



# Installing and Deploying Solution Accelerators

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Adobe Systems Incorporated, 345 Park Avenue, San Jose, California 95110, USA.

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# About This Document

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This document will help you learn about installing, configuring, and deploying Solution Accelerators. For more information on Solution Accelerators and building blocks, visit [Solution Accelerators](#) and [LiveCycle ES2](#) websites.

## What's in this document?

This guide provides information about how to install and configure the following Solution Accelerators on Microsoft® Windows®, AIX®, Linux®, and Solaris® and how to deploy them to JBoss®, WebSphere®, and Weblogic® Application Servers:

- Correspondence Management Solution Accelerator 9.5
- Interactive Statements Solution Accelerator 9.5
- Managed Review & Approval Solution Accelerator 9.5

## Who should read this document?

This guide provides information for administrators or developers who are responsible for installing, configuring, and deploying Solution Accelerators. The information provided is based on the assumption that anyone reading this guide has installed and worked on LiveCycle.

## Conventions used in this document

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

Name	Default value	Description
<i>[LiveCycleES2 root]</i>	Windows: C:\Adobe\Adobe LiveCycle ES2\ AIX, Linux, and Solaris: /opt/adobe/adobe_livecycle_es2/	The installation directory that is used for all LiveCycle ES2 modules. The installation directory contains subdirectories for Adobe LiveCycle Configuration Manager. This directory also includes directories relating to third-party products.  <b>Note:</b> In this document, LiveCycle ES2 refers to LiveCycle ES2 SP2 or later versions.

Name	Default value	Description
<i>[appserverdomain]</i>	WebLogic 10g Server on Windows: C:\bea\user_projects\domains\base_domain  WebLogic 11g Server on Windows: C:\Oracle\Middleware\user_projects\domains\base_domain  WebLogic 10g Server on Linux and UNIX: /opt/bea/user_projects/domains/base_domain  WebLogic 11g Server on Linux and UNIX: /opt/Oracle/Middleware/user_projects/domains/base_domain	The domain that you configured on WebLogic Server.
<i>[JBoss Home]</i>	JBoss Application Server on Windows: C:\jboss  JBoss Application Server on Linux: /opt/jboss  JBoss Enterprise Application Platform on Windows: C:\jboss-eap-4.3\jboss-as  JBoss Enterprise Application Platform on Linux and Solaris: /opt/jboss-eap-4.3/jboss-as	The home directory of the JBoss application server that runs the LiveCycle ES2 services.
<i>[dbserver root]</i>	Depends on the database type and your specification during installation.	The location where the LiveCycle ES2 database server is installed.

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

## 1.1 Solution Accelerators Overview

Solution Accelerators are extendable and customizable solutions to reduce development time and increase quality. They are packaged with a set of production-ready building blocks that consist of reusable components and technical guides.

The following Solution Accelerators are available as part of Solution Accelerators installer:

- **Managed Review & Approval:** Provides a reusable Adobe® Review, Commenting and Approval Building Block 9.5 for developing structured, auditable review and approval solutions.
- **Correspondence Management:** Empowers customer interfacing agents to create personalized correspondence using pre-defined fragments of content.
- **Interactive Statements:** Allows to create interactive statements that customers can use to interact directly with the business.

## 1.2 Installing Solution Accelerators

Installing Adobe LiveCycle ES2 Service Pack 2 is prerequisite for installing Solution Accelerators. If you intend to install the Solution Accelerators, you must run the LiveCycle installers in the following order:

1. Install LiveCycle ES2, version 9.0: see [Installing LiveCycle ES2](#) for details.
2. Install LiveCycle ES2 SP2, version 9.0.0.2: see [LiveCycle ES2 Service Pack 2](#) for details.
3. Install Solution Accelerators, version 9.5: this document.

### 1.2.1 Install Solution Accelerators on a new system

If you are planning a fresh installation of LiveCycle with Solution Accelerators, you can simplify your installation by limiting the number of times you run LiveCycle Configuration Manager. The steps to simplify the installation as follows:

1. Install LiveCycle ES2 - do not run the LiveCycle Configuration Manager.
2. Install LiveCycle ES2 SP2 - do not run the LiveCycle Configuration Manager.
3. Install Solution Accelerators.
4. Run LiveCycle Configuration Manager, to configure, deploy, and bootstrap the system.

## 1.3 Upgrading to LiveCycle ES2.5

If you are upgrading from LiveCycle 7.x or LiveCycle 8.x to LiveCycle ES2.5, you must first upgrade to LiveCycle ES2 service pack 2 or later.

For information on upgrading from LiveCycle 7.x to LiveCycle ES2, see [Upgrading LiveCycle 7.x servers to LiveCycle ES2](#).

For information on upgrading from LiveCycle 8.x to LiveCycle ES2, see [Upgrading to LiveCycle ES2 from 8.x](#) for your application server.

For information on patch updates, technical notes, and additional information, see [LiveCycle Technical Support](#).

## 1.4 Next Steps

After you have LiveCycle ES2 service pack 2 or later running on your system, you can install and deploy Solution Accelerators.

This document provides information about how to install, configure, and deploy Solution Accelerators on a LiveCycle ES2 server. It also describes post-deployment activities required for using Solution Accelerators and troubleshooting tips.

- ["Installing Solution Accelerators" on page 9](#)
- ["Configuring and Deploying Solution Accelerators" on page 11](#)
- ["Post-Deployment Activities" on page 17](#)
- ["Troubleshooting" on page 28](#)
- ["Appendix - Manually Configuring Data Sources" on page 30](#)

# 2

## Installing Solution Accelerators

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The installation and configuration of Solution Accelerators involves installing the product files, and running the LiveCycle Configuration Manager to deploy Solution Accelerators.

**Note:** For installing and deploying Solution Accelerators, you must have LiveCycle ES2 service pack 2 or later running on your system.

For complete documentation on installing and deploying LiveCycle ES2 server, see [LiveCycle ES2 documentation](#).

### 2.1 Check the installer

Ensure that the installation media that you received is not damaged. If you copy the installer media contents to the hard disk of your computer where you are installing Solution Accelerators, ensure that you copy the entire DVD contents on to the hard disk.

**Tip:** To avoid installation errors, do not copy the DVD install image to a directory path that exceeds the Windows maximum path length limit.

If you downloaded the installer from the Adobe website, verify the integrity of the installer file using any system utility, such as MD5 checksum. Click [here](#) for Adobe LiveCycle MD5 checksum codes.

**Note:** Ensure that you do not modify the directory structure of the extracted installation package.

### 2.2 Install the product files

This section covers the initial installation of Solution Accelerators product files. For information about configuration and deployment, see [“Configuring and Deploying Solution Accelerators” on page 11](#).

**Note:** You can click **Cancel** to exit the installer anytime during the installation. However, the files that have installed so far are not removed automatically. You may remove them manually or run the Solution Accelerator uninstaller. For more information, see [“Uninstall Solution Accelerators” on page 27](#).

1. Start the installation program.

- **(Windows)** Do one of the following:
  - Navigate to the `livecycle_SA` directory and launch the `run_windows_installer.bat` file. This batch file launches the appropriate installer (32-bit or 64-bit), depending on the Windows version.
  - Navigate to the appropriate directory on your hard disk where you copied the installer, and double-click the `install.exe` file.

(Windows 32-bit) `\livecycle_SA\Disk1\InstData\Windows\VM`

(Windows 64-bit) `\livecycle_SA\Disk1\InstData\Windows_64\VM`

**Note:** Ensure that you run 64-bit installer on 64-bit platforms.

- **(AIX, Linux, Solaris)** Navigate to the appropriate directory, and execute `./install.bin` from a command prompt:

- **(AIX)** /livecycle\_SA/Disk1/InstData/AIX/NoVM
- **(Linux)** /livecycle\_SA/Disk1/InstData/Linux/NoVM
- **(Solaris)** /livecycle\_SA/Disk1/InstData/Solaris/NoVM

**Note:** For AIX, Linux, and Solaris, you must set executable permissions on the installation file.

2. When prompted, select the language for the installation to use and click **OK**.
3. On the Introduction screen, click **Next**.
4. Read the Solution Accelerators License Agreement, select **I accept the terms of License Agreement** to accept the terms of the license agreement, and click **Next**.
5. On the Choose a Folder screen, specify the location where LiveCycle ES2 is installed, and click **Next**.
6. All available Solutions Accelerators are selected by default. Deselect the ones that you do not wish to install, and click **Next**.
7. (*Turnkey only*) Specify the password for the Solution Accelerators data source. It will be used for the Solution Accelerators to connect to the Solution Accelerator database.
8. Review the pre-installation summary, and click **Install** to install the selected Solution Accelerators.
9. Review the Adobe LiveCycle ES2.5 Release Notes, and click **Next**.
10. Review the information on the Installation Complete screen.
11. The **Start LiveCycle Configuration Manager** checkbox is selected by default. Click **Done** to run the LiveCycle Configuration Manager.

