



# **eaDirect™ Installation and Configuration Guide**

**eaDirect is a member of the eaSuite™ product line**

**Microsoft Windows 2000® Operating Systems  
and the BEA WebLogic® Server**

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## **Preface**

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## Preface

### About Online Account Management and the eaSuite™

Online Account Management solutions provide organizations and their business and consumer customers with the capability to service every aspect of their account relationship over the Internet. The account encapsulates all pertinent customer information, along with the activity and charges associated with the exchange of goods or services between a customer and an organization, and as such serves as the foundation for the relationship.

Whether an organization provides physical goods or services, the account relationship is one-time or recurring; or the customer is a large business with a global presence or is an individual consumer, the needs remain the same. Today, both organizations and their customers are demanding the ability to efficiently and conveniently manage, analyze accounts and have visibility into account initiations and modifications, detailed account history, orders, disputes and payments.

#### **eaSuite – The Proven Platform for Online Account Management**

edocs has developed the most comprehensive and sophisticated software platform and services for Online Account Management. Organizations that deploy edocs Online Account Management solutions increase productivity and improve profitability by:

- Reducing support and processing costs
- Improving operational effectiveness
- Increasing customer satisfaction
- Enhancing marketing effectiveness

The eaSuite has been deployed at organizations worldwide in some of the most complex business and rigorous technical environments, and has proven to be the industry's most scalable, standards-based platform with a total cost of ownership lower than any competing packaged or custom developed solution.



**eaDirect™** is the platform product of the eaSuite that creates the core infrastructure of enterprise Online Account Management solutions. Organizations use eaDirect to access customer account data and develop ways of presenting the data for viewing, analysis and modification online. By providing business and consumer customers with online account information and self-service capabilities, eaDirect enables organizations to reduce support and processing costs, improve operational effectiveness, and increase customer satisfaction.

**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 Automatic Clearing House (ACH) and credit card payments, and payments via various payment processing service providers.

**eaService™** reduces call center management costs and increases customer satisfaction by providing critical account data access to customer service representatives (CSRs). With eaService, a contact center is able to provide better service by more efficiently resolving customer account inquiries at the point of customer contact. Through its intuitive browser interface, eaService allows CSRs to take advantage of what are generally thought of as customer-facing online capabilities of an Online Account Management system, to draw out account information.

**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 Online Account Management experience. eaMarket leverages the transactional account data that is the foundation of an Online Account Management system to present personalized relevant marketing and customer service messages to customers.

**eaPost®** is the account content distribution system that provides an organization's customers with the convenience of All Portals Addressable™ access to account information. eaPost handles all the complexities of securely distributing summary account information to any endpoint while also bringing customers back the organization's Website to manage and control their online experience.

## About this Guide

This guide describes how to install eaDirect and configure the third-party applications that make up the eaDirect production environment. This guide is intended for system administrators and other technical personnel who are responsible for installing, configuring, and maintaining eaDirect on a Windows 2000 machine.

This guide contains the following chapters:

**Preparing to Install eaDirect** Provides an overview of the eaDirect installation tool and installation options. Also describes pre-installation tasks such as confirming system hardware and software requirements, and setting up the eaDirect environment.

**Setting Up a Database Server for eaDirect** Provides instructions for installing eaDirect on a database server and configuring the third-party software that work with it.

**Setting Up an Application Server for eaDirect** Provides instructions for installing eaDirect on an application server and configuring the third-party software that work with it.

This guide does not describe general Microsoft Windows concepts and commands. For more information, refer to the appropriate Microsoft user documentation.

**Migrating eaDirect Databases** Describes how to migrate previous versions of an eaDirect database.

## Related Documentation

Online Help and a PDF version of this guide are also available.

| Online              | How to Access  |
|---------------------|--|
| Help                | Select <b>Help &gt; Help Topics</b> in DefTool or Composer.      |
| A PDF of this guide | A PDF of this guide is available on the eaDirect product CD-ROM. |

This guide is part of the eaDirect documentation set. For more information about implementing your eaDirect application, see one of the following guides:

| Print Document                    | Description   |
|-----------------------------------|---|
| <i>eaDirect Production Guide</i>  | How to set up and run a live eaDirect application in a J2EE environment.  |
| <i>eaDirect Developer's Guide</i> | Provided with the eaDirect Software Developer's Kit (SDK), describes eaDirect application server components and related applications; defines the public interfaces for customizing and extending the functionality of an eaDirect application. |

Add-on eaSuite products eaPay, eaPost, eaMarket, and eaXchange provide their own documentation.



## 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.

To reach the U.S. Service Center, located in Natick, MA (Monday through Friday 8:00am to 8:00pm EST):

- Telephone: 508.652.8400
- Toll Free: 877.336.3362
- E-support: [support.edocs.com](http://support.edocs.com) (This requires a one-time online registration)
- E-mail: [support@edocs.com](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.



# Preparing to Install eaDirect



This chapter provides an overview of the eaDirect installation tool and describes installation tasks that must be performed before you install eaDirect.

## What You Need to Know Before Installing eaDirect

Before installing eaDirect, you will have to install and configure several other third-party software applications that work with eaDirect. Note that the instructions in this guide describe how to install eaDirect in a distributed computing environment that includes at least one dedicated server for application components and another dedicated server for database components.

When installing eaDirect in a distributed environment, the recommended sequence is to install and configure components on the database server first, then install and configure components on the application server. Also, to ensure a reliable and effective environment for creating eaDirect applications, you must meet the software and hardware minimum requirements (as listed in the topic *Hardware and Software Requirements*) and confirm that eaDirect and the applications that work with it are installed and configured correctly.

A successful installation of eaDirect depends on completing the following pre-installation tasks:

- Confirm that your system configuration meets the recommended software and hardware requirements
- Set up the eaDirect environment

## Hardware and Software Requirements

Confirm that your system meets the minimum recommended hardware and software requirements for installing eaDirect.

### **Hardware:**

- Pentium III or higher processor (or compatible class processor)
- 256MB of RAM (512MB recommended)
- 4GB hard drive (8GB and higher for large data files)
- 1.5GB free disk space for the eaDirect database

### **Software:**

- Microsoft Windows 2000 Server (SP2)
- Microsoft SQL Server 2000
- Bea WebLogic Server 6.1 (SP3)
- Sun Java 2 SDK, Standard Edition 1.3.1 (and required patches)
- Internet Explorer 5.5 (SP2) or Internet Explorer 6.0
- Netscape Navigator 6.2
- CD-ROM device that is supported by Windows 2000

## Setting Up the eaDirect Environment

In order to ensure the proper operation of eaDirect, you must confirm that the third-party software applications that support eaDirect are installed on the appropriate server. When installing these applications it is very important that you follow the instructions in each product's installation documentation. This will help to ensure the integrity and reliability of the eaDirect application environment.

Use the information below to determine the software components that must be installed on each server in your distributed environment (eaDirect is listed among the applications).

**Application Server:**

- eaDirect 3.2 application server components.
- Windows 2000 Server (SP2). Go to [www.microsoft.com](http://www.microsoft.com) for product information and documentation.
- Microsoft SQL Server 2000 Client Tools. Go to [www.microsoft.com](http://www.microsoft.com) for product information and documentation.
- Bea WebLogic Server 6.1 (SP3).

If you plan to create a WebLogic Cluster, see the WebLogic user documentation at [www.weblogic.com](http://www.weblogic.com) for instructions.

- Sun Java 2 SDK, Standard Edition 1.3.1 with required patch cluster.

You can use the Java SDK 1.3.1 that WebLogic Server 6.1 provides in its distribution (minus the required patch cluster), or you can download Sun JDK 1.3.1 from [www.java.sun.com](http://www.java.sun.com).

- Internet Explorer 5.5 (SP2) or Internet Explorer 6.0.
- Netscape Navigator 6.2.

**Database Server:**

- eaDirect 3.2 database server components
- Windows 2000 Server (SP2)
- Microsoft SQL Server 2000
- Sun Java 2 SDK, Standard Edition 1.3.1 with required patch cluster. This is required for running the eaDirect database creation and configuration tool on a database server in a distributed environment.

The required third-party software that works with eaDirect must be obtained separately. eaDirect does not provide them as part of its product distribution. Consult the appropriate vendor's web site for information on how these products can be obtained.

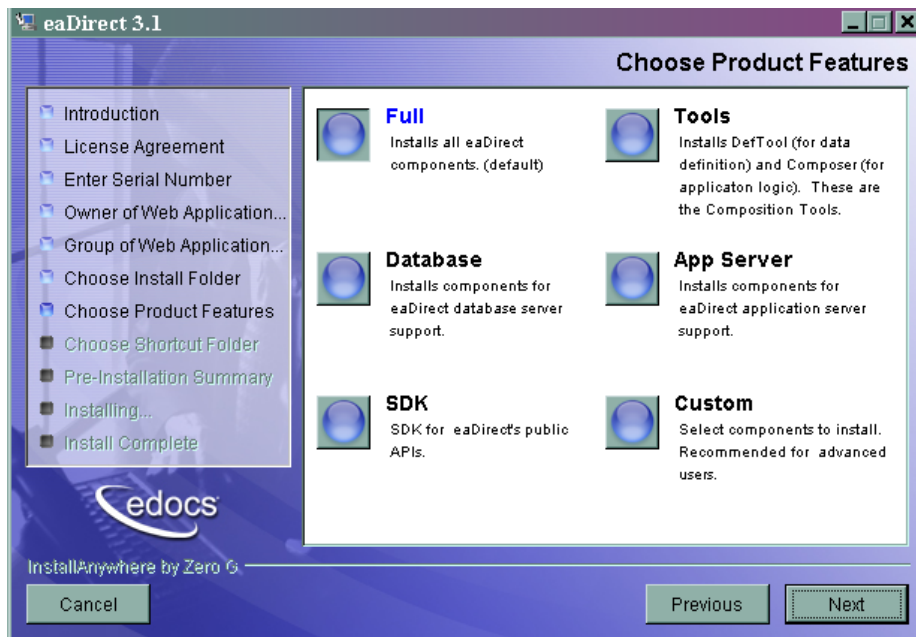
For general installation and maintenance information regarding Windows 2000 Server and other third-party software, see the user documentation that is shipped with each product.

## When Installing Microsoft SQL Server 2000

When installing Microsoft SQL Server 2000, it is recommended that you select Mixed Mode (Windows Authentication and SQL Server Authentication) as your default authentication mode. Selecting Windows Authentication Mode **only** might cause the database creation and configuration procedure (as described in Chapter 2) to fail.

## Installing eaDirect Product Components

The installation of eaDirect product components is done through the InstallAnywhere tool. The tool is provided with eaDirect on its distribution CD-ROM. The following screen shows where you select the eaDirect components to install. Note that the features you see depends on which features you purchased.



Through the tool's easy-to-follow graphical user interface, you can choose to do a full or custom install of eaDirect components on a single server or on multiple servers in a distributed environment. The following tables describes the various eaDirect installation options:

| Installation Option | Components Installed  |
|---------------------|---|
| Full                | <p>Installs eaDirect application server components, eaDirect database server components, WebLogic J2EE files for eaDirect, eaDirect composition tools, and online product Help. This is the default installation option for eaDirect.</p> <p><b>Note:</b> Use this installation option to install eaDirect on a single machine. See the topic <i>Installing eaDirect in a Non-Distributed Environment</i> for more information.</p> |
| Database            | Installs the eaDirect database server components.   |
| Custom              | Gives users the option to install eaDirect application server components, eaDirect database server components, WebLogic J2EE files for eaDirect, eaDirect composition tools, eaDirect sample applications, Hierarchy samples (if licensed), and online product Help.  |
| Tools               | Installs the eaDirect composition tools, sample applications, and online help for the composition tools.  |
| App Server          | Installs eaDirect application server components, WebLogic J2EE files for eaDirect, and sample applications.   |
| SDK                 | Provides Javadoc, documentation and samples for the eaDirect API. This component will only appear if you have purchased a license for the SDK.  |

InstallAnywhere copies eaDirect files from the distribution CD-ROM to the appropriate directories, and sets up the directory hierarchy for database server and application server components. It also adds icons to the eaDirect program group that is accessible from the Windows Start menu.

For specific information about installing eaDirect components using InstallAnywhere, see the topics *Installing the eaDirect Database Components* and *Installing the eaDirect Application Server Components*.



## Installing eaDirect in a Non-Distributed Environment

This guide is organized to show how to install eaDirect in a distributed environment that has at least one dedicated database server and application server. However, using the InstallAnywhere 'Full' installation option, you can choose to install all the eaDirect product components on a single machine. The following procedure describes how to do this.

### To install eaDirect using the 'Full' installation option:

1. From the `\Windows` subdirectory on the installation CD-ROM, double-click the command to invoke the InstallAnywhere GUI:  
**Dirins.exe**  
  
A start-up screen is displayed.
2. On the Introduction screen, read the eaDirect introductory information. Then click **Next**.
3. On the License Agreement screen, carefully read the terms of the agreement (use the scroll bars to move up and down on the screen) and accept the terms of the license agreement by clicking the appropriate radio button. Then click **Next**.
4. On the Enter Serial Number screen, enter your product serial number. It is stapled to the inside front cover of this guide (if your serial number has been misplaced, contact edocs Technical Support). Then click **Next**.
5. On the Choose Install Folder screen, accept the default installation folder (`C:\EDCSbd`) or click **Choose** to specify another installation folder. Then click **Next**.
6. On the Choose Product Features screen, click **Full** (default installation option). Then click **Next**.

7. On the Choose Shortcut Folder screen, specify where you want to create product icons. You can accept the default (create product icons in a new program group labeled 'eaDirect'), or click the **Other** radio button then **Choose** and specify a different location for the product icons. Then click **Next**.
8. On the Pre-Installation Summary screen, confirm that the information is accurate. Then click **Install**.

At this point, the eaDirect database and application server components copied to the designated installation folder. A status bar on the bottom of the screen shows each component being installed. No user intervention is necessary.

9. The Install Complete screen reports a successful installation and the directory that contains the eaDirect components.
10. Click **Done** to exit the installer.

## Completing the Full Installation

If you have installed eaDirect using the InstallAnywhere 'Full' installation option, you can ignore the database server components installation at the beginning of Chapter 2, and proceed directly to the topic *Setting Up the SQL Server Database for eaDirect*. Similarly, you can also ignore the application server components installation procedure in Chapter 3.

# Setting Up a Database Server for eaDirect

# 2

## Overview

This chapter provides instructions for installing eaDirect on a database server and configuring the third-party software that works with it. If you have not completed the prerequisite tasks for installing eaDirect as described in the topic, *What You Need to Know When Installing eaDirect*, do so now. This will help to ensure a smooth and successful installation.

Setting up a database server to support eaDirect involves completing the following tasks:

1. Confirm that Microsoft SQL Server 2000 is installed
2. Install eaDirect using the provided installation executable
3. Run the database creation and configuration tool to configure SQL Server for eaDirect

The installation and configuration examples shown in this chapter uses default eaDirect pathnames. If you choose not to accept the default pathnames, make sure your pathnames are consistent throughout the installation of eaDirect on the database and application servers.

## Understanding the eaDirect Directory Structure on a Database Server

The eaDirect home directory on the database server contains all the files needed to create and configure the eaDirect production database. When you install the eaDirect database server components, you are prompted to specify a ‘destination’ directory. By default, this directory is *C:\EDCSbd* and it has a pre-defined hierarchical directory structure.

At the top of the directory hierarchy is *EDCSbd*. Below *EDCSbd* are the subdirectories *\db\mssql* (which contains a subdirectory named *migration*) and *\tmp*. These subdirectories are used for database creation, configuration, and migration.

---

```
<EDCSbd>
  \db\mssql
  \db\mssql\migration
  \tmp
```

---

To designate a different destination directory for the eaDirect database server components, enter the pathname to the directory when prompted during the installation procedure. It is recommended that you install eaDirect in the same directories on both the database server and the application server.

## Installing the eaDirect Database Server Components

If you have not completed the prerequisite tasks for installing eaDirect as described in the topic, *What You Need to Know Before Installing eaDirect*, do so now. This will help to ensure a smooth and successful installation.

### To install the eaDirect database server components:

1. From the *\Windows* subdirectory on the installation CD-ROM, double-click the command to invoke the InstallAnywhere GUI:

**Dirins.exe**

A start-up screen is displayed.

2. On the Introduction screen, read the eaDirect introductory information. Then click **Next**.
3. On the License Agreement screen, carefully read the terms of the agreement (use the scroll bars to move up and down on the screen) and accept the terms of the license agreement by clicking the appropriate radio button. Then click **Next**.
4. On the Enter Serial Number screen, enter your product serial number. It is stapled to the inside front cover of this guide (if your serial number has been misplaced, contact edocs Technical Support). Then click **Next**.
5. On the Choose Install Folder screen, accept the default installation folder or click **Choose** to specify another installation folder. Then click **Next**.
6. On the Choose Product Features screen, click **Database**. Then click **Next**.
7. On the Choose Shortcut Folder screen, specify where you want to create product icons. You can accept the default or click the **Other** radio button then **Choose** and specify a different location for the product icons. Then click **Next**.
8. On the Pre-Installation Summary screen, confirm that the information is accurate. Then click **Install**.

At this point, the eaDirect database server components are copied to the designated installation folder. No user intervention is required.

9. The Install Complete screen reports a successful installation and directory that contains the database server components.

If the installation fails, determine the cause of the problem and reinstall eaPay. If you need to contact edocs Technical Support, see the section *If You Need Help*.

10. Click **Done** to exit the installer.

## Setting Up the SQL Server Database for eaDirect

Setting up the SQL Server database for eaDirect consists of the following configuration procedures:

- Increasing the default width for SQL numeric columns
- Configuring the eaDirect production database

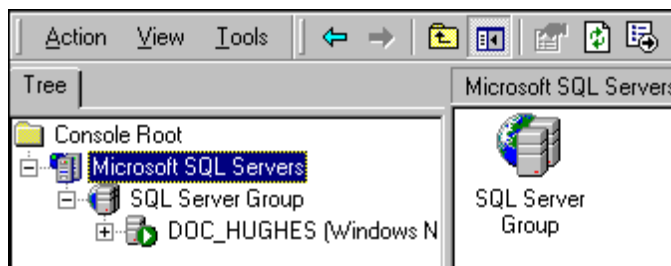
The following topics describe how to do each procedure.

### Increasing the Default Width for SQL Server Numeric Columns

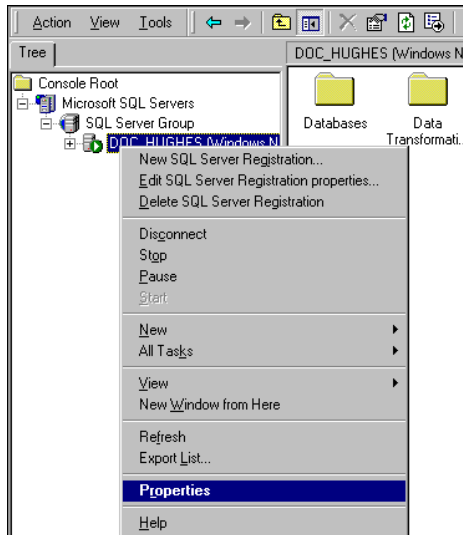
By default, the width for SQL Server numeric columns is 28 characters long. However, eaDirect **requires** that the width of numeric columns be a minimum of 38 characters long. This means you must increase the default width for numeric columns in SQL Server in order for the database creation and configuration tool to run successfully.

