

Oracle® Application Integration Architecture

Installation Guide

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Preface

This document describes how to install, configure, deploy, upgrade, and uninstall Oracle Application Integration Architecture (Oracle AIA) pre-built integrations.

Audience

This document is intended for system administrators and system integrators who install and configure Oracle AIA.

Accessing Oracle Communications Documentation

Oracle AIA documentation and additional Oracle documentation, such as documentation for the Oracle applications that Oracle AIA integrates, is available from Oracle Help Center:

<http://docs.oracle.com>

Documentation Accessibility

For information about Oracle's commitment to accessibility, visit the Oracle Accessibility Program website at

<http://www.oracle.com/pls/topic/lookup?ctx=acc&id=docacc>.

Access to Oracle Support

Oracle customers that have purchased support have access to electronic support through My Oracle Support. For information, visit

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Document Revision History

The following table lists the revision history for this guide:

Version	Date	Description
E63510-01	January 2017	Initial release.

Oracle AIA Installation Overview

This chapter provides an overview of the Oracle Application Integration Architecture (Oracle AIA) pre-built integrations installation procedure.

About Oracle AIA and Oracle Communications Solutions Integrations

Oracle AIA is an Oracle Communications Solutions Integrations framework that provides pre-built integrations using standard integration patterns, business processes, orchestration logic, and common objects and services to connect Oracle applications.

Oracle Communications Solutions Integrations is a set of integration frameworks, technologies, and tools that lets you design and build integrations that connect Oracle applications to support end-to-end business processes for communications service providers across operations support systems and business support systems.

Overview of Oracle AIA Installation Procedure

Oracle AIA installation consists of the following tasks:

1. Planning your installation, reviewing system requirements, and installing required prerequisite software. See ["Oracle AIA System Requirements"](#).
2. Performing pre-installation tasks. See ["Oracle AIA Pre-Installation Tasks"](#).
3. Installing Oracle AIA:
 - a. Downloading the Oracle AIA media pack.
 - b. Running the Installer. See ["Installing Oracle AIA"](#).

The Installer copies the installation files for all Oracle AIA pre-built integrations to the chosen installation directory.

- c. Running the Configuration Wizard and running deployment scripts. See ["Configuring and Deploying Pre-Built Integrations"](#).

You choose which pre-built integration options to configure and deploy.

The Configuration Wizard updates the Oracle AIA properties file with your system details. The deployment scripts deploy the pre-built integrations and their configuration details to the integration server.

4. Performing post-installation tasks. See ["Oracle AIA Post-Installation Tasks"](#).
5. Verifying the installation. See ["Verifying Oracle AIA Installation"](#).

About Pre-Built Integrations Options

The Installer copies the files for all of the pre-built integrations and installs all of the infrastructure components required to support these options, including standard data objects and service definitions.

After copying the files using the Installer, you configure any of the following pre-built integration options for Oracle Communications using the Configuration Wizard:

- Order to Cash options for:
 - Oracle Communications Billing and Revenue Management (BRM)
 - Oracle Communications Order and Service Management (OSM)
 - Oracle Siebel CRM
- Agent-Assisted Billing Care
- Product Master Data Management (Product MDM) Base and options for:
 - Siebel CRM
 - BRM
 - Oracle Communications Pricing Design Center (PDC)
 - Oracle Communications Design Studio

You can configure a single option at a time or multiple options at the same time.

After configuring a pre-built integration, you deploy it to the integration server using a deployment script. The Installer provides deployment scripts for the pre-built integration options. For the Product MDM pre-built integration, you must also deploy the routing rules by using the deployment scripts provided by the Installer.

When you configure pre-built integrations using the Configuration Wizard, you can only provide information about one instance of each application. After completing configuration with the Configuration Wizard, you can manually configure pre-built integrations to connect to multiple application instances. You must customize the deployment commands to configure the specific pre-built integrations to connect to multiple application instances.

For an example of configuring Oracle AIA to connect to multiple instances of an application, see the discussion of configuring multiple BRM instances for communications integrations in *Oracle Application Integration Architecture Order to Cash Implementation Guide*.

About Pre-Built Integrations Deployment

You deploy pre-built integrations by running scripts that use deployment plans. Each pre-built integration comes with a main deployment plan, an optional supplementary deployment plan, and an optional conditional policy file.

About Co-Deployment for Functional Interoperability

You can deploy two or more functionally interoperable pre-built integrations on the same Oracle Service Oriented Architecture (SOA) instance. This co-deployment allows the integration services to work together to fulfill end-to-end business processes. The Product MDM and Order to Cash pre-built integrations can be co-deployed.

For more information about functional interoperability, including which pre-built integrations are functionally interoperable, see *Oracle AIA Functional Interoperability Configuration Guide*.

To install multiple options that are not functionally interoperable, you must install each option on a separate SOA instance. If you install unsupported combinations on a single SOA instance, you are responsible for making custom changes to accommodate any resulting functional impact on common components, such as routing rules.

About Security Policies

Oracle AIA composites are protected by authentication through Oracle Web Services Manager security policies. When you deploy pre-built integrations, the default policies are automatically applied as follows:

- Global security policies are automatically attached to all composites matching the Oracle AIA naming conventions.
- Local security policies are automatically attached to composites whose security requirements differ from the global policy or whose name does not match the Oracle AIA naming conventions.

For more information on how global and local security policies are attached during deployment, see the discussion of working with security in *Oracle Fusion Middleware Developer's Guide for Oracle SOA Core Extension*.

Oracle recommends the following:

- Harden the services with message protection in your production environment. Before modifying the default security policies, you must understand Oracle Web Services Management security policy configuration and the global and local deployment strategies. Changes to the default policies without proper understanding could impact the integration's expected behavior.
- Do not completely disable default security policies.
- Validate that the default security policies are correctly deployed before running your production system.

For more information about security policies, see *Oracle Fusion Middleware Securing Web Services and Managing Policies with Oracle Web Services Manager*.

About Undeploying Pre-Built Integrations

To undeploy a pre-built integration, you must undeploy all options included in it by using the undeployment plan. The undeployment plan and the **AIAInstallProperties.xml** file are passed as parameters to the Oracle AIA Install Driver for un-deployment.

See "[Uninstalling Oracle AIA](#)" for more information about undeploying and uninstalling pre-built integrations.

About Deploying in Clustered Environments

You can deploy pre-built integrations directly to an existing SOA cluster.

You deploy pre-built integrations to nodes that were configured when setting up the SOA cluster. The nodes may be spread across different physical servers for higher availability, or the nodes may be on the same physical server for greater throughput.

For more information about deployment topology and setting up SOA clusters, see *Oracle Fusion Middleware Enterprise Deployment Guide for Oracle SOA Suite*. For more information about preparing a SOA cluster for pre-built integrations, see "[Cluster Pre-Installation Tasks](#)".

Because the deployment is targeted to the entire cluster, you run the deployment scripts only once for the entire cluster. The scripts deploy the pre-built integrations to all nodes of the cluster at the same time.

Directory Placeholders Used in This Guide

The placeholders in [Table 1–1](#) are used in this guide.

Table 1–1 *Placeholders Used in This Guide*

Placeholder	Directory Description
<i>Install_home</i>	The directory in which the Oracle AIA software is installed. This is typically the Oracle base directory. This directory includes the comms_home directory, which the commsenv script sets as the COMMS_HOME environment variable.
<i>MW_home</i>	The directory in which Oracle Fusion Middleware components are installed. This directory contains the base directory for Oracle WebLogic Server, among other files and directories.
<i>JDev_home</i>	The directory in which Oracle JDeveloper is installed.
<i>domain_home</i>	The directory that contains the configuration for the domain onto which Oracle AIA is deployed. The default is <i>MW_home/user_projects/domains/domain_name</i> (where <i>domain_name</i> is the name of the Oracle AIA domain), but it is frequently set to some other directory at installation.

Oracle AIA System Requirements

This chapter specifies the software, hardware, and information requirements for installing Oracle Application Integration Architecture (Oracle AIA).

Software Requirements

All Oracle AIA installations require the following prerequisite software:

- Oracle Database
- Oracle Service Oriented Architecture (SOA) Suite
- Oracle Fusion Middleware Infrastructure, which includes Oracle WebLogic Server, Oracle Metadata Services, Oracle Application Development Framework, Oracle Web Services Manager and Oracle Data Integrator

In clustered environments, use a shared file system mounted on each server in the cluster. See *Oracle Fusion Middleware High Availability Guide* for more information about shared storage.

Note: You must install Oracle Data Integrator on a separate domain than your SOA domain. Installing Oracle Data Integrator on the SOA domain results in inconsistent home directories that interfere with Oracle AIA deployment.

- Java Development Kit
- In clustered environments, Oracle HTTP Server

Each pre-built integration uses a variety of applications in addition to the prerequisite software.

This guide assumes that you have installed and configured the prerequisite software as described in the documentation for that software available from Oracle Help Center.

Review the compatible versions of software and applications in the Oracle AIA Certification Matrix available on My Oracle Support at:

<http://support.oracle.com/epmos/faces/DocumentDisplay?id=2226851.1>

You can also review certifications and supported versions of software and applications by searching for your pre-built integration options on the **Certifications** tab of My Oracle Support.

Hardware Requirements

[Table 2–1](#) describes the required disk space on the machine where you are installing Oracle AIA and the required memory on the server where you are deploying Oracle AIA.

Table 2–1 Disk Space and Memory Requirements for Oracle AIA

Component	Requirements
Hard disk	400 MB
Server memory	6 GB

Information Requirements

This section describes the information that you will be required to provide while installing and configuring Oracle AIA. You define these values when you install and configure the applications which Oracle AIA integrates.

Some information described in the tables in this section is required for multiple pre-built integrations, as indicated before each table.

If convenient, you can use the **Value** column of the tables in this section to write the values for your specific installation so that you have it available when you run the Installer.

[Table 2–2](#) describes the information required by the Oracle AIA Installer. The information in all other tables in this section is required by the Configuration Wizard.

Table 2–2 Oracle AIA Installer Information Requirements

Information Type	Description	Value
Oracle AIA installation directory	The directory where you will install the Oracle AIA software.	-
Inventory directory	The path to the location where your Oracle Central Inventory is located. If a central inventory does not exist, the Installer will create one at the specified location. In UNIX environments, you can select a directory. In Windows environments, the directory is loaded from the system registry.	-
Operating System group	The operating system group that will own the Oracle AIA files.	-

[Table 2–3](#) describes the information needed to connect to the Oracle WebLogic Server SOA domain and administration server for the integration. You will deploy the Oracle AIA infrastructure components to this domain. You need this information for all pre-built integration options.

Table 2–3 WebLogic Server Domain Connection Information

Information Type	Description	Value
Domain location	The path to your SOA domain. This is automatically populated in the Configuration Wizard when you run the source aiaenv.sh command.	-
Domain name	The name of your SOA domain. This is automatically populated in the Configuration Wizard when you run the source aiaenv.sh command.	-
Administration server host name	The host of the administration server for your SOA domain. This is automatically populated in the Configuration Wizard when you run the source aiaenv.sh command.	-
Administration server port	The port assigned to the administration server. This is automatically populated in the Configuration Wizard when you run the source aiaenv.sh command.	-
Administrator user name	The user name of the WebLogic Server administrator.	-
WebLogic administrator password	The password for the WebLogic Server administrator user.	-
SOA managed server or cluster name	The name of the primary SOA managed server or the name of the SOA cluster. This is automatically populated in the Configuration Wizard when you run the source aiaenv.sh command.	-
SOA managed server host or proxy URL	The host of the SOA managed server or the proxy URL for the cluster. This is automatically populated in the Configuration Wizard when you run the source aiaenv.sh command.	-
SOA managed server port or cluster proxy port	The port assigned to the SOA managed server or cluster proxy. This is automatically populated in the Configuration Wizard when you run the source aiaenv.sh command.	-
Shared directory for Oracle AIA cluster	For clustered domains, enter or browse to the shared domain directory for the cluster. For non-clustered domains, this field is disabled.	-

[Table 2–4](#) describes the information needed to connect to the SOA database. This can be an Oracle Real Application Clusters database. You need this information for all pre-built integration options.

