Oracle® E-Business Suite Adapter for Oracle Imaging and Process Management

Application Extension Framework Installation Guide

10.1.3.5

August 2010

This guide describes how to install the E-Business Suite Adapter for Oracle Imaging and Process Management. It includes the following main sections:

1 Prerequisites

The following software is required and must be installed prior to installing Oracle Application Extension Framework (AXF):

Application Server / Database (Windows or Linux)

AXF requires Application Server 10gR3 Standard Edition or Application Server 10gR3 Enterprise Edition, backed by Oracle Database 10*g*. These administrative tasks may require assistance from your DBA or IT team.

Notes:

- Oracle Database 10g XE is not recommended for AXF production environments.
- Oracle Database 10g must be properly installed, configured, and patched to the correct version for use by your Application Server.
- After running the `irca` scripts and completing the installation, verify that basic J2EE functionality is working correctly. Follow the instructions for the Loopback Adapter configuration (contained in the Application Server Installation Documentation) if necessary.
- Note the Application Server address, administration usernames and passwords, and instance name.

Oracle I/PM and Oracle I/PM Web 10g

You will need a fully functioning Oracle Imaging and Process Management (Oracle I/PM) and Oracle I/PM Web Server 10g in order to utilize the full functionality of AXF.

E-Business Suite Release 11.5.10+, 12.0.4+ or 12.1.1+

A fully functioning Oracle E-Business Suite system.

- E-Business Suite Forms Builder is required for .PLL compilation.
  - For Oracle 11i, Forms 6.0 Version 6.0.8.25.2+
  - For Oracle 12, Forms Builder Version 10.1.2.0.2+
- If Single Sign-On is desired, then an Oracle Identity Management (OIM) / OID Server is necessary. Also, see "Oracle Internet Directory and Single Sign-On (OPTIONAL)" on page 13.

BPEL Release 10.1.3.4 with MLR 7

You will need a BPEL server instance. This instance is used in verifying the installation, as described in "HelloBpel Solution" on page 8.

2 Creating Database Users

AXF (including the E-Business Suite integration) utilizes two databases: an AXF database that is used as a configuration data store, and the E-Business Suite database that is used to store PL/SQL procedures for the integration. Each database requires a user that is configured with the appropriate access permissions. The database user requirements for each database are described in their respective sections:

- AXF Configuration Database User
- AXF E-Business Suite Configuration Schema User

AXF Configuration Database User

The AXF infrastructure and installed solutions require a database user with the appropriate privileges for installation. The system will not function without a database for the configuration store. It is highly recommended that a new user be created to store this data and that a system or default account is not used. This prevents AXF tables mixing with tables that belong to other applications. Consult with your DBA to ensure that a secure user configuration is used both before and after installation and that the configuration meets your organization's database security requirements.

The AXF configuration database user must have the following privileges in order to properly install AXF. The AXF user's access privileges can be reduced after completing the installation.

- Tablespace privileges for default or target tablespace
- Non-zero quota in default tablespace
- Connect role
- Create index
- Create table
- Create sequence
- Create session
- Create synonym
- Insert table
- Select table
- Select sequence
- Update table

AXF E-Business Suite Configuration Schema User

A user must be created for use by AXF within the E-Business Suite database. A system account username and password is required to create the user. For assistance creating the user, contact your DBA. The AXF E-Business Suite configuration schema user must have the following access privileges:

- Create table
- Create sequence
- Create public synonym

3 Installing AXF

An AXF install script is provided for both Windows and Unix-based platforms and is located in the `/install` directory of the AXF installation package. The install script automatically performs configuration and deployment of the AXF `.ear` and creates the required tables for AXF solutions. Sample data is not inserted as part of this install; this is performed manually during an AXF Template Installation.

Note: The Automated AXF Installation Script does not configure E-Business Suite. This is configured in a later step.

The Installer performs the following tasks:

- Creates Application Server database tables to support AXF
- Creates a data source for connecting to Application Server
- Creates a data source for connecting to E-Business Suite
- Configures properties of the AXF EAR based on `installer.properties`
- Deploys the configured `.ear` to the specified Application Server

3.1 Run the Automated AXF Installation Script

To run the AXF installation script:

1. Start your AXF configuration database and ensure that an AXF user has been created with the required privileges as previously described in the "Creating Database Users" section on page 2.
2. Copy the installation package to your Application Server middle tier and then unzip the package. This location is referred to as *`AXF_INSTALL_DIR`* throughout this documentation.
3. Modify the values in *`AXF_INSTALL_DIR`*`/install/installer.properties` to match your environment configuration. Folder paths in the `installer.properties` must be entered with Unix folder delimitors (`/`) even when running on Windows.

