Installing and Deploying Adobe® Flash® Media Rights Management Server for WebLogic®

Adobe® Flash® Media Rights Management Server

Contents

About This Document

This document explains how to install, configure, and deploy Adobe® Flash® Media Rights Management Server for BEA WebLogic Server® and Oracle®. The steps covered in this document help you configure your environment and get a Flash Media Rights Management Server system up and running.

Who should read this document?

This document is intended for evaluators, administrators, or developers who are responsible for installing, configuring, administering, or deploying Flash Media Rights Management Server. The information provided is based on the assumption that anyone reading this document is familiar with the Microsoft® Windows® or Red Hat® Linux® operating systems and web environments.

Conventions used in this document

This guide uses the following naming conventions for common file paths.

Name	Description	Default value
[appserver root]	The home directory of the application server that runs the Adobe LiveCycle® ES services.	WebLogic on Windows: C:\bea\weblogic92\ WebLogic on Linux: /opt/bea/weblogic92
BEA_HOME	The install directory for WebLogic as specified for the `BEA_HOME` environment variable.	WebLogic on Windows C:\bea WebLogic on Linux: /opt/bea
[appserverdomain]	The domain that you configured on WebLogic. The default domain is called "base_domain".	WebLogic on Windows: C:\bea\user_projects\domains\base_domain WebLogic on Linux: /opt/bea/user_projects/domains/base_domain
[dbserver root]	The location where the LiveCycle ES database server is installed.	Depends on the database type and your specification during installation.
[FMRMS root]	The installation directory where Flash Media Rights Management Server resides, as well as the command line tools and SPI library.	Windows: C:\Adobe\FMRMS1.0\ Linux: /opt/adobe/fmrms1.0/

Name	Description	Default value
[LiveCycleES root]	The installation directory that is used for all LiveCycle ES solution components. The installation directory contains subdirectories for LiveCycle Configuration Manager and each LiveCycle ES solution component installed (along with the product documentation). This directory also includes directories that relate to third-party technologies.	Windows: C:\Adobe\LiveCycle8\ Linux: /opt/adobe/livecycle8/

Most of the information about directory locations in this guide is cross-platform (all file names and paths are case-sensitive on Linux). Any platform-specific information is indicated as required.

Additional information

The resources in this table provide additional information about Flash Media Rights Management Server.

For information about	See
The Flash Media Rights Management Server solution, development environment, run-time environment, and each Flash Media Rights Management Server component	*Overview*
Installing, configuring, and deploying Flash Media Rights Management Server	*Installing and Deploying Flash Media Rights Management Server for WebLogic*
Managing administrative users and user roles	*User Management Help*
Installing Flash Media Server	*Adobe Flash Media Server Installation Guide*
Customizing and configuring Flash Media Server	*Adobe Flash Media Server Administration and Configuration Guide*
Creating custom service providers for Adobe User Management and Adobe LiveCycle Rights Management ES	*Developing Service Providers*
The Java™ interfaces and classes used to create custom service providers	*Adobe Flash Media Rights Management Server API Reference (Javadoc)*
Securing video content and playlists by using the Flash Media Rights Management Server command line tools	*Securing Video Content and Playlists*
Delivering content in Adobe Media Player	*Adobe Media Player Content Developer Kit*
Using Adobe Media Player to find and view content	*Adobe Media Player Help*

1 | Preparing the Environment

Introduction

This section provides the information you require to prepare your server environment before you perform the installation and deployment of Flash Media Rights Management Server solution on Windows and Linux. This section contains two types of information:

- All hardware and software requirements and configurations that *must* be already in place to ensure a successful Flash Media Rights Management Server install process.
- All tasks that *can* be performed without having Flash Media Rights Management Server installed and deployed but are not needed for installing or deploying.

This overview summarizes the order in which you will perform steps required for preparing your server environment.

1. Prepare the hardware as per your requirements. (See "Minimum hardware requirements" on page 7).

2. Install the operating system and update with all necessary patches and service packs. (See "Supported software" on page 8).

3. Install and configure the database server. (See "Creating the LiveCycle ES Database" on page 12).

4. Install and configure the application server. (See "Configuring a WebLogic Server" on page 22).

5. Install, configure, and deploy Flash Media Rights Management Server solution components. (See "Installing, Configuring, and Deploying" on page 14).

6. Perform post-deployment tasks. (See "Post-Deployment Tasks" on page 33).

System requirements

This section provides the minimum and recommended hardware requirement for Flash Media Rights Management Server.

Minimum hardware requirements

This table provides the minimum hardware requirement supported by Flash Media Rights Management Server.

Operating system	Minimum hardware requirement
Microsoft Windows Server® 2003 Enterprise Edition or Standard Edition SP1 and R2 (32-bit edition only)	Intel® Pentium® 3 or x86 equivalent, 1 GHz processor VMWare ESX Server and GSX Server RAM - 2 GB Free disk space - 2.7 GB of temporary space plus 1.7 GB for LiveCycle ES
Red Hat Enterprise Linux AS or ES 4.0 (32-bit edition only)	Pentium 3 or x86 equivalent, 1 GHz processor RAM - 2.5 GB Free disk space - 2.7 GB of temporary space plus 1.7 GB for LiveCycle ES

Intel x86 compatibility

On supported Windows and Linux environments, Flash Media Rights Management Server supports Intel EDT64 and AMD64 compatible chipsets, but the operating system must be 32 bit.

Recommended hardware requirements

In addition to the minimum hardware requirements listed previously, here are the recommended hardware requirements for a small production environment:

Intel environments: Pentium 4, 2.8 GHz or greater. Using a dual core processor will further enhance performance.

Memory requirements: 4 GB of RAM.

Supported software

This table provides a summary of the application servers, web browsers, databases, database drivers, and the Sun™ Java™ Development Kit (JDK) versions that Flash Media Rights Management Server supports.

Required software	Supported version
Operating system	• Microsoft Windows Server 2003 Enterprise Edition or Standard Edition SP1 and R2 (32-bit edition only) • Red Hat Enterprise Linux AS or ES 4.0 (32-bit edition only)
Application server	• BEA WebLogic® 9.2 (Advantage and Premium editions). To facilitate the use of WebLogic for joint Adobe and BEA customers, BEA provided this location to download the exact version of WebLogic that LiveCycle ES requires: http://commerce.bea.com/adobe/adobe.jsp?DL=Adobe-WLS-Download.
Web browser	See "Web browser support" on page 9 for a complete list of web browsers.

Required software	Supported version
JDK	• WebLogic on all platforms - BEA JRockit® 5.0 R26.4 JDK and all later 5.0 releases of JRockit available at: http://commerce.bea.com/products/weblogicjrockit/5.0/jr_50.jsp You also need to install the Java Software Development Kit (JDK) Version 6 Update 2 on the computer that will run the command line tools. You can get the JDK at http://java.sun.com
Database	• Oracle 10g (Standard and Enterprise Editions)
Database driver	• Oracle 10g - ojdbc14.jar, Release 2 (10.2.0.2 Thin)

Web browser support

This table outlines the supported web browsers for the Flash Media Rights Management Server administrator user interface, LiveCycle Administration Console.

Operating system	Flash® Player	Supported browser
Microsoft Windows Vista™	N/A	Internet Explorer 7 or later[1] Firefox 2.0.0.1 or later[1]
Windows 2000	N/A	Internet Explorer 6 or later[1] Firefox 2.0.0.1 or later[1]
Windows XP	N/A	Internet Explorer 6 or later[1] Firefox 2.0.0.1 or later[1]
Windows Server 2003	N/A	Internet Explorer 6 or later[1] Firefox 2.0.0.1 or later[1]
OS X v 10.4.x (Intel)	N/A	Firefox 2.0.0.1 or later[1]

[1]"or later" includes major revisions. For example, Microsoft Internet Explorer 6.0 or later also covers Microsoft Internet Explorer 7.0

Additional requirements for Linux operating systems

The installer for Adobe LiveCycle ES (Enterprise Suite) Update 1 requires the bc tool to be available on the Linux system. Normally, the bc tool is present by default. Ensure that the bc tool (an arbitrary precision calculator language) is installed on the system before you run the installer. If the tool is not present, you will encounter error messages warning about lack of disk space because the bc tool is used to compute whether enough disk space is available before you start the installation. The bc tool may be provided by your operating system vendor; otherwise, you can get the GNU bc tool at www.gnu.org.

Note: To verify that the tool is available, execute `which bc` from the shell. If the tool is available, the path to the program is displayed.

Installing from network drives

It is recommended that you install Flash Media Rights Management Server only from the installation media or a local disk drive. Attempting to install the software over a network results in considerable delays in launching and installing.

