



Database Configuration Guide

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Table of Contents

Preface	5
About Customer Self-Service and eaSuite™	5
About This Guide.....	7
Related Documentation	8
Obtaining edocs Software and Documentation	9
If You Need Help	9
1 Configuring Your Database Server	11
Overview	11
UNIX Permissions for Your Database Server	11
Starting and Stopping Your Database Server	13
UNIX Environment Variables for Your Database Server	13
Using Database Partitioning with eaDirect.....	14
Oracle	14
DB2/SQL Server.....	14
2 Configuring eaDirect for Oracle	15
Configuring a New Oracle Database for UNIX	15
About <code>edx_admin.sh</code> for Oracle	15
What to Do If Database Configuration Fails	19
Migrating an Existing Oracle Database for UNIX	20
Configuring Oracle Services	22
Connecting to Your Oracle Database	24
Where to Go From Here	25
3 Configuring eaDirect for DB2	27
Configuring a New DB2 Database for UNIX.....	27
About <code>edx_admin.sh</code>	27
What to Do If Database Configuration Fails	31
Migrating an Existing DB2 Database for UNIX.....	31
Connecting to Your DB2 Database	33
Where to Go From Here	35
4 Configuring eaDirect for SQL Server	37
Configuring a New SQL Server Database for Windows	37
Increasing the Default Width for SQL Server Numeric Columns	37
Enabling the SQL Server Distributed Transaction Coordinator for WebSphere	40
Using the DBConfigTool	40
What to Do If Database Configuration Fails	44
Migrating an Existing SQL Server Database for Windows	45

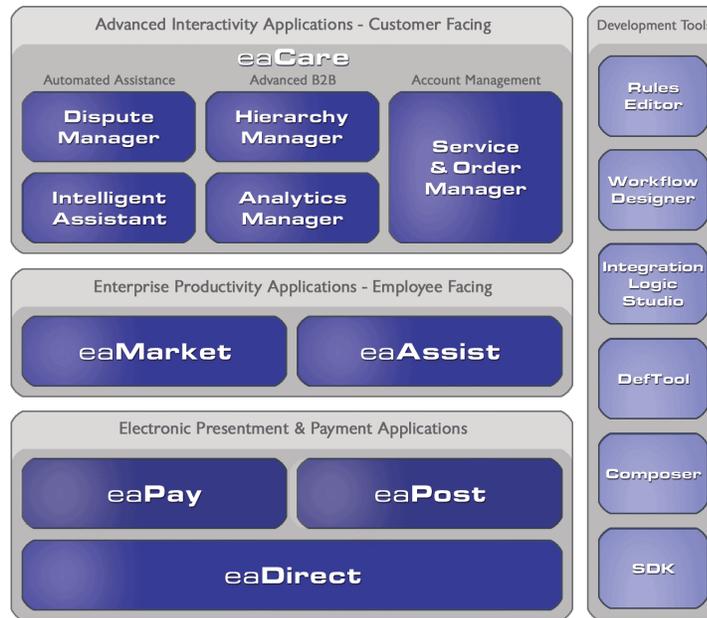
Where to Go From Here	50
5 Migrating To A New Version of eaDirect.....	51
Overview	51
Migrating Your eaDirect Database.....	51
Checking for Errors and Resetting Permissions.....	51
Checking .log files for errors.....	52
Resetting Permissions.....	52
Updating Database Passwords for Your Application Server	52
UNIX	52
Windows	53
Migrating eaDirect J2EE Applications.....	53
Migrating To a Custom Data Source EJB	53
Appendix A: Quick Reference.....	55
Overview	55
Database Server Environment Variables	55
Oracle	55
SQL Server	56
DB2.....	56
Index	59

About Customer Self-Service and eaSuite™

edocs has developed the industry's most comprehensive software and services for deploying Customer Self-Service solutions. **eaSuite™** combines electronic presentment and payment (EPP), order management, knowledge management, personalization and application integration technologies to create an integrated, natural starting point for all customer service issues. eaSuite's unique architecture leverages and preserves existing infrastructure and data, and offers unparalleled scalability for the most demanding applications. With deployments across the healthcare, financial services, energy, retail, and communications industries, and the public sector, eaSuite powers some of the world's largest and most demanding customer self-service applications. eaSuite is a standards-based, feature rich, and highly scalable platform, that delivers the lowest total cost of ownership of any self-service solution available.

eaSuite is comprised of four product families:

- Electronic Presentment and Payment (EPP) Applications
- Advanced Interactivity Applications
- Enterprise Productivity Applications
- Development Tools



Electronic Presentment and Payment (EPP) Applications are the foundation of edocs' Customer Self-Service solution. They provide the core integration infrastructure between organizations' backend transactional systems and end users, as well as rich e-billing, e-invoicing and e-statement functionality. Designed to meet the rigorous demands of the most technologically advanced organizations, these applications power Customer Self-Service by managing transactional data and by enabling payments and account distribution.

eaDirect™ is the core infrastructure of enterprise Customer Self-Service solutions for organizations large and small with special emphasis on meeting the needs of organizations with large numbers of customers, high data volumes and extensive integration with systems and business processes across the enterprise. Organizations use eaDirect with its data access layer, composition engine, and security, enrollment and logging framework to power complex Customer Self-Service applications.

eaPay™ is the electronic payment solution that decreases payment processing costs, accelerates receivables and improves operational efficiency. eaPay is a complete payment scheduling and warehousing system with real-time and batch connections to payment gateways for Automated Clearing House (ACH) and credit card payments, and payments via various payment processing service providers.

eaPost® is the account content distribution system that handles all the complexities of enrollment, authentication and secure distribution of summary account information to any endpoint, while also bringing customers back the organization's Website to manage and control their self-service experience.

Advanced Interactivity Applications are a comprehensive set of advanced customer-facing self-service capabilities that enable the full range of business and consumer customer service activities. These sophisticated modules have the flexibility to completely customize the Customer Self-Service solution to meet vertical industry and specific company requirements.

eaCare™ consists of a rich set of sophisticated self-service modules – Dispute Manager, Intelligent Assistant, Hierarchy Manager, Analytics Manager, and Service and Order Manager - for automated assistance, advanced business-to-business applications and account management. These capabilities come together to create a web self-service dashboard for customers to access all service offerings from a single, easy-to-use interface. eaCare’s modularity accelerates time to market with components that can be deployed incrementally in a phased approach.

Enterprise Productivity Applications are employee-facing solutions that empower customer service representatives, sales agents, account managers, marketing managers, broker-dealers and channel partners within an organization and external partner organizations to facilitate self-service and to support assisted service. Employees leverage edocs’ Customer Self-Service solution to deliver customer service, access information, create and deploy marketing and customer service content, and perform activities for the benefit of customers.

eaAssist™ reduces interaction costs and increases customer satisfaction by enabling enterprise agents – customer service representatives (CSRs), sales agents, broker-dealers and others – to efficiently access critical account data and service-related information to effectively service customers. Through its browser interface designed especially for the enterprise agent, eaAssist enables agents to take advantage of customer-facing online capabilities to provide better service by more efficiently resolving customer account inquiries at the point of customer contact.

eaMarket™ is the personalization, campaign and content management solution that enables organizations to increase revenue and improve customer satisfaction by weaving personalized marketing and customer service messages throughout the Customer Self-Service experience. The transactional account data that provides the foundation for a Customer Self-Service solution – such as transaction activity, service or usage charges, current task and prior service history – bring valuable insight into customers and can help optimize personalized marketing and customer service campaigns. eaMarket leverages that data to present relevant marketing and customer service messages to customers.

edocs’ **Development Tools** are visual development environments for designing and configuring edocs’ Customer Self-Service solutions. The Configuration Tools encompass data and rules management, workflow authoring, systems integration, and a software development kit that makes it easy to create customer and employee-facing self-service applications leveraging eaSuite.

About This Guide

The Installation and Configuration Guides describe how to install eaDirect, configure the third-party platforms that support the eaDirect production environment, and deploy eaDirect J2EE web applications.

This guide describes how to *create and configure the eaDirect database*. It is intended for **database administrators** and other technical personnel responsible for installing, configuring, and maintaining eaDirect. It assumes in-depth understanding of and practical experience with system administrator responsibilities, including:

Database Administration Requirements

- Install and configure your database server
- Start and stop your database server and database instances
- Use administrative tools
- Manage users, privileges, and resources
- Create an operational database
- Manage database files
- Manage tables and indexes
- Back up and restore databases
- Monitor database performance

If you are unfamiliar with any of these tasks, please consult the related documentation for your system requirements.

Related Documentation

A PDF version of this guide is also available.

Online	How to Access
A PDF of this guide	A PDF of this guide is available on the product CD-ROM.

This guide is part of the eaDirect documentation set. For more information about using eaDirect, see the following guides:

Print Document	Description
eaDirect Installation and Configuration Guides	How to install and configure eaDirect in a distributed environment.
<i>Deploying and Customizing J2EE Applications</i>	How to customize J2EE web applications for deployment with the eaSuite.
<i>Data Definition Guide</i>	How to create data extraction and definition rules for an eaDirect application with the DefTool.
<i>Presentation Design Guide</i>	How to design data presentment for an eaDirect application with the Composer.
<i>Data Presentation Production Guide</i>	How to set up and run a live eaDirect application in a J2EE environment.

Obtaining edocs Software and Documentation

You can download edocs software and documentation directly from Customer Central at <https://support.edocs.com>. After you log in, click on the Downloads button on the left. When the next page appears, you will see a table displaying all of the available downloads. To search for specific items, select the Version and/or Category and click the Search Downloads button. If you download software, an email from edocs Technical Support will automatically be sent to you (the registered owner) with your license key information.

If you received an edocs product installation CD, load it on your system and navigate from its root directory to the folder where the software installer resides for your operating system. You can run the installer from that location, or you can copy it to your file system and run it from there. The product documentation included with your CD is in the Documentation folder located in the root directory. The license key information for the products on the CD is included with the package materials shipped with the CD.

If You Need Help

Technical support is available to customers who have valid maintenance and support contracts with edocs. Technical support engineers can help you install, configure, and maintain your edocs application.

edocs provides global Technical Support services from the following Support Centers:

US Support Center

Natick, MA
Mon-Fri 8:30am – 8:00pm US EST
Telephone: 508-652-8400

Europe Support Center

London, United Kingdom
Mon-Fri 9:00am – 5:00 GMT
Telephone: +44 20 8956 2673

Asia Pac Rim Support Center

Melbourne, Australia
Mon-Fri 9:00am – 5:00pm AU
Telephone: +61 3 9909 7301

Customer Central

<https://support.edocs.com>

Email Support

<mailto:support@edocs.com>

When you report a problem, please be prepared to provide us the following information:

- What is your name and role in your organization?
- What is your company's name?

