable(idTable=630)
4294817365/4294727505 Entering JDB_FetchKeyed
4294817365/4294727505 SELECT * FROM DEMO73/F4009 WHERE (
CPSY = ' ' )
4294817365/4294727505 Entering JDB_OpenTable(idTable=175)
4294817365/4294727505 Entering JDB_FetchKeyed
4294817365/4294727505 SELECT * FROM PVC.F00921 WHERE ( ULUSER
= 'MS889022' )
4294817365/4294727505 Entering JDB_OpenTable(idTable=174)
4294817365/4294727505 Entering JDB_FetchKeyed
4294817365/4294727505 SELECT * FROM PVC.F0092 WHERE ( ULUSER
= 'MS889022' )
4294817365/4294727505 Entering JDB_CloseTable

```

Troubleshooting: Working with the Batch Process Log File

Whenever you run a batch process requested from a workstation, an individual log file is created in the ERP 9.0 print queue directory (b9\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 ERP 9.0 print queue directory (b9\PrintQueue).

Based on the setting of the UBSaveLogFile 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 shows 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 execution stopped.

The batch process log file shows you the process flow in batch processes. The following 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]--` will be 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 will follow in the logging 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.MCADD5, 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, the following 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. Valid values for UBEDebugLevel are shown below:

Setting	Description
0	No error messages
3	Object-level messages
4	Event rule messages and SQL statements (plus levels 1-3)

► To set up the <batch_process>.log file

1. Locate the workstation jde.ini file.

The ERP 9.0 setup program places this file in the working Windows directory (for example, c:\WINNT40\jde.ini). If you are unsure of your workstation's working 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. 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 the following parameters in the [UBE] section:

<pre>[UBE] UBEDebugLevel=debug level UBESaveLogFile=0/1</pre>

Setting	Description														
UBEDebugLevel=debug level	Specifies the level of UBE debug logging. The default value is 0. Valid values are: <table><tr><td>0</td><td>No error messages</td></tr><tr><td>1</td><td>Warnings and high-level information</td></tr><tr><td>2</td><td>Section-level messages (plus Level 1 messages)</td></tr><tr><td>3</td><td>ER messages and database mapping messages (plus Level 1-2 messages)</td></tr><tr><td>4</td><td>SQL statements (plus Level 1-3 messages)</td></tr><tr><td>5</td><td>Database output (plus Level 1-4 messages)</td></tr><tr><td>6</td><td>Batch process function calls and printed output values (plus Level 1-5 messages)</td></tr></table>	0	No error messages	1	Warnings and high-level information	2	Section-level messages (plus Level 1 messages)	3	ER messages and database mapping messages (plus Level 1-2 messages)	4	SQL statements (plus Level 1-3 messages)	5	Database output (plus Level 1-4 messages)	6	Batch process function calls and printed output values (plus Level 1-5 messages)
0	No error messages														
1	Warnings and high-level information														
2	Section-level messages (plus Level 1 messages)														
3	ER messages and database mapping messages (plus Level 1-2 messages)														
4	SQL statements (plus Level 1-3 messages)														
5	Database output (plus Level 1-4 messages)														
6	Batch process function calls and printed output values (plus Level 1-5 messages)														
UBESaveLogFile=0/1	Specifies whether the batch_report.log file will be saved. Valid values are: <table><tr><td>0</td><td>The batch_report.log file is not saved.</td></tr><tr><td>1</td><td>The batch_report.log file is saved in the workstation's ERP 9.0 print queue directory (b9\PrintQueue).</td></tr></table>	0	The batch_report.log file is not saved.	1	The batch_report.log file is saved in the workstation's ERP 9.0 print queue directory (b9\PrintQueue).										
0	The batch_report.log file is not saved.														
1	The batch_report.log file is saved in the workstation's ERP 9.0 print queue directory (b9\PrintQueue).														

4. Save the changes and close the jde.ini file.

Troubleshooting General Problems

This section provides general troubleshooting information for the enterprise server.

General Problems

You can troubleshoot general enterprise server problems using the Server Administration Workbench, a J.D. 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 Windows enterprise servers. However, on other platforms, you can use the tool to view network connections to enterprise servers.

2. Verify the netTrace setting in the enterprise server's jde.ini file:

```
[JDENET]
```

```
netTrace=0/1 (disabled/enabled)
```

When the variable netTrace=0, ERP 9.0 does not generate Net log information; when netTrace=1, ERP 9.0 generates Net log information.

Note

Using SAW for Windows, you can turn logging on or off for a particular kernel process.

3. Return to ERP 9.0 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 the following 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 PD7334 or DV7334. 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 means the JDENET server is down, and you must restart it.
7. In the jde.log file on non-AS/400 enterprise servers, look for any Unable to connect to Oracle messages. Search on ORA-. If you do find messages, this indicates problems connecting to Oracle. You can get an indication of an Oracle connection problem if, in a business function, you select the 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 on 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 the following 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 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 requires knowledge of C++ and how to debug. See Microsoft's documentation on Debugging C++.

See Also

- ❑ *Monitoring ERP 9.0 with SAW on Windows* in the *Server and Workstation Administration Guide* for information about logging on/off for a particular kernel process

Troubleshooting: 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. ERP 9.0 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 ERP 9.0 displays a window to inform you that a business function is running in a new location.

1. Check your 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 ERP 9.0 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 ERP 9.0 server to be running.