Installing on a WebLogic Server cluster

If you intend to install and deploy Flash Media Rights Management Server in a clustered environment, follow the preparatory and installation tasks outlined in *Configuring LiveCycle ES Application Server Clusters Using WebLogic*.

Note: When accessing this document, ensure that you have the version specified for LiveCycle ES version 8.0.1.2 (SP2) and not a later version.

Configuration worksheet

It is recommended that you record the following information and keep it conveniently accessible for future use. This information will be required during the installation and configuration process as well as being important for activities such as patching and upgrades.

Tip: Print this page to keep note of your settings as you progress through this document.

Component	Information	Value
Application server	Computer IP address or fully qualified domain (see note below)	*enter value here*
Database	Host name or IP address	*enter value here*
Database	Port number	*enter value here*
Database	Service ID	*enter value here*
Database	Database name	*enter value here*
Database	User name & password	*enter value here*
JDK	Install path [JAVA_HOME]	*enter value here*
WebLogic Server	Install path [appserver root]	*enter value here*
WebLogic Server	User name & password	*enter value here*
WebLogic Server	Managed server name and path	*enter value here*
WebLogic Server	Port number	*enter value here*
Flash Media Rights Management Server	Serial number	*enter value here*

Component	Information	Value
Flash Media Rights Management Server	Install path [FMRMS root]	*enter value here*
Flash Media Rights Management Server	Certificate expiry date	*enter value here*
LiveCycle ES	Install path [LiveCycleES root]	*enter value here*
POP3.jar file	Location	*enter value here*
LiveCycle Administration Console	Administrator name & password	*enter value here*

Note: Use of [localhost] during configuration causes errors; use the application server's IP address or fully qualified domain for all instances.

2 | Creating the LiveCycle ES Database

This section describes how to set up the database for use with Flash Media Rights Management Server.

Before you create the database, ensure that you have read the preinstallation requirements and that you have the required software installed. (See "System requirements" on page 7.)

If this is your first installation of Flash Media Rights Management Server, create an empty database. All of the tables that are required to support Flash Media Rights Management Server are created when you run the Initialize LiveCycle ES Database task by using LiveCycle Configuration Manager.

Database configuration requirements

This section describes special tables, indexes, and other properties that are required in the LiveCycle ES database that are not configured by LiveCycle Configuration Manager.

- "Creating an Oracle database" on page 12

Creating an Oracle database

Install Oracle according to the manufacturer's instructions. During the installation, a default database is installed. This database will be used by your Flash Media Rights Management Server and will be initialized during the configuration process.

If you prefer not to use the default database that was created when you installed Oracle 10g, create a database by using the Database Configuration Assistant tool. For information about using Oracle 10g, see the appropriate user documentation.

You must create your Oracle database to support UTF-8 characters. Ensure that the database character set is Unicode (AL32UTF8). You must use the transaction processing template when creating the database. The connection mode for the server must be Shared Server Mode.

You must also create a new user on the database and assign it the following system privileges:
- CREATE SEQUENCE
- CREATE VIEW
- UNLIMITED TABLESPACE
- CREATE TABLE
- CREATE CLUSTER
- CREATE SESSION

For deployments on Linux, the user name cannot exceed 8 characters and, on Windows, it must not exceed 12 characters.

You need the following information when you configure the data source on the application server:

- SID (Service ID)
- User name and password of the Oracle user account
- Host name or IP address of the database server
- Oracle port number (default is 1521)

3 | Installing, Configuring, and Deploying

This chapter describes the tasks that are required to install, configure, and deploy the Flash Media Rights Management Server and its supporting LiveCycle ES environment. You must perform the following tasks:

1. Run the Flash Media Rights Management Server installer. (See "To install Flash Media Rights Management Server:" on page 16.)

2. Install the LiveCycle ES platform. (See "To install LiveCycle ES:" on page 16.)

3. Install the LiveCycle ES service pack. (See"To install the service pack for the LiveCycle ES server:" on page 17.)

4. Configure and deploy LiveCycle ES using LiveCycle Configuration Manager. (See "To perform configuration or deployment tasks using LiveCycle Configuration Manager:" on page 20.)

About the installation, configuration, and deployment process

Installing, configuring, and deploying Flash Media Rights Management Server involves the following processes:

Installing: You install Flash Media Rights Management Server by running the installation program. Installing Flash Media Rights Management Server places all of the required files onto your computer, within one installation directory structure. The default installation directory is C:\Adobe (Windows) or /opt/adobe (Linux); however, you can install the files to a different directory. In this document, the default installation directory for Flash Media Rights Management Server is referred to as *[FMRMS root]* and, for LiveCycle ES, it is *[LiveCycleES root]*.

Configuring and assembling: Configuring Flash Media Rights Management Server modifies a variety of settings that determine how Flash Media Rights Management Server works. Assembling the product places all of the installed components into several deployable EAR and JAR files, according to your configuration instructions. Configure and assemble the components for deployment by running LiveCycle Configuration Manager.

Deploying: Deploying the product involves deploying the assembled EAR files and supporting files to the WebLogic Server on which you plan to run your Flash Media Rights Management Server solution.

Initializing the database: Initializing the database to be used with Flash Media Rights Management Server creates tables for use with User Management and other components. Deploying any solution component that connects to the database requires you to initialize the database after the deployment process.

Flash Media Rights Management Server installation

This section describes how to use the installation program to install Flash Media Rights Management Server on a Windows or Linux operating system.

Before you install, ensure that your environment includes the software and hardware that is required to run Flash Media Rights Management Server. You should also have prepared the environment as required. (See "Preparing the Environment" on page 7.)

Installation considerations

When you run an installation program, you need your Flash Media Rights Management Server serial number.

Note: To successfully install, you need read and write permissions for the installation directory. The following installation directories are the defaults; however, you can specify a different directory as required:

- (Windows) C:\Adobe\LiveCycle8\ and C:\Adobe\FMRMS1.0
- (Linux) /opt/adobe/livecycle8/ and /opt/adobe/FMRMS1.0

When installing on Linux, the installation program uses the logged-in user's home directory as a temporary directory for storing files. As a result, messages such as the following text may appear in the console:

```
WARNING: could not delete temporary file /home/<username>/ismp001/1556006
```

When you complete the installation, you must manually delete the temporary files.

Caution: Ensure that the temporary directory for your operating system meets the minimum requirements as outlined in "Preparing the Environment" on page 7. The temporary directory is one of the following locations:

- (Windows) TMP or TEMP path as set in the environment variables
- (Linux) Logged-in user's home directory

The InstallShield command line parameter `-is:tempdir` is not supported with the Flash Media Rights Management Server installer. To work around this limitation, use the `TMP` environment variable to point to a disk that has the required amount of free space.

On Linux systems, you can install, configure, and deploy as a non-root user.

Note: When you are installing on Linux, you must be logged in as the root user to successfully install the solution components to the default locations, which are /opt/adobe/FMRMS1.0 and /opt/adobe/LiveCycle8/. If you are logged in as a non-root user, you must change the installation directory to one that you have permissions for (read-write-execute privileges). For example, you can change the directory to home/adobe/livecycle8.

Installing Flash Media Rights Management Server

Before you install Flash Media Rights Management Server, make sure that you reviewed all previous chapters and performed all the required preparatory tasks.

This section covers the initial installation of LiveCycle ES. For information about configuration and deployment, see "Selecting tasks for configuring and deploying LiveCycle ES" on page 19.

Note: To avoid permission issues during the deployment, ensure that you are logged in as the user who will run the WebLogic process when you run the Flash Media Rights Management Server installer and LiveCycle Configuration Manager.

Flash Media Rights Management Server is installed by using a wizard that guides you step by step through the process of installing Flash Media Rights Management Server, LiveCycle ES, and the LiveCycle ES Service Pack.

➤ **To install Flash Media Rights Management Server:**

1. On the install media, double-click the appropriate executable file at the root to start the installation.

   • (Windows) win32_fmrms_setup.exe

   • (Linux) linux_fmrms_setup.bin

2. On the Welcome screen, click **Next**.

3. Read the Adobe Flash Media Rights Management Server License Agreement, select **I accept the terms of the license agreement**, and then click **Next**.

4. Accept the default directory as listed or click **Browse** and navigate to the directory where you want to install the product, and then click **Next**. This directory is referred to as *[FMRMS root]*.

5. Read the summary information and, if acceptable, click **Install**. If not acceptable, click **Back** and make the necessary changes.

Flash Media Rights Management Server installs and then invokes the LiveCycle ES installer.

➤ **To install LiveCycle ES:**

1. When prompted, select **English** as the language for the installation, and then click **OK**.

   Note: English is the only language available for this release.

2. On the Welcome screen, click **Next**.

3. On the Destination screen, accept the default directory as listed or click **Browse** and navigate to the directory where you want to install, and then click **Next**.