- What is your phone number and best times to call you?
- What is your e-mail address?
- In which edocs product did a problem occur?
- What is your Operating System version?
- What were you doing when the problem occurred?
- How did the system respond to the error?
- If the system generated a screen message, please send us that screen message.
- If the system wrote information to a log file, please send us that log file.

If the system crashed or hung, please tell us.



Configuring Your Database Server

Overview

This chapter assumes in-depth understanding of and practical experience with [Database Administration](#). Consult your database documentation as necessary.

edocs recommends that you install and configure eaDirect in the same top-level directory structure, first on the database server, then the application server.



For distributed environments, ensure that you have any required database client software installed on your application server and any other client machines of your database server. See the [Quick Reference Appendix](#) for software requirements for your platform.

This chapter provides instructions for configuring your database server to support a **new** eaDirect database. It includes:

- [UNIX Permissions for Your Database Server](#)
- [Starting and Stopping Your Database Server](#)
- [UNIX Environment Variables for Your Database Server](#)
- [Using Database Partitioning with eaDirect](#)
- [Where to Go From Here](#)



The installation and configuration examples shown in this guide use default eaDirect pathnames, privileges, and permissions. If you choose not to accept the default values, make sure your values are consistent on all servers across your installation of eaDirect.

UNIX Permissions for Your Database Server



This section applies to all UNIX platforms.

Before creating the eaDirect database with `edx_admin.sh`, you should verify that the owner and group permissions (`userid:groupid`) of the eaDirect database directory, including all subfolders, are set to the **DB Admin user** defined during database installation.

This guide uses the example username and password `edx_dba:edx` as the owner and group for the eaSuite **database user**. This is the user for your database instance. This guide uses the example database instance name `edx0`.

edocs recommends that you install eaDirect database components with the default owner and group for your platform. After installation, change the user and group ownership of eaDirect database server components to that of the **DB Admin user**.

DATABASE	DB ADMIN USER	DB USER	CUSTOM
Oracle	oracle:dba	edx_dba:edx	
DB2	db2inst1:db2adm1	edx_dba:edx	

**Caution**

The **DB Admin** user has special privileges on Oracle and on DB2. For details on owner and group permissions for your database server, please consult the database documentation for your platform.

If your database administrator uses custom user and group permissions, you can reset these permissions with the `chown` command.

To reset user and group permissions for Oracle:

1. Switch user to `root`.
`su - root`
2. Recursively change the user and group permissions of your **eaDirect home** directory and all subdirectories to the **eaDirect instance owner**.
`chown -R edxadmin:edxadmin /opt/EDCSbd`
3. Recursively change the user and group permissions of your **eaDirect database home** directory and all subdirectories to the **database instance owner**.
`chown -R oracle:dba /opt/EDCSbd/db`
4. Switch user to your database instance owner and run `edx_admin.sh` to create the eaDirect database with your new owner.

To reset user and group permissions for DB2:

1. Switch user to `root`.
`su - root`
2. Recursively change the user and group permissions of your **eaDirect home** directory and all subdirectories to the **eaDirect instance owner**.
`chown -R edxadmin:edxadmin /usr/EDCSbd`

3. Recursively change the user and group permissions of your **eaDirect database home** directory and all subdirectories to the **database instance owner**.

```
chown -R db2inst1:d2adm1 /usr/EDCSbd/db
```

4. Switch user to your database instance owner and run `edx_admin.sh` to create the eaDirect database with your new owner.

**Tip**

You should also verify the owner information in any profile files used by the database server owner and application server owner. See your server documentation for details.

Starting and Stopping Your Database Server

Developers and system administrators will need to be familiar with how to stop and start a database server and an active eaDirect database instance for your platform.

- eaDirect for **Oracle** is supported on Windows, Solaris, and HP-UX.
- eaDirect for **SQL Server** is supported only on Windows.
- eaDirect for **DB2** is supported only on AIX.

See the [Quick Reference Appendix](#) for a detailed list of system requirements and settings for each platform.

For details on starting and stopping your database server and instances, please consult the database documentation for your platform.

UNIX Environment Variables for Your Database Server

**Tip**

This section applies to all UNIX platforms.

Before UNIX administrators can configure the database to support eaDirect, you must define **environment variables for your database server**.

Use the [Quick Reference Appendix](#) to define the appropriate variables for your platform.

Example Oracle environment variables for UNIX:

```
ORACLE_BASE=/apps/oracle
ORACLE_HOME=$ORACLE_BASE/product/9.2.0
LD_LIBRARY_PATH=$ORACLE_HOME/lib:/usr/lib:/usr/ucblib
PATH=$ORACLE_HOME/bin:$PATH
export ORACLE_BASE ORACLE_HOME LD_LIBRARY_PATH
```

The syntax used to define environment variables depends on which UNIX shell you are using, as shown in the following examples.

To define environment variables in the Bourne or Korn shell:

```
PATH=$PATH:$HOME/bin  
export PATH
```

To define environment variables in the C shell:

```
setenv PATH=$PATH:$HOME/bin
```

Using Database Partitioning with eaDirect

eaDirect 4.0 introduced the high-performance feature of database partitioning. Partition splitting reduces the number of tables to be scanned when indexing your data. You can now specify the number of partitions when you create a DDN in the Command Center. At the first run of the Indexer job, eaDirect creates and populates a set of partitioned index tables to maintain your dynamic data.

The number of tables you need depends on your database platform and the anticipated volume of data. For more information on using partitions with your DDNs, see the *eaDirect Production Guide*.

Oracle

Oracle no longer supports partitioned views. Native partitioning can be applied to a single index table depending on your Oracle software license. For an Oracle database, we recommend you create one index table per DDN, and use Oracle's native table partitioning functionality for higher performance. edocs recommends choosing the range partition on the `Z_DOC_DATE` column.

DB2/SQL Server

Both DB2 and SQL Server support partitioned views. Index tables are created with a check-constraint, and the view is created on the underlying index tables. edocs recommends using 4 or 12 partitions for quarterly or monthly index tables. 12 partitions are recommended for maximum performance.

2

Configuring eaDirect for Oracle

This chapter is intended for **Oracle** database administrators. If you are using another database server, please see:

- [Configuring eaDirect for DB2](#)
- [Configuring eaDirect for SQL Server](#)

Configuring a New Oracle Database for UNIX



Tip

This section applies to all UNIX platforms.

UNIX administrators must first define UNIX environment variables for your database server as described in [Configuring Your Database Server](#).

To create and configure your eaDirect database, you will run the database configuration shell script `edx_admin.sh`. This topic describes each step in detail.



Tip

Database clustering is handled by your application server and not by eaDirect. Consult your edocs Technical or Professional Services representative for clustered installations.

About `edx_admin.sh` for Oracle

You create and configure the eaDirect production database by running the `edx_admin.sh` script for database configuration. If you have to abort database setup before it completes successfully, see [What to Do If Database Configuration Fails](#).

Before you run `edx_admin.sh`, you should:

- Upgrade your database server software **as necessary**. eaDirect 4.1 supports Oracle 8i (migration only) and 9i (new install). Oracle administrators migrating to 9i should see the guide *Upgrading eaSuite from Oracle8i to Oracle9i* **before** migrating your eaDirect database.

- Make a full backup of your current database.
- Start the database instance that accesses the database you are upgrading.
- Check the status of all user objects. If any of them indicate an INVALID status, contact the database administrator to correct this problem.
- Confirm that all login sessions using the eaDirect database user have logged out of the instance.
- Have any required database passwords available. Check with your database administrator for custom passwords.
- Check the *Release Notes* for disk space requirements and confirm that you have sufficient disk space on your database server. Insufficient disk space can cause database configuration to fail.



Tip

The following procedure shows example variables for **Oracle on Solaris**. Database administrators on other platforms should consult the [Quick Reference Appendix](#) for appropriate variables.

To configure a new eaDirect database for Oracle on UNIX:

1. Switch user to the **DB Admin** user, in this example `oracle`. Oracle requires the administrative user in order to create files.

```
su - oracle
```

2. Change directory to your eaDirect database home directory. For example:

```
cd /opt/EDCSbd/db/oracle
```

3. Start the `edx_admin` shell script with the command:

```
./edx_admin.sh
```

The Server Administration Main Menu appears.

```
edocs eaDirect Server Administration Main Menu
```

```
-----
[1] Sign in Menu
[2] Capture Database File Locations
[3] Install edocs eaDirect
[4] Initial Data Population
[5] Database Version Migration
[Q] Quit
-----
```

```
Enter Your Selection: 1
```

4. Select Option 1, **Sign in Menu**. A second sign-in screen appears.
5. Enter the username, password, and database name for the eaDirect database.



Caution

When creating an Oracle database, limit its name to eight characters. Defining **or entering** an Oracle SID with more than eight characters will cause Oracle database configuration to fail.

The following example shows sample values for **Oracle on Solaris**. Consult the [Quick Reference Appendix](#) and your database administrator to specify suitable values for your platform.

```
SIGN IN MENU
-----
[1] Enter Database USERNAME...> edx_dba
[2] Enter Database PASSWORD...> edx
[3] Enter ORACLE_SID ...> edx0
[4] Enter the password for SYS user...> change_on_install
```

Press **Enter** to return to the main menu.

6. Select option 2, **Capture Database File Locations**. This option allows you to specify the location of database files.

Tip

Oracle installations should adhere to the Optimal Flexible Architecture (OFA) for database file locations.

You will be prompted to provide absolute pathnames for a variety of database files.

Database files can reside wherever you choose. For a single database server, you can use, for example:

```
$ORACLE_HOME/oradata
```

Depending on your platform, you may then be prompted to enter multiple locations for your **database control** file. This file allows access to the database, so you should specify backup locations in case a database control file is deleted or corrupted. Consult your database documentation for details.

You may also then be prompted to enter suggested **mount points** for your database. Consult your database documentation for details.

The script then validates the locations you specify. If all are valid, this message appears:

```
Capture of Database file locations completed.
```

Press **Enter** to return to the edocs Server Administration Main Menu.

7. Select Option 3, **Install edocs eaDirect**. The Install menu appears.

```
Install edocs eaDirect
-----
[1] Create Oracle Instance
[2] Shutdown Database
[3] Startup Database
[4] Install Application Database I
[5] Install Application Database II
[6] Install Application Database III
[7] View Status Log Directory
-----
[R] Return to previous menu
SELECT YOUR OPTION: 1
```

Select Option 1, **Create Oracle Instance**.

This step creates a database instance for eaDirect, defines a data dictionary and stored procedure for the new database, and modifies the stored procedure to contain the absolute pathnames you defined in **Capture Database File Locations**. No user input is required, although you will see several progress messages.

If this step is successful, you will see the message:

Database created. Configuration in process...

Tip

Now would be a good time to get a cup of coffee or take a brisk walk.

