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# Installation and Configuration

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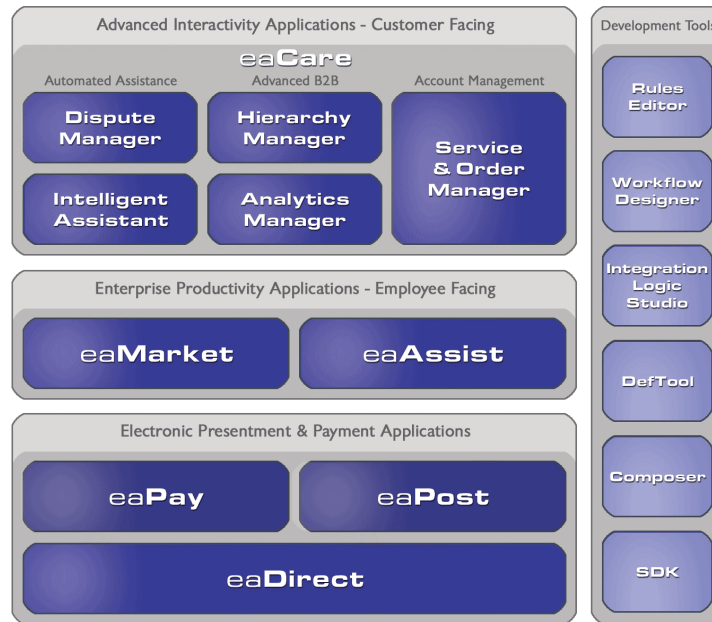
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### About Customer Self-Service and eaSuite™

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

eaSuite is comprised of four product families:

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



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

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

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

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

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

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

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

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

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

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

## About eaPay

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

## **eaPay Benefits**

- Decreases payment processing costs and improves efficiency by providing complete electronic payment flexibility and low cost payment options to automate the payment process.
- Accelerates receivables and decreases float by automating payments online.
- Increases satisfaction and reduces customer support costs by allowing customers to easily and conveniently make payments on their accounts at the organization's Website.
- Minimizes IT costs by eliminating "hard wired" links to payment providers and having to support changing/emerging standards.
- Integrates with accounts receivables systems to automate electronic payment remittance postings.

## **eaPay Key Features**

- Connections to payment networks  
Real-time and batch interfaces to ACH, Credit Card, and proprietary networks, using a cartridge based approach that yields complete payment flexibility.
- Advanced warehousing and scheduling  
Full payment warehousing to manage all of the scheduling, transaction, and business logic. Make one-time instant payments, schedule future payments, set up recurring and "auto-pay" payments, utilize threshold functionality, and cancel/change payments.  
Supports ACH Notification of Changes (NOC), ACH addenda records, and multiple billers in one ACH file. Demand deposit account (DDA) verification before a payment is submitted via pre-notes.  
Once eaPay retrieves an invoice from eaDirect, it keeps it in the payment database. That allows customers to view invoices to make payments and view payment history.
- Integration with your existing infrastructure  
Updates Accounts Receivables systems with remittance info and supports reconciliation processes. Includes XML based API's for integration into backend systems.
- Front-end GUI's  
Includes fully functional front-end web pages, which can also be used as templates, enabling you to fully brand and customize your front-end interface.  
Account history and access to details of past payments, providing an integrated view of all transactions, regardless of payment type or who initiated them  
Payment reminders and a variety of customizable email templates available to the administrator as well as the end-user. Examples of email notification include enrollment status, recurring payment scheduling, credit card expiration and bill payment status.



- Easy to use administration tools:
  - Web-based configuration
  - Integration with the eaDirect™ Command Center
  - Customer information management
  - Monitor system activities and generate reports
- Database optimization for high-performance and scalability
- Rich SDK enables you to fully extend the solution, including API's for two-way access and customizable front-end screens, jobs, and processes

## About This Guide

This guide is intended for System Administrators and anyone who is responsible for the daily operation and supervision of an eaDirect environment. This Guide **does not** describe general system administration and other tasks such as:

- How to navigate operating system
- How to manipulate text files
- How to create files and directories
- How to assign file permissions
- How to perform general installation and system administration tasks for third-party software that works with eaPay

To obtain information about these tasks and others, consult the system administration documentation for your platform.

## Related Documentation

Online Help for command center functions, and a PDF version of this guide are also available.

| Online              | How to Access   |
|---------------------|---|
| Help                | Select Help from eaPay command center screens.                |
| A PDF of this guide | A PDF of this guide is available on the eaPay product CD-ROM. |

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

| <b>Print Document</b>                              | <b>Description</b>  |
|--|---|
| <i>Payment Production Guide</i>                    | How to configure and operate the production environment. It describes configuration tasks done after installation.      |
| <i>Data Presentation Production Guide</i>          | How to set up and run a live eaDirect application in a J2EE environment.  |
| <i>Customizing and Extending eaPay</i>             | Contains information about developing eaPay applications, and extending the functionality of eaPay command center jobs. |
| <i>Deploying and Customizing J2EE Applications</i> | How to customize J2EE web applications for deployment with the eaSuite.   |

The eaSuite products eaDirect, eaPost, eaMarket, and eaAssist provide their own documentation.

## Obtaining edocs Software and Documentation

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

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

## If You Need Help

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

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

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

**Europe Support Center**

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

**Asia Pac Rim Support Center**

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

**Customer Central**

<https://support.edocs.com>

**Email Support**

<mailto:support@edocs.com>

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

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

If the system crashed or hung, please tell us.





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## Preparing to Install eaPay

### Installation Overview

Before you can install the payment package, you must install eaDirect and configure the eaDirect database to interact with eaPay (see the eaDirect installation guides for information about these procedures).

This document assumes that you have the application server and database server on different systems.

1. The steps required to implement online bill payment are:

2. Install eaDirect along with the required software.

See the *eaDirect Installation and Configuration Guide* for more information about installing eaDirect.

3. Install eaPay and configure system wide options.

Install the eaPay application, first on the database server, then on the application server. Then follow the Post-Installation instructions to complete the installation.

If you are upgrading from a previous release, please see the section *Upgrading eaPay* on page 45.

4. Configure a payment gateway for online check and/or credit card processing.

5. Enroll customers for online bill viewing and payment.

6. Set up eaPay jobs to process payments and optionally send reminders.

See the *eaPay Production Guide* for information about configuring a payment gateway, enrolling customers and other operational issues.

## System Prerequisites

Before installing eaPay, eaDirect must be installed, along with its required software components. For information about eaDirect and its requirements, see the *eaDirect Installation and Configuration Guide*.



### Caution

Client browsers connecting to any eaSuite product must be enabled to run Javascript. To check whether Javascript is enabled for:

**IE** - Under Internet Options, on the Advanced tab, under Microsoft VM, make sure that "JIT Compiler for virtual machine enabled" is checked.