#### To increase the default width of SQL Server numeric columns:

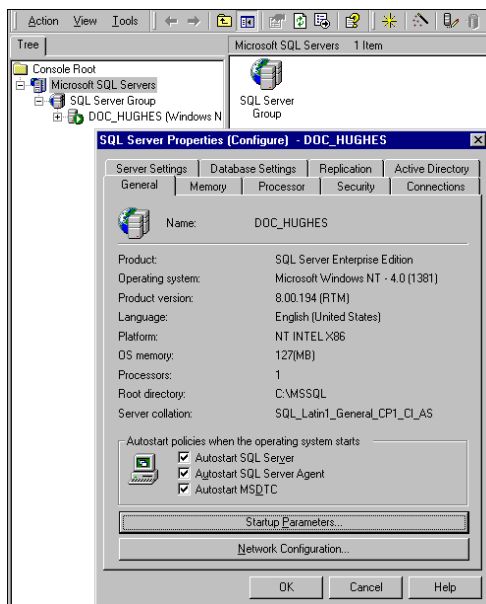
1. From the Start menu, select **Programs** and **Microsoft SQL Server**, and click **Enterprise Manager**. The SQL Enterprise Manager window is displayed.
2. In the left pane, expand **Microsoft SQL Servers** and **SQL Server Group** to show your server. The sample screen shows a SQL server named DOC\_HUGHES.



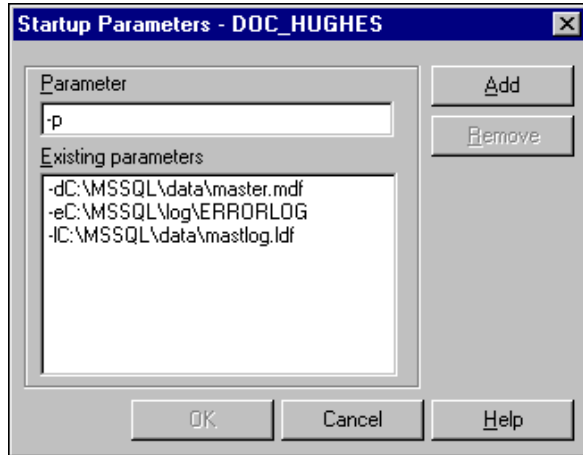
3. In the left pane, highlight your SQL server by right clicking on its name, and then click **Properties** from the menu.



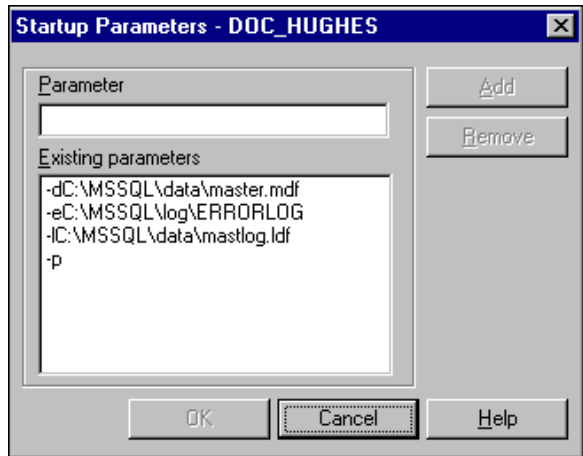
The SQL Server Properties dialog is displayed.



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



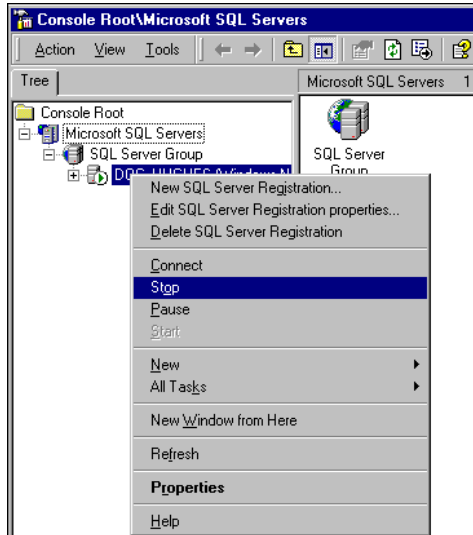
6. Click **Add**. The new startup parameter is added to the list of existing parameters.



7. Click **OK** to close the dialog.



8. Stop and start the SQL server for the new startup parameter to take effect. Right-click the server name and select **stop** from the menu.



9. To start the SQL server, right-click the server name and select **start** from the menu.

## Creating and Configuring the eaDirect Production Database

Creating and configuring the eaDirect production database consists of a series of screens where you 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. You use the Java database configuration tool, *DBConfigTool.jar*, to create and configure the production database.

You will need the required Java SDK (see the topic *Software and Hardware Requirements* for more information) on the machine from where you will be running *DBConfigTool.jar*. This could be the machine your database is on, or another machine. Again, the machine that has your database on it does not need the Java SDK unless you will be running *DBConfigTool.jar* from it.

However, if you are doing a single-server installation of eaDirect, make sure that the required Java SDK has been installed.

---

**Caution** When installing Microsoft SQL Server 2000, it is recommended that you select Mixed Mode (Windows Authentication and SQL Server Authentication) as your default authentication mode. Selecting Windows Authentication Mode **only** might cause the database creation and configuration procedure to fail.

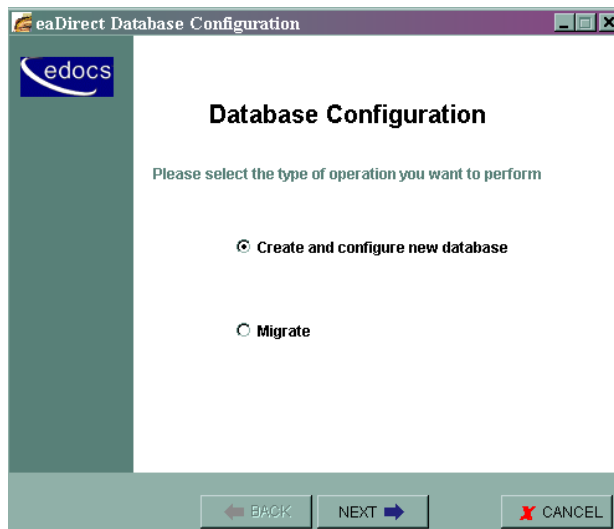
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**To create and configure the eaDirect production database:**

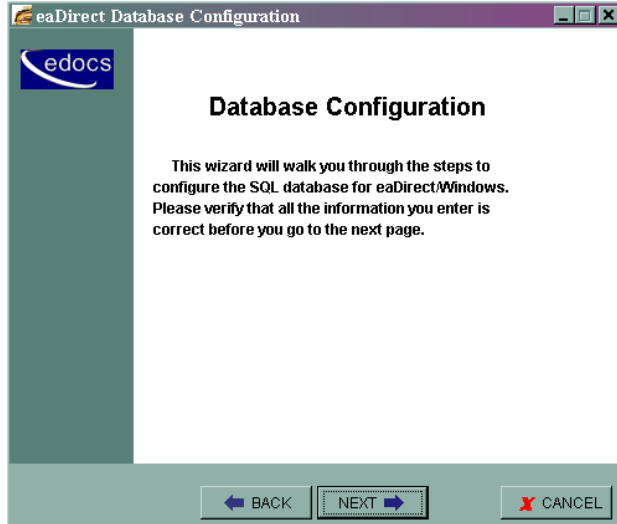
1. Open a Command Prompt window and change directory to `%EDX_HOME%\db\mssql` (where `%EDX_HOME%` is the eaDirect installation directory). Run the Java database creation and configuration tool `DBConfigTool.jar`:

```
C:\> cd EDCSbd\db\mssql
java -jar DBConfigTool.jar
```

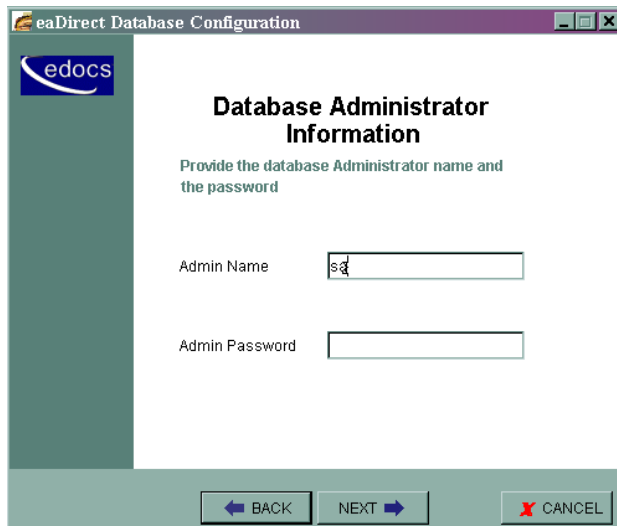
The Database Configuration screen is displayed.



2. Select **Create and configure new database** (default), and then click **Next**. A second database configuration screen is displayed.

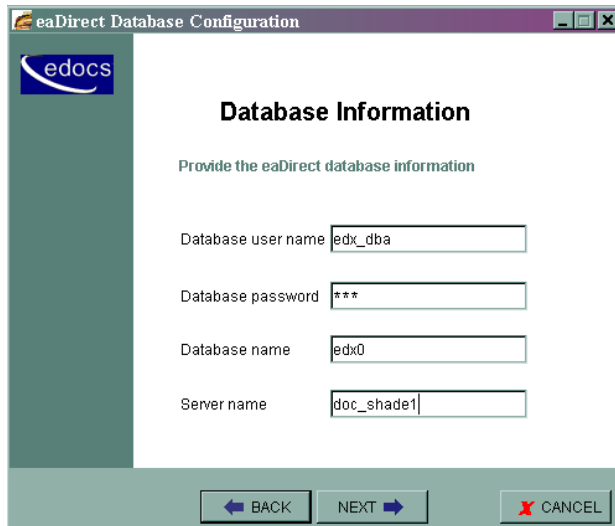


3. Click **next**. The Database Administrator Information screen is displayed.
4. Enter the Admin Name and Admin Password (if your database has one) for the SQL database. By default the Admin Name is 'sa'.



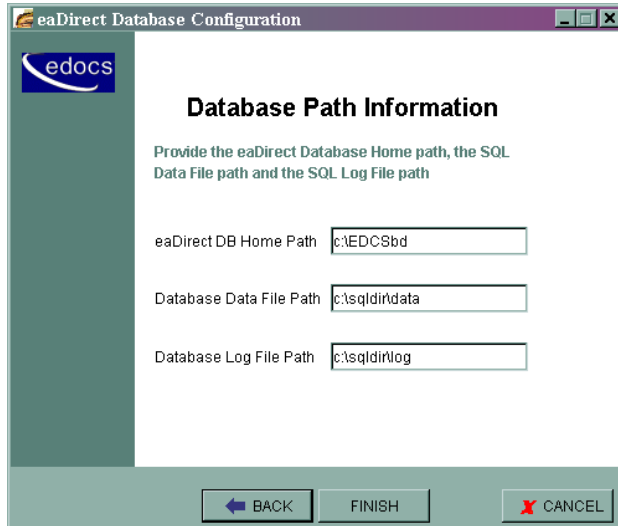
5. Click **next**. The Database Information screen is displayed.

- Specify a new database user name, database password, and database name for the new database. Also, enter the name of the server on which the database will be created. For example:

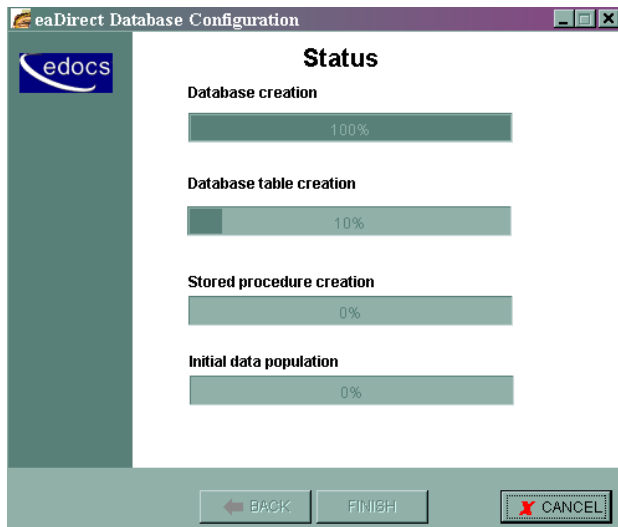


The screenshot shows a window titled "eaDirect Database Configuration" with the edocs logo in the top left. The main heading is "Database Information" with the instruction "Provide the eaDirect database information". There are four input fields: "Database user name" with the value "edx\_dba", "Database password" with "\*\*\*", "Database name" with "edx0", and "Server name" with "doc\_shade1". At the bottom, there are three buttons: "BACK" with a left arrow, "NEXT" with a right arrow, and "CANCEL" with a red X icon.

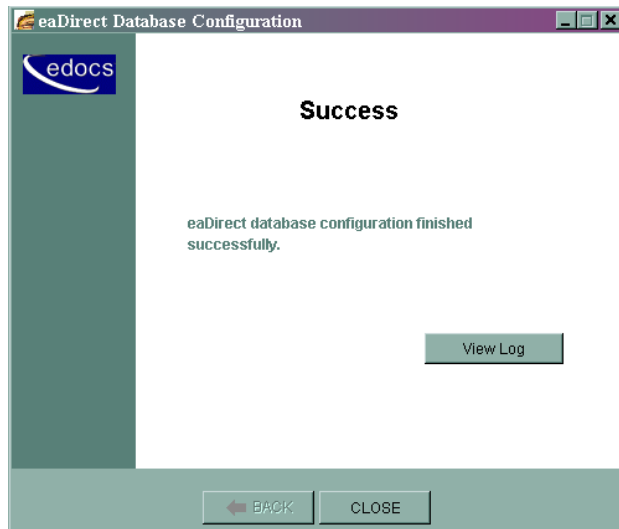
- Click **Next**. The Database Path Information screen is displayed.
- Specify the pathname to the database installation directory, location of the SQL data file, and the location of the SQL log file. For example:



9. Click **Finish**. A status screen is displayed showing the progress of each task performed by the database creation and configuration tool.



10. A confirmation screen is displayed if the database is configured successfully.

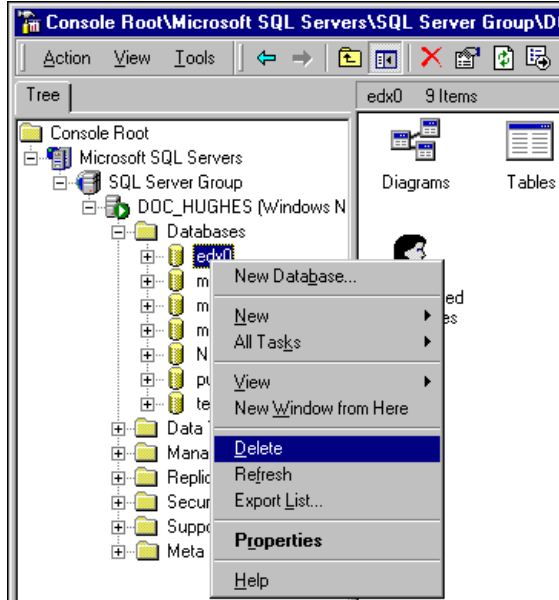


11. Click **Close** to exit from the database creation and configuration tool.

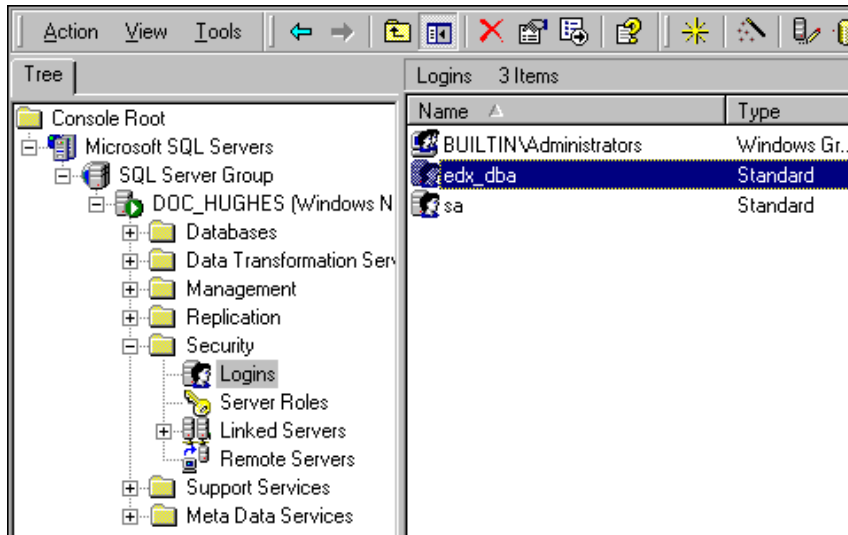
## What to do if the Database Creation and Configuration Fails

If you have to abort the database creation and configuration procedure, or if it fails to create and configure the database (generates a “Failure” screen), do the following steps before running the database tool again.

1. From the Start menu, select **Programs** and **Microsoft SQL Server**, and click **Enterprise Manager**. The Enterprise Manager screen is displayed.
2. Expand the SQL Server Group and click the **Database** folder.
3. Highlight the name of the newly created database and delete it from the list of installed databases. The sample screen shows the database, `edx0`, being deleted.



4. Scroll down to the Security folder and expand it to show Logins. Delete the user for the database that you just deleted. The sample screen shows the database user *edx\_dba* being deleted.



## Setting Up a Database Server for eaDirect

5. Open a Command Prompt window and run the database creation and configuration tool again, making sure that the values on a screen are correct before proceeding to the next screen.



# Setting Up an Application Server for eaDirect

# 3

## Overview

This chapter provides instructions for installing eaDirect on an application server and configuring the third-party software that support it. Setting up an application server to support eaDirect involves completing the following tasks:

- Confirm that WebLogic Server 6.1 (SP3) is installed
- Confirm that JDK 1.3.1 with required patch cluster is installed
- Install the eaDirect application server components
- Define your eaDirect environment
- Configure WebLogic Server's Java resources for eaDirect

If you have not already configured the database server, do so now. See Chapter 2 for more information.

The installation and configuration examples shown in this chapter use default pathnames for eaDirect. If you choose not to accept the default pathnames, make sure your pathnames are consistent throughout the installation of eaDirect on the database and application servers.

