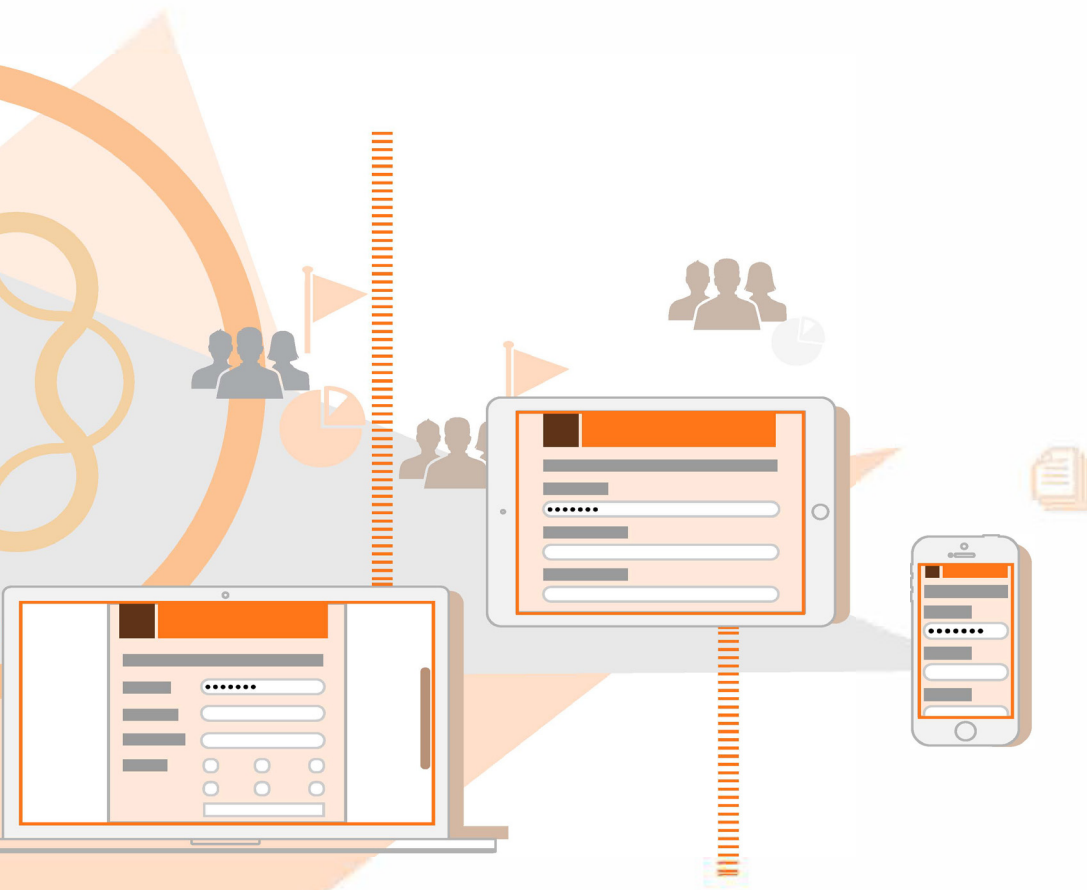# Upgrading to Adobe Experience Manager Forms on JEE for WebSphere

**AEM 6.3 Forms**

# Legal notices

For legal notices, see http://help.adobe.com/en_US/legalnotices/index.html.

# Contents

# 1. About this document

AEM Forms on JEE is an enterprise server platform that helps you automate and streamline business processes. AEM Forms on JEE comprises the following components:

- J2EE-based Foundation provides server capabilities and runtime environment
- Tools to design, develop, and test AEM Forms on JEE Applications
- Modules and Services are deployed on AEM Forms on JEE Server, and provide functional services

For more information about the AEM Forms on JEE capabilities, see Introduction to AEM Forms.

## 1.1. Who should read this document?

This guide provides information for administrators and developers responsible for installing, upgrading, configuring, administering, or deploying AEM forms on JEE. It is assumed that readers are familiar with J2EE application servers, operating systems, database servers, and web environments.

## 1.2. Conventions used in this document

The installation and configuration documentation for AEM Forms on JEE uses the following naming conventions for common file paths.

| Name | Default value | Description |
| --- | --- | --- |
| [aem-forms root] | Windows: C:\Adobe\Adobe_Experience_Manager_Forms Linux, and Solaris: /opt/adobe/Adobe_Experience_Manager_Forms | The installation directory that is used for all AEM Forms on JEE modules. The installation directory contains subdirectories for Configuration Manager. This directory also includes directories related to the SDK and third-party products. |
| [appserver root] | WebSphere on Windows: C:\Program Files\IBM\WebSphere\AppServer\ WebSphere on Linux and Solaris: /opt/IBM/WebSphere/AppServer/ WebSphere on AIX: /usr/IBM/WebSphere/AppServer | The application server directory that is used for all AEM Forms on JEE modules. |
| [server name] | server1 | |
| [dbserver root] | Depends on the database type and your specification during installation. | The location where the AEM Forms on JEE database server is installed. |

| Name | Default value | Description |
|------|---------------|-------------|
| [*AEM_temp_dir*] | On Windows: C:\Adobe\Adobe_Experience_Manager_Forms\tmp<br>On Linux: /opt/adobe/Adobe_Experience_Manager_Forms/tmp | The temporary directory for AEM Forms on JEE server. |
| [CRX_home] | On Windows: C:\Adobe\Adobe_Experience_Manager_Forms\crx-repository<br>On Linux: /opt/adobe/Adobe_Experience_Manager_Forms/crx-repository | The directory that is used for installing the CRX repository. |

Most of the information about directory locations in this guide is cross-platform (all filenames and paths are case-sensitive on non-Windows operating systems). Any platform-specific information is indicated as required.

# 1.3. Additional information

The resources in this table can help you learn more about AEM Forms on JEE.

| For information about | See |
|-----------------------|-----|
| AEM Forms on JEE and the modules | Introduction to AEM Forms |
| Upgrading to AEM Forms on JEE from a previous version | Preparing to Upgrade to AEM forms on JEE<br>Upgrading to AEM forms on JEE for WebSphere |
| Performing administrative tasks | Administrationhelp |
| All the documentation available for AEM Forms on JEE | AEM Forms on JEEdocumentation |
| Patch updates, technical notes, and additional information about this product version | Adobe EnterpriseSupport |

# 2. Introduction to upgrade

## 2.1. About installing, configuring, and deploying AEM Forms on JEE

Most of the work involved in upgrading from AEM 6.1 Forms on JEE or AEM 6.2 Forms on JEE to AEM 6.3 Forms on JEE is done by Configuration Manager. The tasks that are specific to upgrade are integrated seamlessly into the configuration and deployment process.

Installing, configuring, and deploying AEM Forms on JEE involves the following processes:

**Installing:** You install AEM Forms on JEE by running the installation program. Installing AEM Forms on JEE places all the required files onto your computer, within one installation directory structure. The default installation directory is C:\Adobe\Adobe_Experience_Manager_Forms (Windows) or /adobe/Adobe_Experience_Manager_Forms (Linux or UNIX); however, you can install the files to a different directory.

**Configuring and assembling:** Configuring AEM Forms on JEE modifies a variety of settings that determine how AEM Forms on JEE works. Assembling the product places all the installed components into several deployable EAR and JAR files according to your configuration instructions. Configure and assemble the components for deployment by running Configuration Manager.

**Configuring the application server**: You can choose to let Configuration Manager configure the application server. You already performed some configuration tasks when you prepared the environment for upgrading; however, you still have a few tasks to do after AEM Forms on JEE is installed, such as configuring Java™ Virtual Machine (JVM™) arguments, configuring the data source connections, and setting some time-out values.

**Deploying:** Deploying the product involves deploying the assembled EAR files and supporting files to the application server on which you plan to run your AEM Forms on JEE. If you configured and assembled multiple modules, the deployable components are packaged within the deployable EAR files. Components and LiveCycle archive files (LCAs) are packaged as JAR files. Configuration Manager automatically deploys the EAR files, components, and archive files to the application server.

**Deploying:** Deploying the product involves deploying the assembled EAR files and supporting files to the application server on which you plan to run your AEM forms on JEE. If you configured and assembled multiple modules, the deployable components are packaged within the deployable EAR files. Components and LCAs are packaged as JAR files. Configuration Manager automatically deploys the components and archive files to the application server. You must manually deploy the EAR files to JBoss.

**Initializing the database:** Initializing the database creates tables for use with User Management and other components. Configuration Manager initializes the AEM Forms on JEE database after the EAR deployment process.

## 2.2. How the AEM Forms on JEE upgrade works

Upgrading to AEM Forms on JEE involves these tasks:

1) Preparing your environment for the upgrade

2) Installing AEM Forms on J2EE

3) Running Configuration Manager to initiate the configure, upgrade, and deployment processes

4) Upgrading the CRX repository and migrating essential existing data

5) Performing post-deployment upgrade tasks

## 2.3. Upgrade and deployment checklist

You can use the Upgrade Checklist and Planning guide to ensure that you have all the information required to upgrade to AEM Forms on JEE. Use the checklist to also verify if the upgrade process installed AEM Forms on JEE correctly and if all the components/modules are working.

# 3. Installing AEM Forms modules

## 3.1. Before you begin

### Installation overview

Before you install the modules, ensure that your environment includes the software and hardware that is required to run AEM Forms on JEE. You should also understand the installation options and have the environment prepared as required. For more information, see the Preparing to Install (Singler Server or Server Cluster) or Preparing to Upgrade guide. The complete AEM Forms on JEE documentation is available at http://www.adobe.com/go/learn_aemforms_tutorials_63_en.

If you are upgrading, before you run the AEM Forms on JEE installation and configuration, you must back up your existing data. If you are moving to a new version of the same database, prepare the database as described in the Preparing to Install AEM forms on JEE guide and then migrate your data to the new database using its backup/restore/migration utility. If you are moving to a new operating system or application server, review the configuration information in the Preparing to Install AEM forms on JEE guide.

AEM Forms on JEE also provides a command line interface (CLI) for the installation program. See Appendix - Install Command Line Interface for instructions on using the CLI. There is also a CLI for Configuration Manager. See Appendix - Install Command Line Interface. These CLIs are intended to be used by advanced users of AEM Forms on JEE in server environments that do not support the use of the GUI of the installation program or the Configuration Manager, or for users who wish to implement batch (non-interactive) installation capabilities.

### Checking the installer

Observe the following best practices with the installer files before you begin the installation process.

#### Check the DVD installation media

Ensure that the installation media that you received is not damaged. If you copy the installation media contents to the hard disk of your computer where you are installing AEM Forms on JEE, ensure that you copy the entire DVD contents on to the hard disk. To avoid installation errors, do not copy the DVD install image to a directory path that exceeds the Windows maximum path length limit.

Install AEM Forms on JEE either by using a local copy of the installation files or directly from the DVD. The installation could fail when AEM Forms on JEE is installed over the network.

**Check the downloaded files**

If you downloaded the installer from the Adobe website, verify the integrity of the installer file using the MD5 checksum. Do one of the following to calculate and compare the MD5 checksum of the downloaded file with the checksum published on the Adobe licensing website:

- **Linux:** Use the `md5sum` command
- **Solaris:** Use the `digest` command
- **Windows:** Use a tool such as WinMD5
- **AIX:** Use the `md5sum` command

**Expand the downloaded archive files**

If you downloaded the ESD from the Adobe website, extract the entire aemforms_server_6_3_0_web-sphere_all_win.zip (Windows) or aemforms_server_6_3_0_websphere_all_unix.tar.gz (AIX, Linux, or Solaris) archive file to your computer. For non-Windows, use the `gunzip` command to extract the .gz file.

**NOTE:** Be sure to keep the directory hierarchy unchanged from the original ESD file.

**Identify the version of configured CRX repository**

1) Open AEM Forms web console. The default URL is http://[port]:[server]/lc/system/console/bundles.
2) Open the Status menu and then click the Sling Settings option.
3) Verify the values of the Run Modes property. The second value of the Run Modes property specifies the version of the CRX repository. For example, for the following run mode, the version of the repository is CRX3:

    `Run Modes = [livecycle, crx3, author, samplecontent, crx3tar]`

# 3.2. Installation considerations

## Installation paths

To successfully install, you need read, write, and execute permissions on the installation directory. The following also apply to the installation paths:

- When installing AEM Forms on JEE, do not use double-byte or extended Latin characters (such as àâçéèêëïîôùûÄÖßÜ) in the installation path.
- On Windows, the AEM Forms on JEE installation directory path must not contain any non-ASCII characters (for example, international characters such as é or ñ).
- On UNIX-based systems, you must be logged in as the root user to successfully install the modules. If you are logged in as a non-root user, change the installation directory to one on which you have permissions (read-write-execute privileges).

- On Windows, you must have administrator privileges to install AEM Forms on JEE.
- When you run the AEM Forms on JEE installer, you should run it as the same user that installed WebSphere Application Server.

## Temporary directories

Temporary files are generated in the temp directory. In certain instances, the generated temporary files may remain after the installer is closed. You can remove these files manually.

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 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 from the following directories:

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

On UNIX-based systems, a non-root user can use the following directory as the temporary directory:

- (Linux) /var/tmp or /usr/tmp
- (AIX) /tmp or /usr/tmp
- (Solaris) /var/tmp or /usr/tmp

## Installing on a Windows staging platform for Linux or UNIX

AEM Forms on JEE can be installed and configured on Windows for deployment on a Linux or UNIX platform. You can use this functionality for installing on a locked-down Linux or UNIX environment. A locked-down environment does not have a graphical user interface installed. For the Linux or UNIX platform, the installation program installs binaries that are used by Configuration Manager to configure the product.

The computer running Windows can then be used as a staging location for the deployable objects, which can be copied to a Linux or UNIX computer for deployment to the application server. The application server on the Windows-based computer, and the Linux or UNIX target computer on which you want to install AEM forms on JEE must be the same.

## General installation notes

- On Windows, improve the speed of installation by disabling any on-access virus scanning software during installation. For details, see Using an antivirus on server running AEM Forms.
- If you are installing on UNIX-based systems and are not installing directly from a release DVD, set executable permissions on the installation file.
- To avoid permission issues during deployment, ensure that you run the AEM Forms on JEE installer and Configuration Manager as the same user who will run the application server.

- If you are installing on UNIX-based computers, the installation directory you specify should not contain any spaces.

- Ensure that the JAVA_HOME environment variable points to *[appserver root]*/java/.

- When configuring WebSphere on Windows, make sure that Configuration Manager is running using the appropriate JDK. WebSphere installations typically use the IBM JDK. If WebSphere is not using the IBM JDK, re-launch Configuration Manager using the *[aem-forms root]*/configurationManager/bin/ConfigurationManager.bat script.

- If errors occur during installation, the installation program creates the install.log file, which contains the error messages. This log file is created in the *[aem-forms root]*/log directory.

## 3.3. Installing AEM Forms on JEE

1) Start the installation program:
   - (Windows) Navigate to the \server\Disk1\InstData\Windows_64\VM directory on the installation media or folder on your hard disk where you copied the installer. Right-click the install.exe file and select Run as administrator.
   - (Non-Windows) Navigate to the appropriate directory, and from a command prompt, type ./install.bin.
     - (AIX) /server/Disk1/InstData/AIX/NoVM
     - (Linux) /server/Disk1/InstData/Linux/NoVM
     - (Solaris) /server/Disk1/InstData/Solaris/NoVM

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

3) On the Introduction screen, click **Next**.

4) If you have a previous version installed on the computer where you are running the installer, the Preparation for Upgrade screen appears.

   *NOTE: If you are performing an out-of-place upgrade on a new machine, this screen is not shown.*

   - **Prepare to upgrade existing installation to AEM Forms on JEE:**

     *Select this option if you are performing an in-place upgrade, or an out-of-place upgrade on the same computer without changing the operating system. The installation program prepares the data from your existing installation for an upgrade to AEM Forms on JEE.*

   - **Install Adobe Experience Manager Forms:** Installs AEM Forms on JEE afresh.

   *Select **Next** to continue.*

5) On the Choose Install Folder screen, accept the default directory or click **Choose** and navigate to the directory where you intend to install AEM Forms on JEE, and then click **Next**. If you type the name of a directory that does not exist, it is created for you.

   *Click Restore Default Folder to restore the default directory path.*

   *NOTE:* The default installation directory of AEM 6.1 Forms and AEM 6.2 Forms uses an identical name. So, if you are upgrading from AEM 6.1 Forms or AEM 6.2 Forms to AEM 6.3 Forms, rename the directory or install AEM 6.3 Forms at a different location.

6) **(Windows only)** On the Manual Installation Options screen, select the target deployment option and click **Next**:

   – **Windows (Local):** Select this option if you are installing and deploying AEM Forms on JEE on the local server.

   – **Staged (Installed on Windows, targeting remote systems):** Select this option if you plan to use Windows as a staging platform for your deployment and then select the target operating system on the remote server. You can select a UNIX operating system as the target for deployment even if you are installing on Windows. (See *Installing on a Windows staging platform for Linux or UNIX*.)

7) Read the AEM Forms on JEE License Agreement, select **I accept** to accept the terms of the license agreement, and then click **Next**. If you do not accept the license agreement, you cannot continue.

8) On the Pre-Installation Summary screen, review the details and click **Install**. The installation program displays the progress of the installation.

9) Review the Release Notes information and click **Next**.

10) Review the details on the Install Complete screen.

11) The **Start Configuration Manager** checkbox is selected by default. Click **Done** to run the Configuration Manager.

   *If you are upgrading Connectors for ECM, deselect **Start Configuration Manager**, click **Done**, and go to PreparingtheConnectorsforECMforupgrade.*

# 3.4. Preparing the Connectors for ECM for upgrade

To upgrade your connectors for ECM to AEM 6.3 Forms from previous versions, configure the application server system after you install AEM 6.3 Forms and before you start Configuration Manager to complete the upgrade process.

There are two ways you can upgrade to AEM 6.3 Forms:

• **In place:** On the existing application server hosting AEM 6.1 Forms or AEM 6.2 Forms.

• **Out of place:** On a newer version of the existing application server or on another physical computer.

## Configure the Connectors for ECM for an out-of-place upgrade

This task is required for an out-of-place upgrade if you are moving to a new computer or a new application server instance.

**NOTE:** If you are not upgrading on a new computer, skip to Step 2.

1) **(Out-of-place upgrade to a new computer only)** Install the client for your ECM repository on the forms server that hosts the new application server.

2) Perform all settings related to Connectors for ECM (except for administration console settings) on the new application server prior to beginning the upgrade. See ConfiguringtheConnectorforEMC-Documentum, ConfiguringtheConnectorforIBMFileNetservice, or ConfiguringtheConnectorforIBM-ContentManager as appropriate for your configuration.

3) Navigate to the *[appserver root]*/profiles/*[profile name]* directory on your current forms server and copy the adobe-component-ext.properties file to the *[appserver root]/profiles/[profile name]* directory on the target server.

4) Restart the application server.

**IMPORTANT:** For Connector for EMC Documentum or Connector for IBM FileNet, the default repository provider must be set to repository provider otherwise the upgrade deployment will fail. If you have configured the ECM repository provider as the default repository provider for either of these connectors, open the administration console and navigate to **Services > LiveCycle [connector type] > Configuration Settings**. Select the **repository provider** option and then click **Save**.

You can now continue to run Configuration Manager to perform the upgrade.

# 3.5. Next steps

You must now configure AEM Forms on JEE for deployment. You can also choose to run Configuration Manager later by using the ConfigurationManager.bat or ConfigurationManager.sh file located in *[aem-forms root]*\configurationManager\bin.

# 4. Configuring AEM Forms on JEE for Deployment

## 4.1. Considerations when configuring and deploying AEM Forms on JEE

### General Considerations

- While configuring, you must provide the location of the JDBC drivers for your database. Oracle and SQL Server drivers are in the*[aem-forms root]*/lib/db/*[database]* directory. You can download IBM DB2 driver from IBM website. For the complete list of Supported Driver Versions and download locations, see Supported Platform Combination.

- Temporary directory: It is recommended to use local directory as a temporary directory. The temporary directory should exist on every node of the cluster and the path of the temporary directory must be same for every node in the cluster.

- For upgrades on the same operating system as your existing installation, you can specify the existing GDS location in the Configuration Manager. If you choose to change the directory, copy the contents of the existing GDS directory to the new location before you perform the Configure AEM Forms on JEE (4 of 5) step in Configuration Manager.

- For upgrades on the same operating system as your existing installation, you can specify the existing CRX repository location in Configuration Manager. If you choose to change the directory, copy the contents of the existing CRX repository to the new location before you perform the Configure AEM Forms on JEE (4 of 5) step in Configuration Manager.

- On cluster environments, several steps need to be performed manually in addition to the automatic configuration that Configuration Manager performs.

### CLI versus GUI versions of Configuration Manager

This section describes the GUI version of Configuration Manager. For instructions about using the command line interface (CLI) version, see Appendix-Configuration Manager Command Line Interface.

| Configuration task | Configuration Manager GUI | Configuration Manager CLI | Manual |
|---|---|---|---|
| Configure AEM Forms on JEE | Yes | Yes | No |
| Configure application server<br>Only WebLogic and WebSphere application servers can be configured using Configuration Manager. | Yes | Yes | Yes |
| Validate application server configuration<br>Only WebLogic and WebSphere application server configurations can be validated using Configuration Manager. | Yes | Yes | Yes |
| Deploy AEM Forms on JEE EARs<br>AEM forms on JEE EARs can be deployed only on WebLogic and WebSphere application servers using Configuration Manager. | Yes | Yes | Yes |
| Initialize AEM Forms on JEE database | Yes | Yes | No |
| Validate AEM Forms on JEE Server connection | Yes | Yes | No |
| Deploy AEM Forms on JEE components | Yes | Yes | No |
| Validate AEM Forms on JEE component deployment | Yes | Yes | Yes |
| Configure AEM Forms on JEE components | Yes | Yes | Yes |

## Considerations for WebSphere application server

- Configuration Manager does not support deployment or undeployment of EAR files with custom file names. If your EAR files use a custom file name, you must manually deploy and undeploy them to the application server.

- If you are using the same application server instance for your upgraded environment, you must first manually undeploy the existing EAR files from the application server instance.

- If you are deploying components to WebSphere on a localized instance of Windows operating system, Configuration Manager deployment process reaches approximately 7% completion and then adobe-livecycle-websphere.ear fails to deploy. You must perform additional steps described in the Miscellaneous Errors section of the adobe-livecycle-websphere.ear fails to deploy article.

- If you are installing in a distributed environment to a secured server, you will encounter SSL hand-shake exceptions when running Configuration Manager. To avoid this error, run the following executable file before running Configuration Manager: *[appserver root]*/bin/retrieveSigners.bat.

The retrieveSigners utility retrieves the certificates from the WebSphere Deployment Manager server and adds them to the local server's trust store. See Retrieving signers using the retrieve Signers utilityatthe client on IBM Information Center.

- Some Configuration Manager screens require you to provide the SOAP port of the application server or the deployment manager. For more information on how to determine SOAP ports of your WebSphere application server, see blog http://blogs.adobe.com/livecycledocs/?p=243.

- If you are configuring a remote application server, ensure that an application server is also installed on the computer where you run Configuration Manager so that it can use the application server library files. In an environment where a remote application server is installed on Linux, AIX, or Solaris, and AEM Forms on JEE is installed on Windows environment, copy the appropriate data-base driver from [aem-forms root]\lib to the [appserver root]/universalDriver/lib folder of the remote server.

- You can determine the JNDI port number by logging in to WebSphere Administrative Console and navigate to Servers > Server Types > WebSphere application servers > [server name] > Communications > Ports. You will need to provide a value for BOOTSTRAP_ADDRESS when you configure the application server using Configuration Manager.

## Considerations while configuring AEM Forms on JEE Server Clusters

- It is recommended to have local server fonts and customer fonts directories at the same path on each node in the cluster. Shared fonts directories instead of local fonts directories may cause performance issues.

## Considerations for upgrading repository

Perform the following steps if you had crx-repository installed and configured in the previous version:

- Take backup of the `[CRX_home]` folder. If you are using a relational database or MongoDB, take a full backup of the database.
- Download and unzip the CRX to OAK migration utility. The utility is available at https://repo.adobe.com/nexus/content/groups/public/com/adobe/granite/crx2oak/1.6.8/.