**Netscape** - Under Edit, then Preferences, click on **Advanced**, and make sure "Enable Javascript" is checked.

---

For the latest software and hardware requirements, see the release notes that came with your distribution.

# 2

## Installation and Configuration

### Installing the eaPay Software

Follow the steps below to install eaPay on your system. Before you do, verify that the database server is started.

Follow the instructions below to install eaAssist on your system. By default, eaPay is installed in:

| Platform         | Default Path        |
|------------------|---------------------|
| Solaris or HP-UX | <i>/opt/EDCSpay</i> |
| AIX              | <i>/usr/EDCSpay</i> |
| Windows          | <i>C:\EDCSpay</i>   |

You can change the default installation directory when prompted during the installation procedure. This guide uses the generic term `EAPAY_HOME` to define the installation directory in the examples.

During the installation procedure, you are prompted to enter the user and group identifier of the Web Application Server owner. edocs recommends you use the default Web Application Server owner and group accounts.

#### Installing the eaPay database components:

1. For Unix (Solaris, HP/UX or AIX), log in as the root user on the database server.
2. After you obtain and locate the eaPay software installer as described in the Preface of this guide, you can run it as follows:  
  
For Unix (Solaris, HP/UX or AIX), enter `./Payins.bin` from a command prompt at the directory location where the installer resides.  
  
For Windows, double-click the `Payins.exe` installer application at the directory location where it resides.
3. On the Introduction screen, read the eaPay introductory information. Click **Next** to continue.
4. On the License Agreement screen, carefully read the licensing agreement, select the acceptance button, and then click **Next**.

5. 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**.
6. On the Owner of Web Application Server screen, enter the name of the application server owner (the same one you used when installing eaDirect). Then click **Next**.
7. On the Group of Web Application Server screen, enter the name of the group for the application server (the same one you used when installing eaDirect). Then click **Next**.
8. On the Choose Install Folder screen, accept the default installation folder or click **Choose** and enter the directory where you want to install the eaPay files and directories. This document refers to that directory as EAPAY\_HOME. Click the **Next** button to continue.
9. On the Choose Product Features screen, click **Database**. Then click **Next**.
10. On the Pre-Installation Summary screen, verify that the information is correct, and click on **Install**. To correct any entries, click **Previous**, and then return here.

At this point, the eaPay database server components are copied to the designated installation folder. A status bar on the bottom of the screen shows each database server component being installed. No user intervention is required.
11. The release notes display inside the installer window.
12. The Install Complete screen reports a successful installation and the directory that contains the database server components.
13. Click **Next** to view the release notes. Then click Next when you are done reading the release notes.
14. Click **Done** to exit the installer.

If the installation fails, determine the cause of the problem and run InstallAnywhere again to reinstall eaPay. If you need to contact edocs Technical Support, see the section *If You Need Help* on page 10.

## Installing the eaPay application server components:

1. For Unix (Solaris, HP/UX or AIX), log in as the root user on the database server.
2. After you obtain and locate the eaPay software installer as described in the Preface of this guide, you can run it as follows:

For Unix (Solaris, HP/UX or AIX), enter `./Payins.bin` from a command prompt at the directory location where the installer resides.

For Windows, double-click the **Payins.exe** installer application at the directory location where it resides.
3. On the Introduction screen, read the eaPay introductory information. Click **Next** to continue.



4. On the License Agreement screen, carefully read the licensing agreement, select the acceptance button, and then click **Next**.
5. 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**.
6. On the Owner of Web Application Server screen, enter the name of the application server owner (the same one you used when installing eaDirect). Then click **Next**.
7. On the Group of Web Application Server screen, enter the name of the group for the application server (the same one you used when installing eaDirect). Then click **Next**.
8. On the Choose Install Folder screen, accept the default installation folder or click **Choose** and enter the directory where you want to install the eaPay files and directories. This document refers to that directory as EAPAY\_HOME. Click the **Next** button to continue.
9. On the Choose Product Features screen, click **Application Server**. Then click **Next**.
10. On the Pre-Installation Summary screen, verify that the information is correct, and click on **Install**. To correct any entries, click **Previous**, and then return here.

At this point, the eaPay application server components are copied to the designated installation folder. A status bar on the bottom of the screen shows each database server component being installed. No user intervention is required.
11. You may be asked to specify which version of the application server you are using.
12. The release notes display inside the installer window.
13. The Install Complete screen reports a successful installation and the directory that contains the database server components.
14. Click **Next** to view the release notes. Then click Next when you are done reading the release notes.
15. Click **Done** to exit the installer.

If the installation fails, determine the cause of the problem and run InstallAnywhere again to reinstall eaPay. If you need to contact edocs Technical Support, see the section *If You Need Help* on page 10.



# 3

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## Configuring the eaPay Database

### Creating a new database

Configuring the eaPay database consists of running a script that creates tables and indexes in the eaDirect database that eaPay uses.

#### Running the database creation script for Oracle in Unix:

1. Log on as the Oracle user. For example:

```
su - oracle
```

2. You may have to set the environment variable for the Oracle SID to the eaDirect Oracle database instance before starting *sqlplus*. For example:

```
export ORACLE_SID=edx0
```

3. Change your working directory to the *db/oracle* directory under *\$EAPAY\_HOME*. For example:

```
cd /opt/EDCSpay/db/oracle
```

4. Run the eaPay database configuration script *eapay\_admin.sh*.

5. The eaPay database installation menu displays:

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

```
-----  
[1] Sign in Menu  
[2] Install Application Database I  
[3] Install Application Database II  
[4] Initial Data Population  
[Q] Quit  
Enter Your Option :
```

6. Enter 1 Sign in Menu. A second sign-in screen appears, where you enter the following database sign-in information:

```
SIGN IN MENU  
-----  
[1] Enter Database USERNAME      ...>edx_dba  
[2] Enter Database PASSWORD      ...>edx  
[3] Enter the eaDirect ORACLE_SID ...>edx0
```

7. After you enter the ORACLE\_SID value, the main menu reappears. Select [2] **Install Application Database**.
8. When the script finishes, enter [3] **Install Application Database II**.
9. When the script finishes, enter [4] **Initial Data Population**. This step populates the eaPay database with data required to run eaPay.
10. When the script finishes, enter [Q] **Quit** to end the script. The eaPay database installation is completed. Make sure the Oracle listener is running, and the eaPay database is ready to use.

## Running the database creation script for Oracle in Windows:

1. In the directory `%EAPAY_HOME%\db\oracle`, edit `create_payment_db.bat` and enter the correct information for the Oracle home, Oracle base and the SID, user name and password (eaPay uses the same database as eaDirect). The batch file shows example entries.
2. Run `%EAPAY_HOME%\db\oracle\create_payment_db.bat` to create the payment databases.