   Note: If you type the name of a directory that does not exist, it will be created for you.

Caution: When you install, you can specify a different installation location. If you are installing on Linux, the directory you specify should not contain any spaces; if it does, the installation program does not install properly.

4. Type a serial number in the text box and click **Add**. After you add the serial number to the list, click **Next**.

Note: Rights Management ES and Adobe LiveCycle Foundation are the only LiveCycle ES components that will be installed.

5. Read the Product License Agreement and, if you agree, select **I accept to the terms of the license agreement**, and then click **Next**.

6. Review the installation details and click **Install**. The installation program displays the progress of the installation. A summary screen appears when the installation is completed.

7. Review the release notes that are displayed and click **Next**.

8. Deselect **Start LiveCycle Configuration Manager** and then click **Finish**.

The LiveCycle ES Service Pack 2 installer starts automatically. This installer opens a wizard that guides you through the installation.

Caution: Do not run LiveCycle Configuration Manager at this point; install the LiveCycle ES Service Pack and quickfix patch prior to configuration.

➤ **To install the service pack for the LiveCycle ES server:**

1. When prompted, select **English** as the language to use for the installation and then click **OK**.

   Note: English is the only language available for this release.

2. On the Welcome screen, click Next.

3. On the Service Pack Installation Location screen, verify that the default location displayed is correct for your existing installation or click **Browse** to select the alternate folder where LiveCycle ES is currently installed, and then click **Next**.

4. On the Service Pack Summary screen, review the information and, if the information is correct, click **Next**. Click **Back** to correct any errors.

5. On the Service Pack Summary (continued) screen, review the information and, if the information is correct, click **Next**. Click **Back** to correct any errors.

6. On the Service Pack Installation Completion screen, click **Install** to apply the updates.

Note: Allow the service pack installer to completely apply the service pack updates. Typical time to apply the patch updates is approximately 5 minutes, but it may take as much as 15 minutes (depending on the resources available on your system).

7. When the Service Pack Installation Completion screen refreshes to indicate a successful installation, ensure that the **Launch LiveCycle Configuration Manager** check box is deselected, and then click **Finish** to exit the wizard.

Caution: Do not run LiveCycle Configuration Manager at this point; install the LiveCycle ES service pack and quickfix patch prior to configuration.

8. On the Adobe Flash Media Rights Management Server - Installer wizard, click **Finish** to exit that wizard.

➤ **To install the LiveCycle ES quickfix:**

1. On the install media, navigate to \livecycle_server_quickfix\LC8.0.1.2_QF_2.11\x86_win32 and double-click the adobe_livecycle_8_0_qf.exe file (for Windows) or adobe_livecycle_8_0_qf.bin file (for Linux) to start the quickfix installation.

2. When prompted, select **English** as the language to use for the installation and then click **OK**.

    Note: English is the only language available for this release.

3. On the Welcome screen, click Next.

4. On the Patch Installation Location screen, verify that the default location displayed is correct for your existing installation or click **Browse** to select the alternate folder where LiveCycle ES is currently installed, and then click **Next**.

5. On the Patch Summary screen, review the information and, if the information is correct, click **Next**. Click **Back** to correct any errors.

6. On the Patch Summary (continued) screen, review the information and, if the information is correct, click **Install**. Click **Back** to correct any errors.

7. On the Patch Installation Completion screen, click **Next** to apply the updates.

8. When the Patch Installation Completion screen refreshes to indicate a successful installation, ensure that the **Start LiveCycle Configuration Manager** check box is deselected, and then click **Finish** to exit the wizard.

About LiveCycle Configuration Manager

LiveCycle Configuration Manager is a wizard-like tool used to configure, deploy, and validate LiveCycle ES components for deployment to the application server. You have the option of using LiveCycle Configuration Manager to configure the application server and deploy the product EAR files to the application server.

LiveCycle Configuration Manager is installed with the solution component files when you run the LiveCycle ES installation program. When you run LiveCycle Configuration Manager, specify the LiveCycle ES solution components you are configuring and the tasks for LiveCycle Configuration Manager to perform.

You can start LiveCycle Configuration Manager from the installation program to configure solution components during the installation process, or you can start LiveCycle Configuration Manager any time after the installation. If you are planning to use LiveCycle Configuration Manager to configure or deploy to the application server, the application server must be started to enable LiveCycle Configuration Manager to perform configuration tasks on it.

You can configure an application server that is installed on a different computer than the one on which you are running LiveCycle Configuration Manager. However, an application server must also be installed (but does not have to be running) on the LiveCycle Configuration Manager computer so that LiveCycle Configuration Manager can use the application server library files.

Selecting tasks for configuring and deploying LiveCycle ES

After you perform the installation, run LiveCycle Configuration Manager to perform a variety of tasks:

- Configure LiveCycle ES solution components in an EAR file for deploying to the application server
- Configure application server properties to support LiveCycle ES
- Validate application server configuration
- Deploy LiveCycle ES EAR files
- Initialize the LiveCycle ES database
- Deploy LiveCycle ES components
- Validate the LiveCycle ES component deployment

Although you can use LiveCycle Configuration Manager to configure the application server and set up data sources to the database, you may prefer to complete these steps manually.

You may want to configure your application server manually for these reasons:

- You have other applications running on the application server and are concerned about possible conflicting configurations.
- Corporate security procedures for configuration management dictate finer control.
- You are performing deployments where automatic configuration is not available.

For the manual configuration, you will do the following tasks:

- Use LiveCycle Configuration Manager to configure LiveCycle ES components to get the temp directories.
- Manually configure the application server and data sources, and deploy LiveCycle ES EAR files.
- Run LiveCycle Configuration Manager to initialize the database.

Running LiveCycle Configuration Manager

When you run LiveCycle Configuration Manager, you can select the tasks for the program to perform automatically.

Note: Using LiveCycle Configuration Manager to deploy LiveCycle ES solution components to remote servers is supported only for node-managed application servers, and not for stand-alone application servers.

Tip: LiveCycle Configuration Manager verifies the values that are specified on each screen when you click Next. If it cannot validate a value, a warning appears, the property on the screen turns red, and you cannot proceed until you enter a valid value.

When LiveCycle Configuration Manager completes the configuration, it places the files to be deployed to the application server (adobe-livecycle-native-weblogic-*[OS]*.ear, adobe-livecycle-weblogic.ear, and adobe-workspace-client.ear) in the following directory:

- (Windows) *[LiveCycleES root]*\configurationManager\export
- (Linux) *[LiveCycleES root]*/configurationManager/export

If you plan to manually deploy LiveCycle ES to the application server, the files are located in the appropriate directory.

If you are configuring a remote application server, ensure that an application server is also installed on the LiveCycle Configuration Manager computer so that LiveCycle Configuration Manager can use the application server library files.

➤ **To perform configuration or deployment tasks using LiveCycle Configuration Manager:**

1. Start the application server.

2. Start LiveCycle Configuration Manager by navigating to the *[LiveCycleES root]*/configurationManager/ bin directory and entering the following command:

   - (Windows) `ConfigurationManager.bat`

   - (Linux) `./ConfigurationManager.sh`

3. On the Welcome screen, click **Next**.

4. On the Upgrade Selection screen, ensure that **Upgrade LiveCycle 7.x** is deselected, and then click **Next**.

5. On the Solution Component screen, keep the defaults and click **Next**.

6. On the Task Selection screen, keep the defaults except for deselecting **Import LiveCycle ES Samples**, and click **Next**.

   Caution: Do not import the LiveCycle ES samples; they are not required by Flash Media Rights Management Server and they slow down the deployment process considerably.

   Note: If you do not want to configure the application server and deploy LiveCycle ES by using LiveCycle Configuration Manager, select the **Configure LiveCycle ES** task only. After completing this task in LiveCycle Configuration Manager, configure the application server, deploy the configured EAR files, and return to LiveCycle Configuration Manager to initialize the database, and deploy and validate the component files.

7. Follow the instructions on the LiveCycle Configuration Manager screens. The following configurations are required for Flash Media Rights Management Server.

   - On the Application Server Configuration Details screen, select **Stand-alone** as the deploy type.

   - On the Server Settings Configuration screen, enter or browse to the locations for JAVA_HOME and the POP3.jar file on the application server.

   - On the Datasource Configuration screen, provide the location of the JDBC driver for your database. For Oracle, the driver is located in the *[LiveCycleES root]*/lib/db/*[database]* directory.

   Tip: For more information about the content or input that is required for any screen, press the F1 key on your keyboard to view Help for that screen.

   Note: LiveCycle Configuration Manager requires you to enter the IP address, or qualified host name, of the server that is running the application server. The default value of `localhost` will not work.

8. After you exit LiveCycle Configuration Manager, return to the Flash Media Rights Management Server install wizard screen and click **Finish**.