**Note:** To run LiveCycle Configuration Manager later, deselect the **Start LiveCycle Configuration Manager** option before you click **Done**. You can start LiveCycle Configuration Manager later using the appropriate script in the [LiveCycleES2 root]/configurationManager/bin directory. See [“Configuring and Deploying Solution Accelerators” on page 11](#).

**Note:** If you are installing the Correspondence Management Solution Accelerator using a Japanese Operating System, additional configuration is required before using the LiveCycle Configuration Manager. See *Supporting Japanese Language*, in [Correspondence Management Solution Accelerator 9.5 Solution Guide](#).

## 2.3 Next step

Configure Solution Accelerators using LiveCycle Configuration Manager. See [“Configuring and Deploying Solution Accelerators” on page 11](#) for details.

# 3

## Configuring and Deploying Solution Accelerators

After you have installed Solution Accelerators, you must run LiveCycle Configuration Manager to configure the installation. LiveCycle Configuration Manager configures LiveCycle ES2 modules in EAR files for deploying them to the application server and deploys the LiveCycle ES2 components.

If you have not installed Solution Accelerators, see [“Installing Solution Accelerators” on page 9](#).

**Note:** In addition to the LiveCycle Configuration Manager screens for configuring LiveCycle ES2 server, you will encounter screens specific to Solution Accelerators installed on your system. See [Configure Solution Accelerators](#) for more details.

**Note:** Solution Accelerators rely on particular LiveCycle ES2 modules and tasks. While running LiveCycle Configuration Manager, you must ensure these modules and tasks are selected. See [“Solution Accelerators dependencies” on page 15](#) for details.

### 3.1 Run LiveCycle Configuration Manager

Depending on your installation type, application server, and server configuration (single or cluster) environment, perform the steps to configure LiveCycle ES2.5 described in the following documents.

- **Turnkey**
  - [Installing and Deploying LiveCycle ES2 Using JBoss Turnkey](#)
- **Single server configuration**
  - [Installing and Deploying LiveCycle ES2 for JBoss](#)
  - [Installing and Deploying LiveCycle ES2 for WebLogic](#)
  - [Installing and Deploying LiveCycle ES2 for WebSphere](#)
- **Clustered server configuration**
  - [Configuring LiveCycle ES2 Application Server Clusters Using JBoss](#)
  - [Configuring LiveCycle ES2 Application Server Clusters Using WebLogic](#)
  - [Configuring LiveCycle ES2 Application Server Clusters Using WebSphere](#)

#### 3.1.1 Configure Solution Accelerators

Depending on your installed Solution Accelerators and application server, the following LiveCycle Configuration Manager screens for configuring Solution Accelerators appear:

- [“Solution Accelerator Selection” on page 12](#)
- [“Configure Correspondence Management Solution Accelerator” on page 12](#)
- [“Datasource Configuration - Solution Accelerator” on page 13](#)
- [“Configure Datasource JDBC Driver Classpath for Solution Accelerators \(WebLogic only\)” on page 13](#)
- [“Package JDBC Modules for Solution Accelerators into LiveCycle ES2 EARs \(1\(b\) of 2\)\(WebLogic only\)” on page 13](#)
- [“Package JDBC Modules into LiveCycle ES2 EARs \(2 of 2\) \(WebLogic only\)” on page 14](#)

- [“Package JDBC module into Correspondence Management Solution Accelerator \(Weblogic only\)” on page 14](#)
- [“Configure Correspondence Management” on page 14](#)
- [“Managed Review & Approval” on page 15](#)

### 3.1.1.1 Solution Accelerator Selection

On the Solution Accelerator Selection screen, all Solution Accelerators currently installed on your system are selected by default. Click **Next**.

### 3.1.1.2 Configure Correspondence Management Solution Accelerator

**Caution:** If you are deploying Correspondence Management Solution Accelerator on a LiveCycle cluster, you must add the following JVM arguments for your application server and restart your server before you run LiveCycle Configuration Manager:

- `-Dcm.tcp.start_port=<tcp.start_port>`
- `-Dcm.tcp.bind_addr=<hostname or IP address of that particular member node>`
- `-Dcm.tcp.initial_hosts=<hostname>[<tcp.start_port>],<hostname>[<tcp.start_port>]...`

**Note:** Replace `<hostname>` with the name of the each node in the cluster. Replace `<tcp.start_port >` with the TCP start port number for that particular node. The default value for the TCP start port number is 7811.

Depending on your cluster environment, you might need to perform additional configurations after Correspondence Management is deployed. See [“Configure cluster environment” on page 20](#) for more information.

On the screen:

- Specify the hostname or IP address for LiveCycle ES2 server, which Correspondence Management Solution Accelerator would use to connect to the LiveCycle ES2 server. The default value is **localhost**.
- Specify the server port for LiveCycle ES2 server.
- Specify a directory for archiving assets used by Correspondence Management Solution Accelerator. The default is `[LiveCycleES2 root]/cm_data/asset_archive`.
- Specify a directory for storing temporary files by Correspondence Management Solution Accelerator. The default is `[LiveCycleES2 root]/cm_data/temp`.

**Note:** Although the `asset_archive` and `temp` directories are automatically created when you installed Correspondence Management Solution Accelerator, you may choose to specify other existing locations.

- Click **Configure**. When complete, click **Next**.

Press **F1** for more information.

### 3.1.1.3 Datasource Configuration - Solution Accelerator

**Note:** The data source configuration screen does not appear for JBoss application server. For JBoss, you must configure your data sources manually as described in [“Appendix - Manually Configuring Data Sources” on page 30](#).

For WebLogic application server, this screen appears only if you selected **Configure Datasource option with globally scoped datasources** on the Application Server Configuration Selection screen.

For WebSphere application server, this screen appears by default.

On the **Datasource Configuration - Solution Accelerator** screen, specify the information and click **Test Database Connection**. When the connection is tested successfully, click **Next**.

Press **F1** for details about the required information.

**Note:** You can choose to configure data sources manually for WebLogic and WebSphere as well. To override automatic data source configuration, select **Manually configure data source now before continuing**. Without exiting LiveCycle Configuration Manager, log on to the LiveCycle Administration Console, and configure data sources for your application server as described in [“Appendix - Manually Configuring Data Sources” on page 30](#).

### 3.1.1.4 Configure Datasource JDBC Driver Classpath for Solution Accelerators (WebLogic only)

**Note:** This screen appears only if you selected **Configure Datasource option with Packaged JDBC Modules** on Application Server Configuration Selection screen.

LiveCycle Configuration Manager allows you to update the classpath on your LiveCycle server to reflect the JDBC driver used to secure the data source for Solution Accelerators. On the **Configure Datasource JDBC Driver Classpath for Solution Accelerators** screen:

- Select your database type from the DB Type drop-down list.
- Specify the path to the JDBC driver.
- Click **Next**.

### 3.1.1.5 Package JDBC Modules for Solution Accelerators into LiveCycle ES2 EARs (1(b) of 2)(WebLogic only)

**Note:** This screen appears only if you selected **Configure Datasource option with Packaged JDBC Modules** on Application Server Configuration Selection screen.

LiveCycle Configuration Manager configures the JDBC modules and deploys the EAR file to your application server. On the **Package JDBC Modules for Solution Accelerators into LiveCycle ES2 EARs** screen:

- Specify the type of database you are using as the LiveCycle database.
- Specify the name of the database you are connecting to.
- Specify the name or IP address of the computer that hosts the database server.
- Specify the port used to access the database service.
- Specify the name of the user account that accessed the database server specified in the database.
- Specify the password for the user account specified for the database.

- Specify the name and path of the JDBC driver file that the application server uses to connect to the database. If you are configuring a remote application server, provide the path on the application server that contains the database drivers (the path must be accessible from the remote application server).

Click **Test Database Connection** to ensure that the values entered are valid. Press **F1** for details about the required information.

**Note:** Although you can proceed to the next screen if the test fails, you should determine the causes for a failure message before you click **Next**. LiveCycle Configuration Manager does not validate the JDBC driver location if it is located on a remote server. Instead, it validates the JDBC drivers on the local host. If the test fails because the JDBC local driver was not set, the configuration is valid if the remote path is correct.

### 3.1.1.6 Package JDBC Modules into LiveCycle ES2 EARs (2 of 2) (*WebLogic only*)

**Note:** This screen is not specific to Solution Accelerators. However, the following fields appear only if you have installed Solution Accelerators.

- **Encrypted password (SA):** Specify an existing data source password encrypted by WebLogic for Solution Accelerators, if exists.
- **Password (SA):** If you do not have an existing data source password encrypted by WebLogic, specify a password you would like to encrypt.

For more information about other fields, press **F1**.

### 3.1.1.7 Package JDBC module into Correspondence Management Solution Accelerator (*Weblogic only*)

This screen automatically packages the data source definition into the Correspondence Management EAR file.

Click **Next** to continue.