**Tip**

If you run the database creation script from a command prompt, you will see the database creation process and messages.

---

3. The eaPay database installation is completed. Make sure the Oracle listener is running, and the eaPay database is ready to use.

## Running the database creation script for MSSQL:

1. In the directory `%EAPAY_HOME%\db\mssql`, edit `set_isql_options.bat` and enter the correct information for the database, user name and password (eaPay uses the same database as eaDirect) on the line that starts with:  

```
set ISQL_OPTIONS.....
```
2. Run `%EAPAY_HOME%\db\mssql\create_payment_db.bat` to create payment databases.



**Tip**

If you run the database creation script from a command prompt, you will see the database creation process and messages.

---

3. Restart the system.

## Running the database creation script for DB2:

Before running the script, you should verify that the owner information (userid/groupid) of the `$EAPAY_HOME/db` directory is set to the DB2 instance owner defined during installation (for example, `db2inst1`). If a different instance user will be used, you will need to change the ownership of that directory. To change the owner information use this command:

```
chown -fR db2inst1:db2iadml /usr/EDCSpay/db/db2
```

### To run the database script.

1. Log on as the database instance owner (usually, `db2inst1`), and change to the `$EAPAY_HOME/db`.

```
cd /usr/EDCSpay/db/db2
```

2. Run the eaPay database configuration script `eapay_admin.sh`.

3. The eaPay database installation menu displays:

```
edocs eaPay Server Administration Main Menu Version 1.0
-----
[1] Sign in Menu
[2] Install Application Database I
[3] Install Application Database II
[4] Initial Data Population
[Q] Quit
Enter Your Option :
```

4. Enter 1 Sign in Menu. A second sign-in screen appears, where you enter the following database sign-in information:

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

5. After you enter the DATABASE name value, the main menu reappears. Select **[2] Install Application Database**.
6. When the script finishes, enter **[3] Install Application Database II**.
7. When the script finishes, enter **[4] Initial Data Population**. This step populates the eaPay database with data required to run eaPay.
8. When the script finishes, enter **[Q] Quit** to end the script. The eaPay database installation is completed. Make sure the Java listener is running, and the eaPay database is ready to use.

## Migrating an existing database

### Running the database migration script for Oracle in Unix:

1. Log on as the Oracle user. For example:

```
su - oracle
```

2. You may have to set the environment variable for the Oracle SID to the eaDirect Oracle database instance before starting *sqlplus*. For example:

```
export ORACLE_SID=edx0
```

3. Change your working directory to the *db/oracle/migration/to42* directory under *\$EAPAY\_HOME*. For example:

```
cd /opt/EDCSpay/db/oracle
```

4. Switch to Oracle and connect to the eaDirect/eaPay database with SQLPLUS and run the eaPay database creation script *create\_payment\_db.sql*. For example:

```
su - oracle
sqlplus edx_dba/edx@edx.db
@create_payment_db.sql
```

### Running the database migration script for Oracle in Windows:

1. In the directory *%EAPAY\_HOME%\db\oracle\migration\to42*, edit *create\_payment\_db.bat* and enter the correct information for the Oracle home, Oracle base and the SID, user name and password (eaPay uses the same database as eaDirect). The batch file shows example entries.
2. Run *%EAPAY\_HOME%\db\oracle\migration\to42\create\_payment\_db.bat* to create the payment databases.



#### Tip

If you run the database creation script from a command prompt, you will see the database creation process and messages.

3. The eaPay database migration is complete when the script finishes. Make sure the Oracle listener is running, and the eaPay database is ready to use.

### Running the database migration script for MSSQL:

1. In the directory *%EAPAY\_HOME%\db\mssql\migration\to42*, edit *set\_isql\_options.bat* and enter the correct information for the database, user name and password (eaPay uses the same database as eaDirect) on the line that starts with:

```
set ISQL_OPTIONS.....
```

2. Run *%EAPAY\_HOME%\db\mssql\migration\to42\create\_payment\_db.bat* to create payment databases.

**Tip**

If you run the database creation script from a command prompt, you will see the database creation process and messages.

3. Restart the system.

## Running the database creation script for DB2:

Before running the script, you should verify that the owner information (userid/groupid) of the `$EAPAY_HOME/db` directory is set to the DB2 instance owner defined during installation (for example, `db2inst1`). If a different instance user will be used, you will need to change the ownership of that directory. To change the owner information use this command:

```
chown -fR db2inst1:db2iadm1 /usr/EDCSpay/db/db2
```

### To run the database script.

1. Log on as the database instance owner (usually, `db2inst1`), and change to the `$EAPAY_HOME/db/migration/to42`.  

```
cd /usr/EDCSpay/db/db2/migration/to42
```
2. Connect to the eaDirect/eaPay database and run the eaPay database migration script `create_payment_db.sh`. For example:

```
db2 connect  
. ./create_payment_db.sql
```





# 4

---

## Configuring WebLogic for Windows

### Configuring the Application Server

Updating the eaPay and eaDirect configuration files:

1. Log on as the WebLogic server owner, and change your working directory to `%EAPAY_HOME%\config`, for example:  

```
cd \EDCSpay\config
```
2. If you are not using the default eaDirect and eaPay directories, then edit the `edx_payment.config` file, and correct the entry that defines EAPAY\_HOME.
3. Copy the updated `edx_payment.config` file to `%EDX_HOME%\config`.

Updating the eaDirect EAR files:

The `ear-eadirect.ear` file must be updated for eaPay. eaPay installs a file called `ear-eapay.ear`, which must be merged into the `ear-eadirect.ear` file.

Before you start, please make a backup copy of the original `ear-eadirect.ear`.

1. Edit `%EAPAY_HOME%\bin\merge_eapay_wl.bat` to update the locations for the home and source directories, if needed.
2. Run the edited batch script.
3. The batch file creates a new `ear-eadirect.ear` file in the `%EAPAY_HOME%\J2EEApps\weblogic` directory.

Deploying the eaPay EAR files:

eaPay requires that the eaDirect EAR be re-deployed, since it was updated in the previous step. You must also deploy a sample payment application. You can deploy either the Simple (single-DDN) or Complex (multiple-DDN) application for testing purposes. You will also want to deploy your site's application, as created by edocs Professional Services, or by your development team.

The following steps describe how to deploy an EAR file.

1. Make sure the WebLogic server is running. If it is not running, start it.
2. Open a URL to the WebLogic console.
3. Select **Mydomain**, then **Deployments**, then **Applications**, and click on **Install New Application**.
4. Browse to a copy of the *ear-eadirect.ear* file for eaPay. If you are using a browser from a different system than the Windows system that the files are on, you will have to copy the EAR from `%EAPAY_HOME%\J2EEApps\weblogic` on the system where you are running the browser. Then click **Upload**. WebLogic will upload the *ear-eadirect.ear* file, install it over the existing *ear-eadirect.ear* file, and (usually) re-deploy the EAR file and its components.