# 4.2. Pre-configuration tasks for upgrade

1) If you did not start Configuration Manager automatically from the installation program, navigate to the *[aem_forms root]*/configurationManager/bin directory and run the ConfigurationManager.bat/sh script.

2) If prompted, select a language and click **OK.**

3) If you are prompted to use existing configuration data, click **OK**.

4) On the Welcome screen, click **Next**.

5) On the Upgrade Task Selection screen, select the appropriate option to upgrade to AEM 6.3 Forms from your existing installation. Click **Next** to continue.

6) On the Modules screen, select the modules you plan to configure and deploy and click **Next**.

   NOTE: *You must install and deploy as many or more modules than those on your existing system.*

   NOTE: Some modules have technical dependencies on other modules for proper configuration and functioning. Configuration Manager displays a dialog and does not allow to proceed further if mutually dependent modules are not selected.

   – In AEM Forms, adaptive forms, Correspondence Management, HTML5 Forms, forms portal, HTML Workspace, Process Reporting, and Forms centric workflows on OSGi capabilities use crx-repository. If you plan to use these capabilities, you require crx-repository.

   – You do not require crx-repository for AEM Forms Document Security.

7) On the Task Selection screen, select the tasks you want to perform and click **Next**.

   NOTE: *You must select the Initialize AEM Forms Database option when you are upgrading. Also, make sure that you perform all tasks sequentially, without skipping any, to avoid upgrade issues.*

8) On the In-place vs Out-of-place Upgrade screen, review the information provided and ensure that all appropriate prerequisites are in place and click **Next**.

9) On the Pre-upgrade Steps and Pre-upgrade Steps Contd screens, review the requirements and perform all tasks relevant to your environment and click **Next**.

10) **(Out-of-place upgrade on the same computer only)** Shutdown Previous screen indicates that you must shut down your existing application server and click **Next**.

# 4.3. Configuring and deploying AEM Forms on JEE

## Configuring AEM Forms

On the Configure Adobe Experience Manager Forms (2 of 5) screen, click **Next** to accept the default directory locations, or click **Browse** to navigate to and change the directories that Adobe Experience Manager Forms will use to access fonts, and then click **Next**.

 TIP: *Click* **Edit configuration** *to change any values on this screen. This button is not available when the Configuration Manager is run for the first time, but is available on the second and subsequent runs of the Configuration Manager.*

• (Optional) To change the default location of the **Adobe server fonts directory**, type the path or browse to the directory.

• To change the default location of the **Customer fonts directory,**click **Browse** or specify a new location for your customer fonts.

   NOTE: Your right to use fonts provided by parties other than Adobe is governed by the license agreements provided to you by such parties with those fonts, and is not covered under your license to use Adobe software. Adobe recommends that you review and ensure that you are in compliance

with all applicable non-Adobe license agreements before using non-Adobe fonts with Adobe software, particularly with respect to use of fonts in a server environment.

- (Optional) To change the default location of the **System fonts directory**, type the path or browse to the directory. To add more directories to the list, click **Add**.

- (Optional) To enable FIPS, ensure that **Enable Federal Information Processing Standards (FIPS) 140-2 cryptography** is selected. Select this option only if you require the Federal Information Processing Standards (FIPS) to be enforced.

1) On the Configure Adobe Experience Manager forms(1 of 5) screen, click **Configure** and click **Next** when done.

2) On the Configure Adobe Experience Manager Forms (2 of 5) screen, click **Next** to accept the default directory locations, or click **Browse** to navigate to and change the directories that AEM Forms will use to access fonts, and then click **Next**.

   *TIP: Click **Edit configuration** to change any values on this screen. This button is not available when the Configuration Manager is run for the first time, but is available on the second and subsequent runs of the Configuration Manager.*

   - (Optional) To change the default location of the **Adobe server fonts directory**, type the path or browse to the directory.

   - To change the default location of the **Customer fonts directory,** click **Browse** or specify a new location for your customer fonts.

     **NOTE:** Your right to use fonts provided by parties other than Adobe is governed by the license agreements provided to you by such parties with those fonts, and is not covered under your license to use Adobe software. Adobe recommends that you review and ensure that you are in compliance with all applicable non-Adobe license agreements before using non-Adobe fonts with Adobe software, particularly with respect to use of fonts in a server environment.

   - (Optional) To change the default location of the **System fonts directory**, type the path or browse to the directory. To add more directories to the list, click **Add**.

   - (Optional) To enable FIPS, ensure that Enable **FIPS** is selected. Select this option only if you require the Federal Information Processing Standards (FIPS) to be enforced.

3) Click **Browse** on the Configure Adobe Experience Manager forms (3 of 5) screen to specify the **Location of the temporary directory**, and then click **Next**.

   **NOTE:** Ensure that the temporary directory is on the local file system. AEM Forms does not support a temporary directory at a remote location.

   **NOTE:** If you do not specify the temporary directory, the default system-configured temp location is used. The temporary directory must exist on every node of the cluster and path of the temporary directory must be same on every node of the cluster.

4) On the Configure Adobe Experience Manager Forms (4 of 5) screen, click **Browse** to specify the path for the Global Document Storage (GDS) directory, and then click **Next**.. *NOTE: Point to the existing GDS directory or copy its contents to the newly specified location.*

5) On the Configure Persistent Document Storage (5 of 5) screen, select the option for persistent document storage in addition to the GDS directory. Select one of the following:

   - **Use GDS**: Use the file system-based GDS for all persistent document storage. This option provides the best performance, and a single location for GDS.

– **Use database**: Use the AEM Forms database for storing the persistent documents and long-lived artifacts. However, the file-system based GDS is also required. Using the database simplifies backup and restore procedures.

*Click **Configure** to configure the AEM Forms EARs with this directory information and, after the configuration is complete, click **Next**.*

## Configure your database

- On the Adobe Experience Manager Forms Database screen, provide the information about the instance of AEM Forms on JEE database, so that Configuration Manager can connect to it.

  *Click **Verify Connection** to ensure that the information is valid and Configuration Manager can connect to the database, and then click **Next** to continue.*

  **NOTE:** The above information applies to the database AEM Forms on JEE will connect to. This can be either your existing previous version database (if supported), or a new one that you have already configured and migrated the existing data to. (See Preparing to Upgrade to AEM forms on JEE).

  **NOTE:** The above information applies to the database AEM Forms on JEE will connect to. This is a new one that you have already configured and migrated the existing LiveCycle data to.

  **NOTE:** Ensure that the JDBC driver points to the correct database driver located inside `[aem-forms root]/lib/db/<database>` directory. If you are upgrading on a machine with a previous version of installation and are reusing the old configuration data, then the JDBC driver is pre-populated with the old incompatible driver jar from the previous installation. Select any other database in the Database Type list and re-select the desired database.

## Configure CRX

1) The CRX Configuration screen allows you to configure the CRX repository and install it into the adobe-livecycle-cq-author.ear EAR file.

   a) Specify the path to the repository. The default location is *[aem-forms root]*/crx-repository.

      **NOTE:** Ensure that the CRX repository path does not contain spaces and the content repository is available on all the nodes of the cluster. After the configuration is complete, copy the content repository from local node to all the nodes on the same location (as specified on the CRX configuration screen) .

   b) If you are upgrading from your existing repository, specify path of the crx-repository copied from the previous version.

   c) Select the repository type, as appropriate and keep a note of the following points:
      - CRX3 TAR is not supported in clustered deployments.
      - If selecting CRX3 Mongo DB, specify the Mongo database name and URL to the database. The format of the URL is: `mongodb://<HOST>:<Port>`.

        *HOST: IP address of the machine running MongoDB.*

        *Port: Port number used for the MongoDB. The default port number is 27017.*
      - CRX3 RDB is supported only with Oracle 12c or IBM DB2 10.5 databases. Selecting this option sets the CRX repository persistence to RDB MK (document MK) .

NOTE: If you have already upgraded to AEM 6.3 Forms and you are running configuration manager to add/remove modules, then ensure that the CRX repository type option matches the option selected while performing the upgrade.

d)      Click **Configure** to create the required repository files at the specified location.

   *NOTE: If your AEM Forms on JEE server is running remotely, select **Server is running on remote host**, and specify the path to the repository on the remote host.*

*Click **Next** to continue.*

NOTE: Once the packages are configured, you cannot remove them by re-running the Configuration Manager. For clean uninstallation of deployed packages, you need to uninstall and delete the packages using Package Manager.

## (Remote host only) CRX Configuration Summary

1)      For a remote deployment, copy the content from the [*aem-forms root*]/configurationManager/export/crx-quickstart/ directory to the location on the remote host you specified on the CRX Configuration screen.

NOTE: In case of clustered deployment, you must copy the content from the [aem-forms root]/configurationManager/export/crx-quickstart/ directory to the specified location on all cluster node hosts.

## Configuring Acrobat for PDF Generator

1)      **(Windows only)**On the Configure Acrobat For PDF Generator screen, click **Configure** to run the script that will configure Adobe Acrobat and required environment settings. Click **Next** when complete. *NOTE: This screen will perform the desired configuration only when Configuration Manager is running locally. You must have Adobe Acrobat DC Pro already installed or this step will fail.*

## Configuration Summary

1)      On the Configure Adobe Experience Manager forms Summary screen, click **Next**. Configured archives are placed in the *[aem-forms root]*/configurationManager/export directory.

## Configuring your application server and database

1)      On the Application Server Configuration Details screen, provide the information for the fields (all fields are mandatory) and then click **Verify Server Connection**. When the verification has completed successfully, click **Next**.

NOTE: If you are using WebSphere application server with Microsoft SQL Server database and Java 7, use the JDBC driver located at [aem-forms root]/lib/db/mssql/java7.

NOTE: If WebSphere Administrative Security is off, Admin User ID and Password fields can be left blank.

**NOTE:** When using WebSphere Cluster or WebSphere Network Deployment server to configure a standalone WebSphere Application server, enter the port number of the deployment manager in the SOAP Port field.

**NOTE:** If you are using non-default WebSphere profile, ensure that you provide the complete path, including the profile name, in the Local Application Server Root Directory field.

2) On the Application Server Configuration Selection screen, select the tasks for Configuration Manager to perform, and click **Next**.

3) On the Server Settings Configuration screen *(appears only if Configure Server Settings was selected)*, provide the information for the fields, and then click **Next**.

4) On the Datasource Configuration screen *(appears only if Configure Datasource option is selected)*, provide the information for the fields and then click **Test Database Connection**. When the connection is tested successfully, click **Next**.

   *You can choose to manually configure data sources rather than allowing Configuration Manager to configure them for you. To override automatic data source configuration, select **Manually configure data source in the WebSphere Administrative Console before continuing**, at the bottom of the screen.*

   *Without exiting Configuration Manager, go to the application server administration console, and configure data sources as described in Configuring the AEM Forms database connectivity in Installing AEM forms on JEE for WebSphere Server Guide.*

   **NOTE:** By default, Configuration Manager creates datasources at node level. To set the datasource at the server level, see how to create a JDBC provider for your database in  in the Installing AEM Forms on JEE for WebSphere Server Guide.

5) On the Application Server Configuration screen, click **Configure**. When the process is completed, click **Next**.

6) If you have enabled SSL, perform the following steps. These steps change "http" to "https" in the integration URL:

   a) Open Webspehere console. The default URL is [host]:<ibm_admin_port>/ibm/console.

   b) Navigate to Servers > Server Types > Websphere Application Server and select server. For example Server1.

   c) In Server Infrastructure, select Java and Process Management . Click Process Definition. In Additional Properties, select Java Virtual Machine

7) On the Application Server Configuration Validation screen, select the tasks for validating and then click **Validate** and select Yes on prompt to deploy adobe-lcm-lcvalidator.ear. When the process is completed, click **Next**.

## Deploying AEM Forms on JEE EARs

1) **(In-place upgrade only)** On the Undeploy AEM Forms on JEE EARs from the application server if doing in-place upgrade screen., review the information, perform the required task, and then click **Next**.

2) On the Deploy Adobe Experience Manager Forms EARs screen, select the EAR files to deploy, and then click **Deploy**. This operation may take several minutes to complete. When the deployment has completed successfully, click **Next**.

   **NOTE:** If the deployment of EARs fails with the error – The system failed to make the SOAP RPC call: invoke – increase the SOAP timeout value as described in Modifying the WebSphere time-out settings section and then deploy the EARs.

   **NOTE:** *When Configuration Manager has started the execution of the IBM WebSphere® JACL deployment scripts, you cannot stop the deployment even if you exit or cancel Configuration Manager prior to deployment completion. No user action is required because the product EARs will be successfully deployed.*

   *By default, Configuration Manager deploys the EAR files to the WebSphere default virtual host,* `default_host`*. To deploy the EAR files to a different virtual host, select the target host from the Virtual Host list.*

   *To connect to the application server using a secure port while running Configuration Manager, do the following tasks:*

   a) Copy the [appserver root]\java_<version>\jre\lib\security\java.security file to another folder on the same machine.

   b) Open the copied java.security file for editing.

   c) Uncomment the following lines:

   ```
   ssl.SocketFactory.provider=com.ibm.jsse2.SSLSocketFactoryImpl
   ssl.ServerSocketFactory.provider=com.ibm.jsse2.SSLServerSocketFac
   toryImpl
   ```

   d) Comment the following lines:

   ```
   ssl.SocketFactory.provider=com.ibm.websphere.ssl.protocol.SSLSock
   etFactory
   ssl.ServerSocketFactory.provider=com.ibm.websphere.ssl.protocol.S
   SLServerSocketFactory
   ```

   e) Save and close the file.

   f) Exit the Configuration Manager.

   g) Open the [aem-forms root]\Adobe_Experience_Manager_Forms\configurationManager\bin\ConfigurationManager.bat for editing.

   h) Add the following argument to the JAVA_OPTS property:

   ```
   -Djava.security.properties=<path of the copied java.security file>
   ```

   i) Run the Configuration Manager using the ConfigurationManager.bat file and continue from the Adobe Experience Manager Forms Database Initialization screen.

**NOTE:** If you encounter the error message listed below, ignore the error message and continue with configuring AEM Forms.

```
ERROR [stderr] (http-/0.0.0.0:8080-4)
com.adobe.idp.common.errors.exception.IDPException|
[com.adobe.idp.storeprovider.jdbc.DBStatement] errorCode:12552
errorCodeHEX:0x3108
```

**NOTE:** You have to manually deploy adobe-livecycle-author.ear after configuring AEM Forms and upgrading the repository.

## Initializing AEM Forms on JEE database

1) On the Adobe Experience Manager forms Database Initialization screen, verify that the hostname and port number provided for your application server is correct and then click **Initialize**. The database initialization task creates tables in the database, adds default data to the tables, and creates basic roles in the database. When the initialization has completed successfully, click **Next**.

   *NOTE: Before continuing with the next steps, wait until the ServiceEvent REGISTERED and ServiceEvent UNREGISTERED messages stop appearing in the <crx-repository>/error.log file. Depending on network and database response speed, it might take a few hours for RDBMK to be up and running.*

   *NOTE: Do not skip this step or the upgrade will fail. This process does not harm the existing data.*

   *Restart the application server manually if you are prompted to do so.*

2) On the Adobe Experience Manager forms Information screen, enter **Adobe Experience Manager forms User ID** and **Password** whose default values are *administrator* and *password* respectively.

   *As you are upgrading to AEM Forms on JEE, enter the administrator password of your previous LiveCycle installation.*

   **NOTE:** Before verifying the connection to the server, verify that AEM is up and running. If AEM is not up and running and the server is restarted, it may lead to the corruption of repository data. Perform the following steps to verify that AEM is up and running:

   a) Watch the error.log file for activity. Ensure that it is stable and no more action is performed. The default path of the error.log file is <aem-forms_root>/crx-repository/logs/error.log.

   b) In the browser window, open URL http://[host]:[port]/lc/system/console/bundles, and ensure that only one bundle is in the installed state.

   *Click **Verify Server Connection**, and when complete, click **Next**.*

   **NOTE:** If the server verification fails, restart the server but only when error.log gets stable and http://[server]:[port] /lc is accessible. If the verification fails yet again, restart the server again.

   **NOTE:** The server information that appears on this screen represents default values for the deployment.

   *Verifying the server connection helps narrow troubleshooting in case failures occur in the deployment or validation. If the connection test passes but deployment or validation fails in the next few steps, connectivity issues can be eliminated from the troubleshooting process.*

## Session ID Migration Errors

View and fix the errors that were encountered while migrating session IDs from you old instance of Live-Cycle, and then click Next. It is important to fix these errors else you may encounter some failed workflow invocations post-upgrade.

## Deploying Central Migration Bridge Service

1)   On the Central Migration Bridge Service Deployment Configuration screen, if applicable, select the **Include Central Migration Bridge Service** in deployment option and then click **Next**.

## Deploying AEM Forms on JEE components

1)   On the Adobe Experience Manager forms Component Deployment screen, click **Deploy**. The components that are deployed at this time are Java archive files that plug into the service container that is part of AEM Forms on JEE for purposes of deploying, orchestrating, and executing services. When the deployment has completed successfully, click **Next**.

2)   On the Adobe Experience Manager forms Component Deployment Validation screen, click **Validate**. Click **View Progress Log** to view the validation progress and, when the validation has completed successfully, click **Next**.

## Migrate data

1)   On the Migrate Data Essential to Adobe Experience Manager forms Operation screen, click **Start**and, when the migration is complete, click **Next**.

## Configuring AEM Forms components

1)   On the Configure Adobe Experience Manager Forms Components screen, select the tasks to run with Configuration Manager, and click **Next**. *NOTE: If you are upgrading any Connectors for ECM module, do not select them on this screen. Only include them if you are licensing them for the first time in AEM Forms and proceed with the following steps as appropriate.*

## Configure Connector for EMC Documentum®

**NOTE:** In case of a remote AEM Forms on JEE deployment, you cannot configure the Connector for EMC Documentum using Configuration Manager.

1)   On the Specify Client for EMC Documentum screen, select **Configure Connector for EMC Documentum Content Server**, and specify the following settings. Enter the details, click **Verify**, and when complete, click **Next** to continue.

   –   **Choose EMC Documentum Client Version:**Select the client version to use with the EMC Documentum Content Server.

- **EMC Documentum Client Installation Directory Path:**Click **Browse** to select the directory path.

2) On the Specify EMC Documentum Content Server Settings screen, enter the EMC Documentum Server details, and then click**Next**. Press F1 for information about the details you need to enter.

3) On the Configure Connector for EMC Documentum screen, click **Configure Documentum Connector**. When completed, click **Next**.

4) On the Required Manual Configurations for Connector for EMC Documentum screen, review and perform the manual steps listed and then click **Next**.

## Configure Connector for IBM® Content Manager

**NOTE:** In case of a remote AEM Forms on JEE deployment, you cannot configure the Connector for IBM Content Manager using Configuration Manager.

1) On the Specify Client for IBM Content Manager screen, select **Configure Connector for IBM Content Manager**, and enter a value for the IBM Content Manager Client Installation Directory Path. Click **Verify** and when complete, click **Next** to continue.

2) On the Specify IBM Content Manager Server Settings screen, enter the details of the IBM Content Manager Server, and click **Next**.

3) On the Configure Connector for IBM Content Manager screen, click **Configure IBM Content Manager Connector**. When complete, click **Next**.

4) On the Required Manual Configurations for Connector for IBM Content Manager screen, review and perform the manual steps listed and then click **Next**.

## Configure Connector for IBM® FileNet

**NOTE:** In case of a remote AEM Forms on JEE deployment, you cannot configure the Connector for IBM FileNet using Configuration Manager.

1) On the Specify Client for IBM FileNet screen, select **Configure Client for IBM FileNet Content Manager**, and specify the following settings.

- **Choose IBM FileNet Client Version:**Select the client version that you want to use with the IBM FileNet Content Server.

- **IBM FileNet Client Installation Directory Path:** Click **Browse** to select the directory path.
  **NOTE:** The validation of IBM FIleNet may fail if there are special characters, such as hyphen (-), underscore (_), comma (,), or dot (.) in the directory name containing the IBM FileNet client.

*Click **Verify**, and when complete, click **Next** to continue.*

2) On the Specify IBM FileNet Content Server Settings screen, enter the required details, and click **Next**. Press F1 for more information.

3) On the Specify Client for IBM FileNet Process Engine screen, enter the required details, and click **Verify**. When complete, click **Next**.

4) On the Specify IBM FileNet Process Engine Server Settings screen, enter the required details and click **Next**. Press F1 for more information.

5) On the Configure Connector for IBM FileNet screen, click **Configure FileNet Connector**. When complete, click **Next**.

6) On the Required Manual Configurations for Connector for IBM FileNet screen, review and perform the manual steps listed and then click **Next**.

## Configure Connector for Microsoft® SharePoint®

**NOTE:** In case of a remote AEM Forms on JEE deployment, you cannot configure the Connector for Microsoft SharePoint using Configuration Manager.

On the Configure Adobe Adobe Experience Manager Forms Connector for Microsoft SharePoint screen, do one of the following tasks:

• Deselect the **Configure Adobe Experience Manager Forms Connector for Microsoft SharePoint** option to manually configure Microsoft Sharepoint later, and then click **Next**.

• Leave the **Configure Adobe Experience Manager forms Connector for Microsoft SharePoint** option selected. Enter the required values, and then click Configure SharePoint Connector. When complete, click **Next**.

    **NOTE:** You can skip this step if you want to configure the Connector for Microsoft SharePoint later using administration console.

## Configuring forms server for native file conversions

1) **(PDF Generator only)**On the **Admin user credentials for native PDF conversions**screen, enter the user name and password of a user with administrative privileges on the server computer, and then click**Add user.**

    **NOTE:** You must add at least one administrative user for Windows 2008 Server. On Windows 2008 Server, User Account Control (UAC) must be disabled for the users you add. To disable UAC, click **Control Panel**> **User Accounts** > **Turn User Account Control on or off**and deselect Use User Account Control (UAC) to help protect your computer, then click **OK**. Restart the computer to apply these changes.

## System readiness test for PDF Generator

1) On the **Document Services PDF Generator System Readiness Test** screen, click **Start** to validate if the system has been appropriately configured for PDF Generator. Review the System Readiness Tool Report and click **Next.**Note that the system readiness test fails if AEM Forms on JEE is deployed on a remote machine.

## Configuring Acrobat Reader DC extensions

1) On the Acrobat Reader DC extensions Credential Configuration screen, specify the details that are associated with the Acrobat Reader DC extensions credential that activates the module services.

    **NOTE:** You can skip this step at this time by selecting **Configure later using administration console**. You can configure the Acrobat Reader DC extensions credential by using Administration Console

after you complete the deployment. (After logging in to administration console, click **Home** > **Settings** >**Trust Store Management** > **Local Credentials** *.)*

*Click **Configure**and then click **Next**.*

## Summary, and Next Steps

1) Server restart required screen requires you to restart your application server for some configurations to take effect. When finished, click **Next**.

2) Review the Configuration Manager task summary list and choose the appropriate options:

   – Select Launch Next Steps to view information about AEM Forms on JEE users and administrative interfaces to launch an html page containing step-by-step instructions to start and use AEM Forms.

   *NOTE: You will see a message on the screen to restart the server. However, do not immediately restart. Ensure that [crx-repository]/logs/error.log is stable and all bundles (except signatures) are in active mode before you restart the server.Click **Finish** to exit the Configuration Manager.*

# 5. Upgrade the CRX repository and migrate the content

You have the following options to upgrade and move content of CRX repository configured for a previous release of AEM Forms:

- If your AEM Forms environment is running repository of type CRX3 on TARMK, you can migrate content of your existing CRX3 repository to AEM 6.3 Forms, while keeping the persistence type intact. You cannot change the persistence type of CRX3 repository. Perform the steps mentioned in the following section to migrate the content of existing CRX3 repository:

*Migrate content CRX3 repository running on TarMK*

- If your AEM Forms environment is running repository of type CRX3 on a relational database or MongoDB, perform the steps mentioned in the following section to migrate the existing content:
- *Migrate content of CRX3 repository running on an RDBMK or MongoDB*

## 5.1. Migrate content CRX3 repository running on TarMK

Perform the following steps to upgrade your CRX repository to AEM Forms TarMK:

1) Download and unzip the CRX to OAK migration utility. The utility is available at https://repo.adobe.com/nexus/content/groups/public/com/adobe/granite/crx2oak/1.6.8/.