```
[JDENET]
serviceNameListen=service name
serviceNameConnect=service name
```

Setting	Description
serviceNameListen=service name	Specifies the communications service port on the TCP/IP network. ERP 9.0 uses this port address to listen for requests on the network. Through the use of a file called "services", you can associate the port number with a unique name. The default value is jde_server (port number 6003).
ServiceNameConnect= service name	Specifies the communications service port on the TCP/IP network. ERP 9.0 uses this port address to connect to the network.

Through the use of a file called "services", the port number can be associated with a unique name. The default value is jde_server (port number 6003).

2. On your workstation, exit ERP 9.0 and turn logging on in the jde.ini. Run the application on the server again, and then check the jde.log file to see if any of the following 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 although the message is being sent to the correct port, the enterprise server's JDENET is down.

3. From within SAW, change the port address to determine if both the workstation and server are using the same port. Typically, network administrators run SAW using a workstation's ERP 9.0 software, although you can run a stand-alone version on Windows server platforms.
4. Check the services file on your workstation (located in your operating system directory for WIN95 or *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.

5. If you are receiving a Communication Failure message, try resubmitting the application. A time out may have occurred.

```
[JDENET]
```

```
netTrace=0/1 (disabled/enabled)
```

Look in the log file for the following message:

```
Could not find symbol in the <BSFN dll name>
```

Troubleshooting: 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 the Server Administration Workbench (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

- *Monitoring Process Statistics for Enterprise Servers* in the *Server and Workstation Administration Guide* for details on using SAW to monitor processes running on the enterprise server

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 J.D. Edwards program PORTTEST. This test is designed to validate your environments.

- See the section specific to your platform type for more information about PORTTEST.

Troubleshooting the Enterprise Server - AS/400

This chapter explains how to troubleshoot problems that can occur on an AS/400 enterprise server. When troubleshooting, follow these guidelines:

- Try to narrow down the definition of any problem that you may have, particularly when communicating the issue to someone, such as J.D. Edwards Worldwide Customer Support Services. For example, rather than reporting that the batch application failed, explain how the batch application failed. The more specific your 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 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 (0).
- 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.
- Before you restart ERP 9.0 on the server, either delete or move the JOB_XXXXXX (where XXXXX is a number) members from the JDE.LOG and JDEDEBUG files.
- When you first try to get ERP 9.0 running, verify that you have logging turned on. Examine the JDE.LOG and JDEDEBUG files carefully.
- Carefully examine the AS/400 JOBLOGs and JDE JDE.LOG files of the ERP 9.0 jobs to help ensure that authorities and OCM are set correctly. Look for messages such as the following in the JDE.LOG files:

JDB3100011 - Failed to get location of table F983051 for environment PD9

Look for messages similar to the following in the AS/400 JOBLOGs:

File F98306 not found in library PRODDTA.

You might want to temporarily modify the job description of the ERP 9.0 user profile to always write the AS/400 joblog until you are comfortable that everything is set up correctly.

Important

To complete the resolutions provided for these issues, you must sign on to the AS/400 enterprise server using an account that has administrative privileges.

See Also

- ❑ *ERP 9.0 AS/400 Architecture and Process Flow* in the *Server and Workstation Administration Guide* for a better understanding of the flow of the AS/400 ERP 9.0 server processes

Troubleshooting AS/400 Enterprise Server Installation

This section explains topics that might create issues during the installation of an AS/400 enterprise server.

Troubleshooting: Library Installation Verification

Issue	Resolution
You want to verify that the correct libraries and data dictionary items are installed on the AS/400.	See the list of libraries and data dictionary items and descriptions of their contents in <i>Understanding the AS/400 Library Structure for ERP 9.0</i> in the <i>Server and Workstation Administration Guide</i> .

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 the following message in the JDE.LOG file: JDB3300011 - Failed to get location of table F983051 for environment PD9	• Verify that environments set up in the OCM are correct. • Review the description of how OCM is used by ERP 9.0 in ERP 9.0 Initialization. • Run the VerifyOCM program to help ensure that the OCM tables are set up correctly. You must have one valid environment available to run VerifyOCM.

Troubleshooting: Setting up the ERP 9.0 AS/400 .INI File

Issue	Resolution
You cannot find the .INI file	Find it in the B9SYS library. JDE is a required member of the .INI file. You might not have access rights to the B9SYS library. Log on to the AS/400 under a user who has administrative rights and ensure that all user profiles accessing the .INI file have authority to it.
You need more information on using the ERP 9.0 AS/400 .INI file	Review the notes and descriptions of .INI settings in Troubleshooting the ERP 9.0 JDE.INI File in the <i>Server and Workstation Administration Guide</i> .

Troubleshooting: Finding the Log Files

Issue	Resolution
You cannot find the log files	In B73.3 and subsequent releases, the logging is performed to the AS/400 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 AS/400 Job Number of the job that generated the file. These files are created automatically, but the path to the files needs to exist prior to beginning logging. The path to the log files stored in the IFS may be created by performing successive calls to the AS/400 command MKDIR. For example, to create the path /JDEB9/LogFiles, enter the following command: <pre>MKDIR DIR('/JDEB9') DTAAUT(*RWX) OBJAUT(*ALL)</pre> and then: <pre>MKDIR DIR('/JDEB9/LogFiles') DTAAUT(*RWX) OBJAUT(*ALL)</pre> Logging might be turned off in the .INI. Turn on logging in the .INI using the following settings in the [DEBUG] section: <pre>[DEBUG] LogErrors=1 Output=FILE</pre> Variable names and descriptions: LogErrors - Valid values are: • 0 = Do not generate logs. • 1 = Create logs. Output - Valid values are: • NONE = Do not write debug messages to any output device. • FILE = Write messages to log files.
Not enough relevant information is	Additional logging information may need to be turned on in the .INI. Set the following keys in the .INI for additional information to be output to the log files:

written to the log files