Table 2–4 SOA Database Connection Information

Information Type	Description	Value
SOA database host name	The name of the database host. This may be an Oracle RAC database. For example: soadb.example.com	-
SOA database port number	The port assigned to the SOA database host. For example: 1521	-
SOA database administrator user name	The database administration user. This may be an Oracle RAC database user. For example: sys	-
SOA database administrator password	The password for the database administration user.	-
SOA database SID	The service name for the database. This may be an Oracle RAC database. For example: orcl	-
SOA database system user name	The database system user. For example: soa-infra	-
SOA database system password	The password for the database system user.	-
SOA database system role	The rule for the database system user. For example: SYS	-

[Table 2–5](#) describes the information needed to connect to the Siebel CRM database and the server on which Siebel CRM is deployed.

You need this information for the following pre-built integration options:

- Order to Cash for Siebel CRM
- Agent Assisted Billing Care
- Product MDM for Siebel CRM

Table 2–5 Siebel CRM Server and Database Connection Information

Information Type	Description	Value
Siebel CRM host name	The DNS name of the Siebel CRM host. For example: siebel.example.com	-
Siebel CRM port	The port assigned to Siebel CRM. For example: 80	-
Siebel CRM protocol	The internet protocol used to connect to the Siebel CRM server. For example: http	-
Siebel Enterprise Server name	The name of the Siebel Enterprise Server on which Siebel CRM is installed. For example: siebel Note: To support the Update Account flow, this value must be in lowercase.	-
Siebel Enterprise Application Integration (Siebel EAI) user	The Siebel EAI user that makes EAI web service calls. For example: sadmin	-
Siebel EAI user password	This password for the Siebel EAI user.	-
Siebel CRM server version	The version of Siebel CRM to which you are connection. This value cannot be longer than 10 characters. For example: 15.3.0.0	-
Siebel CRM language	The language used by the Siebel application. For example: enu	-
Siebel CRM database host	The IP address or DNS name of the Siebel CRM database host. For example: siebelldb.example.com	-
Siebel CRM database port	The port assigned to the Siebel CRM database. For example: 1521	-

Table 2–5 (Cont.) Siebel CRM Server and Database Connection Information

Information Type	Description	Value
Siebel CRM database SID	The Siebel CRM database system ID. For example: orcl	-
Siebel CRM database user	The database user with permissions to load the Siebel Enterprise Integration Manager database tables. For example: sadmin	-
Siebel CRM database password	The password for the database user.	-

[Table 2–6](#) describes the information needed to connect to the Session Pool Manager proxy. This information is needed only when your Siebel CRM server is outside of a firewall. If all your servers are within the firewall, you do not need this information.

You need this information for the following pre-built integrations, when the Siebel CRM server is outside the firewall:

- Order to Cash for Siebel CRM
- Agent Assisted Billing Care
- Product MDM for Siebel CRM

Table 2–6 Session Pool Manager Proxy Connection Information

Information Type	Description	Value
Session Pool Manager proxy host	The host name for the Session Pool Manager proxy. For example: proxyhost.example.com	-
Session Pool Manager proxy port	The port assigned to the Session Pool Manager proxy. For example: 1521	-

[Table 2–7](#) describes the information needed to access OSM. Depending on your OSM deployment topology, some of these values might be the same.

You need this information for the Order to Cash for OSM pre-built integration option.

Table 2–7 OSM Server Connection Information

Information Type	Description	Value
OSM version	The version of OSM to which you are connecting. This value must be 10 characters or fewer. For example: 7.3.1.0.0	-
OSM Customer Order Management (OSM COM) administrator user name	The OSM COM administrator's user name. For example: osmcomadmin Note: The Configuration Wizard uses OSM CFS instead of OSM COM.	-
OSM COM administrator password	The password for the OSM COM administration user.	-
OSM Service Order Management (SOM) administrator user name	The OSM SOM administrator's user name. Depending on your OSM system topology, this may be the same user as the OSM COM administrator. For example: osmsomadmin Note: The Configuration Wizard uses OSM Provisioning instead of OSM SOM	-
OSM SOM administrator password	The password for the OSM SOM administration user.	-
OSM COM WebLogic Server JMS queue host	The WebLogic Server host used for accessing inbound JMS queues for OSM COM. For example: omscomjms.example.com	-
OSM COM WebLogic Server JMS queue port	The port assigned to the WebLogic Server host used for accessing inbound JMS queues for OSM COM. For example: 7080	-
OSM COM WebLogic Server JMS queue user name	The WebLogic Server user for accessing inbound JMS queues for OSM COM. For example: osm	-
OSM COM WebLogic Server JMS queue password	The password for the WebLogic Server user for accessing inbound JMS queues for OSM COM.	-
OSM SOM WebLogic Server JMS queue host	The Weblogic Server host used for accessing inbound JMS queues for OSM SOM. For example: osmprovjms.example.com	-

Table 2–7 (Cont.) OSM Server Connection Information

Information Type	Description	Value
OSM Provisioning WebLogic Server JMS queue port	The port assigned to the WebLogic Server host used for accessing inbound JMS queues for OSM SOM. For example: 7080	-
OSM Provisioning WebLogic Server JMS queue user name	The WebLogic Server user for accessing inbound JMS queues for OSM SOM. For example: osmlf	-
OSM Provisioning WebLogic Server JMS queue password	The password for the WebLogic Server user for accessing inbound JMS queues for OSM SOM.	-

[Table 2–8](#) describes the information needed to connect to BRM.

You need this information for the following pre-built integration options:

- Order to Cash for BRM
- Agent Assisted Billing Care
- Product MDM for BRM

Table 2–8 BRM Connection Information

Information Type	Description	Value
BRM server version	The version of BRM to which you are connecting. This value must be 10 characters or fewer. For example: 7.5.0.13.0	-
BRM Connection Manager host	The IP address or DNS name of the BRM server's primary Connection Manager. For example: brmcm.example.com	-
BRM Connection Manager port	The port assigned to the BRM server's primary Connection Manager. For example: 12600	-
BRM database host	The IP address or DNS name of the Oracle Database Advanced Queuing database instance where the BRM Synchronization Queue Manager Data Manager (DM_AQ) is configured. For example: brmdb.example.com	-
BRM database port	The port assigned to the Oracle Database Advanced Queuing database instance. For example: 1521	-

Table 2–8 (Cont.) BRM Connection Information

Information Type	Description	Value
Oracle Database Advanced Queuing database SID	The Oracle Database Advanced Queuing database system ID. For example: orcl	-
Oracle Database Advanced Queuing user name	The Oracle Database Advanced Queuing user. For example: PIN Note: To support the Product Lifecycle Management flow, this value must be uppercase.	-
Oracle Database Advanced Queuing password	The password for the Oracle Database Advanced Queuing user.	-
Oracle Database Advanced Queuing queue name	The name of the queue configured for DM_AQ. For example: AQ_QUEUE	-

[Table 2–9](#) describes the information needed to connect to BRM Pricing Design Center (PDC).

You need this information for the Product MDM for PDC pre-built integration option.

Table 2–9 PDC Connection Information

Information Type	Description	Value
PDC version	The version of PDC being integrated. For example: 11.1.0.7.0	-
PDC web service host name	The host name of the PDC server where the web services are installed. For example: pdcs.example.com	-
PDC web service port name	The port number assigned to the PDC server used by the PDC web services. For example: 7001	-
PDC user name	The user name used to invoke PDC web services. For example: pdcs	-

[Table 2–10](#) describes the information needed to connect to Oracle Data Integrator and the Oracle Data Integrator master and work repositories. Contact your Oracle Data Integrator administrator for this information.

If you are connecting to an existing work repository, the Installer automatically populates the repository information.

You need this information for the Agent Assisted Billing Care pre-built integration option.

Table 2–10 Oracle Data Integrator Connection Information

Information Type	Description	Value
Path to Oracle Data Integrator	The path to the directory where the Oracle Data Integrator agent is installed. For example, <i>domain_home/bin</i> . Note: This must be a different domain than your SOA domain.	-
Path for exported Domain Value Mappings (DVMs)	Enter the path of a directory to which DVMs will be exported. For example: <i>Install_home/comms_home/source/soainfra/apps/AIAMetaData/dvm</i> You can change this path after installation by updating the odi.dvm.path property in the AIAInstallProperties.xml file.	-
Oracle Data Integrator user	The Oracle Data Integrator administrator's user name. For example: SUPERVISOR	-
Oracle Data Integrator password	The password for the Oracle Data Integrator administration user.	-
Master repository database host	The DNS name of the master repository database host. For example: odim.example.com	-
Master repository database port	The port assigned to the master repository database. For example: 1521	-
Master repository database SID	The master repository database system ID. For example: oracle	-
Master repository database user	The master repository database user. For example: ODI_REPO	-
Master repository database password	The master repository database password.	-

Table 2–10 (Cont.) Oracle Data Integrator Connection Information

Information Type	Description	Value
Work repository name	The name of the Oracle Data Integrator work repository for integration artifacts. For example: WORKREP	-
Oracle Data Integrator agent application name	The application name for the standalone or Java EE agent. For example: oraclediagent Note: The application name for a standalone agent is always oraclediagent .	-
Oracle Data Integrator agent port	The port assigned to the agent. For example: 20910	-

[Table 2–11](#) describes the information needed to connect to Oracle Product Hub.

You need this information for the Product MDM pre-built integration base pack.

Table 2–11 Product Hub Connection Information

Information Type	Description	Value
Product Hub host name	The host name for Product Hub. For example: producthub.example.com	-
Product Hub port	The port assigned to the Product Hub host. For example: 1617	-
Product Hub user name	The Product Hub administrator's user name. For example: mfg	-
Product Hub password	The password for Product Hub administrator user.	-
Product Hub Workflow Business Event system name	The Workflow Business Event system name for Product Hub. For example: SID.EXAMPLE.COM	-
Product Hub database host	The host name of the Product Hub database. For example: ophdb.example.com	-
Product Hub database port	The port assigned to the Product Hub database. 8096	-

Table 2–11 (Cont.) Product Hub Connection Information

Information Type	Description	Value
Product Hub database SID	The system ID for the Product Hub database. For example: orcl	-
Product Hub database user	The user name for the Product Hub database user. For example: apps	-
Product Hub database password	This is the password for Oracle Product Hub (PIM). To find the value, contact your database administrator.	-

Table 2–12 describes the information needed for the Oracle AIA cross-reference database. This information is only required the first time you configure Oracle AIA for all pre-built integration options.

Table 2–12 Cross-Reference Database Information

Information Type	Description	Value
Cross reference schema name	The name of the cross-reference schema. For example: DOMAIN_XREF	-
Cross reference schema password	The password used to access the cross-reference schema.	-
SOA database administration user	The administrator user name for the SOA database. For example: sys Note: The Configuration Wizard automatically populates this field with the user name you enter on the SOA Database Details page.	-
SOA database administration user password	The password for the SOA database administrator.	-
SOA database administration user role	The role of the SOA database administrator. For example: SYS Note: The Configuration Wizard automatically populates this field with the role you enter on the SOA Database Details page.	-
Cross reference schema default tablespace	The name of the default tablespace for the cross-reference schema. For example: USERS	-
Cross reference schema temporary tablespace	The name of the temporary tablespace for the cross-reference schema. For example: TEMP	-

Oracle AIA Pre-Installation Tasks

This chapter describes the tasks that you must complete before installing Oracle Application Integration Architecture (Oracle AIA) pre-built integrations.

Pre-Installation Tasks

Before installing Oracle AIA, perform the following tasks:

- Perform the procedure in ["Enabling Unicode Support on UNIX"](#) for all pre-built integration options in UNIX environments.
- Perform the procedure in ["Deploying JCA Resource Adapter"](#) for the following pre-built integration options:
 - Agent Assisted Billing Care
 - Order to Cash for Oracle Communications Billing and Revenue Management (BRM)
 - Product Master Data Management for BRM
- Perform the procedure in ["Configuring the Timeout Values"](#) for the following pre-built integration options:
 - Order to Cash for BRM
 - Product Master Data Management Base
- Perform the procedure in ["Creating Oracle Data Integrator Repositories"](#) for the Agent-Assisted Billing Care pre-built integration option.
- Perform the procedures in ["Cluster Pre-Installation Tasks"](#) for Oracle AIA in clustered environments.

Enabling Unicode Support on UNIX

On UNIX operating systems, Oracle recommends enabling Unicode support for Oracle Service Oriented Architecture (SOA).