### 3.1.1.8 Configure Correspondence Management

- Select **Create Sample Users** to create sample users and a sample domain, *Finance Corp*.
- Select **Create Solution Template Assets** to import assets for the sample solution template.
- Click **Configure**. During configuration, Correspondence Management Solution Accelerator creates user roles and assigns them to the sample users. For more information on user roles and their mapping to the sample users, see [“Sample users” on page 18](#).
- When the configuration is complete, click **Next**.

**Note:** It is recommended not to create sample users and assets in a production environment.

Press **F1** for more information.

### 3.1.1.9 Managed Review & Approval

#### On the Configure Managed Review & Approval screen:

- Specify the URL through which reviewers would access the LiveCycle ES2 server.
- Select **Configure Reader Extensions of Review Documents** to enable commenting on PDFs using Adobe Reader.
- Choose the Trust Store Alias from the **Trust Store Alias for Reader Extensions Credentials** drop-down list. It lists all the Reader Extensions Trust Store Aliases available on the running LiveCycle ES2 server.

The trust store alias should correspond to the credential imported in Trust Store Manager and the trust store type set as Reader Extensions Credential. For more information, see *Configuring Reader Extensions ES2* section in [LiveCycle ES2 Administration Help](#).

**Note:** The **Configure Reader Extensions of Review Documents** checkbox and **Trust Store Alias for Reader Extensions Credentials** drop-down list are mutually dependent, which means you must specify the Trust Store Alias when the checkbox is enabled.

- Select **Create Sample Users** to create sample users and a sample domain, *Global Corp*.

**Note:** It is recommended not to use the sample domain in a production environment.

- Click **Configure**. During configuration, Managed Review & Approval Solution Accelerator creates user roles and assigns them to the sample users. Press **F1** for more information about user roles and their mapping to the sample users.

**Note:** Note: The user roles are created whether or not you choose to create sample users.

- When the configuration is complete, click **Next**.

### 3.1.2 Solution Accelerators dependencies

For successful configuration and smooth running of Solution Accelerators, you must ensure the following while running LiveCycle Configuration Manager.

- On the Module Selection screen, the following modules are selected for your installed Solution Accelerators:
  - **Managed Review & Approval:** Adobe® LiveCycle® Content Services ES2, Adobe® LiveCycle® Process Management ES2, and Adobe® LiveCycle® Reader Extensions ES2
  - **Correspondence Management:** Adobe® LiveCycle® Content Services ES2, Adobe® LiveCycle® Forms ES2, and Adobe® LiveCycle® Output ES2
  - **Interactive Statements:** Adobe® LiveCycle® Content Services ES2, Adobe® LiveCycle® Digital Signatures ES2, Forms ES2, and Reader Extensions ES2
- On the Task Selection screen, the following tasks are selected:
  - Configure LiveCycle ES2 EARs
  - Deploy LiveCycle ES2 EARs
  - Deploy LiveCycle ES2 components
- Parameters that are already configured are shown as non-editable during this run. Click **Edit configurations** to make these fields editable and modify values, if required.

For example, on Configure LiveCycle ES2 screens, you could modify you directories for temporary files, global document storage (GDS), or fonts.

## 3.2 Verify Solution Accelerators deployment

After you have successfully run LiveCycle Configuration Manager, you can verify the Solution Accelerators deployment:

- **Correspondence Management**

Log on to `http://[server_name]:[port]/cmsa`.

- **Interactive Statements**

Log on to `http://[server_name]:[port]/adminui`. Navigate to **Services > Applications and Services > Service Management**, and ensure that the *AssetPlacement* and *BatchProcessor* service appears in the list of services.

- **Managed Review & Approval**

Log on to `http://[server_name]:[port]/reviewportal`.

**Note:** You can use the following default administrator credentials:

**Username:** administrator

**Password:** password

## 3.3 Next step

Now that you have installed, configured, and deployed Solution Accelerators, you will need to perform additional configurations for Solution Accelerators to be fully functional. See [“Post-Deployment Activities” on page 17](#).

# 4 Post-Deployment Activities

Solution Accelerators are up and running once they are deployed on the LiveCycle server. However, you need to perform additional configurations to use all the features and implement a workflow using Solution Accelerators. This document describes additional configurations that you must perform to get started with Solution Accelerators.

## 4.1 Correspondence Management

When you configured Correspondence Management Solution Accelerator using LiveCycle Configuration Manager, it creates the user roles required to participate in implementing a successful interactive customer communication solution. For detailed information about user roles, see ["User roles" on page 17](#). Also, see ["Permissions" on page 18](#) for information about permissions associated with these user roles.

Administrators create user roles, add permissions, and assign user roles to different users by using the LiveCycle Administration Console. For more details on how to accomplish these tasks, see [LiveCycle ES2 Administration Help](#).

If you selected Create Sample users during configuration, it creates sample users and assigns user roles to the sample users. For more information about sample users, see ["Sample users" on page 18](#).

### 4.1.1 User roles

The following table describes the user roles and the responsibilities these roles would typically assume.

User Role	Responsibilities
Form Designers	<ul style="list-style-type: none"><li>Design form layouts using LiveCycle Designer for use in Correspondence Management</li><li>Design the XDP templates</li></ul>
Administrators	<ul style="list-style-type: none"><li>Are general system administrators</li><li>Enable users to modify or delete system data dictionaries</li><li>Define categories</li></ul>
Subject Matter Experts (SMEs)	<ul style="list-style-type: none"><li>Create, retrieve, update, and delete text, layout, pictures, conditions, and lists</li></ul>
Application Specialists	<ul style="list-style-type: none"><li>Define letter templates by using text, pictures, conditions, and list objects</li><li>Create, retrieve, update, and delete letter templates</li></ul>
Claim Adjustors	<ul style="list-style-type: none"><li>Use letter templates to produce letter communication to be delivered to customers</li></ul>
Developers	<ul style="list-style-type: none"><li>Understand XSD schema and data modeling concepts to create or maintain data dictionaries used in customer correspondences</li></ul>

## 4.1.2 Sample users

The following table describes the sample users created if you selected Create Sample Users during Correspondence Management configuration.

User	Username	User Role
Todd Goldman	tgoldman	Administrator
Jocelyn Robinson	jrobinson	Form Designer
Heather Douglas	hdouglas	Subject Matter Expert
Caleb Lopez	clopez	Application Specialist
Frank Kricfalusi	fkricfalusi	Developer
Gloria Rios	grios	Claims Adjustor

**Note:** The default password for all the sample users is *password*.

## 4.1.3 Permissions

When you configure Correspondence Management using LiveCycle Configuration Manager, permissions to perform certain operations are associated with each user role. The following table describes these permissions and user roles mapped to them.

Permission	Description	User Roles
CM Category Create	To create Category	Administrator
CM Category Delete	To delete Category	Administrator
CM Category Edit	To edit Category	Administrator
CM Category View	To view Category	Application Specialist, SME, Administrator
CM Condition Activate	To activate Condition	SME, Administrator
CM Condition Copy	To copy Condition	SME, Administrator
CM Condition Create	To create Condition	SME, Administrator
CM Condition Delete	To delete Condition	SME, Administrator
CM Condition Edit	To edit Condition	SME, Administrator
CM Condition View	To view Condition	Application Specialist, SME, Administrator
CM DataDictionary Create	To create DataDictionary	Developer, Administrator
CM DataDictionary Delete	To delete DataDictionary	Developer, Administrator
CM DataDictionary Edit	To edit DataDictionary	Developer, Administrator
CM DataDictionary View	To view DataDictionary	Developer, Application Specialist, SME, Administrator

<b>Permission</b>	<b>Description</b>	<b>User Roles</b>
CM Picture Activate	To activate Picture	SME, Administrator
CM Picture Copy	To copy Picture	SME, Administrator
CM Picture Create	To create Picture	SME, Administrator
CM Picture Delete	To delete Picture	SME, Administrator
CM Picture Edit	To edit Picture	SME, Administrator
CM Picture View	To view Picture	Application Specialist, SME, Administrator
CM Layout Activate	To activate Layout	Form Designer, Administrator
CM Layout Copy	To copy Layout	Form Designer, Administrator
CM Layout Create	To create Layout	Form Designer, Administrator
CM Layout Delete	To delete Layout	Form Designer, Administrator
CM Layout Edit	To edit Layout	Form Designer, Administrator
CM Layout View	To view Layout	Form Designer, Application Specialist, SME, Administrator
CM Letter Activate	To activate Letter	Application Specialist, Administrator
CM Letter Copy	To copy Letter	Application Specialist, Administrator
CM Letter Create	To create Letter	Application Specialist, Administrator
CM Letter Delete	To delete Letter	Application Specialist, Administrator
CM Letter Edit	To edit Letter	Application Specialist, Administrator
CM Letter PreviewWithTestData	To preview with test data Letter	Application Specialist, Administrator
CM Letter PreviewWithoutData	To preview without data Letter	Application Specialist, Administrator
CM Letter View	To view Letter	Application Specialist, Administrator
CM List Activate	To activate List	SME, Administrator
CM List Copy	To copy List	SME, Administrator
CM List Create	To create List	SME, Administrator
CM List Delete	To delete List	SME, Administrator
CM List Edit	To edit List	SME, Administrator