```
[JDENET]
netTrace=1

[JDEIPC]
ipcTrace=1

[DEBUG]
TAMTraceLevel=1

[UBE]
UBEDebugLevel=6

[TCEngine]
TraceLevel=10
```

Variable names and descriptions:

netTrace - Valid values are:

- 0 = Do not generate JDENet error messages (that is, communication between platforms).
- 1 = Generate JDENet error messages.

ipcTrace - Valid 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 - Valid values are:

- 0 = Do not generate Table Access Management (TAM) error messages (that is, regarding specification files).
- 1 = Generate TAM error messages.

UBEDebugLevel - Valid values are:

- 0 = Do not generate batch application error messages.
- 1-6 = Generate increasingly detailed error messages (1 gives the least specific messages, whereas 6 gives the most detailed messages).

TraceLevel - Valid values are:

- 0 = Do not generate Table Conversion (TC) error messages.
- 1-10 = Generate increasingly detailed error messages (1 gives the least specific messages, whereas 10 gives the most detailed messages).

Note

NetTrace and ipcTrace messages are written to the debug log associated with that job. This is why the [DEBUG] section of the jde.ini file requires the Output=FILE setting.

Troubleshooting: Testing with PORTTEST

In general, turn on logging when running PORTTEST. Review the JDE.LOG and JDEDEBUG members generated by running PORTTEST. Also review the AS/400 job log generated by running PORTTEST. These logs provide valuable information about your ERP 9.0 AS/400 configuration and setup.

Issue	Resolution
An error with the security server occurred	The ERP 9.0 network might not be running. Clear the Interprocess Communication (IPC) structures using the ERP 9.0 AS/400 CLRIPC command and restart ERP 9.0. If you have different versions of ERP 9.0 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 ERP 9.0 should have different ERP 9.0 libraries and database files. 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 PORTTEST) 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 PORTTEST and running CLRIPC. If all attempts fail, you may change the .INI setting [JDEIPC] startIPCKeyValue to at least 1000 different than the current setting. Log off and back on again to ensure the new value is read. Attempt CLRIPC again, and restart ERP 9.0 if CLRIPC is successful.
An error with the security server occurred	The ERP 9.0 network might be running as a service under one library list and you are trying to run PORTTEST 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 PORTTEST. If the library list is correct, the problem could be because the activation group under which your job is running on the AS/400 may retain some of the information from previous attempts. Log off, log on, and run PORTTEST again.
An error with the security server occurred	The supplied user name or password might not match any names or passwords in the ERP 9.0 security table. Try one of the following: • Run PORTTEST with a valid user name and password. • Add the given user name and password to the ERP 9.0 security table.
You get the following message on the screen: Invalid parms PORTTEST <USER> <PWD> <ENV>	You might not have included the correct number of arguments to PORTTEST. Use the following arguments: User - A valid ERP 9.0 user ID. Password - Password for the ERP 9.0 user ID. Environment - A valid ERP 9.0 environment.

Fewer than 99 F0902 records are written to the screen by PORTTEST	A possible PORTTEST failure. Examine the log files. - 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. - The F0902 database table might not be accessible. Verify that you can query the F0902 table using SQL. Use the STRSQL command on the AS/400.
An error initializing the environment occurs in the log file	The environment might not be set up correctly. Any errors in the affected .INI keys or database tables could cause the ERP 9.0 initialization to fail. The environment that PORTTEST uses is passed as a command line argument.

Note

See *Understanding ERP 9.0 Initialization for AS/400* in the *Server and Workstation Administration Guide* for information about how ERP 9.0 programs use OCM.

Troubleshooting: Running ERP 9.0 JDENET

Issue	Resolution
NETWORK dies immediately	IPCs might not have been cleared before starting ERP 9.0 (that is, starting JDENET using the ERP 9.0 AS/400 command STRNET). End ERP 9.0. Clear IPCs (using the CLRIPC command) and restart ERP 9.0. The startIPCKeyValue in the .INI file could be used by another version of ERP 9.0. Try one of the following: - Change the startIPCKeyValue and restart ERP 9.0. This problem is not easily evident by examining the log files or reviewing error messages. Symptoms of the problem include: - You attempt to run more than one version of ERP 9.0 on the AS/400. - 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. - Look in the JOB_XXXX in both DebugFile and JobFile for specific error messages. - Determine if PORTTEST runs correctly. If not, correct those problems, and then try restarting ERP 9.0 using STRNET. - 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. Choose 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 choose option 10 (Work with TCP/IP host table entries) and verify that two names exist in connection with the IP address for the AS/400. 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).
An error initializing the environment occurs in the log file	- Examine the issues in this section about PORTTEST. - Determine if PORTTEST runs correctly. If not, correct those problems, and then try restarting ERP 9.0 using STRNET.

Troubleshooting: Testing ERP 9.0 by Submitting a Report

Issue	Resolution