## Understanding the eaDirect Directory Structure on the Application Server

The eaDirect home directory on the application server contains all the files that are needed and created by the eaDirect application. When you install the eaDirect application server components, you are prompted to specify a ‘destination’ directory. By default, this directory is *C:\EDCSbd* and it has a pre-defined hierarchical directory structure.

At the top of the directory hierarchy is *EDCSbd*. Below *EDCSbd* are several subdirectories that are grouped by functionality and contain the J2EE enterprise applications, dynamic link libraries, executables, log files, configuration files, and sample applications that eaDirect uses. It is recommended that you install eaDirect in the same directory on the application and database servers.

---

```
<EDCSbd>
  \AppProfiles
  \bin
  \config
  \Data
  \Input
  \J2EEApps
  \jre
  \lib
  \logs
  \Output
  \samples (created only if the eaDirect Sample
            components are installed.)
  \Uninstall
```

---

During the eaDirect installation several files (such as the product Release Notes and the eaDirect installation log file) are copied to *EDCSbd*. These files are not shown in the sample directory structure above.



---

When installing eaDirect on a single machine with the InstallAnywhere ‘Full’ option, the database subdirectories (as mentioned in the topic *Understanding the eaDirect Directory Structure on a Database Server* in Chapter 2) are included in the eaDirect directory hierarchy shown above.

---

| Directory   | Contents  |
|-------------|---|
| AppProfiles | Contains the Versioned Sets (configuration and HTML template files created in the design environment) that are published to the production environment.   |
| bin         | Contains the eaDirect release notes and files used to start the Scheduler from a command prompt window, or as a Windows service.  |
| config      | Contains configuration files that are used to define the eaDirect environment.  |
| Data        | Contains files that are copied to this directory after the Scanner finds them in the Input directory for an application and moves them here. The other production tasks use these files to process the input data from a service provider.  |
| Input       | Contains the input data files from a service provider that are needed by the Scanner production task.   |
| J2EEApps    | Contains the eaDirect J2EE EAR file <i>ear-eadirect.ear</i> . This file also contains the WAR files for the eaPay, eaPost, and eaXchange add-on modules.  |
| jre         | Contains library and binary files that are used by the Java Runtime Environment.  |
| lib         | Contains several executable java archive ( <i>.jar</i> ) files and Dynamic Link Libraries ( <i>.dll</i> ).  |
| logs        | Contains application log files.   |
| Output      | Contains any output files generated by the application and its jobs.  |
| samples     | Contains the <i>ear-easample.ear</i> and <i>ear-eatraining.ear</i> sample applications in subdirectories labeled <i>\eaSample</i> and <i>\eaTraining</i> . Also contains sample files that can be used with <i>ear-easample.ear</i> and <i>ear-eatraining.ear</i> .<br>Also includes <i>hierarchySample</i> (if licensed) and <i>umfSample</i> (if licensed). |
| Uninstall   | Contains the eaDirect 3.2 uninstall script and other files pertaining to uninstalling eaDirect.   |

## Installing the eaDirect Application Server Components

If you have not completed the prerequisite tasks for installing eaDirect as described in the topic, *What You Need to Know Before Installing eaDirect*, do so now. This will help to ensure a smooth and successful installation.

When you install eaDirect, you are prompted to specify a ‘destination’ directory. By default, the eaDirect application server components are installed in *C:\EDCSbd*.

### To install the eaDirect application server components:

1. From the *\Windows* subdirectory on the eaDirect installation CD-ROM, double-click the command to invoke the InstallAnywhere GUI:  
**Dirins.exe**  
  
A start-up screen is displayed.
2. On the Introduction screen, read the eaDirect introductory information. Then click **Next**.
3. On the License Agreement screen, carefully read the terms of the agreement (use scroll bars to move up and down on the screen) and accept the terms of the license agreement by clicking the appropriate radio button. Then click **Next**.
4. On the Enter Serial Number screen, enter your product serial number. It is stapled to the inside front cover of this guide (if your serial number has been misplaced, contact edocs Technical Support). Then click **Next**.
5. On the Choose Install Folder screen, accept the default installation folder (*C:\EDCSbd*) or click **Choose** to specify another installation folder. Then click **Next**.
6. On the Choose Product Features screen, click **App Server**. Then click **Next**.

7. On the Choose Shortcut Folder screen, specify where you want to create product icons. You can accept the default folder or click the **Other** radio button, and then click **Choose** to specify a different location for the product icons. Then click **Next**.
8. On the Pre-Installation Summary screen, confirm that the information is accurate. Then click **Install**.

At this point, the eaDirect application server components are copied to the designated installation folder. A status bar on the bottom of the screen shows each application server component being installed. No user intervention is required.

9. The Install Complete screen reports a successful installation and the name of the directory that contains the application server components.
10. Click **Done** to exit the installer.

## Defining Your eaDirect Environment

eaDirect provides several configuration files that you use to define your environment for WebLogic Server. Among these files are *edx\_env.bat* and *edx\_bcp.config*, which are used to provide specific information about your environment. During installation of eaDirect, all the configuration files are copied to *%EDX\_HOME%\config*.

Setting up the eaDirect environment for WebLogic Server involves modifying the eaDirect configuration files *edx\_env.bat* and *edx\_bcp.config* for your environment.

## Modifying *edx\_env.bat* and *edx\_bcp.config.bat*

When modifying *edx\_env.bat*, you will have to define values for the following undefined environment variables:

| Environment Variable | Value   |
|----------------------|---|
| APP_SERVER           | Specifies which application server you are using, <i>wl</i> (WebLogic) or <i>ws</i> (WebSphere) |
| EDX_HOME             | Pathname to the eaDirect installation directory   |
| WL_HOME              | Pathname to the WebLogic Server installation directory  |
| WL_DOMAIN            | WebLogic Server domain name   |
| JAVA_HOME            | Pathname to the installed JDK   |

### To modify *edx\_env.bat*:

1. From Windows Explorer, navigate to *%EDX\_HOME%\config*.
2. Open *edx\_env.bat* by right clicking on it, and selecting **E****d****i****t** from the menu. The default *edx\_env.bat* file will look like:

---

```
@rem define APP_SERVER begin
@rem define APP_SERVER end

@rem define EDX_HOME begin
@rem define EDX_HOME end

@rem define JAVA_HOME
@rem define JAVA_HOME
```

---

---

```
@rem define WL_HOME
@rem define WL_HOME

@rem define WL_DOMAIN
@rem define WL_DOMAIN
```

---

3. Modify *edx\_env.bat* to reflect your eaDirect environment. For example:

---

```
@rem define APP_SERVER begin
@set APP_SERVER=w1
@rem define APP_SERVER end

@rem define EDX_HOME begin
@set EDX_HOME=C:\EDCSbd
@rem define EDX_HOME end

@rem define JAVA_HOME
@set JAVA_HOME=C:\JDK131
@rem define JAVA_HOME

@rem define WL_HOME
@set WL_HOME=C:\bea\wlserver6.1
@rem define WL_HOME

@rem define WL_DOMAIN
@set WL_DOMAIN=mydomain
@rem define WL_DOMAIN
```

---

4. Save and close *edx\_env.bat*.

**To modify *edx\_bcp.config.bat*:**

1. From Windows Explorer, navigate to *%EDX\_HOME%\config*.
2. Open *edx\_bcp.config.bat* by right clicking on it, and selecting **Edit** from the menu.
3. The default *edx\_bcp.config.bat* file contains default settings that you might have to change for your environment. The values for User and Password should match the *username:password* combination entered during the database creation and configuration process. The value for SQL server is the name of the SQL server on which you created the eaDirect database.

---

```
@set JAVA_OPTIONS=%JAVA_OPTIONS% -Dcom.edocs.tasks.loader.user=sql_username  
@set JAVA_OPTIONS=%JAVA_OPTIONS% -Dcom.edocs.tasks.loader.password=sql_password  
@set JAVA_OPTIONS=%JAVA_OPTIONS% -Dcom.edocs.tasks.loader.server=sql_servername
```

---

4. Modify *edx\_bcp.config.bat* for your environment. For example:

---

```
@set JAVA_OPTIONS=%JAVA_OPTIONS% -Dcom.edocs.tasks.loader.user=edx_dba  
@set JAVA_OPTIONS=%JAVA_OPTIONS% -Dcom.edocs.tasks.loader.password=edx  
@set JAVA_OPTIONS=%JAVA_OPTIONS% -Dcom.edocs.tasks.loader.server=doc_hughes
```

---

5. Save and close *edx\_bcp.config.bat*.

## Modifying WebLogic Server Startup for eaDirect

You can start WebLogic Server for eaDirect in two ways:

- From a Command Prompt window
- As a Windows Service

Depending on how you choose to start WebLogic Server, you will have to modify either the *startWebLogic.cmd* or *InstallNtService.cmd* command to allow WebLogic Server to process environmental variables and database settings for your environment each time it starts up. The following topics describe how to pass your eaDirect environment to WebLogic Server at start up from a Command Prompt window, or as a Windows Service.

### Starting WebLogic Server from a Command Prompt Window

**To start WebLogic Server from a Command Prompt window:**

1. From Windows Explorer, navigate to *%WL\_HOME%\config\mydomain*.
2. Open *startWebLogic.cmd* by right clicking its name and selecting **E**dit. Add the following lines of code at the top of the 'user-defined variables' section:

---

```
@Set EDX_HOME=<your_eaDirect_installation_directory>  
@call %EDX_HOME%\config\edx_env.bat
```

---



3. Remove any other entries that might be in the 'user-defined variables' section.
4. In the 'runWebLogic' section, add the following lines of code just beneath the 'set CLASSPATH' command:

---

```
@call %EDX_HOME%\config\edx.config.bat
```

---

Note that the file *edx.config.bat* calls *edx\_bcp.config.bat*, which contains the SQL Server database settings you defined earlier.

5. In the same section, add your WebLogic Server password. This is the password that you specified when you installed WebLogic Server.

---

```
@rem Set WLS_PW equal to your system password for no password prompt at server startup.
set WLS_PW=<your_WebLogic_password>
```

---

6. In the same section, replace the current Java command with the following lines of code:

---

```
"%JAVA_HOME%\bin\java" %JAVA_OPTIONS% -classpath "%CLASSPATH%" -
Dweblogic.Domain=%WL_DOMAIN% -Dweblogic.Name=myserver "-Dbea.home=C:\bea" -
Dweblogic.management.password=%WLS_PW% -
Dweblogic.ProductionModeEnabled=%STARTMODE% "-
Djava.security.policy==C:\bea\wlserver6.1\lib\weblogic.policy" Weblogic.Server
```

---

7. Save and close *startWebLogic.cmd*.
8. Open a Command Prompt window, and change directory to *%WL\_HOME%\config\mydomain*. For example:  

```
C:\> cd bea\wlserver6.1\config\mydomain
```
9. At the command prompt, run the command to start WebLogic Server:  

```
C:\> startWebLogic.cmd
```

## Starting WebLogic Server as a Windows Service

If you have already installed WebLogic as a Windows Service and are upgrading from eaDirect Version 2.1, you will need to uninstall and then reinstall the WebLogic Service so that the new classpath (*edx\_common.jar*) will be included. Otherwise, you will receive an error and the new pools will not work for logging. You also should delete the Logger service because it is not used anymore.

### To start WebLogic Server as a Windows Service:

1. From Windows Explorer, navigate to `%WL_HOME%\config\mydomain` (where `%WL_HOME%` is the WebLogic installation directory).
2. Make a copy of *InstallNtService.cmd* in case you have to go back to the original settings.
3. Open *InstallNtService.cmd* by right clicking on its name, and selecting **Edit**.
4. Add the following lines of code in the 'SETLOCAL' section:

```
@set EDX_HOME=<your_eaDirect_installation_directory>
@call %EDX_HOME%\config\edx_env.bat
```

---

```
SETLOCAL
@set EDX_HOME=C:\EDCSbd
@call %EDX_HOME%\config\edx_env.bat
```

---

5. In the 'Set Classpath to load WebLogic Classes' section, add the following line of code after the Set CLASSPATH command:

```
@call %EDX_HOME%\config\edx.config.bat
```

---

```
rem *** Set Classpath to load Weblogic Classes
Set CLASSPATH=.;C:\bea\wlserver6.1\lib\weblogic_sp.jar;
C:\bea\wlserver6.1\lib\weblogic.jar
@call %EDX_HOME%\config\edx.config.bat
```

---

Note that the file *edx.config.bat* calls *edx\_bcp.config.bat*, which contains the SQL database settings you defined earlier.

6. In the 'Set Command Line' section, replace the original settings:

```
-ms64m -mx64m
```

With the variable:

`%JAVA_OPTIONS%`

---

```
set CMDLINE="%JAVA_OPTIONS% -classpath \"%CLASSPATH%\"
-Dweblogic.Domain=mydomain -Dweblogic.Name=myserver
-Djava.security.policy=\"%C:\bea\wlserver6.1\lib\weblogic.policy\"
-Dbea.home=\"%C:\bea\" weblogic.Server"
```

---

7. In the ‘Install the service’ section, change the name of the service (-svcname:<your\_service\_name>) if necessary. By default, the service name is “myserver”.

---

```
rem *** Install the service
"C:\bea\wlserver6.1\bin\beasvc" -install -svcname:myserver
-javahome:"%JAVA_HOME%" -execdir:"C:\bea\wlserver6.1"
-extrapath:"C:\bea\wlserver6.1\bin;C:\EDCSbd\lib" -cmdline:%CMDLINE%
```

---

8. In the same section, replace the current setting:

-javahome:"c:\bea\jdk131" (where *-javahome* points to your installed JDK)

with the following:

**-javahome:"%JAVA\_HOME%"**

---

```
rem *** Install the service
"C:\bea\wlserver6.1\bin\beasvc" -install -svcname:myserver
-javahome:"%JAVA_HOME%" -execdir:"C:\bea\wlserver6.1"
-extrapath:"C:\bea\wlserver6.1\bin;C:\EDCSbd\lib" -cmdline:%CMDLINE%
```

---

9. In the same section, add your WebLogic Server password after the ‘-cmdline’ setting.

**-cmdline:%CMDLINE% -password:<your\_WebLogic\_password>**

---

```
rem *** Install the service
"C:\bea\wlserver6.1\bin\beasvc" -install -svcname:myserver
-javahome:"%JAVA_HOME%" -execdir:"C:\bea\wlserver6.1"
-extrapath:"C:\bea\wlserver6.1\bin;C:\EDCSbd\lib"
-cmdline:%CMDLINE% -password:lovelyday
```

---

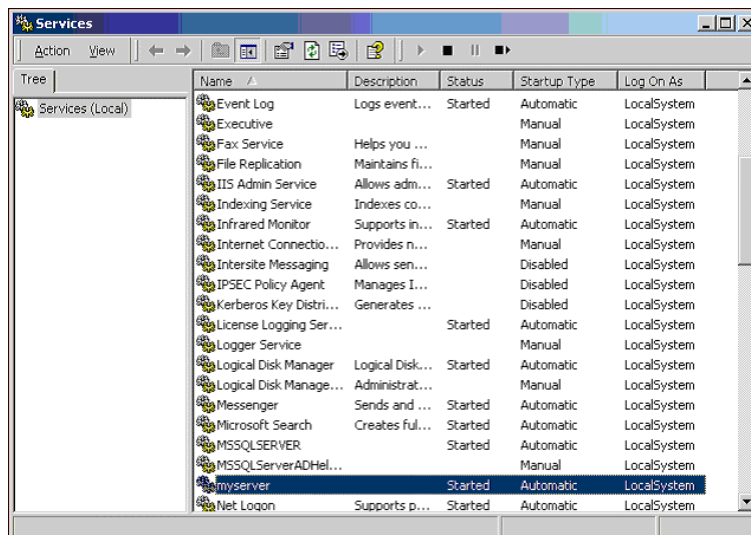
10. In the same section, add the path `C:\EDCSbd\lib` as an extra path (substituting your drive where necessary).

---

```
rem *** Install the service
"C:\bea\wlserver6.1\bin\beasvc" -install -svcname:myserver
-javahome:"%JAVA_HOME%" -execdir:"C:\bea\wlserver6.1"
-extrapath:"C:\bea\wlserver6.1\bin;C:\EDCSbd\lib"
-cmdline:%CMDLINE% -password:documentation
```

---

11. Save and close `installNtService.cmd`.
12. Open a Command Prompt window, and change directory to `%WL_HOME%\config\mydomain`. For example:  
**C:\bea\wlserver6.1\config\mydomain**
13. Run `installNtService.cmd` to install WebLogic Server as a Windows Service.  
**C:\> installNtService.cmd**
14. A confirmation message is shown in the Command Prompt window if the server is installed successfully.
15. From the Control Panel, open the Services dialog, and then start the WebLogic Server service.



Allow some time for WebLogic Server to start up.

### Troubleshooting Tips

- **If the WebLogic service is unable to find *edx\_bcp.config.bat* at startup**

If the WebLogic service is not able to find the file *edx\_bcp.config.bat*, add the path *-extrapath:C:\bea\wlserver6.1\bin;%PATH%* to *installNtService.cmd* (substituting your drive where necessary):

---

```
"C:\bea\wlserver6.1\bin\beasvc" -install -svcname:myserver
-javahome:"%JAVA_HOME%" -execdir:"C:\bea\wlserver6.1"
-extrapath:"C:\bea\wlserver6.1\bin;%PATH%" -cmdline:%CMDLINE%
-password:lovelyday
```

---

- **If you encounter problems when running customized Web pages**

If you encounter problems when running customized Web pages, do the following:

1. From your domain in the WebLogic Server Console, select **Servers** and **<your\_server>**. A tabbed dialog with the name of your server on it is displayed in the right pane.
2. On the Configuration/Compilers tab, change the Java Compiler value from the default 'javac' to the location of 'javac' in your installed JDK. For example: *C:\JDK131\bin\javac*.
3. Restart WebLogic Server.

- **If the scheduler and logger processes are running before starting WebLogic**

When starting WebLogic, if you get the error:

---

```
<Error> <ConnectionManager>
<Closing: 'weblogic.rjvm.t3.T3JVMConnection@7387aa' because of: 'Server
received a message over an uninitialized connection: 'JVMMMessage from: 'null''
```

---

Shutdown the eaDirect scheduler and logger processes, and restart WebLogic.

## Configuring WebLogic Server's Java Resources for eaDirect

After you have successfully configured the SQL database for eaDirect, you must create and configure several Java Database Connectivity (JDBC) and Java Message Service (JMS) resources on WebLogic Server. These resources enable the manipulation of existing data from relational databases and other data sources, and enable application components to asynchronously send and receive messages.

Specifically, you will be doing the following:

- Configure JDBC Connection Pools
- Configure JDBC Transaction (Tx) Data Sources
- Configure JMS Connection Factories
- Configure JMS JDBC Stores
- Configure JMS Servers
- Configure JMS Topics
- Configure Session Pools

You configure WebLogic's Java resources through the web-based WebLogic Server Console. By default, WebLogic copies the Java configuration settings to `%WL_HOME%\config\mydomain\config.xml` (where `%WL_HOME%` represents the directory in which you installed WebLogic Server).