Viewing the error log

If any errors occur during the installation, the installation program creates a log file called log.txt, which contains the error messages. The log file is located in the *[LiveCycleES root]* directory.

For information about errors that may occur during installation, see <u>"Troubleshooting" on page 42</u>.

4 | **Configuring a WebLogic Server**

This chapter describes how to install and configure the WebLogic Server that will host your Flash Media Rights Management Server installation.

This section uses the following conventions:

Name	Default value
[appserver root]	(Windows) C:\bea\weblogic92
	(Linux) /opt/bea/weblogic92
BEA_HOME	(Windows) C:\bea
	(Linux) /opt/bea
[appserverdomain]	(Windows) C:\bea\user_projects\domains\base_domain
By default, the domain is called *base_domain*.	(Linux) /opt/bea/user_projects/domains/base_domain

Task flow

Perform the following tasks to install and configure your WebLogic Server 9.2 environment:

1. Obtain WebLogic Server 9.2 and install it as per the manufacturer's documentation. (See "Installing WebLogic Server" on page 23).

2. Create and configure the WebLogic Server domain. (See "Configuring anonymous admin look-up" on page 28).

3. Access the WebLogic Administration Console.

4. Create a Managed Server. (See "Creating a new WebLogic Managed Server" on page 26).

5. Configure application server and data source connections. (See "Configuring WebLogic Server" on page 28).

Requirements for WebLogic

There are two primary startup scenarios for WebLogic:

● Using Node Manager and configuring through the Administration Server

● Directly starting the Managed Servers with configurations in the StartManagedWebLogic scripts

To use the automatic configuration features of LiveCycle Configuration Manager (the recommended option), you must use the Node Manager and configure through the Administration Server.

Installing WebLogic Server

Obtain WebLogic Server 9.2 for your operating system and install it according to the manufacturer's documentation. (See the BEA website at http://bea.com/.) To facilitate the use of WebLogic for joint Adobe and BEA customers, BEA has provided the following location from which you can download the exact version of WebLogic that LiveCycle ES requires:

> http://commerce.bea.com/adobe/adobe.jsp?DL=Adobe-WLS-Download

Note: If you have WebLogic Server 9.1 installed, uninstall it before you install WebLogic Server 9.2.

In addition to the space that is required to install Flash Media Rights Management Server, your environment variable `TEMP` or `TMP` must point to a valid temporary directory with at least 500 MB plus another 1 GB to unpack image files.

You must install and run WebLogic Server by using a user account with computer administrator privileges.

Installing the J2SE SDK

You must upgrade the BEA JRockit® JDK to the minimum version required on Windows and Linux platforms. (See "Supported software" on page 8.)

➤ **To install the JDK:**

1. Download the JDK updates for Windows or Linux from this location:

   > http://commerce.bea.com/products/weblogicjrockit/5.0/jr_50.jsp

2. Download the specific version for your platform.

As part of your WebLogic installation, a Java SDK was installed. The `JAVA_HOME` and `PATH` environment variables must point to the Java SDK where LiveCycle ES is to be deployed.

Caution: Setting the `JAVA_HOME` environment variable must be done before the configuration process; otherwise, LiveCycle Configuration Manager will fail.

➤ **To set the JAVA_HOME environment (Windows):**

1. Select **Start** > **Control Panel** > **System**.

2. Click the **Advanced** tab**.**

3. Click **Environment Variables**.

4. In the System Variables area, click **New**.

5. Enter `JAVA_HOME` as the variable name and the directory where you installed Java SDK. This directory is where WebLogic installed the Java SDK containing the /bin subdirectory. For example, type this text:

   ```
   C:\bea\jrockit-jdk1.5.0_06
   ```

Note: To verify your `JAVA_HOME` environment variable, open a command prompt and run the following command:

```
cd %JAVA_HOME%\bin
java -version
```

You should receive a response beginning with Java version `1.5.0_06` (or the version you have just installed).

➤ **To set the PATH environment variable (Windows):**

1. Select **Start** > **Control Panel** > **System**.

2. Click the **Advanced** tab.

3. Click **Environment Variables**.

4. In the System Variables area, select the `PATH` variable and click **Edit**. Append the following text to the beginning of the variable value:

   ```
   %JAVA_HOME%\bin;
   ```

➤ **To set the JAVA_HOME environment (Linux):**

- et the `JAVA_HOME` variable for Borne and Bash shells as shown in the following example:

  ```
  JAVA_HOME=/opt/java1.5
  export JAVA_HOME
  ```

Note: The specific path varies based on the installation directory you specified and the operating system you are installing on.

➤ **To set the PATH environment variable (Linux):**

- et the `PATH` variable for Borne and Bash shells as shown in the following example:

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

Creating the WebLogic Server domain

To deploy applications on WebLogic Server, you must create a WebLogic Server domain. A domain is the basic administrative unit for WebLogic Server. Here are the two basic types of WebLogic Server domains:

Standalone Server Domain: This type of domain can be used for development or test environments in which a single server instance acts as both Administration Server and Managed Server. This option is easier to manage and lets you use the *hot deploy* feature in WebLogic on a development environment.

Domain with Managed Servers: A production environment typically consists of an Administration Server with one or more Managed Servers. The Administration Server is used to perform management operations; the applications and resources are deployed to individual Managed Servers.

Note: In production environments, BEA recommends that you deploy applications only on Managed Servers in the domain; the Administration Server should be reserved for management tasks.

➤ **To create a WebLogic domain with Managed Servers:**

1. From a command prompt, start the WebLogic Configuration Wizard by navigating to the *[appserver root]*/common/bin directory and typing the appropriate command:

   - (Windows) `config.cmd`
   - (Linux) `./config.sh`

2. On the Create Or Extend A Configuration screen, select **Create a new WebLogic domain** and click **Next**.

3. On the Select Domain Source screen, select **Generate a domain configured automatically to support the following BEA products:** and click **Next**.

   Note: By default, **WebLogic Server (Required)** is selected. Ensure that **Workshop for WebLogic Platform** is deselected.

4. Type your WebLogic user name and password, confirm the password by retyping it, and then click **Next**. Record this information because LiveCycle Configuration Manager will prompt you for the WebLogic user name and password.

5. In the WebLogic Domain Startup Mode panel, select **Production Mode**.

   Caution: Adobe does not recommend using Development Mode.

6. In the right panel, select the BEA-supplied JDK according to your operating system and then click **Next**.

   - (Windows, Linux) **JRockit SDK 1.5._06@ *BEA_HOME*/jrockit90_150_06.** You must select **Other JDK** in the UI and specify the location of the *jrockit-jdk1.5.0_06*.

7. On the Customize Environment And Services Settings screen, make sure that **No** is selected and then click **Next**.

8. On the Create WebLogic Domain screen, either accept the default values or enter the domain name and location as required, and click **Create**.

9. On the Creating Domain screen, when the configuration creation is 100% complete, do the following tasks:

   - (Windows) Select **Start Admin Server** and click **Done**.
   - (Linux) Click **Done**. Start the server by navigating from a command prompt to the *[appserverdomain]* and typing `./startWebLogic.sh`

10. When prompted, enter the WebLogic user name and password you entered in step 4.

WebLogic Administration Server tasks

This section outlines the steps to correctly configure the Administration Server to deploy LiveCycle ES.

➤ **To set the memory size for managed servers:**

1. To access the WebLogic Administration Console, type `http://[host name]:[Port]/console` in the URL line of a web browser, where `[Port]` is the non-secure listening port. By default, this port value is 7001.

2. On the login screen, type your WebLogic user name and password and click **Log In**.

3. Under Change Center, click **Lock & Edit**.

4. Under Domain Structure, click **Environment** > **Servers**.

5. In the right pane, under Servers, click the name of the Administration Server.

6. On the **Configuration** tab, click the **Server Start** tab.

7. In the **Arguments** field, type `-Xms256m –Xmx1024m`

8. Click **Save** and then click **Activate Changes**.

➤ **To set the memory size for the managed server:**

1. Move to the BEA_HOME\user_projects\domains*[appserverdomain]*\bin directory.

2. (Windows) Edit the `setDomainEnv.cmd` file in a text editor.

3. Search for the line `set MEM_ARGS=-Xms256m -Xmx512m` and change it to `MEM_ARGS=-Xms256m -Xmx1024m`.

4. Search for the `-XX:MaxPermSize=128m` line and change it to `-XX:MaxPermSize=256m`.

   Note: There are two locations of `-XX:MaxPermSize=256`:
   - If `"%JAVA_VENDOR%"=="Sun"` (...
   - If `"%JAVA_VENDOR%"=="HP"` (...

Starting Node Manager

You must start the Node Manager before you complete the remaining tasks in this chapter.