   Modify the following values:

Property	Description
`oracle.home`	Application Server Oracle Home (`ORACLE_HOME`)
`j2ee.home`	Application Server J2EE (OC4J) Home (`J2EE_HOME`)
`java.home`	Java JDK/JRE Home (`JAVA_HOME`) - NOTE: `JAVA_HOME` variable must be set in the environment for ANT to work properly
`oc4j.admin.user`	OC4J Administrative User
`oc4j.admin.password`	OC4J Administrative User password
`oc4j.deploy.uri`	OPMN URI for `.ear` deployment - verify that your container name (`oc4j_soa`, `home`, etc.) is correct
`db.axf.user`	AXF configuration database user as described in "AXF Configuration Database User" on page 3.
`db.axf.password`	AXF configuration database user password
`db.axf.connection`	JDBC connection string for SOA database
`db.ebs.user`	The AXF E-Business Suite configuration schema user as described in "AXF E-Business Suite Configuration Schema User" on page 3
`db.ebs.password`	Password for E-Business Suite configuration schema user
`db.ebs.connection`	JDBC connection string for E-Business Suite database

WARNING: Passwords used in installation are stored in cleartext in the *installer.properties* file and are echoed to *install.out* when the installer is run. Ensure that these files are handled properly and that files are removed or secured immediately following installation.

4. From the *AXF_INSTALL_DIR*/dbscripts directory, modify the CreateAxfData.sql script to match your environment. Modify the following values:
   - ERROR_URL: Modify the machine name and port to match your Application Server installation.
   - webSecurityCheckUrl: Modify the machine name and port to match your Application Server installation.
5. (Linux/Unix Only) If your Application Server is installed in a Linux or Unix environment, the files *AXF_INSTALL_DIR*/install/install.sh and *AXF_INSTALL_DIR*/install/ant/bin/ant must be granted execute permissions. While the procedure varies from environment to environment, this can generally be accomplished by issuing the following command:

   ```
   chmod u+x install.sh ./ant/bin/ant
   ```

6. Execute *AXF_INSTALL_DIR*/install/install.sh (Linux/Unix) or *AXF_INSTALL_DIR*/install/install.bat (Windows) to begin the automated installation.

   Note: If the following error is displayed during installation, it is a non-fatal error and can be ignored:

   Unable to locate tools.jar \ Expected to find it in /usr/java/jre1.5.0_06/lib/tools.jar

7. When the installation completes, use the install.out file to verify that the application deployment was successful.
8. Destroy or obfuscate the install.out file according to the security policies of your organization.

3.2 Enabling Oracle I/PM Web Services

Follow the steps below to enable certain Oracle I/PM web services that the AXF solution uses to update Oracle I/PM indexes.

1. Locate the WebSupportServer.exe.config file. By default, this file resides in the following directory:

   C:\Program Files\Stellent\WSS

2. Within the <appsettings> section, add the following lines:

```
<add key="WebSupportServer.TypeAlias.~RetrieveIndexFieldsByDocID" value=
Stellent.IBPM.Web.WebSupportServerObjects.DocumentActions.
RetrieveIndexFieldsByDocID,IBPMWebSupportServerComponents" />

<add key="WebSupportServer.TypeAlias.~ModifyDocumentIndex" value=
"Stellent.IBPM.Web.WebSupportServerObjects.DocumentActions.ModifyDocumentIndex,
IBPMWebSupportServerComponents" />
```

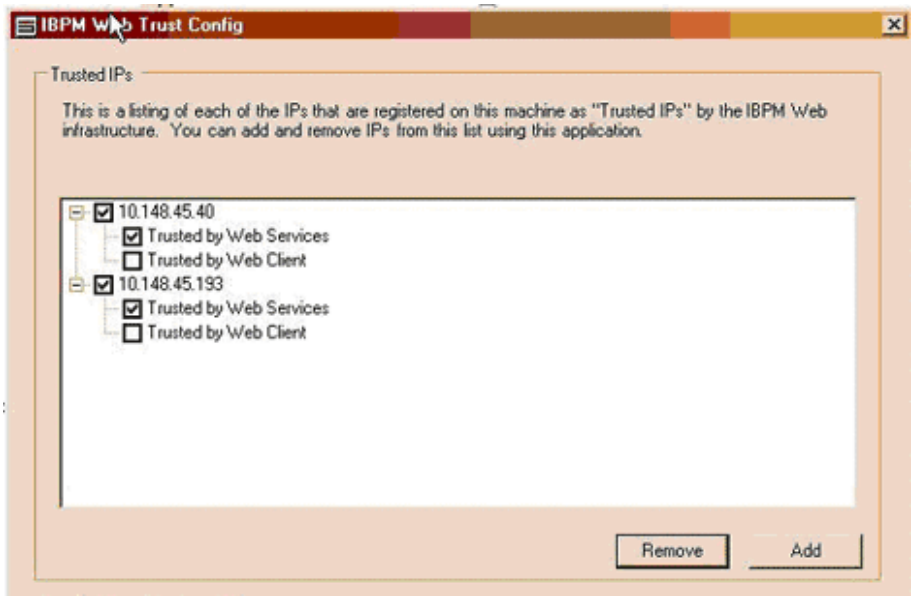
3.3 Enable TrustedIP Mode

In order to secure the AXF integration with the Oracle I/PM Web Server, users must enable Web Trust Config on the Oracle I/PM Web Server:

1. On the Oracle I/PM Web Server, locate and execute `IBPMWebTrustConfig.exe`, normally installed to `C:\Program Files\Oracle\IBPM`.
2. Click **Add**, and provide the IP Address for your Application Server.