**Caution**

When entering required attribute values for Java resources, be particularly mindful of case sensitivity. Failure to heed case sensitivity can result in problems later on, including not being able to log into the eaDirect Command Center.

---

**To configure WebLogic Server’s Java Resources for eaDirect:**

1. Start WebLogic Server, if it isn’t already running. (You can start the default WebLogic server by going to the Start menu and selecting **Programs** and **Bea WebLogic E-Business Platform** and **WebLogic Server 6.1**. Then click **Start Default Server**.)
2. From the Start menu, select **Programs** and **Bea WebLogic E-Business Platform** and **WebLogic Server 6.1**, and click **Start Default Console**.

You can also open the WebLogic Server Console from a web browser by entering a URL with the following syntax:

`http://host:port/console`

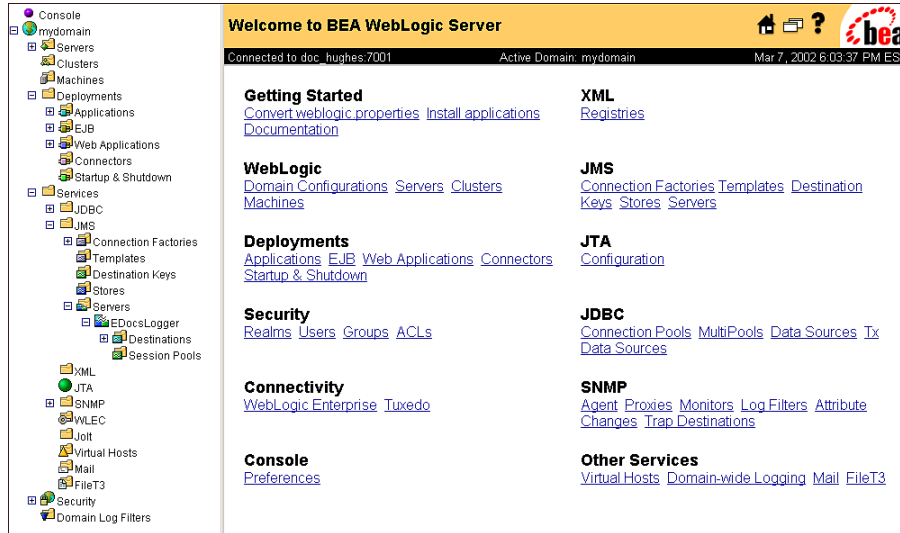
For example:

`http://doc_hughes:7001/console`

3. In the Enter Network Password dialog, enter a user name and password. The default user name is ‘system’ and the password is the one you specified during installation of WebLogic Server.



4. Click OK. The WebLogic Server Console is displayed.



## Configuring the JDBC Connection Pools

A connection pool contains named groups of JDBC connections that are created when the connection pool is registered, usually when starting up WebLogic Server. WebLogic Server opens JDBC connections to the database during the startup process and adds the connections to the pool.

Your application borrows a connection from the pool, uses it, and then returns it to the pool by closing it. For more information about how WebLogic Server uses JDBC connection pools, refer to the WebLogic programming and user documentation at <http://bea.com/>.

You will create three JDBC Connection Pools. The next section describes how to create the first JDBC Connection Pool. After that procedure, the values for the remaining two connection pools are listed. Create those connection pools following the procedure shown for the first connection pool.



**To configure the first JDBC connection pool:**

1. From your domain in the left pane, select **Services** and **JDBC and Connection Pool**.
2. In the right pane, click the **Configure a New JDBC Connection Pool** link. A tabbed dialog for configuring a new connection pool is displayed.
3. On the Configuration/General tab, enter values for the Name, URL, Driver Classname, and Properties attributes, as shown in the following table:

| Attribute Name   | Attribute Values   |
|------------------|--|
| Name             | edxUserConnectionPool  |
| URL              | jdbc:inetpool:inetdae7://<SQL_server_name>:1433  |
| Driver Classname | com.inet.pool.PoolDriver   |
| Properties       | <pre> user=&lt;SQL_server_db_username&gt; poolurl=jdbc:inetpool:inetdae7://&lt;SQL_server_name&gt;:1433 password=&lt;SQL_server_db_password&gt;                     </pre> <p>The user and password values correspond to the <i>username:password</i> combination specified during the eaDirect database creation and configuration procedure. Also, WebLogic Server automatically adds information to this attribute.</p> |

4. Click **Create** to create a JDBC connection pool instance named `edxUserConnectionPool`. The new instance is added to your domain under **Connection Pool** node in the left pane.

- On the Configuration/Connections tab, enter values for the attributes shown in the following table:

| Attribute Name                | Attribute Values |
|-------------------------------|------------------|
| Initial Capacity              | 1                |
| Maximum Capacity              | 20               |
| Capacity Increment            | 5                |
| Login Delay Seconds           | 1                |
| Refresh Period                | 1                |
| Allow Shrinking               | true (checked)   |
| Shrink Period                 | 15               |
| Prepared Statement Cache Size | 300              |

The screenshot shows the 'Configuration' window with the 'Connections' sub-tab selected. The following settings are visible:

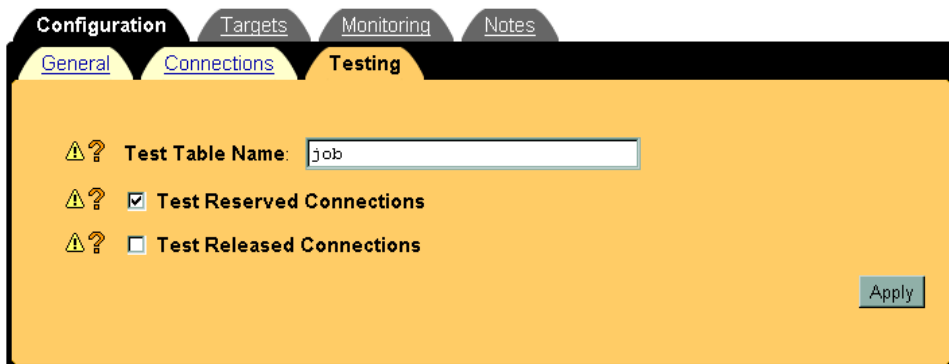
- Initial Capacity: 1
- Maximum Capacity: 20
- Capacity Increment: 5
- Login Delay Seconds: 1 seconds
- Refresh Period: 1 minutes
- Supports Local Transaction:
- Allow Shrinking:
- Shrink Period: 15 minutes
- Prepared Statement Cache Size: 300

An 'Apply' button is located at the bottom right of the configuration area.

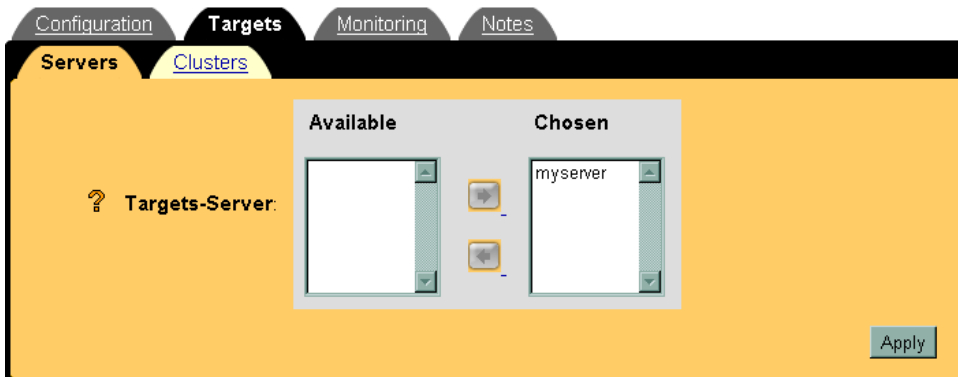
- Click **Apply** for the attribute values to take effect the next time you restart WebLogic Server.

- On the Configuration/Testing tab, enter values for the Test Table Name and Test Reserved Connection attributes shown in the following table:

| Attribute Name            | Attribute Values |
|---------------------------|------------------|
| Test Table Name           | job              |
| Test Reserved Connections | true (checked)   |



- Click **Apply** for the attribute values to take effect the next time you restart WebLogic Server.
- On the Targets/Servers tab, move your target server from Available to Chosen.



- Click **Apply** for the new value to take effect the next time you restart WebLogic Server.

## edxLoggerConnectionPool Configuration

### Configuration/General Tab

| Attribute Name   | Attribute Values   |
|------------------|--|
| Name             | edxLoggerConnectionPool  |
| URL              | jdbc:inetpool:inetdae7://<SQL_server_name>:1433  |
| Driver Classname | com.inet.pool.PoolDriver   |
| Properties       | <p>user=&lt;SQL_server_db_username&gt;<br/>                     poolurl=jdbc:inetpool:inetdae7://&lt;SQL_server_name&gt;:1433<br/>                     password=&lt;SQL_server_db_password&gt;</p> <p>The user and password values correspond to the <i>username:password</i> combination specified during the eaDirect database creation and configuration procedure. Also, WebLogic Server automatically adds information to this attribute.</p> |

### Configuration/Connections Tab

| Attribute Name                | Attribute Values |
|-------------------------------|------------------|
| Initial Capacity              | 1                |
| Maximum Capacity              | 10               |
| Capacity Increment            | 2                |
| Login Delay Seconds           | 1                |
| Refresh Period                | 1                |
| Allow Shrinking               | true (checked)   |
| Shrink Period                 | 15               |
| Prepared Statement Cache Size | 300              |

**Configuration/Testing Tab**

| Attribute Name            | Attribute Values |
|---------------------------|------------------|
| Test Table Name           | job              |
| Test Reserved Connections | true (checked)   |

**edxAdminConnectionPool Configuration**

**Configuration/General Tab**

| Attribute Name   | Attribute Values   |
|------------------|--|
| Name             | edxAdminConnectionPool   |
| URL              | jdbc:inetpool:inetdae7://<SQL_server_name>:1433  |
| Driver Classname | com.inet.pool.PoolDriver   |
| Properties       | <p>user=&lt;SQL_server_db_username&gt;<br/>                     poolurl=jdbc:inetpool:inetdae7://&lt;SQL_server_name&gt;:1433<br/>                     password=&lt;SQL_server_db_password&gt;</p> <p>The user and password values correspond to the <i>username:password</i> combination specified during the eaDirect database creation and configuration procedure. Also, WebLogic Server automatically adds information to this attribute.</p> |

**Configuration/Connections Tab**

| Attribute Name      | Attribute Values |
|---------------------|------------------|
| Initial Capacity    | 1                |
| Maximum Capacity    | 10               |
| Capacity Increment  | 2                |
| Login Delay Seconds | 1                |
| Refresh Period      | 1                |
| Allow Shrinking     | true (checked)   |

| <b>Attribute Name</b>         | <b>Attribute Values</b> |
|-------------------------------|-------------------------|
| Shrink Period                 | 15                      |
| Prepared Statement Cache Size | 300                     |

#### **Configuration/Testing Tab**

| <b>Attribute Name</b>     | <b>Attribute Values</b> |
|---------------------------|-------------------------|
| Test Table Name           | job                     |
| Test Reserved Connections | true (checked)          |

## **Configuring the JDBC Transaction (Tx) Data Sources**

A transaction data source enables JDBC clients to obtain a connection to a Database management System (DBMS). Each data source points to the value specified for the Name attribute when a JDBC connection pool was configured. For more information about how WebLogic Server uses transaction data sources, see the WebLogic programming and user documentation at <http://bea.com>.

You will configure three TX Data Sources. After that procedure, the values for the remaining two TX Data Sources are listed. Create those TX Data Sources following the procedure shown for the first TX Data Sources.

#### **To configure the first JDBC transaction data source:**

1. From your domain in the left pane, select **Services** and **JDBC and Tx Data Sources**.
2. In the right pane, click the **Configure a New JDBC Tx Data Source** link. A tabbed dialog for configuring a new JDBC transaction data source is displayed.

- On the Configuration tab, enter values for the Name, JNDI Name, and Pool Name attributes shown in the following table:

| Attribute Name | Attribute Value       |
|----------------|-----------------------|
| Name           | edxUserDataSource     |
| JNDI Name      | edx.user.databasePool |
| Pool Name      | edxUserConnectionPool |

**Configuration** Targets Notes

⚠️ ? Name:

⚠️ ? JNDI Name:

⚠️ ? Pool Name:

⚠️ ?  Enable Two-Phase Commit

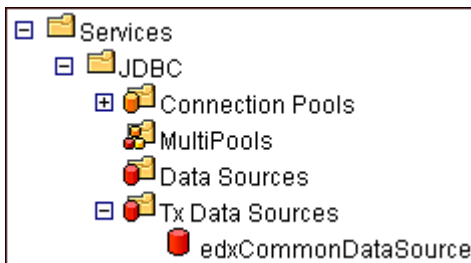
⚠️ ?  Row Prefetch Enabled

⚠️ ? Row Prefetch Size:

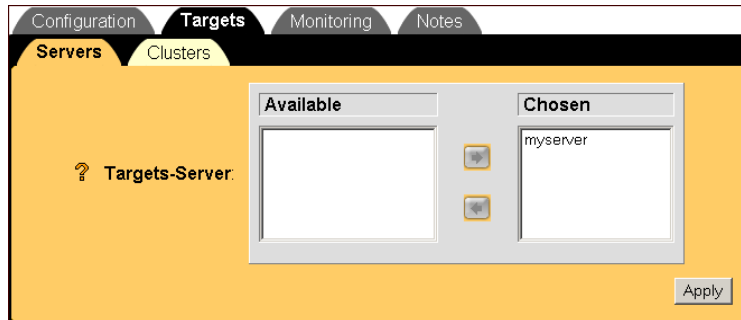
⚠️ ? Stream Chunk Size:  bytes

Apply

- Click **Create** to create a JDBC transaction data source named `edxCommonDataSource`. The new transaction data source is added to your domain under Tx Data Sources in the left pane.



- On the Targets/Servers tab, move the target server from Available to Chosen.



- Click **Apply** for the new value to take effect the next time you restart WebLogic Server.

### edxLoggerDataSource Configuration

Using the procedures shown for edxUserDataSource, add the following TX Data Source:

| Attribute Name | Attribute Value         |
|----------------|-------------------------|
| Name           | edxLoggerDataSource     |
| JNDI Name      | edx.logger.databasePool |
| Pool Name      | edxLoggerConnectionPool |

### edxAdminDataSource Configuration

Using the procedures shown for edxUserDataSource, add the following connection pool:

| Attribute Name | Attribute Value        |
|----------------|------------------------|
| Name           | edxAdminDataSource     |
| JNDI Name      | edx.databasePool       |
| Pool Name      | edxAdminConnectionPool |



## Configuring the JMS Connection Factories

Connection factories are data objects that enable Java Messaging Service (JMS) clients to create JMS connections. You define and configure one or more connection factories to create connections with predefined attributes. WebLogic Server adds the connection factories to the JNDI space during startup, and the application retrieves a connection factory using WebLogic JNDI.

For more information about how WebLogic Server uses JMS connection factories, see the WebLogic programming and user documentation at <http://bea.com>.

You will create three JDBC Connection Pools. The next section describes how to create the first JDBC Connection Pool. After that procedure, the values for the remaining two connection pools are listed. Create those connection pools following the procedure shown for the first connection pool.

### To configure the JMS connection factories:

1. From your domain in the left pane, select **Services** and **JMS** and **Connection Factories**.
2. In the right pane, click the **Configure a New JMS Connection Factory** link. A tabbed dialog for configuring a new JMS connection factory is displayed.
3. On the Configuration/General tab, enter values for the Name and JNDI Name attributes shown in the following table:

| Attribute Name | Attribute Values |
|----------------|------------------|
| Name           | edxLoggerTCF     |
| JNDI Name      | edx/tcf/log      |

The screenshot shows a configuration window with tabs for 'Configuration', 'Targets', and 'Notes'. Under the 'Configuration' tab, there are sub-tabs for 'General' and 'Transactions'. The 'General' sub-tab is active, displaying various configuration fields for a JMS connection factory named 'edxLoggerTCF'. The fields include: Name (edxLoggerTCF), JNDIName (edx/tcf/log), Client Id (empty), Default Priority (4), Default Time To Live (0), Default Time To Deliver (0), Default Delivery Mode (Persistent), Default Redelivery Delay (0), Messages Maximum (10), Overrun Policy (Keep Old), Allow Close In On Message (unchecked), and Acknowledge Policy (All). A 'Create' button is located at the bottom right of the form.

4. Click **Create** to create a JMS connection factory instance named `edxLoggerTCF`. The new instance is added to your domain under the Connection Factories node in the left pane.
5. On the Targets/Servers tab, move the target server from Available to Chosen.

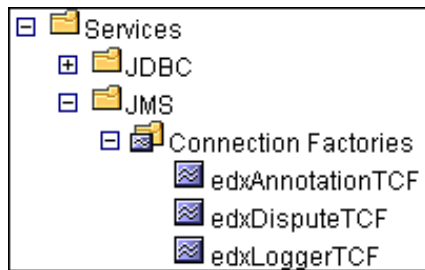
The screenshot shows a configuration window with tabs for 'Configuration', 'Targets', and 'Notes'. Under the 'Targets' tab, there are sub-tabs for 'Servers' and 'Clusters'. The 'Servers' sub-tab is active, displaying a 'Target Servers' section. This section contains two columns: 'Available' and 'Chosen'. The 'Available' column is currently empty. The 'Chosen' column contains a single entry, 'myserver'. There are arrows between the columns to facilitate moving servers. At the bottom right, there are 'Reset' and 'Apply' buttons.

6. Click **Apply** for the new value to take effect the next time you restart WebLogic Server.

- Configure two more JMS connection factories, one for annotations and one for disputes, repeating Steps 1 to 6. In Step 3, replace the values for the Name and JNDI Name attributes with those in the following table:

| Attribute Name | Attribute Value               |
|----------------|-------------------------------|
| Name           | <code>edxAnnotationTCF</code> |
| JNDI Name      | <code>edx/tcf/annotate</code> |
| Name           | <code>edxDisputeTCF</code>    |
| JNDI Name      | <code>edx/tcf/dispute</code>  |

- Click **create** on the Configuration/General tab after configuring each additional JMS connection factory. Move the target server from Available to Chosen on the Targets/Servers tab, and then click **Apply**. The new connection factories are added to your domain under the Connection Factories node in the left pane.



## Configuring a JMS Store

Through the use of JDBC, JMS enables you to store persistent messages in a database, which is accessed through a designated JDBC connection pool. The JMS database can be any database that is accessible through a WebLogic-supported JDBC driver.

When creating a JMS Store, you must define the following configuration attributes:

- Name of the backing store

- JDBC connection pool and database table name prefix for use with multiple instances

For detailed information about creating JMS JDBC Stores, see the WebLogic Server 6.1 programming and user documentation at <http://bea.com>.