To enable Unicode support:

1. In the command line for the system where Oracle Fusion Middleware is installed, run the following commands:

```
setenv LANG en_US.UTF-8
setenv LC_ALL en_US.UTF-8
```

where *en_US* is your locale.

These environment variables set the installation default locale and override the value of any other environment variables that begin with **LC_**.

2. Open Oracle JDeveloper.
3. From the **Tools** menu, select **Preferences**.
4. From the tree table, select the **Environment** element.
5. From the **Encoding** menu, select **UTF-8**.
6. Click **OK**.

Deploying JCA Resource Adapter

For the Agent Assisted Billing Care pre-built integration, the Order to Cash for BRM pre-built integration option, and the Product Master Data Management pre-built integration option, you must deploy and configure JCA Resource Adapter.

See *Oracle Communications Billing and Revenue Management JCA Resource Adapter* for information about JCA Resource Adapter, including installation, configuration, and deployment instructions.

Configuring the Timeout Values

For the Order to Cash for BRM pre-built integration option and the Product Master Data Management Base pre-built integration option, you must modify the JTA Transaction value, the Enterprise JavaBeans (EJB) BPELDeliveryBean value, and the SyncMaxWaitTime value.

To modify JTA Transaction value and EJB BPELDeliveryBean value:

1. Log in to the WebLogic Server console for the domain to which you will deploy Oracle AIA.
2. If you have not already done so, in the Change Center of the Administration Console, click **Lock & Edit**.
3. In the **Domain Structure** tree, select the domain name at the top of the tree.
4. Click the **Configuration>JTA** tab.
5. Set the value of the **Timeout Seconds** property to **3600**.
6. Click **Save**.
7. In the Domain Structure tree, click **Deployments**.
8. In the Deployments table, expand **soa-infra**, then expand **EJBs**, and then select **BPELDeliveryBean**.
9. Click the **Configuration** tab.
10. In the **Transaction Timeout** field, enter **3000**.
11. Click **Save**.
12. In the Change Center of the Administration Console, click **Activate Changes**.

To modify SyncMaxWaitTime values:

1. Log in to Oracle Enterprise Manager Fusion Middleware Control.
2. Expand the SOA folder and right-click **soa-infra**.
3. Select **SOA Administration>BPEL Properties**.

4. Click **More BPEL Configuration Properties**.
5. Set the value of **syncMaxWaitTime** property to **120**.
6. Click **Apply**.

Note: These are the recommended minimum timeout values. Your environment may require different values.

Creating Oracle Data Integrator Repositories

The Agent Assisted Billing Care pre-built integration requires an Oracle Data Integrator master repository and work repository. Although Oracle Data Integrator must be installed on the same machine as Oracle AIA, the Oracle Data Integrator repositories can be on different machines.

When setting up your SOA domain, you must connect to repositories created using Oracle Fusion Middleware Repository Creation Utility (RCU). You can use these repositories with your pre-built integrations, or you can use RCU to create new repositories.

Oracle recommends backing up the master and work repositories before configuring Oracle AIA.

For information about Oracle Data Integrator Master and Work repositories, see the following:

- The discussion of administering repositories in *Oracle Fusion Middleware Administering Oracle Data Integrator*
- The discussion of creating the master and work repository schema in *Oracle Fusion Middleware Installing and Configuring Oracle Data Integrator*

Cluster Pre-Installation Tasks

Perform the tasks described in this section if you are installing Oracle AIA in a clustered environment.

Configuring Node Manager Startup

In a clustered environment, Oracle recommends using Node Manager to start managed servers. Before starting servers, configure the Node Manager startup properties.

To configure the Node Manager startup properties:

1. Open the **nodemanager.properties** file, typically located in the following directory:

`MW_home/user_projects/domains/domain_name/nodemanager`

2. Search for the following property:

`StartScriptEnabled`

3. Confirm that the value of the property is **true**. If it is not, change the value to **true**. For example:

`StartScriptEnabled=true`

4. Save and close the file.

5. In a web browser, log in to the WebLogic Server Administration Console.
6. In the Domain Structure panel, expand **Environment** and click **Machines**.
7. For each machine in the Machines table, do the following:
 - a. Select the machine name.
 - b. Select the **Node Manager** tab.
 - c. Check that the **Listen Address** field contains the fully qualified name of the system. For example:
`system1.example.com`

If the field contains **localhost**, replace it with the fully qualified name of the system.
 - d. Check that **Listen Port** contains a port number. For example:
`5556`
 - e. Click **Save**.
8. In the command line, navigate to the following directory:
`domain_home/bin`
9. Restart Node Manager using one of the following commands:
 - On UNIX systems:
`sh startNodeManager.sh`
 - On Windows systems:
`startNodeManager.cmd`

For more information about configuring and using Node Manager, see *Oracle Fusion Middleware Administering Node Manager for Oracle WebLogic Server*.

Restarting Servers With Pending Configuration Changes

To restart servers that have pending configuration changes:

1. Log in to the WebLogic Server Administration Console.
2. In the Change Center panel, click **View changes and restarts**.
3. Select the **Restart Checklist** tab.
4. Select any servers in the cluster that appear in the table, including the administration server and managed servers, and click **Restart**.

Adding Servers to the Oracle HTTP Server Configuration File

If you are installing Oracle AIA on a cluster and are using Oracle HTTP Server, add the servers to the **mod_wl_ohs.conf** file.

To add the servers to the **mod_wl_ohs.conf** file:

1. Navigate to the following directory:
`domain_home/config/fmwconfig/components/OHS/instances/componentName`
2. Open the **mod_wl_ohs.conf** file.
3. Add the following code:

```

# WSM-PM
<Location /wsm-pm>
SetHandler weblogic-handler
WebLogicCluster host1:port1,host2:port2
</Location>
# SOA soa-infra app
<Location /soa-infra>
SetHandler weblogic-handler
WebLogicCluster host1:port1,host2:port2
</Location>
# SOA inspection.wsil
<Location /inspection.wsil>
SetHandler weblogic-handler
WebLogicCluster host1:port1,host2:port2
</Location>
# Worklist
<Location /integration/>
SetHandler weblogic-handler
WebLogicCluster host1:port1,host2:port2
</Location>
# B2B
<Location /b2b>
SetHandler weblogic-handler
WebLogicCluster host1:port1,host2:port2
</Location>
<Location /b2bconsole>
SetHandler weblogic-handler
WebLogicCluster host1:port1,host2:port2
</Location>
# UMS
<Location /sdpmessaging/ >
SetHandler weblogic-handler
WebLogicCluster host1:port1,host2:port2
</Location>
# UMS WS
<Location /ucs/messaging/webservice >
SetHandler weblogic-handler
WebLogicCluster host1:port1,host2:port2
</Location>
# Default to-do taskflow
<Location /DefaultToDoTaskFlow/>
SetHandler weblogic-handler
WebLogicCluster host1:port1,host2:port2
</Location>
# Workflow
<Location /workflow>
SetHandler weblogic-handler
WebLogicCluster host1:port1,host2:port2
</Location>
#Required if attachments are added for workflow tasks
<Location /ADFAttachmentHelper>
SetHandler weblogic-handler
WebLogicCluster host1:port1,host2:port2
</Location>
# SOA composer application
<Location /soa/composer>
SetHandler weblogic-handler
WebLogicCluster host1:port1,host2:port2
</Location>
# BPM composer (ONLY FOR BPM Systems)

```

```
<Location /bpm/composer >
SetHandler weblogic-handler
WebLogicCluster host1:port1,host2:port2
</Location>
# BPM workspace (ONLY FOR BPM Systems)
<Location /bpm/workspace >
SetHandler weblogic-handler
WebLogicCluster host1:port1,host2:port2
</Location>
<Location /StoreFrontServiceHooks>
SetHandler weblogic-handler
WebLogicCluster host1:port1,host2:port2
WLLogFile /tmp/web_log.log
</Location>
<Location /StoreFrontService>
SetHandler weblogic-handler
WebLogicCluster host1:port1,host2:port2
WLLogFile /tmp/web_log.log
</Location>
<Location /StoreFrontModule>
SetHandler weblogic-handler
WebLogicCluster host1:port1,host2:port2
WLLogFile /tmp/web_log.log
</Location>
<Location /sce >
SetHandler weblogic-handler
WebLogicCluster host1:port1,host2:port2
</Location>
<Location /AIAValidationSystemServlet>
SetHandler weblogic-handler
WebLogicCluster host1:port1,host2:port2
</Location>
<Location /CustomerHub-matchfetch-context-root>
SetHandler weblogic-handler
WebLogicCluster host1:port1,host2:port2
WLLogFile /tmp/web_log.log
</Location>
<Location /bea_wls_internal>
SetHandler weblogic-handler
WebLogicCluster host1:port1,host2:port2
WLLogFile /tmp/web_log.log
</Location>
<Location /MirrorServlet>
SetHandler weblogic-handler
WebLogicCluster host1:port1,host2:port2
</Location>
<Location /ws_utc >
SetHandler weblogic-handler
WebLogicCluster host1:port1,host2:port2
</Location>
```

where *host1:port1* and *host2:port2* are the managed servers in your Oracle Service Oriented Architecture (SOA) cluster and the ports on which they listen. Include all the managed servers in your SOA cluster in a comma-separated list.

4. Save and close the file.

Disabling Web Services Endpoint Failover

To disable the WebLogic Server Web Services Endpoint Failover feature:

1. Log in to Oracle Enterprise Manager Fusion Middleware Control.
2. In the Target Navigation pane, expand the **SOA** folder, then right click **soa-infra**.
3. Select **SOA Administration**, and then select **Common Properties**.
4. At the bottom of the page, click **More SOA Infra Advanced Configuration Properties**.
5. On the **Attributes** tab, select **WebservicesEndpointFailoverEnabled**.
6. From the **Value** menu, select **false**.
7. Click **Apply**.

Configuring the WebLogic Servers

To configure your WebLogic servers for Oracle AIA in a clustered environment:

1. Log in to the WebLogic Server Administration Console.
2. In the Domain Structure pane, expand **Environment** and click **Servers**.
3. Do the following for the administration server and each managed server in the domain:
 - a. In the Servers table, select the server name.
 - b. Select the **Protocols** tab.
 - c. Select the **HTTP** tab.
 - d. Select the **Enable Tunneling** option.
 - e. Click **Save**.
4. Restart the administration server and all managed servers.
5. For pre-built integration options that include OSM, if your OSM Customer Order Management system is clustered, do the following:
 - a. In the Domain Structure pane, expand **Services**, then **Messaging**.
 - b. Select **JMS Modules**.
 - c. In the JMS Modules table, select **AIAJMSModule**.
 - d. In the Summary of Resources table, select the **OSM** link with the SAF Remote Context type.
 - e. In the URL field, add all OSM clustered nodes.
For example:
`t3://osm1.example.com:7070,osm2.example.com:8070`
 - f. Click **Save**.
6. For pre-built integration options that include OSM, if your OSM Service Order Management system is clustered, do the following:
 - a. In the Domain Structure pane, expand **Services**, then **Messaging**.
 - b. Select **JMS Modules**.
 - c. In the JMS Modules table, select **AIAJMSModule**.
 - d. In the Summary of Resources table, select the **SOM** link with the SAF Remote Context type.

- e. In the URL field, add all OSM clustered nodes.

For example:

```
t3://osm1.example.com:7070,osm2.example.com:8070
```

- f. Click **Save**.
7. Restart the cluster.

Checking the Node Manager and SOA Server Status

Before installing Oracle AIA, check that Node Manager and your SOA server are configured and running.

To check that Node Manager is running:

1. Log in to the WebLogic Server Administration Console.
2. In the Domain Structure panel, expand **Environment** and click **Machines**.
3. For each machine in the Machines table, do the following:
 - a. Select the machine name.
 - b. Select the **Monitoring** tab.
 - c. Check that the Status row says **Reachable**.

If Node Manager is not reachable, check that it is properly configured and start it as described in *Oracle Fusion Middleware Administering Node Manager for Oracle WebLogic Server*.

To check that your SOA server is running,

1. Log in to the WebLogic Server Administration Console.
2. In the Domain Structure panel, select the name of your domain.
3. Select the **Monitoring** tab.
4. In the Health Information table, confirm that the state of your SOA server is **RUNNING**.