Press **Enter** to return to the Install menu.

8. Next, the script will stop and start your database server. No user input is required, although you will see several progress messages. If this step is successful, you will see a success message. Press **Enter** to return to the Install menu.
9. Select Option 4, **Install Application Database I**.
This option creates new eaDirect database tablespaces, users, and rollback segment data files. This option may take up to 20 minutes to complete.
Towards the end of this process, you should see messages that the utility scripts and stored procedures are executing. When you see the final success message, press **Enter** to return to the Install menu.
10. Select Option 5, **Install Application Database II**.
This option creates the eaDirect database tables and indexes. No user input is required. The error messages at the start of this step are an expected part of the process and can be ignored.
When this step completes, press **Enter** to return to the Install menu.
11. Select Option 6, **Install Application Database III**.
This option compiles stored procedures to support database processing for eaDirect. No user input is required. When this step completes, press **Enter** to return to the main menu.
12. (optional) If you want to view log files for your database configuration, select Option 7, **View Status Log Directory**. Log files are copied to the database subdirectory of your eaDirect home directory, for example
`$EDX_HOME/db/oracle`
13. Select **Return to Previous Menu**. The Main menu appears.
14. Select Option 4, **Initial Data Population**.

```
edocs eaDirect Server Administration Main Menu Version 1.0
```

```
-----
[1] Sign in Menu
[2] Capture Database File Locations
[3] Install edocs eaDirect
[4] Initial Data Population
[5] Database Version Migration
[Q] Quit
-----
```

```
Enter Your Selection: 4
```

The Initial Data Population Menu appears.


Tip

If this is your first installation of eaDirect, you can ignore Option 5, Database Version Migration. You should select this option only if you want to migrate an existing eaDirect database to a newer version. For details, see [Migrating an Existing Oracle Database for UNIX](#).

15. Select Option 1, **Import Initial Data Set**.

This option populates the newly defined database with an administrative dataset that supports the eaDirect Command Center and related features. No user input is required, although you will see several progress messages. If this step is successful, you will see a success message.

Step 2, **Export edocs database data**, is used for migration; it is not necessary for new installations because the database is still empty.

16. Select Option **R** (Return to Previous Menu), and then press **Enter**. The Main menu appears.

17. Select Option **Q** (Quit), and then press **Enter**.

What to Do If Database Configuration Fails

If you encountered errors during database creation and configuration, you must first remove the partially configured database before configuring the database again.

To recover from a failed database configuration for Oracle:

1. Switch user to the database **admin** user, in this example **oracle**. Oracle requires the administrative user in order to remove files.

```
su - oracle
```

2. Check the database instance name with the **echo** command. For example:

```
echo $ORACLE_SID
edx0
```

3. If the database instance name is incorrect, set it as follows:

```
ORACLE_SID=edx0
export ORACLE_SID
```

4. Shut down the database server.

5. Locate all files associated with the database instance you defined. For example:

```
find . -name '*edx*' -print
```
6. Change directory to the root directory for your database and recursively remove the folder and its containing files. For example:

```
cd ./product/oradata  
rm -rf edx0
```
7. Repeat this step for other root directories containing database files for your database instance.

Migrating an Existing Oracle Database for UNIX



Tip

This section applies to all UNIX platforms.

To migrate an existing eaDirect database to a newer version, you will run the database setup shell script `edx_admin.sh`. This script's main menu has a Database Version Migration option that lists available migration paths.

For more details, see [About edx_admin.sh for Oracle](#).



Tip

The following procedure shows example variables for **Oracle** on **Solaris**. Database administrators on other platforms should consult the [Quick Reference Appendix](#) for appropriate variables.

To migrate an eaDirect database for Oracle on UNIX:

1. Switch user to the **DB Admin** user, in this example `oracle`. Oracle requires the administrative user in order to create files.

```
su - oracle
```

2. Change directory to your eaDirect database home directory. For example:

```
cd /opt/EDCSbd/db/oracle
```

3. Start the `edx_admin` shell script with the command:

```
./edx_admin.sh
```

The Server Administration Main Menu appears.

```
edocs eaDirect Server Administration Main Menu
```

```
-----
[1] Sign in Menu
[2] Capture Database File Locations
[3] Install edocs eaDirect
[4] Initial Data Population
[5] Database Version Migration
[Q] Quit
-----
```

```
Enter Your Selection: 5
```

4. Select option 5, **Database Version Migration**.

From the Database Version Migration menu, select the version you are migrating from and migrating to, for example **40To41**.

Caution

Be sure to select the correct version for your existing installation.

5. Enter the username, password, and database name for the eaDirect database.

Caution

When creating an Oracle database, limit its name to eight characters. Defining **or entering** an Oracle SID with more than eight characters will cause Oracle database configuration to fail.

The following example shows sample values for **Oracle on Solaris**. Consult the [Quick Reference Appendix](#) and your database administrator to specify suitable values for your platform.

```
SIGN IN MENU
```

```
-----
[1] Enter Database USERNAME...> edx_dba
[2] Enter Database PASSWORD...> edx
[3] Enter ORACLE_SID ...> edx0
[4] Enter the password for SYS user...> change_on_install
```

Press **Enter** to return to the main menu.

6. Indicate whether you have already done a full backup of your database.

We strongly advise taking full backup of your existing database before applying the migration

```
Do you have a backup (Y/N): Y
```

If you have not backed up your database, you are asked whether you want to continue the migration process.

```
Still continue with the migration (Y/N): N
```

7. Enter your choice to abort the migration process or continue. If **no**, you are returned to the Database Version Migration menu where you can select the option to return to the previous menu.

If **yes**, migration begins. Select 'Q' to end the database migration session.

If you choose to continue with the database migration, the migration script **migrate.sh** runs for your version upgrade.

```
*****
Migration process started
*****
```

8. Enter the number of partitions for the Index database table:

```
Enter the partition count...([1|4|12] Default is 1)> 1
```

For more information on partitioning, please see [Using Database Partitioning with eaDirect](#).

9. You will see the message:

```
This migration requires the creation of 2 new tablespaces!>
Please enter valid paths and ensure at least 200mb disk
space...>
```

Database files can reside wherever you want them to. If you plan to use only one disk location, you can simply specify:

```
$ORACLE_HOME/oradata
```

Depending on your platform, you may then be prompted to enter multiple locations for your **database control** file. This file allows access to the database, so you should specify backup locations in case a database control file is deleted or corrupted. Consult your Oracle documentation for details.

You may also then be prompted to enter suggested **mount points** for your database. Consult your Oracle documentation for details.

The configuration process checks the validity of the specified locations and displays a success message if no problems are encountered.

10. A successful database migration will display the message:

```
Migration successful
```

11. The script will then prompt you to check your session log for errors. For example:

```
*****
Please check the log file for any errors...
Log filename: /opt/EDCSbd/db/oracle/migrate0411100446.log
*****
Ending migration process
```

12. From the Database Version Migration menu, select **Return to previous menu (R)**.

13. From the edocs Server Administration Main Menu, select **Quit (Q)**.

Configuring Oracle Services

The next step in setting up the database server is to edit two Oracle configuration files that control access to the eaDirect production database.

Tip

Always consult with your onsite DBA and your edocs Professional Services representative to configure database connectivity, to make sure you comply with client standards for the enterprise.

- **listener.ora** includes service names and address of all listeners on a computer, the instance names of the databases for which they listen, and listener control parameters. The address for a server in **listener.ora** requires the SID (SID_NAME) of a database server in **tnsnames.ora**.

You will need to modify **listener.ora** on the **database server** machine.

- **tnsnames.ora** includes a list of service names of network databases that are mapped to connect descriptors. It is used by clients and distributed database servers to identify potential server destinations. The address of a given database server in **tnsnames.ora** matches the address of a listener for that server in **listener.ora**.

You will need to modify **tnsnames.ora** on the **database client** machine.

By default, these files are installed to the network administration directory of your database server, `$ORACLE_HOME/network/admin`.

To configure Oracle services for UNIX:

1. Switch user to the **DB admin** user.

```
su - oracle
```

2. Change directory to the network administration directory of your **database server**. For example:

```
cd /export/home/oracle/product/9.2.0/network/admin
```

3. Open **listener.ora** and edit the SID_LIST_LISTENER section to reflect your Oracle SID and database home directory. For example:

```
(SID_DESC =
  (SID_NAME = edx0)
  (ORACLE_HOME = /export/home/oracle/product/9.2.0)
)
```

4. Save and close **listener.ora**.
5. Change directory to the network administration directory of your **database client**. For example:

```
cd /export/home/oracle/product/9.2.0/network/admin
```

6. Open **tnsnames.ora** and edit the database service that identifies your protocol, host, and port. This example uses the service name **edx.db** (your service name might be different), installed on the database server **localhost**.

```
edx.db =
  (DESCRIPTION =
    (ADDRESS_LIST =
      (ADDRESS = (PROTOCOL = TCP) (HOST = localhost) (PORT = 1521))
    )
  )
```

```
(CONNECT_DATA =
  (SID = edx0)
)
)
```

7. Save and close `tnsnames.ora`.
8. *(single machine environments only)* Repeat Step 5 for the `tnsnames.ora` file on your **application server**. This file is installed with your database client software. Distributed environments may skip this step.
9. Stop and restart the Oracle listener with the listener control commands.
10. After the Oracle listener has been restarted, you should see a service handler for the eaDirect instance.

```
lsnrctl stop
lsnrctl start
```

```
Services Summary...
PLSExtProc has 1 service handler(s)
edx0 has 1 service handler(s)
```

This service handler should match the name you entered for the Oracle SID during database configuration, in this example `edx0`.

Connecting to Your Oracle Database

Once you have configured Oracle services, you should now be able to connect to your eaDirect database.

To connect to an Oracle database for UNIX:

1. Switch user to the **DB Admin** user.
2. Run the `sqlplus` command on your eaDirect database, with arguments for your database username, password, and connection string (database alias). For example:

```
su - oracle
```

```
sqlplus edx_dba/edx@edx.db
```

If the database is connected successfully, you will see a connection message.

```
Connected to: Oracle9i Enterprise Edition Release 9.2.0.0.0
```

3. At the SQL prompt, enter a database query command, for example:

```
SQL> show parameters db_name
```

If the database is connected successfully, you will see output for your database instance.

```
NAME TYPE VALUE
-----
db_name string edx0
SQL>
```

Where to Go From Here

Start and test your database server using the server documentation for your platform. If you encounter any errors, double-check the steps in this chapter before proceeding.

If you have migrated from a previous version of eaDirect, complete the tasks in [Migrating To A New Version of eaDirect](#).

Once your database server starts successfully with the eaDirect database installed, you can proceed to [Configuring Your Application Server](#).