Permission	Description	User Roles
CM List View	To view List	Application Specialist, SME, Administrator
CM System DataDictionary Create	To create system DataDictionary	Administrator
CM System DataDictionary Delete	To delete system DataDictionary	Administrator
CM System DataDictionary Edit	To edit system DataDictionary	Administrator
CM System DataDictionary View	To view system DataDictionary	Administrator
CM Text Activate	To activate Text	SME, Administrator
CM Text Copy	To copy Text	SME, Administrator
CM Text Create	To create Text	SME, Administrator
CM Text Delete	To delete Text	SME, Administrator
CM Text Edit	To edit Text	SME, Administrator
CM Text View	To view Text	Application Specialist, SME, Administrator

**Note:** Form Designer, Developer, Claim Adjustor, Application Specialist, SME, and Administrator user roles must be assigned the Contentspace ES2 User permission as well. Administrator user role must also be assigned the Contentspace Administrator role. For more information on how to assign permissions to user roles, see [LiveCycle ES2 Administration Help](#).

#### 4.1.4 Configure cluster environment

**Note:** This section is applicable only if you are deploying Correspondence Management Solution Accelerator on a LiveCycle cluster,

There are additional configurations required in the following cases:

- **Case 1:** Your application server is not listening on the localhost
- **Case 2:** All the nodes of your cluster are running on different ports

In these cases, perform the following steps for each node in your cluster:

1. Locate the `correspondencemanagement-web.war\WEB-INF\classes\ICCRRepositoryConfig.xml` file under the deployed EAR file at each node for your application server.

2. Open the file and locate the following line:

```
<repositoryUrl>http://localhost:<port>/contentspace/wcservice/adobe/cms/web  
bscript</repositoryUrl>
```

3. Configure the following for your environment:

- **(Case 1)** Replace localhost with the specific hostname for your application server.
- **(Case 2)** Replace `<port>` with the actual port number for your application server.

4. Save and close the file.
5. Repeat steps 1-4 on each node of the cluster.
6. Restart the Correspondence Management application.

### 4.1.5 Install Japanese fonts for Adobe Reader

If your Correspondence Management assets 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.

## 4.2 Interactive Statements

Solution Accelerators provide customizable solution templates that can be used as either an example of a solution or as the basis for rapidly building a customized solution. To run the Finance Corp solution template bundled with Interactive Statements, you must perform the steps described in [“Prepare to use the sample Finance Corp solution template” on page 21](#).

**Caution:** The Finance Corp solution template includes a web portal, called *FinanceCorp sample web portal*. It is recommended not to use this web portal in production environment as it might not meet the security standards for developing websites in your organization. It should only be used for the demonstration purpose. However, if you need to use it for production, you must secure it as per your requirements.

In addition, you must install the Adobe® Flash® Builder™ plug-in supplied with Interactive Statements SDK. See [“Install Flash Builder plug-in” on page 22](#). For performance improvement tips, see [“Recommendations to improve performance” on page 24](#).

### 4.2.1 Prepare to use the sample Finance Corp solution template

1. Log on to the Contentspace ES2 console using the default Administrator credentials:  
`http://[server_name]:[port_number]/contentspace`
2. Click **Company Home**.
3. Expand **More Actions** and click **Import**.
4. Browse to `[LiveCycleES2 root]/sa_resources/SA_SDK_9.5/InteractiveStatements/RetailBanking`, and select **adobe-sa-is-financecorp-cs-assets.zip**. Click **OK**.
5. Refresh the Company Home web page to view a new space, namely assets.

**Tip:** The Finance Corp sample application gives you an option to configure your e-mail server for sending interactive statements through e-mail. For information about configuring the e-mail service, see [LiveCycle ES2 Administration Help](#).

**Note:** If your application server running LiveCycle ES2 uses a port other than the default, you need to manually configure the `adobe-as-is-financecorp.ear` file. See [“Configure EAR for Finance Corp solution template” on page 22](#).

## 4.2.2 Configure EAR for Finance Corp solution template

**Caution:** This configuration is required only if your application server uses an IIOP port different from the following default IIOP ports:

- **JBoss:** 1099
- **WebSphere:** 2809
- **WebLogic:** 8001

1. Navigate to [*LiveCycleES2 root*]\deploy and open the adobe-sa-is-financecorp-[*app\_server*].ear file using the WinZip file archiving tool.

**Note:** If you do not have WinZip installed on your system, rename the file's extension to .zip and open the file using any file archiving tool installed on your system.

2. Open the file and navigate to the adobe-sa-is-financecorp-portal.war file using the file archiving tool.
3. Navigate to the WEB-INF\classes\com\adobe\example\financecorp\controller\serverinfo.properties file.
4. Open the serverinfo.properties file in any text editor and modify the value of *port* in the following line:  
`ejb.endpoint=[...]://localhost:port`
5. Save the serverinfo.properties file. It updates both the .ear and .war archive files.
6. Run LiveCycle Configuration Manager to deploy the Interactive Statements Solution Accelerator components. See ["Configuring and Deploying Solution Accelerators" on page 11](#).

## 4.2.3 Install Flash Builder plug-in

1. Get Flash Builder 4 installed on your system. See Flash Builder [product page](#) for details.
2. Open the Flash Builder application.

**Note:** On a Windows 7 system, ensure that you logged in as an Administrator.

3. Click **Help > Install New Software**.
4. Click **Add**.
5. Click **Archive**, and browse to select [*LiveCycleES2 root*]/sa\_resources/SA\_SDK\_9.5/BuildingBlocks/PersonalizationManager/plugin/adobe-assetplacement-plugin-update.zip. Click **Open**.
6. On the Available Software dialog box, select **Adobe Systems Incorporated: Interactive Document Project plug-in**, and Click **Next**.
7. Review installation details and click **Next**.
8. Review licensing details and click **Accept**.
9. Click **Finish**. The plug-in is installed.

## 4.2.4 Install Flex 3 SDK

You must install Flex 3 SDK, version 3.0.1, for interactive statements to work in Acrobat 9. A copy of Flex 3.0.1 is available in the [LiveCycleES2 root]/sa\_resources/Flex-sdk-3.0.1/ directory.

1. Copy the Flex-sdk-3.0.1 directory to your local machine. For example, on a Windows machine:  
C:\Program Files\Adobe\Adobe Flash Builder 4\sdk\.
2. Open the Flash Builder 4 application and expand the **Window** menu.
3. Click **Preferences**.
4. In the right panel, expand **Flash Builder** and select **Installed Flex SDKs**.
5. Add a new Flex SDK and point it to the Flex 3 SDK directory on your local machine. For example, C:\Program Files\Adobe\Adobe Flash Builder 4\sdk\Flex-sdk-3.0.1.

## 4.2.5 Configure the BatchProcessor service

### 4.2.5.1 Configure the base file path

The *Run XML File Job* and *Run Flat File Job* operations of the BatchProcessor service require batch input data to process it and return data as output. The *Base File Path* operation property stores the location to the input data and where the output data is written.

**Note:** In clustered configurations, the base file path must be a shared file system location to which all cluster nodes have read-write access.

You can configure the base file path using LiveCycle Workbench application or LiveCycle Administration Console.

In your Workbench application:

1. Click **Components** view.
2. Expand **BatchProcessor > Active Services**.
3. Right-click **BatchProcessor:1.0**, and select **Edit Service Configuration**.
4. Specify the base file path.
5. Click **OK**.

Alternatively, in the LiveCycle Administration Console:

1. Click **Services > Applications and Services > Service Management**.
2. Click **BatchProcessor:1.0**.
3. In the Configuration tab, specify the base file path.
4. Save the settings.

For more information, see *Input and output data for operations* in the [LiveCycle Workbench 9.5 Help](#) or *Batch Processor service settings* in [LiveCycle Administration Help](#).

### 4.2.5.2 Configure XA data source (WebSphere only)

You must configure the `BatchProcessor` service to use the `AdobeDefaultSA_DS` data source by using LiveCycle Workbench application or LiveCycle Administration Console.

Follow the steps mentioned in [“Configure the base file path” on page 23](#) to edit `BatchProcessor` configuration. In the Data Source Name field, specify **AdobeDefaultSA\_DS** to configure the data source.

**Note:** SQL Server database, in some scenarios, needs additional configurations to use XA data sources. For more information, see [“Configure SQL Server to use XA data source” on page 24](#).

For manual configuration of XA data source for your application server, see [“Appendix - Manually Configuring Data Sources” on page 30](#).