If the SOA server is not running, start it as described in the discussion of using Node Manager to start a managed server in *Oracle Fusion Middleware Administering Node Manager for Oracle WebLogic Server*. Always start your SOA server using Node Manager.

Installing Oracle AIA

This chapter describes how to install Oracle Communications Application Integration Architecture (Oracle AIA) pre-built integrations.

About Installing Oracle AIA

You can install Oracle AIA in two ways:

- Active install: Install Oracle AIA by using the Oracle AIA Installer. See "[Installing Oracle AIA by Using Interactive Install](#)".
- Silent install: Install Oracle AIA based on a response file generated by an active install. See "[Installing Oracle AIA by Using Silent Install](#)".

Installation Assumptions

The instructions in this chapter assume the following:

- That you have installed and configured all prerequisite software. See "[Oracle AIA System Requirements](#)".
- That you have gathered all required information. See "[Information Requirements](#)".
- That you have performed all required pre-installation tasks. See "[Oracle AIA Pre-Installation Tasks](#)".

Installing Oracle AIA by Using Interactive Install

To install Oracle AIA:

1. Download the Oracle AIA software media pack from the Oracle software delivery Web site, located at:
<http://edelivery.oracle.com>
2. Unzip the software media pack to a temporary directory and navigate to that directory.
3. Ensure that your JAVA_HOME environment variable is set to the location where you installed the Java Development Kit and added to the PATH variable.
4. Enter one of the following commands:
 - To run the Installer and save a response file for future silent installations:

```
java -jar comms_home_installer_generic.jar -record -destinationFile  
response_file
```

where *response_file* is the name of the response file, including the complete path to the directory where you want to store the response file.

Note: The response file is saved only after you click **Install** or **Cancel** on the Installation Summary screen. If you cancel the installation earlier, none of the information entered is saved.

- To run the Installer without saving a response file:

```
java -jar comms_home_installer_generic.jar
```

The Welcome screen of the Oracle AIA Installer appears.

5. Review the components that will be installed and click **Next**.

The Installation Inventory screen appears.

6. In the Inventory Directory field, do one of the following:

- On UNIX, enter or browse to the directory for your Oracle Central Inventory.
- On Windows, verify the automatically populated directory.

7. From the Operating System Group menu, select the system group and click **Next**.

The Choose Installation Directory screen appears.

8. In the **Choose Installation Directory** field, enter or browse to the directory in which you want to install Oracle AIA and click **Next**.

The Languages Selection screen appears.

9. Select languages from the Available list and move them to the Selected list by clicking the right arrow.

10. Click **Next**.

The Java Home Location screen appears.

11. In the **Java Home** field, enter or browse to the directory where the Oracle Java Development Kit (JDK) is installed and click **Next**.

The Installation Summary screen appears.

12. Review the installation summary.

13. (Optional) To change any of the information shown on the summary screen:

- a. Select any screen from the navigation panel.
- b. Edit the information.
- c. Select the Installation Summary screen from the navigation panel.

14. Do one of the following:

- To cancel the active installation, click **Cancel**.

The Installer closes.

- To complete the active installation:

- a. Click **Install**.

The Installation Progress screen appears.

- b. Wait for the progress bar to reach 100% and click **Next**.

The Installation Complete screen appears.

- c. Review the information.
- d. Click **Finish**.

The Installer closes and the installation is complete.

- e. Review the installation log file and resolve any errors that appear. The log is located in the *Install_home/comms_home/logs* directory.
- f. Verify that the following directories were created in the installation home directory:

comms_home

custom

inventory

OPatch

oracle_common

oraInst.loc

oui

- g. Prepare the SOA domain as described in ["Preparing the SOA Domain"](#).
- h. Configure and deploy the pre-built integrations that you will use as described in ["Configuring and Deploying Pre-Built Integrations"](#).

If you used the **-record** option when running the Installer, the values you entered are saved in the response file whether you click **Cancel** or **Install** on the Installation Summary screen. See ["Installing Oracle AIA by Using Silent Install"](#) for information about using this response file for silent installation.

Installing Oracle AIA by Using Silent Install

You can perform a silent installation using a response file with values recorded by the Oracle AIA Installer.

To perform a silent installation:

1. Generate the response file by performing an interactive installation and using the **-record** option as described in ["Installing Oracle AIA by Using Interactive Install"](#).
2. In the command line, navigate to the directory where you unzipped the software media pack.
3. Enter the following command:

```
java -jar comms_home_installer_generic.jar -silent -responseFile response_file
```

A message showing installation progress appears. A success message is displayed when installation is complete.

4. Review the installation log file and resolve any errors that appear. The log is located in the *Install_home/comms_home/logs* directory.
5. Verify that the following directories were created in the installation home directory:
 - **comms_home**
 - **custom**

- **inventory**
 - **OPatch**
 - **oracle_common**
 - **oraInst.loc**
 - **oui**
6. Prepare the SOA domain as described in ["Preparing the SOA Domain"](#).
 7. Configure and deploy the pre-built integrations that you will use as described in ["Configuring and Deploying Pre-Built Integrations"](#).

Preparing the SOA Domain

After installing Oracle AIA, you must prepare the SOA domain by copying domain configuration files and by updating the domain.

Copying Domain Configuration Files

To copy the domain configuration files:

1. On the system where you installed Oracle AIA, navigate to the following directory:
Comms_home/comms_home/src/SCEApp
2. Do one of the following:
 - On UNIX, in the command line, run the following command:
`SCEApp.sh`

When prompted, enter the path to the SOA home directory.
The script copies the domain configuration files to the appropriate directories.
 - On Windows:
 - a. Copy the files in [Table 4–1](#) from *Comms_home/comms_home/src/SCEApp* to the directories specified in the table.

Table 4–1 Domain Configuration Files and Their Destination Directories

File	Destination Directory
aiafp.zip	<i>Oracle_home/soa</i>
classes.zip	<i>Oracle_home/soa/soa/modules/oracle.soa.ext_11.1.1</i>
oracle.soa.fp_template.jar	<i>Oracle_home/soa/common/templates/wls</i>

In a clustered environment, copy the files from their directories on the administration server to the corresponding directories on each managed server.

- b. Unzip **aiafp.zip** and **classes.zip**.

In a clustered environment, unzip the files on the administration server and each managed server.

Updating the Domain

To update the domain:

1. Update the domain as described in *Oracle Fusion Middleware Creating WebLogic Domains Using the Configuration Wizard*. On the Templates screen:
 - a. Select the **Update Domain Using Custom Template** option.
 - b. Browse to the following directory:
`Oracle_home/soa/common/templates/wls`
 - c. Select the **oracle.soa.fp_template.jar** custom template.
 - d. Click **Next**.
 - e. Complete the domain update as described in the Fusion Middleware documentation.
2. Verify that the domain was updated successfully:
 - a. Start all servers in the SOA domain.
 - b. Log in to Oracle Enterprise Manager Fusion Middleware Control.
 - c. From the **Target Navigation** tree, expand SOA, then the SOA infrastructure element, then the SOA partition element.
A list of composites deployed on the SOA partition appears.
 - d. Verify that the following composites appear:
 - AIAAsyncErrorHandlingBPELProcess
 - Reload Process

Configuring and Deploying Pre-Built Integrations

This chapter discusses how to configure and deploy the Oracle Application Integration Architecture (Oracle AIA) pre-built integrations.

Before performing the procedures in this chapter, ensure that you have completed the procedures in ["Oracle AIA Pre-Installation Tasks"](#) and ["Installing Oracle AIA"](#).

About Configuring Pre-Built Integrations

You can use either of the following configuration types to configure pre-built integrations:

- Active configuration: Configure pre-built integration options by using in the Oracle AIA Configuration Wizard.
- Passive configuration: Configure pre-built integration options by using a response file generated by an active configuration.

You can configure the following Oracle Communications pre-built integration options:

- Order to Cash options for:
 - Oracle Communications Billing and Revenue Management (BRM)
 - Oracle Communications Order and Service Management (OSM)
 - Oracle Siebel CRM
- Agent-Assisted Billing Care
- Product Master Data Management Base and options for:
 - Siebel CRM
 - BRM
 - Oracle Communications Pricing Design Center (PDC)
 - Oracle Communications Design Studio

Using an active configuration, you can configure multiple pre-built integration options at the same time or you can run the Configuration Wizard multiple times to configure one pre-built integration option at a time. If you configure multiple options at the same time, the Configuration Wizard asks for information that is common among the options only once.

For example, if you configure the Agent-Assisted Billing Care option and the Order to Cash option for Siebel CRM, the Configuration Wizard asks for Siebel CRM information only once.

See "[Information Requirements](#)" for details about the information required by the Configuration Wizard.

If you are configuring a new option on a system that already has another option deployed and the new option has information in common with the existing option, the Configuration Wizard automatically populates the existing information in the screens for the existing option. You can optionally change this information and the Configuration Wizard updates the configuration properties file with the new information.

For example, if you have already configured the Agent-Assisted Billing Care option and are now configuring the Order to Cash option for Siebel CRM, the Configuration Wizard automatically populates the existing information about Siebel CRM.

Configuring Pre-Built Integrations by Using Active Configuration

This procedure describes the screens displayed for all of the pre-built integration options. You can choose to configure one or more of the options. Depending on which options you choose to configure, you may not see all of the screens described in this procedure.

To configure pre-built integrations by using an active configuration:

1. In the command line, navigate to the following directory:

```
domain_home/soa/aia/bin
```

2. Run one of the following commands:

- On UNIX:

```
source aiaenv.sh
```

- On Windows:

```
source aiaenv.bat
```

3. Navigate to the following directory:

```
Comms_home/config
```

The *Comms_home* directory and its contents were created when you ran the Oracle AIA Installer.

4. As a non-root user, do one of the following:

- To run the Configuration Wizard and save a response file for silent configurations, enter one of the following commands:

- On UNIX:

```
sh run_config.sh -record -responseFile=response_file
```

- On Windows:

```
run_config.bat -record -responseFile=response_file
```

where *response_file* is the name of the response file, including the complete path to the directory where you want to store the response file.

For example:

Comms_home/config/ConfigSilentResponse.rsp

Note: The response file is saved only after you click **Configure** or **Cancel** on the Configuration Summary screen. If you cancel the configuration earlier, none of the information entered is saved.

- To run the Configuration Wizard without saving a response file, enter one of the following commands:

- On UNIX:

```
sh run_config.sh
```

- On Windows:

```
run_config.bat
```

The Welcome screen of the Configuration Wizard appears.

5. Review the components that can be configured and click **Next**.

The PIPs Selection screen appears.

6. Select the pre-built integration options that you want to configure and click **Next**.

The WebLogic Details screen appears.

7. Verify the automatically-populated values, enter the missing details, and click **Next**.

The SOA Database Details screen appears.

8. Enter the SOA Database connection information and click **Next**.

9. Do one of the following:

- If you did not select the Order to Cash for Siebel CRM, Product Master Data Management for Siebel CRM, or Agent Assisted Billing Care pre-built integration option, skip this step.
- If you selected the Order to Cash for Siebel CRM, Product Master Data Management for Siebel CRM, or Agent Assisted Billing Care pre-built integration option, the Siebel Server Details screen appears. Do the following:

- a. Enter the details for your Siebel CRM server and click **Next**.

The Siebel Database Details screen appears.

- b. Enter the details for your Siebel CRM database and click **Next**.

The SPM Details screen appears.

- c. (Optional) Enter the Session Pool Manager details.

- d. Click **Next**.

10. Do one of the following:

- If you did not select the Order to Cash for OSM pre-built integration option, skip this step.
- If you selected the Order to Cash for OSM pre-built integration option, the OSM Details screen appears.

Enter the OSM details and click **Next**.

11. Do one of the following:

- If you did not select the Order to Cash for BRM, Product Master Data Management for BRM, or Agent Assisted Billing Care pre-built integration option, skip this step.
- If you selected the Order to Cash for BRM, Product Master Data Management for BRM, or Agent Assisted Billing Care pre-built integration option, the BRM Details screen appears.

a. Enter the BRM details.

b. If you selected the Product Master Data Management for BRM pre-built integration option and are using Oracle Communications Pricing Design Center (PDC), select the **Configure PDC** option.

If you did not select the Product Master Data Management for BRM pre-built integration option, selecting **Configure PDC** has no effect.

c. Click **Next**.