**To configure a JMS store:**

4. From your domain in the left pane, select **Services** and **JMS** and **Stores**.
2. In the right pane, click the **Configure a new JMSJDBCStore** link. A tabbed dialog for configuring a new JMS store is displayed.
3. On the Configuration tab, enter values for the Name and Connection Pool attributes as shown in the following table:

| Attribute Name  | Attribute Value                                      |
|-----------------|--|
| Name            | edxAnnotationStore                                   |
| Connection Pool | edxUserConnectionPool (selected from drop-down menu) |

The screenshot shows a configuration dialog box with a yellow background. At the top, there are two tabs: 'Configuration' and 'Notes'. The 'Configuration' tab is active. Below the tabs, there are three configuration items, each with a warning icon (a triangle with an exclamation mark) and a question mark icon:

- Name:** A text field containing the value 'edxAnnotationStore'.
- Connection Pool:** A dropdown menu with 'edxUserConnectionPool' selected.
- Prefix Name:** An empty text input field.

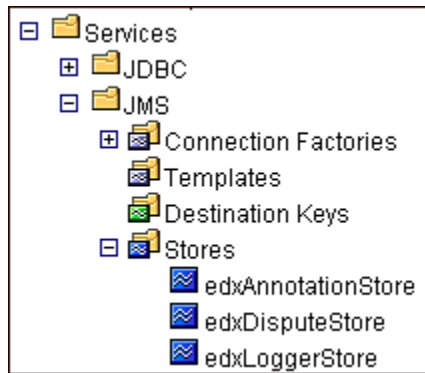
An 'Apply' button is located in the bottom right corner of the dialog.

4. Click **create** to create a JMS store instance named `edxAnnotationStore`. The new instance is added to your domain under the Stores node in the left pane.

- Configure two more JMS stores, one for disputes and one for logger, repeating Steps 1 to 4. In Step 3, replace the values for the Name and Connection Pool attributes with those in the following table:

| Attribute Name          | Attribute Value   |
|-------------------------|---|
| Name<br>Connection Pool | <code>edxDisputeStore</code><br><code>edxUserConnectionPool</code>  |
| Name<br>Connection Pool | <code>edxLoggerStore</code><br><code>edxLoggerConnectionPool</code> |

- Click **Create** on the Configuration tab after configuring each additional JMS store. The new instances are added to your domain in the left pane under the Stores node.



## Creating a JMS Server

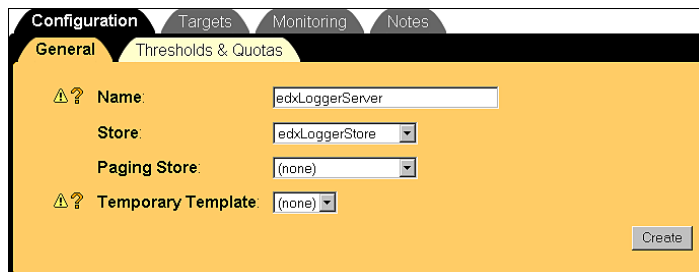
A JMS server manages connections and message requests on behalf of clients. For more information about how WebLogic Server uses JMS Servers, see the WebLogic programming and user documentation at <http://bea.com>.

### To configure a JMS server:

- From your domain in the left pane, select **Services** and **JMS** and **Servers**.

- In the right pane, click the **Configure a New JMS Server** link. A tabbed dialog for configuring a new JMS server is displayed.
- On the Configuration/General tab, enter a value for the Name and Store attributes, as shown in the following table:

| Attribute Name | Attribute Value                                   |
|----------------|---|
| Name           | edxLoggerServer                                   |
| Store          | edxLoggerStore (selected from the drop-down menu) |



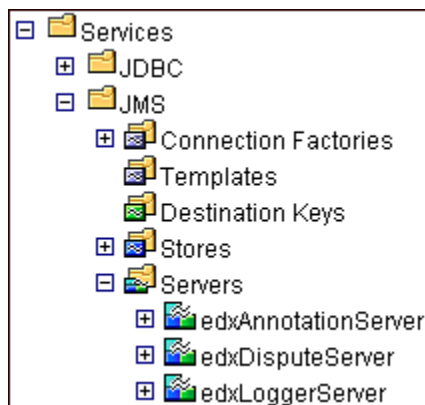
- Click **Create** to create a JMS server instance named edxLoggerServer. By default, a JMS Destinations node and a Session Pools node are automatically added under the new JMS Server. The new instance is added to your domain under the Servers node in the left pane.
- On the Targets/Servers tab, select your server from the Target drop-down menu.



6. Click **Apply** for the new value to take effect the next time you restart WebLogic Server.
7. Configure two more JMS servers, one for annotations and one for disputes, repeating Steps 1 to 6. In Step 3, replace the values for the Name and Store attributes with those in the following table:

| Attribute     | Attribute Value   |
|---------------|---|
| Name<br>Store | <b>edxAnnotationServer</b><br><b>edxAnnotationStore</b> |
| Name<br>Store | <b>edxDisputeServer</b><br><b>edxDisputeStore</b>       |

8. Click **Create** on the Configuration/General tab after configuring each additional JMS server. Move the target server from Available to Chosen on the Targets/Servers tab, and then click **Apply**. The JMS servers are added to your domain under the Servers node in the left pane.



## Creating a JMS Topic

Before you can configure a JMS Topic, you must have first created a JMS server (as described in the topic *Configuring a JMS Server*).

A JMS topic can be one of two destinations that you can configure for a JMS server. The other destination is a JMS queue. WebLogic Server allows you to configure one or more destinations for the JMS server.

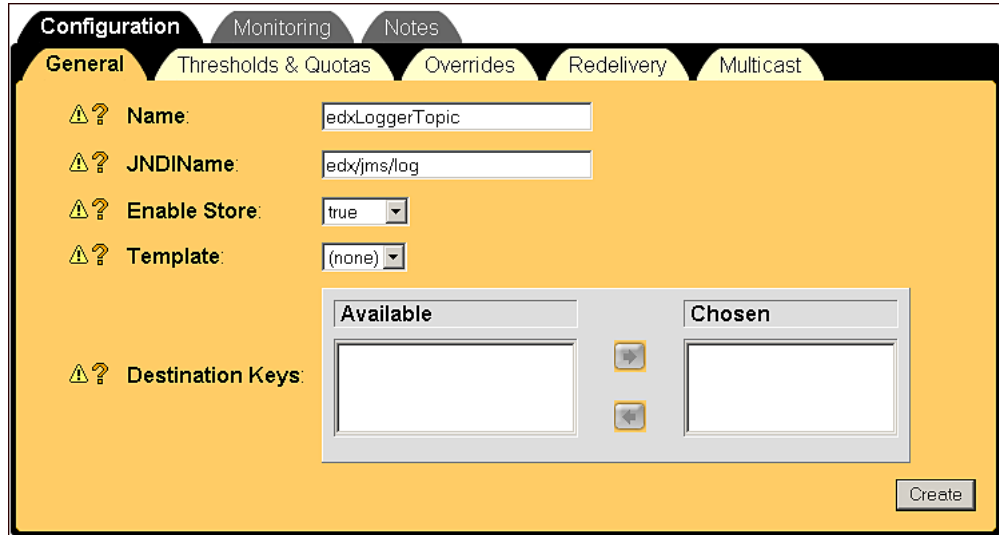
You can configure destinations explicitly (as is done in this topic), or by way of configuring a destination template that can be used to define multiple destinations with similar attribute values. For more information about how WebLogic Server 6.1 uses JMS destinations, see the WebLogic programming and user documentation at <http://bea.com>.

**To configure a JMS Topic:**

1. From your domain in the left pane, select **Services** and **JMS** and **Servers** and **edxLoggerServer** and **Destinations**.
2. In the right pane, click the **Configure a New JMS Topic** link. A tabbed dialog for configuring a new JMS topic is displayed.
3. On the Configuration/General tab, enter values for the Name, JNDI Name, and Enable Store attributes as shown in the following table:

| <b>Attribute Name</b> | <b>Attribute Value</b>  |
|-----------------------|---|
| Name                  | <code>edxLoggerTopic</code>                                       |
| JNDI Name             | <code>edx/jms/log</code>  |
| Enable Store          | <code>true</code> (selected from the Enable Store drop-down menu) |

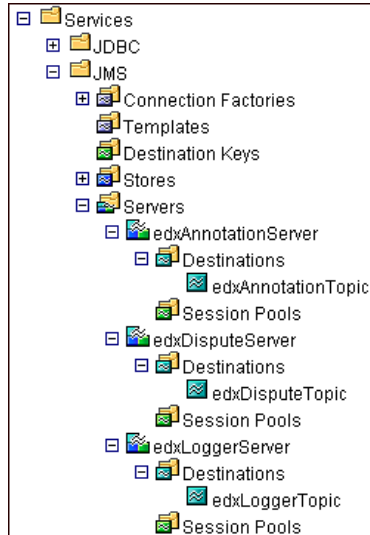




4. Click **Create** to create a JMS topic instance named `edxLoggerTopic`. The new instance is added to your domain under the Destinations node in the left pane.
5. Configure two more JMS topics, one for annotations and one for disputes, repeating Steps 1 to 4. In Step 3, replace the values for the Name, JNDI Name, and Enable Store attributes with those in the following table:

| Attribute Name | Attribute Value  |
|----------------|--|
| Name           | <code>edxAnnotationTopic</code>                                  |
| JNDI Name      | <code>edx/jms/annotate</code>                                    |
| Enable Store   | <code>true</code> (selected from the Enable Store dropdown menu) |
| Name           | <code>edxDisputeTopic</code>                                     |
| JNDI Name      | <code>edx/jms/dispute</code>                                     |
| Enable Store   | <code>true</code> (selected from the Enable Store dropdown menu) |

6. Click **Create** on the Configuration/General tab after configuring each additional JMS topic. The new instances are added to your domain under the appropriate `<JMS_Server>` Destinations node in the left pane.



## Configuring Session Pools and Connection Consumers

A session pool will allow a listener (called a connection consumer in WebLogic) to have multiple threads that will improve performance under heavy load. A session pool must be created for each connection consumer.



If you upgraded WebLogic 6.1 SP2 to SP3, you may encounter a known issue in the WebLogic Server Console when configuring a session pool. It is not uncommon to see an `InstanceNotFoundException` message. If an exception occurs, try to configure the session pool again.

If the exception still occurs, you may need to restart the WebLogic server. However, you can also try clicking on the left pane and refreshing it. If you see that the session pool has been added, then you do not need to restart the server. You should now be able to add the consumer.

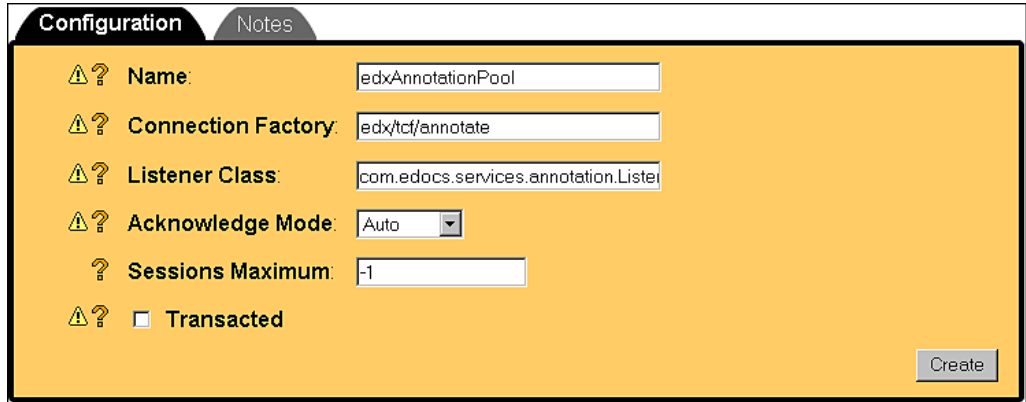
This issue does not apply if did the full installation of WebLogic 6.1 SP3, and did not upgrade from SP2.

There are currently seven connection consumers in eaDirect 3.2. There are five connection consumers for logging, one for disputes, and one for annotations. The following provides an example of how to create a session pool and connection consumer for annotations:

**To create a JMS session pool:**

1. From your domain in the left pane, select **Services** and **JMS** and **Servers**, and expand the **edxAnnotationServer** node. Then click **Session Pools**.
2. In the right pane, click the **Configure a new JMS Session Pool** link. A tabbed dialog for configuring a new JMS session pool is displayed.
3. On the Configuration tab, enter values for the Name, JNDI Name, Listener Class, Acknowledge Mode, and Sessions Maximum attributes as shown in the following table:

| <b>Attribute Name</b> | <b>Attribute Value</b>   |
|-----------------------|--|
| Name                  | <code>edxAnnotationPool</code>   |
| Connection Factory    | <code>edx/tcf/annotate</code>  |
| Listener Class        | <code>com.edocs.services.annotation.Listener</code>  |
| Acknowledge Mode      | <code>Auto</code>  |
| Sessions Maximum      | <p><code>-1</code></p> <p><b>Note:</b> Session Maximum is set to the number of sessions. -1 indicates there is no session maximum. This attribute should be adjusted to accommodate the maximum number of threads for this pool.</p> |



4. Click **Create** to create a JMS session pool instance named `edxAnnotationPool`. The new instance is added to your domain under the Session Pools node in the left pane.

**To create a connection consumer:**

1. From your domain in the left pane, select **Services** and **JMS** and **Servers** and `edxAnnotationServer` and **Session Pools** and `edxAnnotationPool`, and then click the **Consumers** node.
2. In the right pane, click the **Configure a new JMS Connection Consumer** link. A tabbed dialog for configuring a new JMS connection consumer is displayed.
3. On the Configuration tab, enter values for the Name, Messages Maximum, Selector, and Destination attributes as shown in the following table:

| Attribute Name   | Attribute Value                    |
|------------------|------------------------------------|
| Name             | <code>edxAnnotationConsumer</code> |
| Messages Maximum | 10                                 |
| Selector         | <code>JMSType= 'USER'</code>       |
| Destination      | <code>edx/jms/annotate</code>      |

4. Click **Create** to create a JMS connection consumer instance named `edxAnnotationConsumer`. The new instance is added to your domain under Session Pools in the left pane.
5. Repeat the procedures above to configure session pools and connection consumers for `edxDisputeServer` and `edxLoggerServer`, using the values in the tables below. After configuring each additional session pool and connection consumer, click **Create** on the Configuration tab.

#### For `edxDisputeServer`

| <b>Session Pool Configuration:</b> |  |
|------------------------------------|--|
| Name                               | <code>edxDisputePool</code>                      |
| Connection Factory                 | <code>edx/tcf/dispute</code>                     |
| Listener Class                     | <code>com.edocs.services.dispute.Listener</code> |
| Acknowledge Mode                   | <code>Auto</code>                                |
| Sessions Maximum                   | <code>-1</code>                                  |

| <b>Consumer Configuration:</b> |                                 |
|--------------------------------|---------------------------------|
| Name                           | <code>edxDisputeConsumer</code> |
| Messages Maximum               | <code>10</code>                 |
| Selector                       | <code>JMSType= 'USER'</code>    |
| Destination                    | <code>edx/jms/dispute</code>    |

### For edxLoggerServer

There are five session pools that must be created.

#### edxLoggerAdminActivityPool:

| Session Pool Configuration: |   |
|-----------------------------|---|
| Name                        | <code>edxLoggerAdminActivityPool</code>                     |
| Connection Factory          | <code>edx/tcf/log</code>                                    |
| Listener Class              | <code>com.edocs.fs.logging.sub.AdminActivityListener</code> |
| Acknowledge Mode            | <code>Auto</code>   |
| Sessions Maximum            | <code>-1</code>   |

| Consumer Configuration: |   |
|-------------------------|---|
| Name                    | <code>edxLoggerAdminActivityConsumer</code> |
| Messages Maximum        | <code>10</code>                             |
| Selector                | <code>JMSType= 'ADM'</code>                 |
| Destination             | <code>edx/jms/log</code>                    |

#### edxLoggerCSRActivityPool:

| Session Pool Configuration: |   |
|-----------------------------|---|
| Name                        | <code>edxLoggerCSRActivityPool</code>                     |
| Connection Factory          | <code>edx/tcf/log</code>                                  |
| Listener Class              | <code>com.edocs.fs.logging.sub.CSRActivityListener</code> |
| Acknowledge Mode            | <code>Auto</code>   |
| Sessions Maximum            | <code>-1</code>   |

| <b>Consumer Configuration:</b> |   |
|--------------------------------|---|
| Name                           | <code>edxLoggerCSRActivityConsumer</code> |
| Messages Maximum               | 10  |
| Selector                       | <code>JMSType= 'CSR'</code>               |
| Destination                    | <code>edx/jms/log</code>                  |

**edxLoggerMessageLogPool:**

| <b>Session Pool Configuration:</b> |  |
|------------------------------------|--|
| Name                               | <code>edxLoggerMessageLogPool</code>                     |
| Connection Factory                 | <code>edx/tcf/log</code>                                 |
| Listener Class                     | <code>com.edocs.fs.logging.sub.MessageLogListener</code> |
| Acknowledge Mode                   | Auto   |
| Sessions Maximum                   | -1   |

| <b>Consumer Configuration:</b> |  |
|--------------------------------|--|
| Name                           | <code>edxLoggerMessageLogConsumer</code> |
| Messages Maximum               | 10                                       |
| Selector                       | <code>JMSType= 'MSG'</code>              |
| Destination                    | <code>edx/jms/log</code>                 |

**edxLoggerSystemActivityPool:**

| <b>Session Pool Configuration:</b> |  |
|------------------------------------|--|
| Name                               | <code>edxLoggerSystemActivityPool</code>                     |
| Connection Factory                 | <code>edx/tcf/log</code>                                     |
| Listener Class                     | <code>com.edocs.fs.logging.sub.SystemActivityListener</code> |
| Acknowledge Mode                   | <code>Auto</code>  |
| Sessions Maximum                   | <code>-1</code>  |

| <b>Consumer Configuration:</b> |  |
|--------------------------------|--|
| Name                           | <code>edxLoggerSystemActivityConsumer</code> |
| Messages Maximum               | <code>10</code>                              |
| Selector                       | <code>JMSType= 'SYS'</code>                  |
| Destination                    | <code>edx/jms/log</code>                     |

**edxLoggerUserActivityPool:**

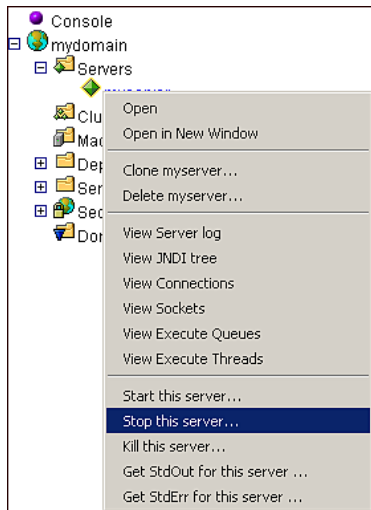
| <b>Session Pool Configuration:</b> |  |
|------------------------------------|--|
| Name                               | <code>edxLoggerUserActivityPool</code>                     |
| Connection Factory                 | <code>edx/tcf/log</code>                                   |
| Listener Class                     | <code>com.edocs.fs.logging.sub.UserActivityListener</code> |
| Acknowledge Mode                   | <code>Auto</code>  |
| Sessions Maximum                   | <code>-1</code>  |



| <b>Consumer Configuration:</b> |  |
|--------------------------------|--|
| Name                           | <code>edxLoggerUserActivityConsumer</code> |
| Messages Maximum               | 10   |
| Selector                       | <code>JMSType= 'USER'</code>               |
| Destination                    | <code>edx/jms/log</code>                   |

This completes the configuration of WebLogic Server Java resources for eaDirect.

