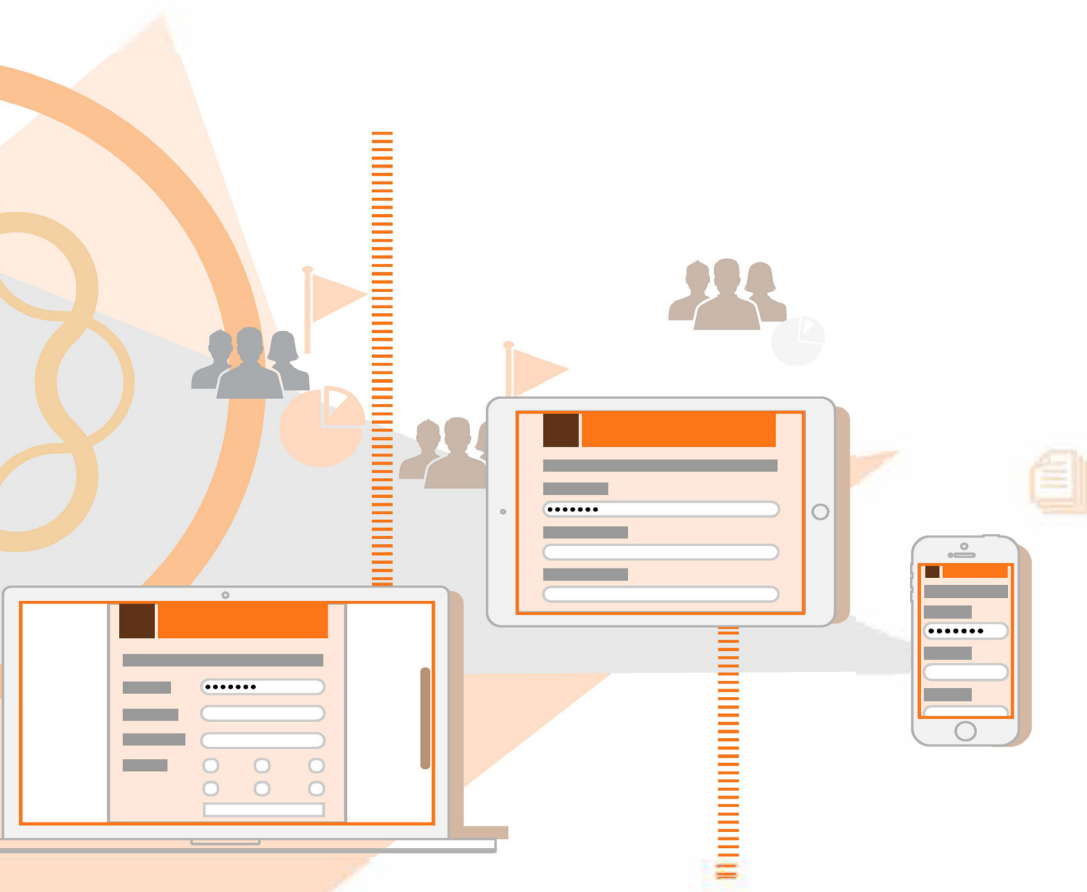# Installing and Deploying Adobe Experience Manager forms on JEE for WebSphere

AEM 6.2 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 architecture and capabilities, see Introduction to AEM Forms.

This document is part of a larger documentation set available at Documentation page. It is advised that you start with the preparing guide and then move on to installation and configuration guide depending on whether you are performing a fresh installation (single server or cluster setup) or upgrading your existing deployment. For Turnkey deployment, which is only for evaluation purposes, see Installing and Deploying AEM forms on JEE usingJBossTurnkey.

1.1. Who should read this document?

This guide provides information for administrators or developers who are responsible for installing, upgrading, configuring, administering, or deploying AEM forms on JEE components. The information provided is based on the assumption that anyone reading this guide is 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 AIX, 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.

Name	Default value	Description
[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	
[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.
[*AEM_temp_dir*]	On Windows: C:\Adobe\Adobe_Experience_Manager_Forms\tmp On Linux, UNIX and AIX: /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 On Linux, UNIX and AIX /opt/adobe/Adobe_Experience_Manager_Forms/crx-repository	The directory that is used for installing the CRX repository.

NOTE: This document uses terms Adobe Experience Manager forms, AEM Forms, AEM Forms on JEE, and LiveCycle interchangeably.

Most of the information about directory locations in this guide is cross-platform (all file names 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
General information about AEM Forms on JEE and the modules	Introduction to AEM Forms
Preparing to Install AEM Forms on JEE	Preparing to Install AEM forms on JEE (SingleServer)

For information about	See
Performing administrative tasks	Administration help
All the documentation available for AEM Forms on JEE	AEM Forms on JEE documentation
Patch updates, technical notes, and additional information about this product version	Adobe Enterprise Support

2. Introduction to Installation, Configuration, and Deployment Process

2.1. Installation, configuration, and deployment overview

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

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

- **Configuring:** Configuring AEM forms on JEE modifies various settings that determine how AEM Forms on JEE works. Assembling the product places all of the installed components into several deployable EAR and JAR files, according to your configuration instructions. Configure and assemble the components for deployment by running Configuration Manager. You can configure and assemble multiple AEM Forms on JEE modules at the same time.

- **Deploying:** Deploying the product involves deploying the assembled EAR files and supporting files to your application server on which you plan to run your AEM Forms on JEE. If you have configured multiple modules, the deployable components are packaged within the deployable EAR files. Components and AEM Forms on JEE archive files are packaged as JAR files. *NOTE: AEM Forms on JEE archive file use .lca file extension.*

- **Initializing the database:** Initializing the database to be used with AEM Forms on JEE creates tables for use with User Management and other components. Deploying any module that connects to the database requires you to initialize the database after the deployment process.

Before you begin to install and configure AEM Forms on JEE, ensure that you have prepared your environment as described in the applicable Preparing guides.

2.2. Selecting tasks for configuring and deploying

After you have installed AEM Forms on JEE, you can run Configuration Manager to:

- Configure modules in an EAR file for deploying to the application server or cluster of application servers

- Configure properties of the application server or cluster of application servers to support AEM Forms on JEE

- Validate application server or cluster configuration

- Deploy AEM Forms on JEE EAR files

- Initialize AEM forms on JEE database
- Deploy AEM Forms on JEE components
- Validate AEM Forms on JEE component deployment
- Configure AEM forms on JEE components

2.3. Automatic vs. manual configuration

Although you can use Configuration Manager to configure the application server or cluster and set up data sources to the database, you may prefer to complete these steps manually for the following reasons:

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

In the manual configuration case, do these tasks:

- Use Configuration Manager to configure AEM Forms on JEE components with the required font, temp, and GDS directories
- Manually configure the application server, configure data sources, and deploy AEM Forms on JEE EAR files
- Run Configuration Manager to initialize the database
- Run Configuration Manager to deploy AEM Forms on JEE components and validate the AEM forms on JEE component deployment.
- Configure AEM forms on JEE components.

2.4. AEM Forms on JEE installation, configuration, and deployment lists

This section includes lists that you can use to step through the installation and configuration process. A list is provided for installing and configuring when using either the automatic method or the manual method.

- **Automatic method:** Refers to using Configuration Manager to configure the application server, configure and deploy AEM Forms on JEE EAR files, initialize the database, and deploy the modules to the server. Use the automatic method if you want to have limited input into the installation, configuration, and deployment of AEM Forms on JEE.
- **Manual method:** Refers to using Configuration Manager only to configure AEM Forms on JEE EAR files, initialize the database, and deploy the modules to the server. Configuring the application server, connecting to the database, and deploying AEM Forms on JEE EAR files to the server is done manually by the administrator by following the instructions later in this document. Use the manual method if you want to have precise input into the installation, configuration, and deployment of AEM Forms on JEE. For example, this method may be used in a locked-down server environment.

Automatic installation and deployment list

The following list includes the steps that are required for installing AEM Forms on JEE modules by using the automatic method. Note that your application server or cluster must be installed before you perform the installation:

• Ensure that you have the required software installed in the target environment. See the appropriate preparing guide at http://www.adobe.com/go/learn_aemforms_documentation_62.

• Run the installation program. (See InstallingAEMformsonJEE.)

• Run Configuration Manager and select all the tasks on the Task Selection screen. It configures the AEM Forms on JEE EAR files, configures application server settings, deploys the EAR files and other components to the application server, initializes the AEM Forms on JEE database, and verifies the deployment. (See Configuring AEM Forms on JEE for Deployment chapter in this guide.)

• Access the administration console and User Management. (See AccessingAdministrationConsole.)

• (Optional) Configure LDAP access. (See ConfiguringLDAPaccess.)

Manual installation and deployment list

• Ensure that you have the required software installed and configured in the target environment.

• Ensure that you created and configured the application server in the target environment.

• Run the installation program.

• Run Configuration Manager and select the Configure AEM Forms on JEE EARs task. This task configures AEM Forms on JEE.

• Configure Application Server settings.

• Deploy the EAR files to the application server. You can do this manually or use Configuration Manager. *NOTE: (**Cluster only**) Ensure that you deploy ear files to the application server on every node of the cluster, When deploying ear files to the application server, ensure that you map modules to the Cluster and the webserver.*

• Run Configuration Manager to initialize the AEM Forms on JEE database and deploy AEM forms on JEE component files.

• Access administration console and User Management.

• (Optional) Configure LDAP access.

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_62_en

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 graphical user interface of the installation program or of 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. Also, do not use special characters in the local path (for example, the character '#').

Check the downloaded files

If you downloaded the installer from the Adobe web site, 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 download web page:

- **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 web site, extract the entire aemforms_server_6_2_0_web-sphere_all_win.zip (Windows) or aemforms_server_6_2_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 installation directories are the defaults; however, you can specify a different directory as required:

- (Windows) C:\Adobe\Adobe_Experience_Manager_Forms
- (AIX, Linux, or Solaris) /opt/adobe/Adobe_Experience_Manager_Forms

IMPORTANT: When installing AEM Forms on JEE, do not use double byte or extended latin characters (such as àâçéèêëïîôùûÄÖßÜ) in the installation path.

When you are installing the modules on UNIX-based systems, you must be logged in as the root user to successfully install the modules to the default location, which is /opt/adobe/Adobe_Experience_Manager_Forms. If you are logged in as a non-root user, change the installation directory to one that you have permissions (read-write-execute privileges) for. For example, you can change the directory to /home/*[username]*/adobe/Adobe_Experience_Manager_Forms.

NOTE: On a UNIX-like system, when you copy/download files from the source (installation media), install.bin might lose the executable permissions. Ensure that you restore the write-execute permissions after copying/downloading the files.

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 text may appear in the console:

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

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

Configuring the JAVA_HOME environment variable

The JAVA_HOME environment variable must point to the Java SDK for your application server as outlined in the preparing guide. See Preparing to Install AEM forms on JEE (SingleServer)

or Preparing to Install AEM forms on JEE (ServerCluster)

for more information

General installation notes

- On Windows, improve the speed of installation by disabling any on-access virus scanning software during installation.
- 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.

  NOTE: If you are using a non-IBM JDK, do not use *[aem-forms root]*/configurationManager/bin/ConfigurationManager.exe.

- 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/VM
     - (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:**

     Do not select this option if you are performing a fresh installation.

   - **Install AEM Forms on JEE:** 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 6.0 Forms and AEM 6.1 Forms uses an identical name. So, if you are upgrading from AEM 6.0 Forms or AEM 6.1 Forms to AEM 6.2 Forms, rename the directory or install AEM 6.2 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 InstallingonaWindowsstagingplatformforLinuxorUNIX.)