2) (Non-Windows environment only) If you are using UNIX or Linux as the underlying operating system, open the terminal window, navigate to the folder containing crx-repository, and run the following command:

   *chmod –R 755 ../crx-repository*

3) Open the command prompt and run the following commands:

   **NOTE:** When you copy these commands to the command window from the document, it can add a few unwanted characters and spaces. Copy these commands to a text editor, remove the unwanted characters and then run the commands:

   *If you are using Microsoft Windows, run the following commands:*

   a) `set SLING_HOME=<path of crx-repository>`

   **NOTE:** *Use the crx-repository path mentioned in the Configure CRX screen of configuration manager.*

   b) `java –Xmx4096m –XX:MaxPermSize=2048M –jar <path_of_crx2oak_file>\crx2oak.jar --disable-mmap --load-profile segment-no-ds`

   *If you are using a UNIX-based operating system, run the following commands:*

   a) `export SLING_HOME=<path of crx-repository>`

   **NOTE:** *Use the crx-repository path mentioned in the Configure CRX screen of configuration manager.*

b) 
```
java -Xmx4096m -XX:MaxPermSize=2048M -jar
<path_of_crx2oak_file>/crx2oak.jar --disable-mmap --load-profile
segment-no-ds
```

4) Start the application server and deploy the adobe-livecycle-cq-author.ear file located at [AEM_-forms root]\configurationManager\exportfolder to the application server.

   **NOTE:** Before continuing with the next steps, wait until the ServiceEvent REGISTERED and ServiceEvent UNREGISTERED messages stop appearing in the <crx-repository>/error.log file.

5) Copy the [AEM_installation_directory]\crx-repository\archived-versions\[time-stamp]\fonts\fonts directory to [AEM_installation_directory]\crx-repository.

6) Open CRXDE Lite, navigate to /libs/fd/signatures/install, delete the aemfd-signatures-bootdelegated-libs-pkg package, and click Save All.

7) Shut down the AEM server.

8) Copy the [AEM-Installation-Directory]\configurationManager\export\crx-quick-start\install\adobe-aemfd-[Operating System]-pkg.zip to any location outside [aem-forms-root].

9) Unzip the adobe-aemfd-[Operating System]-pkg.zip package copied in the previous step.

10) Copy the core-common-pkg-[version.zip] package from [extracted-adobe-aemfd-[Operating System]-pkg.zip package]\jcr_root\etc\pack-ages\day\cq60\fd\[adobe-aemds-common-pkg-<version>.zip]\jcr_root\etc\pack-ages\day\cq60\fd to [AEM-Installation-Directory]\crx-repository\install directory.

11) Copy the following packages from [AEM-Installation-Directory]\configurationManager\export\crx-quickstart\install to [AEM-Installation-Directory]\crx-repository\install directory.

   – adobe-lc-forms-lccontent-pkg.zip

   – adobe-lc-landingpage-pkg.zip

   – adobe-lc-processreporting-pkg.zip

   – adobe-lc-workspace-pkg.zip

   – adobe-rightsmanagement-indexer-pkg.zip

12) AEM Forms requires RSA and BouncyCastle libraries to be installed with AEM Forms add-on (adobe-aemfd-[Operating System]-pkg.zip) package. Perform the following steps to boot delegate these libraries:

   a) Open the sling.properties at [AEM installation]\crx-repository\conf\ for editing. If you use [AEM_installation_directory]\crx-repository\bin\start.bat to start AEM, then edit the sling.properties at [AEM_installation_directory]\crx-repository\

   b) Add the following properties to the sling.properties file:

   ```
   sling.bootdelegation.class.com.rsa.jsafe.provider.JsafeJCE=com.rsa.*
   sling.bootdelegation.class.org.bouncycastle.jce.provider.BouncyCastl
   eProvider=org.bouncycastle.*
   ```

   c) Save and close the file. Start the AEM server.

   **NOTE:** Before performing the next steps, wait until the ServiceEvent REGISTERED and ServiceEvent UNREGISTERED messages stop appearing in the <crx-repository>/error.log file and the log is stable.

13) Use package manager to install AEM Forms add-on package (adobe-aemfd-[Operating-System]-pkg.zip), available at [AEM-Installation-Directory]\configurationManager\export\crx-quickstart\install.

NOTE: After the package is installed, you are prompted to restart the AEM instance. **Do not immediately stop the server.** Before stopping the AEM Forms server, wait until the ServiceEvent REGISTERED and ServiceEvent UNREGISTERED messages stop appearing in the <crx-repository>/error.log file and the log is stable. Also note, the following three packages might remain in the installed state. You can safely ignore the state of these packages:

– *Adobe Correspondence Management Migration*

– *Adobe LiveCycle FormsManager Core*

– *Forms Common Service*

14) Stop the AEM instance and delete the following files:

– [AEM_Installation_Directory]\[crx-repository]\launchpad\ext\bcmail-jdk15-1.35

– [AEM_Installation_Directory]\[crx-repository]\launchpad\ext\bcprov-jdk15-1.35

15) Start the AEM server.

Contents of the CRX repository are migrated.

# 5.2. Migrate content of CRX3 repository running on an RDBMK or MongoDB

1) Except the .config or .cfg files, delete all other content of the [crx-repository]\install directory.

2) Navigate to the [crx-repostory]\launchpad folder and delete the following files and folders:

– \crx-repository\launchpad\startup

– \crx-repository\launchpad\org.apache.sling.launchpad.base*.jar

– \crx-repository\launchpad\sling.properties

– \crx-repository\launchpad\sling_bootstrap.txt

3) Navigate to the [AEM_forms root]\configurationManager\export folder and locate the adobe-livecycle-cq-author.ear file.

4) Deploy the adobe-livecycle-cq-author.ear file to the application server.

5) Copy the [AEM_installation_directory]\crx-repository\archived-versions\[time-stamp]\fonts\fonts directory to [AEM_installation_directory]\crx-repository.

6) Open CRXDE Lite, navigate to /libs/fd/signatures/install, delete the aemfd-signatures-bootdelegated-libs-pkg package, and click Save All.

7) Shut down the AEM server.

8) Copy the [AEM-Installation-Directory]\configurationManager\export\crx-quickstart\install\adobe-aemfd-[Operating System]-pkg.zip to any location outside [aem-forms-root].

9) Unzip the adobe-aemfd-[Operating System]-pkg.zip package copied in the previous step.

10) Copy the core-common-pkg-[version.zip] package from [extracted-adobe-aemfd-[Operating System]-pkg.zip-package]\jcr_root\etc\packages\day\cq60\fd\[adobe-aemds-common-pkg-<version>.zip]\jcr_root\etc\packages\day\cq60\fd to [AEM-Installation-Directory]\crx-repository\install directory.

11) Copy the following packages from [AEM-Installation-Directory]\configurationManager\export\crx-quickstart\install to [AEM-Installation-Directory]\crx-repository\install directory.

   – adobe-lc-forms-lccontent-pkg.zip

   – adobe-lc-landingpage-pkg.zip

   – adobe-lc-processreporting-pkg.zip

   – adobe-lc-workspace-pkg.zip

   – adobe-rightsmanagement-indexer-pkg.zip

12) AEM Forms requires RSA and BouncyCastle libraries to be installed with AEM Forms add-on package (adobe-aemfd-[Operating System]-pkg.zip). Perform the following steps to boot delegate these libraries:

   a) Open the sling.properties at [AEM installation]\crx-repository\conf\ for editing. If you use [AEM_installation_directory]\crx-repository\bin\start.bat to start AEM, then edit the sling.properties at [AEM_installation_directory]\crx-repository\

   b) Add the following properties to the sling.properties file:

   ```
   sling.bootdelegation.class.com.rsa.jsafe.provider.JsafeJCE=com.rsa.*
   sling.bootdelegation.class.org.bouncycastle.jce.provider.BouncyCastl
   eProvider=org.bouncycastle.*
   ```

   c) Save and close the file. Start the AEM server.

   **NOTE:** Before performing the next steps, wait until the ServiceEvent REGISTERED and ServiceEvent UNREGISTERED messages stop appearing in the <crx-repository>/error.log file and the log is stable.

13) Use package manager to install AEM Forms add-on package, (adobe-aemfd-[Operating-System]-pkg.zip), available at [AEM-Installation-Directory]\configurationManager\export\crx-quickstart\install.

   **NOTE:** After the package is installed, you are prompted to restart the AEM instance. **Do not immediately stop the server.** Before stopping the AEM Forms server, wait until the ServiceEvent REGISTERED and ServiceEvent UNREGISTERED messages stop appearing in the <crx-repository>/error.log file and the log is stable. Also note, the following three packages might remain in the installed state. You can safely ignore the state of these packages:

   – Adobe Correspondence Management Migration

   – Adobe LiveCycle FormsManager Core

   – Forms Common Service

14) Stop the AEM instance and delete the following files:

   – [AEM_Installation_Directory]\[crx-repository]\launchpad\ext\bcmail-jdk15-1.35

   – [AEM_Installation_Directory]\[crx-repository]\launchpad\ext\bcprov-jdk15-1.35

15) Start the AEM server.

# 6. Post-deployment tasks

## 6.1. General tasks

As part of upgrade preparation, we put the server in maintenance mode before starting the upgrade process. Hence, we must disable the maintenance mode of the upgraded AEM Forms server before performing any other post-deployment tasks.

### Check whether AEM Forms on JEE is running in maintenance mode

In a web browser, enter:

```
http://[hostname]:[port]/dsc/servlet/DSCStartupServlet?maintenanceMode=is
Paused&user=[administrator username]&password=[password]
```

The status is displayed in the browser window. A "true" status indicates that the server is running in maintenance mode and a "false" status indicates that the server is not in maintenance mode.

**NOTE:** It returns "true" only if you had put the previous version in maintenance mode before upgrade.

### Turn off maintenance mode

**NOTE:** Applicable only if you had put the previous version in maintenance mode before upgrade.

In a web browser, enter:

```
http://[hostname]:[port]/dsc/servlet/DSCStartupServlet?maintenanceMode=re
sume&user=[administrator username]&password=[password]
```

A "now running" message is displayed in the browser window.

### Configure the serialization agent

AEM Forms requires the `sun.util.calendar` package to be whitelisted. Perform the following steps to add the package to the whitelist:

1)  Open the Web Console in a browser window. The default URL is http://[server]:[port]/system/console/configMgr.
2)  Search and open Deserialization Firewall Configuration.
3)  In the whitelist field, add the `sun.util.calendar` package and click Save.

## Setting the correct date, time, and time zone

Setting the correct date, time, and time zone on all servers connected to your AEM Forms on JEE environment will ensure that time-dependent modules, such as Digital Signatures and Acrobat Reader DC extensions function correctly. For example, if a signature appears to have been created in the future, it will not validate.

Servers that require synchronization are database servers, LDAP servers, HTTP servers, and J2EE servers.

## Perform a system image backup

After AEM forms on JEE is installed and deployed into production areas and before the system is live, it is recommended to perform a system image backup of the servers on which AEM Forms on JEE is implemented. Also take backup of CRX repository.

AEM Forms on JEE database, GDS directory, content storage root directory (deprecated), and application servers must be included in the backup. This is a complete system backup that you can use to restore the contents of your computer if your hard drive or entire computer stops working. See the AEM Forms JEE Backup and Recovery topic in administration help .

## Configure URL and port number for client SDK

Perform the following section, only if you have installed CRX repository:

The default URL of AEM Forms client SDK (CSDK) is http://localhost:8080. Change the default URL to the current URL of your AEM Forms environment. The current URL is required to enable and configure authentication between AEM configuration manager and CRX-repository:

1)    Open the configuration manager URL, http://<server>:<port>/lc/system/console/configMgr, in a browser window.
2)    Search and open the Adobe LiveCycle Client SDK Configuration service for editing.
3)    In the Server URL field, specify current URL of your AEM Forms environment, and click Save.

## Boot delegate RSA and BouncyCastle libraries

Perform the following section, only if you have installed CRX repository:

AEM Forms requires RSA and BouncyCastle libraries to be installed with AEM Forms add-on package. Perform the following steps to boot delegate these libraries:

1)    Stop the AEM instance.
2)    Navigate to the [AEM installation directory]\crx-repository\launchpad\ folder and open the sling.properties file for editing.
3)    Add the following properties to the sling.properties file:
```
sling.bootdelegation.class.com.rsa.jsafe.provider.JsafeJCE=com.rsa.*slin
g.bootdelegation.class.org.bouncycastle.jce.provider.BouncyCastleProvide
r=org.bouncycastle.*
```
4)    Save and close the file. Restart the AEM instance.

**NOTE:** Before restarting the AEM Forms server, wait until the ServiceEvent REGISTERED and ServiceEvent UNREGISTERED messages stop appearing in the <crx-repository>/error.log file and the log is stable.

## Restart the application server

When you first deploy AEM Forms on JEE, the server is in a deployment mode in which most modules are in memory. As a result, the memory consumption is high and the server is not in typical production state. You must restart the application server to get the server back into a clean state.

**NOTE:** When you upgrade the AEM Forms on JEE Server, ensure that you delete the [Jboss_root]\standalone\tmp folder on single server installation or [Jboss_root]\domain\servers\<server name>\tmp folders on cluster-based installations before restarting the application server.

## Verify the deployment

You can verify the deployment by logging in to Administration Console. If you log in successfully, it means AEM Forms on JEE is running on the application server and the default user is created in the database. To verify the CRX repository deployment, access the CRX welcome page.

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 administration console

If you have upgraded, the username and password remain the same as they were on the previous installation.

1) Type the following URL in a web browser:

   `http://[hostname]:[port]/adminui`

   *For example:* `http://localhost:9080/adminui`

2) If you have upgraded to AEM Forms on JEE, enter the same administrator username and password as that of your previous installation. In case of a fresh installation, enter the default username and password.

3) After you log in, click **Services** to access the service administration pages or click **Settings** to access the pages on which you can administer settings for different modules.

### Change the default password of AEM forms on JEE Administrator

AEM Forms on JEE 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 AEM Forms on JEE administrator user password is set to "password" by default. You must change it in Administration console > Settings > User Management > Users and Groups.

1) Log into the Administration console using administrator/password credentials.

2) Go to **Settings > User Management > Users and Groups**.

3) Search for user **Administrator**.

4) Click the **Administrator** user.

5) In the Login Settings section, Click **Change Password**.

6) Specify a new password and click **Save**.

7) Re-login using the changed password to verify.

**Accessing OSGi Management Console**

OSGi console provides a way to manage OSGi bundles and services configurations. To, access the OSGi Management console:

1) Type the following URL in a web browser:

   *http://[hostname]:[port]/lc/system/console*

2) Enter the CRX Administrator username and password. The default username and password for logging in is admin and admin (same as CRX Administrator).

   **NOTE:** You cannot log into OSGi Management Console using the credentials of AEM Forms on JEE Administrator or AEM Super Administrator.

3) After you log in, you can access various components, services, bundles, and other configurations.

**View 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 find the problem. You can open the log files using any text editor.

The following log files are located in the *[appserver root]*/profiles/*[profilename]*/logs/*[server name]* directory:

- SystemErr.log
- SystemOut.log
- startServer.log

Following CRX log files are located at [*CRX_home*]/logs

- error.log
- audit.log
- access.log
- request.log
- update.log

**NOTE:** Each time AEM Forms on JEE starts, the following error appears in the log:

```
FacesConfigur E org.apache.myfaces.config.FacesConfigurator
configureRenderKits failed to configure class
com.adobe.framework.jsf.renderkit.SecureInputRenderer
java.lang.ClassCastException
```

This error occurs due to a different version of the IBM JSF engine expected by WebSphere. This is a known issue and this error can be safely ignored.

## Configure Author and Publish instance

Perform the following tasks to configure Author and Publish instance only if you have installed and configured the CRX repository:

**Configure the Author instance**

Author instance is embedded within the AEM Forms on JEE server. It implies that you do not need to make any configuration updates to the Author instance. The instance inherits all configuration settings from the AEM Forms on JEE instance.

**Configure the Publish instance**

You must run separate author and publish instances.You can configure the instances on different machines.

**NOTE:** The cluster topology is not recommended for the publish instance. Use a single publish instance or configure a farm of publish instances.

**NOTE:** By default, the publish instance is configured to run the mode similar to corresponding author instance. The mode can be TarMK, MongoMK, or RDBMK. Run the publish instance on TarMK mode.

*Configure the Publish Node*

1) Create a new appserver profile for the publish instance on the same or on a different machine.
2) On the author instance, navigate to the [*aem-forms root*]/configurationManager/export/ directory.
3) Copy the adobe-livecycle-cq-publish.ear file and deploy it to the appserver profile created in step 1.
4) Copy the content of the [*aem-forms root*]/configurationManager/export/crx-quickstart directory to the file server for the publish instance.
5) **(If author instance is configured to run RDBMK)** Delete the following files from the install directory copied to the publish instance:
   – org.apache.jackrabbit.oak.plugins.document.DocumentNodeStoreService.cfg
   – org.apache.sling.datasource.JNDIDataSourceFactory-oak.cfg
6) Start the publish server with `–Dcom.adobe.livecycle.crx.home=<location for crx-repository>` parameter, where `<location for crx-repository>` is the location where you copied the crx-repository directory for the publish instance. For example, if the content of the cq-quickstart directory are copied to the C:\CM-publish\crx-repository directory, then the <location for crx-repository> parameter will be Dcom.adobe.livecycle.crx.home=C:\CM-publish\crx-repository.

**NOTE:** If author and publish instances are on the same machine, ensure that you start the publish instance using a different port.

**IMPORTANT:** Ensure that the CRX repository path does not contain spaces.

**Communicating between the Author and Publish instances**

Enable two-way communication between Author and Publish instances:

*Define Publish instance URL*

1) Go to http://*<authorHost>*:*<authorPort>*/lc/etc/replication/agents.author/publish.html.

2) Click **Edit**. The Agent Settings dialog opens.

3) Click the **Transport** tab and specify the URL to the publish server in the URI field.

   *http://<publishHost>:<publishPort>/lc/bin/receive?sling:authRequestLogin=1*

   **NOTE:** If there are multiple publish instances managed by a Load Balancer, specify the URL to the load balancer in the URI field.

4) Click **OK**.

**NOTE:** For author clusters, these steps need to be performed on one author instance (preferably a master instance).

*Define publish instance URL for ActivationManagerImpl*

1) Go to http://*<authorHost>*:*<authorPort>*/lc/system/console/configMgr. The default username and password for logging in are admin and admin (same as CRX Administrator).

2) Find and click the Edit icon next to the
   `com.adobe.livecycle.content.activate.impl.ActivationManagerImpl.name`
   setting.

3) In the ActivationManager Publish URL field, specify the URL for the corresponding publish instance.

4) Click **Save**.

*Configure reverse replication queue*

1) Go to http://*<authorHost>*:*<authorPort>*/lc/etc/replication/agents.author/publish_reverse.html.

2) Click **Edit**. The Agent Settings dialog opens.

3) Click the **Transport** tab and specify the URL to the corresponding publish server in the URI field.

   **NOTE:** If there are multiple publish instances managed by a Load Balancer, specify the URL to the load balancer in the URI field.

4) Click **OK**.

*Define author instance URL*

1) Go to http://*<publishHost>*:*<publishPort>*/lc/system/console/configMgr. The default username and password for logging in are admin and admin (same as CRX Administrator).

2) Find and click the Edit icon next to the
   `com.adobe.livecycle.content.activate.impl.VersionRestoreManagerImpl.name` setting.

3) In the VersionRestoreManager Author URL field, specify the URL for the corresponding author instance.

   **NOTE:** If there are multiple author instances managed by a Load Balancer, specify the URL to the load balancer in the VersionRestoreManager Author URL field.

4) Click **Save**.

**Configure IPv6 implementation**

**NOTE:** Perform these steps only if the machine/server is using an IPv6 address.

To map the IPv6 address to a hostname on the server and client machines:

1) Navigate to the C:\Windows\System32\drivers\etc directory.

2) Open the `hosts` file in a text editor.

3) Add a mapping for the IPv6 address to a host name. For example:

   `2001:1890:110b:712b:d1d:9c99:37ef:7281 <ipv6_hostname>`

4) Save and close the file.

Ensure that you use the mapped host name instead of the IPv6 address to access the machine.

**Install Japanese fonts for Adobe Reader**

If your document fragments use Japanese fonts, you must install the Japanese Language Support Package for Adobe Reader. Otherwise, your letters and forms will not render and function properly. For installing language packs, visit the downloads page for Adobe Reader.

## Accessing module web applications

After AEM forms on JEE is deployed, you can access the web applications that are associated with the following modules:

- Acrobat Reader DC extensions
- Workspace
- HTML Workspace
- User management
- Correspondence management
- PDF Generator web application
- PDF Generator
- Document Security

After accessing the web applications by using the default administrator permissions to ensure that they are accessible, you can create additional users and roles so that others can log in and use the applications. See administration help.

**Access the Acrobat Reader DC extensions web application**

**NOTE:** You must apply a Acrobat Reader DC extensions credential and apply the user roles for a new user. See "Configuring credentials for use with Acrobat Reader DC extensions" in administration help.

1) Open a web browser and enter this URL:

   `http://[hostname]:[port]/ReaderExtensions`

2) Log in using the username and password for AEM Forms on JEE.

**NOTE:** You must have administrator or superuser privileges to log in. To allow other users to access the Reader Extensions web application, you must create the users in User Management and grant them the Acrobat Reader DC extensions Web Application role.

**Enable redirection for forms manager and forms portal URLs used in LiveCycle**

After upgrading to AEM Forms from LiveCycle, the forms manger and forms portal URLs available in Live-Cycle stop working. Perform the following steps to install additional packages and enable redirection:

1)   Open the Package Manager. The default URL is http:[server]:[port}/lc/crx/packmgr.

2)   Click Add Package, navigate to the [*aem-forms_root*]/deploy/crx folder.

3)   Select and upload the following packages:
      –     adobe-lc-formsmanager-upgrade-pkg.zip
      –     adobe-aemds-formsportal-upgrade-pkg.zip

4)   Click Install on each package.

**Access Workspace**

1)   Open a web browser and enter this URL:
      *http://[hostname]:[port]/workspace*

2)   Log in using the username and password for AEM Forms on JEE.

**Access HTML Workspace**

1)   Open a web browser and enter this URL:
      *http://[hostname]:[port]/lc/ws*

2)   Log in using the username and password for AEM Forms on JEE.

**Access forms manager**

1)   Open a web browser and enter this URL:
      *http://[hostname]:[port]/lc/fm*

2)   Log in using the username and password for AEM Forms on JEE.

**Access PDF Generator Web Application**

1)   Open a web browser and enter this URL:
      *http://[hostname]:[port]/pdfgui*

2)   Log in using the username and password for AEM Forms on JEE.

**Access Document Security**

You must create a user with the Document Security End User role in User Management and log in to the Document Security administrator or end-user applications by using the login information associated with that user.

**NOTE:** The default administrator user cannot access the Document Security end-user web application but you can add the appropriate role to its profile. You can create a new user or modify an existing user through administration console.

*Access the Document Security end-user web application*

1)    Open a web browser and enter this URL:

```
http://[hostname]:[port]/edc
```

*Access the Document Security administration web application*

1)    Open a web browser and enter this URL:

```
http://[hostname]:[port]/adminui
```

2)    Click **Services** > **document security**.

      *For information about setting up users and roles, see Administration Help.*

*Assign the Document Security End User role*

1)    Log in to administration console. (See Accessingadministrationconsole.)

2)    Click **Settings** > **User Management** > **Users and Groups**.

3)    In the **Find** box, type `all` and, in the **In** list, select **Groups**.

4)    Click **Find** and, for the required domains, click **All Principals** in the list that appears.

5)    Click the **Role Assignments** tab and click **Find Roles**.

6)    In the list of roles, select the check box next to **Rights Management End User**.

7)    Click **OK** and then click **Save**.

**Accessing User Management**

By using User Management, administrators can maintain a database of all users and groups, synchronized with one or more third-party user directories. User Management provides authentication, authorization, and user management for AEM Forms on JEE modules, including Acrobat Reader DC extensions, Workspace, Document Security, forms workflow, Forms Standard, and PDF Generator.