> **Note:** Verify during entry that the IP address provided does not contain spaces.

3. Enable the `Trusted by Web Services` checkbox.

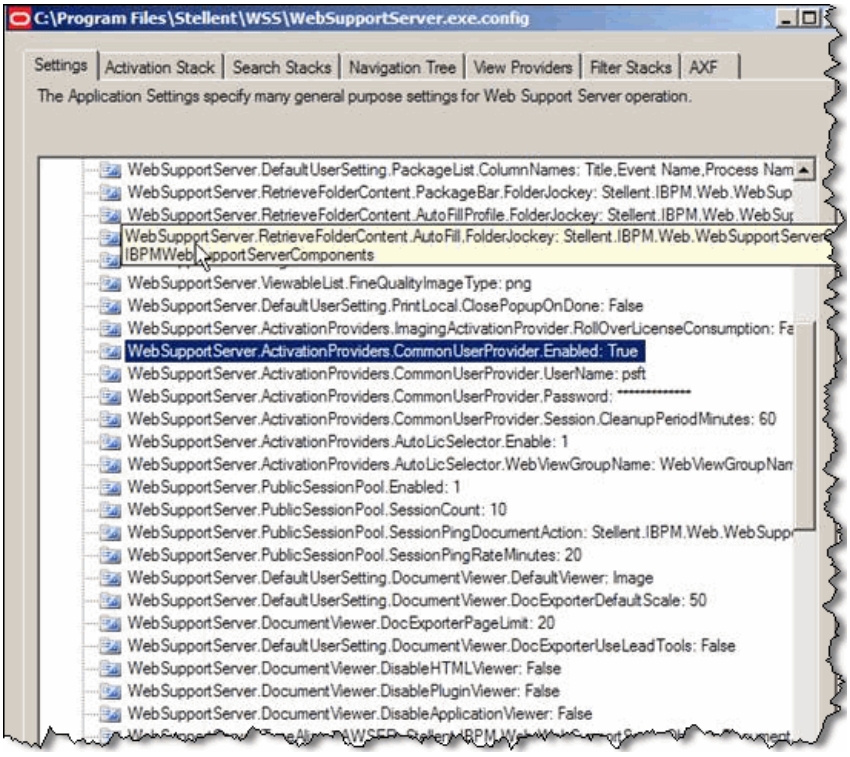


4. Click **OK** to complete the Web Trust Configuration.

3.4 Verify Common User Settings

Follow these steps to verify that the common user is set correctly. If it is not set correctly, no images will be displayed.

1. Open the WSSConfigEditor.exe application.
2. On the AXF tab, enter a valid IPM user that has permission to update image indexes.
3. On the Settings tab, ensure that the *CommonUserProvider.Enabled* setting is set to True.



4. Verify that the *CommonUserProvider.UserName* and *CommonUserProvider.Password* settings refer to a user that has view privileges.

3.5 Verify the Installation

Two simple solutions called HelloWorld and HelloBpel are included with AXF to verify that the AXF infrastructure is properly installed. HelloWorld is a solution which simply returns a `Hello` string. The HelloBpel solution includes a sample BPEL process to exercise the BPEL integration.

3.5.1 HelloWorld Solution

To enable the HelloWorld solution:

1. Run the `insertHelloCommand.sql` script from the *`AXF_INSTALL_DIR`*`/drivers/HelloWorld/dbscripts` folder. It should be run as the AXF database user.
2. Access the driver page of the AXF Web application using the following URL:

   `http://`*`host`*`:`*`port`*`/axf-web/faces/Driver.jspx`

3. Enter the following values:
   - Solution Namespace: `HelloWorld`
   - Command Namespace: `Hi`
   - User Name: `jcooper`
4. Click **Execute Command**.

   An AXF response should display with a populated Conversation ID. If the response is returned, the AXF infrastructure is functioning correctly and commands can be added and executed.

3.5.2 HelloBpel Solution

The HelloBpel solution includes a BPEL Process and a SQL script to set up the HelloBpel `SolutionNamespace` for use by that process. The BPEL Process and database script can be found in the installation package under *`AXF_INSTALL_DIR`*`/drivers/HelloBpel`.