➤ **To start Node Manager on Windows:**

1. If the WebLogic Node Manager was installed as a Windows service, open the Windows Services control panel and ensure that the WebLogic Node Manager service is running. For example, the WebLogic Node Manager service will look similar to the value **BEA Products NodeManager (C_bea_weblogic92)**.

2. If the WebLogic Node Manager was not installed as a Windows service, do these tasks:
   - From a new command prompt, navigate to the *[appserver root]*\server\bin directory.
   - Type the following command:

         startNodeManager.cmd

➤ **To start Node Manager on Linux:**

1. From a new command prompt, navigate to the *[appserver root]*/server/bin directory.

2. Type the following command:

       ./startNodeManager.sh

Creating a new WebLogic Managed Server

You must deploy LiveCycle ES applications on Managed Servers in a domain; the Administration Server needs to be reserved for management tasks. For information about creating a server domain and about Administration and Managed Servers, see the WebLogic product documentation.

The following procedure highlights the changes that are required to the default properties. For properties that are not provided, accept the existing settings. For more information about these screens, see *WebLogic Help*.

➤ **To create a new WebLogic Managed Server:**

1. If WebLogic Administration Server is not already running, from a command prompt, navigate to the BEA_HOME\user_projects\domains*[domainname]* directory and type the appropriate command:

   - (Windows) `startWebLogic.cmd`

   - (Linux) `./startWebLogic.sh`

2. To access the WebLogic Administration Console, type `http://[host name]:7001/console` in the URL line of a web browser.

3. Type the user name and password that were used to create this WebLogic configuration, and then click **Log In**.

4. Under Change Center, click **Lock & Edit**.

5. Under Domain Structure, click **Environment** > **Servers**.

6. In the right pane, under Servers, click **New**.

7. In the right pane, under Create a New Server, type a name for your managed server, such as `server1`, in the **Server Name** box.

8. In the **Server Listen Port** box, type a port number that is not currently in use, such as `8001`. The Administration Server is already using port 7001.

9. Click **Finish** and then click **Activate Changes**.

10. Under Change Center, click **Lock & Edit**.

11. Click **Environment** > **Machines**.

12. In the right pane, under Machines, click **New**.

13. In the **Name** box, enter a name for the computer.

14. From the **Machine OS** list, select the operating system you are using as **Other**, and then click **OK**.

15. Click **Environment** > **Servers** and select the Managed Server you created.

16. In the **Machine** list, select the computer you just created.

17. Make sure that the listen port is the same as the port number you entered in step 8.

18. Click **Save** and then click **Activate Changes**.

Note: To start a Managed Server from the Administration Console, the Node Manager must also be running. It is recommended that you always start and stop the Managed Server from the WebLogic Administration Console.

Note: Do not restart your server at this point. After all the WebLogic configuration changes are made, the server will be restarted when you reach the procedure "Restarting WebLogic" on page 29.

Configuring WebLogic Server

You must make the following configuration changes to optimize your application server's performance for your LiveCycle ES installation.

Configuring anonymous admin look-up

You must enable anonymous admin look-up on the application server. This setting allows read-only access to the WebLogic Server MBeans.

➤ **To enable anonymous admin look-up:**

1. With WebLogic Server running, type `http://[host name]:[port]/console` in the URL line of a web browser to access the WebLogic Administration Console.

2. Type the user name and password that were used in creating this WebLogic configuration, and then click **Log In**.

3. Under Change Center, click **Lock & Edit**.

4. Under Domain Structure, click the name of your domain.

5. In the right pane, click the **Security** tab, and then select **Anonymous Admin Lookup Enabled**.

6. Click **Save** and then click **Activate Changes**.

Note: Do not restart your server at this point. After all the WebLogic configuration changes are made, the server will be restarted when you reach the procedure "Restarting WebLogic" on page 29.

Configuring WebLogic for Web Services

For LiveCycle ES to accept requests using web services, you must complete the following procedure to modify authentication of the servlet container.

Note: This step is required for the following WebLogic known issue: CASE_ID_NUM: 690940: CASE TITLE: WebLogic 9.2 Servlet Container always tries to authenticate username/password.

"An application will prompt for user name and password even though the application is not configured to use any security constraints. Upon adding this flag and setting it to `false`, it will disable the popup that normally surfaces during the request being forwarded as we see in our case."

➤ **To modify authentication for the servlet container:**

1. Start the WebLogic Administration Server.

2. Open a command prompt and set the environment using the `setWLSEnv` script, as shown in the following example:
   - (Windows): From the `[BEA_HOME]\weblogic92\server\bin\` folder, type: `setWLSEnv.cmd`
   - (Linux): From the `[BEA_HOME]/weblogic92/server/bin/` directory, type: `setWLSEnv.sh`

3. Start the WebLogic scripting tool by typing the following command:

```
java weblogic.WLST
```

If you see "`Exception in thread "main" java.lang.NoClassDefFoundError:
weblogic/WLST`", complete the following tasks:

- From a command prompt, set the environment using `<BEA
  Home>/weblogic92/server/bin/setWLSEnv.cmd`

- From a command prompt, copy the `CLASSPATH` returned from the `setWLSEnv.[cmd | sh]` and
  append the export `CLASSPATH`, as in this example:

  ```
  CLASSPATH=/usr/local/bea92/patch_weblogic920/profiles/default/sys_manife
  st_classpath/weblogic_patch.jar:/usr/local/bea92/jdk150_04/lib/tools.jar
  :/usr/local/bea92/weblogic92/server/lib/weblogic_sp.jar:/usr/local/bea92
  /weblogic92/server/lib/weblogic.jar:/usr/local/bea92/weblogic92/server/l
  ib/webservices.jar export CLASSPATH
  ```

- From a command prompt, copy the `PATH` returned from the `setWLSEnv.[cmd | sh]` and
  append export `PATH`, as in this example:

  ```
  PATH=/usr/local/bea92/weblogic92/server/bin:/usr/local/bea92/jdk150_04/j
  re/bin:/usr/local/bea92/jdk150_04/bin:/usr/local/bea92/weblogic92/server
  /bin:/usr/local/bea92/jdk150_04/jre/bin:/usr/local/bea92/jdk150_04/bin:/
  usr/sbin:/usr/bin export PATH
  ```

4. Type the following commands in WLST to update servlet container authentication:

   ```
   connect('<WebLogic username>','<WebLogic password>','<WebLogic URL>')
   edit()
   startEdit()
   cd('SecurityConfiguration')
   cd('<domain name>')
   set('EnforceValidBasicAuthCredentials','false')
   activate()
   exit()
   ```

   Note: The WebLogic URL will be in the format `t3://hostname:[port]`, where the port is probably
   `7001`.

Restarting WebLogic

After you make all your configuration changes, you need to restart WebLogic for the changes to take
effect. The WebLogic Managed Server and the WebLogic Administration Server need to be restarted. The
Node Manager does not need to be restarted.

➤ **To stop WebLogic Managed Server:**

1. In the WebLogic Administration Console, under Domain Structure, click the domain name.

2. Click the **Control** tab.

3. Select the check box beside the server to stop, click **Shutdown**, and select one of these options:

   When work completes: Initiates a graceful shutdown of the selected server, causing the Managed
   Server to notify its subsystems to complete all in-work requests. A graceful shutdown gives the
   WebLogic Server subsystems time to complete certain application-processing currently in progress.

   Force Shutdown Now: Initiates a forced shutdown, causing the Managed Server to instruct
   subsystems to immediately drop in-work requests.

4. At the WebLogic Administration Console prompt, click **Yes** to confirm the command.

You can verify that the Managed Server has shut down by viewing the table at the bottom of the Control tab. The table displays a list of all of the servers and indicates their current state.

➤ **To stop WebLogic Administration Server:**

1. From a command prompt, navigate to BEA_HOME\user_projects\domains\[*appserverdomain*]\bin.

2. Type the following command:
    *   (Windows) `stopWebLogic.cmd`
    *   (Linux) `./stopWebLogic.sh`

3. Enter the WebLogic user name and password.

➤ **To restart WebLogic Administration Server:**

1. From a command prompt, navigate to BEA_HOME/user_projects/domains/[*appserverdomain*].

2. Type the following command:
    *   (Windows) `startWebLogic.cmd`
    *   (Linux) `./startWebLogic.sh`

3. Enter the WebLogic user name and password.

➤ **To restart WebLogic Managed Server (if it did not start automatically):**

1. When the WebLogic Administration Server has started, log in to the WebLogic Administration Console.

2. Under Change Center, click **Lock & Edit**.

3. Under Domain Structure, click **Environment** > **Servers** and, in the right pane, click the managed server.

4. On the next screen, click the **Control** tab.

5. Select the check box next to the managed server to start, click **Start**, and then click **Yes**.

5 | Initial Administration Tasks

This chapter describes the tasks that an administrator needs to perform after the installation is complete.