12. Do one of the following:

- If you did not select the Agent Assisted Billing Care pre-built integration option, skip this step.
- If you selected the Agent Assisted Billing Care pre-built integration option, the ODI Access Details screen appears. Do the following:

a. Enter the ODI details and click **Next**.

The ODI Master Repository Details screen appears.

b. Enter the ODI master repository details and click **Next**.

The ODI Work Repository Details screen appears.

c. Enter the ODI work repository details and click **Next**.

13. Do one of the following:

- If you did not select the Product Master Data Management base pack or Design Studio pre-built integration option, skip this step.
- If you selected the Product Master Data Management base pack or Design Studio pre-built integration option, the Product Hub Server Details screen appears. Do the following:

a. Enter the Product Hub server details and click **Next**.

The Product Hub Database Details screen appears.

b. Enter the Product Hub database details and click **Next**.

14. Do one of the following:

- If you did not select the Product Master Data Management for BRM pre-built integration option, skip this step.
- If you selected the Product Master Data Management for BRM pre-built integration option and selected the **Configure PDC** option on the BRM details screen, the Communications PDC Details screen appears.

Enter the PDC details and click **Next**.

15. For a first-time configuration, on the Xref Schema Creation Details screen, enter the cross-reference schema details.

16. (Optional) Select `Enable XREF split utility`.

To maintain performance levels when looking up values in large cross reference tables, Oracle recommends selecting this option to split the cross reference tables into multiple tables, with one table for each cross-reference object.

17. Click `Next`.

The Configuration Summary screen appears.

18. Review the log file location and do one of the following:

- To cancel the active configuration, click **Cancel**.

The Configuration Wizard closes.

- To complete the active configuration:

a. Click `Configure`.

The Configuration Progress screen appears, showing the progress and any warnings or errors.

If the configuration fails, the Configuration Progress screen shows the errors. Correct the errors and retry the configuration.

- b.** Configuration succeeds when the progress bar reaches 100% without any errors. Click **Next**.

The Configuration Complete screen appears.

- c.** Review the log file location and click **Finish**.

The Configuration Wizard closes. Configuration is complete.

- d.** Review the configuration log files and resolve any errors that appear. The logs are located in the *Comms_home/logs* directory.

- e.** Deploy the pre-built integrations that you have configured, as described in ["Deploying Pre-Built Integrations"](#).

If you used the **-record** option when running the Configuration Wizard, the values you entered are saved in the response file whether you click **Cancel** or **Configure** on the Configuration Summary screen. See ["Configuring Pre-Built Integrations by Using Silent Configuration"](#) for information about using this response file for silent configuration.

Configuring Pre-Built Integrations by Using Silent Configuration

You can perform a silent configuration to configure pre-built integration instances using the response file with values recorded from an active configuration.

To perform a silent configuration:

1. Generate the response file by performing an interactive configuration and using the **-record** option as described in ["Configuring Pre-Built Integrations by Using Active Configuration"](#).

2. Open the response file in a text editor.

The location of the response file was specified when the Configuration Wizard was run.

3. Check that each property has a corresponding value. Provide a value for any blank properties.

4. Search for password fields with the value <SECURE>.
5. Replace <SECURE> with the actual value of the passwords.
6. Save and close the file.
7. In the command line, navigate to the following directory:
domain_home/soa/aia/bin
8. Run one of the following commands:
 - On UNIX:
`source aiaenv.sh`
 - On Windows:
`source aiaenv.bat`
9. Navigate to the following directory:
Comms_home/config
10. Run one of the following commands:
 - On UNIX:
`sh run_config.sh -mode=silent -responseFile=response_file`
 - On Windows:
`run_config.bat -mode=silent -responseFile=response_file`

A message showing configuration progress appears. A success message is displayed when configuration is complete.
11. Review the configuration log files and resolve any errors that appear. The logs are located in the *Comms_home/logs* directory.
12. Verify that the following file exists:
 - On UNIX:
Install_home/comms_home/bin/commsenv.sh
 - On Windows:
Install_home\comms_home\bin\commsenv.bat
13. Deploy the pre-built integrations that you have configured, as described in ["Deploying Pre-Built Integrations"](#).

Deploying Pre-Built Integrations

After configuring the pre-built integrations, you must deploy them to the SOA server by using deployment scripts.

For the Order to Cash pre-built integration, the Configuration Wizard generates a master deployment script based on the options that you selected. The master script deploys all required options for a first-time deployment. To add a new option in a subsequent deployment, you run the individual deployment script for the new option.

For the other pre-built integrations, you must run the individual deployment script for all options that you want to deploy.

When you run the deployment scripts, the deployment plans and the **AIAInstallProperties.xml** file are passed as parameters to the Oracle AIA Install Driver. The driver retrieves required values from **AIAInstallProperties.xml** and deploys the pre-built integration to the server.

Pre-Deployment Tasks

Before deploying the Agent Assisted Billing Care pre-built integration, if your Oracle Data Integrator work repository is in Execution mode, you must edit the deployment plan.

To edit the deployment plan:

1. Open the following file:

*Install_home/comms_
home/pips/Communications/AABC/DeploymentPlans/AABCDP.xml*

2. Search for the following text:

```
<OdiImportObject
```

3. Comment out any development-related work repository Oracle Data Integrator artifacts from this section.

For example, in the following code, only the second path element is an execution time artifact. The first path element is a design-time artifact and has been commented out by including `!--` after the opening tag and `--` before the closing tag:

```
<OdiImportObject workrepname="${pips.AABC.odi.workrep.name}"
importmode="SYNONYM_INSERT_UPDATE" > <path id="${COMMS_
HOME}/services/industry/Communications/BulkDataProcess/BRMToSiebel/Collections/
ODI/Oracle/V1/ODI_Work_Repository" >

<!--pathelement location="${COMMS_
HOME}/services/industry/Communications/BulkDataProcess/BRMToSiebel/Collections/
ODI/Oracle/V1/ODI_Work_Repository/MFOL_CollectionsModelFolder.xml" /-->

<pathelement location="${COMMS_
HOME}/services/industry/Communications/BulkDataProcess/BRMToSiebel/Collections/
ODI/Oracle/V1/ODI_Work_Repository/SCEN_SYNCCOLLECTIONACTION_Version_001.xml" />
</path>
</OdiImportObject>
```

4. Save and close the file.

Deploying Pre-Built Integrations

To deploy the pre-built integration options:

1. Navigate to the following directory:

Install_home/comms_home/bin

2. Run one of the following commands:

- On UNIX:

```
source commsenv.sh
```

- On Windows:

```
source commsenv.bat
```

This command sources the **aiaenv** script and sets the COMMS_HOME environment variable to *Install_home/comms_home*.

3. Navigate to the following directory:

Install_home/comms_home/pips/Communications

4. For a first-time Order to Cash deployment, run one of the following commands:

- On UNIX:

`setup02C.sh`

- On Windows:

`setup02C.bat`

5. For all other pre-built integrations, or to add a new option to an existing Order to Cash deployment, run one of the commands listed in [Table 5-1](#).

For any Product Master Data Management pre-built integration options, you must always deploy the base option and the routing rules.

Table 5–1 Pre-Built Integration Deployment Commands

Pre-Built Integration	Platform	Command
Order to Cash	UNIX	<p>Order to Cash base:</p> <pre>sh \$COMMS_ HOME/pips/Communications/O2CBase/DeploymentPlans/deployO2CBase.sh</pre> <p>Order to Cash for Siebel CRM:</p> <pre>sh \$COMMS_ HOME/pips/Communications/O2CSiebel/DeploymentPlans/deployO2CSiebel. sh</pre> <p>Order to Cash for BRM:</p> <pre>sh \$COMMS_ HOME/pips/Communications/O2CBRM/DeploymentPlans/deployO2CBRM.sh</pre> <p>Order to Cash for OSM:</p> <pre>sh \$COMMS_ HOME/pips/Communications/O2COSM/DeploymentPlans/deployO2COSM.sh</pre>
Order to Cash	Windows	<p>Order to Cash base:</p> <pre>%COMMS_ HOME%\pips\Communications\O2CBase\DeploymentPlans\deployO2CBase.bat</pre> <p>Order to Cash for Siebel CRM:</p> <pre>%COMMS_ HOME%\pips\Communications\O2CSiebel\DeploymentPlans\deployO2CSiebel .bat</pre> <p>Order to Cash for BRM:</p> <pre>%COMMS_ HOME%\pips\Communications\O2CBRM\DeploymentPlans\deployO2CBRM.bat</pre> <p>Order to Cash for OSM:</p> <pre>%COMMS_ HOME%\pips\Communications\O2COSM\DeploymentPlans\deployO2COSM.bat</pre>
Agent Assisted Billing Care	UNIX	<pre>sh \$COMMS_ HOME/pips/Communications/AABC/DeploymentPlans/deployAABC.sh</pre>

Table 5–1 (Cont.) Pre-Built Integration Deployment Commands

Pre-Built Integration	Platform	Command
Agent Assisted Billing Care	Windows	%COMMS_HOME%\pips\Communications\AABC\DeploymentPlans\deployAABC.bat
Product Master Data Management	UNIX	<p>Product Master Data Management Base:</p> <pre>sh \$COMMS_HOME/pips/MDMProductPIM/DeploymentPlans/deployPIM.sh</pre> <p>Product Master Data Management for Siebel CRM:</p> <pre>sh \$COMMS_HOME/pips/MDMProductSiebel/DeploymentPlans/deploySiebel.sh</pre> <p>Product Master Data Management for BRM:</p> <pre>sh \$COMMS_HOME/pips/MDMProductBRM/DeploymentPlans/deployMDMProductBRM.sh</pre> <p>Product Master Data Management for Pricing Design Center:</p> <pre>sh \$COMMS_HOME/pips/MDMProductPDC/DeploymentPlans/deployMDMProductPDC.sh</pre> <p>Product Master Data Management for Design Studio:</p> <pre>sh \$COMMS_HOME/pips/MDMProductPIM/DeploymentPlans/deployDS.sh</pre> <p>Product Master Data Management Routing Rules:</p> <pre>sh \$COMMS_HOME/pips/MDMProduct/DeploymentPlans/deployEBS.sh</pre>
Product Master Data Management	Windows	<p>Product Master Data Management Base:</p> <pre>%COMMS_HOME%\pips\MDMProductPIM\DeploymentPlans\deployPIM.bat</pre> <p>Product Master Data Management for Siebel CRM:</p> <pre>%COMMS_HOME%\pips\MDMProductSiebel\DeploymentPlans\deploySiebel.bat</pre> <p>Product Master Data Management for BRM:</p> <pre>%COMMS_HOME%\pips\MDMProductBRM\DeploymentPlans\deployMDMProductBRM.bat</pre> <p>Product Master Data Management for Pricing Design Center:</p> <pre>%COMMS_HOME%\pips\MDMProductPDC\DeploymentPlans\deployMDMProductPDC.bat</pre> <p>Product Master Data Management for Design Studio:</p> <pre>%COMMS_HOME%\pips\MDMProductDS\DeploymentPlans\deployDS.bat</pre> <p>Product Master Data Management Routing Rules:</p> <pre>%COMMS_HOME%\pips\MDMProduct\DeploymentPlans\deployEBS.bat</pre>

A message showing deployment progress appears. When prompted, provide the WebLogic Server administrator user name and password.

A success message is displayed when deployment is complete.

- Review the deployment log files and resolve any errors that appear.

The deployment log files are located in one of the following locations:

- The log file specific to the pre-built integration option that you deployed:
`Install_home/comms_home/logs`
- The default location:
`domain_home/soa/aia/logs`

Troubleshooting Configuration and Deployment

This section describes errors you might encounter during pre-built integration deployment.

Unique Constraint Violation for Agent Assisted Billing Care

The following error message appears in the deployment log file if the ODI data source already exists in the ODI master repository:

```
[echo] - Importing CONN_zzzzz.xml
[exec] OracleDI: Starting Command: OdiImportObject -FILE_NAME=<AIA_
HOME>/PIPS/Industry/Communications/DIS/Collections/src/master/CONN_zzzzz.xml
-IMPORT_MODE=SYNONYM_INSERT_UPDATE ...
[exec] java.sql.SQLException: ORA-00001: unique constraint (SNPM.PK_MTXT) violated
```

where `zzzzz` is the name provided for the Oracle Data Integrator data source.