### 4.2.6 Configure SQL Server to use XA data source

You must configure your SQL Server database as described in [Microsoft documentation](#) in the following scenarios:

- (WebSphere only) If `AdobeDefaultSA_DS` data source connects to the SQL Server database.

**Note:** For WebLogic and JBoss, the `BatchProcessor` service can use the `IDP_DS` data source created by LiveCycle installer. In this case, SQL Server database does not require any additional configuration.

- To use `runJDBCCursorJob` and `runJDBC PagingJob` operations of the `BatchProcessor` service.
- To use SQL Server database with Microsoft SQL Server XA-capable JDBC Driver for distributed transactions.

### 4.2.7 Recommendations to improve performance

Interactive statements is typically used in a volume batch scenario, where the system generates large numbers of statements in the minimal time. Therefore, to achieve better performance, it is recommended to set the max inline size to a size slightly larger than the final assembled statements. However, large values of max inline size are not recommended for LiveCycle applications in which user-interactive, non-batch, or mixed-load profile usage patterns are common.

**Caution:** Max inline size is a global setting, which affects all LiveCycle components installed on the same server. Therefore, it is recommended to install Interactive Statements in a dedicated environment.

**Caution:** Increasing the max inline size causes all documents smaller than that size to store in the memory. It reduces the hard disk usage, but increases the memory utilization. Therefore, max Java heap size must be increased accordingly to avoid Out Of Memory issues.

#### 4.2.7.1 Set the document maximum inline size

1. Log on to the LiveCycle Administration Console:  
`http://[server_name]:[port_number]/adminui`
2. Click **Settings > Core System Settings > Configurations**.
3. In the **Default Document Max Inline Size** box, specify the approximate size of the interactive statements you will generate. For example: 1500000.

4. Click **OK**.

### 4.2.7.2 Increase the heap size

If the available RAM on your system is 8 GB or more, perform the following steps for your application server to set the heap size to 3 GB.

**Note:** If the server memory configuration does not support a Java heap size of 3 GB, the batch process may not be able to support as many concurrent threads for execution. The optimal number of threads for a given memory configuration depends on the processing being done for each batch item and the size of the documents.

#### JBoss

1. On the LiveCycle server, open to edit the run script in the `[appserver root]/bin/` directory.
2. Locate the following line and replace the text in bold with 3g:  
`"set JAVA_HEAP_ARGS=-XX:PermSize=128m -XX:MaxPermSize=192m -Xms1024m -Xmx1024m"`
3. Restart the JBoss service.

#### WebLogic

1. On the WebLogic Server Administration Console, under Domain Structure, click **Environment > Servers** and, in the right pane, click the managed server name.
2. On the next screen, click the **Configuration** tab > **Server Start** tab.
3. In the Arguments box, update the -Xms and -Xmx arguments to read as follows:  
`-Xms3g -Xmx3g`
4. Restart the WebLogic managed server.

#### WebSphere

1. Do the following:
  - (WebSphere 6.1) On the WebSphere Administrative Console, click **Servers > Application servers**, and then click the name of the server instance to configure (for example, server1).
  - (WebSphere 7) On the WebSphere Administrative Console, click **Servers > Server Types > WebSphere application servers**, and then click the name of the server instance to configure (forexample, server1).
2. Under Server Infrastructure, click **Java and Process Management > Process Definition**.
3. Under Additional Properties, click **Java Virtual Machine**.
4. Set the value for initial heap size and maximum heap size as **3072**.
5. Restart the WebSphere server.

## 4.3 Managed Review & Approval

For implementing an advanced workflow using Managed Review & Approval Solution Accelerator, you need to configure the following services using LiveCycle Administration Console:

- External User Registration
- Review, Commenting, and Approval
- Review, Commenting, and Approval Utility
- Review Zone Provider
- Server-side Signature

For information on how to configure settings for these services, see the *Managing Services* section in [LiveCycle ES2 Administration Help](#).

In addition, Managed Review & Approval Solution Accelerator requires e-mail notifications to review participants at different stages of a review and approval process. To enable this, you can configure the e-mail service using LiveCycle Administration Console. See [“Configure the e-mail service” on page 26](#) for details.

### 4.3.1 Configure the e-mail service

The LiveCycle e-mail service enables processes to receive e-mail messages from a POP3 or IMAP server, and send e-mail messages to an SMTP server. You can configure this service from LiveCycle Administration Console.

1. Log on to the LiveCycle Administration Console:  
`http://[server_name]:[port_number]/adminui`
2. Navigate **Services > Application and Services > Service Management**.
3. Type **emailservice** in the Name field, and click **Filter**.
4. Click **EmailService: 1.0**. The Configuration tab of the Configure email Service page opens.
5. Specify the following details:
  - Host name for SMTP Server
  - SMTP port number for the server (**Default: 25**)
  - Enable SMTP Authenticate to authenticate access to the server
  - Username to access SMTP server (**Required if SMTP Authenticate is enabled**)
  - Password to access SMTP server (**Required if SMTP Authenticate is enabled**)
6. Click **Save**.

To enable task notifications using LiveCycle Process Management, See *Configuring email settings* in [LiveCycle ES2 Administration Help](#).

### 4.3.2 Configure multiple schemas (DB2 only)

When multiple LiveCycle instances use different schemas on a single DB2 database instance, the data source for Review, Commenting, and Approval building block might get deployed only on the first LiveCycle node. To avoid this issue, you must add the following JVM argument to your application server:

```
-DAdobeDefaultSA_DS.default_schema=<schema_name>
```

**Note:** Replace `<schema_name>` by the schema name in uppercase letters.

## 4.4 Uninstall Solution Accelerators

The uninstaller removes the files and applications created by the Solution Accelerator installer. If some directories are not removed during uninstallation, restart the system and delete them manually.

**Caution:** Running the Solution Accelerator uninstaller removes all the Solution Accelerators installed on your system.

1. Run the uninstall program.
  - **(Windows)** Navigate to the `[LiveCycleES2 root]\Uninstall_Solution Accelerators` directory and double-click the `Uninstall Solution Accelerators Installation.exe` file.
  - **(AIX, Linux, and Solaris)** Navigate to the `[LiveCycleES2 root]/Uninstall_Solution Accelerators` directory and execute the `./Uninstall Solution Accelerators Installation` command (you may need to make this binary an executable file by typing a command, such as `chmod 777`).

**Tip:** Because the directory name contains spaces, you should include the entire directory path as part of the command to uninstall the product.

2. Follow onscreen instructions in the uninstall program, and then click **Finish**.

This section discusses issues you may encounter when installing and deploying or working with LiveCycle ES2.5 Soution Accelerators, and suggests steps for avoiding these issues.

## 5.1 Interactive Statements

### 5.1.1 The runJDBCCursorJob service fails

The `runJDBCCursorJob` service fails when the input data for batch processing comes from a database table. The symptom of this failure is an SQL exception that indicates that the `ResultSet` is closed while attempting to process the next row.

To avoid this issue, it is recommended to use the `runJDBCPagingJob` operation instead of `runJDBCCursorJob`.

### 5.1.2 Threads running longer that 20 minutes are killed by WebLogic

Threads running batch processes for more than 20 minutes are considered as stuck and killed by the WebLogic application server. The `StuckThreadMaxTime` parameter defines the maximum amount of time that a thread must be continually working before the server considers the thread stuck. The default value for the `StuckThreadMaxTime` parameter set by LiveCycle is 1200 seconds.

To avoid this issue, perform the following steps to increase the value of the `StuckThreadMaxTime` parameter:

1. Log on to the WebLogic Administrator console.
2. In the Domain Structure pane, expand **LiveCycle > Environment**.
3. Click **server1**.
4. Under the Configuration tab, click **Tuning**.
5. Set the variable Stuck Thread Max Time as per your requirement.

For more information, see [WebLogic documentation](#).

## 5.2 Correspondence Management

### 5.2.1 Unwanted messages written to the server log (*WebSphere only*)

If your LiveCycle ES2.5 installation is on a WebSphere application server, your server log might get flooded with information messages when you access the Correspondence Management console. These messages are written at a regular interval and can make server logs unreadable. To avoid these messages, perform the following steps:

1. Log on to the WebSphere Administrative Console, and navigate to **Troubleshooting > Logs and Trace**.
2. In the Server column, click the name of the application server on which the components whose logging levels you want to set are deployed.
3. Click **Change Log Level Details**.
4. Select the **Runtime** tab, and then select **Save runtime changes to configuration as well**.
5. Change the log level for **org.springframework.flex.servlet.MessageBrokerHandlerAdapter** to **WARN**.
6. Click **Ok**, and then click **Save directly to the master configuration**.