3

Configuring eaDirect for DB2

This chapter is intended for **DB2** database administrators. If you are using another database server, please see:

- [Configuring eaDirect for Oracle](#)
- [Configuring eaDirect for SQL Server](#)

Configuring a New DB2 Database for UNIX

Tip

This section applies to all UNIX platforms.

UNIX administrators must first define UNIX environment variables for your database server as described in [Configuring Your Database Server](#).

To create and configure your eaDirect database, you will run the database configuration shell script `edx_admin.sh`. This topic describes each step in detail.

Tip

Database clustering is handled by your application server and not by eaDirect. Consult your edocs Technical or Professional Services representative for clustered installations.

About `edx_admin.sh`

You create and configure the eaDirect production database by running the `edx_admin.sh` script for database configuration. If you have to abort database setup before it completes successfully, see [What to Do If Database Configuration Fails](#).

Before you run `edx_admin.sh`, you should:

- Upgrade your database server software as necessary.
- Make a full backup of your current database.
- Start the database instance that accesses the database you are upgrading.
- Check the status of all user objects. If any of them indicate an INVALID status, contact the database administrator to correct this problem.

- Confirm that all login sessions using the eaDirect database user have logged out of the instance.
- Have any required database passwords available. Check with your database administrator for custom passwords.
- Check the Release Notes for disk space requirements and confirm that you have sufficient disk space on your database server. Insufficient disk space can cause database configuration to fail.



Tip

The following procedure shows example variables for the **DB2** database on **AIX**. Database administrators on other platforms should consult the [Quick Reference Appendix](#) for appropriate variables.

To configure a new eaDirect database for DB2 on UNIX:

1. Switch user to the **DB Admin** user, in this example **db2inst1**.

```
su - db2inst1
```

2. Change directory to your eaDirect database home directory. For example:

```
cd /usr/EDCSbd/db/db2
```

3. Start the **edx_admin** shell script with the command:

```
./edx_admin.sh
```

The Server Administration Main Menu appears.

```
edocs eaDirect Server Administration for DB2 Main Menu
```

```
-----
[1] Sign in Menu
[2] Capture Database File Locations
[3] Install edocs eaDirect
[4] Initial Data Population
[5] Database Version Migration
```

```
[Q] Quit
-----
```

```
Enter Your Selection: 1
```

4. Select Option 1, **Sign in Menu**. A second sign-in screen appears.

You will be prompted to enter a username, password, and database name for the eaDirect database.

The following example shows sample values for **DB2** on **AIX**. Consult the [Quick Reference Appendix](#) and your database administrator to specify suitable values for your platform.

```
SIGN IN MENU
```

```
-----
[1] Enter Database USERNAME...> db2inst1
[2] Enter Database PASSWORD...> db2inst1
[3] Enter DB2 DATABASE name ...> edx0
```

Press **Enter** to return to the main menu.

5. Select option 2, **Capture Database File Locations**. This option allows you to specify the location of database files.

You will be prompted to provide absolute pathnames for a variety of database files. Database files can reside wherever you choose. For a single database server, you can use, for example:

```
$DB2_HOME/edx_db2data
```

Depending on your platform, you may then be prompted to enter multiple locations for your **database control** file. This file allows access to the database, so you should specify backup locations in case a database control file is deleted or corrupted. Consult your database documentation for details.

You may also then be prompted to enter suggested **mount points** for your database. Consult your database documentation for details.

The script then validates the locations you specify. If all are valid, this message appears:

```
Capture of Database file locations completed.
```

Press **Enter** to return to the edocs Server Administration Main Menu.

6. Select Option 3, **Install edocs eaDirect**. The Install menu appears.

```
Install edocs eaDirect
-----
[1] Initialize DB2 instance parameters
[2] Shutdown Database
[3] Startup Database
[4] Initialize edocs eaDirect database
[5] Create Application Database tables
[6] Compile Application Database procedures
[7] View Status Log Directory
-----
[R] Return to previous menu
SELECT YOUR OPTION: 1
```

7. Select Option 1, **Initialize DB2 instance parameters**.

This step creates a database instance for eaDirect, defines a data dictionary and stored procedure for the new database, and modifies the stored procedure to contain the absolute pathnames you defined in **Capture Database File Locations**. No user input is required, although you will see several progress messages.

If this step is successful, you will see the message:

```
Database created. Configuration in process...
```

Tip

Now would be a good time to get a cup of coffee or take a brisk walk.

Press **Enter** to return to the Install menu.

8. Next, the script will stop and start your database server. No user input is required, although you will see several progress messages. If this step is successful, you will see a success message. Press **Enter** to return to the Install menu.

9. Select Option 4, **Initialize edocs eaDirect database.**

This option creates new eaDirect database tablespaces, users, and rollback segment data files. This option may take up to 20 minutes to complete.

Towards the end of this process, you should see messages that the utility scripts and stored procedures are executing. When you see the final success message, press **Enter** to return to the Install menu.

10. Select Option 5, **Create Application Database tables.**

This option creates the eaDirect database tables and indexes. No user input is required. The error messages at the start of this step are an expected part of the process and can be ignored.

When this step completes, press **Enter** to return to the Install menu.

11. Select Option 6, **Compile Application Database procedures.**

This option compiles stored procedures to support database processing for eaDirect. No user input is required. When this step completes, press **Enter** to return to the main menu.

12. (optional) If you want to view log files for your database configuration, select Option 7, **View Status Log Directory.** Log files are copied to the database subdirectory of your eaDirect home directory, for example

```
$EDX_HOME/db/oracle
```

13. Select **Return to Previous Menu.** The Main menu appears.

14. Select Option 4, **Initial Data Population.**

```
edocs eaDirect Server Administration for DB2 Main Menu
-----
[1] Sign in Menu
[2] Capture Database File Locations
[3] Install edocs eaDirect
[4] Initial Data Population
[5] Database Version Migration
[Q] Quit
-----
```

```
Enter Your Selection: 4
```

The Initial Data Population Menu appears.



Tip

If this is your first installation of eaDirect, you can ignore Option 5, Database Version Migration. You should select this option only if you want to migrate an existing eaDirect database to a newer version. For details, see [Migrating an Existing eaDirect Database](#).

15. Select Option 1, **Import Initial Data Set.**

This option populates the newly defined database with an administrative dataset that supports the eaDirect Command Center and related features. No user input is required, although you will see several progress messages. If this step is successful, you will see a success message.

Step 2, **Export edocs database data**, is used for migration; it is not necessary for new installations because the database is still empty.

16. Select Option **R** (Return to Previous Menu), and then press **Enter**. The Main menu appears.
17. Select Option **Q** (Quit), and then press **Enter**.

What to Do If Database Configuration Fails

If you encountered errors during database creation and configuration, you must first remove the partially configured database before configuring the database again.

To recover from a failed database configuration for DB2:

1. Switch user to the **DB Admin** user, in this example `db2inst1`. DB2 requires an administrative user in order to remove files.

```
su - db2inst1
```

2. Check the database instance name with the `echo` command. For example:

```
echo $DB2INSTANCE
edx0
```

3. If the database instance name is incorrect, set it as follows:

```
DB2INSTANCE=edx0
export DB2INSTANCE
```

4. Make sure there are no active connections to your database instance.
5. Change directory to the root directory for your database files and drop the database with the `db2 drop` command. For example:

```
cd /usr/EDCSbd/db/db2
db2 drop database edx0
```

6. Repeat this step for other root directories containing database files for your database instance.

Migrating an Existing DB2 Database for UNIX



Tip

This section applies to all UNIX platforms.

To migrate an existing eaDirect database to a newer version, UNIX administrators will use the database setup shell script `edx_admin.sh`. This script's main menu has a Database Version Migration option that lists available migration paths.

To migrate an eaDirect database for DB2 on UNIX:

1. Switch user to the **DB Admin** user.

```
su - db2inst1
```

2. Change directory to your eaDirect database home directory. For example:

```
cd /usr/EDCSbd/db/db2
```

3. Run **edx_admin.sh**. The Server Administration Main Menu appears.

```
edocs eaDirect Server Administration for DB2 Main Menu
```

```
-----
[1] Sign in Menu
[2] Capture Database File Locations
[3] Install edocs eaDirect
[4] Initial Data Population
[5] Database Version Migration
```

```
[Q] Quit
-----
```

```
Enter Your Selection: 5
```

4. Select option 5, **Database Version Migration**.
5. From the Database Version Migration menu, select the version you are migrating from and migrating to, for example **40to41**.

Caution

Be sure to select the correct version for your existing installation.

You will be prompted to enter a username, password, and database name for the eaDirect database.

The following example shows sample values for **DB2** on **AIX**. Consult the [Quick Reference Appendix](#) and your database administrator to specify suitable values for your platform.

```
SIGN IN MENU
```

```
-----
[1] Enter Database USERNAME...> db2inst1
[2] Enter Database PASSWORD...> db2inst1
[3] Enter DB2 DATABASE name ...> edx0
```

Press **Enter** to return to the main menu.

6. Indicate whether you have already done a full backup of your database.

We strongly advise taking full backup of your existing database before applying the migration

```
Do you have a backup (Y/N): Y
```

If you have not backed up your database, you are asked whether you want to continue the migration process.

```
Still continue with the migration (Y/N): N
```

7. Enter your choice to abort the migration process or continue. If **no**, you are returned to the Database Version Migration menu where you can select the option to return to the previous menu.

If **yes**, migration begins. Select 'Q' to end the database migration session.

If you choose to continue with the database migration, the migration script **migrate.sh** runs for your version upgrade.

```
*****
Migration process started
*****
```

You will be prompted to provide absolute pathnames for a variety of database files. Database files can reside wherever you choose. For a single database server, you can use, for example:

```
$DB2_HOME/edx_db2data
```

Depending on your platform, you may then be prompted to enter multiple locations for your **database control** file. This file allows access to the database, so you should specify backup locations in case a database control file is deleted or corrupted. Consult your database documentation for details.

You may also then be prompted to enter suggested **mount points** for your database. Consult your database documentation for details.

The script then validates the locations you specify. If all are valid, this message appears:

```
Migration successful
```

8. The script will then prompt you to check your session log for errors.

```
*****
Please check the log file for any errors...
Log filename: /usr/EDCSbd/db/db2/migrate0411100446.log
*****
Ending migration process
```

9. From the Database Version Migration menu, select **Return to previous menu (R)**.
10. From the edocs Server Administration Main Menu, select **Quit (Q)**.

Connecting to Your DB2 Database



This procedure applies only to DB2 for distributed environments.

If your database is installed in a distributed environment, you must connect to the remote database server. This step catalogs a node and a database as the database owner, for example, **edx_dba**, to include information about your eaDirect database.

If the eaDirect database is installed on the same machine as the eaDirect application server, you must manually edit the database directory to include a loopback configuration for the eaDirect database. Consult your database administrator and DB2 documentation for details.