6. Stop and restart WebLogic Server in order for the new Java configuration settings to take effect. From the WebLogic Server Console, expand your domain and right-click your server (default is 'myserver'). Then select **Stop this server** from the menu.



## Deploying eaDirect J2EE Applications to WebLogic Server

In general, deploying an application involves three distinct phases:

- Component creation, typically done by application developers
- Application assembly, typically done by application developers (although they may not have participated in the ‘component creation’ phase)
- Application deployment, typically done by both application developers and system administrators

During application development and testing, it’s not unusual for application programmers to deploy their own applications. However, when the application has been assembled and is ready for production, a system administrator most likely will deploy it.

You deploy eaDirect applications through the WebLogic Server Console. Three J2EE applications are provided in the eaDirect software distribution:

| J2EE Application        | Description   |
|-------------------------|---|
| <i>ear-eadirect.ear</i> | The eaDirect online account management and billing application. This file also contains the WAR files for the eaPay, eaPost, and eaXchange add-on modules. <i>ear-eadirect.ear</i> is required for deployment.<br><br>By default, installed to: <i>%EDX_HOME%\J2EEApps\weblogic</i> |

| J2EE Application               | Description   |
|--------------------------------|---|
| <i>ear-easample.ear</i>        | <p>Sample online account management and billing application. This EAR file is not required for deployment, but can be used as a template and for current demo pages using Common Directory Access (CDA).</p> <p><b>Note:</b> In order to use the eaSample application, you must first run the file <i>create_demo_oc_table.bat</i>, which creates the database tables needed to use the Order Capture feature. Then deploy eaSample through the WebLogic Server Console using the procedure below. See <i>Appendix A: Using eaSample</i> for more information.</p> <p>By default, installed to:<br/> <code>%EDX_HOME%\samples\eaSample\J2EEApps\weblogic</code></p> |
| <i>ear-eatraining.ear</i>      | <p>Sample hierarchical online account management and billing application. This EAR file is not required for deployment, but can be used for testing and training purposes.</p> <p>By default, installed to:<br/> <code>%EDX_HOME%\sample\eaTraining\J2EEApps\weblogic</code></p>  |
| <i>ear-hierarchysample.ear</i> | <p>Extends the eaDirect user management framework (UMF) to support a flexible B2B hierarchy. Requires a license.</p>  |
| <i>ear-umfsample.ear</i>       | <p>Implements a non-directory enrollment model that customizes the edocs user management framework as an interface to enrollment information already stored in a separate repository. Requires a license.</p>   |

### To deploy eaDirect J2EE applications to WebLogic Server:

1. Start WebLogic Server if it isn't already running. This can be done from the Services dialog, or by clicking **Start Default Server** in the WebLogic Server program folder.
2. Open the WebLogic Server Console. From the Start menu, select **Programs** and **Bea WebLogic E-Business Platform** and **WebLogic Server 6.1**, and click **Start Default Console**.

You can also open the WebLogic Server Console from a browser using the URL syntax: `http://host:port/console`. For example:

`http://doc_hughes:7001/console`

3. In the Enter Network Password dialog, enter a user name and password. The default user name is 'system' and the password is the one specified when WebLogic Server was installed.



4. Click **OK**. The WebLogic Server Console is displayed.
5. From mydomain in the left pane, select **Deployments** and **Applications**.
6. In the right pane, click the **Install a New Application** link. The Install or Update an Application screen is displayed.
7. On the Install or Update an Application screen, use the Browse button to locate the eaDirect J2EE application *ear-eadirect.ear*, which by default is located in *%EDX\_HOME%\J2EEApps\weblogic*.

- Upload *ear-eadirect.ear*. It is added to the list of ‘Application files currently installed’ at the bottom of the screen.

**Upload and Install an Application**

Click on the 'browse' button below to locate an application archive on your local hard drive. When you have located the file, click 'upload' to install it on this WebLogic Administration Server. The following types of application files may be uploaded:

- A **.jar** containing EJBs (Enterprise Java Beans)
- A **.war** (Web Application Archive) containing JSPs and Servlets
- A **.rar** (Resource Adapter Archive) containing a JCA Connector module
- An **.ear** (J2EE Enterprise Application Archive) containing any of the above

Note: if you browse for the file, you may have to adjust the file-type filter to 'All' in order to find .jar, .war, .rar and .ear files.

C:\TEMP\ear-eadirect.ear

- After *ear-eadirect.ear* has been uploaded and installed, the Deployments folder in the left pane should look like:



Before leaving the WebLogic Server Console, you might want to take time to make sure that all required EJBs and WAR files have been deployed to the target server. Doing this can possibly prevent problems from arising later that can interfere with the normal operation of eaDirect.

Expand each J2EE application in the left pane to show its EJBs and WAR file. Click on either an EJB or the WAR file, and then click the **Targets/Servers** tab in the dialog that is displayed in the right pane. If necessary, move the target server from Available to Chosen. Click **Apply** for the change to take effect the next time the server is started.



**Caution**

If you choose to deploy eaSample at this time, you must first run *create\_demo\_oc\_table.bat*, which creates the database tables needed for the Order Capture feature. Failure to do so will result in errors when you start WebLogic Server. See *Appendix A: Using eaSample* for more information.

10. Stop WebLogic Server. You can do this from the WebLogic Server Console by right-clicking on **myserver**, and selecting **Stop this server** from the menu.
11. Restart WebLogic Server. You can start the default WebLogic server by going to the Start menu and selecting **Programs** and **Bea WebLogic E-Business Platform** and **WebLogic Server 6.1**. Then click **Start Default Server**.

If you have installed WebLogic as a Windows service, you can stop and restart WebLogic Server through the Services dialog.

## Starting the eaDirect Scheduler

After all the eaDirect EAR files have been deployed to the WebLogic Server, you must start the eaDirect Scheduler in order to schedule and run jobs in the eaDirect Command Center. If you attempt to run a new job with the Scheduler not running, the job will not run and you will see 'Not yet started' as its status.

You can start the Scheduler in two ways:

- From a Command Prompt window
- As a Windows Service

### Starting the Scheduler from a Command Prompt Window

**To start the Scheduler from a Command Prompt window:**

1. Open a Command Prompt window and change directory to `%EDX_HOME%\bin`.
2. Start the Scheduler using the following command syntax:

```
C:\> wl_scheduler -start -url t3://localhost:<port>
```

For example:

```
C:\> wl_scheduler -start -url t3://doc_hughes:7001
```

3. If the Scheduler starts successfully, a start-up message with the name of the log file is displayed in the same Command Prompt window you entered the command (note that you must leave this command window open as long as the Scheduler is running). A log file is created in *%EDX\_HOME%\Logs*.

## Starting the Scheduler as a Windows Service

When starting the Scheduler as a Windows Service, you will be required to modify *SCH.txt* (Scheduler template file), which is copied to *%EDX\_HOME%\bin* when you install eaDirect.

### To install and start the Scheduler as a Windows Service:

1. In Windows Explorer, navigate to *%EDX\_HOME%\bin*.
2. Open the file *SCH.txt* by right clicking on its name, and then selecting **Open** from the menu.
3. Modify the Java Classpath information in *SCH.txt* to reflect your active Java environment. For example:

```
classpath=c:\jdk131\lib\tools.jar;c:\bea\wlserver6.1\lib\
weblogic.jar;c:\EDCSbd\lib\edx_client.jar;c:\EDCSbd\lib\
edx_common.jar
```




4. Confirm that the following line of code is present in the file:  
`-Djava.naming.provider.url=t3://localhost:<port>`  
 For example:  
`-Djava.naming.provider.url=t3://localhost:7001`
5. If you want the Scheduler to log information to a file instead of to the console, add the following value in *SCH.txt*:  
`-Dcom.edocs.pwc.debug=true <scheduler_logfile>`
6. Confirm that all the directory references in *SCH.txt* are correct.
7. Save and close *SCH.txt*.



If you have an older version of the Scheduler installed (a 2.1 version for example) as a Windows service, you must remove it before installing the new version of the Scheduler.

8. Open a command window, and then change directory to `%EDX_HOME%\bin`. Install the Scheduler as a Windows Service, for example:  

```
C:\> Schedulersvc -install C:\EDCSbd\bin\SCH.txt
```
9. If the Scheduler service is installed successfully, a confirmation message is shown.
10. From the Control Panel, open the Services dialog and start the Scheduler service. WebLogic Server must be running before you start the Scheduler.

|  |   |         |           |             |
|--|---|---------|-----------|-------------|
|  Routing and Remot... | Offers routing services to businesses in local area an... |         | Disabled  | LocalSystem |
|  RunAs Service        | Enables starting processes under alternate credentials    | Started | Automatic | LocalSystem |
|  Scheduler Service    | eDocs Scheduler service                                   | Started | Manual    | LocalSystem |

## Testing the Installation and Configuration of eaDirect

You can test the installation and configuration of eaDirect on the application server by logging in to eaDirect’s web-based production environment called the Command Center. The Command Center is the administrative ‘hub’ of the eaDirect production environment and it is where you create applications and jobs, configure and schedule them to run, and monitor their activity.

The Command Center is also password protected, requiring a valid username and password to enter. For detailed information about the activities that take place within the Command Center, see the *eaDirect Production Guide*.

### To log into the Command Center:

1. Start the application and database servers if they are not running. Both can be started from their individual program folders, or from the Services dialog.



2. Start the Scheduler, if it isn't already running.
3. Open a web browser and enter the URL to invoke the Command Center. The default URL syntax takes the form:

`http://server:port/eaDirect`

For example:

`http://doc_hughes:7001/eaDirect`

4. A successful connection opens the Command Center Login Administrator page.

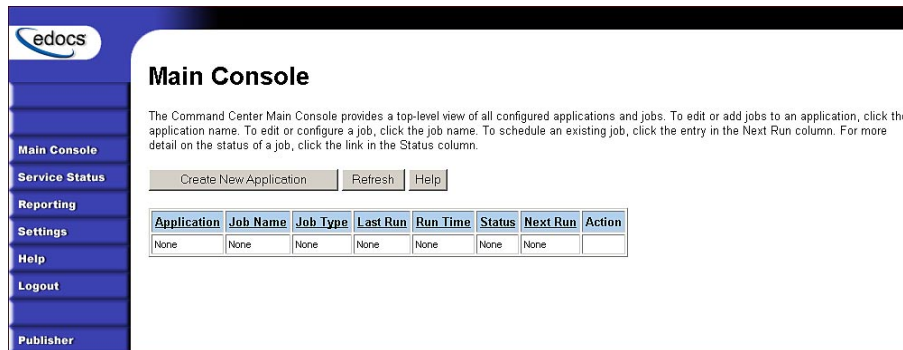


5. Log into the Command Center using the default user ID and password:

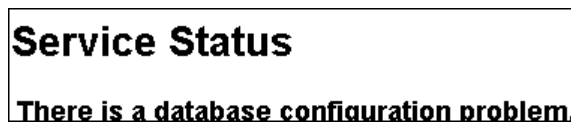
Administrator ID: **admin**

Password: **edocs**

6. A successful login opens an empty Main Console page because you have not yet created applications and jobs. For detailed information about creating eaDirect applications and jobs, see the *eaDirect Production Guide*.



7. If you are unable to log in, click **Service Status** on the menu to see what the problem is. For example, a database configuration problem might prevent a user from logging in to the Command Center.



8. Troubleshoot the problem by carefully reviewing what you have done up to this point. In particular, you will want to:
  - Verify that the SQL 2000 database is running
  - Verify that the database has been setup properly (sometimes this may mean re-running the eaDirect database set up script *DBConfigTool.jar*)
  - Verify that the Java JDBC and JMS resources configured in the WebLogic Server Console are correct
  - Verify that the eaDirect EAR file has been properly deployed
  - Verify that all required EJBs and WAR files have been deployed correctly
  - Verify that a target server has been chosen for all required EJBs, EAR, and WAR files
9. After this is done, stop and restart the application server, then try logging into the Command Center again.

Additionally, if the Indexer and Formatter jobs are not recognized in the Command Center after you have started WebLogic as a Windows Service, do the following:

1. In the Command Center, open the Job Configuration page.
2. If the *.dlls* are not being identified, as shown by an error message in the DDF Path field and the Indexer task's indexed fields not being displayed, add the path `C:\EDCSbd\lib` as a system variable in the System dialog (accessible through the Control Panel).
3. Start WebLogic again and return to the Job Configuration page in the Command Center. If the DDF Path fields for the Indexer and Formatter jobs do not contain error messages and you can see the indexed fields in the Indexer, then the WebLogic service is now able to recognize the Indexer.dll and Formatter.dll correctly.
4. The WebLogic service might also not be able to recognize the Index.dll and Formatter.dll due to the length of a pathname. If this happens, add the following line to the 'cmdline' path in *installNtService.cmd*:

```
-Djava.library.path="%PATH%;C:\EDCSbd\lib;"
```



# Migrating eaDirect To A New Version

# 4

## Migrating eaDirect Databases

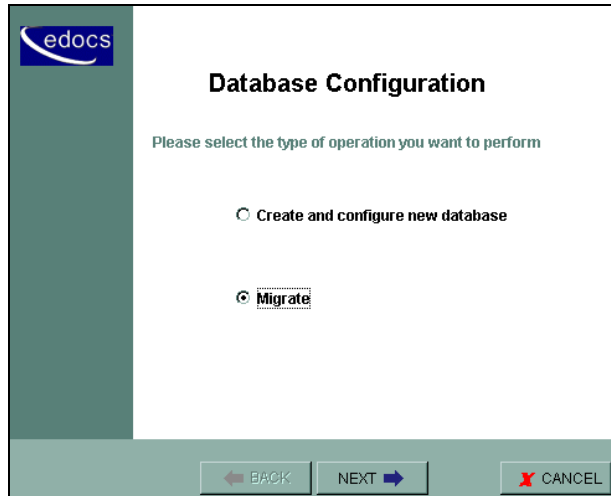
This chapter describes how to migrate an eaDirect 3.0 database to eaDirect 3.2. edocs strongly recommends that you back up your current database before migrating to eaDirect 3.2 in case you have to restore it due to a migration problem.

No migration is necessary when upgrading from eaDirect 3.1 to eaDirect 3.2.

### To migrate an eaDirect 3.0 database to eaDirect 3.2:

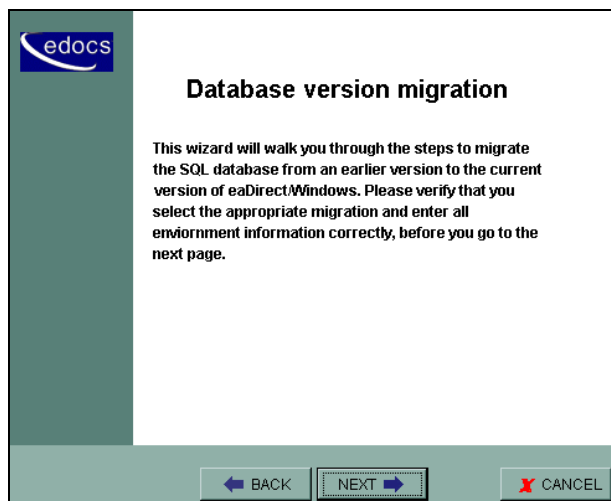
1. Open a command window and change directory to `%EDX_HOME%\db\mssql`.
2. Run the Java database creation and configuration tool, `DBConfigTool.jar`.  

```
C:\> java -jar DBConfigTool.jar
```
3. The Database Configuration screen is displayed. Click **Migrate**, and then click **Next**.



The Database version migration screen is displayed.

4. Read the information concerning version migration, and then click **Next**.



The Database Information screen is displayed.

5. Enter your database user name, password, database name, and the name of the machine on which the database resides. For example:

**edocs**

### Database Information

Provide the eaDirect database information

Database user name

Database password

Database name

Server name

6. Click **Next**. The Database Path Information screen is displayed.
7. Enter the pathname to the eaDirect installation directory, and then click **Next**.

**edocs**

### Database Path Information

Provide the eaDirect Database Home path

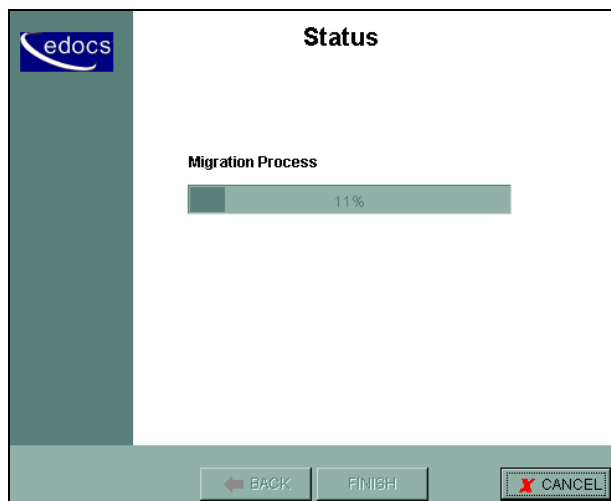
eaDirect DB Home Path

The Migration Version Selection screen is displayed.

8. Select the version of the database you want to migrate (at this time there is only one choice, which is 3.0 to 3.2) from the drop-down menu, and then click **Next**.

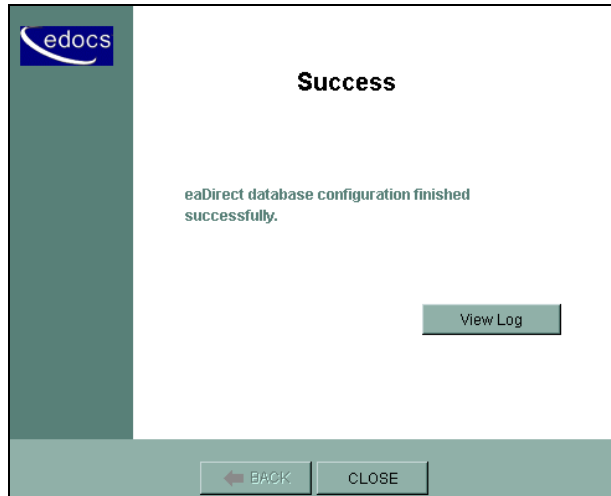


A Status screen is displayed showing the database being migrated.