To enable the HelloBpel solution:

1. Edit and run the HelloBPEL SQL script (*`AXF_INSTALL_DIR`*`/drivers/HelloBpel/dbscripts/insertHelloWorldBpelData.sql`), replacing `localhost` with your Application Server host name and modifying all password entries as required for your environment. Ensure that the BPEL connection uses a valid external host name in the section which inserts a `providerUrl` into the AXF_SYSTEM_PARAMETERS table.
2. Open the BPEL project `HelloWorldBPELProcess.jpr` with JDeveloper 10.1.3.4 and deploy it to your BPEL server. Consult the JDeveloper documentation for assistance with this task.
3. Access the driver page of the AXF Web application using the following URL:

   `http://`*`host`*`:`*`port`*`/axf-web/faces/Driver.jspx`

4. Enter the following values:
   - Solution Namespace: `HelloBpel`
   - Command Namespace: `OPEN_TASKLIST`
   - User Name: `jcooper`
5. Click **Execute Command**.

   A response should be displayed in the response window.

6. Click **Execute Response**, and log in when prompted.

   The AXF Task List should be displayed. If there are no tasks in the TaskList, open the BPEL Console and create a new instance of `HelloWorldBPELProcess` and refresh your Task List.

4 Configuring the E-Business Suite Integration

Installation of the E-Business Suite portion of AXF requires an active connection to the E-Business Suite database, general database experience, and knowledge of E-Business Suite Forms Builder. Consult your local DBA for assistance with these tasks. The instructions below assume the use of SQL*PLUS, but any tool capable of querying the Oracle Database can be used.

4.1 Configuring the E-Business Suite Database

Follow these steps.

1. Locate the scripts in the following folders. Separate folders are provided for E-Business Suite releases 11 and 12.
   - AXF_INSTALL_DIR/ebs/R12
   - AXF_INSTALL_DIR/ebs/R11
2. Using SQL*PLUS, log into the E-Business Suite database as the AXF E-Business Suite configuration schema user.

   This user was previously created, as described in "AXF E-Business Suite Configuration Schema User" on page 3.
3. As the AXF user, execute the **AXF_CREATE_TABLES_SYNONYM** script from the applicable E-Business Suite location. This script creates the tables and synonyms used by AXF.

   To execute the script, enter:

   ```
   @AXF_CREATE_TABLES_SYNONYM.sql
   ```

   Verify that the following tables were created: AXF_COMMAND_PARAMETERS, AXF_COMMANDS, and AXF_CONFIGS.
4. As the AXF user, execute the **AXF_EBS_PROPERTIES_DATA** script from the applicable E-Business Suite location.

   To execute the script, enter:

   ```
   @AXF_EBS_PROPERTIES_DATA.sql
   ```
5. Log in as the APPS user.
6. As the APPS user, execute the **AXF_APPS_INIT** script from the applicable E-Business Suite location.

   To execute the script, enter:

   ```
   @AXF_APPS_INIT.sql
   ```

7. As the APPS user, execute the **AXF_ADD_EBS_ATTACHMENT_PROC_R12** or **AXF_ADD_EBS_ATTACHMENT_PROC_R11** script from the applicable E-Business Suite location. The script creates a stored procedure for inserting attachments to the transaction record.

   To execute the script, enter the command appropriate for your version:

   ```
   @AXF_ADD_EBS_ATTACHMENT_PROC_R12.sql
   ```

   ```
   @AXF_ADD_EBS_ATTACHMENT_PROC_R11.sql
   ```

   Note: This compilation may result in warnings, which can be ignored.

8. As the APPS user, execute the **AXF_MANAGED_ATTACH_AVAIL**, **AXF_MANAGED_ATTACH_VALUES**, and **AXF_MANAGED_ATTACHMENT_DATA** scripts from the applicable E-Business Suite location.

   Execute the scripts by entering:

   ```
   @AXF_MANAGED_ATTACH_AVAIL
   ```

   ```
   @AXF_MANAGED_ATTACH_VALUES
   ```

   ```
   @AXF_MANAGED_ATTACHMENT_DATA
   ```

   Note: Perform this step regardless of the solutions you are configuring. If configuring the Imaging solution only (and NOT the Managed Attachments solution), reenable the paperclip attachment functionality after configuration by disabling the Managed Attachments solution as described in "Reenabling Paperclip Attachment" on page 18.

9. As the APPS user, execute the **AXF_SOAP_CALL_PROC** script from the applicable E-Business Suite location. This script creates a stored procedure to make SOAP calls from PL/SQL.

   Execute the script by entering:

   ```
   @AXF_SOAP_CALL_PROC.sql
   ```

4.2 Compiling E-Business Suite Forms

AXF installation also requires a number of files to be uploaded to the E-Business Suite system. This enables a seamless integration of custom actions with pre-existing E-Business Suite Forms.

Note: For information on using Oracle Forms Builder, see the following E-Business Suite documentation:

```
http://www.oracle.com/technology/documentation/applications.html
```

Follow these steps to copy the AXF_CUSTOM.pld file, convert it to an AXF_CUSTOM.pll file, make modifications, and then compile it to an AXF_CUSTOM.plx file.