1)    Log in to the administration console.

2)    On the home page, click **Settings** > **User Management**.

      **NOTE:** For information about configuring users with User Management, click **User Management Help** in the upper-right corner of the User Management page.

## Upgrading to Workbench

Once you have completed your AEM Forms on JEE server upgrade and verified that it is working properly, install the new version of Workbench in order to continue creating and modifying your AEM Forms on JEE applications.

## Configure CSIv2 inbound transport

On the default Global Security enabled installation of IBM WebSphere, CSIv2 inbound transport option is set to SSL-required. This configuration causes Output and Forms components to fail. Ensure that you change CSIv2 inbound transport option to SSL-Supported: To change the option:

1) Log in to IBM WebSphere administration console.

2) Expand **Security**, and then click **Global security**.

3) In the Authentication section, expand **RMI/IIOP security**, and then click **CSIv2 inbound communications**

4) In CSIv2 Transport Layer section, set value of **Transport** to **SSL-Supported**.

5) Click **Apply**.

## Enabling JMS for JBoss

JMS services are disabled, by default. Perform the following steps to enable JMS services:

1) Copy the following tags from standalone_full.xml to the lc_turnkey.xml.

   ```
   <extension module="org.jboss.as.messaging">....</extension>
   <subsystem xmlns="urn:jboss:domain:messaging:1.4">  </subsystem>
   ```

2) Run the add-user.bat script to create an application user. Add the application user to the Guest group.

   **NOTE:** The JMS DSC component requires a connection username and password. Ensure that the newly added application user has permissions to use JMS Queue/Topic for Send/Receive operation.

   **NOTE:** By default, the lc_turnkey.xml file the `security-setting match="#">.....` `</security-settings>` snippet has a guest role with ready JMS Send/Receive privileges. You must create an application user.

3) Change the JMS DSC configuration to include the newly created application user.

4) In the JMS Service configuration, change the org.jnp.interfaces.NamingContextFactory to org.jboss.as.naming.InitialContextFactory.

## Migrate adaptive forms and Correspondence Management assets

The migration utility makes assets of earlier versions compatible with AEM 6.3 forms. You can download the utility from AEM package share. For detailed steps, see https://helpx.adobe.com/aem-forms/6-3/migration-utility.html.

### Remove Adobe Correspondence Management Utilities Bundle

AEM Forms shipped Correspondence Management Utilities Bundle with previous releases of AEM Forms. The bundle is not required on AEM 6.3 Forms setup. Perform the following steps to uninstall the bundle:

1) Open the http://[server]:[port]/lc/system/console/bundles URL in a browser window.

2) Search and open the Adobe Correspondence Management Utilities Bundle.

3) Click the uninstall icon to remove the bundle.

**Reconfigure Adobe Sign**

f you had Adobe Sign configured in the previous version of AEM Forms, then reconfigure Adobe Sign from AEM Cloud services. For more details, see https://helpx.adobe.com/content/help/en/aem-forms/6-3/adobe-sign-integration-adaptive-forms.html.

**Reconfigure analytics and reports**

In AEM 6.3 Forms, traffic variable for source and success event for impression are not available. So, when you upgrade to AEM 6.3 Forms, AEM Forms stops sending data to Adobe Analytics server and analytics reports for adaptive forms and adaptive document are not available. Moreover, AEM 6.3 Forms introduces traffic variable for the version of form analytics and success event for the amount of time spent on a field. So, reconfigure analytics and reports for your AEM Forms environment. For detailed steps, see https://helpx.adobe.com/content/help/en/aem-forms/6-3/configure-analytics-forms-documents.html.

Methods to calculate average fill time for forms and average read time for adaptive documents have changed. So, when you upgrade to AEM 6.3 forms, the old data from previous AEM Forms release for these metrics is available only in Adobe Analytics. It is not visible in AEM Forms analytics reports. For these metrics, AEM Forms analytics reports display data which is captured after performing the upgrade.

### Configure the ContentRepositoryConnector service

By default, the ContentRepositoryConnector service is configured to use URL http://localhost:8080/lc/crx/server/. Perform the following steps to configure the service for your environment:

1) Log in to AEM Forms Admin UI using credentials administrator/password. The default URL of Admin UI is http://[IP]:[Port]/adminui.
2) Navigate to Services > Application and Services > Service Management.
3) Search and open the ContentRepositoryConnector service for editing.
4) Open the Configuration tab and replace the default URL in the Experience Management Server field with the URL of your environment.

**IP**

    IP address of the machine on which application server is running.

**Port**

    Port number which AEM Forms is using. The default port number for JBoss, WebLogic, and WebSphere 8080, 8001, and 9080, respectively.

# 6.2. Accessing module web applications

After AEM forms on JEE is deployed, you can access the web applications that are associated with the following modules:
- Acrobat Reader DC extensions

- Workspace
- HTML Workspace
- User management
- Correspondence management
- PDF Generator web application
- PDF Generator
- Document Security

After accessing the web applications by using the default administrator permissions to ensure that they are accessible, you can create additional users and roles so that others can log in and use the applications. See administration help.

## Access the Acrobat Reader DC extensions web application

**NOTE:** You must apply a Acrobat Reader DC extensions credential and apply the user roles for a new user. See "Configuring credentials for use with Acrobat Reader DC extensions" in administration help.

1) Open a web browser and enter this URL:

   *http://[hostname]:[port]/ReaderExtensions*

2) Log in using the username and password for AEM Forms on JEE.

   **NOTE:** You must have administrator or superuser privileges to log in. To allow other users to access the Reader Extensions web application, you must create the users in User Management and grant them the Acrobat Reader DC extensions Web Application role.

## Enable redirection for forms manager and forms portal URLs used in LiveCycle

After upgrading to AEM Forms from LiveCycle, the forms manger and forms portal URLs available in Live-Cycle stop working. Perform the following steps to install additional packages and enable redirection:

1) Open the Package Manager. The default URL is http:[server]:[port}/lc/crx/packmgr.

2) Click Add Package, navigate to the [*aem-forms_root*]/deploy/crx folder.

3) Select and upload the following packages:
   – adobe-lc-formsmanager-upgrade-pkg.zip
   – adobe-aemds-formsportal-upgrade-pkg.zip

4) Click Install on each package.

## Access Workspace

1) Open a web browser and enter this URL:

   *http://[hostname]:[port]/workspace*

2) Log in using the username and password for AEM Forms on JEE.

## Access HTML Workspace

1) Open a web browser and enter this URL:

   *http://[hostname]:[port]/lc/ws*

2) Log in using the username and password for AEM Forms on JEE.

## Access forms manager

1) Open a web browser and enter this URL:

   *http://[hostname]:[port]/lc/fm*

2) Log in using the username and password for AEM Forms on JEE.

## Access PDF Generator Web Application

1) Open a web browser and enter this URL:

   *http://[hostname]:[port]/pdfgui*

2) Log in using the username and password for AEM Forms on JEE.

## Access Document Security

You must create a user with the Document Security End User role in User Management and log in to the Document Security administrator or end-user applications by using the login information associated with that user.

**NOTE:** The default administrator user cannot access the Document Security end-user web application but you can add the appropriate role to its profile. You can create a new user or modify an existing user through administration console.

### Access the Document Security end-user web application

1) Open a web browser and enter this URL:

   http://[*hostname*]:[*port*]/edc

### Access the Document Security administration web application

1) Open a web browser and enter this URL:

   http://[*hostname*]:[*port*]/adminui

2) Click **Services** > **document security**.

   *For information about setting up users and roles, see Administration Help.*

### Assign the Document Security End User role

1) Log in to administration console. (See Accessingadministrationconsole.)

2) Click **Settings** > **User Management** > **Users and Groups**.

3) In the **Find** box, type `all` and, in the **In** list, select **Groups**.

4) Click **Find** and, for the required domains, click **All Principals** in the list that appears.

5) Click the **Role Assignments** tab and click **Find Roles**.

6) In the list of roles, select the check box next to **Rights Management End User**.

7) Click **OK** and then click **Save**.

## Accessing User Management

By using User Management, administrators can maintain a database of all users and groups, synchronized with one or more third-party user directories. User Management provides authentication, authorization, and user management for AEM Forms on JEE modules, including Acrobat Reader DC extensions, Workspace, Document Security, forms workflow, Forms Standard, and PDF Generator.

1) Log in to the administration console.

2) On the home page, click **Settings** > **User Management**.

   **NOTE:** For information about configuring users with User Management, click **User Management Help** in the upper-right corner of the User Management page.

# 6.3. Configure Author and Publish instance

Perform the following tasks to configure Author and Publish instance only if you have installed and configured the CRX repository:

## Configure the Author instance

Author instance is embedded within the AEM Forms on JEE server. It implies that you do not need to make any configuration updates to the Author instance. The instance inherits all configuration settings from the AEM Forms on JEE instance.

## Configure the Publish instance

You must run separate author and publish instances.You can configure the instances on different machines.

**NOTE:** The cluster topology is not recommended for the publish instance. Use a single publish instance or configure a farm of publish instances.

**NOTE:** By default, the publish instance is configured to run the mode similar to corresponding author instance. The mode can be TarMK, MongoMK, or RDBMK. Run the publish instance on TarMK mode.

**Configure the Publish Node**

1) Create a new appserver profile for the publish instance on the same or on a different machine.

2) On the author instance, navigate to the [*aem-forms root*]/configurationManager/export/ directory.

3) Copy the adobe-livecycle-cq-publish.ear file and deploy it to the appserver profile created in step 1.

4) Copy the content of the [*aem-forms root*]/configurationManager/export/crx-quickstart directory to the file server for the publish instance.

5) **(If author instance is configured to run RDBMK)** Delete the following files from the install directory copied to the publish instance:

– org.apache.jackrabbit.oak.plugins.document.DocumentNodeStoreService.cfg

– org.apache.sling.datasource.JNDIDataSourceFactory-oak.cfg

6) Start the publish server with `-Dcom.adobe.livecycle.crx.home=<`*location for crx-repository*`>` parameter, where `<`*location for crx-repository*`>` is the location where you copied the crx-repository directory for the publish instance. For example, if the content of the cq-quickstart directory are copied to the C:\CM-publish\crx-repository directory, then the <location for crx-repository> parameter will be Dcom.adobe.live-cycle.crx.home=C:\CM-publish\crx-repository.

**NOTE:** If author and publish instances are on the same machine, ensure that you start the publish instance using a different port.

**IMPORTANT:** Ensure that the CRX repository path does not contain spaces.

## Communicating between the Author and Publish instances

Enable two-way communication between Author and Publish instances:

**Define Publish instance URL**

1) Go to http://<*authorHost*>:<*authorPort*>/lc/etc/replication/agents.author/publish.html.

2) Click **Edit**. The Agent Settings dialog opens.

3) Click the **Transport** tab and specify the URL to the publish server in the URI field.

*http://<publishHost>:<publishPort>/lc/bin/receive?sling:authRequestLogin=1*

**NOTE:** If there are multiple publish instances managed by a Load Balancer, specify the URL to the load balancer in the URI field.

4) Click **OK**.

**NOTE:** For author clusters, these steps need to be performed on one author instance (preferably a master instance).

**Define publish instance URL for ActivationManagerImpl**

1) Go to http://<*authorHost*>:<*authorPort*>/lc/system/console/configMgr. The default username and password for logging in are admin and admin (same as CRX Administrator).

2) Find and click the Edit icon next to the `com.adobe.livecycle.content.activate.impl.ActivationManagerImpl.name` setting.

3) In the ActivationManager Publish URL field, specify the URL for the corresponding publish instance.

4) Click **Save**.

**Configure reverse replication queue**

1) Go to http://*<authorHost>*:*<authorPort>*/lc/etc/replication/agents.author/publish_reverse.html.

2) Click **Edit**. The Agent Settings dialog opens.

3) Click the **Transport** tab and specify the URL to the corresponding publish server in the URI field.

   **NOTE:** If there are multiple publish instances managed by a Load Balancer, specify the URL to the load balancer in the URI field.

4) Click **OK**.

**Define author instance URL**

1) Go to http://*<publishHost>*:*<publishPort>*/lc/system/console/configMgr. The default username and password for logging in are admin and admin (same as CRX Administrator).

2) Find and click the Edit icon next to the `com.adobe.livecycle.content.activate.impl.VersionRestoreManagerImpl.name` setting.

3) In the VersionRestoreManager Author URL field, specify the URL for the corresponding author instance.

   **NOTE:** If there are multiple author instances managed by a Load Balancer, specify the URL to the load balancer in the VersionRestoreManager Author URL field.

4) Click **Save**.

## Configure IPv6 implementation

**NOTE:** Perform these steps only if the machine/server is using an IPv6 address.

To map the IPv6 address to a hostname on the server and client machines:

1) Navigate to the C:\Windows\System32\drivers\etc directory.

2) Open the `hosts` file in a text editor.

3) Add a mapping for the IPv6 address to a host name. For example:

   `2001:1890:110b:712b:d1d:9c99:37ef:7281 <ipv6_hostname>`

4) Save and close the file.

Ensure that you use the mapped host name instead of the IPv6 address to access the machine.

## Install Japanese fonts for Adobe Reader

If your document fragments use Japanese fonts, you must install the Japanese Language Support Package for Adobe Reader. Otherwise, your letters and forms will not render and function properly. For installing language packs, visit the downloads page for Adobe Reader.

# 6.4. Configuring PDF Generator

If you installed PDF Generator, complete the following tasks:

## Environment variables

If you configured PDF Generator to convert files to PDF, for some file formats, you must manually set environment variables that contain the absolute path of the executable that is used to start the corresponding application. The table below lists the environment variables for the native applications.

**NOTE:** Ensure that the required applications are installed on all nodes in the cluster.

**NOTE:** All environment variables and respective paths are case-sensitive.

| Application | Environment variable | Example |
|---|---|---|
| Adobe Acrobat | `Acrobat_PATH` | `C:\Program Files (x86)\Adobe\Acrobat 2015\Acrobat\Acrobat.exe` |
| Notepad | `Notepad_PATH` | `C:\WINDOWS\notepad.exe`<br>You can leave the `Notepad_PATH` variable blank. |
| OpenOffice | `OpenOffice_PATH` | `C:\Program Files (x86)\OpenOffice 4` |

**NOTE:** These environment variables must be set for all nodes in the cluster.

**NOTE:** The environment variable `OpenOffice_PATH` is set to the installation folder instead of the path to the executable.

## Configuring the application server to use HTTP proxy server

If the computer that AEM Forms on JEE is running on uses proxy settings to access external web sites, the application server should be started with the following values set as Java virtual machine (JVM) arguments:

```
-Dhttp.proxyHost=[server host]
-Dhttp.proxyPort=[server port]
```

Complete the following procedure to start your application server with HTTP proxy host setting.

1) In the WebSphere Administrative Console navigation tree, log in to WebSphere Administrative Console, click Servers > Server Types > WebSphere application servers, and then click the name of the server instance to configure (for example, server1).

2) Under Server Infrastructure, click **Java and Process Management** > **Process Definition.**

3) Under Additional Properties, click **Java Virtual Machine** > **Custom Properties**.

4) Click **New** and, in the **Name** box, type `http.proxyHost`.

5) In the **Value** box, type the host name or IP address of your HTTP proxy server and then click **OK**.

6) Click **New** and, in the **Name** box, type `http.proxyPort`.

7) In the **Value** box, type the port number of your HTTP proxy server and then click **OK**.

8) In the **Messages** box, click **Save directly to master configuration**.

9) Restart all WebSphere server instances.

## Setting the Adobe PDF Printer as the default printer

You must set the Adobe PDF Printer to be the default printer on the server. If the Adobe PDF Printer is not set as the default, PDF Generator cannot convert files successfully.

For clusters, you must set Adobe PDF Printer as the default printer on all nodes.

**Set the default printer**

1) Select **Start** > **Printers and Faxes**.

2) In the Printers and Faxes window, right-click **Adobe PDF** and select **Set as Default Printer**.

## Configuring Acrobat Professional (Windows-based Computers Only)

**NOTE:** This procedure is required only if you upgraded to or installed Acrobat after you completed the AEM Forms on JEE installation. Upgrading Acrobat can be completed after you run Configuration Manager and deploy AEM Forms on JEE to the application server. Acrobat Professional root directory is designated as *[Acrobat root]*. Typically, the root directory is *C:\Program Files (x86)\Adobe\Acrobat 2015\Acrobat\*.

**Configure Acrobat for use with PDF Generator**

1) If an earlier version of Acrobat is installed, uninstall it by using Add or Remove Programs in the Windows Control Panel.

2) Install Acrobat DC Pro by running the installer.

3) Navigate to the additional\scripts folder on the AEM Forms on JEE installation media.

4) Run the following batch file.

   ```
   Acrobat_for_PDFG_Configuration.bat [aem_forms root]/pdfg_config
   ```

5) On other cluster nodes on which you do not run AEM Forms on JEE Configuration Manager, do the following:

   – Add a new registry DWORD entry named SplWOW64TimeOut at HKEY_LOCAL_MA-CHINE\SYSTEM\CurrentControlSet\Control\Print. Set its value to 60000.

   – Copy `PDFGen.api` from the [*aem-forms root*]/plugins/x86_win32 directory on the node where AEM Forms on JEE is installed to the [*Acrobat root*]/plug_ins directory on the node being currently configured.

6) Open Acrobat and select **Help** > **Check for updates** > **Preferences**.

7) De-select **Automatically check for Adobe updates**.

**Validate the Acrobat installation**

1) Navigate to a PDF file on your system and double-click it to open it in Acrobat. If the PDF file opens successfully, Acrobat is installed correctly.

2) If the PDF file does not open correctly, uninstall Acrobat and reinstall it.

**NOTE:** Ensure that you dismiss all Acrobat dialog boxes that are displayed after Acrobat installation is complete and disable the automatic updates for Acrobat. Set the `Acrobat_PATH` environment variable to point to Acrobat.exe. For example, C:\Program Files (x86)\Adobe\Acrobat 2015\Acrobat\Acrobat.exe.

**Add temporary directories to trusted directories list in Acrobat**

The `OptimizePDF` service uses Adobe Acrobat and mandates that AEM Forms on JEE temporary directory and PDF Generator temporary directory are listed in the trusted directories list of Acrobat.

If AEM Forms on JEE temporary directory and PDF Generator temporary directory are not listed in the trusted directories list, the `OptimizePDF` service fails to run. Perform the following steps to add directories to the temporary directory list:

1) Open Acrobat, Choose Edit > Preferences.

2) From the Categories on the left, select Security (Enhanced), and then select the Enable Enhanced Security option.

3) To add AEM Forms on JEE temporary directory and PDF Generator temporary directory to the trusted directories list, click **Add Folder Path**, select directories, and click **OK.**

## Installing East Asian characters in Windows Server 2003

When HTML files are converted to PDF using PDF Generator, some East Asian languages, such as Japanese, Korean, and Chinese, and also right-to-left languages, such as Arabic, Armenian, Georgian, Hebrew, Indic, Thai, and Vietnamese, may not be displayed in the PDF file.

To ensure that these languages are displayed in Windows Server 2003, appropriate fonts must be present on the client and server.

**Install East Asian characters in Windows Server 2003**

1) Select **Start** > **Control Panel** and open **Regional and Language Options**.

2) Click the **Languages** tab and select **Install Files for East Asian Languages**.

3) Click the **Advanced** tab and select all options under Code Page Conversion Tables.

If converted PDF files are still missing fonts, verify that the Arial Unicode MS (TrueType) font (ARIALUNI.TTF) is present in the C:\WINDOWS\Fonts directory.

## Adding fonts to PDF Generator

AEM Forms on JEE provides a central repository of fonts, which is accessible to all AEM Forms on JEE modules. Make any extra fonts available to non-AEM Forms on JEE applications on the server so that PDF Generator can use these fonts to create PDF documents created with these applications.

*NOTE: Restart the application server after adding new fonts to the specified fonts folder.*

**Non-AEM Forms on JEE applications**

The following list contains non-AEM Forms on JEE applications that PDF Generator can use for PDF generation on the server side:

*Windows-only Applications*

- Microsoft Office Word
- Microsoft Office Excel
- Microsoft Office PowerPoint
- Microsoft Office Project
- Microsoft Office Publisher
- Adobe FrameMaker
- Adobe PageMaker
- Adobe Acrobat Professional

*Multi-platform applications*

- OpenOffice Writer
- OpenOffice Calc
- OpenOffice Draw
- OpenOffice Impress

**NOTE:** In addition to these applications, your list may include additional applications that you added.

Of the above applications, the OpenOffice Suite (which includes Writer, Calc, Draw, and Impress) is available on Windows, Solaris, and Linux platforms, whereas other applications are available on Windows only.

**Adding new fonts to Windows applications only**

All Windows-only applications that are mentioned above can access all the fonts available in the C:\Windows\Fonts (or equivalent) folder. In addition to C:\Windows\Fonts, each of these applications may have its own private fonts folders.

Therefore, if you plan to add any custom fonts to the AEM Forms on JEE fonts repository, ensure that the same fonts are available to the Windows-only applications also by copying these fonts to either C:\Windows\Fonts or to an equivalent folder.

Your custom fonts must be licensed under an agreement that allows you to use them with the applications that have access to these fonts.

**Adding new fonts to other applications**

If you added support for PDF creation in other applications, see the Help for these applications to add new fonts. In Windows, copying your custom fonts to the C:\Windows\Fonts (or equivalent) folder should be sufficient.

**Adding new fonts to OpenOffice Suite**

Adding custom fonts to OpenOffice Suite is explained on the OpenOffice *Fonts-FAQ* page at http://wiki.services.openoffice.org.

## Configuring HTML to PDF conversions

The HTML-to-PDF conversion process is designed to use the settings from Acrobat DC Pro that override the settings from PDF Generator.

**NOTE:** This configuration is required to enable the HTML-to-PDF conversion process, otherwise this conversion type will fail.

**Configure the HTML-to-PDF conversion**

1) Install and validate Acrobat as described in ConfiguringAcrobatProfessional.
2) Locate the pdfgen.api file in the *[aem-forms root]*\plugins\x86_win32 directory and copy it to *[Acrobat root]*\Acrobat\plug_ins directory.

**Enable support for Unicode fonts in HTML to PDF conversions**

**IMPORTANT:** The HTML-to-PDF conversion fails if the zipped input file contains HTML files with double-byte characters in filenames. To avoid this problem, do not use double-byte characters when naming HTML files.

1) Copy the Unicode font to any of the following directories as appropriate for your system:
   – Windows
   
   *[Windows root]\Windows\fonts*
   *[Windows root]\WINNT\fonts*
   – UNIX
   
   */usr/lib/X11/fonts/TrueType*
   */usr/openwin/lib/X11/fonts/TrueType*
   */usr/share/fonts/default/TrueType*
   */usr/X11R6/lib/X11/fonts/ttf*
   */usr/X11R6/lib/X11/fonts/truetype*
   */usr/X11R6/lib/X11/fonts/TrueType*
   */usr/X11R6/lib/X11/fonts/TTF*
   */Users/cfqauser/Library/Fonts*
   */System/Library/Fonts*
   */Library/Fonts*

*/Users/ + System.getProperty(<username>, root) + /Library/Fonts*

*System.getProperty(JAVA_HOME) + /lib/fonts*

*/usr/share/fonts (Solaris)*

**NOTE:** Ensure that the directory /usr/lib/X11/fonts exists. If it does not exist, create a symbolic link from /usr/share/X11/fonts to /usr/lib/X11/fonts using the `ln` command.

**NOTE:** Ensure that the fonts are present in either /usr/share/fonts or /usr/share/X11/fonts directory.

2)   Unzip the IBM type1 courier font to the /usr/share/X11/fonts/font-ibm-type1-1.0.3 folder.

3)   Create a symbolic link from /usr/share/fonts to /usr/share/X11/fonts.

4)   Modify the font-name mapping in the cffont.properties file located in the *[aem-forms root]*/deploy/adobe-generatepdf-dsc.jar file:

  –   Extract the archive file, and locate the cffont.properties file and open it in an editor.

  –   In the comma-separated list of Java font names, add a map to your Unicode system font for each font type. In the example below, kochi mincho is the name of your Unicode system font.

