

Database Configuration Guide



V4.3 Document ID: DIGN-13-4.3-02 Date Published: 5.18.04 © 1997–2004 edocs® Inc. All rights reserved.

edocs, Inc., One Apple Hill Dr., Natick, MA 01760

The information contained in this document is the confidential and proprietary information of edocs, Inc. and is subject to change without notice.

This material is protected by U.S. and international copyright laws. edocs and eaPost are registered in the U.S. Patent and Trademark Office.

No part of this publication may be reproduced or transmitted in any form or by any means without the prior written permission of edocs, Inc.

eaSuite, eaDirect, eaPay, eaCare, eaAssist, eaMarket, and eaXchange are trademarks of edocs, Inc.

All other trademark, company, and product names used herein are trademarks of their respective companies.

Printed in the USA.

Table of Contents

	Preface	5
	About Customer Self-Service and eaSuite [™]	5
	About This Guide	7
	Related Documentation	8
	Obtaining edocs Software and Documentation	8
	If You Need Help	9
1	Configuring Your Database Server	
	UNIX Permissions for Your Database Server	1111 12
	LINIX Environment Variables for Your Database Server	دا۱۵ 13
	Using Database Partitioning with eaDirect	13
	Oracle	14
		+۱ 1 <i>۸</i>
r	Configuring opDirect for Oracle	بة
2	Configuring a New Oracle Database for LINIX	13 15
	About edv. admin sh for Oracle	10
	What to Do If Database Configuration Faile	13 10
	Migrating an Existing Oracle Database for UNIX	
	Configuring Oracle Services	
	Connecting to Your Oracle Database	24
	Where to Go From Here	25
3	Configuring eaDirect for DB2	
	Configuring a New DB2 Database for UNIX	27
	About edx_admin.sh	27
	What to Do If Database Configuration Fails	
	Migrating an Existing DB2 Database for UNIX	32
	Connecting to Your DB2 Database	
	Where to Go From Here	35
4	Configuring eaDirect for SQL Server	
	Configuring a New SQL Server Database for Windows	37
	Increasing the Default Width for SQL Server Numeric Columns	
	Enabling the SQL Server Distributed Transaction Coordinator for WebSphere	40
	Using the DBConfigTool	40
	What to Do If Database Configuration Fails	
	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	
Resetting Permissions	
Updating Database Passwords for Your Application Server	52
UNIX	
Windows	
Migrating eaDirect J2EE Applications	53
Migrating To a Custom Data Source EJB	53
Appendix A: Quick Reference	55
Overview	
Database Server Environment Variables	55
Oracle	
SQL Server	
DB2	
Index	59

Preface

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 standardsbased, 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 customerfacing 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, brokerdealers 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.

eaMarketTM 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 *Database Configuration Guide*. 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.	
Deploying and Customizing J2EE Applications	How to customize J2EE web applications for deployment with the eaSuite.	
Data Definition Guide	How to create data extraction and definition rules for an eaDirect application with the DefTool.	
Presentation Design Guide	How to design data presentment for an eaDirect application with the Composer.	
Data Presentation Production Guide	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 <u>https://support.edocs.com</u>. 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 <u>Database</u> <u>Administration</u>. 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 <u>Quick Reference</u> <u>Appendix</u> for software requirements for your platform.

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

- <u>UNIX Permissions for Your Database Server</u>
- <u>Starting and Stopping Your Database Server</u>
- <u>UNIX Environment Variables for Your Database Server</u>
- <u>Using Database Partitioning with eaDirect</u>
- Where to Go From Here

Caution 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	сизтом
Oracle	oracle:dba	edx_dba:edx	
DB2	db2inst1:db2adm1	edx_dba:edx	



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.



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



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.



Configuring eaDirect for Oracle

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

- <u>Configuring eaDirect for DB2</u>
- <u>Configuring eaDirect for SQL Server</u>

Configuring a New Oracle Database for UNIX



This section applies to all UNIX platforms.

UNIX administrators must first define UNIX environment variables for your database server as described in <u>Configuring Your Database Server</u>.

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.



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.



The following procedure shows example variables for **Oracle** on **Solaris**. Database administrators on other platforms should consult the <u>Quick</u> <u>Reference Appendix</u> 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

- 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.



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
SELE	CT 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 ...