You get the following message: Communication Failure with <server name>	You might see a message referencing an error of 11, indicating a time out occurred because the ERP 9.0 server was started after the ERP 9.0 client was run. Try resubmitting the report. 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. 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's jde.ini must match the serviceNameListen in the jde.ini on the server. Other communications problems might exist. Run SERVERADMINISTRATIONWORKBENCH.exe (found in the system\bin32 directory on the workstation). This program shows only the machines on the specified port (also known as "service") that are running ERP 9.0 (either client or server). Use the following information to track down the problem: • If the remote machine is visible, a time-out probably occurred. Rerun the report. • If the remote machine is not visible, try to ping the remote machine using the name of the machine. • If the ping fails, try to ping the remote machine using its IP address. • 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). Track it down.
The report does not show any data	No data might exist in the database for the report that you are running, or you do not have access to the data. Try the following: • Select a different report to verify that some reports do produce data. • Verify the database contains data that should be included in the report. Add data if necessary. • Change the processing options for the report. • Change the OCM and/or data sources to reference the correct library. • 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. • If no data is found, it could be because: • 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.
The report does not	An error might have occurred with the report. Review the idedebua.lob and ide.lob

show any data files for errors.

An error initializing the environment occurs in the log file

The environment might not be set up correctly. Try the following:

- See *ERP 9.0 Initialization for AS/400* in the *Server and Workstation Administration Guide* for information about how ERP 9.0 uses OCM. Errors in .INI keys or database tables can cause an initialization failure.
- Stop ERP 9.0 and determine if PORTTEST runs correctly. If not, correct the problems, and then rerun ERP 9.0 manually.

You get the following message:

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.

Communication Failure with <server name>

This error occurs sometimes on the workstation

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.

Restarting 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

Troubleshooting: Shutting Down ERP 9.0 JDENET

Running the ERP 9.0 AS/400 command CLRIPC immediately after shutdown (that is, after running the ERP 9.0 AS/400 command ENDNET) every time you shut down will help you avoid most restart problems.

Troubleshooting: E-Mail and PPAT

Issue

The batch application, server package installation, or table conversion log file (in the PrintQueue directory) shows the message:

Resolution

The particular user may not be found in the Address Book table (F0101). Add the user to the Address Book table (F0101).

DoSendMessage Error: User 5600427 does not exist in the address book file (F0101).

Troubleshooting: Multiple Release Setup

This section explains how to troubleshoot problems that can occur with multiple releases on the AS/400.

Issue	Resolution
When you try to run multiple releases of ERP 9.0 at the same time, conflicts seem to occur between each release.	Each installed release of ERP 9.0 may not have its own unique set of keys in the .INI. Change the following keys in one or both .INI files: [JDEIPC] startIPCKeyValue [JDENET] serviceNameListen serviceNameConnect Variable names and descriptions: startIPCKeyValue An integer value that indicates an arbitrary starting memory offset for interprocess communications. For multiple instances of ERP 9.0 server, be sure that the differences between these values are 1000 or more. The default value is 5000. 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 using the range of 9000 to 9999. serviceNameListen Port through which JDENet listens for communications attempts. The default is jde_server (translated using the "services" file). Each instance of the ERP 9.0 server needs to communicate with ERP 9.0 clients through different ports. serviceNameConnect 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 ERP 9.0 server needs to communicate with ERP 9.0 clients through different ports. Also, verify that each version of ERP 9.0 has a unique set of libraries and database files.

Troubleshooting: JDBNET

This section explains how to troubleshoot problems that can occur with JDBNET.

Issue	Resolution
You do not know how JDBNET is used	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. 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.
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	The correct data source on the JDBNET client may not exist. Create a JDBNET data source in the F98611 table using the following 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. • Dynamic-link library name (OMDLLNAME field) - Identifies the JDBNET SRVPGM (sometimes referred to as a .DLL). JDBNET on the ERP 9.0 AS/400. • 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.
JDBNET does not transfer any data	The network may not be running. End ERP 9.0, clear IPC (via the ERP 9.0 AS/400 CLRIPC command), and restart ERP 9.0.
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 [JDBNET] 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 section explains how to troubleshoot problems that can occur with Interprocess Communication (IPC).

Issue	Resolution
ERP 9.0 jobs cannot communicate with one another with the following symptoms: PORTTEST fails	This could be because the AS/400 release is pre-V4R2. In these releases, damaged IPC message queues might result when you end ERP 9.0 jobs using the command ENDJOB* IMMED. • Use the *CNTRLD option to end an AS/400 job.

The security server on the AS/400 fails
UBE submission fails

If you activated ipcTrace in the [JDEIPC]
section of the server jde.ini file, an error
similar to the following should appear in
the JDEDEBUG.log:

IPC2100017 createIPC Msgq (name
Port6005) failed, errno=3484: A damaged
object was encountered

Caution

You might still have damaged IPC message queues if the
AS/400-controlled ending times out.

- Run the following program to verify whether a damaged
message queue exists. You must have V4R1 PTF#
SF45946.

CALL QPOZIPCS PARM('-aqE')

This program generates a spool file called IPCS that contains
information about message queues on the system. Look for the
following output:

```
KEY      MODE
0x00000000 -----
0x00000000 --RW-----
0x00000000 --RW-----
0x00000000 --RW-----
0x00001234 D-RW----RW-
```

In this example, the message queue 0x00001234 is damaged.
To fix, stop and restart JDENET using the following commands:

ENDNET

CLRIPC

STRNET

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
PORTTEST to determine whether any message queues are
damaged. Look for the word "damage" in the JDEDEBUG.log
file.

Caution: Some of your message queues might be damaged
even if the JDEDEBUG.log file does not indicate that any
damage exists.

Troubleshooting: ERP 9.0 JDE.INI File

This chapter explains how to troubleshoot problems that can occur with the ERP 9.0 JDE.INI
file. The following notes apply to the .INI file in the B9SYS 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.

- J.D. Edwards recommends that you place any incidental comments on a separate line above the key to which the comment applies. Be sure to include a preceding semicolon. Comments can be included at the end of the keys' 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, J.D. Edwards recommends 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 may mean 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 valid values, contact J.D. Edwards Worldwide Customer Support Services.
 - YES
 - ON
 - TRUE
 - 1
- Likewise, the following values mean 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 J.D. 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.

See Also

- *The Jde.ini File* in the *System Administration Guide* for more information about troubleshooting problems that can occur with the JDE.INI file

Troubleshooting the Enterprise Server - UNIX

This section describes some typical problems that you might encounter and their solutions. When troubleshooting, follow these guidelines:

- Check your 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 J.D. Edwards Worldwide Customer Support Services. For example, rather than reporting that the batch application failed, explain how the batch application failed. The more specific your 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 as to why an error occurred. Also, distinguish between characters that might be misinterpreted; for example, the capital letter O and the numeral zero (0).
- Before you restart ERP 9.0 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.

Caution

To complete the resolutions provided for these issues, you must sign on to the UNIX enterprise server using an account that has administrative privileges.

Troubleshooting the UNIX Enterprise Server Installation

This section provides details of the following topics that might create issues during the installation of a UNIX enterprise server.

Troubleshooting the ERP 9.0 JDE.INI File

To locate the JDE.INI file, search in the system/bin32 subdirectory. For example, /u01/PeopleSoft/b9/ini/JDE.INI. The following 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 .INI file.
- Within each section are one or more keys. The key name is to 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.
- J.D. Edwards recommends that you place any incidental comments on a separate line above the key to which the comment applies. Be sure to include a preceding

semicolon. Comments can be included at the end of the keys' values, but these comments can be wrongly interpreted if they are not separated from the keys' values by sufficient white space. Because the amount of white space between the keys' values and the comments is not strictly defined, we recommend that you do not place comments after the keys' values.

- The section and key names are not case sensitive.
- Many key values are case sensitive.
- Although all of the following may mean to turn on 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 valid values, contact J.D. Edwards Worldwide Customer Support Services.
- YES
- ON
- TRUE
- 1

The following values mean to 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 J.D. Edwards Worldwide Customer Support Services to modify a key that does not exist, you can add the key. Just be sure that the key is in the correct section.

Troubleshooting: Copying ERP 9.0 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 your system administrator.

Troubleshooting: Configuring Database Tables

If strange results or errors occur that imply that OCM is not set up correctly:

- Review the description of how OCM is used by ERP 9.0 in this guide.
- Run the VerifyOCM program to verify that the OCM tables are set up correctly. One valid environment must be available to run VerifyOCM.

Troubleshooting: Setting Up a Printer

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 the following: "lp: destination aPrinter non-existent," then the printer is not configured on the server or is not online. Contact your system administrator for assistance.

Troubleshooting: E-Mail

If the report, server package installation, or table conversion log file (in the PrintQueue directory) shows the message "DoSendMessage Error: User 5600427 does not exist in the address book file (F0101)," The particular user might not be found in the Address Book table (F0101). Add the user to the Address Book table (F0101).

Troubleshooting: Multiple Release Setup

Each installed release of ERP 9.0 has its own JDE.INI in its system/bin32 directory. Entries in the JDE.INI files point to the same subdirectory for the location of the log files. If the log files do not go to separate directories, change the DebugFile and JobFile keys in the [DEBUG] section of one or both JDE.INI files to point to unique directories for each installed instance of ERP 9.0.

Troubleshooting: Finding the Report Files

If you cannot find the report output files:

- 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 ERP 9.0 base directory (for example, /u01/PeopleSoft/b733 /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 the following 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: ERP 9.0 Testing

If the jdequeue processes die shortly after startup:

- If you have Oracle running on the enterprise server and Oracle and ERP 9.0 services are set to start automatically at system startup, ERP 9.0 services may start before Oracle is running completely.
- ERP 9.0 lost 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 ERP 9.0 services (the Queue service followed by the Network) and restart the ERP 9.0 services (the Network service followed by the Queue).

Troubleshooting: Shutting Down ERP 9.0

Running rmics.sh directly after shutdown (that is, after running EndOneWorld.sh) every time that you shutdown will help you avoid most restart problems.