Restart the application server

When you first deploy Flash Media Rights Management Server, the server is in a deployment mode in which most solution components are in memory. As a result, the memory consumption is high and the server is not in a typical production state. You must restart the application server to get the server back to a clean state.

Verify access to LiveCycle Administration Console

You can verify the deployment by logging in to LiveCycle Administration Console. If you can log in, Flash Media Rights Management Server is running on the application server and the default user is created in the database.

You can review the application server log files to ensure that components were deployed correctly or to determine the cause of any deployment issues you may encounter.

Accessing LiveCycle Administration Console

LiveCycle Administration Console is the web-based portal for accessing a variety of configuration pages, where you set run-time properties that control the way Flash Media Rights Management Server operates. When you log in to LiveCycle Administration Console, you can change the attributes and behaviors of specific services and change global settings. You access Archive Administration, which administrators use for deploying services to a production environment from within LiveCycle Administration Console.

The default user name and password for logging in to LiveCycle Administration Console is *administrator* and *password*. After you log in the first time, you can access User Management and change the password for the LiveCycle ES administrator account.

Before you access LiveCycle Administration Console, LiveCycle ES must be deployed and running on your application server.

For information about using LiveCycle Administration Console, see *Adobe Administration Console Help* (available by clicking the Help link in the upper-right corner of the Home page).

➤ **To access LiveCycle Administration Console:**

1. Open a web browser and enter this URL:

    http://localhost:*[port]*/adminui (local deployment using the default port)

2. Log in using the default user name and password:

    User name: administrator

    Password: password

3. Click **Login**.

4. Click **Services** to access the services' pages, and click **Settings** to access the User Management and Trust Store Management pages.

Viewing the log files

Events, such as run-time or startup errors, are recorded to the application server log files. If you have problems deploying to the application server, you can use the log files to help you find the problem.

The LiveCycle Configuration Manager log files are in the *[LiveCycleES root]/*configurationManager/log directory.

You can open the log files by using any text editor.

Change default password

Flash Media Rights Management Server creates one or more default users during the installation. The password for these users is in the product documentation and is publicly available. You must change this default password, depending on your security requirements.

The Flash Media Rights Management Server administrator user password is set to "password" by default. You must change it in LiveCycle Administration Console.

➤ **To change the administrator user password:**

1. Type the following URL in a web browser:

    ```
    http://[host name]:[port]/adminui
    ```

    The default port number for WebLogic Server is 7001. (When you created a new managed server, you may have set a different port.)

2. Log in and click **Settings** > **User Management** > **Users and Groups**.

3. Click **Find** to return all default users and select **Super Administrator**.

4. On the Edit User: Super Administrator page, scroll to the bottom of the page and click **Change Password**.

5. Enter and confirm your new password and then click **Save Password**.

6. Click **Close**.

Set the correct date, time, and time zone

Setting the correct date, time, and time zone on the server ensures that time-dependent policies will function correctly.

6 Post-Deployment Tasks

This chapter describes how to verify the deployment by accessing LiveCycle Administration Console and checking the application server log files. It also describes how to get started using LiveCycle ES solution components and services after they are installed, configured, and deployed to your application server:

Configuring SSL for WebLogic Server

Flash Media Rights Management Server requires the application server to be configured to use SSL. To configure SSL on WebLogic Server, you need an SSL credential for authentication. You can use the IBM® Key Management tool that is installed with Java keytool—or a similar tool—to perform the following tasks to create a credential:

- Create a public/private key pair, wrap the public key in an X.509 v1 self-signed certificate that is stored as a single-element certificate chain, and then store the certificate chain and the private key in a new keystore. This is the application server's Custom Identity keystore.

- Extract the certificate and insert it into a new keystore. This is the application server's Custom Trust keystore.

You will then need to configure WebLogic so that it uses the Custom Identity keystore and Custom Trust keystore that you created, and disable the WebLogic Hostname Verification feature because the distinguished name used to create the keystore files did not include the name of the computer that hosts WebLogic.

➤ **To configure SSL for a production environment:**

1. Obtain an identity (private key and digital certificates) and trust (certificates of trusted certificate authorities) for WebLogic Server from a reputable vendor such as Verisign or Entrust.

2. Store the identity and trust.

3. Configure the identity and trust keystores for WebLogic Server using the WebLogic Administration Console.

4. Set SSL configuration options for the private key alias and password in the WebLogic Administration Console.

Note: Refer to the WebLogic Administration Console online help for more information.

For an evaluation environment, contact your Adobe representative for the specific steps required to configure and install a self-signed credential.

Creating an SSL credential

The keytool command is typically located in the Java jre/bin directory and must include several options and option values, which are listed in the following table.

Keytool option	Description	Option value

`-alias`	The alias of the keystore.	• Custom Identity keystore:
		
		   `ads-credentials`
		
		• Custom Trust keystore:
		
		   bedrock

`-keyalg`	The algorithm to use to generate the key pair.	RSA You can use a different algorithm, depending on your company's policy.

`-keystore`	The location and name of the keystore file.
	
	The location can include the absolute path of the file, or can be relative to the current directory of the command prompt where the keytool command is entered.
		• Custom Identity keystore:
		
		   `[appserverdomain]/adobe/`
		   `[server name]/ads-ssl.jks`
		
		• Custom Trust keystore:
		
		   `[appserverdomain]/adobe/`
		   `[server name]/ads-ca.jks`

`-file`	The location and name of the certificate file.	ads-ca.cer
`-validity`	The number of days that the certificate is considered valid.	3650 You can use a different value, depending on your company's policy.
`-storepass`	The password that protects the contents of the keystore.	• Custom Identity keystore: The keystore password must correspond with the SSL credential password that was specified for the Trust Store component of the Administrator UI. • Custom Trust keystore: Use the same password that you used for the Custom Identity keystore.
`-keypass`	The password that protects the private key of the key pair.	Use the same password that you used for the `-storepass` option. The key password must be at least six characters in length.

Keytool option	Description	Option value
-dname	The distinguished name that identifies the person who owns the keystore.	"CN=*[User name]*,OU=*[Group Name]*, O=*[Company Name]*, L=*[City Name]*, S=*[State or province]*, C=*[Country Code]*" ● *[User name]* is the identification of the user who owns the keystore. ● *[Group Name]* is the identification of the corporate group to which the keystore owner belongs. ● *[Company Name]* is your organization's name. ● *[City Name]* is the city in which your organization is located. ● *[State or province]* is the state or province in which your organization is located. ● *[Country Code]* is the two-letter code for the country in which your organization is located.

For more information about using the keytool command, see the keytool.html file that is part of your JDK documentation.

➤ **To create the Custom Identity and Trust keystores:**

1. From a command prompt, navigate to *[appserverdomain]*/adobe/*[server name]*.

2. Enter the following command:

```
[JAVA_HOME]/bin/keytool -genkey -v -alias ads-credentials -keyalg RSA
-keystore "ads-credentials.jks" -validity 3650 -storepass store_password
-keypass key_password -dname "CN=Hostname, OU=Group Name, O=Company Name,
L=City Name, S=State,C=Country Code"
```

   Note: You must replace *[JAVA_HOME]* with the directory where the JDK is installed, and replace the text in bold with values that correspond with your environment.

   The keystore file is created in the *[appserverdomain]*/adobe/*[server name]* directory.

3. Extract the certificate from the ads-credentials keystore by entering the following command:

```
[JAVA_HOME]/bin/keytool -export -v -alias ads-credentials
-file "ads-ca.cer" -keystore "ads-credentials.jks"
-storepass store_password
```

   Note: You must replace *[JAVA_HOME]* with the directory where the JDK is installed, and replace *store_password* with the password for the Custom Identity keystore.

   The certificate file is created in the *[appserverdomain]*/adobe/*[server name]* directory.

4. Copy the ads-ca.cer file to any host computers that need secure communication with the application server.

5. Insert the certificate into a new keystore file (the Custom Trust keystore) by entering the following command:

```
[JAVA_HOME]/bin/keytool -import -v -noprompt -alias bedrock
-file "ads-ca.cer" -keystore "ads-ca.jks" -storepass store_password
-keypass key_password
```

Note: You must replace *[JAVA_HOME]* with the directory where the JDK is installed, and replace *store_password* and *key_password* with your own passwords.

The keystore file is created in the *[appserverdomain]*/adobe/*[server]* directory.

You need to configure WebLogic so that it uses the Custom Identity keystore and Custom Trust keystore that you created. You also need to disable the WebLogic Hostname Verification feature because the distinguished name used to create the keystore files did not include the name of the computer that hosts WebLogic Server.

➤ **To configure WebLogic to use SSL:**

1. Start the WebLogic Server Administration Console by typing `http://[host name]:7001/console` in the URL line of a web browser.