1. From the installation package, copy the **AXF_CUSTOM.pld** file for the applicable version listed below to the E-Business Suite Server (to `FORMS_PATH` for E-Business Suite 12, or `FORMS60_PATH` for E-Business Suite 11).

   E-Business Suite 12: *`AXF_INSTALL_DIR`*`/ebs/R12/AXF_CUSTOM.pld`

   E-Business Suite 11: *`AXF_INSTALL_DIR`*`/ebs/R11/AXF_CUSTOM.pld`

   Note: If you are using a Linux/UNIX system and copied the `.PLDs` from a Windows machine, issue the `dos2unix` command before converting it below.

2. Open Oracle Forms Builder and connect to the E-Business Suite database as the APPS user. Forms Builder is typically located in the `/bin/` subdirectory of your database's Oracle Home.

   Note: Be sure to connect to the E-Business Suite database. If you fail to connect, verify the tnslistener.ora file.

3. In Forms Builder, open and convert the `AXF_CUSTOM.pld` to `AXF_CUSTOM.pll`, by selecting **File**, then **Administration**, then **Convert**. Select **PL/SQL libraries** and **Text to binary** while converting the file.

   Note: If the following error is displayed during conversion of AXF_CUSTOM.pld to AXF_CUSTOM.pll, repeat this step until the file successfully converts.

   PDE-PL1038 - Can not open file as a PL/SQL Library

   Note: If the following error is displayed during conversion, click **OK** repeatedly until the file successfully converts.

   PDE-PLI018 - Could not find library AXF_CUSTOM

4. From the File menu, open `AXF_CUSTOM.pll`. Select **Program**, then **Compile pl/sql**, then **All** (E-Business Suite 12) or **Program**, then **Compile**, then **All** (E-Business Suite 11).
5. Compile `AXF_CUSTOM` into a module (`.plx`) by selecting **Program**, then **Compile Module** (E-Business Suite 12) or **File**, then **Administration**, then **Compile File** (E-Business Suite 11).

Notes:

- AXF_CUSTOM must be compiled using the APPS schema user ID.
- If you encounter the following identifier or other errors referencing objects in APPCORE.pll while compiling, this indicates that the `APPCORE.pll` file must be attached to your form.

  ```
  'APP_SPECIAL.ENABLE' must be declared
  ```

6. Select **File**, then **Connect**, and ensure that you are connected to the database as an APPS user.
7. Back up the `CUSTOM.pll` file.

WARNING: Modifications to CUSTOM.pll are modifications to the E-Business Suite infrastructure. Ensure that this file is appropriately backed up before making changes.

8. Open the `CUSTOM.pll` by selecting **File**, then **Open** and selecting **PL/SQL Libraries** (`*.pll`) in the Files of Type field. After opening the file and expanding Program Units, right-click the custom package body of CUSTOM.pll and select pl/sql editor.
9. In the *body text* of `CUSTOM.pll`, modify the following text formatted in bold italics. If the file contains other customizations, place the following modifications after the existing code inside each function/procedure.

```
function zoom_available return boolean is
begin

-- Required for ALL integrations
return AXF_CUSTOM.zoom_available();
end zoom_available;
```

IMPORTANT: Be sure to modify the body text of the pll, NOT its header. Scroll down until you reach the following comment header:

```
- -Real code starts here
```

10. In the *body text* of `CUSTOM.pll`, modify the following text formatted in bold italics. If the file contains other customizations, place the following modifications after the existing code inside each function/procedure.

```
procedure event(event_name varchar2) is
begin

-- Required for AXF integrations
AXF_CUSTOM.event(event_name);
null;

end event;
```

11. With `CUSTOM.pll` open, determine if AXF_CUSTOM is listed as an attached library.

    - If it is listed, highlight AXF_CUSTOM and click the minus (-) symbol to detach it. Then reattach AXF_CUSTOM by highlighting Attached Libraries under CUSTOM and clicking the plus (+) symbol; browse to AXF_CUSTOM.pll and select it.
    - If it is not listed, attach AXF_CUSTOM by highlighting Attached Libraries under CUSTOM and clicking the plus (+) symbol; browse to AXF_CUSTOM.pll and select it.

    When prompted to remove the path, click **Yes**.

12. With `CUSTOM.pll` open, verify that APPCORE and APPCORE2 are listed as attached libraries to AXF_CUSTOM.pll. Detach and attach them if needed.

13. With `CUSTOM.pll` open, select **Program**, then **Compile pl/sql,** then **All** (E-Business Suite 12) or **Program**, then **Compile**, then **All** (E-Business Suite 11).

14. Compile CUSTOM into a module (.plx) by selecting **Program**, then **Compile Module** (E-Business Suite 12) or **File**, then **Administration**, then **Compile File** (E-Business Suite 11).

15. Save all before exiting Forms Builder. Verify that the Zoom menu command is displayed in the appropriate E-Business Suite forms.