To end a hung batch job (runbatch), never use "kill -9 runbatch." Always use "kill -2" to avoid casting resource locks out of sync. The queues will cease working if "kill -9" is used, and ERP 9.0 will need to be restarted.

If you need to stop all ERP 9.0 processes, Use system/bin32/EndOneWorld.sh.

If the EndOneWorld.sh script hangs or fails to end all ERP 9.0 processes, do a Ctrl-C at the command line where the script was started. Get the process IDs of still-active processes using "ps" or "showjobs.sh."

Troubleshooting the Enterprise Server - Windows

This section describes some typical problems that you might encounter and their solutions. When troubleshooting, follow these guidelines:

- Try to narrow down the definition of any problem that you may have, particularly when communicating the issue to someone, such as J.D. Edwards Worldwide Customer Support Services. For example, rather than reporting that the batch application failed, explain how the batch application failed. The more specific your 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 zero "0").

- 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.
- Before you restart ERP 9.0 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, 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, then the specification files will become corrupt.
- Always keep a backup of the specification files handy 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 will be lost if backups are not kept.

Important

To complete the resolutions provided for these issues, you must sign on to the Windows enterprise server using an account that has administrative privileges.

Troubleshooting the Windows Enterprise Server Installation

This section explains how to troubleshoot the following problems that can occur when installing the Windows enterprise server.

Troubleshooting: Setting up ERP 9.0 Accounts

If you cannot set up any accounts in the User Manager program, the account into which you are logged in Windows may not have the privileges to modify or add accounts. Log out of Windows and log back on under the Administrator account or an account in the Administrators group.

Troubleshooting: Copying ERP 9.0 to a Server

If you cannot copy files from the CD to the ERP 9.0 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 are 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 ERP 9.0 to a different disk

Troubleshooting: Configuring Database Tables

If strange results or errors occur, implying that OCM is not set up correctly, run the VerifyOCM program to ensure that the OCM tables are set up correctly.

Troubleshooting: Setting Up a Printer

If you cannot set up a printer:

- The printer may not be attached (local printer), or the print server is not 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: Setting Up the JDE.INI File

If you cannot find the JDE.INI file:

- Search in the system\bin32 subdirectory in the ERP 9.0 tree - for example, z:\PeopleSoft\b9\ddp\system\bin32\jde.ini.
- Make sure you have access rights to the system\bin32 directory by logging onto Windows under 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 no paths are shown, the logs are in the system\bin32 directory. The log files are named according to the following 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 ERP 9.0 events.

The default value for this key is jdedebug.log.

The log file associated with the JobFile key contains error messages that occur in ERP 9.0.

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 logging in the jde.ini is turned on using the following 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 the following 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

Variables and their descriptions:

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 PORTTEST

If an error with the security server occurred:

- Verify the ERP 9.0 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 PORTTEST uses, do one of the following:

Start ERP 9.0 net on the server and port where PORTTEST 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 ERP 9.0 network and PORTTEST 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 ERP 9.0 network is running as a service, determine under which account it is running. To do this, choose the service in Windows's Control Panel, then go to Services and click on Startup.

For initial testing, you can stop the ERP 9.0 network service, open a Windows command prompt, cd to the system\bin32 directory, run jdenet_n without any parameters, and rerun PORTTEST. When finished, stop jdenet_n from the Windows Task Manager.

To run PORTTEST under the same account as the ERP 9.0 network service, log out of Windows, log into the same account under which the service is running, open a Windows command prompt, cd to the system\bin32 directory, and rerun PORTTEST.

- To make sure the supplied user name and password, or both, match names and passwords, or both, in the ERP 9.0 security table:

Run PORTTEST with a valid user name and password.

Add the given user name and password to the ERP 9.0 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 the following arguments:

User - A valid ERP 9.0 account name.

Password - Password for the ERP 9.0 account.

Environment - A valid ERP 9.0 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 ERP 9.0 Initialization for Windows in this guide for more information about how ERP 9.0 programs use OCM. Any errors in the affected jde.ini keys or database tables could cause the ERP 9.0 initialization to fail. The environment that PORTTEST uses is passed as a command line argument.

Troubleshooting: Running ERP 9.0 Manually

- If a runaway killque process is still running, go to the Windows Task Manager and kill any killques that are still running. Then restart jdequeue.
- If the ERP 9.0 network is not running, start the ERP 9.0 network service before the ERP 9.0 queue service.
- Verify the ERP 9.0 network and queue are running under the same account by doing the following:

The ERP 9.0 network and queue should either be running both as services or both from a Windows command prompt.

If they are running as services, determine under which account they are running. To do this, choose the ERP 9.0 network service in Windows's Control Panel, choose Services, then Startup. Note the account name. If you are using Windows 2000,

choose the ERP 9.0 network service in Windows's Control Panel, choose Services, then Properties. Repeat for the ERP 9.0 queue service.

If they are run from a command prompt, both the network and queue will be running under the Windows account into which you signed on. When you log off Windows, network and queue processes started from a command prompt and all child processes will terminate.