2. Under Environment, in Domain Configurations, click **Servers** > *[server]* > **Configuration** > **General**.

3. Under General, in Configuration, ensure that **Listen Port Enabled** and **SSL Listen Port Enabled** are selected.

4. If this server is a Managed Server, change **Listen Port** to an unused port value (such as 8001) and **SSL Listen Port** to an unused port value (such as 8002). On a stand-alone server, the default SSL port is 7002.

5. Under the Change Center, click **Lock & Edit** to modify selections and values.

6. Under General, in Configuration, select **Keystores**.

7. Select **Custom Identity And Custom Trust** in the Keystores list.

8. Under Identity, specify the following values:

   Custom Identity Keystore: *[appserverdomain]*/adobe/*[server name]*/ads-credentials.jks, where *[appserverdomain]* is the actual path and *[server name]* is the name of the application server.

   Custom Identity Keystore Type: JKS

   Custom Identity Keystore Passphrase: *mypassword*

9. Under Trust, specify the following values:

   Custom Trust Keystore File Name: *[appserverdomain]*/adobe/*[server]*/ads-ca.jks, where *[appserverdomain]* is the actual path

   Custom Trust Keystore Type: JKS

   Custom Trust Keystore Pass Phrase: *mypassword*

10. Under the Change Center, click **Lock & Edit** to modify selections and values.

11. Under General, in Configuration, select **SSL**.

12. Select **Custom Identity And Custom Trust** in the Identity and Trust Locations list.

13. Under Identity, specify the following values:

> **Private Key Alias**: ads-credentials
>
> **Passphrase**: *mypassword*

14. Under the Change Center, click **Lock & Edit** to modify selections and values.

➤ **To disable the Hostname Verification feature:**

1. Under General, in Configuration, in **SSL**, click **Advanced**.

2. Select **None** in the Hostname Verification list.

   If Hostname Verification is not disabled, the Common Name (CN) must contain the server host name.

3. Under the Change Center, click **Lock & Edit** to modify selections and values.

4. Restart the application server.

   <The following section about Vista was in the LC ES Admin document. Is this req'd by FMRMS? no answer>

Configuring SSL on Windows Vista

To configure SSL on Windows Vista, you need an SSL certificate with RSA keys for authentication. You can use the Java keytool to create the certificate.

Note: Windows Vista will not work with DSA keys.

You can run keytool by using a single command that includes all of the information needed to create the certificate and keystore.

➤ **To create an SSL certificate:**

1. In a command prompt, navigate to *[JAVA HOME]*/bin and type the following command to create the certificate and keystore:

   ```
   keytool -genkey -keyalg RSA -dname "CN=Host Name, OU=Group Name,
   O=Company Name, L=City Name, S=State, C=Country Code" -alias "LC Cert"
   -keypass key_password -keystore keystorename.keystore
   ```

   Note: You must replace *[JAVA_HOME]* with the directory where the JDK is installed, and replace the text in bold with values that correspond with your environment.

2. Type `changeit` as the password. This password is the default for a Java installation and it may have been changed by the system administrator.

Configuring the settings

This section describes the tasks that are required to configure the Flash Media Rights Management Server settings.

Caution: Do not modify your Flash Media Rights Management Server in any manner other than the configurations described in this section. Modifying your server environment can cause critical issues.

● Configure the server settings to set the base URL and other general settings.

- Modify the config.xml file to enable web service, customize user prompts, and add support for private keys.

- Create the Packager User to be used by the Flash Media Rights Management Server command line tools.

Tip: The successful creation of a new user will confirm that your LiveCycle ES server is properly configured and communicating with your application and database servers.

➤ **To configure the server settings:**

1. In LiveCycle Administration Console, click **Services** > **LiveCycle Rights Management ES** > **Configuration** > **Server Configuration**.

2. Configure the server settings as required, and then click **OK** to return to the Configuration page.

   Note: The Base URL setting must be configured as a secure connection (that is, `https`), contain either the full server name or the IP address (`localhost` is not acceptable in this instance), and have the port number specified while configuring SSL for your application server (for example, `https://[RightsManagementServer].corp.[MyOrganization].com:7002`)

The next task is to modify the config.xml file.

➤ **To modify the config.xml file:**

1. On the Configuration page, click **Manual Configuration**.

2. Click **Export** to get the existing configuration file and save the config.xml file to another location.

3. In a text editor, open the config.xml file and make the following changes:
   - Locate the property `"WebServiceEnabled"` and change the value to "`true`".
   - Locate the property `"CustomHeadingPrompt"` and change the value to an appropriate display message for your end users when they access Adobe Media Player.

   The next part of the task is to add the configuration that allows for signing LiveCycle ES vouchers for your Flash Media Rights Management Server.

4. With the config.xml file still open, navigate to the `config` directory, either on the DVD or in the *[FMRMS root]* directory, and locate the DRM_Section.xml file.

5. In a text editor, open DRM_Section.xml, copy the contents and paste them into the open config.xml file within the `PolicyServer` node, immediately after these lines:

   ```
   <node name="Policy Server">
   <map/>
   ```

   Note: This node may not appear in the same location if you export the config.xml file again because LiveCycle ES may reorder the nodes.

6. Save and close the config.xml file.

7. On the Manual Configuration page in LiveCycle Administration Console, browse to the config.xml file you just modified and click **Import** to import it.

8. Click **OK** to exit the page.

The next task is to create and configure the Packager User in User Management. This user will be the authorized user for the Flash Media Rights Management Server packaging tools.

➤ **To create the Packager User:**

1. In LiveCycle Administration Console, click > **Settings** > **User Management** > **Users and Groups**, and then click **New User**.

2. Enter all required information (marked with an *) and click **Next**.

3. On the Add User to Groups page, click **Next**. A user group is not required.

4. On the Assign Roles to User page, click **Find Roles**.

5. From the roles list, select the following roles to assign, and then click **OK**.

   ● **Application Administrator**

   ● **Services User**

   Caution: Do not select **Super Administrator** for this user as it deactivates critical permissions.

6. Click **Finish** to save the new user.

Configuring the credentials

This section describes the steps that are required to import and configure the Flash Media Rights Management Server certificate (PFX) file that you obtained from Adobe.

➤ **To import the certificate:**

1. In LiveCycle Administration Console, click > **Settings** > **Trust Store Management** > **Local Credentials**.

2. Click **Import** and, under Trust Store Type, select **Document Signing Credential**.

   Note: For information about obtaining a credential, contact your Adobe representative.

3. In the **Alias** box, type the identifier for the credential. This identifier is used as the display name for the credential in Flash Media Rights Management Server. This alias is also used to access the credential programmatically by using the LiveCycle ES SDK.

   Note: The alias name must be the same as the `SignatureCredential` value in the config.xml file. By default, it is called `FLV HEADER AND VOUCHER SIGNING`. The alias name is automatically converted to uppercase for display purposes but is not case-sensitive when you refer to it in a process.

4. Click **Browse** to locate the credential, type the password of the credential, and then click **OK**.

External authenticators and authorizers

Before you can prepare your media content for publication, you must install an external authorization handler that will provide centralized access control for FLV files in your organization. Flash Media Rights Management Server controls access to policy-protected FLV files by evaluating the policy when a user attempts to access a policy-protected file.

For evaluation purposes, you can choose to use the sample authorizer (in *[FMRMS root]*/SDK/samples), or you can develop your own application by reviewing *Developing Service Providers*.

Flash Media Rights Management Server tools

Flash Media Rights Management Server installs with a suite of tools that are used to prepare the media content for viewing in Adobe Media Player.

Before you can test protected content in Adobe Media Player, you must create a policy, and package and sign the content. (See *Securing Video Content and Playlists*.)

Uninstalling Flash Media Rights Management Server

This section describes how to uninstall Flash Media Rights Management Server from your application server.

Note: The uninstaller does not remove any of the LiveCycle ES solution components. Follow the instructions in "Uninstalling LiveCycle ES" on page 40 to completely remove the Flash Media Rights Management Server environment.

➤ **To uninstall Flash Media Rights Management Server:**

1. In the C:\Adobe\FMRMS1.0_uninst directory, either double-click **uninstaller.exe** or select **Start** > **Settings** > **Control Panel** > **Add or Remove Programs**.

2. When prompted, select the language for the installation to use, and then click **OK**.

3. On the Welcome screen, click **Next**.

4. Select the Flash Media Rights Management Server features to uninstall and click **Next**.

5. Read the summary and click **Uninstall**.

6. Click **Finish**.

Uninstalling LiveCycle ES

The uninstall program in the *[LiveCycleES root]* directory does not remove any files that you deployed to your application server.

Caution: By running the uninstall program, all of the contents within the product installation directory are subject to removal without further warning. Before proceeding, back up any data that you do not want to lose.