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.

      NOTE: To run Configuration Manager later, deselect the **Start Configuration Manager** option before you click **Done**. You can start Configuration Manager later using the appropriate script in the [aem-forms root]/configurationManager/bin directory. See the Configuring AEM Forms on JEE For Deployment chapter in this guide.

3.4. 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 for deployment

4.1. Considerations when configuring and deploying AEM Forms on JEE

General Considerations

- For IPv6, run IPv6 Configuration Manager. For detailed information, see IPv6 support section in prepare to install guide

- .

- You can override the default font for the Configuration Manager by adding the following JVM argument in `[aem-forms root]\configurationManager\bin\ConfigurationManager.bat` (Windows) or `[aem-forms root]\configurationManager\bin\ConfigurationManager.sh` (Linux, UNIX):

  `-Dlcm.font.override=<FONT_FAMILY _NAME>`

  For example:

  `-Dlcm.font.override=SansSerif`

  Restart the Configuration Manager after adding the JVM argument.

- During configuration, if you must reset the data in Configuration Manager by using the Reset to Default option, ensure that you relaunch the Configuration Manager. Otherwise, you may encounter some missing configuration screens.

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

- document.

- Global Document Storage (GDS) directory: Specify the GDS directory that meets the requirements outlined in the Preparing to Install (Single Server or Server Cluster). For latest documentation, see http://www.adobe.com/go/learn_aemforms_tutorials_62_en

- .

- 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 of Configuration Manager, see .

Configuration task	Configuration Manager GUI	Configuration Manager CLI	Manual
Configure AEM Forms on JEE	Yes	Yes	No
Configure application server Only WebLogic and WebSphere application servers can be configured using Configuration Manager.	Yes	Yes	Yes
Validate application server configuration Only WebLogic and WebSphere application server configurations can be validated using Configuration Manager.	Yes	Yes	Yes
Deploy AEM Forms on JEE EARs 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 deploying components to WebSphere on a localized instance of the Windows operating system, the 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.earfailstodeploy
- 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 the article Retrieving signers using the retrieve Signersutilityattheclient

- available from the 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 this 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 same computer as Configuration Manager so that Configuration Manager 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 database 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. On WebSphere admin console, click Servers > Server Types > WebSphere application servers > [server name] > Communications > Ports. You will need to provide the value for BOOTSTRAP_ADDRESS when you configure the application server using Configuration Manager.

Considerations while configuring AEM Forms on JEE Server Clusters

- You cannot configure settings for IPv6-based clusters using Configuration Manager.

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

Set the date, time, and time zone

Setting the 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 time synchronization are database servers, LDAP servers, HTTP servers and J2EE servers (Application servers).

Considerations for upgrading repository

- Take backup of the `[CRX_home]` folder.

- Open the Web Bundles console and delete the `com.day.crx.sling.server` bundle. The default URL of Web Bundles console is
  `http://[server]:[port]/lc/system/console/bundles`

- 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/1.4.2/

- .

4.2. AEM Forms on JEE pre-configuration tasks

NOTE: Press **F1** in Configuration Manager to view Help information for the screen you are viewing. You can view the configuration progress at any time by clicking View Progress Log.

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/ConfigurationManager.sh script.

2) If prompted, select a language for Configuration Manager to use and click **OK.**

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

4) Do not select any option on the Upgrade Task Selection screen and click **Next**.

5) On the Modules screen, select AEM Forms on JEE modules you wish to configure and click **Next**.

   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. For example, you must select Content Repository modules if you are configuring Forms Workflow.

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

   NOTE: If you are using Oracle RAC, do not select the Package JDBC modules into Adobe Experience Manager Forms EAR files (secure datasources) option.

4.3. Configuring and deploying AEM Forms on JEE

*NOTE: Press **F1** in Configuration Manager to view Help information for the screen you are viewing.*

Configuring AEM Forms

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.

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: If you leave the GDS directory field empty, AEM Forms will create the directory in a default location in the application server directory tree. After you finish the configuration steps, you can access the location from administration console > Settings > Core System Settings > Configurations.*

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 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) 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) .

c) Optionally, select AEM Samples need to be installed to install AEM samples.

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.*

NOTE: Clustered environments with relational databases are now supported for production use under a "gated" program. If you intend to use a relational database in a clustered environment, contact AEM Forms product team at forms_documents@adobe.com for approval.

*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, 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 connec-
tion 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 config-
   ure 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 Install-
   ing 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

    d) Under Generic JVM Arguments change http to https in -Dcom.adobe.livecycle.crx.integration.url.

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**.

Choose installation verification sample (IVS) EAR files

1) (Forms, Output, Mobile Forms, and Assembler only)On the Adobe Experience Manager Forms Installation Verification Sample (IVS) EAR files screen, you can install three service-specific sample applications. Select **Include IVS EARs in deployment** set and click **Next** to install these sample files.

The ear files appear only if you have selected respective modules on the Modules screen.

NOTE: Do not deploy the IVS EAR files to a production environment.

Deploying AEM Forms on JEE EARs

1) 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\configurationMan-ager\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: 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.

    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.

    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: 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.

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**.

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**.

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.

   NOTE: You can encounter an exception, db2jcc.jar not found, on using IBM Content Manager Client 8.5. To resolve the issue, rename the <db2cmv8_directory>/lib/db2jcc4.jar file to db2jcc.jar.

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 Micro-soft 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) 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 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. Post-deployment tasks

5.1. General tasks

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.

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 that you perform a system image backup of the servers on which AEM Forms on JEE is implemented. Also take backup of CRX repository.

The AEM Forms on JEE database, GDS directory, and application servers must be part of this 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 Backup and Recovery topic in administration help

.

Configure URL and port number for client SDK

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.

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 a typical production state. You must restart the application server to get the server back into a clean state.

Verify the deployment

You can verify the deployment by logging in to Administration Console. If you log in successfully, then 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

AEM Forms JEE administration console is the web-based portal for accessing configuration pages where you can set run-time properties that control the way how AEM Forms JEE operates. When you log in to the administration console, you can access User Management, Watched Folder, Email client configuration, and administrative configuration options for other services. The administration console also provides access to Applications and Services, which administrators use for managing archives and deploying services to production environment.

The default user name and password for logging in is *administrator* and *password*. After you log in the first time, access User Management and change the password.

Before you access administration console, AEM Forms JEE must be deployed and running on your application server. For information about using administration console, see administration help

.

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 user name and password as that of your previous installation. In case of a fresh installation, enter the default user name 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 xlick **Save**.

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

Change the default password of AEM Administrators

AEM embedded within AEM Forms on JEE creates two administrator users as mentioned below.

• **Super Administrator (administrator)**: The Super Administrator user can access various CRX UIs, except OSGi Management Console, and perform admin operations. The default username and password are same as AEM Forms on JEE Administrator, **administrator/password**. The default password of this user can be changed using Administrator console only as mentioned in section **Change default password of AEM Forms on JEE Administrator**. The changed password will be applicable for both AEM Forms on JEE and Super Administrators.

• **CRX Administrator (admin)**: This user can access to OSGi console in addition to CRX UIs and has administrator privileges. The default username and password for the user are **admin/admin**. To change the default password, do the following:

  a) Type the following URL in a web browser.

  http://[hostname]:[port]/lc/libs/granite/security/content/useradmin.html

  b) Login using following credential:
  Username: *admin*
  Password: *admin*

  c) Search for user **Administrator**.

  d) Click on the user in left pane, the user details is displayed in the right pane.

  e) Click on **Edit** icon in the right pane.

  f) On the edit page in the right pane, provide new password in the **New Password** field and current password in **Your Password** field.

  g) Click **Save** icon in the right pane.

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

Accessing AEM Welcome Page

AEM welcome page is the web-based portal for accessing various AEM components, administration, deployment and development tools.

Access the welcome page using the following steps:

1) Type the following URL in a web browser:

   `http://[hostname]:[port]/lc/welcome`

2) Enter the AEM forms administrators user name and password. The default user name and password for logging in is administrator and password (same as AEM Forms on JEE Administrator).

3) After you log in, you can access various components, administration, deployment and development UIs.

Accessing OSGi Management Console

AEM components are in form of OSGi bundles, which are deployed to Apache Felix OSGi container. OSGi console provides a way to manage OSGi bundles and services configurations.

Access the OSGi Management console using the following steps:

1) Type the following URL in a web browser:

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

2) Enter the CRX Administrator username and password as mentioned above. The default user name 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 help you find the problem. You can open the log files by 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*]/

• 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.

5.2. 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

•   Correspondance 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 user name 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.

Access Workspace

1)   Open a web browser and enter this URL:

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

2)   Log in using the user name 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 user name 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 user name 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 user name 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 that is 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 Managment 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 Reader Extensions, Workspace, Document Security, forms workflow, Forms Standard and PDF Generator.

1) Log in to 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.

5.3. Configure Author and Publish instance

Perform the following tasks to configure Author and Publish instance.

Configure the Author instance

The Author instance is embedded within the AEM Forms on JEE server. This implies that you do not need to make any configuration updates to the Author instance. The instance inherits all the 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 two instances on the same or on different machines.

NOTE: Before configuring the publish instance, ensure that your author instance is configured and deployed. You can verify it by successfully logging in to the Author instance.

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. It is recommended to run the publish instance on TarMK mode.

If MongoMK is selected as CRX Repository type in the Configuration Manager

1) Copy the adobe-livecycle-cq-publish.ear file on your publish instance from the author instance. The default location of the file on the author instance is [aem-forms root]/configurationManager/export.

2) Open the adobe-livecycle-cq-publish.ear/cq.war/web.xml for editing.

3) Search the following argument and delete the value in bold:

   *<param-value>crx3,**crx3mongo**,publish</param-value>*

   The modified argument would be similar to the following:

   ```
   <param-value>crx3,publish</param-value>
   ```

4) Search and delete the following code:

   ```
   <context-param>
   <param-name>lc.oak.mongo.db</param-name>
   <param-value>data</param-value>
   </context-param>
   <context-param>
   <param-name>lc.oak.mongo.uri</param-name>
   <param-value>mongodb://10.42.85.172:27017</param-value>
   </context-param>
   ```

If RDBMK is selected as CRX Repository type in the Configuration Manager

1) Copy the adobe-livecycle-cq-publish.ear file on your publish instance from the author instance. The default location of the file on the author instance is [aem-forms root]/configurationManager/export.

2) Open the adobe-livecycle-cq-publish.ear/cq.war/web.xml for editing.

3) Search the following argument and delete the value in bold:

   *<param-value>crx3,**crx3rdb**,publish</param-value>*

   The modified argument would be similar to the following:

   ```
   <param-value>crx3,publish</param-value>
   ```

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) **(For RDBMK only)** 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, ifthe 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.

Now that the publish instance is up and running, you need to configure the two instances to communicate with each other.

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

Communicating between the Author and Publish instances

You need to perform certain configuration changes to enable two-way communication between the 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 user name and password for logging in is 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 user name and password for logging in is admin and admin (same as CRX Administrator).

2) Find and click the Edit icon next to the `com.adobe.livecycle.content.activate.impl.VersionRestoreManagerImpl.n ame`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 fragements 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.

5.4. Configuring PDF Generator

If you installed PDF Generator as part of your AEM Forms on JEE, complete the following tasks:

Environment variables

If you installed the PDF Generator module and configured it to convert files to PDF, for some file formats, you must manually set an environment variable that contains 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 that you have installed.