---


**Tip**

You should check to make sure all the EJB and WAR Deployments under the *ear-eadirect* application in WebLogic properly deployed. If not, check **Deployed**, and click on **Apply**. Also, check that the Targets tab for each EJB deployment shows that the server is chosen. If not, move the server into the Chosen column, and click **Apply**.

---

5. Restart the WebLogic server .

The eaPay sample applications (eaPaySimple and eaPayComplex) are located in `%EAPAY_HOME%\samples\eaPaySimple\J2EEApps\weblogic`

or

`%EAPAY_HOME%\samples\eaPayComplex\J2EEApps\weblogic`

## JTA timeout configuration

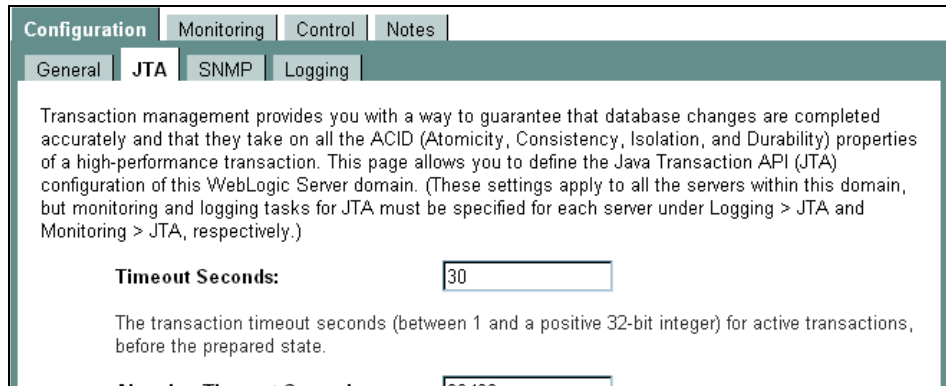
If pmtCheckSubmit will process a large number of checks, the JTA timeout value in WebLogic must be increased to keep the connection open long enough to process all the checks. For every 1500 checks to be processed, the timeout value should be increased by 30 seconds.

The JTA timeout value allows the system to recover a "lost" transaction. Your application code should handle commit and rollback of database transactions. But, if there is a programming error such that transactions are not committed or rolled back, a timeout provides a way for the application server to release those transactions.

The default timeout (30 seconds) is fine for web-based transactions, but it is too small for batch based transactions.

### To configure the JTA Timeout setting:

1. Enter the URL to log on to the WebLogic console
2. Click on the **JTA** in the left window, and a screen similar to the following appears:



3. Change the Timeout Seconds field to the multiple of 30 seconds that you require, and click the **Apply** button.



# 5

---

## Configuring WebLogic for Unix

### Configuring the Application Server

Updating the eaPay and eaDirect configuration files:

1. Log on as the WebLogic server owner, and change your working directory to `$EAPAY_HOME/config`, for example:  

```
cd /opt/EDCSpay/config
```
2. If you are not using the default eaDirect and eaPay directories, then edit the `edx_payment.config` file, and correct the entry that defines EAPAY\_HOME.
3. Copy the updated `edx_payment.config` file to `$EDX_HOME/config`.

Updating the eaDirect EAR files:

The `ear-eadirect.ear` file must be updated for eaPay. eaPay installs a file called `ear-eapay.ear`, which must be merged into the `ear-eadirect.ear` file.

Before you start, please make a backup copy of the original `ear-eadirect.ear`.

1. Edit `$EAPAY_HOME/bin/merge_eapay_wl.sh` to update the locations for the home and source directories, if needed. Also set JAVA\_HOME in the script or in your shell.
2. Run the edited shell script.
3. The batch file creates a new `ear-eadirect.ear` file in the `$EAPAY_HOME/J2EEApps/weblogic` directory.

Deploying the eaPay EAR files:

eaPay requires that the eaDirect EAR be re-deployed, since it was updated in the previous step. You must also deploy a sample payment application. You can deploy either the Simple (single-DDN) or Complex (multiple-DDN) application for testing purposes. You will also want to deploy your site's application, as created by edocs Professional Services, or by your development team.

The following steps describe how to deploy an EAR file.

1. Make sure the WebLogic server is running. If it is not running, start it.
2. Open a URL to the WebLogic console.
3. Select **Mydomain**, then **Deployments**, then **Applications**, and click on **Install New Application**.
4. Browse to a copy of the *ear-eadirect.ear* file for eaPay. If you are using a browser from a different system than the Solaris system that the files are on, you will have to copy the EAR from *\$EAPAY\_HOME/J2EEApps/weblogic* on the Unix host to the system where you are running the browser. Then click **Upload**. WebLogic will upload the *ear-eadirect.ear* file, install it over the existing *ear-eadirect.ear* file, and (usually) re-deploy the EAR file and its components.

---

**Tip**

You should check to make sure all the EJB and WAR Deployments under the *ear-eadirect* application in WebLogic properly deployed. If not, check **Deployed**, and click on **Apply**. Also, check that the Targets tab for each EJB deployment shows that the server is chosen. If not, move the server into the Chosen column, and click **Apply**.

---

5. Restart the WebLogic server by stopping it, and then restarting as described in step 1.

The eaPay sample applications (eaPaySimple and eaPayComplex) are located in *\$EAPAY\_HOME/samples/J2EEApps/weblogic*.

## JTA timeout configuration

If pmtCheckSubmit will process a large number of checks, the JTA timeout value in WebLogic must be increased to keep the connection open long enough to process all the checks. For every 1500 checks to be processed, the timeout value should be increased by 30 seconds.

The JTA timeout value allows the system to recover a "lost" transaction. Your application code should handle commit and rollback of database transactions. But, if there is a programming error such that transactions are not committed or rolled back, a timeout provides a way for the application server to release those transactions.

The default timeout (30 seconds) is fine for web-based transactions, but it is too small for batch based transactions.

### To configure the JTA Timeout setting:

1. Enter the URL to log on to the WebLogic console
2. Click on the **mydomain** in the left window
3. Click on the JTA tab, and a screen similar to the following will appear:

The screenshot shows the WebLogic Configuration console with the following structure:

- Top navigation: Configuration, Monitoring, Control, Notes
- Sub-navigation: General, JTA, SNMP, Logging
- Text: Transaction management provides you with a way to guarantee that database changes are completed accurately and that they take on all the ACID (Atomicity, Consistency, Isolation, and Durability) properties of a high-performance transaction. This page allows you to define the Java Transaction API (JTA) configuration of this WebLogic Server domain. (These settings apply to all the servers within this domain, but monitoring and logging tasks for JTA must be specified for each server under the > JTA and Monitoring > JTA, respectively.)
- Field: **Timeout Seconds:**
- Text: The transaction timeout seconds (between 1 and a positive 32-bit integer) for active transactions, before the prepared state.