This error occurs when pre-built integrations are reinstalled.

This error does not stop configuration. The Configuration Wizard imports the remaining ODI integration artifacts.

After configuration is complete, verify that the data source connections and associated logical schemas in the ODI topology are accurate.

Deployment Error for Metadata Service Tablespace

The Oracle AIA deployment scripts load data to the Oracle Metadata Service (MDS) repository. When you deploy multiple Oracle AIA instances on the same server, the default tablespace may not be sufficient, and you may see the following error:

```
Unable to extend tablespace
```

To resolve this error, increase the size of the tablespace. See *Oracle Database Administrator's Guide* for information about increasing the size of a tablespace.

If you have cleared a large amount of data from a data object but still see this error, run the following command:

```
ALTER TABLE table_name SHRINK SPACE
```

where `table_name` is the name of the MDS repository table. See *Oracle Database Administrator's Guide* for more information about the **ALTER TABLE** command.

See *Oracle Fusion Middleware Administrator's Guide* for more information about managing the MDS repository.

Oracle AIA Post-Installation Tasks

This chapter describes tasks to perform after installing, configuring, and deploying Oracle Application Integration Architecture (Oracle AIA) pre-built integrations.

Overview of Oracle AIA Post-Installation Tasks

After installing Oracle AIA and configuring and deploying the pre-built integrations, you must perform different post-installation tasks depending on the pre-built integrations that you deployed.

Some tasks are required for more than one pre-built integration. [Table 6–1](#) lists the tasks required for each pre-built integration.

Table 6–1 *Post-Installation Tasks for Pre-Built Integrations*

Pre-Built Integration	Post-Installation Tasks
Order to Cash	Post-Installation Tasks for All Pre-Built Integrations If you are using Siebel CRM: <ul style="list-style-type: none"> ▪ Configuring Siebel CRM ▪ Enabling UTC Date Format in Siebel CRM ▪ Configuring Session Pool Manager Order to Cash Post-Installation Tasks
Agent Assisted Billing Care	Post-Installation Tasks for All Pre-Built Integrations Configuring Siebel CRM Enabling UTC Date Format in Siebel CRM Configuring Session Pool Manager Agent Assisted Billing Care Post-Installation Tasks If Agent Assisted Billing Care is co-deployed with Order to Cash: <ul style="list-style-type: none"> ▪ Configuring Routing Rules for Co-Deployed Pre-Built Integrations
Product Master Data Management	Post-Installation Tasks for All Pre-Built Integrations Configuring Session Pool Manager Configuring Routing Rules for Co-Deployed Pre-Built Integrations Product Master Data Management Post-Installation Tasks

The tasks described in "[Development Post-Installation Tasks](#)" are not required immediately after installation, but you may need to perform them while customizing your deployment and environment.

Post-Installation Tasks for All Pre-Built Integrations

The post-installation tasks described in this section are required for all pre-built integrations.

Importing Oracle AIA Libraries into Oracle JDeveloper

Before you can use JDeveloper to customize Oracle AIA content, you must import the Oracle AIA XPath functions into the JDeveloper library.

To import the Oracle AIA XPath functions:

1. Open JDeveloper.
2. From the **Tools** menu, select **Preferences**.
The Preferences screen appears.
3. Select the **SOA** node.
The SOA Expression Builder appears.
4. Click **Add**.
5. Select the `MW_home/soa/aiafp/lib/aia.jar` file and click **Open**.
The Oracle AIA library, including the Oracle AIA XPath functions, are added.
6. Save and close the file.

To customize Oracle AIA processes:

1. Copy the Oracle AIA composites and `.jpr` project files from `Comms_home` to the JDeveloper workspace.
2. Modify the composites as required for your environment.
3. Deploy the composites from the JDeveloper context menu.
4. Review your changes and copy the contents back to the Oracle AIA home directory in the same folder where you copied it from.

This ensures that the modified code is made available to subsequent deployments in other environments.

For information about developing and deploying applications using JDeveloper, see *Oracle Fusion Middleware Developing Applications with Oracle JDeveloper*.

Note: If you are maintaining source control for `Comms_home` contents, you must check the composites in to version control after copying them over to the `Comms_home` directory.

Setting Up Oracle AIA Users and Groups in Oracle WebLogic Server

To set up Oracle AIA users and groups in Oracle WebLogic Server:

1. Log in to the WebLogic Server Administration Console.
2. Create an **AIAApplicationUser** group.

Users in this group can access the Composite Application Validation System (CAVS). This group corresponds to a role in JDeveloper.

3. Add the **AIAApplicationUser** group to the **Administrators**.
4. Create and add users as needed to the newly-created group.
5. Create an **AIAIntegrationAdmin** user.

This user is for configuring email notification for Oracle AIA errors.

See the WebLogic Server Administration Console help for information about creating groups, adding groups to other groups, creating users, and adding users to groups.

Suppressing Auto-Retry and Preventing Multiple Error Notifications and Trouble Tickets

To suppress auto-retry and prevent multiple error notifications and trouble tickets:

1. Log in to the Oracle Enterprise Manager Fusion Middleware Control.
2. In the Target Navigation pane, expand the SOA folder.
3. Right-click **soa_infra**.
4. Select **SOA Administration**, then select **Common Properties**.
5. Click **More SOA Infra Advanced Configuration Properties**.
6. Search for the **GlobalTxMaxRetry** property and set the value to 0 (zero).
7. Click **Apply**.
8. In the Target Navigation pane, right-click **soa_infra**.
9. Select **Administration**, then select **System Mbean Browser**.
10. Expand **oracle.as.soainfra.config**, then expand the SOA managed server, then expand **AdapterConfig**.
11. Select **Adapter**.
12. Search for the **GlobalInboundJcaRetryCount** property and set the value to 0 (zero).
13. Click **Apply**.
14. In the Target Navigation pane, right-click **soa_infra**.
15. Select **SOA Administration**, then select **Common Properties**.
16. From the Audit Level list, select **Production**.
17. Click **Apply**.
18. Stop and Start the SOA server and the administration server as described in the discussion of controlling server state in *Oracle Fusion Middleware Administering Oracle WebLogic Server with Fusion Middleware Control*.

Configuring Email Error Notification

Configuring email notification for Oracle AIA involves the following tasks:

1. [Updating SOA Workflow Properties and Messaging Driver](#)
2. [Creating the SOA User Messaging Preferences Oracle AIA User and Email Channel](#)
3. [Updating Oracle AIA Configuration Properties](#)

Updating SOA Workflow Properties and Messaging Driver

To update the SOA workflow properties and messaging driver:

1. Log in to the Oracle Enterprise Manager Fusion Middleware Control.
2. In the Target Navigation pane, expand the SOA folder.
3. Right-click **soa_infra**.
4. Select **SOA Administration**, then select **Workflow Properties**.
5. From the **Notification Mode** menu, select **Email**.
6. In the **Email: FromAddress** field, do one of the following:
 - To use the default Oracle AIA sender address, enter **AiaAdmin@server.com**.
 - Enter a custom address.

Note: If you enter a custom address, you must use the same custom address for the messaging driver as described below and update the value of the FROM.EMAIL.ID property in the **AIAConfigurationProperties.xml** file to the same custom address as described in ["Updating Oracle AIA Configuration Properties"](#).

7. Click **Apply**.
8. Click the **Go to the Messaging Driver page** link.
9. In the Associated Drivers region, in the row for the User Messaging Email Driver driver type, click the pencil icon in the Configure Driver column.

The Email Driver Properties page appears.

10. Click **Create**.
11. Do one of the following:
 - To use the default sender address (**AiaAdmin@server.com**), select the **Use Sender Address** option and leave the Sender Address field blank.
 - To use a custom sender address, select the **Use Sender Address** option and enter the same sender address as you entered in the Workflow Properties **Email: FromAddress** field.

Note: If you use a custom address, you must also update the value of the FROM.EMAIL.ID property in the **AIAConfigurationProperties.xml** file to the custom address as described in ["Updating Oracle AIA Configuration Properties"](#).

12. Enter the required information for your environment, including outgoing mail server, port, and user credentials.

See the Enterprise Manager Fusion Middleware Control Help or the discussion of configuring Oracle User Messaging Service in *Oracle Fusion Middleware Administrator's Guide for Oracle SOA Suite and Oracle Business Process Management Suite* for more information about the fields on this page.

13. In the Target Navigation pane, expand the User Messaging Service folder.

14. Restart the **usermessagingdriver-email** and **usermessagingserver** elements as follows:
 - a. Right click the element and select **Control**, then select **Shut Down**.
A confirmation window appears.
 - b. Click **Shutdown**.
 - c. Right click the element and select **Control**, then select **Start Up**.
15. Create the SOA User Messaging Preferences user and email channel as described in ["Creating the SOA User Messaging Preferences Oracle AIA User and Email Channel"](#).

Creating the SOA User Messaging Preferences Oracle AIA User and Email Channel

To create the SOA User Messaging Preferences user and email channel:

1. As the AIAIntegrationAdmin user, log in to the SOA User Messaging Preferences console at the following location:
`http://SOA_host:SOA_port/sdpmessaging/userprefs-ui`
2. Create an email channel for the user who will receive Oracle AIA email notifications and make it the default. Use **AIAIntegrationAdmin** as the name.
See Oracle Fusion Middleware Developer's Guide for Oracle SOA Suite for more information about creating a channel.
3. Update the Oracle AIA configuration properties as described in ["Updating Oracle AIA Configuration Properties"](#).

Updating Oracle AIA Configuration Properties

To update the Oracle AIA configuration properties for error notifications:

1. Download the **AIAConfigurationProperties.xml** file from the Oracle Metadata Services (MDS) repository, as described in ["Downloading Files from the MDS Repository"](#).
2. In the module configuration element for the ErrorHandler module, search for the following:
`<Property name="EH.INVOKE.NOTIFY">`
3. Set the value of the property to **true**. For example:
`<Property name="EH.INVOKE.NOTIFY">true</Property>`
4. If you used a custom sender address, do the following:
 - a. In the module configuration element for the ErrorHandler module, search for the following:
`<Property name="FROM.EMAIL.ID">`
 - b. Change the value of the property from **Email:AiaAdmin@server.com** to the custom sender address you used in Fusion Middleware Control, prefixed by **Email:**. For example:
`<Property name="FROM.EMAIL.ID">Email:youremail@yoursite.com</Property>`
5. Save and close the file.

6. Upload the changed **AIAConfigurationProperties.xml** file to the MDS repository as described in ["Uploading Changed Files to the MDS Repository"](#).

Reapplying Backed Up Customizations

If you are reinstalling Oracle AIA, applying patches, or adding new pre-built integration options to an existing Oracle AIA deployment, you must reapply any backed up customizations with the new ready-to-use Oracle AIA objects.

Reapply any of the following customizations that you have backed up:

- Extensible style sheet language transformations (XSLTs): Reapply any XSLTs that you have developed for custom integrations.
- Enterprise Business Services (EBS) Web Service Definition Language (WSDL): Merge any EBS WSDL changes with the new ready-to-use EBS WSDLs.
- Routing rules: Merge any EBS to which you added new routing rules with the new ready-to-use EBS.
- The **AIAConfigurationProperties.xml** file: Add any custom additions and change any properties in the new ready-to-use file to match the backed up file and upload it to the MDS repository.

AIAConfigurationProperties.xml is located in the following directory:

`Comms_home/source/soainfra/apps/config`

Post-Installation Tasks for Multiple Pre-Built Integrations

The post-installation tasks described in this section are required for some pre-built integrations. See [Table 6-1](#) for information about which tasks are required for which pre-built integrations.

Configuring Siebel CRM

You must configure Siebel CRM for the following pre-built integrations:

- Order to Cash for Siebel CRM
- Agent Assisted Billing Care

Configure Siebel CRM as described in the discussion of configuring communications, Order to Cash, and Master Data Management integration in *Siebel Communications Guide*.

This includes:

- Setting system preferences
- Setting up integration users
- Enabling component groups
- Activating workflows
- Configuring Oracle Advanced Queuing
- Configuring Oracle Fusion Middleware URLs
- Configuring Session Pool Manager
- Specific tasks for Order to Cash

Note: *Siebel Communications Guide* references to Master Data Management pertain to the Oracle Customer Master Data Management pre-built integration released on Fusion Middleware 11g. There is no 12c release of the Customer Master Data Management pre-built integration.