➤ **To remove the files from your computer:**

1. Invoke the uninstall program:

   - (Windows) Use **Add or Remove Programs** in the Windows Control Panel to remove **Adobe LiveCycle ES**.

   - (Linux) From a terminal, type `./livecycle8_uninstall.bin` (you may need to make this binary an executable file).

2. Follow the on-screen instructions in the uninstall program, and then click **Finish**.

7 | Troubleshooting

This section discusses possible issues you may encounter when you install and deploy
Flash Media Rights Management Server, and suggests steps for avoiding or working around them.

Getting help

This section describes the steps you should take before you contact Adobe Support. If, after reviewing the
Flash Media Rights Management Server documentation, you have not resolved your issues, contact Adobe
Support. To help expedite your service, have the following information available:

- What were you doing when the problem occurred?
- Can you repeat the problem?
- Was an error message displayed when the problem occurred? Did you observe anything else?
- If you disable the Show Friendly HTTP Error Messages option in Internet Explorer (**Tools** > **Options** >
  Advanced), do the errors persist?

Installation considerations

If you are having problems installing, configuring, or deploying Flash Media Rights Management Server,
ensure that you have carefully followed the instructions in this document or refer to the chapters:

- "System prerequisites" on page 7
- "Configuring a WebLogic Server" on page 22
- "Installing, Configuring, and Deploying" on page 14
- "Initial Administration Tasks" on page 31
- "Post-Deployment Tasks" on page 33

If you installed and configured everything according to the documentation, review the following sections
for issues that are similar to those you are experiencing.

Application server considerations

Check the following application server settings before you contact Adobe Support:

- **Total transaction lifetime timeout:** 300
- **Initial heap size:** 256
- **Maximum heap size**: 1024 Mb
- **Prepared statement cache**: 100
- **Database connection pool maximum**: IDP_DS is 100 and RM_DS is 30
- **Topics and queues connection factories**

Database initialization considerations

If you are having problems initializing Flash Media Rights Management Server, consider the following possibilities:

- Database instances must contain only alphanumeric characters in their names.
- (Linux) Database instances must not exceed the platform-specific threshold of eight characters.

If the initialization fails at the beginning of the process, check for the following conditions:

- (Non-turnkey installation) The LiveCycle ES database has already been created and the user has full rights to it.
- The database server is accessible when you ping it.
- The database is empty; that is, it has no tables, sequences, views, or index tables.
- The JNDI name for `IDP_DS` is created.

If initialization fails while writing to the registry, check the application server logs for errors that pertain to the queues and topics. If errors exist, verify that the queues and topics are configured properly.

Troubleshooting with LiveCycle Configuration Manager log files

By default, the LiveCycle Configuration Manager log file is in *[LiveCycleES root]*\ConfigurationManager\log and is named lcm.0.log (or similar). The log files are useful for LiveCycle Configuration Manager failure analysis and may be required when dealing with Adobe Enterprise Support.

Scheduler service configuration for nondefault JNDI URLs

To function correctly, the Scheduler service may require some additional configuration.

This is the JNDI URL for the IDP_DS that your application server manages if the JNDI URL differs from the default JNDI URL for the application server (that is, for WebLogic: t3://localhost:7001):

```
org.quartz.dataSource.idp.java.naming.provider.url
```

Complete these tasks to set the scheduler properties:

1. Create a new file called *dscscheduler.properties*.

2. Set the values of the above properties as necessary for the app server node, as shown in this example:

```
org.quartz.dataSource.idp.java.naming.provider.url =
    t3://localhost:7001/
org.quartz.jobstore.isClustered = true
org.quartz.scheduler.instanceId = AUTO
```

3. Add the JVM argument `-Dadobe.idp.scheduler.properties=`*[Path to this file]*`/dscscheduler.properties` to the application server startup scripts/configuration.

Error messages

This section contains a list of error messages that are specific to Flash Media Rights Management Server and their definitions.

Class not found

If you encounter this error, check for the following issues:

● Is the class path setting invalid or missing?

● Is the JAR file obsolete?

● Is there a compilation problem in the class?

JNDI name not found

If you encounter this error, check the following issues:

● If the symptom is an exception stack trace showing the following line, check that the expected name is spelled correctly:

```
javax.naming.NameNotFoundException: jdbc/<badName>
```

If it is not spelled correctly, you must fix the code.

To correct the most common JNDI exceptions, complete these steps:

1. Check the JNDI tree on the Flash Media Rights Management Server application server. Does the name used appear in the tree?

   ● If yes, it is most likely that your code did not properly set up the `InitialContext` object being used for the look-up, and the look-up is being done on a JNDI tree that is not the one that the resource is listed in.

   ● If no, continue to step 2.

2. Does the resource appear in the JNDI tree under a name other than the name listed in the look-up?

   ● If yes, you are using the incorrect look-up name. Provide the correct name.

   ● If no, continue to step 3.

3. Review the application server logs during startup. If the application server is configured to make this resource available but something is going wrong, an exception will be shown here. Is there an exception?

   ● If yes, review the exception and stack trace. If the NameNotFoundException is a symptom of another problem based on your investigation of the server logs, move on to the troubleshooting steps for that problem.

   ● If no, continue to step 4.

4. If the resource is not listed in the JNDI tree, and there is no exception at startup to explain why it is not available, the most probable issue is that the application server is not configured properly to make that resource available. Contact Adobe Support.

Exceptions thrown when initializing the LiveCycle ES database multiple times

When you initialize the LiveCycle ES database after it has been already initialized, exceptions may be thrown, indicating that the POF schema has been initialized.

This error can be safely ignored.

Failure to deploy adobe-livecycle-weblogic

This section explains how to correct a WebLogic EAR file deployment issue if you receive the following error message:

```
Could not start application adobe-livecycle-weblogic.
com.adobe.livecycle.cdv.CDVException[ALC-LCM-030-113]: Failed to deploy
EAR.
```

If you receive this error, check the WebLogic Administration Console to ensure that it is not locked (that is, the Lock & Edit button is selected). If it is locked, LiveCycle Configuration Manager will show the deployment process as 16% complete and the WebLogic Administration Console will show the EAR file as deployed, but in an installed state. If the WebLogic Administration Console is not locked, LiveCycle Configuration Manager can deploy the EAR files.

To correct this issue, go to the WebLogic Administration Console, ensure that it is unlocked, and redeploy the EAR files.

Failure to deploy due to PermGen Space error

This section explains how to correct a WebLogic EAR file deployment issue if you receive the following error message:

```
java.lang.OutOfMemoryError: PermGen space
```

If you receive this error you should increase the PermGen space from 256 to 512. You can change this value using the WebLogic Administration Console.

Failure to deploy EARs

Depending on the LiveCycle ES services you are installing and your system configuration, you may receive errors when deploying the EARs. If this occurs you should increase the MaxPermSize on your application server from 256 to 512.

<Is this section necessary? If so, we'll need to explain the manual deploy process as well. no answer>

Proxy support fails on Microsoft Windows with SSL

There is a known issue of very long request times on WebLogic Server when the following conditions apply:

- SSL is configured on WebLogic Server.
- Adobe AIR is configured to use a proxy.
- Internet Explorer has the **Use HTTP 1.1 through proxy connections** option disabled.

You must install the patch from BEA that fixes this issue. To obtain, install, and configure the WebLogic Server patch, complete these tasks:

1. Contact BEA support and request a patch ID and passcode for issue CR297073.

2. In a browser, enter the following URL:

   http://e-docs.bea.com/common/docs92/smart_update/quickrefax.html#wp1054438

3. Follow the instructions in the section "How to Download and Apply a Private Patch".

4. Log in to your WebLogic Administration Console, click **Lock & Edit**, and navigate to **Servers > [ManagedServerName]** and click the **Server Start** tab.

5. Add the fully qualified path to the weblogic_patch.jar file to the beginning of the **Class Path** property, adding a semi-colon to separate it from the following class path. For example:

```
C:\bea\patch_weblogic920\profiles\default\sys_manifest_classpath\weblogic_pa
tch.jar;
```

6. Click **Save** and then click **Activate Changes**.

7. Restart the server.

8. To verify that the patch is now active, locate, and open the log file for the Flash Media Rights Management Server server. Text similar to the sample below should appear near the top of the log file:

```
<Nov 16, 2007 11:13:24 AM PST> <Info> <Management> <BEA-141107> <Version:
WebLogic Temporary Patch for CR297073 Mon Jan 22 12:19:24 2007
   WebLogic Server 9.2  Fri Jun 23 20:47:26 EDT 2006 783464 >
```

Now, if you connect by SSL through a proxy and Use HTTP 1.1 Through Proxy Connections is disabled in Internet Explorer, you should no longer see any delays.