9. A Success dialog is displayed if the database migration process completed without errors.



**Tip**

Upon completion of the database migration process, you might want to check the migration log files in `%EDX_HOME%\db\mssql\migration\*.log` to make sure that all the database tables, including tables for annotations and disputes, were created.

## Migrating eaDirect Applications

When upgrading to a new version of eaDirect, you must migrate your J2EE and Web applications to accommodate the changes in the new version. The sample applications provided with each version of eaDirect provide examples of how to use the current features of eaDirect. Your site must update the components in your application, and you must re-deploy your application.

You must also update your application to work with the new sample application. To accomplish that:

1. Merge your custom code into the sample application, and rename it. For more information about how to do this, see the *eaSDK: Customizing and Deploying Applications* document.

2. Re-deploy your custom application, as described in *To deploy eaDirect J2EE applications to WebLogic Server*:

See the *What's New in eaDirect 3.2* document for information about new features in 3.2, and information about how to add support for those features to your application.

See the *eaSDK: Customizing and Deploying Applications* document for information about the components that make up the J2EE and Web applications, and the procedures for recreating EAR and WAR files.

# Post-Installation Tasks

# 5

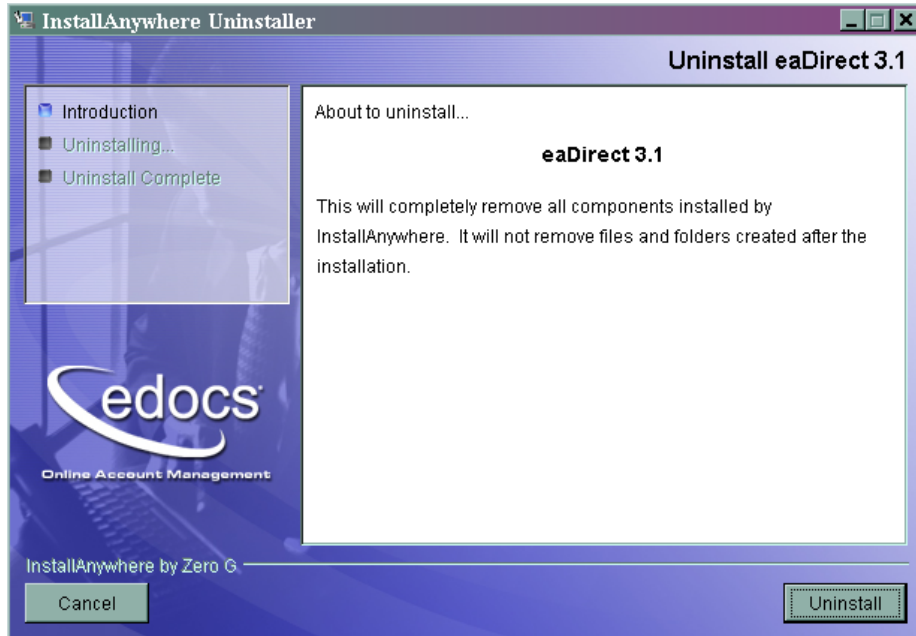
Perform the following post-installation tasks as necessary:

- Uninstall eaDirect
- Uninstall WebLogic Server as a Windows Service
- Uninstall the Scheduler as a Windows Service

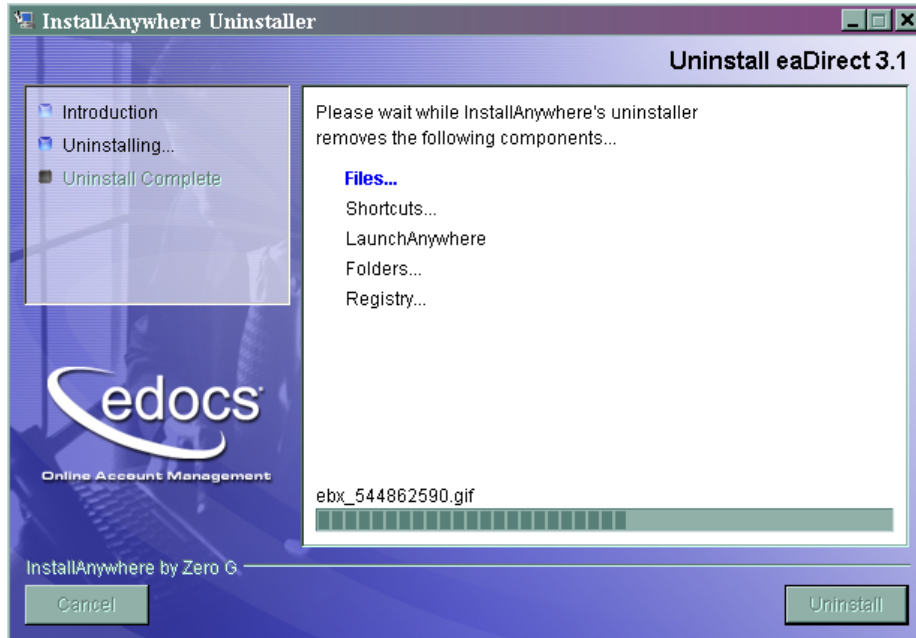
## Uninstalling eaDirect

**To uninstall eaDirect:**

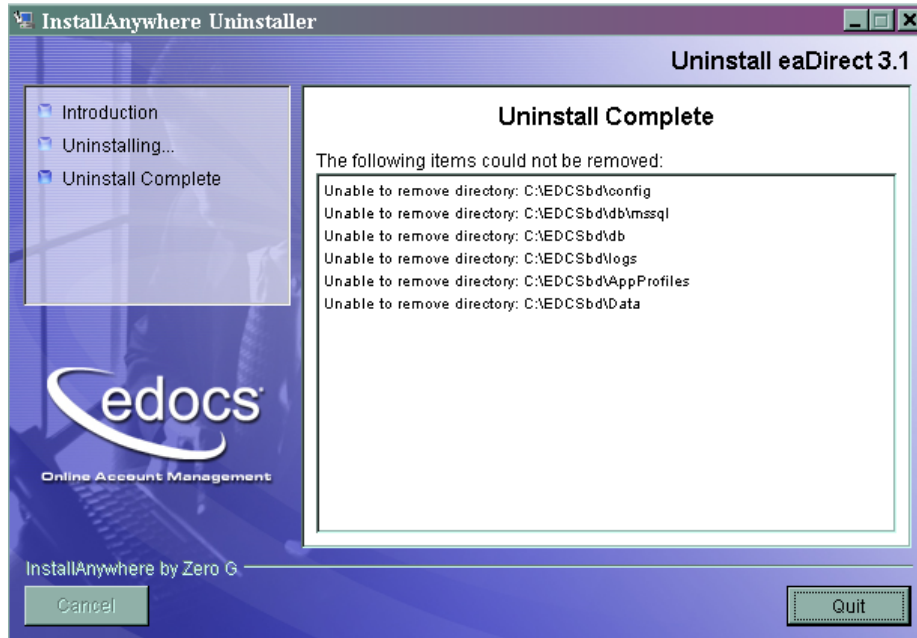
1. From the Start menu, navigate to the eaDirect program folder and run the eaDirect Uninstall tool. An uninstall screen is displayed.



2. Click **Uninstall**. A second uninstall screen is displayed showing the eaDirect components that will be removed from your machine.



3. Upon completion of the uninstall procedure, a screen is displayed notifying you that the application server components have been remove successfully.



If you have modified any files since installation, the directories that contain those files will not be deleted by the uninstaller.

4. Click **quit** to close the screen.

## Uninstalling WebLogic Server as a Windows Service

### To uninstall WebLogic Server as a Windows Service:

1. Open a Command Prompt window, and change directory to *%WL\_HOME%\config\mydomain*.
2. Uninstall WebLogic Server as a Windows Service:  
`C:\> uninstallNtService.cmd`

You do not have to specify the WebLogic service name on the command line because it is named in *uninstallNtService.com*.

## Uninstalling the Scheduler as a Windows Service

To uninstall the Scheduler as a Windows Service:

1. Open a Command Prompt window, and change directory to *%EDX\_HOME%\bin*.
2. Uninstall the Scheduler as a Windows Service:

```
C:\> Schedulersvc -remove
```





# Appendix A: Using eaSample



## About eaSample

eaSample is a sample J2EE application that eaDirect provides as part of its software distribution. You can use it as a framework for developing a custom EJB application; it contains all the Java Server Pages (JSPs), HTML, image files, scripts, and templates you need to get started. eaSample deploys as *ear-easample.ear*.

You can use eaSample to view the sample NatlWireless, Training, and NW\_LDDetail applications provided with your system. You can use the data and design files in these sample applications to become familiar with eaDirect by creating sample billing applications and jobs, publishing data and design files in the form of *version sets*, and scheduling the jobs to run in the Command Center, the administrative 'hub' for the eaDirect production environment.

eaSample demonstrates the following types of data presentation:

- Dynamic HTML views
- Detail data extraction (DetailExtractor job)
- Annotations
- Disputes
- Order capture



**Caution**

Before deploying eaSample, you must first run *create\_demo\_oc\_table.bat*, which creates the database tables needed for the Order Capture feature. Failure to do so will result in errors when you start WebLogic Server. See the topic *Setting Up Database Tables for Order Capture in eaSample* for more information.

## Setting Up Database Tables for Order Capture in eaSample

In order to use the Order Capture feature in the eaSample application that is provided with the eaDirect distribution, you must manually execute a SQL Server batch file that creates the appropriate database tables for the sample application. The command syntax is:

```
create_demo_oc_table.bat database_name database_username database_password
```

This command must be run on your database machine.

### To create database tables for Order Management in eaSample:

1. Open a Command Prompt window and change directory to `%EDX_HOME%\samples\eaSample\db\mssql`
3. Run the *Create\_demo\_oc\_table.bat* file providing the database username, database SID, and database password. For example:  

```
C:\> create_demo_oc_table.bat edx0 edx_dba edx
```
4. When the batch file has completed executing, you are returned to the command prompt. Note that no additional user input is required.
5. Close the Command Prompt window.

## Deploying eaSample

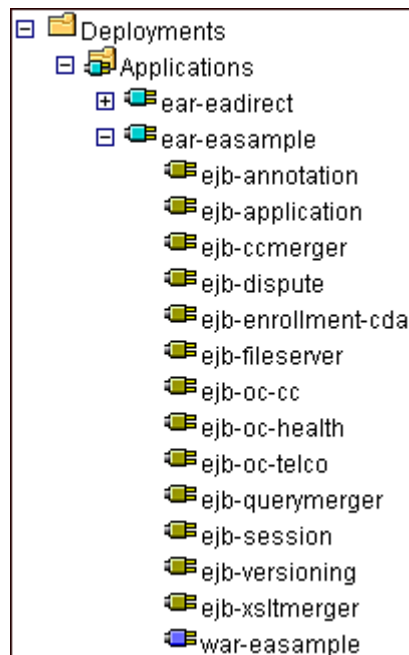
The eaSample application requires that its JDBC Connection Pool name be **edxUserConnectionPool**, as mentioned in the topic *Configuring a JDBC Connection Pool*. If you are using the default JDBC connection pool name for eaSample, you can ignore this topic.

However, if you are using a different connection pool name other than the default connection pool name **edxUserConnectionPool**, you will have to manually edit the connection pool name in the following EJBs for the eaSample application in order for it to deploy correctly.

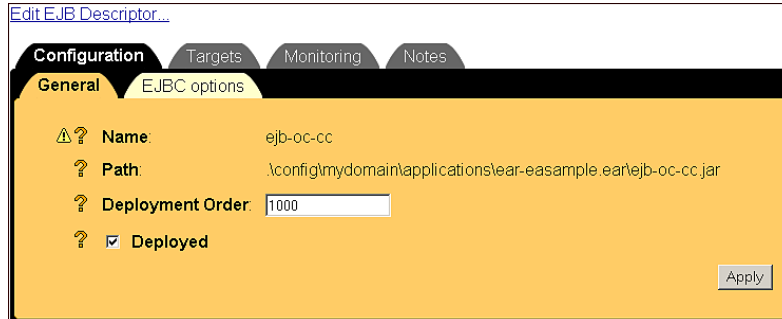
- `ejb-oc-cc`
- `ejb-oc-health`
- `ejb-oc-telco`

**To manually edit the connection pool name in eaSample:**

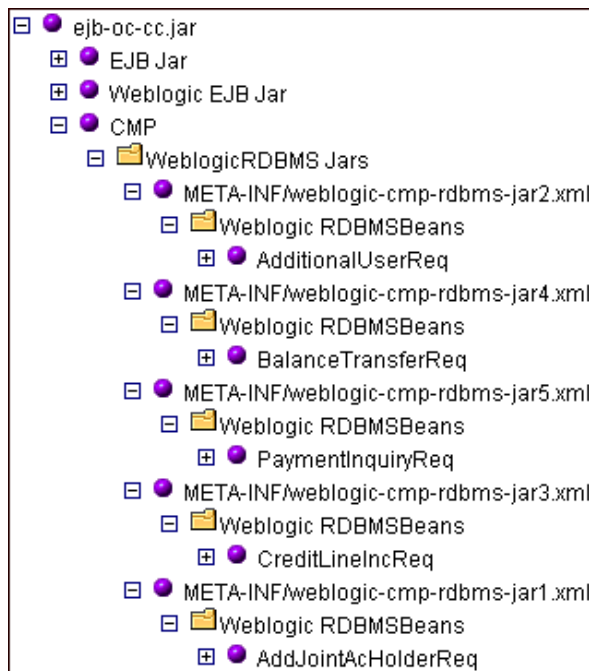
1. From your domain in the WebLogic Server Console, select **Deployment** and **Applications**, and expand `ear-easample`.



2. Select `ejb-oc-cc`. A tabbed dialog is displayed in the right pane.



3. Click the **Edit EJB Descriptor** link. A new two-pane window is displayed for the EJB descriptor.
4. In the left pane, select **CMP** and **WebLogicRDBMS Jars**.
5. In the left pane, expand each *.xml* descriptor to show the entity bean it contains.

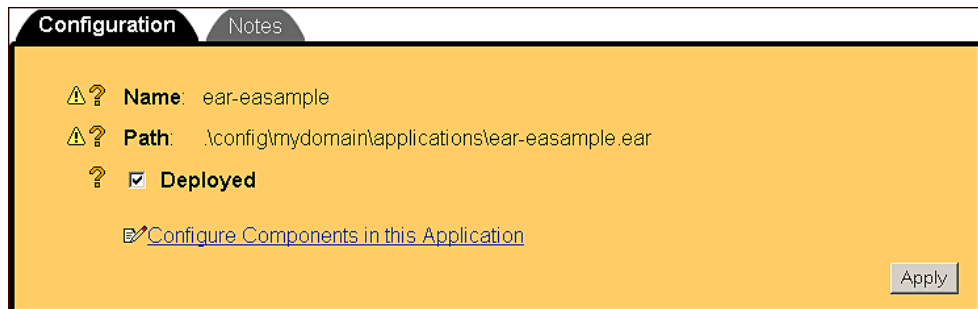


- Click the entity bean name (for example, AdditionalUserReq) and change the name of the connection pool to what you want it to be on the Configuration tab of the dialog that is displayed in the right pane.

- Click **Apply** for the change to take place when WebLogic Server is started again.
- Change the name of the connection pool for the remaining entity beans, clicking **Apply** after each change.
- In the left pane, click `ejb-oc-cc.jar`. A tabbed dialog is displayed in the right pane.

- Click **Persist**. A message is displayed notifying you that the action was successful.

11. Close the ejb-oc-cc.jar window and return to the WebLogic Server Console's main window.
12. Expand eaSample and select ejb-oc-health and ejb-oc-telco.
13. Follow the steps above to manually edit the connection pool name as you did for ejb-oc-cc.
14. Select **ear-easample** from the list of applications in the right pane.
15. Check **Deployed** on the Configuration screen of the tabbed dialog that is displayed in the right pane.



16. Stop WebLogic Server. This can be done from the WebLogic Server Console by right-clicking on **myserver**, and selecting **Stop this server** from the menu.
17. Restart WebLogic Server. You can start the default WebLogic server by going to the Start menu and selecting **Programs** and **Bea WebLogic E-Business Platform** and **WebLogic Server 6.1**. Then click **Start Default Server**.

## Viewing Sample Customer Information in NatlWireless using eaSample

The following steps describe how to use eaSample to view the sample eaDirect application called NatlWireless. NatlWireless is a set of eaDirect design and data files which eaDirect provides in with its software to demonstrate the various features of an eaDirect presentment application.

You must set up NatlWireless in the eaDirect Command Center (production environment), then enroll and log onto eaSample to view sample bills.

Setting up NatlWireless in the production environment includes the following general steps, described in detail below:

1. Create a new application for NatlWireless in the eaDirect Command Center.
2. Create a new Indexer job, publishing the application DDF for the job to use, configure the four tasks that run sequentially as part of the Indexer job, and run the job. Then publish the NatlWireless application (dynamic HTML view) files designed to display the statement summary.
3. Create and configure a DetailExtractor job, publishing the DDF, database table XML file, and statement XSLT style sheet view files designed for the DetailExtractor job, and run the job. Then publish the three dynamic XML Query files (views) designed to display the extracted NatlWireless data and demonstrate the disputes and annotations features.

**To create a new application for NatlWireless in the eaDirect Command Center:**

1. Start WebLogic Server and the Scheduler, if not already running.
2. Open a web browser and enter the URL to the eaDirect Command Center, using the syntax:

`http://host:port/eaDirect`

For example:

`http://doc_hughes:7001/eaDirect`

3. Create a new application for NatlWireless. Click **Create New Application** at the Main Console. eaDirect displays the Create New Application screen:

**edocs**

## Create New Application:

Application Name:

Create Application and Continue Help

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edocs is Reg. U.S. Pat. & Tm. Off. [Privacy Policy](#)

4. Enter **NatlWireless** as the application name. Click **Create Application and continue**. eaDirect displays the Create New Job screen.



**To create a new Indexer job, publish the associated NatlWireless files, and run the Indexer job:**

1. The Create New Job screen is displayed after you create a new application:

**edocs**

**Create New Job: NatlWireless**

When creating a job for an application that has just been created, you will need to publish the ALF, DDF and associated HTML template files. For adding additional jobs to an existing application, publishing the files is often not necessary, unless you wish to modify or create new versions of these files.