Enabling UTC Date Format in Siebel CRM

You must enable UTC date format in Siebel CRM for the following pre-built integrations:

- Order to Cash for Siebel CRM
- Agent Assisted Billing Care

You enable UTC date format by changing the value of the UTCCanonical process property to Y for workflows related to Oracle AIA. See the discussion of activating workflows for order to cash in *Siebel Communications Guide* for more information about changing this property, including the list of workflows for which it must be changed.

Configuring Session Pool Manager

You must configure the Session Pool Manager utility for all pre-built integrations that involve Siebel CRM.

For information about configuring Session Pool Manager, see *Oracle Communications Application Integration Architecture Utilities Guide*.

Configuring Routing Rules for Co-Deployed Pre-Built Integrations

Each pre-built integration is installed with its own set of routing rules for its enterprise business services.

The enterprise business services and their default routing rules are deployed when you deploy a single option, or any of the following combinations:

- The Agent-Assisted Billing Care option with any of the Order to Cash options
- The Product MDM base option with any of the other Product MDM options

When you deploy multiple other options, such as any of the Order to Cash options with any of the Product MDM options, the enterprise business services and routing rules used by only one option are deployed, but the enterprise business services and routing rules used by more than one option are not deployed. You must manually configure the routing rules as appropriate for your combination of options.

The installation log provides information about any enterprise business services for which you must manually configure routing rules. For example, the log includes:

```
EBM_name is already deployed. The routing rules for PIP option_name have not been
added. COMMS_HOME/pips/option_name/EBS contains Oracle Delivered EBS with routing
rules for this PIP.
```

In the example, *EBM_name* is the name of the enterprise business message, *option_name* is the name of the pre-built integration option, and PIP is a pre-built integration option.

For more information about using routing rules, see *Oracle Fusion Middleware Developer's Guide for Oracle SOA Core Extension* and *Oracle Fusion Middleware Developer's Guide for Oracle SOA Suite*.

Agent Assisted Billing Care Post-Installation Tasks

If you enabled multiple or split cross-reference tables when configuring the Agent Assisted Billing Care pre-built integration, you must create a view for the collections integration flow.

To create the view:

1. Navigate to the following directory:

Install_home/comms_home/bin

2. Run one of the following commands:

- On UNIX:

```
source commsenv.sh
```

- On Windows:

```
source commsenv.bat
```

This command sources the **aiaenv** script and sets the **COMMS_HOME** environment variable to *Install_home/comms_home*.

3. Navigate to the following directory:

Install_home/comms_home/pips/Communications/AABC/DeploymentPlans

4. Run one of the following commands:

- On UNIX:

```
createMultiTableXREFViewForCollections.sh
```

- On Windows:

```
ant -f %COMMS_HOME%\pips\Communications\AABC\DeploymentPlans\AABCDeploy.xml  
MultiTableXREFViewForCollections
```

5. Verify that the view was created in the log file. The following is the default log file:

*domain_home/soa/aia/logs/AABC-MultiTableXREFViewForCollections_Deployments_
timestamp.log*

where *timestamp* is the date and time that the log was created.

Order to Cash Post-Installation Tasks

This section describes the post-installation tasks for the Order to Cash pre-built integration.

Disabling Product Attribute Validation in OSM Order to Activate Cartridges

If you are using the Order to Cash for Siebel CRM pre-built integration option, you must disabled the **ENABLE_PRODUCT_ATTRIBUTE_VALIDATION** model variable in the OSM Order to Activate cartridges.

See the discussion of enabling or disabling product attribute validation in *Oracle Communications Order and Service Management Cartridge Guide for Oracle Application Integration Architecture* for information about disabling this model variable.

Adding the Singleton Property

For the Order to Cash for Siebel CRM, OSM, and BRM pre-built integration options, you must add the singleton property to the `ProcessFulfillmentOrderBillingAccountListOSMCFSCommsJMSConsumer` service.

To add the singleton property:

1. Log in to Oracle Enterprise Manager Fusion Middleware Control.
2. In the Target Navigation pane, expand the **SOA** folder, then **soa-infra**, then **default**.
3. Select the **ProcessFulfillmentOrderBillingAccountListOSMCFSCommsJMSConsumer** link.
4. From the SOA Composite menu, select **Services/Reference Properties**, then select the **Consume_PFOBAL** service.
5. Select the **Properties** tab.
6. Click **Add**.
7. Click **Search**.
The Property Names dialog appears.
8. Select **singleton**.
9. In the **Value** column, enter **true**.
10. Click **Apply**.

Supporting Message Priority

For all Order to Cash pre-built integration options, you must configure the Oracle AIA queues to support prioritizing messages based on JMS Priority.

To configure the Oracle AIA queues to support JMS Priority:

1. Log in to the Oracle Weblogic Server Administration Control.
2. In the domain structure panel, expand **Services**, then **Messaging**, then **JMS Modules**.
3. Select **AIAJMSModule**.
4. In the Summary of Resources table, click **New**.
The Create New JMS System Module Resource page appears.
5. From the list of JMS resources, select **Destination Sort Key**.
6. Click **Next**.
The Destination Key Properties page appears.
7. In the **Name** field, enter **AIA_SALESORDERJMSPRIORITY_KEY**.
8. Click **OK**.
9. Click **AIA_SALESORDERJMSPRIORITY_KEY** link.
10. From the **Sort Key** list, select **JMSPriority**.
11. From the **Key Type** list, select **Int**.
12. From the **Direction** list, select **Descending**.

13. Click **Save**.
14. In the domain structure panel, click **AIAJMSModule**.
15. For each of the following queues:
 - AIA_CRTBO_OUT_JMSQ
 - AIA_CRTCUST_OUT_JMSQ
 - AIA_CRTFO_OUT_JMSQ
 - AIA_FOPROV_OUT_JMSQDo the following:
 - a. Click the queue name.
 - b. From **Destination Keys** section, select **AIA_SALESORDERJMSPRIORITY_KEY**.
 - c. Click **Save**.

Updating the BRM Internal ID in the Oracle AIA Application Registry

For the Order to Cash for BRM pre-built integration option, update the BRM internal ID in the Oracle AIA Application Registry.

To update the BRM internal ID:

1. On the system where BRM is installed, navigate to the following folder:
`./portal/7.4/sys/eai_js`
2. Open the **payloadconfig_crm_sync.xml** file in a text editor.
3. Under the **ProductInfoChange** element, search for the following text:
`Attribute Tag="InstanceId" Value=`
4. Make note of the **InstanceId** value. For example:
`Attribute Tag="InstanceId" Value="Portal"`
5. In a web browser, navigate to the following page:
`http://host:port/sce/faces/sceHomeLogin.jpsx`
where *host* and *port* are the WebLogic Server host and port on which you deployed Oracle AIA.
6. In the Setup area, click **Go**.
7. Select the **Systems** tab.
8. In the **Internal Id** field, enter **BRM_01**.
9. Click **Search**.
10. In the table, change the value in the **Internal Id** column from **BRM_01** to the value that you noted for **InstanceId** in the **payloadconfig_crm_sync.xml** file.
11. Click **Save**.

Adding the No Authentication Security Policy to the Product Class Service

For the Order to Cash for OSM pre-built integration option, add the No Authentication security policy to either the `QueryProductClassAndAttributesSCECommsReqABCServiceImpl` or `QueryProductClassAndAttributesSCECommsReqABCServiceImplV2` service, depending on your version of OSM.

To add the security policy:

1. Log in to the Oracle Enterprise Manager Fusion Middleware Control.
2. In the Target Navigation pane, expand the **SOA** folder, then **soa-infra**, then **default**.
3. Do one of the following:
 - If you are using OSM 7.3 or later, select the `QueryProductClassAndAttributesSCECommsReqABCServiceImplV2` link.
 - If you are using an earlier version of OSM than 7.3, select the `QueryProductClassAndAttributesSCECommsReqABCServiceImpl` link.
4. In the **Services and References** region, do one of the following:
 - If you are using OSM 7.3 or later, select the `QueryProductClassAndAttributesSCECommsReqABCServiceImplV2` link.
 - If you are using an earlier version of OSM than 7.3, select the `QueryProductClassAndAttributesSCECommsReqABCServiceImpl` link.
5. Click the **Policies** tab.
6. In the **Directly Attached Policies** region, click **Attach/Detach**.
7. In the Available Policies table, select `oracle/no_authentication_service_policy`.
8. Click **Attach**.
9. Click **OK**.

The `oracle/no_authentication_service_policy` appears in the Directly Attached Policies table.

10. Restart the administration server and all managed servers.

Replacing the Test Orchestration Process with Your Order Management System

The Order to Cash pre-built integration includes a test orchestration process. You can run a sample order using the test orchestration process to test the integration between Siebel CRM and BRM if you are not using the Order to Cash for OSM pre-built integration option.

The test orchestration process cannot support a production system. After testing the integration, you must replace the test orchestration process with your order management system.

To replace the test orchestration process with your order management system:

1. Log on to Oracle Enterprise Manager Fusion Middleware Control.
2. In the Target Navigation pane, expand the **SOA** folder, then **soa-infra**, and then **default**.

3. For each of the following services: or the BillingResponseConsumer, CustomerResponseConsumer, OrderOrchestrationConsumer, and TestOrderOrchestrationEBF services:

- BillingResponseConsumer
- CustomerResponseConsumer
- OrderOrchestrationConsumer
- TestOrderOrchestrationEBF

Do the following:

- a. Right click the service name.
- b. Select **SOA Deployment** and then select **Undeploy**.

The Undeploy SOA Composite: Confirmation page appears.

- c. Review the information on the page and click **Undeploy**.

Processing messages are displayed. When undeployment is complete, the SOA Infrastructure Deployed Composites page appears with a message at the top confirming that the composite has been undeployed.

4. Configure your order management system to interact with Oracle AIA through the JMS queues described in [Table 6-2](#). You can see these queues in the WebLogic Server Administration Console under the AIAJMSModule in JMS Modules.

Table 6-2 Oracle AIA JMS Queues for Interactions with Custom Order Management Systems

JMS Queues	Description
jms/aia/AIA_CRTFO_IN_JMSQ	<p>This is the inbound queue from which your order management system picks up incoming sales orders from Siebel CRM.</p> <p>The sales order message is of type ProcessSalesOrderFulfillmentEBM and is wrapped into the SOAP envelope as follows:</p> <pre><tns:Envelope xmlns:tns="http://schemas.xmlsoap.org/soap/envelope/"> <tns:Body> <crtfo:CreateOrder xmlns:crtfo="http://xmlns.oracle.com/communications/ordermanagement"> <sord:ProcessSalesOrderFulfillmentEBM xmlns:sord="http://xmlns.oracle.com/EnterpriseObjects/Core/Custom/EB0/SalesOrder/V2"> ... </sord:ProcessSalesOrderFulfillmentEBM> </crtfo:CreateOrder> </tns:Body> </tns:Envelope></pre>
jms/aia/AIA_CRTCUST_OUT_JMSQ	<p>This is the outbound queue from your order management system for creating customers in BRM.</p> <p>The message must confirm to the ProcessFulfillmentOrderBillingAccountListEBM schema. Your order management system must wait for a response before continuing communication with BRM for the current order.</p>
jms/aia/AIA_UPDCUST_IN_JMSQ	<p>This is the response queue that corresponds to the jms/aia/AIA_CRTCUST_OUT_JMSQ queue. It contains the success response message from Oracle AIA in the ProcessFulfillmentOrderBillingAccountListResponseEBM schema.</p>

Table 6–2 (Cont.) Oracle AIA JMS Queues for Interactions with Custom Order Management Systems

JMS Queues	Description
jms/aia/AIA_CRTBO_OUT_JMSQ	This is the outbound queue from your order management system for creating billing orders in BRM. The message must confirm to the ProcessFulfillmentOrderBillingEBM schema. Your order management system must wait for a response before continuing communication with BRM for the current order.
jms/aia/AIA_UPDBO_IN_JMSQ	This is the response queue that corresponds to the jms/aia/AIA_CRTBO_OUT_JMSQ queue. It contains the success response message from Oracle AIA in the ProcessFulfillmentOrderBillingResponseEBM schema.
jms/aia/AIA_UPDSO_OUT_JMSQ	This is the outbound queue from your order management system for updating order information in Siebel CRM. The message must confirm to the UpdateSalesOrderEBM schema. This is an asynchronous flow, so no response is sent back to your order management system.