       *dialog=Arial, Helvetica, kochi mincho*

       *dialog.bold=Arial Bold, Helvetica-Bold, kochi mincho ...*

  –   Save and close the properties file, and then repackage and redeploy the `adobe-generatepdf-dsc.jar` file.

**NOTE:** On a Japanese operating system, specify the font mapping in the cffont.properties.ja file as well, which takes precedence over the standard cffont.properties file.

**TIP:** Fonts in the list are searched from left to right, using the first font found. HTML-to-PDF conversion logs return a list of all the font names that are found in the system. To determine the font name you need to map, add the font to one of the directories above, restart the server, and run a conversion. You can determine from the log files the font name to use for mapping.

*To embed the font in the generated PDF files, set the `embedFonts` property in the cffont.properties file to `true` (the default is `false`).*

## Installing the Network Printer Client

PDF Generator includes an executable file to install the PDF Generator network printer on a client computer. After the installation is complete, a PDF Generator printer is added to the list of existing printers on the client computer. This printer can then be used to send documents for conversion to PDF.

**NOTE:** The Network Printer Client installation wizard available in the administration console is supported only on Windows operating system. Ensure that you use a 32-bit JVM to launch the Network Printer Client installation wizard. You will encounter an error if you use a 64-bit JVM.

If the PDFG Network Printer fails to install on Windows or if you want to install the printer on UNIX or Linux platforms, use the operating system's native Add Printer utility and configure it as described in ConfigurePDFGNetworkPrinteronWindowsusingthenativeAddPrinterwizard

**Install the PDF Generator Network Printer Client**

**NOTE:** Before installing the PDF Generator network printer client on Windows Server 2012, ensure that you have the Internet Printing Client feature installed on your Windows Server 2012. For installing the feature, see Windows Server 2012 Help.

1) Ensure that you have successfully installed PDF Generator on your server.

2) Do one of the following:

   – From a Windows client computer, open the following URL in your web browser, where *[host]* is the name of the server where you installed PDF Generator and *[port]* is the application server port used.

     ```
     http://[host]:[port]/pdfg-ipp/install
     ```

   – In administration console, click **Home > Services > PDF Generator > PDFG Network Printer**. In the **PDFG Network Printer Installation** section, click **Click here** to launch the PDFG Network Printer Installation.

3) On the Configure Internet Port screen, select **Use the specified user account** option, and provide the credentials of a AEM Forms on JEE user who has the PDFG Administrator/User role. This user must also have an email address that can be used to receive the converted files. To have this security setting apply to all users on the client computer, select**Use the same security options for all users**, and then click **OK**.

   *NOTE: If the user's password changes, then users will need to reinstall the PDFG Network Printer on their computers. You cannot update the password from administration console.*

   *Upon successful installation, a dialog box appears, indicating that the printer is successfully installed.*

4) Click **OK**. You will now have a PDF Generator printer available in your list of printers.

**Configure PDFG Network Printer on Windows using the native Add Printer wizard**

1) Click **Start** >**Printers and Faxes** and double-click **Add Printer**.

2) Click **Next**, select **A network printer, or a printer attached to another computer**, and then click **Next**.

3) Select **Connect to a printer on the Internet or on a home or office network** and type the following URL for the PDFG printer, where *[host]* is the server name and *[port]* is the port number where the server is running:

   ```
   http://[host]:[port]/pdfg-ipp/printer
   ```

4) On the Configure Internet Port screen, select **Use the specified user account** and provide valid User credentials.

5) In the **Printer Driver Select** box, choose any standard PostScript-based printer driver (for example, HP Color LaserJet PS).

6) Complete the installation by choosing appropriate options (for example, setting this printer as default).

   **NOTE:** The user credentials used while adding the printer must have a valid email ID configured in User Management to receive the response.

7) Configure the email service's sendmail service. Provide a valid SMTP server and authentication information in the service's configuration options.

**Install and configure the PDF Generator Network Printer Client using Proxy server port forwarding**

1) Configure port forwarding on the CC Proxy server on a particular port to the AEM forms on JEE Server, and disable the authentication at proxy server level (because AEM Forms on JEE uses its own authentication). If a client connects to this Proxy server on the forwarded port, then all the requests will be forwarded to the AEM Forms on JEE Server.

2) Install PDFG Network Printer using the following URL:

   `http://[proxy server]:[forwarded port]/pdfg-ipp/install.`

3) Provide the necessary credentials for authentication of the PDFG Network Printer.

4) The PDFG Network Printer will be installed on the client machine which you can use for PDF conversion using the firewall protected AEM Forms on JEE Server.


## Changing File Block Settings

Change Microsoft Office trust center settings to enable PDFG to convert older versions of Microsoft office documents.

1) Click the **File tab** in any Office 2013 application. Under **File**, click **Options**; the Options dialog box appears

2) Click **Trust Center**, and then click **Trust Center Settings**.

3) In the **Trust Center settings**, click **File Block Settings**.

4) In the File Type list, uncheck open for the file type that you want PDF Generator to convert.


## Watched folder performance parameters

To avoid `java.io.IOException` error messages indicating that not enough disk space is available to perform PDF conversions by using a watched folder, you can modify the settings for PDF Generator in administration console.

You must ensure that for WebSphere application server, the maximum transaction time-out and ORB service have proper values.

**Configure transaction time-out**

1) Do the following:
   – Log in to WebSphere Administrative Console, click **Servers** > **Server Types** > **WebSphere application servers**, and then click the name of the server instance to configure (for example, *server1*).

2) Under Container Settings, click **Container Services > Transaction Service**.

3) Under General Properties, in the **Total transaction lifetime timeout** box, type `300` (or higher).

4) Ensure that the value in the **Maximum transaction timeout** box is greater than or equal to the **Total transaction lifetime timeout**.

5) Click **OK** or **Apply** and then click **Save directly to master configuration**.

**Increase the CORBA time-out value**

1) Do the following:

   – Log in to WebSphere Administrative Console, click **Servers** > **Server Types** > **WebSphere application servers**, and then click the name of the server instance to configure (for example, *server1*).

2) Under Container Settings, click **Container Services > ORB Service**.

3) Under General Properties, in the **Request timeout** box, type `360` and, in the **Locate Request Timeout** box, type `300`.

4) Click **OK** or **Apply** and then click **Save directly to master configuration**.

**Set performance parameters for PDF Generator**

1) Log in to administration console and click **Services** >**Applications and Services**> **Service Management**.

2) In the list of services, navigate to and click **PDFGConfigService**, and then set the following values:

   – **PDFG Cleanup Scan Seconds**: 1800

   – **Job Expiration Seconds**: 6000

   – **Server Conversion Timeout**: Change the default of 270 to a higher value, such as 450.

3) Click **Save** and restart the server.

## Enable PDF Conversion for Microsoft Word document containing protected fields

PDF Generator supports Microsoft Word documents containing protected fields. To enable PDF Conversion for Microsoft Word document containing protected fields, change the file type settings:

1) In the **administration console**, navigate to **Services** > **PDF Generator** > **File Type Settings**, and open your file type settings profile.

2) Expand the **Microsoft Word** option and select the **Preserve document markup in Adobe PDF (for Microsoft Office 2003 or later)** option.

3) Click **Save As**, specify name of the file type setting, and click **OK**.

# 6.5. Configure SSL for Document Security

Document Security requires the application server to be configured to use SSL. See administrationhelp.

# 6.6. Configure LDAP access

**NOTE:** If you have configured LDAP access in previous version, skip the following section:

When upgrading, use the following procedure as a guideline when configuring User Management to support authentication using LDAP.

If you configured LDAP with previous versions of LiveCycle, those settings are migrated during the upgrade process, and you do not need to perform the steps in this section. If you did not previously configure LDAP, use the following procedure as guidelines when configuring User Management to support authentication using LDAP.

## Configure User Management (Local Domain)

1) Open a web browser, navigate to http://*[host]:[port]*/adminui, and log in. (See Accessingadminis-trationconsole.)

2) Click **Settings** > **User Management** > **Domain Management**, and then click **New Local Domain**.

3) In the appropriate boxes, enter the domain ID and name. (See "Adding local domains" in Adminis-tration help.)

4) (Optional) Disable **Enable Account Locking** option to disable account locking.

5) Click **OK**.

## Configure User Management with LDAP (Enterprise Domain)

1) Open a web browser, navigate to http://*[host]:[port]*/adminui and log in. (See Accessingadminis-trationconsole.)

2) Click **Settings** > **User Management** > **Domain Management**, and then click **New Enterprise Domain**.

3) In the **ID** box, type a unique identifier for the domain and, in the **Name** box, type a descriptive name for the domain.

   *NOTE: When using DB2 for your AEM Forms on JEE database, the maximum permitted length of the ID is 100 single-byte (ASCII) characters or 50 double-byte characters or 25 four-byte characters. (See "Adding enterprise domains" in Administration Help.)*

4) Click **Add Authentication** and, in the **Authentication Provider** list, select **LDAP**.

5) Click **OK**.

6) Click **Add Directory** and, in the **Profile Name** box, type a name for your LDAP profile.

7) Click **Next**.

8) Specify values in the **Server**, **Port**, **SSL**, and **Binding** fields. In the **Populate Page with** box, select a directory settings option such as **Default Sun ONE values**. Also, specify values in the **Name** and **Password** box that would be used to connect to the LDAP database when anonymous access is not enabled. (See "Directory settings" in Administration Help.)

9) (Optional) Test your configuration:

   – Click **Test**. The screen displays a message indicating either a successful server test or any configuration errors that exist.

10) Click **Next** and configure the **User Settings** as required. (See "Directory settings" in Administration Help.)

11) (Optional) Test your configuration:

   – Click **Test**.

   – In the Search Filter box, verify the search filter or specify a new search filter, and then click **Submit**. The screen displays a list of entries that match the search criteria.

   – Click **Close** to return to the User Settings screen.

12) Click **Next** and configure the **Group Settings** as required. (See "Directory settings" in Administration Help.)

13) (Optional) Test your configuration:

   – Click **Test**.

   – In the Search Filter box, verify the search filter or specify a new search filter, and then click **Submit**. The screen displays a list of entries that match the search criteria.

   – Click **Close** to return to the Group Settings screen.

14) Click **Finish** to exit the New Directory page and then click **OK** to exit.

# 6.7. Enable FIPS mode

**NOTE:** If you have configured it in the previous version, skip the following section:

AEM Forms on JEE provides a FIPS mode to restrict data protection to Federal Information Processing Standard (FIPS) 140-2 approved algorithms using the RSA BSAFE Crypto-C 2.1 encryption module.

If you did not enable this option by using Configuration Manager during AEM Forms on JEE configuration or if you enabled it but want to turn it off, you can change this setting through Administration Console.

Modifying FIPS mode requires you to restart the server.

FIPS mode does not support Acrobat versions earlier than 7.0. If FIPS mode is enabled and the Encrypt With Password and Remove Password processes include the Acrobat 5 setting, the process fails.

In general, when FIPS is enabled, the Assembler service does not apply password encryption to any document. If this is attempted, a `FIPSModeException` is thrown, indicating that "Password encryption is not permitted in FIPS mode." Additionally, the `PDFsFromBookmarks` element is not supported in FIPS mode when the base document is password-encrypted.

## Turn FIPS mode on or off

1) Log in to administration console.

2) Click **Settings** > **Core System Settings**> **Configurations**.

3) Select **Enable FIPS** to enable FIPS mode or deselect to disable FIPS mode.

4) Click **OK** and restart the application server.

**NOTE:** AEM forms on JEE software does not validate code to ensure FIPS compatibility. It provides a FIPS operation mode so that FIPS-approved algorithms are used for cryptographic services from the FIPS-approved libraries (RSA).

# 6.8. Configure WebSphere Application Server if global security is enabled

If your installation uses global security, you must run WebSphere Application Server as a user with the appropriate roles. You can employ one of the following options to configure WebSphere Application Server to run if WebSphere global security is enabled:

- Create a new user with the necessary roles, and run WebSphere Application Server with that user. If a user already exists to run WebSphere Application Server, assign necessary roles to that user.

  *IMPORTANT: Ensure that you start WebSphere Application Server as this user. Some WebSphere processes may fail if you start WebSphere Application Server as a different user while global security is enabled.*

  *In a secure environment, it is recommended that you employ this option.*

- Configure the EVERYONE group with the necessary roles.

## To create a new WebSphere Application Server user:

1) In the WebSphere Administrative Console navigation tree, click **Environment** > **Naming** > **CORBA Naming Service Users**, and then in the right pane, click **Add**.
2) In **Roles**, select all the roles.
3) Under Search and Select Users, select the User Realm.
4) In the search box, type the search string and click **Search**. *NOTE: To retrieve all users, type an asterisk (*).*
5) From the Available text box, select the required users and click the right arrow to add them to the Mapped to role box.
6) Click **Save directly to master configuration**.

## To configure an existing WebSphere Application Server user:

1) In the WebSphere Administrative Console navigation tree, click **Environment** > **Naming**> **CORBA Naming Service Users**, and then in the right pane, select the user.
2) In **Roles**, select the required roles.
3) Click **OK** or **Apply**.
4) Click **Save directly to master configuration**.

## To configure the EVERYONE group

1) In the WebSphere Administrative Console navigation tree, click **Environment** > **Naming** > **CORBA Naming Service Groups**.
2) In **Roles**, select the required roles.
3) Enable **Select from special subjects**, and then from the Special subjects list, select the **EVERYONE** group.

**NOTE:** If the EVERYONE group is already configured, the group will not be shown in the Special subjects list. You only need to assign the required roles to this group if not already assigned.

1) Click **OK** or **Apply**.

2) Click **Save directly to master configuration**.

## Configure CSIv2 inbound transport

On the default Global Security enabled installation of IBM WebSphere, CSIv2 inbound transport option is set to SSL-required. This configuration causes Output and Forms components to fail. Ensure that you change CSIv2 inbound transport option to SSL-Supported: To change the option:

1) Log in to IBM WebSphere administration console.

2) Expand **Security**, and then click **Global security**.

3) In the Authentication section, expand **RMI/IIOP security**, and then click **CSIv2 inbound communications**.

4) In CSIv2 Transport Layer section, set value of **Transport** to **SSL-Supported**.

5) Click **Apply**.

## Enable WebSphere Global Administrative Security on author and publish instances

**NOTE:** If you had not selected the Content Repository options on the Modules screen of the configuration manager, do not perform the following steps.

WebSphere Global Administrative Security administrative security helps in hardening the environment for AEM Forms. It is recommended to enable Global Administrative Security on both author and publish instances.

By default, AEM internally uses the token **j_security_check**. Using the j_security_check token can cause a conflict with WebSphere's Global Administrative Security, as the token j_security_check is also used as the default for form-based authentication. To resolve this conflict, complete the following steps to switch over AEM to use the token **j_sling_security_check**.

*NOTE: These configuration changes are performed each time an AEM (OSGi) patch is applied that updates bundle.jar.*

### Enable Administrative Security on the author instance

Perform the following steps to WebSphere Global Administrative Security on an author instance of AEM Forms:

1) Turn off global security

   a) Open administrative console of WebSphere application server

   b) Click Security > Global security. In Administrative Security, deselect the Enable Administrative Security option, click Apply, and click Save. It saves directly to the master configuration

   c) Restart the WebSphere application server.

2) Log in to CRX DE Lite as an administrator. The default URL is http://[server]:[port]/lc/crx/de/index.jsp.

3) Open the /libs/Livecycle/core/content/login/login.js file for editing

4) Search the term `j_security_check` and replace it with `j_sling_security_check` and click Save All.

5) Log out of CRX DE Lite.

6) Open AEM Configuration Manager. The default URL is http://server:port/lc/system/console/configMgr/.

7) Locate and open the Day CRX Token Authentication Handler configuration.

8) Set value of the Alternate Authentication URL to `j_sling_security_check` and click Save.

9) Log out of the Configuration Manager.

10) Refresh browser cache.

11) Turn on the Global security

a) Open administrative console of WebSphere application server

b) Click Security > Global security. In Administrative Security, select Enable Administrative Security, click Apply, and click Save. It saves directly to the master configuration

c) Restart the WebSphere application server.

**Enable WebSphere Global Administrative Security on the publish instance**

Perform the following steps to enable WebSphere Global Administrative Security on AEM Forms publish instance:

1) Locate and extract the bundle.jar file for the CRXDE Lite bundle. Locate the file docroot/js/CRX/util/Util.js within that JAR, and search and replace**j_security_check** with **j_sling_security_check**. Use the following steps to locate and extract the CRXDE Lite JAR file:

**NOTE:** Use a tool, such as WinRAR, that allows you to extract, edit, and re-inject the file without expanding the entire archive.

a) Open your CRX Console to the Bundles page at **http://[server]:[port]/lc/system/console/bundles** and search for **Adobe Granite CRXDE Lite** and expand it. Note down the number (the bundle ID under the heading ID) on the left side of **Adobe Granite CRXDE Lite**.

b) Go to the CRX Repository on disk. Within the crx-repository directory, go to \launchpad\felix\bundle###\version0.0 - where ### is the number of the bundle from the **http://[server]:[port]/lc/system/console/bundles** page.

c) Copy the bundle.jar file.

2) In Config Manager, **http://host:port/lc/system/console/configMgr**, go to **Day CRX Token Authentication Handler** and set **Alternate Authentication URL** to **j_sling_security_check**.

3) In Config Manager, go to **Apache Sling Authentication Service** and set the **Authentication URI Suffices** to **/j_sling_security_check**.

4) Using CRXDE Lite, **http://[host]:[port]/crx/de/index.jsp**, copy the below files from their current location under /libs/** to new /apps/** locations. The paths under /libs/, such as /cq/core/components/login, should be created if they do not exist such that the copied files reside in the same structure under /apps.

| Copy the file | To the location |
|---|---|
| /libs/granite/core/components/login/login.jsp | /apps/granite/core/components/login/login.jsp |
| /libs/social/connect/components/sociallogin/sociallogin.jsp | /apps/social/connect/components/sociallogin/sociallogin.jsp |
| /libs/social/connect/components/sociallogin/cqlogin.jsp | /apps/social/connect/components/sociallogin/cqlogin.jsp |
| /libs/social/connect/components/socialconnect/socialconnect.jsp | /apps/social/connect/components/socialconnect/socialconnect.jsp |
| /libs/foundation/components/login/login.jsp | /apps/foundation/components/login/login.jsp |

5) Open each of the new copied files under /apps/ and search/replace **j_security_check** with **j_sling_security_check**. Ensure that you save the changes.

6) In CRXDE Lite, go to **/etc/clientlibs/social/commons/scf/session.js** and search/replace **j_security_check** with **j_sling_security _check**.

7) Optionally, if you are using GeoMetrixx Outdoors, modify the following files in the same manner as in step 4. The GeoMetrixx Outdoors website already overlays some of the files.

   – /apps/community-components/components/basepage/clientlibs/basepage.js

   – /apps/geometrixx-outdoors/components/social/sociallogin/cqlogin.jsp

   – /apps/geometrixx-outdoors/components/social/connect/components/socialconnect/socialconnect.jsp

8) Restart AEM.

# 6.9.

# 6.10.

# 6.11. Configure CSIv2 inbound transport

On the default Global Security enabled installation of IBM WebSphere, CSIv2 inbound transport option is set to SSL-required. This configuration causes Output and Forms components to fail. Ensure that you change CSIv2 inbound transport option to SSL-Supported: To change the option:

1) Log in to IBM WebSphere administration console.

2) Expand **Security**, and then click **Global security**.

3) In the Authentication section, expand **RMI/IIOP security**, and then click **CSIv2 inbound communications**

4)    In CSIv2 Transport Layer section, set value of **Transport** to **SSL-Supported**.

5)    Click **Apply**.

# 6.12. Configuring Connector for EMC Documentum

**NOTE:** AEM Forms on JEE supports EMC Documentum 6.7 SP1 and 7.0 with minor updates only. Make sure your ECM is upgraded accordingly.

If you installed Connector for EMC Documentum as part of your AEM Forms on JEE, complete the following procedure to configure the service to connect to the Documentum repository.

### Configure Connector for EMC Documentum

1)    Locate the adobe-component-ext.properties file in the *[appserver root]*/profiles/[profile name] folder (if the file does not exist, create it).

2)    Add a new system property that provides the following Documentum Foundation Classes JAR files:
   –    dfc.jar
   –    aspectjrt.jar
   –    log4j.jar
   –    jaxb-api.jar
   –    configservice-impl.jar
   –    configservice-api.jar
   –    commons-codec-1.3.jar
   –    commons-lang-2.4.jar

   *The new system property should take on this form:*
   ```
   [component id].ext=[JAR files and/or folders]
   ```

   *For example, using default Content Server and Documentum Foundation Classes installations, add to the file one of the following system properties on a new line, with no line breaks, and end the line with a carriage return:*

3)

4)    Open a web browser and enter this URL:
   ```
   http://[host]:[port]/adminui
   ```

5)    Log in using the default user name and password:
   **User name**: *administrator*
   **Password**: *password*

6)    Navigate to **Services** > **Connector for EMC Documentum** > **Configuration Settings** and perform these tasks:
   –    Type all the required Documentum repository information.

– To use Documentum as your repository provider, under Repository Service Provider Information, select **EMC Documentum Repository Provider**, and then click **Save**. For more information, click the Help link in the upper-right corner of the page in the Administration Help.

7) (Optional) Navigate to **Services** > **Connector for EMC Documentum** > **Repository Credentials Settings**, click **Add**, specify the Docbase information, and then click **Save**. (For more information, click **Help** in the upper-right corner.)

8) If the application server is not currently running, start the server. Otherwise, stop and then restart the server.

9) Open a web browser and enter this URL.

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

10) Log in using the default user name and password:

***User name***: *administrator*

***Password***: *password*

11) Navigate to **Services** > **Applications and Services** > **Service Management** and select these services:

– EMCDocumentumAuthProviderService

– EMCDocumentumContentRepositoryConnector

– EMCDocumentumRepositoryProvider

– EMCDocumentumECMUpgradeService

12) Click **Start**. If any of the services do not start correctly, check the settings you completed earlier.

13) Do one of the following tasks:

– To use the Documentum Authorization service (EMCDocumentumAuthProviderService) to display content from a Documentum repository in the Resources view of Workbench, continue with this procedure. Using the Documentum Authorization service overrides the default AEM Forms on JEE authorization and must be configured to log in to Workbench using Documentum credentials.

– To use the AEM Forms on JEE repository, log in to Workbench by using the AEM Forms on JEE super administrator credentials (by default, *administrator* and *password*).

*You have now completed the required steps for this procedure. Use the credentials provided in this step for accessing the default repository in this case and use the default AEM Forms on JEE authorization service.*

14) Enable Remoting and EJB endpoints by doing these tasks:

– Log in to administration console and click **Home > Services > Application and Services > Service Management**.

– Filter the category *Connector for EMC Documentum a*nd click **EMC DocumentumContentRepositoryConnector:1.0.**

– Select the disabled endpoints and enable them.

15) Restart the application server.

16) Log in to administration console and click **Settings** > **User Management** > **Domain Management**.

17) Click **New Enterprise Domain**, and type a domain ID and name. The domain ID is the unique iden-
tifier for the domain. The name is a descriptive name for the domain.

*NOTE: (WebLogic and WebSphere only) When using DB2 for your AEM Forms on JEE database, the
maximum permitted length of the ID is 100 single-byte (ASCII) characters or 50 double-byte charac-
ters or 25 four-byte characters. (See "Adding enterprise domains" in administration help.)*

18) Add a custom authentication provider:

– Click **Add Authentication**.

– In the Authentication Provider list, select **Custom**.

– Select **EMCDocumentumAuthProvider** and then click **OK**.

19) Add an LDAP authentication provider:

– Click **Add Authentication**.

– In the Authentication Provider list, select **LDAP**, and then click **OK**.

20) Add an LDAP directory:

– Click **Add Directory**.

– In the Profile Name box, type a unique name, and then click **Next**.

– Specify values for the **Server**, **Port**, **SSL**, **Binding**, and **Populate page with** options. If you select
User for the Binding option, you must also specify values for the **Name** and **Password** fields.

– (Optional) Select **Retrieve Base DN** to retrieve base domain names, as required.