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
[0] Quit
-----Enter Your Selection: 4

The Initial Data Population Menu appears.



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 <u>About edx_admin.sh for Oracle</u>.



The following procedure shows example variables for **Oracle** on **Solaris** Database administrators on other platforms should consult the <u>Quick</u> <u>Reference Appendix</u> 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. Make sure that the Oracle listener is running for your eaDirect database.
- Change directory to your eaDirect database home directory. For example: cd /opt/EDCSbd/db/oracle
- 4. 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

5. Select option 5, Database Version Migration.

From the Database Version Migration menu, select the version you are migrating from and migrating to, for example **40To42**.

Caution Be sure to select the correct version for your existing installation. 6. Enter the username, password, and database name for the eaDirect database. When creating an Oracle database, limit its name to eight characters. Caution 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. 7. 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
```

8. 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.

9. 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 <u>Using Database Partitioning with</u> <u>eaDirect</u>.

10. 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.

11. A successful database migration will display the message:

Migration successful

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

- 13. From the Database Version Migration menu, select Return to previous menu (R).
- 14. 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.

Тір	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

 Instances.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.

```
lsnrctl stop
lsnrctl start
```

10. After the Oracle listener has been restarted, you should see a service handler for the eaDirect instance.

```
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.

```
su - oracle
```

2. Run the sqlplus command on your eaDirect database, with arguments for your database username, password, and connection string (database alias). For example:

```
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 the *Application Server Configuration Guide*.



Configuring eaDirect for DB2

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

- <u>Configuring eaDirect for Oracle</u>
- <u>Configuring eaDirect for SQL Server</u>

Configuring a New DB2 Database for UNIX



This section applies to all UNIX platforms.

UNIX administrators must first define UNIX environment variables for your database server as described in <u>Configuring Your Database Server</u>.

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.



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 <u>What to Do If Database Configuration Fails</u>.

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.

Tip

- 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.



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. Run the following command to start the DB2 Java listener:

db2jstrt 6789

- Change directory to your eaDirect database home directory. For example: cd /usr/EDCSbd/db/db2
- 4. 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
```

5. 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* <u>*Reference Appendix*</u> 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. 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.

7. 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

8. 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 ...



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.

- 9. 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.
- 10. 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.

11. 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.

12. 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.

(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

- 14. Select Return to Previous Menu. The Main menu appears.
- 15. 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

16. 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.

- 17. Select Option **R** (Return to Previous Menu), and then press **Enter**. The Main menu appears.
- 18. 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

Тір

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. Make sure that the java listener for DB2 (*db2jstrt*) is listening on port 6789.
- 3. Change directory to your eaDirect database home directory. For example: cd /usr/EDCSbd/db/db2
- 4. 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

- 5. Select option 5, Database Version Migration.
- 6. From the Database Version Migration menu, select the version you are migrating from and migrating to, for example 40to42.

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 <u>*Quick*</u> <u>*Reference Appendix*</u> 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.

7. 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

8. 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.

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

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

- 10. From the Database Version Migration menu, select Return to previous menu (R).
- 11. 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"



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 8.1
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 the *Application Server Configuration Guide*.



Configuring eaDirect for SQL Server

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

- <u>Configuring eaDirect for Oracle</u>
- <u>Configuring eaDirect for DB2</u>

Configuring a New SQL Server Database for Windows



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)
- <u>Using the DBConfigTool</u>

This topic describes each step in detail.



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.

	<u>T</u> ools	🕈	⇒	E		° () 🖪 (
Tree					DOC_HUGH	ES (W	'indows N'
Tree Console Root	SQL Server erver Grou na Hinfart New SQ Edit SQI Delete S Disgonn Stop Pause Start New All Task View New Wi Refresh	s P E Serw L Serw Serw Serve sect s	indow er Reg erver F	s NI gistra legis	DOC_HUGH Databases ation tion properties.	ES (w Tra 	Vindows N Data nsformati
	P <u>r</u> oper	ties					
	<u>H</u> elp						

The SQL Server Properties dialog appears.