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`
Adobe FrameMaker®	`FrameMaker_PATH`	`C:\Program Files (x86)\Adobe\FrameMaker8.0\FrameMaker.exe`
Notepad	`Notepad_PATH`	`C:\WINDOWS\notepad.exe` You can leave the `Notepad_PATH` variable blank.
OpenOffice	`OpenOffice_PATH`	`C:\Program Files (x86)\OpenOffice.org 3.3`
Adobe PageMaker®	`PageMaker_PATH`	`C:\Program Files (x86)\Adobe\PageMaker 7.0.2\PageMaker.exe`

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.

You do not need to set up the paths for Microsoft Office applications such as Word, PowerPoint, Excel, and Project, or for AutoCAD. The Generate PDF service starts these applications automatically if they are installed on the server.

Create a new Windows environment variable

1) Select **Start** > **Control Panel**>**System**.
2) Click the **Advanced**tab and click **Environment Variables**.
3) In the System variables section, click **New.**
4) Enter the environment variable name you need to set (for example, enter `OpenOffice_PATH`). This folder is the one that contains the executable file. For example, type the following path:
   ```
   C:\Program Files (x86)\OpenOffice.org 3
   ```

Set the PATH variables on Linux or UNIX (OpenOffice only)

Execute the following command:
```
export OpenOffice_PATH=/opt/openoffice.org3.3
```

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)   Deselect **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 the Acrobat dialog boxes that are displayed after the Acrobat installation is completed 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).

Configure native application support

1)   Install and validate Acrobat as described in the previous procedure.

2)   Set Adobe PDF printer as the default printer.

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 by 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 the 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 the 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 that are 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

Multiplatform 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 the Windows-only applications that are mentioned above can access all the fonts that are 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.

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 a 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(<user name>, 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, 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 this archive, 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 successfully installed PDF Generator on your server.

2) Do one of the following:
    – From a Windows client computer, enter 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 to be converted by PDFG.

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 the 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

The 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**.

5.5. Final setup for Document Security

Document Security requires the application server to be configured to use SSL. (See administration help .)

5.6. Configuring LDAP access

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

4) help.)

5) (Optional) Disable account locking by deselecting the **Enable Account Locking** option.

6) 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.)

NOTE: When using MySQL for your AEM Forms on JEE database, use only single-byte (ASCII) characters for the ID. (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** boxes, and 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

9) Help.)

10) (Optional) Test your configuration:

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

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

12) 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 User Settings screen.

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

15) Help.)

16) (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.

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

5.7. Enabling FIPS mode

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 enable 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 it 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).

5.8. Configuring HTML digital signature

To use the HTML digital signature feature of Forms, complete the following procedure.

1) Manually deploy the *[aem-forms root]*/deploy/adobe-forms-ds.ear file to your application server.
2) Log in to administration console and click **Services**>**PDF forms**.
3) Select **HTML Digital Signature Enabled** and then click **Save**.

5.9. 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**.

5.10. Configuring Connector for EMC Documentum

NOTE: AEM Forms on JEE supports EMC Documentum, versions 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:
   - Connector for EMC Documentum 6.7 SP1 and 7.0 only:

     ```
     com.adobe.livecycle.ConnectorforEMCDocumentum.ext=
     C:/Program Files/Documentum/Shared/dfc.jar,
     C:/ProgramFiles/Documentum/Shared/aspectjrt.jar,
     C:/Program Files/Documentum/Shared/log4j.jar,
     C:/Program Files/Documentum/Shared/jaxb-api.jar,
     C:/Program Files/Documentum/Shared/configservice-impl.jar,
     C:/Program Files/Documentum/Shared/configservice-api.jar
     C:/Program Files/Documentum/Shared/commons-codec-1.3.jar
     C:/Program Files/Documentum/Shared/commons-lang-2.4.jar
     ```

     NOTE: The above text contains formatting characters for line breaks. If you copy and paste this text, you must remove the formatting characters.

3) Open a web browser and enter this URL:

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

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

User name: *administrator*

Password: *password*

5) 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.

6) (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.)

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

8) Open a web browser and enter this URL.

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

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

   User name: *administrator*

   Password: *password*

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

   –   EMCDocumentumAuthProviderService

   –   EMCDocumentumContentRepositoryConnector

   –   EMCDocumentumRepositoryProvider

   –   EMCDocumentumECMUpgradeService

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

12) 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 step 19 for accessing the default repository in this case and use the default AEM Forms on JEE authorization service.

13) Restart the application server.

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

15) 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: **(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 characters or 25 four-byte characters. (See "Adding enterprise domains" in administration help.)* **NOTE:** *When using MySQL for your AEM Forms on JEE database, use only single-byte (ASCII) characters for the ID. (See "Adding enterprise domains" in AEM Forms on JEE administration help.)*

16) Add a custom authentication provider:

   – Click **Add Authentication**.

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

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

17) Add an LDAP authentication provider:

   – Click **Add Authentication**.

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

18) 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.*

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

20) 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.*

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

22) 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 Management Help** in the upper-right corner of the page.*

23) 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.

24) (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.

Creating the XDP MIME format in a Documentum repository

Before users can store and retrieve XDP files from a Documentum repository, you must do one of these tasks:

- Create a corresponding XDP format in each repository where users will access XDP files.
- Configure the Connector for EMC Documentum service to use a Documentum Administrator account when accessing the Documentum repository. In this case, the Connector for EMC Documentum service uses the XDP format whenever it is required.

Create the XDP format on Documentum Content Server using Documentum Administrator

1) Log in to Documentum Administrator.
2) Click **Formats** and then select **File** > **New** > **Format**.
3) Type the following information in the corresponding fields:
   Name: *xdp*
   Default File Extension: *xdp*
   Mime Type: *application/xdp*
4) Repeat steps 1 to 3 for all other Documentum repositories where users will store XDP files.

Configure the Connector for EMC Documentum service to use a Documentum Administrator

1) Open a web browser and enter this URL:
   http://[host]:[port]/adminui
2) Log in using the default user name and password:
   User name*: administrator*
   Password*: password*
3) Click **Services** > **Connector for EMC Documentum** > **Configuration Settings**.
4) Under Documentum Principal Credentials Information, update the following information and then click **Save**:
   User Name: *[Documentum Administrator user name]*
   Password: *[Documentum Administrator password]*
5) Click **Repository Credentials Settings**, select a repository from the list or, if none exist, click **Add**.
6) Provide the appropriate information in the corresponding fields and then click **Save**:
   Repository Name: *[Repository Name]*

Repository Credentials User Name: *[Documentum Administrator user name]*

Repository Credentials Password: *[Documentum Administrator password]*

7) Repeat steps 5 and 6 for all repositories where users will store XDP files.

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**.

5.11. Creating the XDP MIME format in a Documentum repository

Before users can store and retrieve XDP files from a Documentum repository, you must do one of these tasks:

• Create a corresponding XDP format in each repository where users will access XDP files.

• Configure the Connector for EMC Documentum service to use a Documentum Administrator account when accessing the Documentum repository. In this case, the Connector for EMC Documentum service uses the XDP format whenever it is required.

Create the XDP format on Documentum Content Server using Documentum Administrator

1) Log in to Documentum Administrator.

2) Click **Formats** and then select **File** > **New** > **Format**.

3) Type the following information in the corresponding fields:

   Name: `xdp`

   Default File Extension: `xdp`

   Mime Type: `application/xdp`

4) Repeat steps 1 to 3 for all other Documentum repositories where users will store XDP files.

Configure the Connector for EMC Documentum service to use a Documentum Administrator

1) Open a web browser and enter this URL:

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

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

    User name*: administrator*

    Password*: password*

3) Click **Services** > **Connector for EMC Documentum** > **Configuration Settings**.

4) Under Documentum Principal Credentials Information, update the following information and then click **Save**:

    User Name: *[Documentum Administrator user name]*

    Password: *[Documentum Administrator password]*

5) Click **Repository Credentials Settings**, select a repository from the list or, if none exist, click **Add**.

6) Provide the appropriate information in the corresponding fields and then click **Save**:

    Repository Name: *[Repository Name]*

    Repository Credentials User Name: *[Documentum Administrator user name]*

    Repository Credentials Password: *[Documentum Administrator password]*

7) Repeat steps 5 and 6 for all repositories where users will store XDP files.

5.12. 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.)*

NOTE: When using MySQL for your AEM Forms database, use only single-byte (ASCII) characters for the ID. (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.***

5.13. Configuring the Connector for IBM FileNet

AEM forms supports IBM FileNet, versions 5.0 and 5.2 only. Make sure your ECM is upgraded accordingly.

NOTE: AEM Forms supports FileNet 5.2 Content Engine; FileNet 5.2 Process Engine is not supported.

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:

   For FileNet 5.x add following JAR files

   – Jace.jar

   – javaapi.jar

   – log4j.jar

   – pe.jar

   – stax-api.jar

   – xlxpScanner.jar

   – xlxpScannerUtils.jar

   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]
   ```

   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 of 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)

18) Select the check box next to each of these services and then click **Start**:

   – IBMFileNetAuthProviderService

   – IBMFileNetContentRepositoryConnector

   – IBMFileNetRepositoryProvider

   – IBMFileNetProcessEngineConnector (if configured)

   If any of the services do not start correctly, verify the Process Engine settings.

19) 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.

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.

5.14. 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 in the respective order.

6. Advanced Production Configuration

This section describes advanced tuning for Output, Forms Standard, and PDF Generator modules. This section should be completed only on a production system by an advanced application server administrator.

6.1. Configuring pool size for Output and Forms

The current default value for PoolMax is 4. The actual value to set depends on the hardware configuration and the expected usage in your environment.

For optimal use, we recommend that the lower limit of PoolMax not be less than the number of CPUs that are available. The upper limit must be determined by the load pattern on your server. Generally, the upper limit should be set to twice the number of CPUs cores on your server.

Modify the existing PoolMax value

1)   Log in to the WebSphere Administrative Console.

2)   In the navigation tree, click **Servers**>**Application Servers**>*[server name]*>**Java and Process Management**>**Process Definition**>**Java Virtual Machine**>**Custom Properties**.

3)   Add the following properties for ConvertPdf:

   –   `com.adobe.convertpdf.bmc.POOL_MAX=[new value]`
   –   `com.adobe.convertpdf.bmc.MAXIMUM_REUSE_COUNT=5000`
   –   `com.adobe.convertpdf.bmc.REPORT_TIMING_INFORMATION=true`
   –   `com.adobe.convertpdf.bmc.CT_ALLOW_SYSTEM_FONTS=true`

4)   Add the following properties for XMLFM:

   –   `com.adobe.xmlform.bmc.POOL_MAX=[new value]`
   –   `com.adobe.xmlform.bmc.MAXIMUM_REUSE_COUNT=5000`
   –   `com.adobe.xmlform.bmc.REPORT_TIMING_INFORMATION=true`
   –   `com.adobe.xmlform.bmc.CT_ALLOW_SYSTEM_FONTS=true`

5)   (*Cluster only*) Repeat steps 2 to 4 for each server in the cluster.

6.2. PDF Generator

PDF Generator is capable of doing multiple PDF conversions simultaneously for some types of input files. This is enforced through the use of stateless session beans.

Configuring EJB Pool Size

Four different stateless session beans exist for enforcing independent pool sizes for the following types of input files:

*   Adobe PostScript® and Encapsulated PostScript (EPS) files

*   Image files, such as BMP, TIFF, PNG, and JPEG files

*   OpenOffice files

*   All other file types (except HTML files), such as Microsoft Office, PageMaker®, and FrameMaker® files

The pool size for HTML-to-PDF conversions is not managed through the use of stateless session beans.

The default pool size for PostScript and EPS files and for image files is set to 3, and the default pool size for OpenOffice and other file types (except HTML) is set to 1.

You can configure the PS/EPS and image pool size to a different value based on your server hardware configuration, such as the number of CPUs, the number of cores within each CPU, and so on. However, it is mandatory that the pool size for the OpenOffice and other file types be left unchanged at 1 for proper functioning of PDF Generator.

This section describes how the pool size for PS2PDF and Image2PDF can be configured for each of the supported application servers.

The text that follows assumes that the following two AEM Forms on JEE application EARs are deployed on the application server:

*   adobe-livecycle-websphere.ear

*   adobe-livecycle-native-websphere-*[platform]*.ear

    where [platform] should be replaced with one of the following strings, depending on your operating system:

*   (Windows) x86_win32

*   (Linux) x86_linux

*   (SunOS™) sparc_sunos

*   (AIX) powerpc_aix

Configure the pool size for PS2PDF and Image2PDF

6.3. Enabling CIFS on Windows

You will need to manually configure the Windows Server machine that host AEM Forms on JEE.

NOTE: Ensure that the server has a static IP address.

On Windows machines, you need to do the following:

RELATED LINKS:
  Enable NetBIOS over TCP/IP

Add additional IP addresses

Disable SMB over NetBIOS registry (Windows Server 2003only)

Disable File and Printer Sharing (Windows 2008 only)

Enable NetBIOS over TCP/IP

You need to enable NetBIOS over TCP/IP so that clients connecting to the AEM Forms on JEE Server can have their requests revolved for the server host name.

1) In the **Local Area Connection Properties** dialog box, on the**General** tab, select **Internet Protocol**, and then click **Properties**.

2) In the **General** tab of the**Internet Protocol (TCP/IP) Properties** dialog box, ensure that the server has a static IP address. Click **Advanced**.

3) In the **Advanced TCP/IP Settings** dialog box, select the **WINS** tab and select **Enable NetBIOS over TCP/IP**.

Add additional IP addresses

1) In the **Local Area Connection Properties** dialog box, on the**General** tab, select **Internet Protocol**, and then click **Properties**.

2) In the **General** tab of the**Internet Protocol (TCP/IP) Properties** dialog box, ensure that the server has a static IP address. Click **Advanced**.

3) In the **Advanced TCP/IP Settings** dialog box, select the **IP Settings**tab and click **Add**.

4) Specify a static IP address and click **Add.**

Disable SMB over NetBIOS registry (Windows Server 2003 only)

You must disable SMB over NetBIOS by editing the Windows registry.

1) In the Windows Registry Editor, navigate to **HKEY_LOCAL_MACHINE** > **SYSTEM** > **CurrentCon-trolSet** > **Services** > **NetBT** > **Parameters**.

2) Set the DWORD **SMBDeviceEnabled** to 0. If it is not present, add a new DWORD value with name SMBDeviceEnabled and set it to 0.

Disable File and Printer Sharing on Windows Server 2008

• Go to **Network Settings**, deselect **File and Printer Sharing for Microsoft Clients,** and c lick **Apply**.

Disable File and Printer Sharing on Windows Server 2012 only)

• Go to **Control Panel > Network and Internet >Network and Sharing Center > Advanced sharing settings**, and turn off **File and Printer Sharing**.

7. Appendix - Install 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 completed AEM Forms on JEE documentation is available at http://www.adobe.com/go/learn_aemforms_documentation_62.

For an overview of the installation process, see Beforeyoubegin.

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\VM

   –   (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**. The options are Deutsch, English, and Français. English is the default language.
Choose Install Folder	On the Destination screen, press **Enter** to accept the default directory or type the new installation directory location. Default install folders are: (Windows): C:\Adobe\Adobe_Experience_Manager_Forms (Non-Windows): /opt/adobe/Adobe_Experience_Manager_Forms 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. If you agree to the agreement, type `Y` and press **Enter**.
Pre-Installation Summary	Review the installation choices you have made and press **Enter** to continue installation with the choices you have made. Type `back` to go back to previous steps and change any of the settings.
Ready To Install	Installer displays the installation directory. 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: (Windows): C:\Adobe\Adobe_Experience_Manager_Forms\configuration Manager\bin\ConfigurationManager.bat (Non-Windows): `/opt/adobe/Adobe_Experience_Manager_Forms/c onfigurationManager/bin/ConfigurationManage r.sh`
Installation Complete	The installation completion screen displays the status and the location of install. 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
- (AIX, Linux, Solaris) *[aem-forms root]*/log

7.4. Uninstalling AEM Forms on JEE in console mode

NOTE: If you had installed AEM Forms on JEE using the command line option, you can uninstall AEM Forms on JEE only by running the uninstaller from the command line. If you want a silent uninstallation, omit the "-i console" flag.

1) Open a command prompt, and navigate to the directory which contains the uninstall script:

    NOTE: On UNIX systems, you should manually navigate to the directory that contains the uninstall script because the directory name contains spaces.

    – (Windows) `cd C:\Adobe\Adobe_Experience_Manager_Forms\Uninstall_Adobe Experience Manager forms`

    – (UNIX-like systems) `cd/opt/adobe/Adobe_Experience_Manager_Forms/Uninstall_Adobe Experience Manager forms`

2) Type the following command at the prompt and press Enter:

    – (Windows) `Uninstall Adobe Experience Manager forms -i console`

    – (AIX) `./Uninstall Adobe Experience Manager forms -i console`

    – (Linux, Solaris) `./Uninstall Adobe Experience Manager forms -i console`

3) Follow the on-screen instructions.

Prompt	Description
Uninstall AEM Forms on JEE	Press **Enter** to continue uninstallation. Enter **quit** to close the uninstall program.
Uninstalling... Uninstall Complete	After the uninstallation starts, the rest of the uninstallation process is completed and the cursor returns to the prompt. Note that some items may not be removed. Also, any folder created after installing AEM Forms on JEE are not removed. You must remove these files and folders manually.

8. Appendix - Configuration Manager Command Line Interface

AEM Forms on JEE provides a Command Line Interface (CLI) for the Configuration Manager. The CLI is intended to be used by advanced users of AEM forms on JEE, for example in server environments which 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) Validate application server topology.

4) Validate the database connectivity.

5) Configure the application server.

6) Validate the application server configurations.

7) Deploy AEM Forms on JEE.

8) Initialize AEM forms on JEE.

9) Validate AEM Forms on JEE.

10) Deploy the AEM forms on JEE modules.

11) Validate the AEM forms on JEE module deployment.

12) Check system readiness for PDF Generator.

13) Add administrator user for PDF Generator.

14) Configure Connector for IBM Content Manager.

15) Configure Connector for IBM FileNet.

16) Configure Connector for EMC Documentum.

17) Configure Connector for SharePoint.

IMPORTANT: You must restart each of your cluster nodes after you complete Configuration Manager CLI operations.

8.2. Command Line Interface property file

The Configuration Manager CLI requires a property file containing the defined properties for your AEM Forms on JEE environment. The template for the properties file, cli_propertyFile_template.txt, is located in the *[aem-forms root]*/configurationManager/bin folder. You must create a copy of this file and edit the

values. You can customize this file based on the Configuration Manager operations you intend to use. The following section describes the properties and values required.

You should create the property file according to your installation. Use one of the following methods.

- Create a property file and populate the values according to your installation and configuration scenarios.

- Use the property file cli_propertyFile_template.txt file 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. If you are performing an upgrade from a previous version, ensure that you add the cq.sample.reqd property to the file. All other properties listed below are option, if required, you can manually add these properties to the file:

  - `cq.sample.reqd`
  - `ApplicationServerRestartRequired`
  - `skipFormTemplatesImport`
  - `documentumFormTemplatesFile`
  - `filenetFormTemplatesFile`
  - `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. 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.
targetServer.name	String	The name assigned to the application server/admin server node or cluster.
targetServer.adminHost	String 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: (Windows) C:\Program Files\IBM\ WebSphere\AppServer (Linux, Solaris) /opt/IBM/WebSphere/AppServer (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		

Property	Values	Description
LCHost	String	The hostname of the server where AEM Forms on JEE will be deployed. 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.
excludedSolutionComponents	String. Values include: ALC-LFS-Forms, ALC-LFS-ConnectorEMCDocumentum, ALC-LFS-ConnectorIBMFileNet, ALC-LFS-ConnectorIBMContentManager, 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.

Property	Values	Description
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
mongo.db.name	<name of Mongo DB>	If you are using Mongo DB, provide name of Mongo DB instance
use.crx3.rdb.mk	true: 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. *NOTE: Clustered environments with relational databases are now supported for production use under a "gated" program. If you intend to use a relational database in a clustered environment, contact AEM Forms product team at forms_documents@adobe.com for approval.*

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. This path must be accessible from the server being deployed to. This path must be accessible from all cluster nodes being deployed to.

Property	Values	Description
customerFontsDir	String	Location of the customer fonts directory. This path must be accessible from the server being deployed to. This path must be accessible from all cluster nodes being deployed to.
systemFontsDir	String	Location of the system fonts directory. This path must be accessible from the server being deployed to. This path must be accessible from all cluster nodes being deployed to.
LCTempDir	String	Location of the temporary directory. This path must be accessible from the server being deployed to. This path must be accessible from all cluster nodes being deployed to.
LCGlobalDocStorageDir	String	The global document storage root directory. Specify a path to an NFS shared directory used to store long-lived documents and to share them among all cluster nodes. This path must be accessible from the server being deployed to. This path must be accessible from all cluster nodes being deployed to.

Property	Values	Description
EnableDocumentDBStorage	true or false Default: false	Enables or disables document storage in database for persistent documents. 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		

Property	Values	Description
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.
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:
	• oracle
	  db2
	  sqlserver
		The type of database configured to use with AEM Forms on JEE.

Property	Values	Description
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.
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 Commonproperties		
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.

Property	Values	Description
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 Commonproperties		

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 Commonproperties		
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

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.

Property	Values	Description
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.
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

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)
ConfigureFilenetCE	true or false	Specify true to configure Connector for IBM Filenet
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	Hostname 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.

Property	Values	Description
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
FilenetProcessEngineHostname	String	Hostname 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

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)
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	Hostname or IP address of the EMC Documentum Content Server.
ConnectionBrokerPortNumber	String	Port number for EMC Documentum Content Server

Property	Values	Description
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

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)
ConfigureSharePoint	true or false	Specify true to configure Connector for Microsoft SharePoint
SharePointServerAddress	String	Hostname or IP address of the Sharepoint Server

Property	Values	Description
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 CommandLineInterfacepropertyfile.

Configure CRX CLI Usage

The Configure CRX Repository requires the following syntax:

configureCRXRepository -f *<propertyFile>*

Where:

- -f *<propertyFile>:* A property file containing the required arguments. For more information on creating a property file, see CommandLineInterfacepropertyfile.

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:

- -f *<propertyFile>:* A property file containing the required arguments. For more information on creating a property file, see CommandLineInterfacepropertyfile.
- -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:

- -f *<propertyFile>:* A property file containing the required arguments. For more information on creating a property file, see CommandLineInterfacepropertyfile.
- -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.
- -f *<propertyFile>*: A property file containing the required arguments. For more information on creating a property file, see CommandLineInterfacepropertyfile.
- -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:

- -f *<propertyFile>:* A property file containing the required arguments. For more information on creating a property file, see CommandLineInterfacepropertyfile.
- -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>*

Where:

• -f *<propertyFile>:* A property file containing the required arguments. For more information on creating a property file, see CommandLineInterfacepropertyfile. *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>*

Where:

• -f *<propertyFile>:* A property file containing the required arguments. For more information on creating a property file, see CommandLineInterfacepropertyfile.

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:

• -f *<propertyFile>:* A property file containing the required arguments. For more information on creating a property file, see CommandLineInterfacepropertyfile.

• -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>*

Where:

• -f *<propertyFile>:* A property file containing the required arguments. For more information on creating a property file, see CommandLineInterfacepropertyfile.

• -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.

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>*

Where:

- -f *<propertyFile>:* A property file containing the required arguments. For more information on creating a property file, see CommandLineInterfacepropertyfile.
- -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.

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 CommandLineInterfacepropertyfile.

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>

Where:

- -f *<propertyFile>:* A property file containing the required arguments. For more information on creating a property file, see CommandLineInterfacepropertyfile.

    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]*/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

    – 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>

Where:

- -f *<propertyFile>:* A property file containing the required arguments. For more information on creating a property file, see CommandLineInterfacepropertyfile.

    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]*/configurationManager/configure-ecm/websphere to the following [appserver root]/profiles/[profile_name] directory.

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]/configurationManager/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>

Where:

- -f *<propertyFile>:* A property file containing the required arguments. For more information on creating a property file, see CommandLineInterfacepropertyfile.

    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:

- -f *<propertyFile>:* A property file containing the required arguments. For more information on creating a property file, see CommandLineInterfacepropertyfile.

  IMPORTANT: Modify the <propertyFile> called cli_propertyFile_ecm_sharepoint_template.txt located in the *[aem-forms root]*\configurationManager\bin\ directory.

8.4. 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.

8.5. Configuration Manager CLI Logs

If an error occurs, you can review the CLI logs located here in the *[aem-forms root]*\configurationManager\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.

8.6. Next steps

If you used Configuration Manager CLI to configure and deploy AEM Forms on JEE, you can now do the following tasks:

- Verify the deployment. (See Verifythedeployment.)
- Access administration console. (See Accessingadministrationconsole.)
- Configure AEM forms on JEE modules to access LDAP. (See ConfiguringLDAPaccess.)

9. Appendix - Manually Configuring WebSphere

NOTE: This appendix describes how to manually configure your application server for AEM Forms on JEE. The Configuration Manager provides an option to automatically complete these steps for you. If you deselect this option, you will need to complete the steps in this appendix.

For information about how to automatically configure your application server, see Configuringandde-ployingAEMForms on JEE.

At this point in the installation process, you have already installed AEM Forms on JEE files and run Configuration Manager to configure the AEM Forms on JEE deployable archives. Now, you can manually configure the database connectivity with the application server.

If you setup AEM Forms on JEE with IBM WebSphere on UNIX or AIX platform for a non-root user, perform the following steps:

1) Install IBM WebSphere application server for a root user.

2) Use the root user credentials to create profiles.

3) Change ownership log files and profile folders to non-root user. Use the following command to change the ownership:

```
chown –R <non-root user> <folder>
```

4) Restart the server with credentials of a non-root user.

5) Install and configure AEM Forms on JEE with non-root user.

9.1. Setting directory permissions

The AEM Forms on JEE application will extract files to the *[appserver root]*/installedApps directory. Therefore, it is important that writable permissions be given to that directory. If writable permissions cannot be given, the section below describes how to modify the location for the extracted files.

NOTE: It is recommended that you modify the location of the extracted files to [appserver root]/profiles/<profile_name>/installedApps.

Modify the location for the extracted files

1) Log in to the WebSphere Administrative Console.

2) Click **Servers** > **Server Types** > **WebSphere Application servers** and click your server name, such as **server1**.

3) Under Server Infrastructure, click **Java and forms workflow**>**Process Definition**.

4) Under Additional Properties, click **Java Virtual Machine** and then click **Custom Properties**.

5) Click **New** and create a custom property named `adobeidp.RootDirectory`.

6) Set the value of `adobeidp.RootDirectory` to the path where Adobe native files should be extracted, such as *[appserver root]*/profiles/*<profile_name>*/installedApps.

7) Click **OK** or **Apply**.

8) In the Messages box, click **Save** directly to master configuration, and then restart the application server.

9.2. Configuring JVM arguments

You must configure the JVM arguments and custom properties.

Configure the JVM arguments

1) In the WebSphere Administrative Console navigation tree, do the following for your application server:

   *Click **Servers > Server Types > WebSphere application servers***

2) In the right pane, click the server name.

3) Under Server Infrastructure, click **Java and forms workflow**>**Process Definition**.

4) Under Additional Properties, click**Java Virtual Machine**.

5) In the **Initial Heap Size** box, type `256` and, in the **Maximum Heap Size** box, type `4096`.

   NOTE: This value depends on the hardware configuration and the available memory. If you are using an x86/64-bit server, you can set the Maximum Heap Size to 4096 or higher.

   NOTE: If you are installing the Correspondence Management Solution, it is recommended that you set the Maximum Heap Size to 4096 (4 GB).

6) In the **Generic JVM arguments** box, add the following arguments.

   –Xgcpolicy:gencon

   –Dfile.encoding=utf8

   –DentityExpansionLimit=10000

   –Dcom.adobe.livecycle.crx.integration.url=http://[IP]:[port]

   NOTE: Add the `–Xgcpolicy:gencon` JVM argument only if WebSphere is using the IBM JDK. However, do not add this argument in case of WebSphere on Solaris operating system.

7) Click **OK**or**Apply**,and then click Save directly to the master configuration.

8) Under additional properties, click **Java Virtual Machine**.

9) In the right pane, under Additional Properties, click **Custom Properties**, and then click **New**.

10) In the **Name** box, type `java.net.preferIPv4Stack` for IPv4 or `java.net.preferIPv6Stack` for IPv6 and, in the **Value** box, type `true`.

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

9.3. Configuring WebSphere time-out settings

Creating a large number of users can be done by using a single invocation of the `CreateLocalUsers` API. The API is expected to persist all the new users or roll back all changes in the event of a failure. There-fore, the API is required to operate in a single transaction to support rollback. Because a transaction's

lifetime is limited by the application server settings (usually 30 seconds), the number of inserts that can be performed in the given time frame is limited. As a result, bulk insert APIs such as `CreateLocalUser` fail when the number of users exceeds a certain limit. This limit is decided again by the transaction's lifetime.

You must modify the following time-out settings:

- Transaction time-out value
- CORBA time-out value
- SOAP request time-out value

Configure transaction time-out

1) In the WebSphere Administrative Console navigation tree, do the following for your application server:

   Click *Servers> Server Types>WebSphere application servers*

2) Click the server name in the right pane.

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

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

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

6) Click **OK** or **Apply** and the n click **Save**directly to master configuration**.**

Increase the CORBA time-out value

1) In the WebSphere Administrative Console navigation tree, do the following for your application server:

   Click *Servers > Server Types > WebSphere application servers*

2) Click the server name in the right pane.

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

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

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

increase the SOAP request time-out value

1) Navigate to your [*appserver root*] directory and search for all files named soap.client.props. Multiple files may have this name. For example, the following files may require modifications. Modification of the template profile definitions is required only if profiles will be created using these templates:

   – [*appserver root*]/profileTemplates/default/documents/properties/soap.client.props

   – [*appserver roo*t]/profileTemplates/management/documents/properties/soap.client.props

   – [*appserver root*]/profiles/AppSrv01/temp/soap.client.props

-      [*appserver root*]/profiles/AppSrv01/properties/soap.client.props

2)   Open the file in a text editor, find the **com.ibm.SOAP.requestTimeout** property, change the value from 180 to 1800, and then save the file(s).

     NOTE: Repeat this step for each file.

3)   In the WebSphere Administrative Console navigation tree, do the following for your application server:

     (WebSphere 7.0.0.2, WebSphere 8.0.0.2, and WebSphere 8.5.5) Click **Servers > Server Types > WebSphere application servers***.*

4)   Click the server name in the right pane.

5)   Under Server Infrastructure, click **Administration > Administration Services**.

6)   Under Additional Properties, click **JMX connectors** and, in the right pane, click **SOAPConnector** in the list.

7)   On the next screen, click **Custom Properties**, and then click **requestTimeout** in the list.

8)   Under General Properties, in the Value box, change 600 to 1800.

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

NOTE: Increase the SOAP request time-out value beyond 1800 if EAR deployment fails with **The system failed to make the SOAP RPC call: invoke** error.

9.4. Configuring throttling for PDF Generator

PDF Generator requires a throttling configuration to be added to the application server configuration.

1)   In the WebSphere Administrative Console navigation tree, do the following for your application server:

     Click **Servers***>* **Server Types***>***WebSphere application servers**

2)   Click the server name in the right pane.

3)   Under Server Infrastructure, click **Java and forms workflow** > **Process Definition**.

4)   Under Additional Properties, click**Java Virtual Machine**and, on the next screen, click **Custom Properties**.

5)   Click **New** and, in the following boxes, type the corresponding text to create a new property:

     Name: `com.ibm.websphere.ejbcontainer.poolSize`

     Value:

     `LiveCycleES4#adobe-pdfg-bmc-invoker-ejb.jar#NativeToPDFInvoker=1,1:`

     `LiveCycleES4#adobe-pdfg-bmc-invoker-ejb.jar#OpenOfficeToPDFInvoker=1,1:`

     `LiveCycleES4#adobe-pdfg-bmc-invoker-ejb.jar#ImageToPDFInvoker=3,3:`

     `LiveCycleES4#adobe-pdfg-bmc-invoker-ejb.jar#PSToPDFInvoker=3,3`

     NOTE: You must manually type the value. You cannot copy and paste the value from this document.

In the example, `LiveCycleES4` is the name of the core application as shown in the WebSphere Application Server. If this name is different, all four instances of the string `LiveCycleES4` in the value parameter must be replaced with the actual application name.

Description: `Adobe PDF Generator Throttling Configuration`

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

9.5. Configuring the AEM Forms on JEE database connectivity

To enable WebSphere and AEM Forms on JEE deployment to connect to the AEM Forms on JEE database, create a database connection for AEM Forms on JEE by installing the database drivers and then setting up a data source.

Install drivers for the type of database that you use for the AEM Forms on JEE database. The drivers must be placed in the installation directories of the application server.

Configure the data source to connect to the database. For WebSphere, you can configure a DB2, an Oracle, or a SQL Server data source.

You will need the following information from tasks you performed in Preparing to InstallAEMFormson JEE (SingleServer).

• Database name
• Server name
• User name
• Password

Configure J2C authentication for data source

You must configure the J2C authentication for your data source before you configure the data source.

1) In the WebSphere Administrative Console navigation tree, click the following:

   Security>Global Security

2) In the right pane, under Authentication, click **Java Authentication and Authorization Service** > **J2C authentication data** and then click **New**.

3) Provide the appropriate information in these boxes:

   Alias:*Type a name that is appropriate for the database user (for example, type* `IDP_DS/db2-db2user`*).*

   User ID: *Enter a user ID. This ID is the login credential that is used to access whichever database will be used with the IDP_DS data source (for example, db2user).*

   Password: *Type a password for this user.*

   Repeat above steps to create an alias, User ID, and Password for EDC_DS .

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

Configuring DB2 database connectivity

Configuring the DB2 data source requires you to install the DB2 database drivers, create a DB2 JDBC provider on WebSphere, create the data source on WebSphere, and then configure the corresponding connection pool. In addition, WebSphere connecting to DB2 requires a custom property to avoid thread deadlock.

NOTE: These procedures apply to both DB2 9.7 and DB2 10.5.

Install the DB2 database driver

1) In the *[appserver root]* directory, create a directory named db2libs.

2) Download the driver from IBM Website and place the db2jcc4.jar file to the *[appserver root]*\db2libs directory:

Create a DB2 JDBC provider

1) In the WebSphere Administrative Console navigation tree, click **Environment** > **Websphere Variables** and, in the right pane, click **DB2UNIVERSAL_JDBC_DRIVER_PATH**.

2) In the **Value** box, type the path to the db2libs directory.

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

4) In the navigation tree, click **Resources**>**JDBC**>**JDBC Providers**.

5) In the **Scope** drop-down list in the right pane, select **Node=*NodeName*, Server=*ServerName***as the level, and then click **New**.

6) In the Step 1 pane, set the following configuration:

   – In the **Database type**list, select **DB2**.

   – In the **Provider type** list, select **DB2 Universal JDBC Driver Provider**.

   – In the**Implementation type** list, select **Connection pool data source**. Notice that for each Configuration Manager configuration script, the field implementation class name is `com.ibm.db2.jcc.DB2ConnectionPoolDataSource`.

   – In the **Name** box, either keep the default **DB2 Universal JDBC Driver Provider** or type `LiveCycle – DB2 – IDP_DS`.

7) Click**Next** and, in the Step 2 pane, click **Next** again.

8) In the Step 3 pane, click **Finish** and then click **Save**directly to master configuration.

9) Repeat all of the above steps for `LiveCycle – DB2 – RM_DS`

Create the DB2 JDBC data source:

1) In the navigation tree, click **Resources** > **JDBC**>**JDBC Providers** and, in the right pane, click the provider that you created in the *Create a DB2 JDBC provider* section.

2) Under Additional Properties, click **Data sources** and then click **New**.

3) In the **Enter basic data source information** pane, set the following configurations and then click **Next**:

   – In the **Data source name** box, type `Livecycle – DB2 – IDP_DS.`

> – In the **JNDI name box**, type `IDP_DS`.

4) In the **Enter database specific properties for the datasource** pane, select the driver type, database name, server name, and port number of the database that you created in ConfigureJ2Cauthenticationfordata source. Ensure that **Use this data source in container managed persistence (CMP)** is selected, and then click **Next**.

5) In the **Setup security aliases** pane, set the following configurations:

> – In the list under **Component-managed authentication alias**, select the authentication alias that you created for this data source in ConfigureJ2Cauthenticationfordata source.