– Click **Next**, configure the user settings, click **Next**, configure group settings, as required, and
then click **Next**.

*For details about the settings, click **User Management Help** in the upper-right corner of the
page.*

21) Click **OK** to exit the Add Directory page and then click OK again.

22) Select the new enterprise domain and click **Sync Now**. Depending on the number of users and
groups in your LDAP network and the speed on your connection, the synchronization process may
take several minutes.

*(Optional) To verify the status of the synchronization, click **Refresh** and view the status in the Cur-
rent Sync State column.*

23) Navigate to **Settings > User Management > Users and Groups**.

24) Search for users that were synchronized from LDAP and perform these tasks:

– Select one or more users and click **Assign Role**.

– Select one or more AEM Forms on JEE roles and click **OK**.

– Click **OK** a second time to confirm the role assignment.

*Repeat this step for all users that you assign roles to. For more information, click **User Man-
agement Help** in the upper-right corner of the page.*

25) Start Workbench and log in by using the credentials for the Documentum repository:

**Username**: [username]@[repository_name]

**Password**: [password]

*After you log in, the Documentum repository appears in the Resources view within Workbench. If you do not log in using the username@repository_name, Workbench attempts to log in to the default repository.*

26) (Optional) To install the AEM Forms on JEE Samples for Connector for EMC Documentum, create a Documentum repository named Samples, and then install the samples in that repository.

After you configure the Connector for EMC Documentum service, see *AEM Forms on JEE administration help* for information about configuring Workbench with your Documentum repository.

## Add support for multiple connection brokers

AEM Forms on JEE Configuration Manager supports configuring only one connection broker. Use AEM Forms on JEE Administrator Console to add support for multiple connection brokers:

1) Open AEM Forms on JEE Administrator Console.

2) Navigate to Home > Services > Connector for EMC Documentum > Configuration Settings.

3) In the **Connection broker Host Name or IP Address,** enter comma seperated list of hostnames of different connection brokers. For example, host1, host2, host3.

4) In the **Port Number of Connection broker**, enter comma seperated list of the ports of corresponding connection brokers. For example, 1489, 1491, 1489.

5) Click **Save**.

# 6.13. Configuring the Connector for IBM Content Manager

**NOTE:** AEM forms supports IBM Content Manager. See the Supported Platform Combinations document and make sure your ECM is upgraded to the supported version.

If you installed the Connector for IBM Content Manager as part of your AEM Forms installation, complete the following procedure to configure the service to connect to the IBM Content Manager datastore.

## Configure Connector for IBM Content Manager

1) Locate the adobe-component-ext.properties file in the *[appserver root]*/profiles/[profile name] folder. If the file does not exist, create it.

2) Add a new system property that provides the location of the following IBM II4C JAR files:
   – cmb81.jar
   – cmbcm81.jar
   – cmbicm81.jar
   – cmblog4j81.jar
   – cmbsdk81.jar
   – cmbutil81.jar
   – cmbutilicm81.jar
   – cmbview81.jar

- – cmbwas81.jar
- – cmbwcm81.jar
- – cmgmt

**NOTE:** cmgmt is not a JAR file. On Windows, by default, this folder is at `C:/Program Files/IBM/db2cmv8/.`

- – common.jar
- – db2jcc.jar
- – db2jcc_license_cisuz.jar
- – db2jcc_license_cu.jar
- – ecore.jar
- – ibmjgssprovider.jar
- – ibmjsseprovider2.jar
- – ibmpkcs.jar
- – icmrm81.jar
- – jcache.jar
- – log4j-1.2.8.jar
- – xerces.jar
- – xml.jar
- – xsd.jar

*The new system property looks similar to the following:*

```
[component id].ext=[JAR files and/or folders]
```

*For example, using a default DB2 Universal Database Client and II4C installation, in the file, add the following system property on a new line, with no line breaks, and end the line with a carriage return:*

```
C:/Program Files/IBM/db2cmv8/cmgmt,
C:/Program Files/IBM/db2cmv8/java/jre/lib/ibmjsseprovider2.jar,
C:/Program Files/IBM/db2cmv8/java/jre/lib/ibmjgssprovider.jar,
C:/Program Files/IBM/db2cmv8/java/jre/lib/ibmpkcs.jar,
C:/Program Files/IBM/db2cmv8/java/jre/lib/xml.jar,
C:/Program Files/IBM/db2cmv8/lib/cmbview81.jar,
C:/Program Files/IBM/db2cmv8/lib/cmb81.jar,
C:/Program Files/IBM/db2cmv8/lib/cmbcm81.jar,
C:/Program Files/IBM/db2cmv8/lib/xsd.jar,
C:/Program Files/IBM/db2cmv8/lib/common.jar,
C:/Program Files/IBM/db2cmv8/lib/ecore.jar,
C:/Program Files/IBM/db2cmv8/lib/cmbicm81.jar,
C:/Program Files/IBM/db2cmv8/lib/cmbwcm81.jar,
C:/Program Files/IBM/db2cmv8/lib/jcache.jar,
C:/Program Files/IBM/db2cmv8/lib/cmbutil81.jar,
C:/Program Files/IBM/db2cmv8/lib/cmbutilicm81.jar,
C:/Program Files/IBM/db2cmv8/lib/icmrm81.jar,
```

```
C:/Program Files/IBM/db2cmv8/lib/db2jcc.jar,
C:/Program Files/IBM/db2cmv8/lib/db2jcc_license_cu.jar,
C:/Program Files/IBM/db2cmv8/lib/db2jcc_license_cisuz.jar,
C:/Program Files/IBM/db2cmv8/lib/xerces.jar,
C:/Program Files/IBM/db2cmv8/lib/cmblog4j81.jar,
C:/Program Files/IBM/db2cmv8/lib/log4j-1.2.8.jar,
C:/Program Files/IBM/db2cmv8/lib/cmbsdk81.jar,
C:/Program Files/IBM/db2cmv8/lib/cmbwas81.jar
```

3) If the application server is not currently running, start the server; otherwise, stop and then restart the server.

You can now connect to the IBM Content Manager datastore from the IBMCMConnectorService Property Sheets by using the Use User Credentials as the login mode.

You have now completed the required steps for this procedure.

(Optional) If you want to connect to IBM Content Manager datastore from IBMCMConnectorService Property Sheets by using the Use Credentials From Process Context as the login mode, complete the following procedure.

## Connect using Use Credentials from process context login mode

1) Open a web browser and enter this URL:

   *http://[host]:[port]/adminui*

2) Log in using the super administrator credentials. Default values set during installation are:

   **User name:** *administrator*

   **Password:** *password*

3) Click **Services** > **Connector for IBM Content Manager**

4) Type all of the required repository information and click **Save**. For more information about the IBM Content Manager repository information, click the **Help** link in the upper-right corner of the page.

5) Do one of these tasks:

   – To use the IBM Content Manager Authorization service IBMCMAuthProvider to use content from an IBM Content Manager datastore, in the Processes view of Workbench, continue with this procedure. Using the IBM Content Manager Authorization service overrides the default AEM Forms authorization and must be configured to log in to Workbench by using IBM Content Manager credentials.

   – To use the System Credentials provided in step 4 to use content from an IBM Content Manager datastore, in the Processes view of Workbench, log in to Workbench by using the AEM Forms super administrator credentials (by default, *administrator* and *password*). You have now completed the required steps for this procedure. The System Credentials that are provided in step 4 use the default AEM Forms authorization service for accessing the default repository in this case.

6) Log in to the administration console, and click **Settings** > **User Management** > **Domain Management**.

7) Click **New Enterprise Domain** and type a domain ID and name. The domain ID is the unique identifier for the domain. The name is a descriptive name for the domain. *NOTE: When using DB2 for your AEM Forms database, the maximum permitted length of the ID is 100 single-byte (ASCII) characters or 50 double-byte characters or 25 four-byte characters. (See "Adding enterprise domains" in administration help.)*

8) Add a custom authentication provider:

   – Click **Add Authentication**.

   – In the **Authentication Provider** list, select **Custom**, and then select **IBMCMAuthProviderService**and click **OK**.

9) Add an LDAP authentication provider:

   – Click **Add Authentication**.

   – In the **Authentication Provider** list, select **LDAP** and then click **OK**.

10) Add an LDAP directory:

   – Click**Add Directory**.

   – In the **Profile Name** box, type a unique name, and then click **Next**.

   – Specify values for the **Server**, **Port**, **SSL**, **Binding**, and **Populate page with** options. If you select **User** for the **Binding** option, you must also specify values for the **Name** and **Password** fields. (Optional) Select **Retrieve Base DN** to retrieve base domain names, as required. When finished, click **Next**.

   – Configure the user settings, click **Next**, configure group settings as required, and then click **Next**.

   *For details about the above settings, click the **Help** link in the upper-right corner of the page.*

11) Click **OK** to exit the Add Directory page and click **OK** again.

12) Select the new enterprise domain and click **Sync Now**. Depending on the number of users and groups in your LDAP network and the speed on your connection, the synchronization process may take several minutes.

13) To verify the status of the synchronization, click **Refresh** and view the status in the **Current Sync State** column.

14) Navigate to **Settings** > **User Management** > **Users and Groups**.

15) Search for users that were synchronized from LDAP and do these tasks:

   – Select one or more users and click **Assign Role**.

   – Select one or more AEM Forms roles and click **OK**.

   – Click **OK** a second time to confirm the role assignment.

   *Repeat this step for all users that you want to assign roles to. For more information, click the **Help** link in the upper-right corner of the page.*

16) Start Workbench and log in using the following credentials for IBM Content Manager datastore:

   ***Username:*** *[username]@[repository_name]*

   ***Password:*** *[password]*

*The IBM Content Manager datastore can now be used in the Processes view within Workbench when the login mode for IBMCMConnectorService orchestrable components is selected as***Use Credentials from process context.**

# 6.14. Configuring the Connector for IBM FileNet

**NOTE:** AEM Forms supports FileNet 5.2 Content Engine; FileNet 5.2 Process Engine is not supported.

AEM Forms supports IBM FileNet, versions5.0, and 5.2 only. Make sure your ECM is upgraded accordingly.

If you installed Connector for IBM FileNet as part of your AEM Forms, you must configure the service to connect to the FileNet object store.

Complete the following procedure to configure Connector for IBM FileNet.

1) Log in to WebSphere Administrative Console, click **Servers > Server Types > WebSphere application servers**, and then click the name of the server instance to configure (for example, server1).

2) Under Server Infrastructure, click **Java and forms workflow** > **Process Definition**.

3) Under Additional Properties, click **Java Virtual Machine**.

4) Click **Apply** and then click **Save to Master Configuration**.

5) Locate the adobe-component-ext.properties file in the*[appserver root]*/profiles/[profile name] folder (if the file does not exist, create it).

6) Add a new system property that provides the location of these FileNet Application Engine JAR files:

**NOTE:** Add the pe.jar file only if your deployment uses the IBMFileNetProcessEngineConnector service. The new system property should reflect this structure:

```
[component id].ext=[JAR files and/or folders]
```

**NOTE:** Do not overwrite the existing contents of the properties file. Simply append the new system property to the contents.

*For example, using a default FileNet Application Engine installation on a Windows operating system, add the following system property on a new line with no line breaks and end the line with a carriage return:*

**NOTE:** The following text contains formatting characters for line breaks. If you copy this text to a location outside this document, remove the formatting characters when you paste it to the new location.

```
com.adobe.livecycle.ConnectorforIBMFileNet.ext=
C:/Program Files/FileNet/AE/CE_API/lib2/javaapi.jar,
C:/Program Files/FileNet/AE/CE_API/lib2/log4j-1.2.13.jar
```

7) (FileNet Process Engine Connector only) Configure the connection properties for the process engine as follows:

– Using a text editor, create a file with the following content as a single line and end the line with a carriage return:

*(FileNet 5.0 only)*

```
RemoteServerUrl =
cemp:http://[contentserver_IP]:[contentengine_port]/wsi/FNCEWS40DIME
/
```

*(FileNet 5.2 only)*

```
RemoteServerUrl =
cemp:http://[contentserver_IP]:[contentengine_port]/wsi/FNCEWS40MTOM
/
```

- Save the file as WcmApiConfig.properties in a separate folder, and add the location of the folder that contains the WcmApiConfig.properties file to the adobe-component-ext.properties file.

  *For example, if you save the file as c:/pe_config/WcmApiConfig.properties, add the path c:/pe_config to the adobe-component-ext.properties file.*

  **NOTE:** The filename is case-sensitive.

8) Locate the file wsjaas.conf and add the following lines:

```
FileNetP8 {com.filenet.api.util.WSILoginModule required;};
FileNetP8WSI {com.filenet.api.util.WSILoginModule required;};
FileNetP8Engine
{com.ibm.ws.security.common.auth.module.proxy.WSLoginModuleProxy
required delegate=com.ibm.ws.security.common.auth.module.
WSLoginModuleImpl;};
FileNetP8Server
{com.ibm.ws.security.common.auth.module.proxy.WSLoginModuleProxy
required delegate=com.ibm.ws.security.common.auth.module.
WSLoginModuleImpl;};
FileNetP8KerberosService
{com.ibm.ws.security.common.auth.module.proxy.WSLoginModuleProxy
required delegate=com.filenet.engine.authentication.kerberos.login.
KrbServiceLoginModule;
com.ibm.ws.security.common.auth.module.proxy.WSLoginModuleProxy required
delegate=com.ibm.ws.security.server.lm.ltpaLoginModule;
com.ibm.ws.security.common.auth.module.proxy.WSLoginModuleProxy required
delegate=com.ibm.ws.security.server.lm.
wsMapDefaultInboundLoginModule;};
```

**NOTE:** By default, the wsjaas.conf file is located in the folder *[appserver root]*/profiles/*[profile name]*/properties/.

9) If the application server is not currently running, start the server. Otherwise, stop and then restart the server.

10) (*Applicable only if IBM FileNet and AEM Forms are installed on the same WebSphere application server*) Verify that these settings have been implemented correctly in the WebSphere Administrative Console by doing the following:

- In the WebSphere Administrative Console navigation tree, click **Security > Global security.**

- Under Authentication, click **Java Authentication and Authorization Service > Application logins**.

- Click the **FileNetP8** application login, and then click **JAAS login modules**.

*If the values on this page do not match the following, modify them:*

**Module class name***: "com.filenet.api.util.WSILoginModule"*

**Authentication Strategy***: REQUIRED*

**Module Order***: 1*

*Click* **OK** *or* **Apply***, and then click* **Save directly to master configuration***.*

11) Open a web browser and enter this URL:

   *http://[host]:[port]/adminui*

12) Log in using the default user name and password:

   **User name***: administrator*

   **Password***: password*

13) Click **Services** > **Connector for IBM FileNet**.

14) Provide the Content Engine URL. For example,
   `cemp:http://ContentEngineHostNameorIP:port/wsi/FNCEWS40MTOM?jaasConfi`
   `gurationName=FileNetP8WSI`

15) Provide all the required FileNet repository information and, under Repository Service Provider Information, select **IBM FileNet Repository Provider**.

   *If your deployment uses the optional process engine service, under Process Engine Settings, select* **Use Process Engine Connector Service** *and specify the process engine settings. For more information, click the* **Help** *link in the upper-right corner of the page.*

   NOTE: The credentials that you provide in this step are validated later when you start the IBM FileNet repository services. If the credentials are not valid, an error is thrown and the services will not start.

16) Click **Save** and navigate to **Services** > **Applications and Services** > **Service Management**.

17) Select the check box next to **IBMFileNetProcessEngineConnector** (if configured) and then click **Start.**

18) Do one of the following tasks:

   – To use the FileNet Authorization service (IBMFileNetAuthProviderService) to display content from a FileNet object store in the Resources view of Workbench, continue with this procedure. Using the FileNet Authorization service overrides the default AEM Forms authorization and must be configured to log in to Workbench by using FileNet credentials.

   – To use the AEM forms repository, log in to Workbench by using the super administrator credentials (by default, *administrator* and *password*). The credentials provided in step 16 use the default AEM Forms authorization service for accessing the default repository in this case.

19) Enable Remoting and EJB endpoints by doing these tasks:

   – Log in to administration console and click **Home > Services > Application and Services > Service Management**.

   – Filter the category *Connector for IBM FileNet* and click **IBMFileNetContentRepositoryConnector:1.0.**

   – Select the disabled endpoints and enable them.

20) Restart your application server.

21) Log in to administration console and click **Settings** > **User Management** > **Domain Management**.

22) Click **New Enterprise Domain** and then type a domain ID and name. The domain ID is the unique identifier for the domain. The name is a descriptive name for the domain.

    *When using DB2 for your AEM Forms database, the maximum permitted length of the ID is 100 single-byte (ASCII) characters or 50 double-byte characters or 25 four-byte characters. (See "Adding enterprise domains" in* Administration *Help.)*

23) Add a custom authentication provider:

    – Click **Add Authentication**.

    – In the **Authentication Provider** list, select **Custom**.

    – Select **IBMFileNetAuthProviderService** and then click **OK**.

24) Add an LDAP authentication provider:

    – Click **Add Authentication**.

    – In the **Authentication Provider** list, select **LDAP** and then click **OK**.

25) Add an LDAP directory:

    – Click**Add Directory** and, in the **Profile Name** box, type a unique name, and then click **Next**.

    – Specify values for the **Server**, **Port**, **SSL**, **Binding**, and **Populate page with** options. If you select **User** for the **Binding** option, you must also specify values for the **Name** and **Password** fields.

    – (Optional) Select **Retrieve Base DN** to retrieve base domain names, as required. When finished, click **Next**.

    – Configure the user settings, click **Next**, configure group settings as required, and then click **Next**.

      *For details about the settings, click **Help** link in the upper-right corner of the page.*

26) Click **OK** to exit the Add Directory page, and then click **OK** again.

27) Select the new enterprise domain and click **Sync Now**. Depending on the number of users and groups in your LDAP network and the speed on your connection, the synchronization process may take several minutes.

    *(Optional) To verify the status of the synchronization, click **Refresh** and view the status in the **Current Sync State** column.*

28) Navigate to **Settings** > **User Management** > **Users and Groups**.

29) Search for users that were synchronized from LDAP and perform these tasks:

    – Select one or more users and click **Assign Role**.

    – Select one or more AEM Forms roles and click **OK**.

    – Click **OK** a second time to confirm the role assignment.

    *Repeat this step for all users you want to assign roles to. For more information, click the **Help** link in the upper-right corner of the page.*

30) Start Workbench and log in using the following credentials for the IBM FileNet repository:

    ***User name:*** *[username]@[repository_name]*

    ***Password:*** *[password]*

*The FileNet object store should now be visible in the Resources view within Workbench. If you do not log in using the username@repository name, Workbench attempts to log in to the default repository specified in step 16.*

31) (Optional) If you intend to install the AEM Forms Samples for Connector for IBM FileNet, create a FileNet object store named *Samples* and install the samples in that object store.

*After you configure Connector for IBM FileNet, it is recommended that you see administration help for information about configuring Workbench functions properly with your FileNet repository.*

# 6.15. Migrate adaptive forms and Correspondence Management assets

The migration utility makes assets of earlier versions compatible with AEM 6.3 forms. You can download the utility from AEM package share. For detailed steps, see
https://helpx.adobe.com/aem-forms/6-3/migration-utility.html.

### Remove Adobe Correspondence Management Utilities Bundle

AEM Forms shipped Correspondence Management Utilities Bundle with previous releases of AEM Forms. The bundle is not required on AEM 6.3 Forms setup. Perform the following steps to uninstall the bundle:

1) Open the http://[server]:[port]/lc/system/console/bundles URL in a browser window.

2) Search and open the Adobe Correspondence Management Utilities Bundle.

3) Click the uninstall icon to remove the bundle.

### Reconfigure Adobe Sign

f you had Adobe Sign configured in the previous version of AEM Forms, then reconfigure Adobe Sign from AEM Cloud services. For more details, see
https://helpx.adobe.com/content/help/en/aem-forms/6-3/adobe-sign-integration-adaptive-forms.html.

### Reconfigure analytics and reports

In AEM 6.3 Forms, traffic variable for source and success event for impression are not available. So, when you upgrade to AEM 6.3 Forms, AEM Forms stops sending data to Adobe Analytics server and analytics reports for adaptive forms and adaptive document are not available. Moreover, AEM 6.3 Forms introduces traffic variable for the version of form analytics and success event for the amount of time spent on a field. So, reconfigure analytics and reports for your AEM Forms environment. For detailed steps, see
https://helpx.adobe.com/content/help/en/aem-forms/6-3/configure-analytics-forms-documents.html.

Methods to calculate average fill time for forms and average read time for adaptive documents have changed. So, when you upgrade to AEM 6.3 forms, the old data from previous AEM Forms release for these metrics is available only in Adobe Analytics. It is not visible in AEM Forms analytics reports. For these metrics, AEM Forms analytics reports display data which is captured after performing the upgrade.

# 6.16. Configure the ContentRepositoryConnector service

By default, the ContentRepositoryConnector service is configured to use URL http://local-host:8080/lc/crx/server/. Perform the following steps to configure the service for your environment:

1) Log in to AEM Forms Admin UI using credentials administrator/password. The default URL of Admin UI is http://[IP]:[Port]/adminui.

2) Navigate to Services > Application and Services > Service Management.

3) Search and open the ContentRepositoryConnector service for editing.

4) Open the Configuration tab and replace the default URL in the Experience Management Server field with the URL of your environment.

**IP**

IP address of the machine on which application server is running.

**Port**

Port number which AEM Forms is using. The default port number for JBoss, WebLogic, and WebSphere 8080, 8001, and 9080, respectively.

# 7. Appendix - Install using the Command Line Interface

## 7.1. Overview

AEM Forms on JEE provides a command line interface (CLI) for the installation program. The CLI is intended to be used by advanced users of AEM Forms on JEE or in server environments which do not support the use of the Graphical User Interface (GUI) of the installation program. The CLI runs in console mode with one interactive session for all install operations.

Before you install the modules using the CLI install option, ensure that you have prepared your environment required to run AEM Forms on JEE according to the Preparing guide for fresh single server installation, cluster setup, or upgrade, as appropriate. The complete AEM Forms on JEE documentation is available at http://www.adobe.com/go/learn_aemforms_documentation_63.

After you start the installation process, follow the on-screen instructions to choose your installation options. Respond to each prompt to proceed to the next step in the installation.

**NOTE:** If you want to change a choice that you made on a previous step, type `back`. You can cancel the installation at any time by typing `quit`.

## 7.2. Install AEM Forms on JEE

1) Open a command prompt and navigate to the folder in the installation media or your hard disk that contains the installer executable:
   - (Windows) server\Disk1\InstData\Windows_64\NoVM
   - (Linux) server/Disk1/InstData/Linux/NoVM
   - (Solaris) server/Disk1/InstData/Solaris/NoVM
   - (AIX) server/Disk1/InstData/AIX/VM

2) Open a command prompt and run the following command:
   - (Windows) `install.exe -i console`
   - (Non-Windows) `./install.bin -i console`

     **NOTE:** Entering the command without the `-i console` option launches the GUI-based installer.

3) Respond to the prompts as described in the following table:

| Prompt | Description |
|---|---|
| Choose Locale | Select the locale for the installation to use by entering a value between 1 and 3. You can select the default value by pressing **Enter**.<br>The options are Deutsch, English, and Français. English is the default locale. |
| Upgrade Installation | Select the installation option and press **Enter**. The options are Perform Update or Skip Update.<br>If the installer detects a previous LiveCycle installation, you can choose to upgrade the installation. The upgrade installation will use information from the existing install to help in the current installation. |
| Choose Install Folder | On the Destination screen, press **Enter** to accept the default directory or type the new installation directory location.<br>Do not use accented characters in the directory name. Otherwise, the CLI will ignore the accents and create a directory after modifying the accented characters. |
| AEM forms on JEE Server License Agreement | Press **Enter** to read through the pages of the license agreement.<br>If you agree to the agreement, type `Y` and press **Enter**. |
| Pre-Installation Summary | Press **Enter** to continue installation with the choices you have made.<br>Type `back` to go back to previous steps and change any of the settings. |
| Ready To Install | Press **Enter** to start the installation process. |
| Installing | During the installation process, the progress bar advances to indicate the progress of installation. |
| Configuration Manager | Press **Enter** to complete the installation of AEM Forms on JEE. You can run the Configuration Manager in GUI mode by invoking the following script:<br>(Windows):<br>C:\Adobe\Adobe_Experience_Manager_Forms\configuration Manager\bin\ConfigurationManager.bat<br>(Non-Windows):<br>`/opt/adobe/Adobe_Experience_Manager_Forms/configurationManager/bin/ConfigurationManager.sh` |
| Installation Complete | Press **Enter** to exit the installer. |

# 7.3. Error logs

If an error occurs, you can review the install.log in the log directory of your installation:

- (Windows) *[aem-forms root]*\log
- (non-Windows) *[aem-forms root]*/log

# 8. Appendix - Configuration Manager Command Line Interface

The CLI is intended to be used in server environments that do not support the use of the Graphical User Interface (GUI) of the Configuration Manager.