## A.1 Create XA Data Source for Solution Accelerators in JBoss

To enable JBoss to connect to your database that stores Solution Accelerator data, you must complete the following tasks:

- Create a data source file, `adobe-sa-ds.xml`. See [“Create adobe-sa-ds.xml file” on page 30](#).
- Encrypt the password in the data source files (`adobe-sa-ds.xml` and `database-ds.xml`) and the `login-config.xml` file using one of the methods described at <http://community.jboss.org/wiki/EncryptingDataSourcePasswords>. You can also use the instructions available on [http://blogs.adobe.com/lifecycle/2009/10/lifecycle\\_-\\_encrypting\\_clearite.html](http://blogs.adobe.com/lifecycle/2009/10/lifecycle_-_encrypting_clearite.html).

**Note:** For Oracle and MS SQL Server databases, locate the `login-config.xml` file in the `[JBoss Home]/server/all/conf` directory. In the file, search for the `<module-option name="managedConnectionFactoryName">` tag and ensure that the value for the service property is `XATxCM`.

### A.1.1 Create `adobe-sa-ds.xml` file

1. Create an xml file, namely `adobe-sa-ds.xml`, in the `<JBoss Home>/server/lc_turnkey/deploy` directory.
2. Depending on your database, copy the following lines to the `adobe-sa-ds.xml` file.

**Note:** Make sure you replace the text in bold-italic with values specific to your database.

#### Oracle

```
<?xml version="1.0" encoding="UTF-8"?>
<datasources>
<xa-datasource>
<jndi-name>AdobeDefaultSA_DS</jndi-name>
<xa-datasource-class>oracle.jdbc.xa.client.OracleXADataSource</xa-datasource
-class>
<xa-datasource-property name="URL">
jdbc:oracle:thin:@databaseHostName:port/sid</xa-datasource-property>
<use-java-context>>false</use-java-context>
<user-name>username</user-name>
<password>password</password>
<min-pool-size>10</min-pool-size>
<max-pool-size>30</max-pool-size>
<exception-sorter-class-name>org.jboss.resource.adapter.jdbc.vendor.
OracleExceptionSorter</exception-sorter-class-name>
<blocking-timeout-millis>20000</blocking-timeout-millis>
<idle-timeout-minutes>2</idle-timeout-minutes>
<prepared-statement-cache-size>20</prepared-statement-cache-size>
<transaction-isolation>TRANSACTION_READ_COMMITTED</transaction-isolation>
<isSameRM-override-value>>false</isSameRM-override-value>
<track-connection-by-tx>>true</track-connection-by-tx>
<no-tx-separate-pools>>true</no-tx-separate-pools>
<metadata>
```

```
<type-mapping>Oracle9i</type-mapping>
</metadata>
</xa-datasource>
</datasources>
```

## MySQL

```
<?xml version="1.0" encoding="UTF-8"?>
<datasources>
<local-tx-datasource>
<jndi-name>AdobeDefaultSA_DS</jndi-name>
<connection-url>jdbc:mysql://databaseHostName:port/dbName</connection-url>
<driver-class>com.mysql.jdbc.Driver</driver-class>
<user-name>username</user-name>
<password>password</password>
<min-pool-size>1</min-pool-size>
<max-pool-size>30</max-pool-size>
<valid-connection-checker-class-name>com.mysql.jdbc.integration.jboss.MySQLValidConnectionChecker</valid-connection-checker-class-name>
<exception-sorter-class-name>com.mysql.jdbc.integration.jboss.ExtendedMySQLExceptionSorter</exception-sorter-class-name>
<new-connection-sql>SELECT count (*) from DUAL</new-connection-sql>
<check-valid-connection-sql>SELECT count (*) from
DUAL</check-valid-connection-sql>
<blocking-timeout-millis>20000</blocking-timeout-millis>
<idle-timeout-minutes>2</idle-timeout-minutes>
<prepared-statement-cache-size>20</prepared-statement-cache-size>
<transaction-isolation>TRANSACTION_READ_COMMITTED</transaction-isolation>
</local-tx-datasource>
</datasources>
```

## MS SQL Server

```
<?xml version="1.0" encoding="UTF-8"?>
<datasources>
<xa-datasource>
<jndi-name>AdobeDefaultSA_DS</jndi-name>
<xa-datasource-class>com.microsoft.sqlserver.jdbc.SQLServerXADataSource</xa-datasource-class>
<xa-datasource-property
name="URL">jdbc:sqlserver://databaseHostName:port;DatabaseName=dbname</xa-datasource-property>
<use-java-context>>false</use-java-context>
<user-name>username</user-name>
<password>password</password>
<min-pool-size>1</min-pool-size>
<max-pool-size>30</max-pool-size>
<blocking-timeout-millis>20000</blocking-timeout-millis>
<idle-timeout-minutes>2</idle-timeout-minutes>
<prepared-statement-cache-size>20</prepared-statement-cache-size>
<transaction-isolation>TRANSACTION_READ_COMMITTED</transaction-isolation>
<isSameRM-override-value>>false</isSameRM-override-value>
<track-connection-by-tx>>true</track-connection-by-tx>
<no-tx-separate-pools>>true</no-tx-separate-pools>
<metadata>
<type-mapping>MS SQLSERVER2000</type-mapping>
```

```
</metadata>  
</xa-datasource>  
</datasources>
```

3. Save the file

## A.2 Create XA Data Source for Solution Accelerators in WebLogic

### A.2.1 Configure Oracle database connectivity

To enable WebLogic Server and your LiveCycle ES2 deployment to connect to the Oracle 11g/10g database, you must create a database connection for WebLogic Server by setting up a connection pool and a data source.

#### A.2.1.1 Create a new data source for Oracle

1. Start the WebLogic Administration Console by typing **http://[host name]:[port]/console** in the URL line of a web browser.
2. Type the user name and password that you created for the WebLogic Server domain and click **Log In**.
3. Under Change Center, click **Lock & Edit**.
4. Under Domain Structure, click **Services > JDBC > Data Sources** and, in the right pane, click **New**.
5. On the next screen, set the following properties and click **Next**:
  - In the **Name** box, type `AdobeDefaultSA_DS`.
  - In the **JNDI name** box, type `AdobeDefaultSA_DS`.
  - In the **Database Type** list, select **Oracle** and click **Next**.
  - **(WebLogic 10g only)** In the **Database Driver** list, select **Oracle's Driver (Thin XA) Versions: 9.0.1,9.2.0,10,11**.
  - **(WebLogic 11g only)** In the **Database Driver** list, select **Oracle's Driver (Thin XA) for Service connections; Versions: 9.0.1,9.2.0,10,11**.
6. On the Transaction Options screen, click **Next**.
7. Define the following properties that apply to the Oracle database that you created during your LiveCycle ES2 installation preparations and click **Next**.
  - **Database Name:** The name of the database you have created. For Oracle RAC, specify the service name specific to your database.
  - **Host Name:** The name or IP address of the computer on which Oracle is running.
  - **Port:** Database Port. The default is 1521.
  - **Database User Name:** The name of the user you created on Oracle database.
  - **Password** and **Confirm Password:** The password associated with the user.
8. **(Only for Oracle RAC)** Replace the contents of the URL field with the following connection URL:

```
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 above 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.

9. Click **Test Configuration** to verify the configuration settings.

**Note:** If the test is successful, a "Connection test succeeded" message appears. Click **Next**. If the test is not successful, review the error message and modify the settings as required until the test succeeds.

10. On the next screen, select the server that the data source will connect to (in this case, the managed server) and then click **Finish**.

11. From the Home page, navigate to **Summary of JDBC Data Sources > AdobeDefaultSA\_DS**.

12. In Transaction tab, select **Set XA Transaction Timeout** and ensure that the value for **XA Transaction Timeout** is **0**.

### A.2.1.2 Configure the connection pool settings

1. Under Domain Structure, click **Services > JDBC > Data Sources**.
2. In the right pane, click **AdobeDefaultSA\_DS**.
3. On the next screen, click **Configuration > Connection Pool**.
4. In the Maximum Capacity box, type **30**.
5. In the Statement Cache Size box, type **80**.
6. Click **Save** and then click **Activate Changes**.
7. Restart WebLogic managed server.

### A.2.2 Configure MySQL database connectivity

**Caution:** Managed Review & Approval Solution Accelerator does not use AdobeDefaultSA\_DS data source for MySQL database on a WebLogic server. Instead, you must use the IDP\_DS data source. See the *Configuring MySQL database connectivity* section in [Installing and deploying LiveCycle ES2 for WebLogic](#). In addition, you must set the **RCA\_UseIDP\_DS=true** JVM argument for WebLogic as follows:

1. Log on to the WebLogic Administration console.
2. Under Domain Structure, click **Environment > Servers**, and click the name of your server.

3. Click the **Configuration** tab and then click **Server Start**.

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

5. In the Arguments box, enter the following text:

```
-DRCA_UseIDP_DS=true
```

6. Click **Save**.

For other Solution Accelerators, to enable WebLogic Server and your LiveCycle ES2 deployment to connect to a manually installed MySQL database, you must create a database connection for WebLogic server by setting up a connection pool and the AdobeDefaultSA\_DS data source.

## A.2.3 Configure DB2 database connectivity

To enable WebLogic Server and your LiveCycle ES2 deployment to connect to the DB2 database, you must create a database connection for WebLogic Server by setting up a connection pool and a data source.

### A.2.3.1 Install the DB2 database driver

Copy the `db2jcc.jar` and `db2jcc_license_cu.jar` files from one of these locations to the `[appserverdomain]/idplib` directory:

- The `java` directory under your `[dbserver root]` directory. For example, `[dbserver root]/ibm/Sqllib/java` on Windows or `[dbserver root]/java` on UNIX.
- `[LiveCycleES2 root]\lib\db\db2`

### A.2.3.2 Create a new data source for DB2 on WebLogic 10g

1. Start the WebLogic Administration Console by typing `http://[host name]:[port]/console` in the URL line of a web browser.
2. Type the user name and password that you created for the WebLogic Server domain and click **Log In**.
3. Under Change Center, click **Lock & Edit**.
4. Under Domain Structure, click **Services > JDBC > Data Sources**.
5. In the right pane, click **New**.
6. On the next screen, set the following properties and click **Next**.
  - In the **Name** box, type `AdobeDefaultSA_DS`.
  - In the **JNDI name** box, type `AdobeDefaultSA_DS`.
  - In the **Database Type** list, select **DB2** and click **Next**.
  - **(WebLogic 10g only)** In the **Database Driver** list, select **Other**.
  - **(WebLogic 11g only)** In the **Database Driver** list, select **IBM DB2 Driver (Type 4 XA) for JDBC and SQLJ**.
7. **(WebLogic 10g only)** Select **Supports Global Transactions**.

8. Click **Next** and, on the next screen, define the following properties that apply to the database you created during your LiveCycle ES2 install preparations:
  - **Database Name:** The name of the database you have created.
  - **Host Name:** The name or IP address of the computer on which DB2 is running.
  - **Port:** Database port. The default is 50000.
  - **Database User Name:** The name of the user you created on the DB2 database.
  - **Password** and **Confirm Password:** The password associated with the user.
9. Click **Next** and set the following properties:
  - **(WebLogic 10g only)** In the Driver Class Name box, type **com.ibm.db2.jcc.DB2XADataSource**.
  - **(WebLogic 10g only)** In the URL box, type **jdbc:db2://[host name]:[port]/[database\_name]**.
  - In the Properties box, define the following properties:
    - user=<user ID> (user ID as mentioned in Database User Name)
    - driverType=<value>
    - portNumber=<value>
    - databaseName=<value>
    - serverName=<value>For example:
    - user=db2admin
    - driverType=4
    - portNumber=50000
    - databaseName=MRA
    - serverName=10.40.129.160
10. Click **Test Configuration** to verify the configuration settings.

**Note:** If the test is successful, a "Connection test succeeded" message appears. Click Next. If the test is not successful, review the error message and modify the settings as required until the test succeeds.
11. On the next screen, select the server that the data source will connect to (in this case, the managed server).
12. Click **Finish** and then click **Activate Changes**.

### A.2.3.3 Configure the connection pool settings for DB2

1. Under Domain Structure, click **Services > JDBC > Data Sources**.
2. In the right pane, click **AdobeDefaultSA\_DS**.
3. On the next screen, click the **Configuration > Connection Pool**.
4. In the Maximum Capacity box, type **30**.
5. In the Statement Cache Size box, type **80**.
6. Click **Save** and then click **Activate Changes**.

7. Restart WebLogic managed server.

## A.2.4 Configure SQL Server database connectivity

To enable WebLogic Server and your LiveCycle ES2 deployment to connect to the SQL Server database, you must create a database connection for WebLogic Server by setting up a connection pool and a data source.

### A.2.4.1 Install the SQL Server database driver

- If you have not done so already, download the SQL Server 2005 JDBC Driver 1.2 from the Microsoft Download Center.
- Follow the instructions on the website for downloading and installing the driver. Make a note of the directory location where you install the driver on your system.

**Note:** Use SQL Server JDBC Driver 1.2 for both Microsoft SQL Server 2005 SP2 and Microsoft SQL Server 2008.

### A.2.4.2 Add the sqljdbc.jar file to the class path

1. Start the WebLogic Administration Console by typing **http://[host name]:[port]/console** in the URL line of a web browser.
2. Type the user name and password that you created for the WebLogic Server domain and click **Log In**.
3. Under Change Center, click **Lock & Edit**.
4. Under Domain Structure, click **Environment > Servers**.
5. In the right pane, click the managed server name.
6. On the next screen, click the **Configuration > Server Start**.
7. In the Class Path box, type the location and file name for the sqljdbc.jar file to class path, such as in this example:  