4. Change the Timeout Seconds field to the multiple of 30 seconds that you require, and click the **Apply** button.





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## Configuring WebSphere for Unix

### Configuring the Application Server

#### Defining eaPay to WebSphere:

1. Log on as the WebSphere server owner, and change your working directory to `$EAPAY_HOME/config`, for example:  

```
cd /opt/EDCSpay/config
```
2. Edit the `edx_payment.config` file, and correct the entry that defines `EAPAY_HOME`, if necessary.
3. Copy the updated `edx_payment.config` file to `$EDX_HOME/config`.

#### Updating the eaDirect EAR files

The `ear-eadirect.ear` file must be updated for eaPay. eaPay installs a file called `ear-eapay.ear`, which must be merged into the `ear-eadirect.ear` file. Before you start, please make a backup copy of the original `ear-eadirect.ear`.

#### To update the eaPay EAR files in WebSphere:

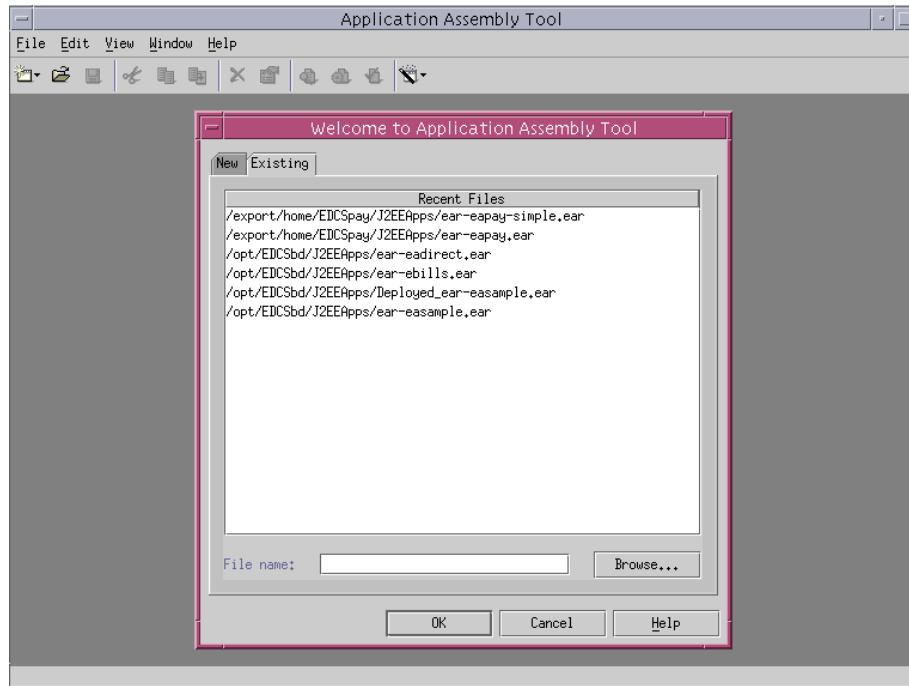
1. Edit `$EAPAY_HOME/bin/websphere/merge_eapay_ws.sh` to update the locations for the home and source directories, if needed. Also set `JAVA_HOME` in the script or in your shell.
2. Run the edited shell script.
3. The batch file creates a new `ear-eadirect.ear` file in the `$EAPAY_HOME/bin/websphere/J2EEApps/websphere` directory.

## Assembling the EAR files for WebSphere 5:

The archives must be assembled, before they can be deployed in the WebSphere version 5 (WebSphere version 5.1 EARs **do not** require assembly) server. To run the assembler:

1. Start the WebSphere assembler script, for example:

```
cd /opt/WebSphere/bin
./assembly.sh &
```

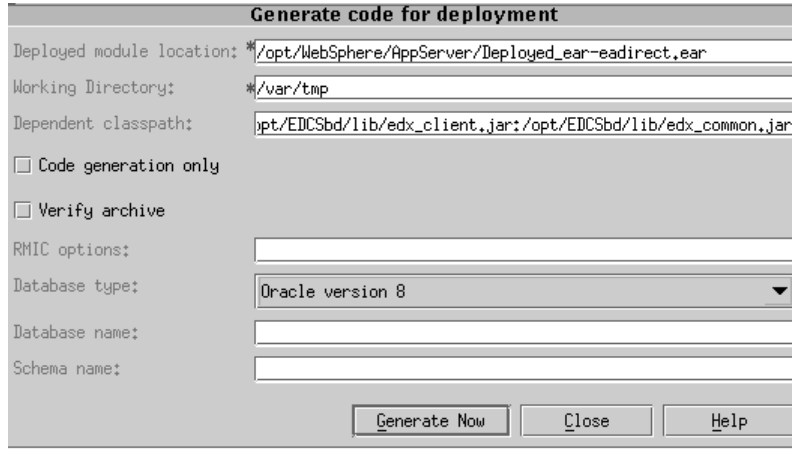


2. Select the **Existing** tab, then click on **Browse**.



3. Navigate to the `$EAPAY_HOME/J2EEApps/websphere` directory (or the location of the merged EAR file, if you did not use the default), and **select** `ear-eadirect.ear`.

4. Select **File**, then **Generate code for deployment**. A screen similar to the following displays:



Enter the values for the fields described in the following table:

| Field                     | Description   |
|---------------------------|---|
| Deployed module location: | Enter the path to the assembled .ear file.  |
| Dependent classpath:      | Enter the java Classpaths<br><code>\$EDX_HOME/lib/edx_system.jar:\$EDX_HOME/lib/edx_client.jar:\$EDX_HOME/lib/edx_common.jar:\$EAPAY_HOME/lib/eapay_client.jar:\$EAPAY_HOME/lib/eapay_common.jar:\$EAPAY_HOME/lib/eapay_custom.jar</code> |
| Database type:            | The database type is not used, so the value selected does not matter.   |

Leave all other fields as they are, and click on **Generate Now**.

Generating code can take quite a while, depending on the speed of the system.

5. Repeat steps 1 through 4, this time choosing either *ear-eapay-simple.ear* or *ear-eapay-complex.ear*. Which file you chose to assemble depends on which enrollment model you are using. See *Choosing the Enrollment Model* on page 41 for more information about enrollment models.

## Deploying eaPay in WebSphere

### To remove the eaDirect application in WebSphere:

1. From the WebSphere Administrative Console, expand the Applications branch and click on **Enterprise Applications**.
2. Check eaDirect application, and click on the **Stop** button.
3. Check the eaDirect application, and click on the **Uninstall** button.