To connect to the eaDirect database for DB2:

1. Switch user to the **DB Admin** user.

```
su - dbinst1
```

2. Catalog the node and the database on the application server machine, for example:

```
$ db2 "catalog tcpip node edx_node remote localhost.edocs.com
server 50000"
```

```
$ db2 "catalog database edx0 as edx0 at node edx_node"
```

Tip

You do not need to stop and start the database for this procedure to take effect, as it is done on the client side.

3. List the **node directory** to make sure that the node was created correctly.

```
$ db2 "list node directory"
```

One node entry should be:

```
Node name = EDX_NODE
Comment =
Protocol = TCPIP
Hostname = localhost
Service name = 50000
```

4. List the **database directory** to make sure that the database was created correctly.

```
$ db2 "list database directory"
```

One database entry should be:

```
Database alias = EDX0
Database name = EDX0
Node name = EDX_NODE
Database release level = 9.00
Comment =
Directory entry type = Remote
Catalog node number = 0
```

5. Connect to the database with your database name and username, for example:

```
$ db2 "connect to edx0 user edx_dba using edx"
Database Connection Information
Database server = DB2/6000 7.2.4
SQL authorization ID = edx_dba
Local database alias = EDX0
```

Where to Go From Here

Start and test your database server using the server documentation for your platform. If you encounter any errors, double-check the steps in this chapter before proceeding.

If you have migrated from a previous version of eaDirect, complete the tasks in [Migrating To A New Version of eaDirect](#).

Once your database server starts successfully with the eaDirect database installed, you can proceed to [Configuring Your Application Server](#).

4

Configuring eaDirect for SQL Server

This chapter is intended for **SQL Server** database administrators. If you are using another database server, please see:

- [Configuring eaDirect for Oracle](#)
- [Configuring eaDirect for DB2](#)

Configuring a New SQL Server Database for Windows



Tip

This section applies to all Windows platforms.

Windows administrators need to complete two steps (and a third for WebSphere) to create and configure your eaDirect database:

- [Increasing the Default Width for SQL Server Numeric Columns](#)
- [Enabling the SQL Server Distributed Transaction Coordinator](#) (WebSphere)
- [Using the DBConfigTool](#)

This topic describes each step in detail.



Caution

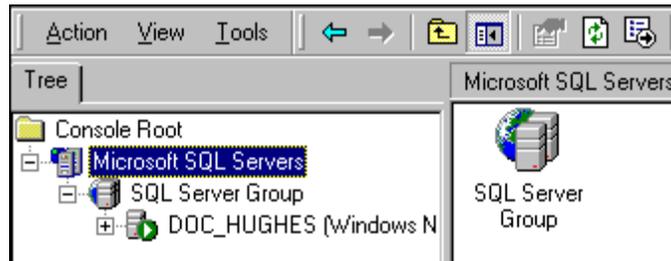
With Microsoft SQL Server 2000, eaDirect requires the default authentication mode **Mixed Mode (Windows Authentication and SQL Server Authentication)**. Selecting only Windows Authentication Mode might cause database creation and configuration to fail.

Increasing the Default Width for SQL Server Numeric Columns

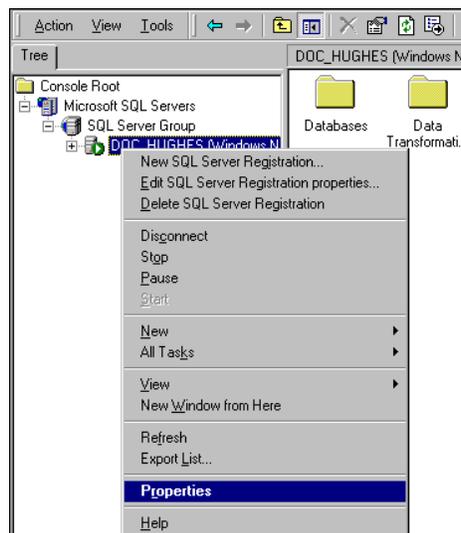
The SQL Server default width for numeric columns is 28 characters. However, eaDirect requires a minimum width of **38 characters** for numeric columns. You must increase these defaults **before** creating the database.

To increase the default width of numeric columns:

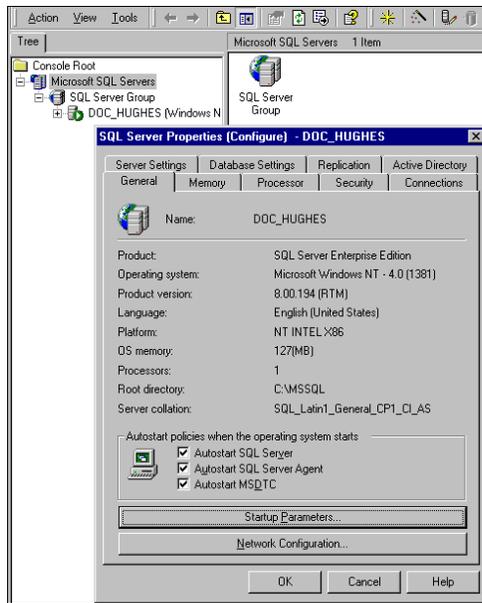
1. From the Start menu, select **Programs** and **Microsoft SQL Server**, and click **Enterprise Manager**. The SQL Enterprise Manager window appears.
2. In the left pane, expand **Microsoft SQL Servers** and **SQL Server Group** to show your server. The sample screen shows a SQL server named DOC_HUGHES.



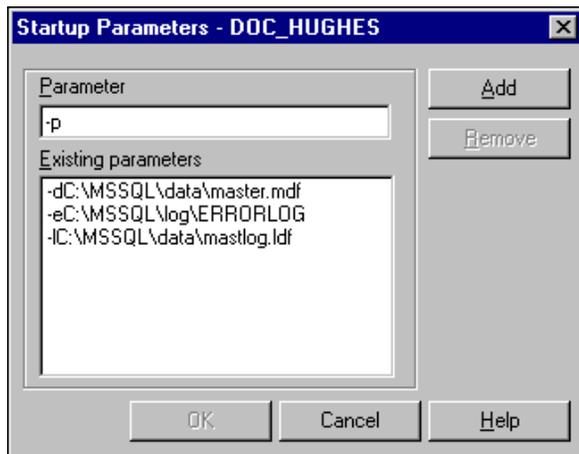
3. In the left pane, highlight your SQL server by right clicking on its name, and then click **Properties** from the menu.



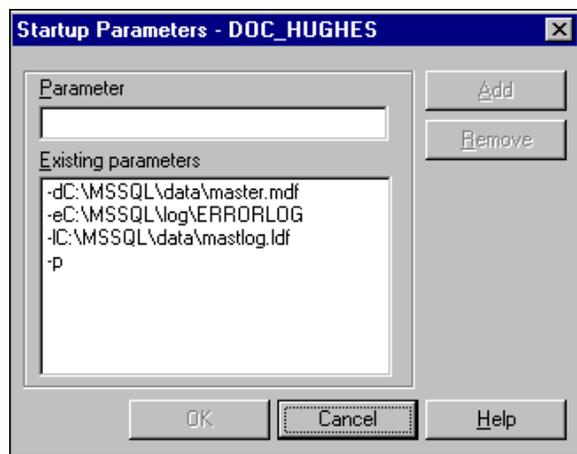
The SQL Server Properties dialog appears.



4. Click **Startup Parameters** at the bottom of the dialog. The Startup Parameters dialog appears showing the name of the server.
5. Enter the startup parameter **-p** in the Parameter text field.



6. Click **add**. The new startup parameter is added to the list of existing parameters.



7. Click **OK** to close the dialog.
8. Stop and start your SQL server for the new startup parameter to take effect.

Enabling the SQL Server Distributed Transaction Coordinator for WebSphere



This step applies to WebSphere only.

This SQL Server service for WebSphere tests phase connections to the database. When using the required **Connect** JDBC driver, WebSphere defaults to testing two-phase connections, as the datasource is unaware whether web applications will use one-phase or two-phase connections. If your system uses only one-phase connections, you can skip installing this service and test the connection by other means.

To test distributed transactions with SQL Server:

1. Open the SQL Server Enterprise Server Manager Console.
2. Expand the tree to show **Support Services>Distributed Transaction Coordinator**.
3. Right-click the Distributed Transaction Coordinator and select **Start**.

Using the DBConfigTool

Windows administrators use the Java database configuration tool, **DBConfigTool.jar**, to create and configure the production database. This wizard guides you to specify information about the database including the username and password needed to access it, the name of the database, the server on which it is installed, and the pathnames for the SQL Data and Log files

The DBConfigTool requires a Java SDK installed on the machine that runs it.

**Caution**

When installing Microsoft SQL Server 2000, select **Mixed Mode (Windows Authentication and SQL Server Authentication)** as your default authentication mode. Selecting only Windows Authentication Mode might cause database creation and configuration to fail.

To configure a new eaDirect database for SQL Server on Windows:

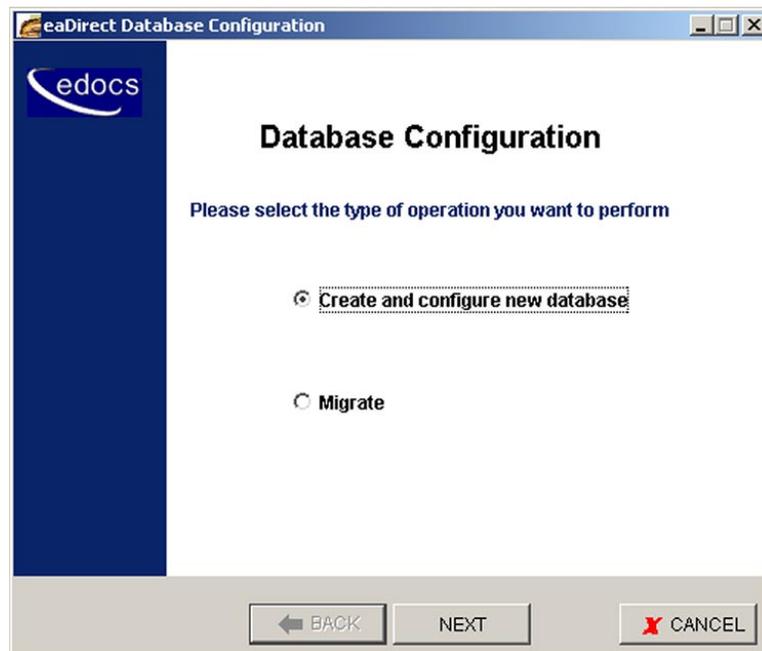
1. Open a Command Prompt window and change directory to your eaDirect database home directory. For example:

```
C:\> cd EDCSbd\db\mssql
```