5 Securing AXF

The default AXF security setup uses the authentication and authorization services provided by OC4J. However, AXF can also be configured to use Oracle Internet Directory and Single Sign-On. For more information on OC4J security, refer to the *OC4J Security Guide*.

5.1 File-Based Security (DEFAULT)

The default AXF security setup uses the file-based security provider included with OC4J. It defines a logical role called `Users` and restricts AXF access to this role. To grant users access to AXF, they must be added to the `Users` role. A different logical role can be created/configured if so desired. For more information on managing the file-based security provider, including adding users to a role, see the section describing the file-based security provider in the *OC4J Security Guide*.

5.2 Oracle Internet Directory and Single Sign-On (OPTIONAL)

AXF can also be configured to use Oracle Internet Directory (OID) and Oracle Single Sign-On (OSSO). These services must be installed and configured if they are not currently part of your environment. For more information, see the section describing Oracle Identity Management in the *OC4J Security Guide*.

To secure AXF using OID and OSSO:

1. Verify that Oracle Identity Manager is installed and that the appropriate groups and users that require access to AXF are set up on OID. It may be convenient to define a group (for example, `APUsers`) and add the OID users and groups that require access to AXF to this new group.

2. Verify that the Application Server on which the AXF framework runs is a registered OSSO partner with OID.

3. Modify `mod_osso.conf`, found at *`ORACLE_SOA_HOME`*`/Apache/Apache/conf`, by inserting the following within the `<IfModule mod_osso.c>` element:

```
<Location /axf-web>
   require valid-user
   AuthType Basic
</Location>
```

4. Modify `orion-application.xml`, found inside the `/META-INF` subdirectory of the `ImagingBaiAxf` EAR file, to map the appropriate OID users and groups to the `users` logical group. For example, if there is an `APUsers` group that needs access to the AXF, insert the following node within the `<orion-application>` element:

```
<!-- Map OID groups and users to the Users logical group -->
<security-role-mapping name="users">
   <group name="APUsers" />
</security-role-mapping>
```

> **Note:** This file must be modified before deploying the AXF EAR.

5. Restart the Application Server and verify that the AXF functionality works correctly within the OSSO configuration.
6. Modify `web.xml` (portion displayed below) in the following ways. This file is located at:

   <Oracle AS>\<J2EEHome>\<Instance>\applications\ImagingBaiAxf\imaging-bai-axf-web\WEB-INF\web.xml

   - Modify `realm-name`.
   - Ensure that `role-name` matches `security-role-mapping name` specified in `orion-application.xml` (see step 4).
   - Based on the customer's environment, change `auth-method` and `form-login-page`, if needed.

```
<login-config>
      <auth-method>FORM</auth-method>
      <realm-name>jazn.com</realm-name>
      <form-login-config>
      <form-login-page>/login.jspx</form-login-page>
      <form-error-page>/loginError.jspx</form-error-page>
   </form-login-config>
</login-config>

<security-role>
   <description>Any Public User</description>
   <role-name>users</role-name>
</security-role>
```

5.3 Configuring SSL for AXF

Perform the following procedures to specify E-Business Suite system settings for SSL configuration for AXF:

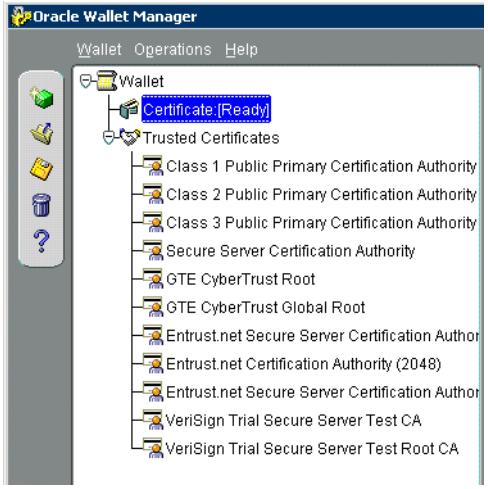
- Configuring the Oracle Wallet
- Configuring the Integration for SSL
- Configuring the Web Server for SSL (Oracle I/PM version 77pr2)

5.3.1 Configuring the Oracle Wallet

1. Run Oracle Wallet Manager. In Linux, the owm executable can be found at the following location:

   ```
   //ORACLE_HOME/bin/ as owm
   ```

2. Create a new wallet. Using the wizard, enter the required information to create a new certificate. Export to a file.
3. Submit the certificate request to CA (Certificate Authority, such as Verisign) to purchase a new certificate.
4. Save the SSL certificates with a .cer extension. Most likely, the CA provided an SSL certificate, an Intermediate certificate, and a Trusted Root certificate via e-mail.
5. Import the Root and Intermediate certificates into the Oracle wallet by right-clicking Trusted Certificates (as shown below) and importing.



6. Import the SSL certificate into the wallet manager.

   If the process is successfully completed, a Ready status is displayed.

   > **Tip:** To import the SSL certificate, you may need to right- click the Certificate Requested tree item.