4. Save to the Master Configuration.

**To install the eaDirect application in WebSphere:**

1. From the WebSphere Administrative Console, expand the Applications branch and click on **Install New Application**.
2. Select **Server Path** and then type in the absolute path to where your application is installed, for example:  
`/opt/EDCSpay/J2EEApps/websphere/Deployed_ear-eadirect.ear`
3. Keep clicking **Next** until you reach the last page, and then click **Finish**. Use the default settings for each step.
4. After deployment completes, save to the Master Configuration.
5. After saving completes, start the eaDirect application.



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# Configuring WebSphere for Windows

## Configuring the Application Server

Updating the eaPay configuration file:

1. Log on as the WebSphere server owner, and change your working directory to `%EAPAY_HOME%\config`.
2. Edit the `edx_payment.config` file, and correct the entry that defines `EAPAY_HOME`, if necessary.
3. Copy the updated `edx_payment.config` file to `%EDX_HOME%\config`.

Updating the eaDirect EAR files:

The `ear-eadirect.ear` file must be updated for eaPay. eaPay installs a file called `ear-eapay.ear`, which must be merged into the `ear-eadirect.ear` file.

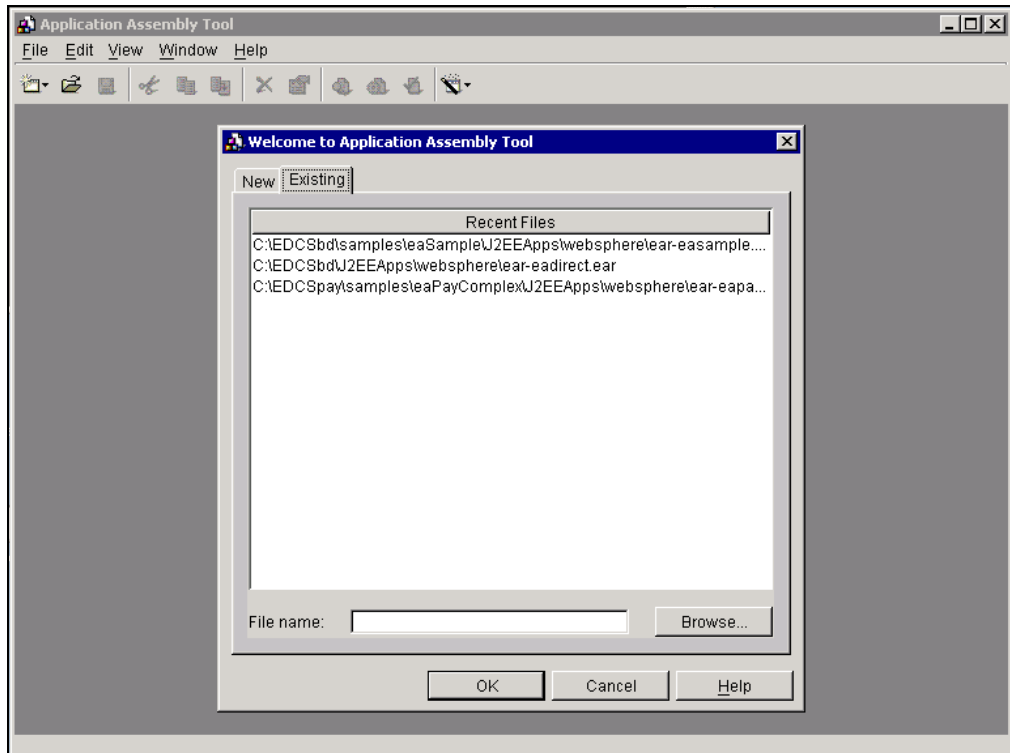
**To update the eaPay EAR files for WebSphere:**

1. Before you start, please make a backup copy of the original `ear-eadirect.ear`.
2. Edit `%EAPAY_HOME%\bin\websphere\merge_eapay_ws.bat` to update the locations for the home and source directories, if needed.
3. Run the edited batch script.
4. The batch file creates a new `ear-eadirect.ear` file in the `%EAPAY_HOME%\J2EEApps\websphere` directory.

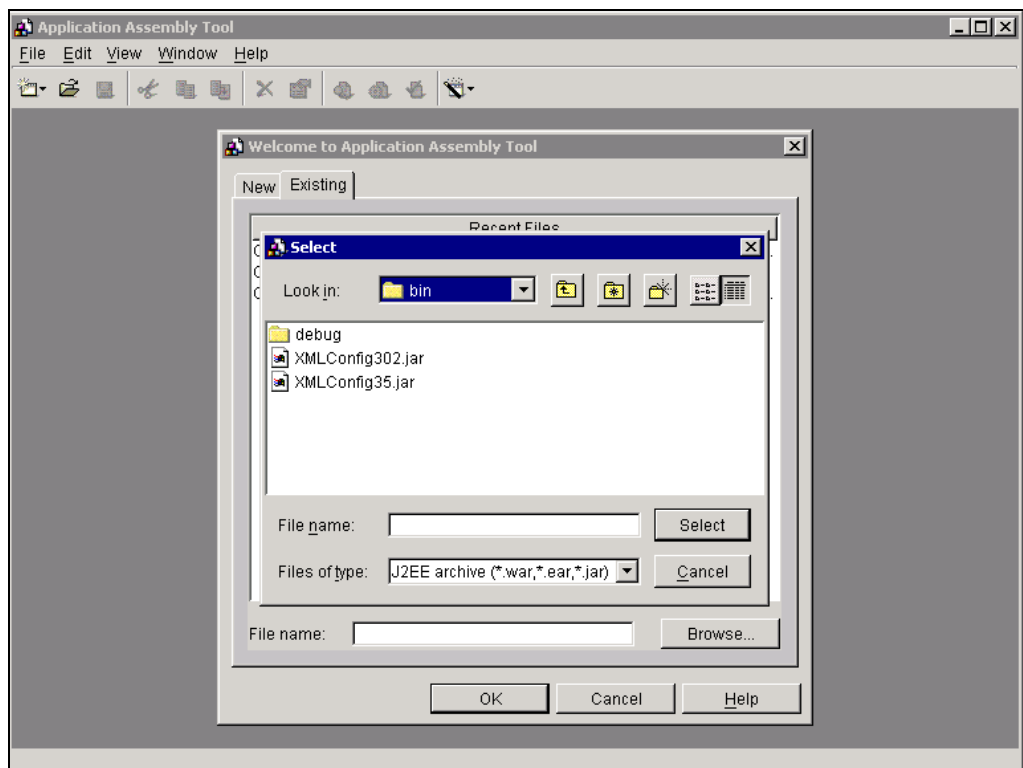
**Assembling the EAR files for WebSphere 5:**