```
DOMAIN_HOME\idplib\sqljdbc.jar
```

where **DOMAIN\_HOME** is the location of the base domain, such as `c:/bea/user_projects/domains/base_domain`.
8. Click **Save** and then click **Activate Changes**.

### A.2.4.3 Create a new data source for SQL Server

1. Under Change Center, click **Lock & Edit**.
2. Under Domain Structure, click **Services > JDBC > Data Sources**.
3. In the right pane, click **New**.
4. On the next screen, set the following properties and click **Next**:
  - In the Name box, type **AdobeDefaultSA\_DS**.
  - In the JNDI name box, type **AdobeDefaultSA\_DS**.

- In the Database Type list, select **MS SQL Server**.
  - **(Weblogic 10g only)** In the Database Driver list, select **Microsoft's MS SQL Server Driver (Type 4 XA) Versions:2005**.
5. **(Weblogic 11g only)** On JDBC Data Source Properties screen, select **Microsoft's MS SQL Server Driver (Type 4 XA) Versions:2005, 2008** from the **Database Driver** list, and click **Next**.
  6. On the Transaction Options screen, click **Next**.
  7. **(Only for integrated authentication)** Add the `sqljdbc_auth.dll` file to the Windows systems path on the computer running the application server. The `sqljdbc_auth.dll` file is located with the Microsoft SQL JDBC 1.2 driver installation (the default is `<InstallDir>/sqljdbc_1.2/enu/auth/x86`).
  8. Define the following properties that apply to the SQL Server database you created during your LiveCycle ES2 install preparations:
    - **Database Name:** The name of the database you have created
    - **Host Name:** The name or IP address of the computer on which SQL Server is running
    - **Port:** The database port. The default is 1433
    - **Database User Name:** The name of the user you created on the SQL Server database
    - **Password** and **Confirm Password:** The password associated with the user
  9. Click **Next** and then click **Test Configuration** to verify the configuration settings.

**Note:** If the test is successful, a "Connection test succeeded" message appears. Click **Next**. If the test is not successful, review the error message and modify the settings as required until the test succeeds.
  10. On the next screen, select the server that the data source will connect to (in this case, the managed server.)
  11. Click **Finish** and then click **Activate Changes**.

#### A.2.4.4 Configure the connection pool settings

1. Under Domain Structure, click **Services > JDBC > Data Sources**.
2. In the right pane, click **AdobeDefaultSA\_DS**.
3. On the next screen, click the **Configuration > Connection Pool**.
4. In the Maximum Capacity box, type **30**.
5. In the Statement Cache Size box, type **80**.
6. Click **Save** and then click **Activate Changes**.
7. Restart WebLogic managed server.

## A.3 Creating XA data source for Solution Accelerators in Websphere

### A.4.1 Configure J2C authentication for data source

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

► **To create a J2C authentication configuration for the data source:**

1. In the WebSphere Administrative Console navigation tree, click the following:  
**(WebSphere 6.1 only) Security > Secure administration, applications, and infrastructure**  
**(WebSphere 7.0 only) 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 `AdobeDefaultSA_DS/database-databaseUser`).  
**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.
4. Click **OK** or **Apply** and then click **Save directly to master configuration**.

### A.4.2 Create your DB2 data source

#### A.4.2.1 Create a DB2 JDBC provider

1. Log in to WebSphere Integrated Solutions Console with your user ID.
2. In the WebSphere Administrative Console navigation tree, click **Resources > JDBC > JDBC Providers**.
3. In the **Scope** drop-down list in the right pane, select **Node=NodeName** as the level, and then click **New**.
4. Set the JDBC provider configuration as follows, and click **Next**.
  - **Database type:** DB2
  - **Provider type:** DB2 Universal JDBC Driver Provider
  - **Implementation type:** XA data source
  - **Name:** `AdobeDefaultSA_DS`
5. The Class path field includes the following information. Click **Next**.  
CLASSPATH: `${DB2UNIVERSAL_JDBC_DRIVER_PATH}/db2jcc.jar`  
`${UNIVERSAL_IDBC_DRIVER_PATH}/db2jcc_license_cu.jar`  
`${DB2UNIVERSAL_JDBC_DRIVER_PATH}/db2jcc_license_cisuz.jar`
6. Verify the summary and click **Finish**.

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

The XA JDBC provider is now created.

## A.4.2.2 Create the DB2 JDBC XA data source

### WebSphere 6.1

1. In the navigation tree, click **Resources > JDBC > JDBC Providers** and, in the right pane, click the provider that you created in [“Create a DB2 JDBC provider” on page 38](#).
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 `AdobeDefaultSA_DS`.
  - In the **JNDI name** box, type `AdobeDefaultSA_DS`.
  - In the list under **Component-Managed Authentication and XA Recovery Authentication**, select the authentication alias that you created for this data source in [“Configure J2C authentication for data source” on page 38](#), and then click **Next**.
4. In the Step 2 pane, type the database name and server name of the database that you created in [“Configure J2C authentication for data source” on page 38](#).
5. Ensure that **Use this data source in container managed persistence (CMP)** is selected, and then click **Next**.
6. In the Step 3 pane, click **Finish**.
7. In the right pane, click the data source you just created to modify additional parameters and set the following configuration:
  - In the **Authentication alias for XA recovery** list, enable **Specify** and select the authentication alias that you created for this data source in [“Configure J2C authentication for data source” on page 38](#).
  - In the **Container-managed authentication alias** list, select the authentication alias that you created for this data source in [“Configure J2C authentication for data source” on page 38](#).
  - In the **Mapping-configuration alias** list, select **DefaultPrincipalMapping**.
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 then 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.

## WebSphere 7.0

1. In the navigation tree, click **Resources > JDBC > JDBC Providers** and, in the right pane, click the provider that you created in [“Create a DB2 JDBC provider” on page 38](#).
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 `AdobeDefaultSA_DS`.
  - In the **JNDI name** box, type `AdobeDefaultSA_DS`.
4. In the Step 2 pane, type the driver type, database name, server name, and port number of the database that you created in [“Configure J2C authentication for data source” on page 38](#).
5. Ensure that **Use this data source in container managed persistence (CMP)** is selected, and then click **Next**.
6. In the Step 3 pane, set the following configurations:
  - In the **Authentication alias for XA recovery** list, enable **Specify** and select the authentication alias that you created for this data source in [“Configure J2C authentication for data source” on page 38](#).
  - In the list under **Component-managed authentication aliases**, select the authentication alias that you created for this data source in [“Configure J2C authentication for data source” on page 38](#), 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 [“Configure J2C authentication for data source” on page 38](#).
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 then 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.

### A.4.2.3 Configure AdobeDefaultSA\_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 **AdobeDefaultSA\_DS**) as used as an example in [“Create a DB2 JDBC provider” on page 38](#).
2. Under Additional Properties, click **Data sources** and then select **AdobeDefaultSA\_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**.

#### A.4.2.4 Set default isolation level (DB2 only)

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**. 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. In the Messages box at the top of the page, click **Save directly to master configuration**.
10. Follow steps 4 through 9 for data source **AdobeDefaultSA\_DS** with JNDI name **AdobeDefaultSA\_DS** to change the default isolation level to 2.
11. Restart WebSphere.

### A.4.3 Create your SQL Server data source

#### A.4.3.1 Create an 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:
  - **(WebSphere 6.1)** MSSQLSERVER\_JDBC\_DRIVER\_PATH
  - **(WebSphere 7.0)** MICROSOFT\_JDBC\_DRIVER\_PATH
2. Under **General Properties**, in the **Value** box, type the path to the sqljdbc.jar file ((the default location is `[LiveCycleES2 root]\lib\db\mssql`). 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** 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.SQLServerXADataSource`
  - In the **Name** box, type `AdobeDefaultSA_DS`, or accept the default value (User-defined JDBC Provider).
7. (**WebSphere 7.0**) 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 **XA Data Source**.
  - In the **Name** box, type `AdobeDefaultSA_DS`. The default is **Microsoft SQL Server JDBC Driver (XA)**.
8. In the **Enter database class path information** pane, ensure that it includes the following information, and click **Next**:
- (**WebSphere 6.1**) `${MSSQLSERVER_JDBC_DRIVER_PATH}/sqljdbc.jar`
  - (**WebSphere 7.0**) `${MICROSOFT_JDBC_DRIVER_PATH}/sqljdbc.jar`
- Note:** For WebSphere 7.0, 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**.

### A.4.3.2 Create the SQL Server XA data source

#### WebSphere 6.1

1. In the navigation tree, click **Resources > JDBC > JDBC Providers** and, in the right pane, click the provider that you created in ["Create an SQL Server JDBC provider:" on page 41](#).
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 `AdobeDefaultSA_DS`.
  - In the **JNDI name** box, type `AdobeDefaultSA_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 ["Configure J2C authentication for data source" on page 38](#).
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 **Authentication alias for XA recovery** list, enable Specify and select the authentication alias that you created for this data source in [“Configure J2C authentication for data source” on page 38](#).
  - In the **Container-managed authentication alias** list, select the authentication alias that you created for this data source in [“Configure J2C authentication for data source” on page 38](#).
  - In the **Mapping-configuration alias** list, select **DefaultPrincipalMapping**.
8. Under **Enter database specific properties for the data source**, enter the database name, server name, and port.
  9. Click **OK** or **Apply** and then click **Save directly to the 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**.

### WebSphere 7.0:

1. In the navigation tree, click **Resources > JDBC > JDBC Providers** and, in the right pane, click the provider that you created in [“Create an SQL Server JDBC provider:” on page 41](#).
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 `AdobeDefaultSA_DS`.
  - In the **JNDI name** box, type `AdobeDefaultSA_DS`.
4. In the **Enter database specific properties for the data source** pane, enter the database name, server name, and port.
5. In the **Setup security aliases** pane, set the following, and click **Next**.
  - In the **Authentication alias for XA recovery** list, enable Specify and select the authentication alias that you created for this data source in [“Configure J2C authentication for data source” on page 38](#).
  - In the **Component managed authentication alias** list, select the authentication alias that you created for this data source in [“Configure J2C authentication for data source” on page 38](#).
  - 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 [“Configure J2C authentication for data source” on page 38](#).
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 then click **Save directly to the master configuration**.

### A.4.3.3 Configure AdobeDefaultSA\_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 6.1 or 7.0.
  - **(WebSphere 6.1 only)** SQL Server Provider
  - **(WebSphere 7.0 only)** Microsoft SQL Server JDBC Driver.
2. Under **Additional Properties**, click **Data sources** and then select **AdobeDefaultSA\_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**.

## A.4.4 Creating your Oracle data source

### A.4.4.1 Create an Oracle JDBC provider

1. In the navigation tree, click **Resources > JDBC > JDBC Providers**.
2. In the **Scope** drop-down list in the right pane, select **Node=NodeName** as the level, and then click **New**.
3. In the Step 1 pane, set the following configuration and click **Next**:
  - In the **Database type** list, select **Oracle**.
  - In the **Provider type** list, select **Oracle JDBC Driver**.
  - In the **Implementation type** list, select **XA data source**.
  - In the **Name** text box, type **AdobeDefaultSA\_DS**.
4. In the Step 2 pane, accept the default database class path and click **Next**.
5. In the Step 3 pane, click **Finish**, and then click **Save directly to master configuration**.

### A.4.4.2 Create the Oracle XA data source:

1. In the navigation tree, click **Resources > JDBC > JDBC Providers** and, in the right pane, click the provider that you created in ["Create an Oracle JDBC provider" on page 44](#).
2. Under **Additional Properties**, click **Data sources** and then click **New**.
3. Set the following configurations and then click **Next**:

- In the **Data source name** box, type `AdobeDefaultSA_DS`.
  - In the **JNDI name** box, type `AdobeDefaultSA_DS`.
  - **(WebSphere 6.1 only)** In the list under **Component-Managed Authentication and XA Recovery Authentication**, select the authentication alias that you created for this data source in [“Configure J2C authentication for data source” on page 38](#).
4. In the Step 2 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 10g data store helper** and click **Next**.
6. **(WebSphere 7.0 only)** In the **Setup security aliases** pane, set the following, and click **Next**.
- In the **Authentication alias for XA recovery** list, enable **Specify** and select the authentication alias that you created for this data source in [“Configure J2C authentication for data source” on page 38](#).
  - In the **Component managed authentication alias** list, select the authentication alias that you created for this data source in [“Configure J2C authentication for data source” on page 38](#).
  - 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 [“Configure J2C authentication for data source” on page 38](#).
7. Click **Finish**.
8. Click **Save directly to master configuration**.
9. **(WebSphere 6.1 only)** Select the data source you just created to modify additional parameters and set the following configuration:
- In the **Authentication alias for XA recovery** list, enable **Specify** and select the authentication alias that you created for this data source in [“Configure J2C authentication for data source” on page 38](#).
  - In the **Container-managed authentication alias** list, select the authentication alias that you created for this data source in [“Configure J2C authentication for data source” on page 38](#).
  - 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 then click **Save directly to the master configuration**.

#### A.4.4.3 Configure AdobeDefaultSA\_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 **AdobeDefaultSA\_DS**.
3. **(WebSphere 6.1 only)** 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**.