7. Save the wallet in one of the folders defined in the FORMS_PATH. (It is saved with the name *ewallet.p12*).

5.3.2 Configuring the Integration for SSL

1. On the E-Business Suite database, run the SQL statements listed below.

   ```
   update AXF_PROPERTIES set propvalue='file:<walletpath>\' where propname = '
   AXFWalletPath';
   update AXF_PROPERTIES set propvalue='walletpassword' where propname = '
   AXFWalletPwd ';
   update AXF_PROPERTIES set propvalue='ON/OFF' where propname = 'SecureMode';
   ```

```
commit;
```

2. In the E-Business Suite AXF_CONFIGS table, update the SOLUTIONENDPOINT value to reflect the SecureMode setting.
   - If SecureMode is on, this value should start as `https://`

     When SecureMode is on, the integration will attempt to connect to the AXF application using SSL (https).
   - If SecureMode is off, this value should start as `http://`

5.3.3 Configuring the Web Server for SSL (Oracle I/PM version 77pr2)

1. Copy the SecureWebPageDispatcher.aspx and SecureWebPageDispatcher.aspx.cs files to the IPMWeb project directory (C:\Inetpub\wwwroot\IBPMWeb).
2. Change the AcordeWebServer properties in the AcordeProperties table in E-Business Suite 12 by executing the following SQL statement:

```
update acordeproperties set propvalue='SecureWebPageDispatcher.aspx' where
propname = 'AcordeWebServerDispatcher';
commit;
```

3. Configure the following settings in the SecureWebPageDispatcher.aspx.cs file, based on whether you want to make a secure call from the web server.

> **Note:** Be sure to comment the unused lines below by adding two forward slashes at the beginning of each line. Also, change <machine name> to the actual machine name of the web server.

To make a secure call

```
string URL1 = "https://<machine name>/IBPMWeb/Services/Acorde.ASMX";
string URL2 = "https://<machine name>/IBPMWeb/Services/Acorde2.ASMX";
```

To NOT make a secure call

```
string URL1 = "http://localhost/IBPMWeb/Services/Acorde.ASMX";
string URL2 = "http://localhost/IBPMWeb/Services/Acorde2.ASMX";
```

4. Copy the following files into the bin directory at web server (C:\\Inetpub\\wwwroot\\IBPMWeb\bin):
   - OracleWebPageDispatcher.dll
   - OracleWebPageDispatcher.xmlSerializers.dll
   - OracleWebpageDispatcher.dll.config

6 Configuring AXF for a Clustered Environment

Perform the following steps for each server in the cluster.

1. Deploy the AXF EAR file on each Application Server instance.
2. Add the following entry to start-parameters in the opmn.xml file where AXF is installed (for example, $INSTANCE_HOME/opmn/conf/opmn.xml).

```
-Doracle.ias.jcache=true
```

3. Edit $INSTANCE_HOME/javacache/admin/javacache.xml to include the lines shown below, making sure to specify valid logging and persistence location nodes and physical IP addresses and ports. Note that this section must be EXACTLY the same for all instances in the cluster. You can specify any open port as the port.

```
<communication>
   <isDistributed>true</isDistributed>
    <discoverer ip="apphost1_ip_address" discovery-port="apphost1_discovery_
port"/>
    <discoverer ip="apphost2_ip_address" discovery-port="apphost2_discovery_
port"/>
</communication>
```

4. Restart OPMN on each server (not just the instance, because this is an OPMN level setting).

7 Configuring and Viewing Log Files

When troubleshooting, you may want to examine the following AXF-related logs:

- AXF logs
- Oracle I/PM WSS logs
- E-Business Suite logs
- BPEL log files

7.1 Configuring AXF logging

Use the AXF logs to isolate issues in solution configuration. By default, AXF logging automatically occurs as part of Application Server logging. Follow these steps to configure separate AXF logging.

1. Add a log handler to the Application Server configuration.

$J2EE_HOME/config/j2ee-logging.xml

```
<log_handler name='axf-handler'
class='oracle.core.ojdl.logging.ODLHandlerFactory'>
<property name='path'  value='%ORACLE_HOME%/j2ee/%OPMN_PROC_TYPE%/log/axf'/>
<property name='maxFileSize' value='3485760'/>
<property name='maxLogSize' value='3485760'/>
<property name='encoding' value='UTF-8'/>
<property name='supplementalAttributes'  value='J2EE_APP.name,J2EE_
MODULE.name,WEBSERVICE.name,WEBSERVICE_PORT.name'/>
</log_handler>
```

2. Add a logger and set the level from the Log Levels (ODL Message Types) listed in Table 1. You can set the logging level in the XML file or via Enterprise Manager.