The archives must be assembled, before they can be deployed in the WebSphere version 5 server (WebSphere version 5.1 EARs **do not** require assembly). To run the assembler:

1. Start the WebSphere assembler script

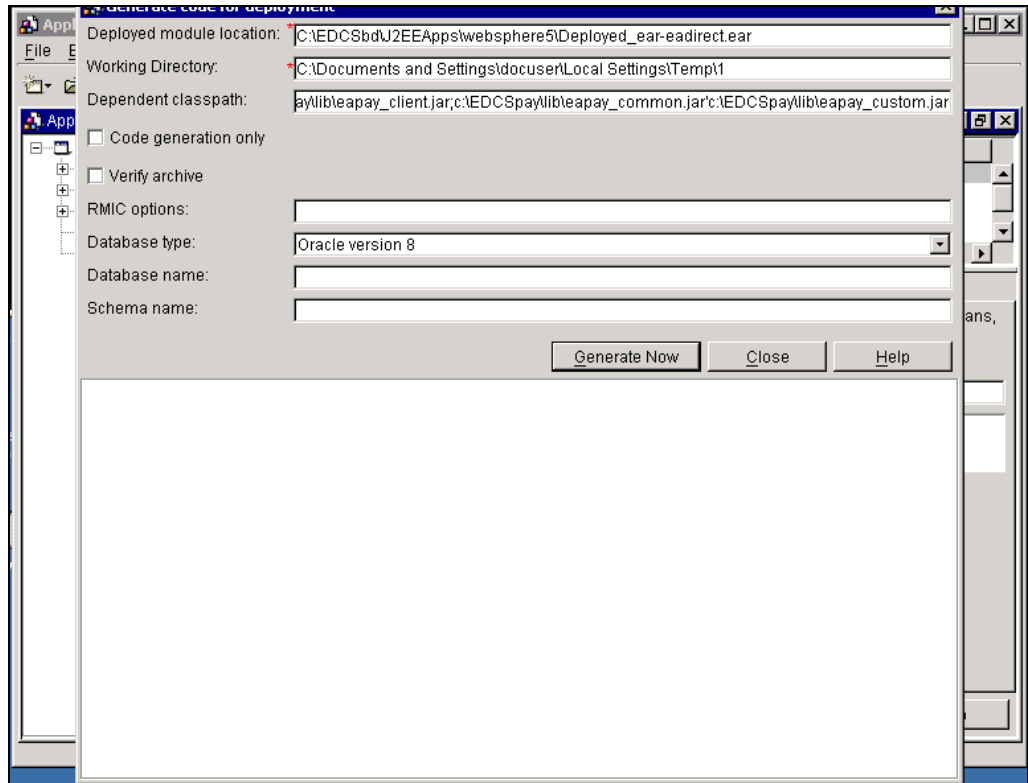


2. Select the **Existing** tab, then click on **Browse**.



3. Navigate to the *EDX\_HOME\J2EEApps\websphere* directory, and Select *ear-eadirect.ear*.

4. Select **File**, then **Generate code for deployment**. A screen similar to the following displays (the example shows Unix filenames):



Enter the values for the fields described in the following table:

| Field                     | Description   |
|---------------------------|---|
| Deployed module location: | Enter the path to the assembled EAR file.   |
| Dependent classpath:      | Enter the java Classpaths<br><code>%EDX_HOME%\lib\edx_system.jar;%EDX_HOME%\lib\edx_client.jar;%EDX_HOME%\lib\edx_common.jar;%EAPAY_HOME%\lib\ Leapay_client.jar;%EAPAY_HOME%\lib\ Leapay_common.jar;%EAPAY_HOME%\lib\ Leapay_custom.jar</code> |
| Database type:            | The database type is not used.  |

Leave all other fields as they are, and click on **Generate Now**.

Generating code can take quite a while, depending on the speed of the system.

5. Repeat steps 1 through 4, this time choosing either *ear- Leapay-simple.ear* or *ear- Leapay-complex.ear*. Which file you chose to assemble depends on which enrollment model you are using. See *Choosing the Enrollment Model* on page 41 for more information about enrollment models.

## Deploying eaPay in WebSphere

### To remove the eaDirect application in WebSphere:

1. From the WebSphere Administrative Console, expand the Applications branch and click on **Enterprise Applications**.
2. Check eaDirect application, and click on the **Stop** button.
3. Check the eaDirect application, and click on the **UnInstall** button.
4. Save to the Master Configuration.

### To install the eaDirect application in WebSphere:

1. From the WebSphere Administrative Console, expand the Applications branch and click on **Install New Application**.
2. Select **Server Path** and then type in the absolute path to where your application is installed, for example:  
`C:\EDCSpay\J2EEApps\websphere\Deployed_ear-eadirect.ear`
3. Keep clicking **Next** until you reach the last page, and then click **Finish**. Use the default settings for each step.
4. After deployment completes, save to the Master Configuration.
5. After saving completes, start the eaDirect application.



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## Post Installation Configuration

### Choosing the Enrollment Model

The *eaPay Production Guide* describes the options for storing and retrieving enrollment information for eaDirect and eaPay. Please read that section before following these directions.

#### The User enrollment model

eaPay supports both single DDN and multiple DDN payments using two WAR files. *war-eapay-simple.war* handles single DDN access, and *war-eapay-complex.war* handles multiple DDN access.

#### The Payment Account enrollment model

eaPay Settings for each gateway has a field that determines which class to use when storing and retrieving payment information. The field name is `Implementation of IPaymentAccountUserAccessor`, and the available option is *com.edocs.payment.payenroll.payacct.SSOPaymentAccountAccessor*, for when eaPay user information is stored in a table separate from the CDA tables (default eaPay enrollment).

#### Changing the enrollment model

The eaPay Default enrollment model supports single-DDN per user by default. The following sections describe how to switch from the default enrollment model to the other enrollment models.

##### To switch to multiple-DDN

1. Change the eaPay Settings, by logging onto the Command Center and choosing **Settings**, then **eaPay Settings**.
2. Create or update the application you wish to switch. For the `Implementation of IUserAccountAccessor` parameter, select *com.edocs.payment.payenroll.usracct.JNDIMultipleDDNUserAccountAccessor*

3. Click the **update** button.
4. On the application server, use the URL prefix `eaPayComplex` to access `eaPay`, which accesses `war-eapay-complex.war`.

## Configuring Support for VeriSign Processing

### WebLogic

If you are going to use a VeriSign credit card gateway, then you must edit the classpath in your application server startup script, and configure your java security file.

#### To edit the classpath in the application server startup script

Edit the startup script for your application server to add `jsse.jar`, `jnet.jar` and `jcet.jar`. These files are located in the `/lib` subdirectory of your `eaPay` installation.