- If the setup of some part of ERP 9.0, such as the jde.ini file or OCM, is incorrect, determine if PORTTEST runs correctly. If not, correct those problems and then try running ERP 9.0 manually.

If an error initializing the environment occurs in the log file, the setup for some part of ERP 9.0, such as the jde.ini file or OCM, may be incorrect. Examine the applicable problems under Testing with PORTTEST in this chapter. Determine if PORTTEST runs correctly. If not, correct those problems, and then try running ERP 9.0 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 no location is shown, the files are in the PrintQueue directory of the ERP 9.0 base directory, for example, z:\PeopleSoft\b733\ddp\PrintQueue
- Verify SaveOutput in the [NETWORK QUEUE SETTINGS] section in the jde.ini file on the workstation is TRUE

Troubleshooting: Testing ERP 9.0 by Submitting a Report

- If a time-out occurred because the ERP 9.0 server was started after the ERP 9.0 client was run, 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, do one of the following:
 - 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 (Windows; client or server) or c:\windows\system32\drivers\etc directory (Windows 95; client only).
 - 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 shows only the machines on the specified port (also known as service) that are running ERP 9.0 (either client or server). Troubleshoot using the following:
 - 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 the above 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).
- The following 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. This 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 System Administration Guide.
 - 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:
 - Local printer. The owner could be either a local or network account but either type must have privileges to access the printer.
 - Network printer. The owner must be a network account with access privileges.

To take ownership of a printer:

1. From the Windows Start menu, choose Settings, and then Printers.
2. Right-click the desired printer.
3. Choose Properties and then the Privileges tab.

4. Click Ownership and then 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 the following task:

5. From the Windows Start menu, choose Settings, and then Printers.
6. Right-click on the desired printer.
7. Choose Document Defaults.
8. Choose the desired default orientation.
9. Click OK.

All jobs sent to this printer using the current server will default 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 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 show 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. Try one of the following:

- Select a different report.
- Add data to the database.
- Change the processing options for the report.
- Change the OCM and/or 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 database's respective 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 the following 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.

Note

See *Understanding the ERP 9.0 Initialization for Windows* in the *Server and Workstation Administration Guide* for information about how ERP 9.0 programs use OCM. Any errors in the affected JDE.INI keys or database tables could cause the ERP 9.0 initialization to fail. If ERP 9.0 is run from the command line, the environment that jdequeue uses is passed as a command line argument. If ERP 9.0 is run as services, the environment is retrieved from the "QEnv" key in the [NETWORK QUEUE SETTINGS] section of the jde.ini.

- Stop ERP 9.0 and determine if PORTTEST runs correctly. If not, correct those problems and then run ERP 9.0 manually.

Troubleshooting: Stopping ERP 9.0 as Run Manually

If you need to stop the ERP 9.0 processes that you started from the command prompt, for example, jdenet_n and jdequeue, stop any of the following processes that are running:

- Jdenet_n.exe
- Jdequeue.exe
- Jdenet_k.exe
- Runbatch.exe
- Killque.exe
- ipcsrv.exe

These additional processes, such as jdenet_k and runbatch, are started by jdenet_n and jdequeue. To stop all the ERP 9.0 processes:

Run the Windows Task Manager

Choose the Processes tab.

Choose one of the running processes.

Click End Process.

Repeat for each process to be stopped.

If you do not have the rights to stop the processes:

Log on to Windows in an account that has rights to stop processes.

Stop processes via Visual C++:

Run the Windows Task Manager.

Choose the Processes tab.

Choose one of the running processes.

Click Debug Process. Visual C++ will start.

Click on the "X" in the upper right-hand corner to close Visual C++. Do not save the project workspace. This should kill the runaway process.

Repeat these steps for each runaway process. If they still do not die, reboot the machine.

Troubleshooting: E-Mail

If the report, server package installation, or table conversion log file in the PrintQueue directory shows 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 Address Book table (F0101). Add the user to the Address Book table (F0101).

See Also

- ❑ *The Jde.ini File* in the *System Administration Guide* for more information about troubleshooting problems that can occur with the JDE.INI file

Troubleshooting Web Servers

This section describes some typical issues you might encounter when using WebSphere 3.0.2 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 very easily and the user may forget to start them back up. To make sure IIS is running for the particular instance of JAS, verify IIS instance properties by selecting the appropriate instance, and then right-click and choose Properties. Then 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 location you desire (for example, ;log=d:\b7\internet\jas.log or ;debuglog=d:\b7\internet\jasdebuglog. If the log file paths are not correctly stipulated, the logs may be writing to a file located somewhere else.

If JAS seems slow, c/f 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 down the performance of JAS.

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 b9\system\bin32 directory of the generating machine.

Also be sure to register the jdecom.dll. After you run the regsvr32 jdecom.dll command, the Java & HTML Generator recognizes the jdecom.dll and uses it to fetch ERP 9.0 specs and convert them into Java serialized objects.

If menu does not appear when user signs on to ERP 9.0, check the following:

- [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 out 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 ERP 9.0 indexes have been created for tables F989998 and F989999. You should have one index over 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 your 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:

Oracle: Issue the following commands in SQL *Plus:

```
ANALYZE TABLE owner.F989999 COMPUTE STATISTICS
```

```
ANALYZE TABLE owner.F989999 COMPUTE STATISTICS
```

SQL Server: Issue the following command:

```
UPDATE STATISTICS owner.F989999
```

```
UPDATE STATISTICS owner.F989998
```

Improvements will 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 your client is having. Errors appear as uncaught exceptions in the console. Note: You must have the appropriate internet options turned on in order to view the Java Console.

To enable the Java Console in Internet Explorer, choose Tools, and then choose Internet Options. In Internet Options, click the Advanced tab, scroll down to the section titled Java VM and choose the following 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 ERP 9.0 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. There will be some variation based on the inherent differences between the Portal, HTML page processing, and Java interactive processing, but underlying functionality and processing should be the same.
- Recreate 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. See Monitoring ERP 9.0 with the Web Server Monitor for information about accessing the Web Server Monitor.

- 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 going on around the same time the errors happened.

If you need more information, enable Debug.log and set Net Trace, which you can do in the [LOGS] section of jas.ini file. Recreate the problem, view the Debug.log, and look for more information.

You can also use the Server Administration Workbench (SAW) for monitoring web servers. See the chapter Monitoring Web Server Statistics in the section Monitoring ERP 9.0 with SAW on Windows in this guide for more information.

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. Your SQL statement information search results in nothing being found. Check the SQL statements and make sure correct values were passed. Determine where failure happened and make a note of it.
- The application stops responding. Check logs for BSFN failures.