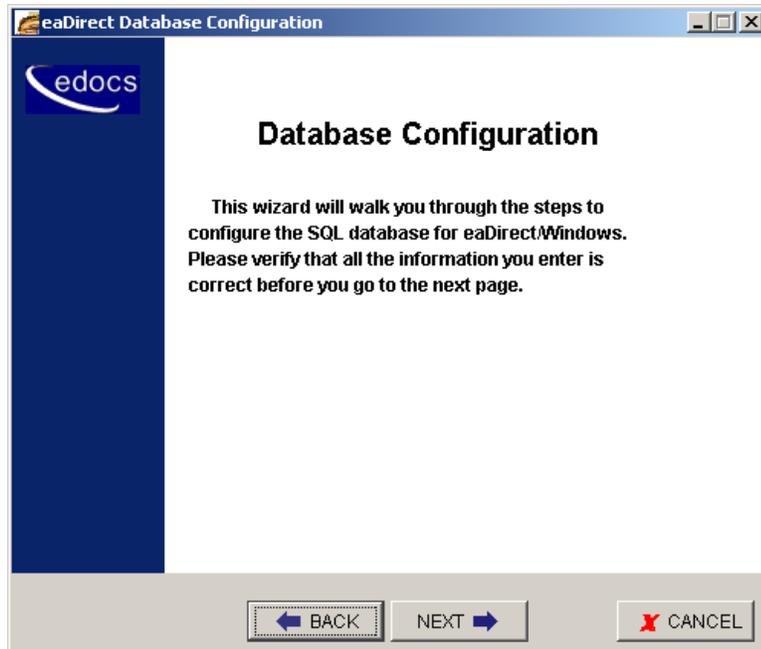
2. Run the Java database creation and configuration tool `DBConfigTool.jar`:

```
java -jar DBConfigTool.jar
```

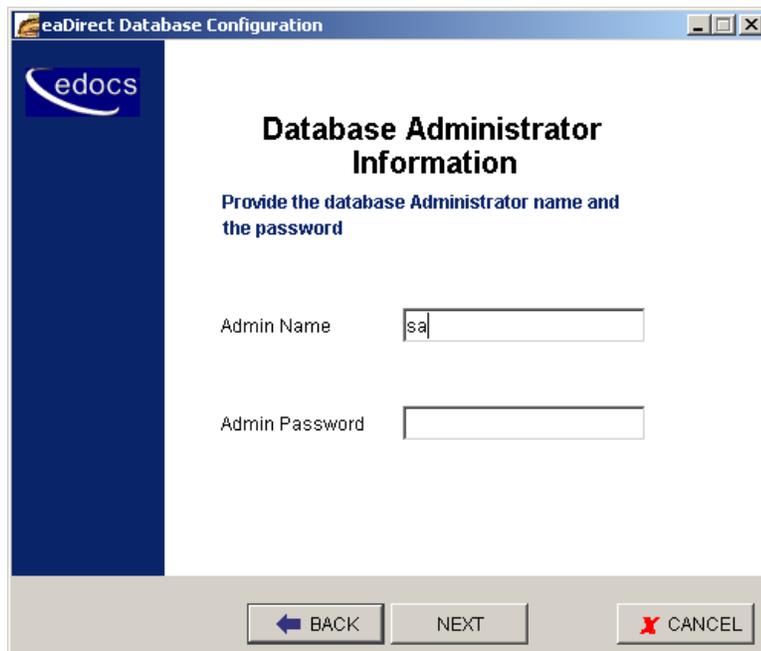
The Database Configuration screen appears.



3. Select **Create and configure new database** (default), and then click **Next**. The Database Configuration screen appears.



4. Click **Next**. The Database Administrator Information screen appears.



5. Enter the Admin Name and Admin Password (if your database has one) for the SQL database. The default Admin Name is **sa** and the default password is **<none>** (no password).

Click **Next**. The Database Information screen appears.

eaDirect Database Configuration

edocs

Database Information

Provide the eaDirect database information

Database user name

Database password

Database name

Server name

← BACK NEXT → X CANCEL

6. Enter your database user name, password, database name, and the name of your database server, as shown in the example above.

Click **Next**. The Database Path Information screen appears.

eaDirect Database Configuration

edocs

Database Path Information

Provide the eaDirect Database Home path, the SQL Data File path and the SQL Log File path

eaDirect DB Home Path

Database Data File Path

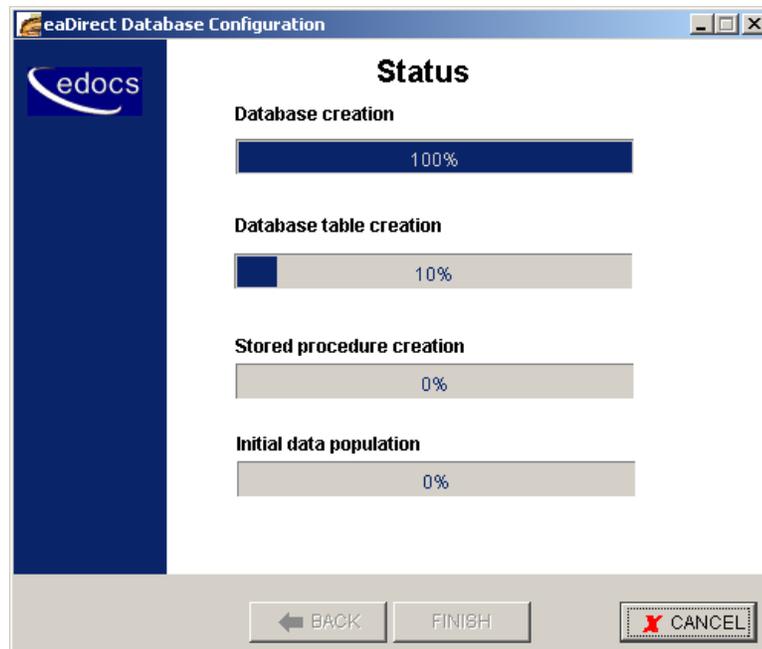
Database Log File Path

← BACK FINISH X CANCEL

7. Enter the pathname to the database installation directory, location of the SQL data file, and the location of the SQL log file as shown in the example above.

8. Click **Finish**.

(new install) The DBConfigTool will create your database.



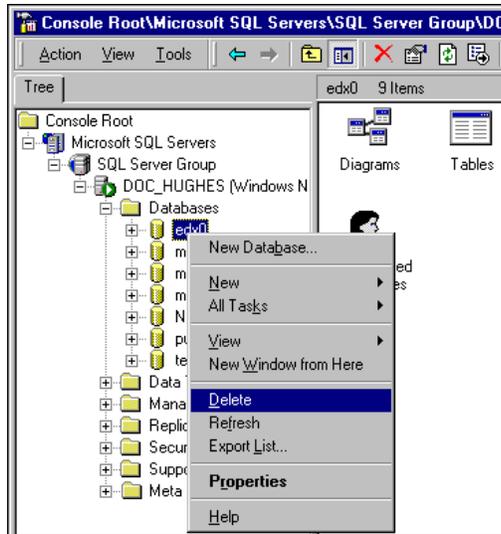
9. A Success screen appears if the database creation process completed without errors.
10. If a Failed screen appears, see [What to Do If Database Configuration Fails](#).

What to Do If Database Configuration Fails

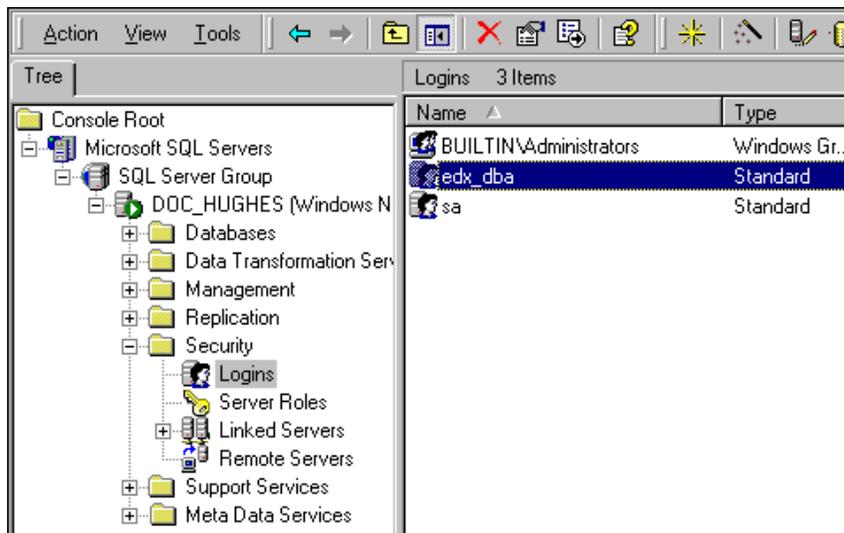
If you encountered errors during database creation and configuration, you must first remove the partially configured database before configuring the database again.

To recover from a failed database configuration for SQL Server:

1. Make sure your database server is running.
2. From the Start menu, select **Programs** and **Microsoft SQL Server**, and click **Enterprise Manager**. The Enterprise Manager screen opens.
3. Expand the SQL Server Group and click the **Database** folder.
4. Right-click the name of the newly created database (for example, **edx0**) and delete it from the list of installed databases.



5. Scroll down to the **Security** folder and expand it to show **Logins**. Delete the database user (for example, `edx_dba`) for the database that you just deleted.



6. Open a command line window and run the database configuration tool again, making sure that the values on each screen are correct before proceeding to the next screen.

Migrating an Existing SQL Server Database for Windows



This section applies to all Windows platforms.