These JSEE JAR files must be added to the classpath **before** the WebLogic JAR files. For example,

For Windows:

```
set
CLASSPATH=C:\EDCSpay\lib\jsse.jar;C:\EDCSpay\lib\jcet.jar;C:\
EDCSpay\lib\jnet.jar;%CLASSPATH%
```

For Unix:

```
$CLASSPATH=/opt/EDCSpay/lib/jsse.jar:/opt/EDCSpay/lib/jcet.jar:
r:/opt/EDCSpay/lib/jnet.jar:$CLASSPATH
```

### WebSphere

If you are going to use a VeriSign credit card gateway, then you must add the classpaths for Verisign in your application server definition, and configure your java security file.

#### To edit the classpath in the application server JVM definition

Under Servers, click on **Application Servers**. Select the application server that supports the `eaDirect` application, and under Additional Properties click on **Java Virtual Machine**. For the Classpath property, add the following JAR files.

For Windows:

```
set
CLASSPATH=C:\EDCSpay\lib\jsse.jar;C:\EDCSpay\lib\jcet.jar;C:\
EDCSpay\lib\jnet.jar;%CLASSPATH%
```

For Unix:

```
$CLASSPATH=/opt/EDCSpay/lib/jsse.jar:/opt/EDCSpay/lib/jcet.jar:
r:/opt/EDCSpay/lib/jnet.jar:$CLASSPATH
```

## Preparing for a System Failure

The database for eaPay should be backed-up regularly, for example nightly, to maximize the recovery effort in the event of a system failure. For example, if the eaPay Database Server failed for some reason, the database administrator could restore from the latest backed-up version. A failure to the eaPay Database Server also requires that the database administrator restart the eaPay services in order to reestablish the database connection pool.

eaPay will automatically handle single transaction failures by rolling back to the transaction's original state. This happens because each eaPay operation is handled within its own transaction context.



# 9

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## Upgrading from 4.0

### Upgrading eaPay

To upgrade eaPay from version 4.1 to 4.3, perform the following tasks:

- Remove eaPay 4.1
- Remove eaDirect 4.1
- Install eaDirect 4.3
- Install eaPay 4.3
- Upgrade eaPay Settings and job parameters on the application server
- Run the database creation script on the database server or migrate an existing database

### Upgrading the application server:

Follow the steps below to upgrade eaPay on the Application server. Before you do, verify that the Database Server is running.

1. Log in as the root user on the application server.
2. Run this procedure on both the database and application server.
3. Uninstall eaPay. See the section *Uninstalling eaPay* on page 49 for more information.
4. Remove any directories not removed by the uninstall procedure. Be sure to save any files that you modified that you may want later. Manually remove any files not removed by the uninstaller, but make sure you back up any files modified by you or edocs Professional Services.
5. Uninstall eaDirect. For information about uninstalling eaDirect, see the eaDirect installation guides.
6. Remove any directories not removed by the uninstall procedure. Be sure to save any files that you modified that you may want later. Manually remove any files not removed by the uninstaller, but make sure you back up any files modified by you or edocs Professional Services.
7. Install eaDirect 4.3. For information about installing eaDirect, see the eaDirect installation guides.

8. Install and configure eaPay using the information in this guide.
9. When upgrading to a new version of eaPay, you must migrate your J2EE and Web applications to accommodate the changes in the new version. The sample applications provided with each version of eaPay provide examples of how to use the current features of eaPay. 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:

- Merge your custom code into the sample application (eaPaySimple or eaPayComplex), and rename it. For more information about how to do this, see the *Customizing and Deploying Applications* document.
- Re-deploy your custom application.

See the release notes for information about new features in 4.3.

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

10. You must reconfigure your payment gateways and eaPay jobs in the Command Center to accommodate new settings. See the *eaPay Release Notes* for information about eaPay Settings and eaPay job parameters.

## Upgrading the database server:

Follow the steps below to upgrade eaPay on the database server. Before you do, verify that the database server is running.

1. Log on as the root user on the database server.
2. Uninstall eaPay 4.0. See the section *Uninstalling eaPay* on page 49 for more information.
3. Remove any directories not removed by the uninstall procedure. Be sure to save any files that have been modified by you or edocs Professional Services, and DO NOT remove the database.
4. Uninstall eaDirect 4.0. For information about uninstalling eaDirect, see the eaDirect installation guides.
5. Install eaDirect 4.3. For information about installing eaDirect, see the *eaDirect Installation and Configuration Guide*.
6. Migrate your database using the instructions in the Migration section for your database, which starts on page 22..
7. Install eaPay using the information in this guide.
8. Run the database script using the instructions in *Configuring the eaPay Database*, which starts on page 19.

If the installation fails, after determining the cause of the problem you can run the InstallAnywhere tool again to reinstall eaPay.





## Removing the eaPay Database

Follow the steps below to remove the eaPay database tables and indexes. The process involves running an SQL script as the as the owner of the database. You should be aware that this procedure **completely** removes the payment database elements and should be used with care.



If you wish to remove the eaPay database tables and indexes, you must do that before removing the eaPay database package.

### To remove the eaPay database for Oracle in Unix:

1. Log in as the Oracle user.
2. Change your working directory to `$EAPAY_HOME/db/oracle`.
3. Start an `sqlplus` session on the eaPay database server.
4. Remove payment tables and stored procedures by running:  
`@drop_payment_db.sql`
5. You should see the following message after running each stored procedure:  
`PL/SQL procedure successfully completed.`

### To remove the eaPay database for Oracle in Windows:

1. Run the SQL Query Analyzer, and open  
`%EAPAY_HOME%\db\mssql\drop_payment_db.sql`.
2. Run the script to delete all the eaPay database components. Check the output for any errors.

### To remove the eaPay database for MSSQL:

1. Change your working directory to the `%EAPAY_HOME%\db\mssql` directory.
2. Run the file `drop_payment_db.bat`.

### To remove the eaPay database for DB2:

1. Log in as root
2. Change your working directory to `$EAPAY_HOME/db/db2`.
3. Remove payment database components by running `drop_payment_schema.sh`. This script assumes that the database, user and password is `edx0`, `edx_dba` and `edx`. If your database values are different, then edit the script before running it.

## Uninstalling the Application

When uninstalling the eaPay, you must remove eaPay from each server that you installed it on. You will also want to remove eaPay

Run this procedure on both the database and application server.

### To remove the eaPay application in Unix:

1. Run `$EAPAY_HOME/Uninstall/Uninstall_eaPay`. For example:  

```
cd /opt/EDCSpay/Uninstall
./Uninstall_eaPay
```
2. Remove any directories not removed by the uninstall procedure. Be sure to save any files that you modified that you may want later.

### To removing the eaPay application in Windows:

1. Change your working directory to the `%EAPAY_HOME%\Uninstall` directory.
2. Run `.uninstall.exe`.