## 8.1. Order of operations

The Configuration Manager CLI must follow the same order of operations as the GUI version of the Configuration Manager. Ensure that you use the CLI operations in this order:

1) Configure AEM Forms on JEE.

2) Configure CRX.

3) Update AEM Forms on JEE core settings.

4) Migrate existing turnkey database. (Upgrade Turnkey only)

5) Validate application server topology.

6) Validate database connectivity.

7) Configure the application server.

8) Validate application server configurations.

9) Deploy AEM Forms on JEE.

10) Initialize AEM forms on JEE.

11) Validate AEM Forms on JEE.

12) Perform critical tasks before component deployment.

13) Deploy the AEM Forms on JEE modules.

14) Validate the AEM Forms on JEE module deployment.

15) Upgrade the crx-repository.

16) Migrate Data Essential to AEM Forms on JEE

17) Post-deployment configurations.

18) Check system readiness for PDF Generator.

19) Add administrator user for PDF Generator.

20) Configure Connector for IBM Content Manager.

21) Configure Connector for IBM FileNet.

22) Configure Connector for EMC Documentum.

23) Configure Connector for SharePoint.

**IMPORTANT:** You must restart each of your cluster nodes after you complete Configuration Manager CLI operations.

**IMPORTANT:** You must restart your application server after you complete Configuration Manager CLI operations.

# 8.2. Command Line Interface property file

The Configuration Manager CLI requires two property files containing the defined properties for your AEM Forms on JEE environment. The templates for the properties files, cli_propertyFile_template.txt and cli_propertyFile_upgrade_template.txt, are located in the *[aem-forms root]*/configurationManager/bin folder.

- cli_propertyFile_template.txt file contains properties that apply to AEM Forms on JEE installation and configuration scenarios, in general.
- cli_propertyFile_upgrade_template.txt file contains properties specific to upgrading tasks. Both are required for upgrading from a previous version of AEM Forms on JEE.

Create copies of these files and edit the values. You should create the property file according to your installation. Use one of the following methods.

- Copy the property files cli_propertyFile_template.txt and cli_propertyFile_upgrade_template.txt to use these as a template and edit the values based on the Configuration Manager operations you intend to use.
- Use the GUI of the Configuration Manager and then use the property file created by the GUI version as the CLI version property file. When you run the *[aem-forms root]*/configurationManager/bin/ConfigurationManager.bat/sh file, the userValuesForCLI.properties file is created in the *[aem-forms root]*/configurationManager/config directory. You can use this file as input for the Configuration Manager CLI.

    **NOTE:** The file does not contain the properties listed below, which are optional. If required, you can manually add these properties to the file:

    - `ApplicationServerRestartRequired`
    - `lcGdsLocation`
    - `lcPrevGdsLocation`

    **NOTE:** In the CLI properties file, you must use the escape character (\) for Windows paths directory separator (\). For example, if the Fonts folder to be mentioned is C:\Windows\Fonts, in the Configuration Manager CLI script, you should enter it as `C:\\Windows\\Fonts`.

    **NOTE:** The following modules depend on ALC-LFS-ContentRepository. If you are using the cli_propertyFile_template.txt as template then either remove the ALC-LFS-ContentRepository from excludedSolutionComponents list or add the following LFS in excludedSolutionComponents list:

    - *ALC-LFS-ProcessManagement*
    - *ALC-LFS-CorrespondenceManagement*
    - *ALC-LFS-ContentRepository*
    - *ALC-LFS-MobileForms*
    - ALC-LFS_FormsManager

# 8.3. Upgrading AEM Forms on JEE Commands

## Update AEM Forms on JEE core settings command

The `upgrade-configureCoreSettings` command updates various core settings for AEM Forms on JEE. For example, if in your previous LiveCycle system you had the Global Document Storage (GDS) directory set at *C:\LC\GDS* and in AEM Forms on JEE you plan to set it to *E:\DS\GDS*, then the new location is not updated in the database unless this CLI command is executed. Other core settings that can be updated in the same manner are: Adobe server fonts directory, Customer fonts directory, System fonts directory, Enable FIPS, AEM Forms on JEE temp directory, AEM Forms on JEE global document storage directory.The following properties are available for the `upgrade-configureCoreSettings` command.

| Property | Description | Required | Can be empty |
|---|---|---|---|
| prevLCVersion | The version of AEM Forms on JEE from which upgrade is being performed. Valid values are 6.1 or 6.2<br>**NOTE:** Specify value 6.1 to upgrade from Live-Cycle ES4 SP1 to AEM 6.3 Forms. | Yes | No |
| excludedSolutionComponents | Comma separated list of modules not being upgraded/installed. This is equivalent to deselecting installed/licensed solution components in the Configuration Manager GUI. | No | Yes |

## (Turnkey Only) Migrate existing turnkey database command

The `upgrade-migrateTurnkeyDatabase` command is used to migrate data from 'adobe' schema of a previous LiveCycle Turnkey MySQL installation to 'adobe' schema of AEM Forms on JEE Turnkey MySQL installation. Before you run this command, make sure that both the MySQL services are running and are accessible. Also, both the MySQL services should be running on different ports.The following properties are available for the `upgrade-migrateTurnkeyDatabase`command.

*NOTE: This command would run only if your AEM Forms on JEE Turnkey installation and your previous Turnkey installation coexist on the same machine and you'd chosen to perform an upgrade installation while installing AEM Forms on JEE Turnkey.*

| Property | Description | Required | Can be empty |
|---|---|---|---|
| lcDatabaseHostName | Hostname for AEM Forms on JEE turnkey database. | Yes | No |
| lcDatabaseName | Database name for AEM Forms on JEE turnkey database. Default is adobe. | Yes | No |
| lcDatabaseUserName | Username for accessing AEM Forms on JEE turnkey database. | Yes | No |
| lcDatabaseUserPassword | Password for accessing AEM Forms on JEE turnkey database. If you don't provide a password in the file, you will prompted to provide it on command line | No | Yes |
| lcDatabaseDriverFile | Path to driver file for AEM Forms on JEE turnkey database. | Yes | No |
| lcDatabasePortNumber | Port used by AEM Forms on JEE turnkey database. | Yes | No |
| lcDatabaseType | Type of database configured for AEM Forms on JEE turnkey database. Default is mysql. | Yes | No |
| lcPrevDatabaseHostName | Hostname for previous AEM Forms on JEE turnkey database. | Yes | No |

| Property | Description | Required | Can be empty |
|---|---|---|---|
| lcPrevDatabaseName | Database name for previous AEM Forms on JEE turnkey database. Default is adobe. | Yes | No |
| lcPrevDatabaseUserName | Username for accessing previous AEM Forms on JEE turnkey database. | Yes | No |
| lcPrevDatabaseUserPassword | Password for accessing previous AEM Forms on JEE turnkey database. If you don't provide a password in the file, you will prompted to provide it on command line | No | Yes |
| lcPrevDatabaseDriverFile | Path to driver file for previous AEM Forms on JEE turnkey database. | Yes | No |
| lcPrevDatabasePortNumber | The port used by previous AEM Forms on JEE turnkey database. | Yes | No |
| lcPrevDatabaseType | Type of database configured for previous AEM Forms on JEE turnkey database. Default is mysql. | Yes | No |

## Post-deployment Configuration command

The `upgrade-configurePostDeploy` command does the actual upgrade of the system and is run after AEM Forms on JEE EAR files and modules have been deployed.

The following properties are available for the `upgrade-configurePostDeploy` command:

| Property | Description | Required | Can be empty |
|---|---|---|---|

| prevLCVersion | The version of AEM Forms on JEE from which upgrade is being performed. Valid values are 6.1 or 6.2<br><br>**NOTE:** Specify value 6.1 to upgrade from Live-Cycle ES4 SP1 to AEM 6.3 Forms. | Yes | No |
|---|---|---|---|
| excludedSolutionComponents | Comma separated list of AEM Forms on JEE components not being installed. This is equivalent to deselecting installed/licensed solution components in the GUI. | No | Yes |

## AEM forms on JEE Host and Authorization information

| Property | Description | Required | Can be empty |
|---|---|---|---|
| LCHost | Hostname of the AEM Forms on JEE Server. | Yes | No |
| LCPort | Port number on which AEM Forms on JEE application server is configured. | Yes | No |
| localServer.appServerRootDir | This is used to access appserver client JAR files. (Local application server root directory required for WebLogic and WebSphere only) | Yes | Yes |
| LCAdminUserID | Username of AEM Forms on JEE administrator user | Yes | No |
| LCAdminPassword | Password for administrator user. If you don't provide a password in the file, you will prompted to provide it on command line | No | Yes |

## AEM forms on JEE Database information

| Property | Description | Required | Can be empty |
|---|---|---|---|

| lcDatabaseType | Type of database configured for AEM Forms on JEE. Values can be `mysql`, `db2`, `oracle`, or `sqlserver` | Yes | No |
|---|---|---|---|
| lcDatabaseHostName | Hostname for the AEM Forms on JEE database. | Yes | No |
| lcDatabasePortNumber | The port number for the AEM Forms on JEE database. | Yes | No |
| lcDatabaseDriverFile | Path to driver file for the AEM Forms on JEE database. | Yes | No |
| lcDatabaseUserName | Username for accessing the AEM Forms on JEE database. | Yes | No |
| lcDatabaseName | AEM forms on JEE database name. Default is `adobe`. | Yes | No |
| lcDatabaseUserPassword | Password for accessing database. If you don't provide a password in the file, you will prompted to provide it on command line | No | Yes |

# 8.4. General configuration properties

## Common properties

Common properties are:

**WebLogic and WebSphere specific properties:**Required for the Configure Application Server, Deploy AEM Forms on JEE, Validate Application Server Topology and Validate Application Server Configurations operations.

**AEM Forms on JEE Server specific properties:** Required for the Initialize AEM Forms on JEE and Deploy AEM Forms on JEE Components operations.

These properties are required for the following operations:

• Initialize AEM Forms on JEE

• Deploy AEM Forms on JEE components.

| Property | Values | Description |
|---|---|---|
| targetServer.topologyType | server or cluster | The type of application server topology for which you are deploying AEM forms on JEE. |

| Property | Values | Description |
|---|---|---|
| targetServer.name | String | The name assigned to the application server/admin server node or cluster. |
| targetServer.adminHost | String<br>Default is *localhost* | The hostname of the server where the application server is installed. |
| targetServer.adminPort | Integer | The port number the admin server uses to listen for SOAP requests. |
| targetServer.adminUserID | String | The administrative user ID to use when accessing the application server. |
| localServer.appServerRootDir | Default:<br>(Windows) C:\Program Files\IBM\ WebSphere\AppServer<br>(Linux, Solaris) /opt/IBM/WebSphere/AppServer<br>(AIX) /usr/IBM/WebSphere/AppServer | The root directory of the application server instance that you are configuring locally (on which you plan to deploy AEM Forms on JEE or that you will use to communicate with a remote server on which you plan to deploy AEM Forms on JEE). |
| *AEM Forms on JEE Server specific properties* | | |
| LCHost | String | The hostname of the server where AEM Forms on JEE will be deployed.<br>For cluster deployments, hostname of any one of the cluster nodes where the application server is running. |
| LCPort | Integer | The web port number where AEM Forms on JEE will be deployed. |

| Property | Values | Description |
|---|---|---|
| excludedSolutionComponents | String. Values include: ALC-LFS-Forms, ALC-LFS-ConnectorEMCDocumentum, ALC-LFS-ConnectorIBMFileNet, ALC-LFS-ConnectorIBMContent Manager, ALC-LFS-DigitalSignatures, ALC-LFS-DataCapture, ALC-LFS-Output, ALC-LFS-PDFGenerator, ALC-LFS-ProcessManagement, ALC-LFS-ReaderExtensions, ALC-LFS-RightsManagement ALC-LFS-CorrespondenceManagement, ALC-LFS-ContentRepository, ALC-LFS-MobileForms, ALC-LFS_FormsManager | (Optional) List the AEM Forms on JEE modules you do not want to configure. Specify the excluded modules in a comma separated list. |
| includeCentralMigrationService | true: to include service false: to exclude servcie | The property to include or exclude Central Migration Bridge Service. |
| CRX Content repository The following properties are specified in the `cli_propertyFile_crx_template.txt`file. | true: false: | |
| contentRepository.rootDir | | Path of the CRX repository. |
| is.new.installation.of.crx.repository | true: to create a new repository false: to upgrade an existing repository | If the content repository did not exist before upgrade and you have installed the Content Repository for the very first time then set the value to true. |
| use.crx3.mongo | true: false: | If you have performed a fresh installation, to use Mongo DB with CRX3 set value to true. If the value is false CRX3 TAR is configured. |
| mongo.db.uri | <URI of Mongo DB> | If you are using Mongo DB, set URI of Mongo DB |

| Property | Values | Description |
|---|---|---|
| mongo.db.name | <name of Mongo DB> | If you are using Mongo DB, provide name of Mongo DB instance |
| use.crx3.rdb.mk | true:<br>false: | When the value of this property is true, the CRX repository is configured with RDB MK. The default value is false where the repository is configured as CRX3 TAR. |

## Configure AEM Forms on JEE properties

These properties only apply to the configure AEM Forms on JEE operation.

| Property | Values | Description |
|---|---|---|
| AdobeFontsDir | String | Location of the Adobe server fonts directory.<br>This path must be accessible from the server being deployed to.<br>This path must be accessible from all cluster nodes being deployed to. |
| customerFontsDir | String | Location of the customer fonts directory.<br>This path must be accessible from the server being deployed to.<br>This path must be accessible from all cluster nodes being deployed to. |
| systemFontsDir | String | Location of the system fonts directory.<br>This path must be accessible from the server being deployed to.<br>This path must be accessible from all cluster nodes being deployed to. |

| Property | Values | Description |
|---|---|---|
| LCTempDir | String | Location of the temporary directory.<br>This path must be accessible from the server being deployed to.<br>This path must be accessible from all cluster nodes being deployed to. |
| LCGlobalDocStorageDir | String | The global document storage root directory.<br>Specify a path to an NFS shared directory used to store long-lived documents and to share them among all cluster nodes.<br>This path must be accessible from the server being deployed to.<br>This path must be accessible from all cluster nodes being deployed to. |
| EnableDocumentDBStorage | true or false<br>Default: false | Enables or disables document storage in database for persistent documents.<br>Even if you enable document storage in database, you will need the file system directory for GDS. |

## Configure or validate application server properties

### Configure or Validate WebSphere properties

The Configuration Manager can configure or validate your WebSphere application server as required by AEM Forms on JEE.

These properties apply to the following operations:
• Configure Application Server
• Validate Application Server Topology
• Validate Application Server Configurations

•      Validate Database Connectivity

**Application server properties**

| Property | Values | Description |
|---|---|---|
| *You must configure the application server-specific properties section. For more information see* Commonproperties | | |
| jvm.initialHeapSize | Default: 256 | The initial heap size, in MB, for the JVM. |
| jvm.maxHeapSize | Default: 4096 | The maximum heap size, in MB, for the JVM. |
| *WebLogic and WebSphere Cluster only* | | |
| cache.useUDP | true | Set the value to `true` if AEM Forms on JEE uses UDP to implement caching. Set to `false` if AEM Forms on JEE uses TCP to implement caching. |
| cache.udp.port | Default: 33456 | The port number that the primary computer uses for UDP-based caching communication. Configure only if cache.useUDP=true. |
| cache.tcpip.primaryhost | String | The host name of the computer where the primary application server is installed. Configure only if cache.useUDP!=true. |
| cache.tcpip.primaryport | Default: 22345 | The port number that the primary application server computer uses for TCP-based caching communication. Configure only if cache.useUDP!=true. |

| Property | Values | Description |
|---|---|---|
| cache.tcpip.secondaryhost | String | The host name of the computer where the secondary application server is installed. Configure only if cache.useUDP!=true. |
| cache.tcpip.secondaryport | Default: 22345 | The port number that the secondary application server computer uses for TCP-based caching communication. Configure only if cache.useUDP!=true. |
| *Datasource configuration* | | |
| datasource.dbType | Choose: <br>•    oracle <br>    *db2* <br>    *sqlserver* | The type of database configured to use with AEM Forms on JEE. |
| datasource.dbName | String | The name of the database. |
| datasource.dbHost | String | The host name or IP address of the server where the database is located. |
| datasource.dbPort | Integer | The database port AEM Forms on JEE will use when communicating with the database. |
| datasource.dbUser | String | The user ID AEM Forms on JEE will use when accessing the database. |
| datasource.dbPassword | String | The password associated with the database user ID. |
| datasource.target.driverPath | String | JDBC driver in the application server lib directory. This path must be valid and accessible from the server being configured. This path must be valid and accessible from all cluster nodes being configured. |

| Property | Values | Description |
|---|---|---|
| datasource.local.driverPath | String | Local JDBC driver. This value is used for testing direct database connection. |

## Deploy AEM Forms on JEE properties

These Deploy AEM Forms on JEE properties only apply to the deploy AEM Forms on JEE operation.

| Property | Values | Description |
|---|---|---|
| *For more information, see Common properties.* | | |
| deployment.includeIVS | false | Specifies whether IVS EAR files are included in the deployment. It is recommended not to include IVS EAR files in a production environment. |
| targetServer.virtualHost | String | Virtual host of your WebSphere application server. The default values are admin_host, default_host, proxy_host. |

## Initialize AEM Forms on JEE properties

These initialize AEM Forms on JEE properties only apply to the initialize AEM Forms on JEE operation.

| Property | Values | Description |
|---|---|---|
| *For more information, see Common properties.* | | |

## Deploy AEM Forms on JEE Components properties

These properties apply to the following operations:
- Deploy AEM Forms on JEE Components
- Validate AEM Forms on JEE Component Deployment
- Validate AEM Forms on JEE Server.

| Property | Values | Description |
|---|---|---|
| *You must configure the AEM Forms on JEE Server Information section. For more information, see Common properties* | | |

| Property | Values | Description |
|---|---|---|
| LCAdminUserID | String | The user ID to assign to the AEM Forms on JEE Administrator user. This User ID is used to login to the Administrator Console. |
| LCAdminPassword | String | The password to assign to the AEM Forms on JEE Administrator user. This password is used to login to the Administrator Console. |

## Add administrator user for PDF Generator

These properties apply only to the adding administrator user for PDF Generator operation. These properties are present in cli_propertyFile_pdfg_template.txt

| Property | Values | Description |
|---|---|---|
| LCHost | String | Hostname where AEM Forms on JEE Server is installed. |
| LCPort | Integer | Port number where AEM Forms on JEE application server is configured |
| LCAdminUserID | String | The user ID to assign to the AEM Forms on JEE Administrator user. This User ID is used to login to the Administrator Console. |
| LCAdminPassword | String | The password to assign to the AEM Forms on JEE Administrator user. This password is used to login to the Administrator Console. |
| LCServerMachineAdminUser | String | The user ID of the Administrator user of the Operation System hosting AEM forms on JEE |
| LCServerMachineAdminUserPasswd | String | The password of the Administrator user of the Operation System hosting AEM forms on JEE |

## Configure Connector for IBM Content Manager

**NOTE:** The following properties are specified in the cli_propertyFile_ecm_ibmcm_template.txt file.

| Property | Values | Description |
|---|---|---|
| LCHost | String | Hostname where AEM Forms on JEE Server is installed. |
| LCPort | Integer | Port number where AEM Forms on JEE application server is configured |
| LCAdminUserID | String | The user ID to assign to the AEM Forms on JEE Administrator user. This User ID is used to login to the Administrator Console. |
| LCAdminPassword | String | The password to assign to the AEM Forms on JEE Administrator user. This password is used to login to the Administrator Console. |
| CDVTopology.appserverrootdir | String | The root directory of the application server instance that you are configuring on a remote server (on which you plan to deploy AEM Forms on JEE) |
| ConfigureIBMCM | true or false | Specify true to configure Connector for IBM Content Manager |
| IBMCMClientPathDirectory | String | Location of IBM Content Manager client installation directory. |
| DataStoreName | String | Name of the DataStore of IBM Content Manager Server that you want to connect to |
| IBMCMUsername | String | The user name assign to the IBM Content Manager Administrator user. This User ID is used to login to the IBM Content Manager. |

| Property | Values | Description |
| --- | --- | --- |
| IBMCMPassword | String | The password to assign to the IBM Content Manager Administrator user. This password is used to login to the IBM Content Manager. |
| ConnectionString | String | Additional arguments used in the connection string to connect to IBM Content Manager(Optional). |

## Configure Connector for IBM FileNet

**NOTE:** The following properties are specified in the cli_propertyFile_ecm_filenet_template.txt file.

| Property | Values | Description |
| --- | --- | --- |
| LCHost | String | Host name of the machine where AEM Forms on JEE Server is installed. |
| LCPort | Integer | Port number where AEM Forms on JEE application server is configured |
| LCAdminUserID | String | The user ID to assign to the AEM Forms on JEE Administrator user. This User ID is used to login to the Administrator Console. |
| LCAdminPassword | String | The password to assign to the AEM Forms on JEE Administrator user. This password is used to login to the Administrator Console. |
| CDVTopology.appserverrootdir | String | The root directory of the application server instance that you are configuring on a remote server (on which you plan to deploy AEM Forms on JEE) |
| ConfigureFilenetCE | true or false | Specify true to configure Connector for IBM Filenet |

| Property | Values | Description |
|---|---|---|
| FilenetConfigureCEVersion | String | The FileNet client version to configure. Specify FilenetClientVersion5.0 or FilenetClientVersion5.2 |
| FilenetCEClientPathDirectory | String | Location of IBM Filenet Content Manager client installation directory. |
| ContentEngineName | String | Host name or IP address of the machine where IBM Filenet Content Engine is installed |
| ContentEnginePort | String | The port number used by IBM Filenet Content Engine |
| CredentialProtectionSchema | CLEAR or SYMMETRIC | Specify the level of protection. |
| EncryptionFileLocation | String | Location of the encryption file. This is required only when you select SYMMETRIC option for CredentialProtectionSchema attribute. Use a forward slash (/) or double backward slashes (\\) as a path seperator. |
| DefaultObjectStore | String | Name of the ObjectStore for the Connector for IBM Filenet Content Server. |
| FilenetContentEngineUsername | String | The user ID to connect to the IBM FileNet Content server. The user ID with read-access privileges would be allowed to connect to the Default object Store. |
| FilenetContentEnginePassword | String | The password to assigned to the IBM FileNet user. This password is used to connect to Default object Store. |
| ConfigureFilenetPE | true or false | Specify true to configure Connector for IBM FileNet |
| FilenetPEClientPathDirectory | String | Location of IBM FIleNet client installation directory |

| Property | Values | Description |
|---|---|---|
| FilenetProcessEngineHostname | String | Host name or IP address of the process router. |
| FilenetProcessEnginePortNumber | Integer | Port number for IBM FileNet Content Server |
| FilenetPERouterURLConnectionPoint | String | Name of the process router. |
| FilenetProcessEngineUsername | String | The user ID to connect to the IBM FileNet Content Server |
| FilenetProcessEnginePassword | String | The password to connect to the IBM FileNet Content Server |

## Configure Connector for EMC Documentum

**NOTE:** The following properties are specified in the cli_propertyFile_ecm_documentum_template.txt file.

| Property | Values | Description |
|---|---|---|
| LCHost | String | Host name where AEM Forms on JEE Server is installed. |
| LCPort | Integer | Port number where AEM Forms on JEE application server is configured |
| LCAdminUserID | String | The user ID to assign to the AEM Forms on JEE Administrator user. This User ID is used to login to the Administrator Console. |
| LCAdminPassword | String | The password to assign to the AEM Forms on JEE Administrator user. This password is used to login to the Administrator Console. |
| CDVTopology.appserverrootdir | String | The root directory of the application server instance that you are configuring on a remote server (on which you plan to deploy AEM Forms on JEE) |

| Property | Values | Description |
|---|---|---|
| ConfigureDocumentum | true or false | Specify true to configure Connector for EMC Documentum |
| DocumentumClientVersion | String | The EMC Documentum client version to configure. Specify DocumentumClientVersion6.7 or DocumentumClientVersion7.0 |
| DocumentumClientPathDirectory | String | Location of EMC Documentum client installation directory |
| ConnectionBrokerHostName | String | Host name or IP address of the EMC Documentum Content Server. |
| ConnectionBrokerPortNumber | String | Port number for EMC Documentum Content Server |
| DocumentumUsername | String | The user ID to connect to the EMC Documentum Content Server. |
| DocumentumPassword | String | The password ID to connect to the EMC Documentum Content Server. |
| DocumentumDefaultRepositoryName | String | Name of the default repository of MC Documentum Content Server |

## Configure Connector for Microsoft SharePoint

**NOTE:** The following properties are specified in the cli_propertyFile_ecm_sharepoint_template.txt file.

| Property | Values | Description |
|---|---|---|
| LCHost | String | Host name where AEM Forms on JEE Server is installed. |
| LCPort | Integer | Port number where AEM Forms on JEE application server is configured |

| Property | Values | Description |
|---|---|---|
| LCAdminUserID | String | The user ID to assign to the AEM Forms on JEE Administrator user. This User ID is used to login to the Administrator Console. |
| LCAdminPassword | String | The password to assign to the AEM Forms on JEE Administrator user. This password is used to login to the Administrator Console. |
| CDVTopology.appserverrootdir | String | The root directory of the application server instance that you are configuring on a remote server (on which you plan to deploy AEM Forms on JEE) |
| ConfigureSharePoint | true or false | Specify true to configure Connector for Microsoft SharePoint |
| SharePointServerAddress | String | Host name or IP address of the Sharepoint Server |
| SharePointUsername | String | The user ID to connect to the Sharepoint Server |
| SharePointPassword | String | The password to connect to the Sharepoint Server |
| SharePointDomain | String | The Domain Name of the Sharepoint Server |
| ConnectionString | String | Additional arguments used in the connection string to connect to the Sharepoint Server(optional |

## Command Line Interface Usage

Once you have configured your property file, you must navigate to the *[AEM Forms on JEE root]*/configurationManager/bin folder.