> – In the **Mapping-configuration alias** list, select **DefaultPrincipalMapping**.

> – In the **Container-managed authentication alias** list, select the authentication alias that you created for this data source in ConfigureJ2Cauthenticationfordata source, and then click **Next**.

6) Click **Finish** in the Step 4 pane.

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

8) Change the statement cache size. Do the following tasks:

> – In WebSphere Administrative Console, click **JDBC > Data sources**.

> – Click the data source you just created and under**Additional Properties**, click **WebSphere Application Server data source properties**.

> – Change the value of the **Statement cache size** field to 80.

> – Click **OK** or **Apply** and the click **Save** directly to the master configuration.

9) Select the data source you just created and select **Test Connection** to ensure that the data source connection is functioning correctly.

Configure LiveCycle - DB2 - IDP_DS connection pools

1) In the navigation tree, click **Resources**>**JDBC**>**JDBC Providers**and, in the right pane, click the JDBC provider you just created (either **DB2 Universal JDBC Driver Provider** or **LiveCycle - db2 - IDP_DS**) as used as an example when creating the DB2 JDBC provider.

2) Under Additional Properties, click **Data sources** and then select **Livecycle - DB2 - IDP_DS**.

3) On the next screen, under Additional Properties, click **Connection Pool Properties** and set the properties as follows:

> – In the **Maximum connections**box, type `30` (or higher if required).

> – In the **Minimum connections**box, type `1`.

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

Configure the custom property for DB2

1) In the navigation tree, click **Resources** > **JDBC**>**Data sources**and, in the right pane, click the data source that you created.

2) Under Additional Properties, click **Custom properties**and then click **New**.

3) In the **Name** box, type`useRRASetEquals`and in the **Value** box, type `true`.

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

Create the DB2 JDBC data source for Rights Management

NOTE: This section applies only if you have Rights Management installed.

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1) In the navigation tree, click **Resources** > **JDBC**>**JDBC Providers**and then click the provider that you created.

2) Under Additional Properties, click **Data sources** and then click **New**.

3) In the Step 1 pane, set the following configurations and then click **Next**:

    – In the **Data source name** box, type `Livecycle – DB2 – RM_DS`.

    – In the **JNDI name** box, type `EDC_DS`.

    – In the list under Component-Managed Authentication and XA Recovery Authentication Alias, select the authentication alias that you created for this data source in ConfigureJ2Cauthenti-cationfordata source, and then click Next.

4) In the Step 2 pane, type the database name and server name of the database that you created in ConfigureJ2Cauthenticationfordata source. Ensure that **Use this data source in container managed persistence (CMP)** is selected, and then click **Next**.

5) In the Step 3 pane, click **Finish**.

6) Select the data source you just created to modify additional parameters and set the following configuration:

    – In the **Container-managed authentication alias** list, select the authentication alias that you created for this data source in ConfigureJ2Cauthenticationfordata source.

    – In the **Mapping-configuration alias** list, select **DefaultPrincipalMapping**.

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

8) Change the statement cache size. Do the following tasks:

    – In WebSphere Administrative Console, click **JDBC > Data sources**.

    – Click the data source you just created and under**Additional Properties**, click **WebSphere Application Server data source properties**.

    – Change the value of the **Statement cache size** field to 80.

    – Click **OK** or **Apply** and the click **Save** directly to the master configuration.

9) Select the data source you just created and select **Test Connection** to ensure that the data source connection is functioning correctly.

1) In the navigation tree, click **Resources** > **JDBC > JDBC Providers**and then click the provider that you created in the *Create a DB2 JDBC provider* section.

2) Under Additional Properties, click **Data sources** and then click **New**.

3) In the **Enter basic data source information** pane, set the following configurations and then click **Next**:

    – In the **Data source name** box, type `Livecycle – DB2 – RM_DS`.

– In the **JNDI name** box, type `EDC_DS`.

4) In the **Enter database specific properties for the datasource** pane, type the driver type, database name, server name, and port number of the database that you created in ConfigureJ2Cauthentica-tionfordata source.

5) Ensure that **Use this data source in container managed persistence (CMP)** is selected, and then click **Next**.

6) Set the following configurations in the **Setup security aliases** pane:

– In the list under **Component-managed authentication alias**, select the authentication alias that you created for this data source in ConfigureJ2Cauthenticationfordata source, and then click **Next**.

– In the **Mapping-configuration alias** list, select **DefaultPrincipalMapping**.

– In the **Container-managed authentication alias** list, select the authentication alias that you created for this data source in ConfigureJ2Cauthenticationfordata source.

7) Click **Finish** in the Step 4 pane.

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

9) Change the statement cache size. Do the following tasks:

– In WebSphere Administrative Console, click **JDBC > Data sources**.

– Click the data source you just created and under**Additional Properties**, click **WebSphere Application Server data source properties**.

– Change the value of the **Statement cache size** field to 80.

– Click **OK** or **Apply** and the click **Save** directly to the master configuration.

10) Select the data source you just created and select **Test Connection** to ensure that the data source connection is functioning correctly.

Configure LiveCycle- DB2 - RM_DS connection pools for Rights Management:

NOTE: This section applies only if you have Rights Management installed.

1) In the navigation tree, click **Resource**>**JDBC**>**JDBC Providers**and, in the right pane, click the JDBC provider you just created (either **DB2 Universal JDBC Driver Provider**or **LiveCycle - db2 - RM_DS**) as used as an example when creating the DB2 JDBC provider..

2) Under Additional Properties, click **Data sources** and then select **Livecycle - DB2 - RM_DS**.

3) On the next screen, under Additional Properties, click **Connection Pool Properties** and set the properties as follows:

– In the **Maximum connections**box, type `20` (or higher if required).

– In the **Minimum connections**box, type `1`.

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

Configure the custom property for DB2:

1) In the navigation tree, click **Resources** > **JDBC**>**Data sources**and, in the right pane, click the data source that you created in the *Create the DB2 JDBC data source for Rights Management* section.

2) Under Additional Properties, click **Custom properties**and then click **New**.

3) In the **Name** box, type `useRRASetEquals` and in the **Value** box, type `true`.

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

Set default isolation level

1) Log in to WebSphere Integrated Solutions Console.

2) In the WebSphere Administrative Console navigation tree, click **Resources** > **JDBC** > **Data Sources**.

3) From the drop-down list in the right pane, select **Node=***NodeName***, Server=***ServerName*. All data sources under the node are displayed.

4) Click**LiveCycle - DB2 - IDP_DS** with JNDI name **IDP_DS**.

5) Click **Custom Properties**.

6) Search for **webSphereDefaultIsolationLevel** property, and click to open it for edit.

7) Set value as **2**. The value 2 denotes Read Committed.

8) Click **Apply** and then click **OK**.

9) Repeat step 2 to 8 for LiveCycle -DB2-RM_DS.

10) In the Messages box at the top of the page, click **Save** directly to master configuration.

11) Restart WebSphere.

Configuring Oracle database connectivity

Configuring the Oracle data source requires you to install the Oracle database drivers, create a Oracle JDBC provider on WebSphere, create the data source on WebSphere, and then configure the corresponding connection pool.

Install the Oracle 11g or Oracle 12c database driver

1) In the *[appserver root]* directory, create a directory named *db_driver.*

2) Copy the ojdbc6.jar for JDK 1.7 and above driver file from the [*aem-forms root*]\lib\db\oracle directory to the directory created in step 1.

Create the Oracle JDBC provider

1) In the WebSphere Administrative Console navigation tree, click **Environment**>**Websphere Variables** and, in the right pane, click **ORACLE_JDBC_DRIVER_PATH**.

2) Under General Properties, in the **Value** box, type the path to the database driver file, ojdbc6.jar for JDK 1.7 and above, that you created in the *Install the Oracle 11g database driver* section.

3) Click **OK** and then click **Save** directly to master configuration.

4) In the navigation tree, click **Resources**>**JDBC**> **JDBC Providers**.

5) In the **Scope** drop-down list in the right pane, select **Node=*NodeName*, Server=*ServerName*** as the level, and then click **New**.

6) In the Step 1 pane, set the following configuration:

    – In the **Database type** list, select **Oracle**.

    – In the **Provider type** list, select **Oracle JDBC Driver**.

    – In the **Implementation type** list, select **Connection pool data source**.

    – In the **Name** text box, modify the default content or leave it as is.

7) Click **Next** and, in the Step 2 pane, accept the default database class path and click **Next** again.

8) In the Step 3 pane, click **Finish**, and then click **Save** directly **to master configuration**.

Create the Oracle JDBC data source

1) In the navigation tree, click **Resources** >**JDBC**>**JDBC Providers** and, in the right pane, click the provider that you created in the *Create the Oracle JDBC provider* section.

2) Under Additional Properties, click **Data sources** and then click **New**.

3) In the **Enter basic data source information** pane, set the following configurations and then click **Next**:

    – In the **Data source name** box, type `Livecycle - oracle - IDP_DS`.

    – In the **JNDI name** box, type `IDP_DS`.

    – In the list under Component-Managed Authentication and XA Recovery Authentication, select the authentication alias that you created for this data source in ConfigureJ2Cauthentication-fordata source.

4) In the **Enter database specific properties for the datasource** pane, type the following line in the **URL** field:

    jdbc:oracle:thin:@[hostname]:[port]:[SID]

    where [hostnamet] is the IP address of the database server, [port] is the port that the database is listening on (default 1521), and [SID] is the service ID of the database.

5) *(Oracle RAC only)*In the **Enter database specific properties for the datasource** pane, type the following connection URL in the **URL** field:

    ```
    jdbc:oracle:thin:@(DESCRIPTION=(ENABLE=broken) (ADDRESS_LIST=(ADDRESS=
    (PROTOCOL=TCP) (HOST=yourhost1) (PORT=1521)) (ADDRESS=(PROTOCOL=TCP)
    (HOST=yourhost2) (PORT=1521)) (LOAD_BALANCE=on) (FAILOVER=on))
    (CONNECT_DATA=(SERVER=dedicated) (SERVICE_NAME=service.yourcompany.com)
    (FAILOVER_MODE=(TYPE=session) (METHOD=basic) (RETRIES=10)
    (DELAY=3))))
    ```

    Replace the highlighted text in the connection URL with the following values:

    – **yourhost1:** The name, IP address, or fully-qualified domain name of the first node in the cluster that hosts the database.

    – **yourhost2:** The name, IP address, or fully-qualified domain name of the second node in the cluster that hosts the database. *NOTE: The cluster hosting the database could have n nodes. **yourhost1** and **yourhost2** are examples in the case of a two-node cluster.*

    – **service.yourcompany.com:** The service name for the Oracle RAC database.

6) Select **Oracle 11g and Oracle 12c data store helper**.

7) Click **Next** and, in the **Setup security aliases** pane, click **Finish**.

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

9) Select the data source you just created to modify additional parameters and set the following configuration:

    –   In the **Container-managed authentication alias** list, select the authentication alias that you created for this data source in ConfigureJ2Cauthenticationfordata source.

    –   In the **Mapping-configuration alias** list, select **DefaultPrincipalMapping**.