<u>A</u> ction ⊻iew	$[\operatorname{Lools}] \leftarrow \rightarrow [\textcircled{E}] \blacksquare [\textcircled{C}] \textcircled{E} [\textcircled{E}] [\textcircled{C}]] + [\land \land [\Downarrow \land]]$
Tree	Microsoft SQL Servers 1 Item
Console Root	IL Servers rver Group C_HUGHES (Windows N
	QL Server Properties (Configure) - DOC_HUGHES
	Server Settings Database Settings Replication Active Directory General Memory Processor Security Connections
	Name: DOC_HUGHES
	Product: SQL Server Enterprise Edition
	Operating system: Microsoft Windows NT + 4.0 (1381)
	Product version: 8.00.194 (RTM)
	Language: English (United States)
	Platform: NT INTEL X86
	OS memory: 127(MB)
	Processors: 1
	Root directory: C:\MSSQL
	Server collation: SQL_Latin1_General_CP1_CI_AS
	Autostat policies when the operating system starts Autostat SQL Server Autostat SQL Server Agent Autostat MSDTC
	Startup Parameters
	Network Configuration
	OK Cancel Help

- 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.

Startup Parameters - DOC_HUGHES	×
Parameter	Add
IP Existing parameters I-dC:\MSSQL\data\master.mdf I-eC:\MSSQL\log\ERRORLOG IC:\MSSQL\data\mastlog.ldf	<u>R</u> emove
OK Cancel	

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

Startup Parameters - DOC_HUGHES	×
Parameter	∆dd
	<u>R</u> emove
-dC:\MSSQL\data\master.mdf -eC:\MSSQL\log\ERRORLOG -IC:\MSSQL\data\mastlog.ldf -P	
OK Cance	Help

- 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

Тір

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. For example:

\bea\jdk141 05\bin\java -jar DBConfigTool.jar

Note that the above java command example uses the JDK provided by WebLogic 8. Your JDK location may differ.

The Database Configuration screen appears.

🙇 ea Direct Datal	🙇 eaDirect Database Configuration		
edocs			
	Database Configuration		
	Please select the type of operation you want to perform		
	Create and configure new database		
	C Migrate		
	EACK NEXT	ANCEL	

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.

💋 eaDirect Datab	ase Configuration		
edocs	Databas In	e Administrator formation	
	Provide the databathe the password	nse Administrator name a	nd
	Admin Name	sa	
	Admin Password		
	EACK	NEXT	X CANCEL

5. Enter the Admin Name and Admin Password (if your database has one) for the SQL database. If you are using the default values provided by SQL Server, the Admin Name is **sa** and the default password is left blank as shown in the example. Please consult for SQL Sever DBA for the correct values for your database server.

Click Next. The Database Information screen appears.

💋 ea Direct Data	base Configuration	
Cedocs		
	Database Information	
	Provide the eaDirect database information	
	Database user name edx_dba	
	Database password ***	
	Database name	
	Server name doc_noel	
		CANCEL

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

Click Next. The Database Path Information screen appears.

💋 ea Direct Data	base 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 C:\EDCSbd	
	Database Data File Path C:\sqldir\data	
	Database Log File Path C:\sqldir\log	
	BACK FINISH	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.

💋 eaDirect Databas	se Configuration	
Sedocs	Status	
	Database creation	
	100%	
	Database table creation	
	10%	
	Stored procedure creation	
	0%	
	Initial data population	
	0%	
	H BACK FINISH	X CANCEL

- 9. A Success screen appears if the database creation process completed without errors.
- 10. If a Failed screen appears, see the next section.

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.

\bea\jdk141_05\bin\java -jar DBConfigTool.jar

Note that the above java command example uses the JDK provided by WebLogic 8. Your JDK location may differ.

The Database Configuration screen appears.

📶 eaDirect Database Configuration		
edocs	Detabase Configuration	
	Database Configuration	
	Please select the type of operation you want to perform	
	C Create and configure new database	
	⊙ Migrate	
	SACK NEXT S	ANCEL

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.

🙇 ea Direct Data	base Configuration	_ 🗆 X
edocs	Database Information	
	Provide the eaDirect database information	
	Database user name edx_dba	
	Database password ***	
	Database name edx0	
	Server name doc_noel	
		CANCEL

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.