To view a complete description of the Configuration Manager CLI commands, type:
`ConfigurationManagerCLI help <command name>.`

**Configure AEM Forms on JEE CLI Usage**

The Configure AEM Forms on JEE operation requires the following syntax:

configureLiveCycle -f *<propertyFile>*

Where:

• -f *<propertyFile>:* A property file containing the required arguments. For more information on creating a property file, see *Command Line Interface property file*.

**Configure CRX CLI Usage**

The Configure CRX Repository requires the following syntax:

configureCRXRepository -f *<propertyFile>*

**Validate Application Server Topology CLI Usage**

The Validate Application Server Topology operation is optional and requires the following syntax:

validateApplicationServerTopology -f *<propertyFile> -targetServer_AdminPassword <password>*

Where:

• -targetServer_AdminPassword <password>: Allows you to set the Admin password on the command line. If this argument is present, it will override the targetServer.adminPassword property in the property file.

**Validate database connectivity CLI Usage**

The validate Database Connectivity operation is optional and requires the following syntax:

validateDBConnectivity -f *<propertyFile> -datasource_dbPasssword <password>*

Where:

• -datasource_dbPassword <password>: Allows you to set the database user password on the command line. If this argument is present, it will override the datasource.dbPassword property in the property file.

**Configure the Application Server CLI Usage**

The Configure Application Server operation requires the following syntax:

configureApplicationServer -*targetServer_AdminPassword <password>*-f *<propertyFile>* [-skip *<configurationsToSkipList>*]

Where:

• -targetServer_AdminPassword <password>: Allows you to set the Administrator password on the command line. If this argument is present, it will override the targetServer_AdminPassword property in the property file.

• -skip *<configurationsToSkipList>*: This is an optional parameter which allows you to list the application server components you do not want to configure. Specify the excluded components in a comma separated list. Valid options are Datasource or Core.

**Validate Application Server Configurations CLI Usage**

The Validate Application Server Configurations operation is optional and requires the following syntax:

validateApplicationServerConfigurations -f *<propertyFile> -targetServer_AdminPassword <password>*

Where:

- -targetServer_AdminPassword <password>: Allows you to set the Admin password on the command line. If this argument is present, it will override the targetServer.adminPassword property in the property file.

**(WebSphere and Weblogic Only) Deploy AEM Forms on JEE CLI Usage**

The Deploy AEM Forms on JEE operation requires the following syntax:

deployLiveCycle -f *<propertyFile>*

**IMPORTANT:** You must restart your application server after you complete Deploy AEM Forms on JEE operation.

**Initialize AEM Forms on JEE CLI Usage**

The initialize AEM Forms on JEE operation requires the following syntax:

initializeLiveCycle -f *<propertyFile>*

**Validate AEM Forms on JEE Server CLI Usage**

The Validate AEM Forms on JEE Server operation is optional and requires the following syntax:

validateLiveCycleServer -f *<propertyFile> -LCAdminPassword <password>*

Where:

- -LCAdminPassword <password>: Allows you to set the Admin password on the command line. If this argument is present, it will override the targetServer.adminPassword property in the property file.

**Deploy AEM Forms on JEE Components CLI Usage**

The Deploy AEM Forms on JEE Components operation requires the following syntax:

deployLiveCycleComponents -f *<propertyFile> -LCAdminPassword <password>*

**Validate AEM Forms on JEE Component Deployment CLI Usage**

The Validate AEM Forms on JEE Component Deployment operation is optional and requires the following syntax:

validateLiveCycleComponentDeployment -f *<propertyFile> -LCAdminPassword <password>*

**Check system readiness for PDF Generator**

The Checking system readiness for PDF Generator operation requires the following syntax:

pdfg-checkSystemReadiness

**Adding administrator user for PDF Generator**

The adding administrator user for PDF Generator operation requires the following syntax:

pdfg-addAdminUser -f *<propertyFile>*

Where:

- -f *<propertyFile>:* A property file containing the required arguments. For more information on creating a property file, see *Command Line Interface property file*.

**Configure Connector for IBM Content Manager**

The Configure Connector for IBM Content Manager operation is optional and requires the following syntax:

IBMCM-configurationCLI -f <propertyFile>

**IMPORTANT:** Modify the <propertyFile> called cli_propertyFile_ecm_ibmcm_template.txt located in the *[aem-forms root]*\configurationManager\bin\ directory.

Perform the following steps manually to complete the configuration for Connector for IBM Content Manager.

1)   Copy the *adobe-component-ext.properties* file from *[aem-forms root]*/configurationMan-ager/configure-ecm/websphere to the following [appserver root]/profiles/[profile_name] direc-tory.

2)   Restart the Application Server.

3)   Start the following services from administration console

  –   IBMCMAuthProviderService

  –   IBMCMConnectorService

**Configure Connector for IBM FileNet**

The Configure Connector for IBM FileNet operation is optional and requires the following syntax:

filenet-configurationCLI -f <propertyFile>

**IMPORTANT:** Modify the <propertyFile> called cli_propertyFile_ecm_filenet_template.txt located in the *[aem-forms root]*\configurationManager\bin\ directory.

Perform the following steps manually to complete the configuration for Connector for IBM Content Manager.

1)   Copy the *adobe-component-ext.properties* file from *[aem-forms root]*/configurationMan-ager/configure-ecm/websphere to the following [appserver root]/profiles/[profile_name] direc-tory.

2)   Locate the wsjass.conf file in the [appserver root]/profiles/[profile name]/properties directory and add to it contents of wsjass.conf file available in [aem-forms root]/configurationMan-ager/configure-ecm/websphere directory.

3)   Restart the Application Server.

4)   Start the following services from administration console

  –   IBMFileNetAuthProviderService

–    IBMFileNetContentRepositoryConnector

–    IBMFileNetRepositoryProvider

–    IBMFileNetProcessEngineConnector(If configured)

**Configure Connector for EMC Documentum**

The Configure Connector for EMC Documentum operation is optional and requires the following syntax:

documentum-configurationCLI -f <propertyFile>

**IMPORTANT:** Modify the <propertyFile> called cli_propertyFile_ecm_documentum_template.txt located in the *[aem-forms root]*\configurationManager\bin\ directory.

Perform the following steps manually to complete the configuration for Connector for EMC Documentum.

1)    Copy the *adobe-component-ext.properties* file from *[aem-forms root]*/configurationManager/configure-ecm/websphere to the following [appserver root]/profiles/[profile_name] directory.

2)    Restart the Application Server.

3)    Start the following services from administration console

–    EMCDocumentumAuthProviderService

–    EMCDocumentumRepositoryProvider

–    EMCDocumentumContentRepositoryConnector

**Configure Connector for Microsoft SharePoint**

The Configure Connector for Microsoft SharePoint operation is optional and requires the following syntax:

sharepoint-configurationCLI -f <propertyFile>

Where:

**IMPORTANT:** Modify the <propertyFile> called cli_propertyFile_ecm_sharepoint_template.txt located in the *[aem-forms root]*\configurationManager\bin\ directory.

# 8.5. Examples Usage

From the C:\Adobe\Adobe_Experience_Manager_Forms\configurationManager\bin, type:

```
ConfigurationManagerCLI configureLiveCycle -f cli_propertyFile.txt
```

Where *cli_propertyFile.txt* is the name of the property file you created.

# 8.6. Configuration Manager CLI Logs

If an error occurs, you can review the CLI logs located here in the *[aem-forms root]*\configurationMan-
ager\log folder. The log file generated will have a naming convention such as lcmCLI.0.log where the
number in the filename (0) will increment when the log files are rolled over.

# 8.7. Next steps

If you used Configuration Manager CLI to configure and deploy AEM Forms on JEE, then do the following
tasks now:

- UpgradetheCRXrepositoryand migrate the content
- Perform post deployment configurations

# 9. Appendix - Configuring the Connector for Microsoft SharePoint on the SharePoint Server

The Connector for Microsoft SharePoint allows you to integrate workflows from both the AEM Forms on JEE and the SharePoint development perspectives. This module includes a AEM Forms on JEE service and a sample SharePoint feature that facilitates end-to-end connection between the two systems.

The service provides search, read, write, delete, update, and check in/out capabilities with a SharePoint repository. SharePoint users can initiate AEM Forms on JEE processes such as an approval process from within SharePoint, convert documents to Adobe PDF, and manage the rights on a file in PDF or native formats. In addition, from within the SharePoint context, you can automate running AEM Forms on JEE processes from within SharePoint workflows.

## 9.1. Installation and configuration

After you configured the AEM Forms on JEE installation, carry out the following steps to configure the connector on the SharePoint server.

### System requirements for the SharePoint server

Ensure that your server that runs the SharePoint site meets the following requirements:
- Microsoft SharePoint Server 2007, 2010, or 2013
- Microsoft .NET Framework 3.5

### Installation considerations

Keep in mind the following, before you plan your installation:
- If you are using Microsoft SharePoint Server 2007, the installation process stops and restarts the Windows IIS Server when installing Connector for Microsoft SharePoint on the SharePoint server.
- Before you run the installation, ensure that no other sites or web applications are using services on the IIS Server. Consult with your IIS Administrator before you proceed with the installation.
- (For Sharepoint server 2010 Farmed installation) The SharePoint administration service is running on the central administration server of the SharePoint server Farm. (For SharePoint server 2010 Standalone installation) The SharePoint administration service is stopped on the SharePoint server.

## 9.2. Installation and configuration on SharePoint server 2007

## Extract the web part installer

When you installed the AEM Forms on JEE server, the web part installer for SharePoint server named `Adobe Connector-2007.zip`was created in the *[aem-forms root]*\plugins\sharepoint folder. Copy this file to a folder on the Windows server that hosts SharePoint, and then extract the files.

## Edit the batch file

The folder extracted from the web part installer contains a batch file named `Install.bat`. You must update this batch file with the file and folder paths relevant to your SharePoint server.

1)  Open the `Install.bat` file in a text editor.

2)  Locate the following lines in the file and change them:

```
@SET GACUTILEXE="C:\Program Files\Microsoft SDKs\Windows\v6.0A\Bin\
gacutil.exe"
@SET TEMPLATEDIR="c:\Program Files\Common Files\Microsoft Shared\ web
server extensions\12\TEMPLATE"
@SET WEBAPPDIR="C:\Inetpub\wwwroot\wss\VirtualDirectories\<port>"
@SET SITEURL="http://<SharePoint Server>:<port>/SiteDirectory/<site
name>/"
@SET STSADM="C:\Program Files\Common Files\Microsoft Shared\ web server
extensions\12\bin\stsadm.exe"
```

-   *GACUTILEXE:* Change the path to the folder where the GAC utility is located.

-   *TEMPLATEDIR:* Change the template directory path of the IIS Server on your system.

-   *WEBAPPDIR:* Change the path of the WEBAPPDIR of the IIS Server on your system if it differs from the default value included in the batch file.

-   *SITEURL:* Change the URL of the SharePoint site on your system on which you want to activate the AEM Forms on JEE feature.

-   *STSADM*: Change the path to the folder where the STSADM utility is located.

**NOTE:** The AEM Forms on JEE feature is installed on a web application on the SharePoint server. The AEM Forms on JEE feature will be activated only on the site that you have provided the site URL for. You can activate the AEM Forms on JEE feature for other SharePoint sites later from the Site Settings page of those sites. See SharePoint Help for more information.

3)  Save and close the file.

## Run the batch file

Navigate to the folder where the edited batch file is present, and then run the `Install.bat` file.

Keep in mind that the SharePoint site will be unavailable for other services during the time the batch file runs.

When you run the batch file, the following occurs:

•   Registers the `AdobeLiveCycleConnector.dll` and `AdobeLiveCycleWorkflow.dll` files. These dynamic libraries integrate the AEM Forms on JEE features with the SharePoint server.

- Uninstalls any previously installed SharePoint connector.
- Copies the template files to the *WSS \TEMPLATE* directory.
- Copies the resource files to *WEBAPPDIR\App_GlobalResources* directory.
- Installs and activates the AEM Forms on JEE features with web server extensions.
- Closes the installer and returns the prompt.

## Copy the Service Model configuration to the IIS Web Application folder

You must copy the SharePoint Connector-specific configuration settings to the web application home directory of the IIS Server. This adds the AEM forms on JEE feature to the web application.

1) Navigate to the *sharepoint-webpart* folder that was created when you extracted the AEM Forms on JEE feature installer.

2) Open the `AdobeLiveCycleConnector.dll.config` file in a text editor.

3) Copy the content between `<system.serviceModel>` and `</system.serviceModel>` tags (including both the starting and ending tags), and then close the file.

4) Navigate to the web application home directory on the IIS Service on your computer that you specified in the batch file. Typically, the folder is `C:\Inetpub\wwwroot\wss\VirtualDirectories\<port>`.

5) Create a backup of the `web.config` file and then open the original file in a text editor.

6) Append the content that you copied before the `</configuration>` tag.

7) Save and close the file.

# 9.3. Installation and configuration on the SharePoint server 2010 and SharePoint server 2013

## Edit Environment Variables

Append path of stsadm.exe to PATH environment variable. The default path of stsadm.exe is `C:\Program Files\Common Files\MicrosoftShared\Web Server Extensions\14\BIN`.

## Extract the web part installer

When you installed the AEM Forms on JEE server, the web part installer for SharePoint server files named `Adobe Connector-2010.zip` and `Adobe Connector-2013.zip` are created in the [aem-forms root]\plugins\sharepoint folder.

- If you are using Microsoft SharePoint 2010, copy file `Adobe Connector-2010.zip` to a folder on the Windows server that hosts SharePoint, and then extract the copied file.

- If you are using Microsoft SharePoint 2013, copy file `Adobe Connector-2013.zip` to a folder on the Windows server that hosts SharePoint, and then extract the copied file.

## Install and Activate the Connector

1) (Optional) Select options for SharePoint Server Context menu before installing connector. See *Enable/Disable features* for detailed steps.

2) Run following commands in the listed order to install the Connector for SharePoint Server. Ensure that you run `stsadm - o enumsolutions` after each command to verify that the changes have been the propagated to all the servers.

   *Run* `stsadm - o enumsolutions` *repeatedly, until the resultant xml contains* `<state>pending</state>` **tag.**

   ```
   install.bat -create
   install.bat -add
   install.bat -deploy
   install.bat -install
   ```

   **NOTE:** For the install.bat -deploy command, run stsadm - o enumsolutions repeatedly, until the resultant xml contains <LastOperationResult>DeploymentSucceeded</LastOperationResult> tag.

3) Activate the connector from SharePoint Web Application. To activate the connector:
   a) Open SharePoint Web Application in a browser.
   b) Click **Site Settings**.
   c) Click **Site Collection Features.**
   d) Click Activate for **Adobe Connector** and **Workflow** feature.

## Enable/Disable features

You can change options of context menu and disable other features on SharePoint Sites. For the Share-point Connector installed with default set of options, following options are enabled on SharePoint Server:

- Convert to Adobe PDF
- Enable for commenting by adobe reader.
- Secure with Adobe Policy.
- Invoke AEM Forms on JEE Processes

You may make changes to `Elements.xml` file to change above options and to enable or disable another features. To make changes to `Elements.xml`

1) Navigate to the folder containing extracted contents of `Adobe Connector-2010.zip` or `Adobe Connector-2013.zip` file.

2) Take backup of Elements.xml file. The default location of `Elements.xml` is `< Directory containing Extracted Adobe Connector-2010/2013.zip File >\TEMPLATE\FEATURES\LiveCycle\Elements.xml`

3) Open the `Elements.xml` file in a text editor.

4)    Delete or comment the CustomAction elements of features that you want to disable .

| Docucent Server feature | CustomAction element ID | Description |
|---|---|---|
| ReaderExtensions | LiveCycle.ApplyReaderExtensions | Enables Acrobat Reader DC extensions on PDF documents. |
| Rights Management | LiveCycle.RightsManagement.ApplyPolicyToPdf | Rights-protect PDF documents |
| | LiveCycle.RightsManagement.ApplyPolicyToDoc | Rights-protect Microsoft Word documents |
| | LiveCycle.RightsManagement.ApplyPolicyToXls | Rights-protect Microsoft Excel documents |
| | LiveCycle.RightsManagement.ApplyPolicyToPpt | Rights-protect Microsoft PowerPoint doments |
| | LiveCycle.RightsManagement.ApplyPolicyToDocx | Rights-protect Microsoft Word documents |
| | LiveCycle.RightsManagement.ApplyPolicyToXlsx | Rights-protect Microsoft Excel documents |
| | LiveCycle.RightsManagement.ApplyPolicyToPptx | Rights-protect Microsoft PowerPoint doments |
| | LiveCycle.RightsManagement.ApplyPolicyToDwg | Rights-protect Microsoft Excel documents |
| | LiveCycle.RightsManagement.ApplyPolicyToDxf | Rights-protect AutoCAD documents |
| | LiveCycle.RightsManagement.ApplyPolicyToDwf | Rights-protect AutoCAD documents |
| PDF Generator | LiveCycle.GeneratePDFFromPdf | Convert a PDF created from an image to a?text-based PDF if Standard OCR was used? as the file type in Site Settings. |
| | LiveCycle.GeneratePDFFromDoc | Generate PDF from Microsoft Word documents |
| | LiveCycle.GeneratePDFFromPs | Generate PDF from PostScript files |
| | LiveCycle.GeneratePDFFromEps | Generate PDF from EPS documents |
| | LiveCycle.GeneratePDFFromPrn | Generate PDF from PRN files |

| | |
|---|---|
| LiveCycle.GeneratePDFFromDocx | Generate PDF from Microsoft Word 2007 documents |
| LiveCycle.GeneratePDFFromPpt | Generate PDF from Microsoft PowerPoint documents |
| LiveCycle.GeneratePDFFromPptx | Generate PDF from Microsoft PowerPoint documents |
| LiveCycle.GeneratePDFFromXls | Generate PDF from Microsoft Excel documents |
| LiveCycle.GeneratePDFFromXlsx | Generate PDF from Microsoft Excel documents |
| LiveCycle.GeneratePDFFromBmp | Generate PDF from BMP files |
| LiveCycle.GeneratePDFFromGif | Generate PDF from GIF files |
| LiveCycle.GeneratePDFFromJpeg | Generate PDF from JPEG images |
| LiveCycle.GeneratePDFFromJpg | Generate PDF from JPG images |
| LiveCycle.GeneratePDFFromTiff | Generate PDF from TIFF images |
| LiveCycle.GeneratePDFFromTif | Generate PDF from TIF images |
| LiveCycle.GeneratePDFFromPng | Generate PDF from PNG images |
| LiveCycle.GeneratePDFFromJpf | Generate PDF from JPF images |
| LiveCycle.GeneratePDFFromJpx | Generate PDF from JPX images |
| LiveCycle.GeneratePDFFromJp2 | Generate PDF from JPEG 2000 images |
| LiveCycle.GeneratePDFFromJ2k | Generate PDF from JPEG 2000 images |
| LiveCycle.GeneratePDFFromJ2c | Generate PDF from JPEG 2000 images |
| LiveCycle.GeneratePDFFromJpc | Generate PDF from JPEG 2000 images |
| LiveCycle.GeneratePDFFromHtm | Generate PDF from HTM documents |
| LiveCycle.GeneratePDFFromHtml | Generate PDF from HTML documents |
| (Deprecated) LiveCycle.GeneratePDFFromSwf | (Deprecated) Generate PDF from SWF files |
| LiveCycle.GeneratePDFFromFlv | Generate PDF from Flash video files |
| LiveCycle.GeneratePDFFromTxt | Generate PDF from text files |
| LiveCycle.GeneratePDFFromRtf | Generate PDF from Rich Text Format files |

CHAPTER 9

INSTALLATION AND CONFIGURATION ON THE SHAREPOINT SERVER 2010 AND SHAREPOINT SERVER 2013
APPENDIX - CONFIGURING THE CONNECTOR FOR MICROSOFT SHAREPOINT ON THE SHAREPOINT SERVER

|  | LiveCycle.GeneratePDFFromMpp | Generate PDF from Microsoft Project files |
|--|--|--|
|  | LiveCycle.GeneratePDFFromPub | Generate PDF from Microsoft Publisher?documents |
| Invoke LiveCycle process | LiveCycle.InvokeGenericLiveCycleProcessOnALL | Invoke LiveCycle Process |
| Adobe Forms Library | AdobeFormsLibrary | Set up SharePoint as the repository for forms data.Remove the CustomAction, ListTemplate and ListInstance elements. |
| AEM Forms user Tasks | LiveCycleUserTasks | Lists the user tasks.Remove the ListTemplate element. |
| LiveCycle Group Tasks | LiveCycleGroupTasks | Lists the group tasks.Remove the ListTemplate element. |

5)   Save and close `Elements.xml`

## Uninstalling Connector for Microsoft SharePoint Server 2010 and Microsoft SharePoint Server 2013

1)   Deactivate SharePoint Connector from Shrepoint Web Application. To deactivate SharePoint Connector

   a)   Open SharePoint Web Application in a browser.

   b)   Click **Site Settings**.

   c)   Click **Site Collection Features.**

   d)   Click Deactivate for **Adobe Connector**and **Adobe LiveCycle Workflow** Features.

2)   On the command prompt, run the following commands in the given order. Ensure that you run `stsadm - o enumsolutions` after each command to verify that the changes have been the propagated to all the servers. Run `stsadm - o enumsolutions` repeatedly, until the resultant xml contains `<state>pending</state>`tag.

```
Install.bat -uninstall
Install.bat -retract
Install.bat -delete
```

**NOTE:** For the Install.bat -retract command, run stsadm - o enumsolutions repeatedly, until the resultant xml contains <LastOperationResult>RetractionSucceeded</LastOperationResult> tag.