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

11) Change the statement cache size. Do the following tasks:

    –   In WebSphere Administrative Console, click **JDBC > Data sources**.

    –   Click the data source you just created and under**Additional Properties**, click **WebSphere Application Server data source properties**.

    –   Change the value of the **Statement cache size** field to 80.

    –   Click **OK** or **Apply** and the click **Save** directly to the master configuration.

Configure LiveCycle- oracle - IDP_DS connection pools:

1) In the navigation tree, click **Resources**>**JDBC**>**JDBC Providers** and, in the right pane, click the **Oracle JDBC Driver**data source you just created.

2) Under Additional Properties, click **Data sources** and then select **Livecycle - oracle - IDP_DS**.

3) On the next screen, under Additional Properties, click **Custom Properties** and then change **oracle9iLogTraceLevel** to null (no value).

4) Under Additional Properties, click **Connection Pool Properties** and, in the **Maximum connections** box, type 30.

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

Configure the custom property for Oracle:

1) In the navigation tree, click **Resources > JDBC > Data sources** and, in the right pane, click the data source that you created in the *Create the Oracle JDBC data source* section.

2) Under Additional Properties, click **Custom properties** and then click **New**.

    –   In the **Name** box, type useRRASetEquals and in the Value box, type true.

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

Create the Oracle JDBC data source for Rights Management

NOTE: This section applies only if you have Rights Management installed.

1) In the navigation tree, click **Resources**>**JDBC**> **JDBC Providers** and, in the right pane, click the provider that you created in the *Create the Oracle JDBC provider* section.

2) Under Additional Properties, click **Data sources** and then click **New**.

3) In the **Enter basic data source information** pane, set the following configurations and then click **Next**:

- – In the **Data source name**box, type`Livecycle - oracle - RM_DS`.

- – In the **JNDI name**box, type `EDC_DS`.

- – In the list under Component-Managed Authentication and XA Recovery Authentication, select the authentication alias that you created for this data source in ConfigureJ2Cauthentication-fordata source.

4) In the **Enter database specific properties for the datasource** pane, type the following line in the **URL** field:

   jdbc:oracle:thin:@[server_host]:[port]:[SID]

   where [server_host] is the IP address of the database server, [port] is the port that the database is listening on (default 1521), and [SID] is the service ID of the database.

5) Select **Oracle 11g data store helper**.

6) Click **Next** and, in the **Setup security aliases** pane, click **Finish**.

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

8) Select the data source (RM_DS) you just created to modify additional parameters and then set the following configuration:

   - – In the **Container-managed authentication alias** list, select the authentication alias that you created for this data source in ConfigureJ2Cauthenticationfordata source.

   - – In the **Mapping-configuration alias** list, select **DefaultPrincipalMapping**.

9) Click **OK** and then click **Save**directly to master configuration.

10) Change the statement cache size. Do the following tasks:

   - – In WebSphere Administrative Console, click **JDBC > Data sources**.

   - – Click the data source you just created and under**Additional Properties**, click **WebSphere Application Server data source properties**.

   - – Change the value of the **Statement cache size** field to 80.

   - – Click **OK** or **Apply** and the click **Save** directly to the master configuration.

Configure LiveCycle- oracle - RM_DS connection pools for Rights Management:

NOTE: This section applies only if you have Rights Management installed.

1) In the navigation tree, click **Resources**> **JDBC**>**JDBC Providers** and, in the right pane, click the **Oracle JDBC Driver**data source you just created.

2) (WebSphere 6.1) Under Additional Properties, click **Custom Properties** and then change **oracle9iLogTraceLevel** to null (no value).

3) Under Additional Properties, click **Data sources** and then select **Livecycle - oracle - RM_DS**.

4) On the next screen, under Additional Properties, click **Connection Pool Properties** and, in the **Maximum connections** box, type `20`.

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

Configure the custom property for Oracle:

1)   In the navigation tree, click **Resources > JDBC > Data sources**and, in the right pane, click the provider that you created in the *Create the Oracle JDBC data source for Rights Management* section.

2)   Under Additional Properties, click **Custom properties** and then click **New**.

3)   In the **Name** box, type `useRRASetEquals` and in the **Value** box, type `true`.

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

Configuring SQL Server database connectivity

Configuring the SQL Server data source requires you to install the SQL Server database drivers, create a SQL Server JDBC provider on WebSphere, create the data source on WebSphere, and then configure the corresponding connection pool.

Install the SQL Server database driver

(for IBM JDK 6) If you have not done so already, copy the SQL Server JDBC Driver from [*aem-forms root*]\lib\db\mssql\java6 to the [*appserver root*]\lib\ directory.

(for IBM JDK 7) If you have not done so already, copy the SQL Server JDBC Driver from [*aem-forms root*]\lib\db\mssql to the [*appserver root*]\lib\ directory.

NOTE: Make a note of the directory location where you install the driver on your system.

Create the SQL Server JDBC provider

1)   In the WebSphere Administrative Console navigation tree, click **Environment** > **WebSphere Variables** and, in the right pane, click one of the following:

–

–   **MICROSOFT_JDBC_DRIVER_PATH**

2)   Under **General Properties**, in the **Value** box, type the path to the sqljdbc4.jar file that you created in the *Install the SQL Server database driver* section, and then click **OK**.

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

4)   In the navigation tree, click **Resources**>**JDBC**>**JDBC Providers**.

5)   In the **Scope** drop-down list in the right pane, select **Node=*NodeName*, Server=*ServerName*** as the level, and then click **New**.

6)   (WebSphere 6.1)In the **Create new JDBC provider** pane, set the following configurations and then click **Next**:

–   In the **Database type** list, select `User-defined`.

–   In the **Implementation class name** box, enter the implementation class as follows:

com.microsoft.sqlserver.jdbc.SQLServerConnectionPoolDataSource

–   In the **Name** box, type `SQL Server Provider`, or accept the default value (User-defined JDBC Provider).

7) In the **Create new JDBC provider** pane, set the following configurations and then click **Next**:

    – In the **Database type** list, select `SQL Server`.

    – In the **Provider Type** list, select `Microsoft SQL Server JDBC Driver`.

    – In the **Implementation type**list, select `Connection Pool Data Source`.

    – In the **Name** box, type `Microsoft SQL Server JDBC Driver`, or accept the default value.

8) In the **Enter database class path information** pane, replace the existing entry with the following, and then click **Next**:

    –

    – `${MICROSOFT_JDBC_DRIVER_PATH}/sqljdbc4.jar`

    NOTE: For WebSphere, if you have set the WebSphere variable MICROSOFT_JDBC_DRIVER_PATH, the database class path information is populated automatically.

9) In the **Summary** pane, click **Finish** and then click **Save**directly to master configuration.

Create the SQL Server data source for AEM Forms on JEE

Follow the steps below to create the SQL Server data source for your application server version.

1) In the navigation tree, click **Resources**>**JDBC > JDBC Providers** and, in the right pane, click the provider that you created in the *Create the SQL Server JDBC provider* section.

2) Under **Additional Properties**, click **Data sources** and then click **New**.

3) In the **Enter basic data source information pane**, set the following configurations and then click **Next**:

    – In the **Data source name** box, type`Livecycle – SQLServer – IDP_DS`.

    – In the **JNDI name** box, type `IDP_DS`.

4) In the**Enter database specific properties for the data source** pane, enter the database name, server name, and port.

5) (Not for SQl Server with Windows Authentication)In the **Setup security aliases** pane, set the following, and click **Next**.

    – In the **Component managed authentication alias** list, select the authentication alias that you created for this data source in ConfigureJ2Cauthenticationfordata source.

    – In the **Mapping-configuration alias** list, select **DefaultPrincipalMapping**.

    – In the **Container managed authentication alias** list, select the authentication alias that you created for this data source in ConfigureJ2Cauthenticationfordata source.

6) In the**Summary** pane, click **Finish**, and then click **Save** directly to the master configuration.

7) Set the data store helper class for the data source. Do the following tasks:

    – In the navigation tree, click **Resources** > **JDBC** > **Data sources**and, in the right pane, click the data source that you created.

    – In the next screen, under **Data store helper class name**, select **Specify a user-defined data store helper**, and replace the existing entry with the following text:

    com.ibm.websphere.rsadapter.GenericDataStoreHelper

8) Change the statement cache size. Do the following tasks:

- – In WebSphere Administrative Console, click **JDBC > Data sources**.
- – Click the data source you just created and under**Additional Properties**, click **WebSphere Application Server data source properties**.
- – Change the value of the **Statement cache size** field to `80`.
- – Click **OK** or **Apply** and the click **Save** directly to the master configuration.

Configure LiveCycle - SQLServer - IDP_DS connection pools

1) In the navigation tree, click **Resources** > **JDBC** > **JDBC Providers** and, in the right pane, click the provider that you created earlier for WebSphere.

- –
- – **Microsoft SQL Server JDBC Driver**.

2) Under **Additional Properties**, click**Data sources** and then select **Livecycle - SQLServer - IDP_DS**.

3) On the next screen, under **Additional Properties**, click **Connection Pool Properties** and, in the **Maximum connections** box, type`30`.

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

Configure the custom property for SQL Server

1) In the navigation tree, click **Resources > JDBC > Data sources** and, in the right pane, click the data source that you created in the *Create the SQL Server data source for AEM Forms on JEE* section.

2) Under**Additional Properties**, click **Custom** properties and then click **New**.

3) In the **Name** box, type `useRRASetEquals` and in the **Value** box, type `true`.

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

Create SQL Server data source for Rights Management

Follow the steps below to create the SQL Server data source for your application server version.

1) In the navigation tree, click **Resources**>**JDBC > JDBC Providers** and, in the right pane, click the provider that you created in the *Create the SQL Server JDBC provider* section.

2) Under **Additional properties**, click **Data sources** and then click **New**.

3) In the **Enter basic data source information** pane, set the following configurations and then click **Next**:

- – In the **Data source name** box, type`Livecycle – SQLServer – RM_DS`.
- – In the **JNDI name** box, type `EDC_DS`.
- – In the list under **Component-managed authentication alias and XA recovery authentication alias**, select the authentication alias that you created for this data source in ConfigureJ2Cauthenticationfordata source.

4) In the **Enter database specific properties for the data source** pane, replace the existing entry with the following in the **Data store helper class name** box, and click **Next**.

   com.ibm.websphere.rsadapter.GenericDataStoreHelper

5) In the **Summary** pane, click **Finish** and then click **Save**directly to master configuration.

6) Select the data source you just created to modify additional parameters.

7) Set the following configuration:

   – In the **Container-managed authentication alias** list, select the authentication alias that you created for this data source in ConfigureJ2Cauthenticationfordata source.

   – In the **Mapping-configuration alias** list, select **DefaultPrincipalMapping**.

8) Click **OK** and then click **Save**directly to master configuration.