1 Name new job and select a job type.

Job Name:

Job Type:

2 Publish application/job files and templates.

3 Configure and Schedule job.

Main Console  
Service Status  
Reporting  
Settings  
Help  
Logout  
Publisher  
www.edocs.com

2. Enter **Indexer** for the Indexer job name, select the **Indexer** job type from the drop-down menu. Click **Launch Publisher** to publish the design files for NatlWireless. Click **create**. The Publisher displays the Select a Version Set Type screen:

The screenshot shows the edocs interface. On the left is a blue sidebar with navigation buttons: Browse, Create, Fetch, Delete, Help, and www.edocs.com. The main content area is titled 'Select a Version Set Type' and contains two sections:

**Dynamic Web Views**

| Job Type | Number of Auxiliary Files            |
|----------|--------------------------------------|
| HTML     | 0   1   2   3   <a href="#">more</a> |
| CSV      | 0                                    |
| XML      | 0                                    |
| CHART    | 0                                    |
| XSLT     | 0                                    |
| XMLQuery | 0                                    |

**Batch Jobs**

| Job Type           | Number of Auxiliary Files            |
|--------------------|--------------------------------------|
| Detail Extractor   | 0                                    |
| Email Notification | 0   1   2   3   <a href="#">more</a> |
| HTML Output        | 0   1   2   3   <a href="#">more</a> |
| Indexer            | 0                                    |
| XML Output         | 0                                    |

- Under Batch Jobs, next to Indexer, click 0 (Number of Auxiliary files). The Publisher displays the Create a Version Set For Indexer screen:

The screenshot shows a web interface for edocs. On the left is a vertical navigation menu with buttons for Browse, Create, Fetch, Delete, and Help. The main content area is titled "Create a version set for Indexer". It contains a form with the following fields and controls:

- Application:** A dropdown menu currently showing "NatlWireless".
- View Name:** A text input field containing "Indexer".
- DDF File:** A text input field followed by a "Browse..." button.
- Below the DDF File field are three buttons: "Submit", "Clear", and "Help".

At the bottom of the main content area, there is a copyright notice: "© Copyright 2000-2002 edocs®, Inc. All Rights Reserved. edocs is Reg. U.S. Pat. & Tm. Off. [Privacy Policy](#)". The edocs logo and the website address "www.edocs.com" are visible in the top left and bottom left of the interface, respectively.

4. Select **NatlWireless** from the list of application names, and browse to the `%EDX_HOME%\samples\NatlWireless` directory and select **NatlWireless.DDF** file for the Indexer job.
5. Click **submit**. The Publisher displays the Submission screen with details about the DDF file. Close the Publisher.
6. At the Create New Job screen in Command Center, click **Configure Job and Continue**. eaDirect displays the job configuration screen. For each task, specify the configuration parameters listed below:



### Task 1: Scanner Task Configuration

|                  |  |
|------------------|--|
| Input File Path  | Use the default<br>( <b>EDX_HOME\Input\NatlWireless</b> ). |
| Input File Name  | Specify <b>NatlWireless.txt</b> .                          |
| Output File Path | Use the default<br>( <b>EDX_HOME\Data\NatlWireless</b> ).  |

### Task 2: Indexer Task Configuration

|                  |  |
|------------------|--|
| DDF Path         | (Not editable.)  |
| Doc Date         | (Not editable.)  |
| Index Field List | Select the <b>CustName</b> field for indexing.<br><br>To select a field, highlight the field name and click the right arrow button. Use the scroll bar to view more fields. To unselect a field, highlight the field name and click the left arrow button. |

| <b>Task 3: IXLoader Task Configuration</b>           |  |
|--|--|
| Skip Rows  | Use the default (0).                   |
| Split Size   | Use the default (0).                   |
| Optional Field Count                                 | Use the default (0)                    |
| Load Method  | Use the default ( <b>Direct Load</b> ) |
| <b>Task 4: AutoIndexVolAccept Task Configuration</b> |  |
| Action on Index Volume                               | Use the default ( <b>AutoAccept</b> ). |

7. When finished entering the configuration parameters, click **Submit Changes and Schedule**. eaDirect asks “OK to submit this configuration?” Click **OK**. eaDirect submits the job configuration parameters and displays the Schedule screen.
8. In the left pane, click **Main Console**. On the Main Console’s left pane, click **Publisher**, and then click **Create**. The Publisher displays the Select a Version Set Type screen:

The screenshot shows the edocs interface with a blue sidebar on the left containing navigation buttons: Browse, Create, Fetch, Delete, Help, and www.edocs.com. The main content area is titled 'Select a Version Set Type' and is divided into two sections: 'Dynamic Web Views' and 'Batch Jobs'.

**Dynamic Web Views**

| Job Type | Number of Auxiliary Files  |
|----------|--|
| HTML     | <a href="#">0</a>   <a href="#">1</a>   <a href="#">2</a>   <a href="#">3</a>   <a href="#">more</a> |
| CSV      | <a href="#">0</a>  |
| XML      | <a href="#">0</a>  |
| CHART    | <a href="#">0</a>  |
| XSLT     | <a href="#">0</a>  |
| XMLQuery | <a href="#">0</a>  |

**Batch Jobs**

| Job Type           | Number of Auxiliary Files  |
|--------------------|--|
| Detail Extractor   | <a href="#">0</a>  |
| Email Notification | <a href="#">0</a>   <a href="#">1</a>   <a href="#">2</a>   <a href="#">3</a>   <a href="#">more</a> |
| HTML Output        | <a href="#">0</a>   <a href="#">1</a>   <a href="#">2</a>   <a href="#">3</a>   <a href="#">more</a> |
| Indexer            | <a href="#">0</a>  |
| XML Output         | <a href="#">0</a>  |

- Next to HTML under Dynamic Web Views, click 0. The Publisher displays the Create a Version Set for HTML screen:

**edocs**

**Create a version set for HTML**

Application:

View Type: HTML

View Name:

DDF File:

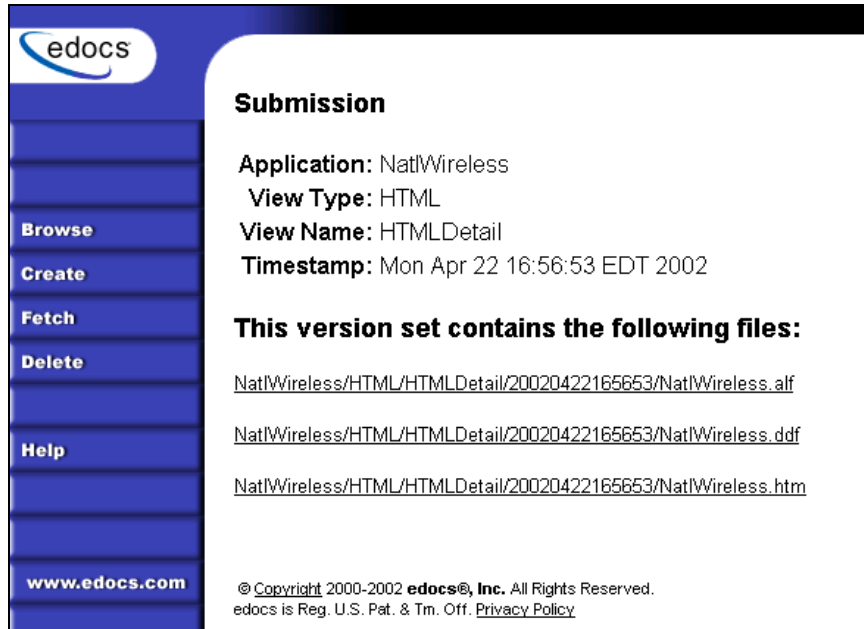
ALF File :

HTML Template:

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[www.edocs.com](http://www.edocs.com)

10. Select **NatlWireless** from the drop-down list of application names. Enter **HtmlDetail** for the view name. Browse **%EDX\_HOME%\samples\NatlWireless** and select the **NatlWireless.DDF**, **NatlWireless.ALF**, and **NatlWireless.HTM** design files. Then click **Submit**. The Publisher displays the Submission screen showing the files you published:



11. Close the Publisher.
12. Move the NatlWireless data file (*NatlWireless.txt*), which is located in `%EDX_HOME%\samples\NatlWireless\datafile`, to `%EDX_HOME%\Input\NatlWireless`. This is the same data file that you specified when you configured the job.
13. On the Main Console, click the **Run Now** button next to the NatlWireless Indexer job. Monitor the job's progress by clicking **Refresh** on the Main Console window. The Indexer job completes successfully when the job status on the Main Console changes to "Done."

**To create a new DetailExtractor job, publish the associated NatlWireless files, and run the DetailExtractor job:**

1. On the Main Console, click the application name, **NatlWireless**, listed under Applications in the table.
2. Click **Add New Job**. eaDirect displays the Create New Job screen.



3. Enter a job name (the job name can be whatever you want it to be), and then select job type **Detail Extractor**.
4. Click **Launch Publisher**. eaDirect displays the Publisher screen. Click **Create**. The Publisher displays the Select a Version Set Type screen.
5. Under Batch Jobs, Number of Auxiliary files, click the **0** next to the Detail Extractor job type. eaDirect displays the Create a Version Set for Detail Extractor screen.
6. Select the **NatlWireless** application from the drop-down list. Enter the view name **dtlextr** (this name is hard coded in several JSP's for detail, disputes, and annotations).
7. Browse to select **NatlWireless.DDF**. (The default location for this file is *%EDX\_HOME%\samples\NatlWireless\NatlWireless.DDF*.)
8. Browse to select **summary\_info.XML**, the database table XML view file created for this job. (The default location for this file is *%EDX\_HOME%\samples\NatlWireless\DetailExtractor*.)
9. Browse to select **summary\_info.XSL**, the statement XSLT style sheet. (The default location for this file is *%EDX\_HOME%\samples\NatlWireless\DetailExtractor*.)
10. Click **Submit** and close the Publisher.
11. On the Create New Job screen in the Command Center, click **Configure Job and Continue**. eaDirect displays the Detail Extractor job configuration screen.

**edocs**

**Application: natlwireless Job: DetailExtractor**

From this screen, all parameters of the selected job can be modified. To edit parameters, change the entries in the desired fields and click the Submit Changes and Schedule button. To Reset the fields or for Help click the appropriate button at the top of the screen.

Submit Changes and Schedule Refresh Reset Help

**Task 1: IVNScanner**

Index Volume Status: Accepted

Scan Starting From (Number of Days): 7

**Task 2: StatementsToIR**

View Name: dtlextr

Enroll Model:

Output File Path: /opt/EDCSbd/Data/natlwireless/

**Task 3: DXLoader**

Load Method: Direct

12. Specify the configuration parameters (listed below) for each of the three tasks that run as part of the Detail Extractor job:

| <b>Task 1: IVNScanner Task Configuration</b>     |  |
|--|--|
| <b>Field</b>                                     | <b>What to enter/select</b>  |
| Index Volume Status                              | Choose the default, <b>Accepted</b> .  |
| Scan Starting From (Number of Days)              | Use the default (7).   |
| <b>Task 2: StatementsToIR Task Configuration</b> |  |
| <b>Field</b>                                     | <b>What to enter/select</b>  |
| View Name  | <b>dtlextr</b>   |
| Enroll Model                                     | Leave blank.   |
| Output File Path                                 | Use the default (your data output directory, which you specified in the Scanner task for the Indexer job). |

| <b>Task 3: DXLoader Configuration</b> |                                    |
|---------------------------------------|------------------------------------|
| <b>Field</b>                          | <b>What to enter/select</b>        |
| Load Method                           | Use the default ( <b>Direct</b> ). |

13. Click **Submit Changes and Schedule**. eaDirect asks “OK to submit this configuration?” Click **OK**. eaDirect submits the job configuration parameters and displays the Schedule screen.
14. On the Schedule screen, click **Run Now**.
15. On the left pane, click **Main Console**.
16. Publish the XMLQuery dynamic web views that use the data extracted by the DetailExtractor; click **Publisher**.
17. Click **Create**. The Publisher displays the Select a Version Set Type screen. Under Dynamic Web Views, click the **0** next to the XML Query job type. The Publisher displays the Create a Version Set for XML Query screen.
18. Select the **Nat1Wireless** application. Enter **DetailQuery** as the view name, and browse *%EDX\_HOME%\samples\Nat1Wireless\XMLQuery* to select the **detail\_sql.xml** XML query file. (The DetailQuery view name is hard coded in your JSP HTML pages as the specific name the Web browser looks for in the code.) Click **Submit**. The Publisher displays the Submission screen
19. Click **Create** and repeat the previous two steps twice to publish two additional XML Query views (both view names are hard coded in your JSP HTML pages as the specific names the Web browser looks for in the code):

| <b>View Name</b> | <b>File</b>            |
|------------------|------------------------|
| DisputeQuery     | <i>dispute_sql.xml</i> |
| AnnotationQuery  | <i>annot_sql.xml</i>   |

20. Close the Publisher. You can proceed to use eaSample to display the data.

**To use eaSample to view NatlWireless statements:**

1. When the Indexer job completes successfully (status changes to “Done”), open a Web browser and access eaSample using the following URL syntax, substituting your own server name (host) and port number:

```
http://<host>[:port]/eaSample/User?app=UserMain&jsp=/user/jsp/HistoryList.jsp&ddn=NatlWireless
```

For example:

```
http://dusky:7001/eaSample/User?app=UserMain&jsp=/user/jsp/HistoryList.jsp&ddn=NatlWireless
```

The eaSample User Login page is displayed.

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[Enroll Now](#)

**User Login...** Enter your username, password and click "Submit." If you do not have a username or password, [Enroll Now](#) to sign up for your electronic bill.

**Username:**

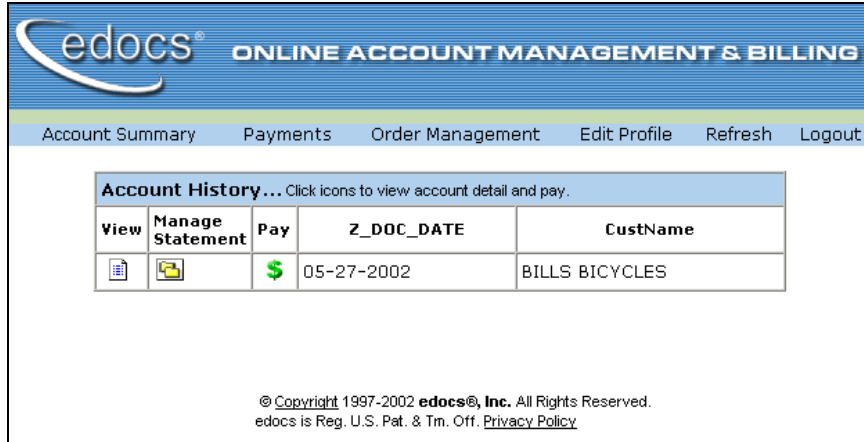
**Password:**


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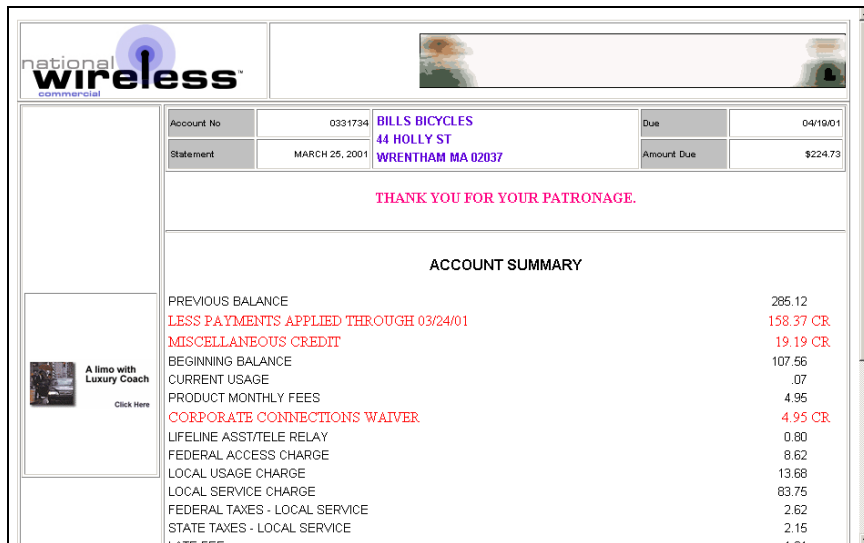
2. Click the **Enroll Now** link. eaDirect displays the sample enrollment page:


The screenshot shows the edocs ONLINE ACCOUNT MANAGEMENT & BILLING interface. At the top, the edocs logo is on the left and the text 'ONLINE ACCOUNT MANAGEMENT & BILLING' is on the right. Below this is a blue header bar. The main content area contains a form titled 'Please enter the following to enroll:'. The form has five rows, each with a label and a text input field: 'Username:', 'Password:', 'Re-Type password:', 'Email Address:', and 'Account Number:'. Below the form are two buttons: 'Submit' and 'Reset'. At the bottom of the form area, there is a copyright notice: '© Copyright 1997-2002 edocs®, Inc. All Rights Reserved. edocs is Reg. U.S. Pat. & Tm. Off. Privacy Policy'.

3. You can enter any user name and any password. However, you must enter a valid email address and a valid NatlWireless customer account number, such as one of the following: 0331734, 4191463, or 8611250. (Use **Reset** to clear the text fields, if necessary.) Click **Submit** to save the subscription information. eaDirect displays a message to let you know you have subscribed successfully. Click **OK** to display the User Login page.
4. Enter the username (Subscriber ID) and password (the same combination you entered during enrollment).
5. Click **submit**. The sample statement summary page for the account is displayed. (**Note:** You must have eaPay, the eaDirect payment module, installed to view the payment screens and functionality.)



6. To view the statement summary, click the View icon .



7. To view the Manage Statement page, click  from the History page.

| Comments | Summary Info Description               | Summary Info Amount | Dispute |
|----------|--|---------------------|---------|
|          | PREVIOUS BALANCE                       | 285.12              |         |
|          | LESS PAYMENTS APPLIED THROUGH 03/24/01 | 158.37              |         |
|          | MISCELLANEOUS CREDIT                   | 19.19               |         |
|          | BEGINNING BALANCE                      | 107.56              |         |
|          | CURRENT USAGE                          | .07                 |         |
|          | PRODUCT MONTHLY FEES                   | 4.95                |         |
|          | CORPORATE CONNECTIONS WAIVER           | 4.95                |         |
|          | LIFELINE ASST/TELE RELAY               | 0.80                |         |
|          | FEDERAL ACCESS CHARGE                  | 8.62                |         |
|          | LOCAL USAGE CHARGE                     | 13.68               |         |
|          | LOCAL SERVICE CHARGE                   | 83.75               |         |
|          | FEDERAL TAXES - LOCAL SERVICE          | 2.62                |         |
|          | STATE TAXES - LOCAL SERVICE            | 2.15                |         |
|          | LATE FEE                               | 1.61                |         |

- Click next to an item to display the Add Note page where you can add comments (annotations) regarding that item:

**Add note:**

**Description:** CURRENT USAGE

**Category:** Business

**Comment:**

- Click to display the Dispute Your Statement page where you can dispute the item:

| Dispute your statement:  |                      |
|--|----------------------|
| <b>Disputed Item:</b>  | Summary Info Amount  |
| <b>Current Amount:</b>   | 4.95                 |
| <b>Adjusted Amount:</b>  | <input type="text"/> |
| <b>Comments:</b>   | <input type="text"/> |
| <input type="button" value="Submit"/> <input type="button" value="Reset"/> |                      |

**For more information:**

The *eaDirect Production Guide* describes Command Center activities such as creating applications, configuring jobs, and publishing accompanying eaDirect application, HTML, and other design files for batch and dynamic presentation.



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