💋 ea Direct Datal	oase Configuration	_ 🗆 🗙
edocs	Migration Version Selection Please select the correct version to be migrated	
	21 or 22 to 30 21 or 22 to 30 22 3 to 22 4 22 4 to 34 3 30 to 32 32 to 34 3 34 xto 40_OR_41	
	EACK NEXT	CANCEL

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

💋 eaDirect Data	Carl Configuration		
edocs	Migration Version Selection Please select the correct version to be migrated 34xto40_OR_41 Version Please select the number of partitions to be created		
	SACK NEXT	CANCEL	

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 <u>Using Database</u> Partitioning with eaDirect.

A confirmation screen appears.

💋 ea Direct Data	base Configuration		_ 🗆 X
edocs	Confirmat	ion of Choices	
	These are the values back button to chang	you have choosen, please use le any of them	
	Database user name	edx_dba	
	Database name	edx0	
	Server name	DOC_NOEL	
	Migration version	34xto40_OR_41	
	🗲 ВАСК	FINISH	CANCEL

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

💋 ea Direct Data	eaDirect Database Configuration			
edocs	Status			
	Migration Process			
	61%			
	EACK FINISH	X CANCEL		

- 10. A Success screen appears if the database migration process completed without errors.
- 11. If a Failed screen appears, see the previous section.



When database migration completes, check the migration log files in	
your selected version subdirectory of	
%EDX HOME%\db\mssql\migration\ <version>*.logto</version>	
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 the *Application Server Configuration Guide*.

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

Caution 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:

- <u>Migrating an Existing Oracle Database for UNIX</u>
- 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 <u>Capturing UNIX</u> <u>Environment Data with edx config</u>. 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_sqlldr.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_load.config.bat. Edit this script on your application server using the instructions in Editing Windows Environment Data with edx_env.bat and edx_load.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*.

Caution 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.



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.



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 Guide in sequence, consulting your third-party documentation as necessary.

Database Server Environment Variables

VARIABLE	DEFINITION	SOLARIS	HP-UX	сиѕтом
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/produc t/9.2.0 OR 8.1.7	<pre>\$ORACLE_BASE/product /9.2.0 OR 8.1.7</pre>	
LD_LIBRARY_PATH	Shared Library Path	\$ORACLE_HOME/lib:/u sr/lib:/usr/ucblib	\$ORACLE_HOME/lib:/us r/lib:/usr/ucblib	
PATH	Database Path	\$ORACLE_HOME/bin: \$PATH	\$ORACLE_HOME/bin:\$ PATH	
ORACLE_DATA	Data File Path	\$ORACLE_HOME/oradat a \$ORACLE_HOME/oradata		
ORACLE_PASSWD	Database password	edx	edx	
ORACLE_SID	Database instance name	edx0	edx0	

Oracle

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

SQL Server

VARIABLE	DESCRIPTION	WINDOWS	сиѕтом
ADMIN_NAME	Admin name	sa	
ADMIN_PASSWD	Admin password	Leave balank	
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	сиѕтом
EDX_HOME	eaDirect home path	usr/EDCSbd	
DB2HOME	Database Data File Path	/export/home/db2inst1	
DB2INSTANCE	database instance	db2inst1	
РАТН	Executables path	\$PATH:\$HOME/bin	
DB2NAME	Database instance name	edx0	
DB2USER	Database user name	edx_dba	
DB2PASSWD	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

Α			Database Server, 13
	administration, 23		UNIX with edx_config, 52
С		н	
_	Checking .log files for errors, 18, 30, 43, 50, 52 Command Center, 53 Connecting to the eaDirect Database DB2, 34 Oracle, 24 Customer Self-Service, 5	Μ	Help documentation, 8 technical support, 9 Migrating eaDirect Applications, 53 UNIX, 20, 32 Windows, 45
D	Database Configuration Fails, 19, 31, 44 DB2, 12, 13 DBConfigTool, 40, 46	O	Oracle, 12, 13, 19 Oracle Services, 22
E	documentation, 8, 12 eaDirect, 2, 7, 18, 41, 48 eaMarket, 2 eaPay, 2 eaPost, 2	S	Password, 52 Permissions Database Server, 11 Resetting, 51 SQL Server, 13
	ear-eadirect.ear, 54 eaSuite, 2, 5 edx_admin.sh, 12, 15, 27, 54 edx_config, 52 Environment Data		Numeric Columns, 37 sqlplus, 24 Starting and Stopping Database Server, 13