9) Under **Enter database specific properties for the data source**, enter the database name, server name, and port.

10) Click **OK** or **Apply** and the click **Save** directly to the master configuration.

11) Change the statement cache size. Do the following tasks:

   – In WebSphere Administrative Console, click **JDBC > Data sources**.

   – Click the data source you just created and under**Additional Properties**, click **WebSphere Application Server data source properties**.

   – Change the value of the **Statement cache size** field to 80.

1) In the navigation tree, click **Resources**>**JDBC > JDBC Providers** and, in the right pane, click the provider that you created in the *Create the SQL Server JDBC provider* section.

2) Under **Additional Properties**, click **Data sources** and then click **New**.

3) In the **Enter basic data source information pane**, set the following configurations and then click **Next**:

   – In the **Data source name** box, type`Livecycle – SQLServer – RM_DS`.

   – In the **JNDI name** box, type `EDC_DS`.

4) In the**Enter database specific properties for the data source** pane, in the **Data store helper class name** box, replace the existing entry with the following:

   com.ibm.websphere.rsadapter.GenericDataStoreHelper

5) (Not for SQL server with Windows authentication)In the **Setup security aliases** pane, set the following, and click **Next**.

   – In the **Component managed authentication alias** list, select the authentication alias that you created for this data source in ConfigureJ2Cauthenticationfordata source.

   – In the **Mapping-configuration alias** list, select **DefaultPrincipalMapping**.

   – In the **Container managed authentication alias** list, select the authentication alias that you created for this data source in ConfigureJ2Cauthenticationfordata source.

6) In the**Summary** pane, click **Finish**, and then click **Save** directly to the master configuration.

7) Change the statement cache size. Do the following tasks:

   – In WebSphere Administrative Console, click **JDBC > Data sources**.

   – Click the data source you just created and under**Additional Properties**, click **WebSphere Application Server data source properties**.

   – Change the value of the **Statement cache size** field to `80`.

   – Click **OK** or **Apply** and the click **Save** directly to the master configuration.

Configure LiveCycle - SQLServer - RM_DS connection pools

1) In the navigation tree, click **Resources** > **JDBC** > **JDBC Providers** and, in the right pane, click the provider that you created earlier for WebSphere.

   –

   – **SQL Server Provider**.

2) Under **Additional Properties**, click**Data sources** and then select **Livecycle - SQLServer - RM_DS**.

3) On the next screen, under **Additional Properties**, click **Connection Pool Properties** and, in the **Maximum connections** box, type20.

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

Configure the custom property for SQL Server

1) In the navigation tree, click **Resources > JDBC > Data sources** and, in the right pane, click the data source that you created in the *Create SQL Server data source for Rights Management* section.

2) Under **Additional Properties**, click **Custom properties** and then click **New**.

3) In the **Name** box, type useRRASetEquals and in the **Value** box, type true.

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

Map the Windows login to the AEM Forms on JEE database user

NOTE: You must already have a user account created and associated with your Windows domain.

NOTE: When you run Configuration Manager, database validation will fail if you use Windows authentication as the authentication mode for your database. You can safely ignore this error during the configuration steps.

1) Using Microsoft SQL Server Management Studio, connect to the database server that hosts the AEM Forms on JEE database.

2) Set the Authentication mode to **Windows authentication**.

3) Under **Security > Logins**, create a new account for the Windows domain user and select **Windows authentication**.

4) Click **User Mapping** on the Login - New screen and set the database and default schema for the new user.

5) Select **db_owner** as the Database role and click **OK**.

To verify that you created the user, expand the AEM Forms on JEE database in the navigation tree and open Security > Users. The new user is listed there.

Configure integrated security on Windows to make a trusted connection with SQL Server

1) Start the application server by using the Windows domain user. If WebSphere Application Server is running as a service, it should be started by using the Windows domain user account.

2) Start the WebSphere Administrative Console by typing http://[host]:[port]/IBM/console in the URL line of a web browser.

3) In the navigation tree, click **Resources>JDBC > Data Sources** and, in the right pane, click **IDP_DS**.

4)   In the right pane, under Additional Properties, click **Custom Properties**, and on the next screen, click **integratedSecurity**.

5)   On the next screen, under General Properties, type `true` in the**Value** box.

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

7)   In the navigation tree, click **Resources**>**JDBC**>**Data Sources** and, in the right pane, click **RM_DS**.

8)   In the right pane, under Additional Properties, click **Custom Properties**, and on the next screen, click **integratedSecurity**.

9)   On the next screen, under General Properties, type `true` in the**Value** box.

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

11)   Open the Services control panel and stop the IBM WebSphere Application Server <version> - <node> service.

12)   Right-click the service name and click **Properties**>**Log On**.

13)   Change the default *Log On* property from Local System to the Windows domain user account that you configured in the *Map the Windows login to the AEM Forms on JEE database user* section and then restart the service.

14)   On the computer where the application server is installed, add sqljdbc_auth.dll to the Windows systems path (C:\Windows).

        NOTE: The sqljdbc_auth.dll file is in the same location as the Microsoft SQL JDBC 4.0 driver installation (default is *[InstallDir]/sqljdbc_3.0/enu/auth/x86).*

9.6. Next step

You must now deploy the AEM Forms on JEE EAR files to the application server. See ConfiguringanddeployingAEMForms on JEE.

10. Manually Deploying to WebSphere

This chapter describes how to manually deploy AEM Forms on JEE modules to WebSphere. This chapter applies only if you chose not to deploy AEM Forms on JEE to your WebSphere Application Server automatically. For information about how to automatically deploy AEM Forms on JEE to your application server, see ConfiguringanddeployingAEMFormsonJEE.

At this point in the installation process, you have already installed AEM Forms on JEE files, run Configuration Manager to configure the AEM Forms on JEE deployable archives, and manually configured your WebSphere Application Server. Now you must manually deploy the AEM Forms on JEE deployable archives.

10.1. About deploying AEM Forms on JEE modules

Before you deploy AEM Forms on JEE, ensure that you completed these tasks:
- Installed the required software and files, and know the location of the directories you will be working with. If you did not complete this task, see Preparing to InstallAEMFormsonJEE(Single-Server).
- Run Configuration Manager to configure AEM Forms on JEE modules according to your system and application server requirements. To add a module to your deployment, you can run Configuration Manager to make the changes and then redeploy the updated EAR file.

  If you are deploying AEM Forms on JEE for the first time, initialize the database by using Configuration Manager after you deploy the EAR files.

  If you are using an external web server, see your web server documentation for information about the configuration that is required to allow access to the application server.

Summary of deployable components

During the deployment process, you need to deploy the following components for AEM Forms on JEE:
- adobe-livecycle-native-websphere-*[OS]*.ear
- adobe-livecycle-websphere.ear
- adobe-workspace-client.ear

After AEM Forms on JEE is configured using Configuration Manager, these files are located in the *[aem-forms root]*/configurationManager/export/ directory.

10.2. Deploying to WebSphere

Deploy AEM Forms on JEE modules to WebSphere by deploying the component EAR files to the application server using the WebSphere Administrative Console.

Before deploying to WebSphere, start the application server or the cluster. After you deploy the required components, stop and restart the application server or cluster before you start any services.

To deploy the EAR files:

1) *(WebSphere 6.x)* In the WebSphere Administrative Console navigation tree, click **Applications** > **Install New Application**.

    *In the WebSphere Administrative Console navigation tree, click **Applications > New Application.***

2) *(WebSphere 6.x)*In the right pane, select **Remote file system** or **Local File System.**

    *In the right pane, click **New Enterprise Application** and then select **Remote file system** or **Local File System.***

3) Click **Browse**, navigate to one of the EAR files in Summaryofdeployablecomponents, and select the EAR file.

4) Select **Show all installation options and parameters**and expand **Choose to generate default bindings and mappings**.

5) Select **Generate Default Bindings** and click **Next**.

6) In the left column of the Summary pane on the right, select the last step and click **Finish**.

7) When the EAR file is installed successfully, in the **Messages** box, click **Save directly to Master Configuration**.

8) Repeat these steps for each of the EAR files in Summaryofdeployablecomponents.

10.3. Starting the application

After deploying the module, you need to start the applications. When the red "X" beside the name of the application changes to a green arrow, the application has been deployed and started successfully. WebSphere displays an error message if it cannot start the application.

For information about WebSphere error messages, see your WebSphere Application Server documentation.

To start an application in WebSphere:

1) (WebSphere 6.x) In the WebSphere Administrative Console navigation tree, click **Applications** > **Enterprise Applications**.

    *In the WebSphere Administrative Console navigation tree, click **Applications > Application Types > WebSphere Enterprise applications.***

2) Select any or all of the AEM Forms on JEE applications that you want to start and click **Start**. The red "X" beside the status of each application changes to a green arrow, indicating that the application is running.

10.4. Launch configuration manager to configure AEM Forms for deployment

Further, you need to do the following:

•   Initialize AEM Forms database

•   Deploy AEM Forms components

•   Validate AEM Forms component deployment

•   Configure AEM Forms components

Launch the configuration manager to configure AEM Forms for deployment. For more information, see the chapter Configuring AEM Forms for deployment.

11. 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.

11.1. 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 none of the other sites or web applications is using services on the IIS Server. Consult your IIS Administrator before you proceed with the installation.
*   (For Sharepoint server 2010 Farmed installation) The SharePoint administration service is running on the centeral adminstration server of sharepoint server Farm. (For Sharepoint server 2010 Stand-alone installation) The SharePoint administration service is stopped on the sharepoint server.

11.2. Installation and configuration on the 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 occur:

• 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 contents 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 copy of the `web.config` file and then open the original file in a text editor.

6) Append the contents that you copied before the `</configuration>` tag.

7) Save and close the file.

11.3. 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 Connector

1) (Optional)Select options for SharePoint Server Context menu before installing connector. See Enable/Disablefeatures for detailed steps.

2) Run following commands in the listed order to install 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.xmlfile. 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.

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4)   Delete or comment the CustomAction elements of features that you want to disable .

Docuent 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

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	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.