To migrate an existing eaDirect database for SQL Server on Windows:

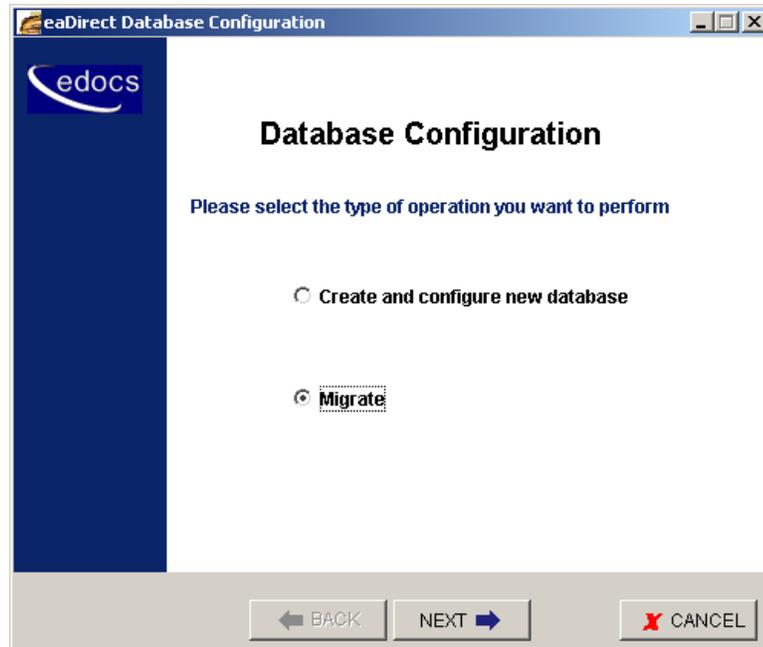
1. Open a Command Prompt window and change directory to your eaDirect database home directory. For example:

```
C:\> cd EDCSbd\db\mssql
```

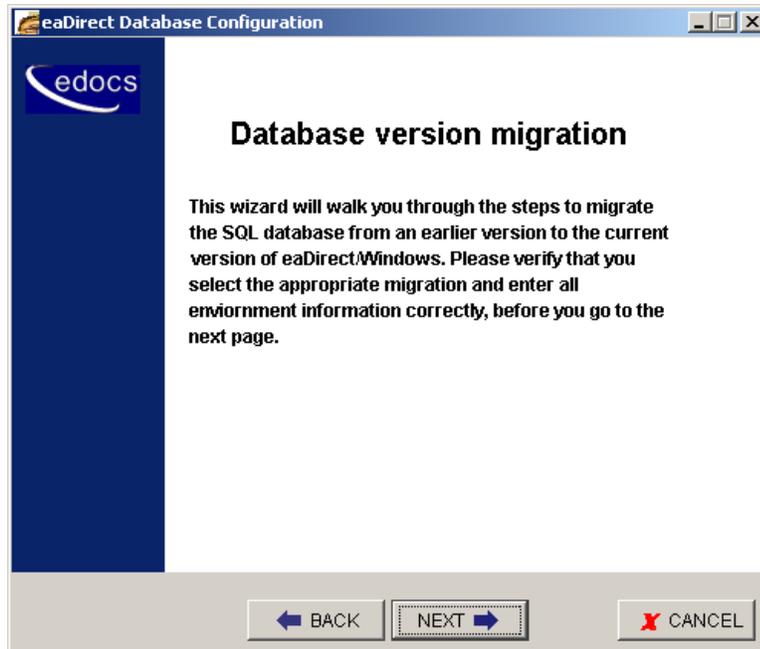
2. Run the Java database creation and configuration tool, `DBConfigTool.jar`.

```
C:\> java -jar DBConfigTool.jar
```

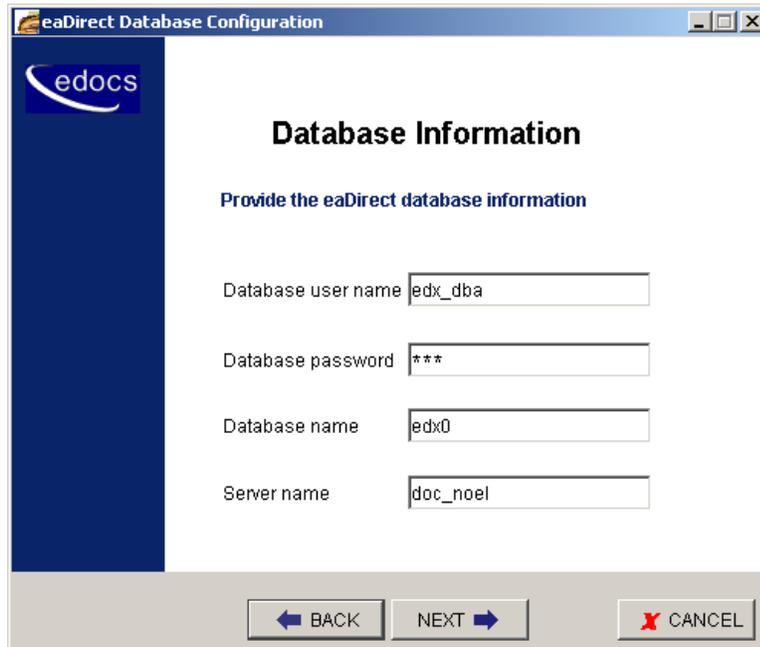
The Database Configuration screen appears.



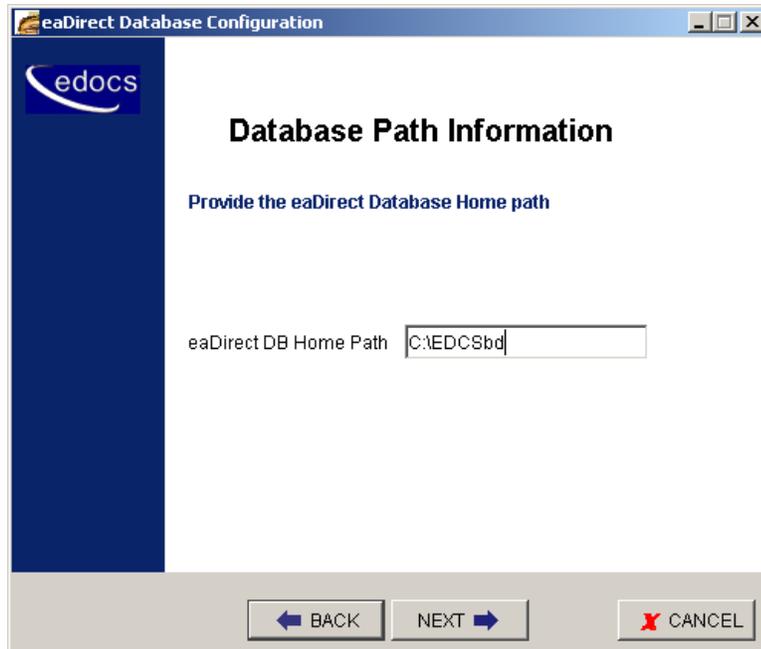
3. Select **Migrate**, and then click **Next**. The Database version migration screen appears.



4. Read the information concerning version migration, and then click **Next**. The Database Information screen appears.

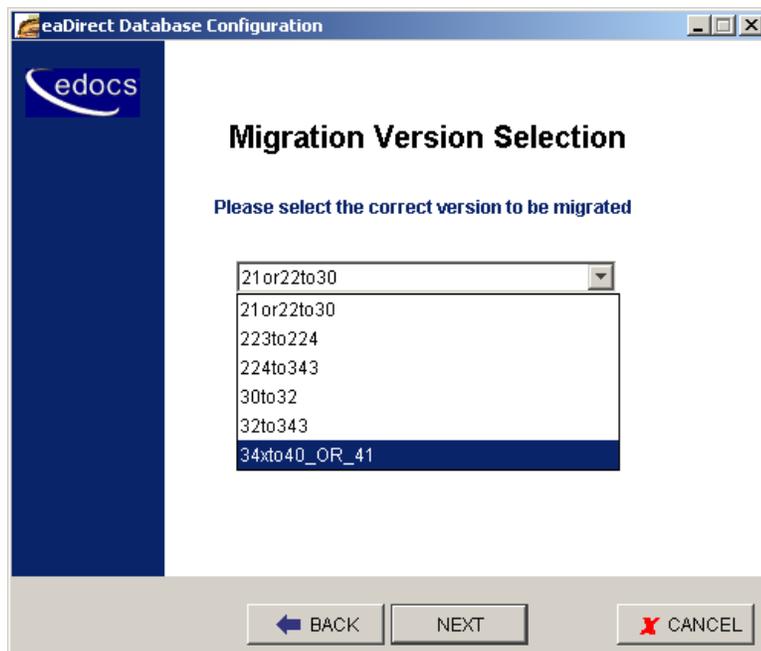


5. Enter your database user name, password, database name, and the name of your database server, as shown in the example above.
Click **Next**. The Database Path Information screen appears.



6. Enter the pathname to the eaDirect database home directory as shown in the example above.

Click **Next**. The Migration Version Selection screen appears.



7. Select the version of the database you want to migrate from the drop-down menu. Click **Next**. The Partition Selection screen appears.

edocs

Migration Version Selection

Please select the correct version to be migrated

34xto40_OR_41

Please select the number of partitions to be created

Twelve Partitions
 Four Partitions
 One Partition

Tip

The number of tables you need is dependent on your database platform and the anticipated volume of data. For an Oracle database, we recommend you create one index table and use Oracle's native table partitioning functionality. For DB2 and SQLServer, we recommend using 4 or 12 index tables for quarterly or monthly index tables.

8. Select the number of partitions to create. For more information, see [Using Database Partitioning with eaDirect](#).

A confirmation screen appears.

edocs

Confirmation of Choices

These are the values you have chosen, please use back button to change any of them

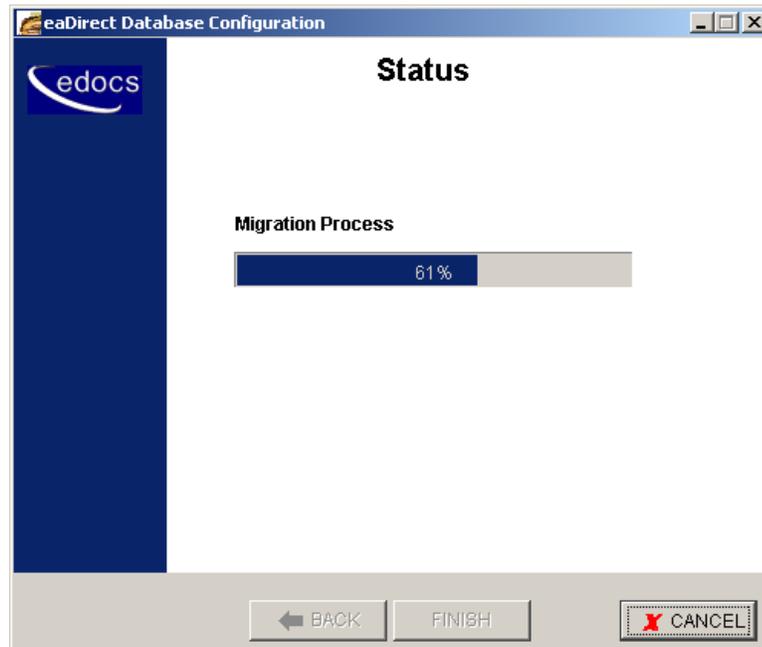
Database user name:

Database name:

Server name:

Migration version:

9. Confirm your choices and click **Finish**. A Status screen appears showing the database being migrated.



10. A Success screen appears if the database migration process completed without errors.
11. If a Failed screen appears, see [What to Do If Database Configuration Fails](#).



Tip

When database migration completes, check the migration log files in your selected version subdirectory of `%EDX_HOME%\db\mssql\migration\<version>*.log` to make sure that all the database tables were created, including tables for annotations and disputes.