$J2EE_HOME/config/j2ee-logging.xml

```
<logger name='oracle.imaging' level='NOTIFICATION:1' useParentHandlers='false'>
<handler name='axf-handler'/>
</logger>
<logger name='oracle.imaging.axf' level='NOTIFICATION:1'
useParentHandlers='false'>
<handler name='axf-handler'/>
</logger>
```

Table 1 Available Log Levels

Log Type	Description	Log Level (ODL Message Type)
NULL	The logger inherits the log level set for its parent.	n/a
SEVERE	Log system errors requiring attention from the system administrator.	ERROR:1
WARNING	Log actions or conditions discovered that should be reviewed and may require action before an error occurs.	WARNING:1
INFO	Log normal actions or events. This could be a user operation, such as login completed, or an automatic operation, such as a log file rotation.	NOTIFICATION:1
CONFIG	Log configuration-related messages or problems.	NOTIFICATION:16
FINE	Log trace or debug messages used for debugging or performance monitoring. Typically contains detailed event data.	TRACE:1
FINER	Log fairly detailed trace or debug messages.	TRACE:16
FINEST	Log highly detailed trace or debug messages.	TRACE:32

3. Restart oc4j if it is running. The logger will be displayed in Enterprise Manager. You can change the logging level at runtime.

8 Completing Additional Imaging Solution Configuration

After completing installation as described in this guide, one of the following steps is required for implementation:

- Configure the AXF tables and E-Business Suite AXF tables, as described in the *Oracle E-Business Suite Adapter for Imaging and Process Management Application Extension Framework Configuration Guide*.
- Apply a solution template. To obtain a solution template, contact your systems integrator, Oracle Consulting, or Oracle Support.

In addition, reenable the paperclip attachment as described below, if needed.

8.1 Reenabling Paperclip Attachment

Running the installation scripts (as described in "Configuring the E-Business Suite Database" on page 9) automatically disables the E-Business Suite attachments paperclip icon and functionality. To reenable the paperclip functionality for an Imaging Solution only configuration, follow these steps to disable the Managed Attachments solution:

1. Open the AXF_CONFIGS table (E-Business Suite) table.
2. In the FORMFUNCTION field, rename the `AXF_MANAGED_ATTACHMENTS` entry.

   For example, rename the entry as follows:

   `AXF_MANAGED_ATTACHMENTS-DISABLED`

   For more information about this table, see the *Oracle E-Business Suite Adapter for Oracle Imaging and Process Management Application Extension Framework Configuration Guide*.

Note: To reenable the Managed Attachments solution, change the FORMFUNCTION field back to the following entry:

`AXF_MANAGED_ATTACHMENTS`

9 Uninstalling AXF

To uninstall AXF from SOA, run `uninstall.sh` (Linux/UNIX) or `uninstall.bat` (Windows) and check `uninstall.out` to verify that the EAR was successfully undeployed and the database tables were successfully removed.

10 Uninstalling AXF from E-Business Suite

Follow these steps to uninstall AXF from E-Business Suite.

1. Assign the AXF configuration schema user the following privileges:
   - Drop table
   - Drop sequence
   - Drop public synonym
2. As the AXF user, execute the **AXF_DROP_TABLES_SYNONYM** script for your E-Business Suite version, from the applicable location listed below. This script drops all tables, synonyms, and sequences created by the AXF_CREATE_TABLES_SYNONYM script run during installation.

   E-Business Suite 12: AXF_INSTALL_DIR/ebs/R12/AXF_DROP_TABLES_SYNONYM.sql

   E-Business Suite 11: AXF_INSTALL_DIR/ebs/R11/AXF_DROP_TABLES_SYNONYM.sql

   Execute the script by entering:

   `@AXF_DROP_TABLES_SYNONYM.sql`
3. Remove the AXF database schema user.
4. Remove AXF_CUSTOM.* (AXF_CUSTOM.pll, AXF_CUSTOM.pld, and AXF_CUSTOM.plx) from `FORMS_PATH` (or `FORMS60_PATH` on E-Business Suite 11 systems).
5. Restore the CUSTOM.pll file you backed up in step 7 in "Compiling E-Business Suite Forms" on page 10.
6. Open Oracle Forms Builder and connect to the E-Business Suite database as the APPS user. Forms Builder is typically located in the `/bin/` subdirectory of your database's Oracle home.
7. Open the restored `CUSTOM.pll` by selecting **File**, then **Open** and selecting **PL/SQL Libraries** (*.pll) in the Files of Type field.
8. With `CUSTOM.pll` open, select **Program**, then **Compile pl/sql**, then **All** (E-Business Suite 12) or **Program**, then **Compile**, then **All** (E-Business Suite 11).
9. Compile CUSTOM into a module (.plx) by selecting **Program**, then **Compile Module** (E-Business Suite 12) or **File**, then **Administration**, then **Compile File** (E-Business Suite 11).

10. Save all before exiting Forms Builder.

11 Troubleshooting

If you are experiencing a problem returning to the Task List after completing the final task in Auto-Task mode, you may be encountering a timeout issue on the Application Server.

From Enterprise Manager, select the **Administration** on the Transaction Manager page for the container in which AXF is running. Increase the timeout value until the issue is resolved.

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