Where to Go From Here

Start and test your database server using the server documentation for your platform. If you encounter any errors, double-check the steps in this chapter before proceeding.

If you have migrated from a previous version of eaDirect, complete the tasks in [Migrating To A New Version of eaDirect](#).

Once your database server starts successfully with the eaDirect database installed, you can proceed to [Configuring Your Application Server](#).

5

Migrating To A New Version of eaDirect

Overview

This chapter provides instructions for migrating to a new version of eaDirect. This involves:

- backing up your existing database and checking logins and user objects
- backing up your data directories **AppProfiles**, **Data**, **Input** and **Output**
- migrating your eaDirect database (see previous chapters)
- checking for errors and resetting permissions after database migration
- Undeploying J2EE web applications and redeploying the new versions
- Migrating to a custom data source as necessary



The installation and configuration examples shown in this guide use default eaDirect pathnames, privileges, and permissions. If you choose not to accept the default values, make sure your values are consistent on all servers across your installation of eaDirect.

Migrating Your eaDirect Database

See the chapter for your database server:

- [Migrating an Existing Oracle Database for UNIX](#)
- [Migrating an Existing DB2 Database for UNIX](#)
- [Migrating an Existing SQL Server Database for Windows](#)

Checking for Errors and Resetting Permissions

After you migrate a database from a previous release of eaDirect, you should:

- Check `.log` files for errors
- Reset permissions for edocs directories and files

Checking .log files for errors

After migrating an eaDirect database, you should check the following log files for errors:

- `scan.log`
- `migrate<version>.log`

In the context of migrating an eaDirect database, a **normal error** is one that does not cause the upgrade process to fail, such as trying to drop an object that does not exist. An **abnormal error** is one that can cause the database migration process to fail, which can have a cascading effect. A single abnormal error can lead to many other abnormal errors as the database migration process proceeds.

Although there is no easy way to differentiate between normal and abnormal errors, there is a way to check whether the database upgrade was successful. Typically, if the process does not flag invalid objects or there are no violations of referential constraints, then the operation was successful.

Resetting Permissions

After migrating your database, confirm that all the eaDirect directories, with the exception of the `/db` directory and its subdirectories, reflect the same directory and file ownership as that of the application server owner.

For database files and directories under `$EDX_HOME`, eaDirect uses the default owner and group permissions.

Updating Database Passwords for Your Application Server

UNIX

If the database password for an existing database has changed, UNIX administrators can update your eaDirect environment with the application server script `edx_config`. Run this script **on your application server** using the instructions in [Capturing UNIX Environment Data with edx_config](#). Enter your new password at the prompt.

Once the script has completed, check to see that the following files have been updated with your new password:

- `edx_env`
- `edx_sqldr.config`

- `ws_config.xml` (WebSphere) or `config.xml` (WebLogic)
- JVM settings for system properties in your application server console

Windows

If the database password for an existing database has changed, Windows administrators can update your eaDirect environment with the application server script `edx_bcp.config.bat`. Edit this script **on your application server** using the instructions in [Editing Windows Environment Data with `edx_env.bat` and `edx_bcp.config.bat`](#) to have the correct user, password and database alias. This file is then sourced at application server startup.

Migrating eaDirect J2EE Applications

When migrating to a new version of eaDirect, you must first undeploy J2EE applications running on your application server. Once you have migrated your database, you should then redeploy the new versions of each eaSuite web application, including eaDirect and samples. These sample applications provide examples of how to use the current features of eaDirect. You will need to:

- See the *Release Notes* for your version for important information about specific migration requirements and settings.
- See *Deploying and Customizing J2EE Applications* for information about the components that make up the J2EE and Web applications, and the procedures for recreating EAR and WAR files.
- Merge your custom code into the sample application, and rename it. For more information, see *Deploying and Customizing J2EE Applications*.
- Redeploy your custom application.

For more information on deployment, see the eaDirect guide to *Deploying and Customizing J2EE Applications*.



If you receive error messages when starting up your application server after migration, check to make sure you have undeployed all old versions of edocs J2EE web applications and redeployed the new versions. edocs does not recommend manually editing the `config.xml` files for deployment.

Migrating To a Custom Data Source EJB

eaDirect 3.4 and later versions allow you to specify a datasource EJB for each eaDirect application (DDN) you create in the Command Center. When creating an eaDirect application in the Command Center, a datasource refers to an EJB in your application (EAR file) that specifies summary information and location of your document data.

Caution Please consult the Release Notes for information on migrating from one particular version to another, as migration may require several steps.

During database migration, the `edx_admin.sh` script maps DDNs to the default datasource `edx/ejb/EdocsDataSource`, packaged in `ear-eadirect.ear`. For more information about datasource mapping, see the eaDirect *Production Guide* and *XML Services Guide*.

To change the datasource value to point to a custom datasource, or to another datasource in a different deployed application, you can edit and run the SQL script `update_data_source.sql` on the database server. This script is located in the `/migration/<version>` subdirectory of the database directory in your eaDirect installation.

Tip You do not need to run this script if you are using the default datasource.

You will need to edit `update_data_source.sql` to replace the placeholder values for datasource name and document definition name (DDN) with your own values. Since each DDN may now have its own datasource, you can copy and paste the update sequence for each DDN. Save and close `update_data_source.sql` and run this SQL script to update your DDNs.

Caution Consult the Release Notes for your version and platform to locate the correct version of `update_data_source.sql`.

Appendix A: Quick Reference

Overview

This section contains platform-specific variables and settings for eaDirect. In the front of this guide, you will find an outline of the workflow for installing and configuring eaDirect. Experienced system administrators may find this outline and appendix useful as a quick reference for configuration and troubleshooting, but they are **not intended as a standalone guide to configuration**.

Whenever you install or upgrade eaDirect, please follow the steps in each chapter of this *Installation and Configuration Guide* in sequence, consulting your third-party documentation as necessary.

Database Server Environment Variables

Oracle

VARIABLE	DEFINITION	SOLARIS	HP-UX	CUSTOM
EDX_HOME	eaDirect home path	opt/EDCSbd	opt/EDCSbd	
ORACLE_BASE	Mount point base path	apps/oracle	apps/oracle	
ORACLE_HOME	Data File Path	\$ORACLE_BASE/product/9.2.0 OR 8.1.7	\$ORACLE_BASE/product/9.2.0 OR 8.1.7	
LD_LIBRARY_PATH	Shared Library Path	\$ORACLE_HOME/lib:/usr/lib:/usr/ucblib	\$ORACLE_HOME/lib:/usr/lib:/usr/ucblib	
PATH	Database Path	\$ORACLE_HOME/bin:\$PATH	\$ORACLE_HOME/bin:\$PATH	
ORACLE_DATA	Data File Path	\$ORACLE_HOME/oradata	\$ORACLE_HOME/oradata	
ORACLE_PASSWD	Database password	edx	edx	
ORACLE_SID	Database instance name	edx0	edx0	

VARIABLE	DEFINITION	SOLARIS	HP-UX	CUSTOM
ORACLE_USER	Database user name	edx_dba	edx_dba	
ORACLE_DBALIAS	Database alias	edx.db	edx.db	

SQL Server

VARIABLE	DESCRIPTION	WINDOWS	CUSTOM
ADMIN_NAME	Admin name	sa	
ADMIN_PASSWD	Admin password	<none>	
DB_USERNAME	Database user name	edx_dba	
DB_PASSWD	Database password	edx	
DB_NAME	Database name	edx0	
SERVER_NAME	Server name	localhost	
EDX_HOME	eaDirect home path	c:\EDCSbd	
DB_DATAPATH	Database Data File Path	c:\sqldir\data	
LOG	Database Log File Path	c:\sqldir\log	

DB2

VARIABLE	DESCRIPTION	AIX	CUSTOM
EDX_HOME	eaDirect home path	usr/EDCSbd	
DB2_HOME	Database Data File Path	/export/home/db2inst1	
DB2INSTANCE	database instance	db2inst1	
PATH	Executables path	\$PATH:\$HOME/bin	
DB2_NAME	Database instance name	edx0	
DB2_USER	Database user name	edx_dba	
DB2_PASSWD	Database password	edx	
DB_PORT	database port	50000	
DBADMIN_NAME	Admin name	edx_dba	
DBADMIN_PW	Admin password	edx	

VARIABLE	DESCRIPTION	AIX	CUSTOM
EDX_DB_TYPE	Database type	db2	

Index

A

administration, 23
 AIX, 13, 56
 Application, 18
 Application Server, 25, 35, 50

C

Capturing Information about
 Your eaDirect Environment
 Using edx_config, 52
 Checking .log files for errors,
 18, 22, 30, 33, 43, 50, 52
 Command Center, 19, 30, 53
 Configuring, 11, 15, 22, 25,
 27, 35, 37, 50
 Connecting to the eaDirect
 Database
 DB2, 33
 Oracle, 24
 Customer Self-Service, 5

D

Database Configuration Fails,
 15, 19, 27, 31, 44
 Database Server, 11, 55
 Database Server
 Environment Variables, 13
 DB2, 12, 13, 28, 31, 32, 33,
 34, 56
 DBConfigTool, 40, 41, 46
 documentation, 8, 11, 12, 13,
 17, 22, 25, 29, 33, 34, 35,
 50, 55

E

eaDirect, 2, 7, 11, 12, 13, 15,
 16, 17, 18, 19, 20, 21, 22,
 24, 25, 27, 28, 29, 30, 31,
 32, 33, 34, 35, 37, 41, 46,
 48, 50, 51, 52, 53, 54, 55,
 56
 eaMarket, 2
 eaPay, 2
 eaPost, 2
 ear-eadirect.ear, 54
 eaSuite, 2, 5, 12, 53
 edx_admin.sh, 12, 13, 15, 16,
 20, 27, 28, 31, 32, 54
 Environment Data
 Database Server, 13
 UNIX with edx_config, 52
 Windows with edx_env.bat
 and edx_bcp.config.bat, 53

H

Help
 documentation, 8
 technical support, 9
 HP/UX, 55

M

Migrating
 eaDirect Applications, 53
 UNIX, 20, 31
 Windows, 45

O

Oracle, 12, 13, 16, 17, 19,
 20, 21, 22, 23, 24, 55
 Oracle Services, 22

P

- Parameters, 39
- Password, 42, 52
- Permissions
 - Database Server, 11
 - Resetting, 51

S

- Solaris, 13, 16, 17, 20, 21, 28, 32
- SQL Server, 13, 37, 38, 40, 41, 44, 56
 - Numeric Columns, 37
- sqlplus, 24

- Starting and Stopping
 - Database Server, 13

T

- Tables, 3

V

- View, 18, 30

W

- WebLogic, 53
- WebSphere, 40, 53
- Windows, 13, 37, 40, 41, 45, 46, 53