Specifying Valid Phone Number Format in BRM

By default, Siebel CRM allows unformatted phone numbers. To allow unformatted phone numbers in BRM, add the following phone number validation format by using the Field Validation Editor application in BRM Configuration Center:

```
###-###-####
```

See *Oracle Communications Billing and Revenue Management Managing Customers* and the Field Validation Editor Help for more information about validating phone number formats.

Product Master Data Management Post-Installation Tasks

This section describes the post-installation tasks for the Product Master Data Management pre-built integration.

Configuring Endpoint URLs for Product Hub Web Services

Configure Oracle Product Hub web services on an Oracle Fusion Middleware application server as described in note 888696.1 on My Oracle Support.

If you installed the Product Hub web services on a different application server than the one on which you deployed the Product Master Data Management pre-built integration, you must update endpoint URLs on the Oracle AIA server.

To update endpoint URLs:

1. Log in to the WebLogic Server Administration Console for the server on which you installed the Product Hub web services.
2. Under Domain Structure, select **Deployments**.
3. For each of the following deployed Product Hub web services:
 - PIMWebServices-Valueset-WS
 - PIMWebServices-ICC-WS
 - PIMWebServices-Item-WS

Do the following:

- a. Select the web service name.

- b. Select the **Testing** tab.
 - c. In the Deployment Tests table, expand the service name.
 - d. In the **Test Point** column, click **?WSDL**.
A web browser opens with the web service URL.
 - e. Write down the web service URL.
4. Download the **AIAConfigurationProperties.xml** file from the MDS repository as described in ["Downloading Files from the MDS Repository"](#) and open it in an XML editor.
 5. Search for each of the services listed in [Table 6–3](#) and update the value of the corresponding property listed in second column with the URL for the web service specified in the third column.

Table 6–3 Services and EndpointURI Properties

Service	Property	Value
SyncSpecificationValueSetListPIMReqABCSImpl	Routing.ValueSetService.PIM_01.EndpointURI	URL for PIMWebServices-Valueset-WS
SyncItemCatalogCategoryPIMReqABCSImpl	Routing.ItemCatalogCategoryService.PIM_01.EndpointURI	URL for PIMWebServices-ICC-WS
QueryItemListPIMAdapter	Routing.ItemService.PIM_01.EndpointURI	URL for PIMWebServices-Item-WS
QueryBillOffMaterialsListPIMAdapter	Routing.ItemService.PIM_01.EndpointURI	URL for PIMWebServices-Item-WS

6. Save and close the file.
7. Upload the changed file to the MDS repository as described in ["Uploading Changed Files to the MDS Repository"](#).

Updating Product.Source.PIP Property Value

For the Product Master Data Management pre-built integration option for Siebel CRM, you must update the **Product.Source.PIP** property in the **AIAConfigurationProperties.xml** file. This property specifies whether Product Hub or BRM is the product master.

To update the **Product.Source.PIP** property:

1. Download the **AIAConfigurationProperties.xml** file from the MDS repository as described in ["Downloading Files from the MDS Repository"](#) and open it in an XML editor.

2. Search for the following text:

```
<Property name="Product.Source.PIP">
```

3. Change the value of the property to **MDM**.

For example, change:

```
<Property name="Product.Source.PIP">02C</Property>
```

to:

```
<Property name="Product.Source.PIP">MDM</Property>
```


4. Save and close the file.
5. Upload the changed file to the MDS repository as described in ["Uploading Changed Files to the MDS Repository"](#).

Updating Integration Services

In item sync with pricelists scenario, SyncItemListPIMReqABCS service waits for a response. The response from the ProductOptimizedSyncPriceListListSiebelCommsProvABCServiceImpl service is sent to the requester through CommunicationsPriceListResponseEBSV2. Therefore, after you deploy the Siebel CRM services, you must update the following integration services:

- ProductOptimizedSyncPriceListListSiebelCommsProvABCServiceImpl
- SyncItemCompositionListSiebelCommsProvABCServiceImpl

To update the services:

1. Download the **AIAConfigurationProperties.xml** file from the MDS repository as described in ["Downloading Files from the MDS Repository"](#) and open it in an XML editor.
2. Confirm that the following properties are listed in the file:
 - `<Property
name="EBSOverride.CommunicationsPriceListResponseEBS.SyncPriceListList
Response.Address">http://host:port/soa-infra/services/default/Communicat
ionsPriceListResponseEBSV2/CommunicationsPriceListResponseEBSV2_
ep</Property>`
 - `<Property
name="EBSOverride.CommunicationsPriceListResponseEBS.SyncPriceListList
Response.PortType">{http://xmlns.oracle.com/EnterpriseServices/Core/Pric
eList/V2}CommunicationsPriceListResponse</Property>`
 - `<Property
name="EBSOverride.CommunicationsPriceListResponseEBS.SyncPriceListList
Response.ServiceName">{http://xmlns.oracle.com/EnterpriseServices/Core/
PriceList/V2}CommunicationsPriceListResponse</Property>`
 - `<Property
name="EBSOverride.CommunicationsItemCompositionResponseEBSV1.SyncI
temCompositionListResponse.Address">http://host:port/soa-infra/services/
default/ProductOptimizedSyncPriceListListSiebelCommsProvABCServiceImpl/
ProductOptimizedSyncPriceListListSiebelCommsProvABCServiceImpl</Property>`
 - `<Property
name="EBSOverride.CommunicationsItemCompositionResponseEBSV1.SyncI
temCompositionListResponse.PortType">{http://xmlns.oracle.com/ABCIm
pl/Siebel/Industry/Comms/ProductOptimizedSyncPriceListListSiebelComm
sProvABCServiceImpl/V1}ProductOptimizedSyncPriceListListSiebelCommsPro
vABCServiceImpl</Property>`
 - `<Property
name="EBSOverride.CommunicationsItemCompositionResponseEBSV1.SyncI
temCompositionListResponse.ServiceName">{http://xmlns.oracle.com/ABC
SImpl/Siebel/Industry/Comms/ProductOptimizedSyncPriceListListSiebelCo
mmsProvABCServiceImpl/V1}ProductOptimizedSyncPriceListListSiebelComm
sProvABCServiceImpl</Property>`

If they do not appear, review the log files to assess the problem and resolve any errors.

Product Master Data Management for Design Studio Post-Installation Tasks

If you have deployed the Product Master Data Management for Design Studio pre-built integration option, do the following:

1. Configure Oracle AIA to retrieve item catalog categories from Oracle Product Hub. By default, the Product Master Data Management pre-built integration retrieves product classes from Siebel CRM.

To configure Oracle AIA to retrieve item catalog categories from Product Hub:

- a. Download the **AIAConfigurationProperties.xml** file from the MDS repository as described in ["Downloading Files from the MDS Repository"](#) and open it in an XML editor.

- b. Under the QueryProductClassAndAttributesSCECommsReqABCSImpl service, search for the following property:

```
<Property name="Routing.EdgeApplications">
```

- c. Change the value of the property to the Product Hub system ID. For example:

```
<Property name="Routing.EdgeApplications">PTM_01</Property>
```

- d. Save and close the file.
 - e. Upload the changed file to the MDS repository as described in ["Uploading Changed Files to the MDS Repository"](#).
2. Set up e-mail notifications in Product Hub.
 3. If the Product Hub web services are installed on a separate machine than Oracle AIA, update the web service endpoint URLs as described in ["Configuring Endpoint URLs for Product Hub Web Services"](#).

Development Post-Installation Tasks

The tasks described in this section are not required immediately after installation, but you may need to perform them while customizing your deployment and environment.

Changing Oracle AIA Deployment Passwords

You can optionally change the passwords that you specified in the Installer after completing installation using the **UpdateStore** utility.

This utility assumes that the **AIAInstallProperties.xml** file exists in the *domain_home/soa/aia/bin* directory and that the password being changed exists in the file.

Note: This utility only changes encrypted passwords in the Oracle AIA installation. It does not change passwords of the SOA server or the database schemas.

To change passwords:

1. Navigate to the following directory:

Comms_home/bin

2. Run the following command:

```
source commsenv.sh
```

3. Navigate to the following directory:

MW_home/soa/aiafp/util

4. Run the following command:

```
ant -f updateStore.xml updateStore -DAdminUsername=weblogicadminuser  
-DAdminPassword=weblogicadminpassword
```

where *weblogicadminuser* and *weblogicadminpassword* are the user name and password for the WebLogic Server administration user.

The Update AIA Keystore screen appears.

5. Enter information in the following fields:

- **Existing Username:** The user name for which you want to change credentials.
- **Existing Password:** The password corresponding to the user name entered in the **Existing Username** field.
- **New Username:** The new user name that you want to use. Use the same value as in Existing Username if you want to change the password only.
- **New Password:** The new password that you want to use. Use the same value as in Existing Password if you want to change the user name only.
- **XPath:** The XPath from the *AIAInstallProperties.xml* file to the password you want to change.

For example:

```
/properties/pips/o2c/password
```

6. Click **OK**.

A success message is displayed.

7. Upload the changed file to the MDS repository as described in ["Uploading Changed Files to the MDS Repository"](#).

Adding Oracle AIA to a New Node of an Existing SOA Cluster

To add Oracle AIA to a new node of an existing SOA cluster:

1. Add a new node to the SOA cluster as described in *Oracle Fusion Middleware Enterprise Deployment Guide for Oracle SOA Suite*.
2. Download the *AIAConfigurationProperties.xml* file from the MDS repository as described in ["Downloading Files from the MDS Repository"](#) and open it in an XML editor.

3. Search for the following text:

```
<Property name="EH.JNDIURL">t3://
```

4. After the existing list of SOA server details, add a comma and the host and port of the new node. In the following example, **newnode.example.com:7003** has been added:

```
<Property  
name="EH.JNDIURL">t3://node1.example.com:7001,node2.example.com:7002,newnode.ex
```

```
ample.com:7003</Property>
```

5. Save and close the file.
6. Upload the changed file to the MDS repository as described in ["Uploading Changed Files to the MDS Repository"](#).
7. Open the *Install_home/comms_home/config/AIAInstallProperties.xml* file.
8. Search for the following element:

```
<properties>
  <fp>
    <server>
      <jndiurl>
```

9. After the existing list of SOA server details, add a comma and the host and port of the new node. In the following example, **newnode.example.com:7003** has been added:

```
<jndiurl>t3://node1.example.com:7001,node2.example.com:7002,newnode.example.com:7003</jndiurl>
```

10. Save and close the file.
11. Start the new Node.
Ignore any errors in the server log shows errors related to Foundation Pack.
12. Navigate to the following directory:

Install_home/comms_home/bin

13. Run the following command:

```
source commsenv.sh
```

14. Navigate to the following directory:

MW_home/soa/aiafp/Install/AID

15. Run the following command:

```
ant -f AIAInstallDriver.xml -DDeploymentPlan=MW_
home/soa/aiafp/Install/config/FPAddNodeToClusterDP.xml -DPropertiesFile=domain_
home/soa/aia/bin/AIAInstallProperties.xml
```

Making Upgrade-Safe Composite Customizations

This section is for developers who customize installed composites. This is not a required post-installation task, but the you perform the procedure while customizing Oracle AIA composite services.

As part of your pre-built integrations implementation you may need to customize installed composites. For example, you may need to call different BRM opcodes than those specified in ready-to-use composites.

Customizations you make within customizable scopes in JDeveloper can be retained when upgrading Oracle AIA. The upgrade process overwrites any customizations you make outside of customizable scopes.

After upgrading, you can merge your customizations with the newly upgraded composites as described in ["Migrating Custom Data"](#).

To make upgrade-safe customizations to a deployed composite:

1. Open JDeveloper.
The Select Role dialog box appears.
2. Select **Default Role** and click **OK**.
3. From the **Application** menu, select **New**.
4. From the Application Template list, select **SOA Application**.
5. In the **Application Name** field, enter a name for the customized application.
6. Click **Next**.
7. In the **Project Name** field, enter the name of the BRM provider ABCS that you want to customize. For example, **QueryInvoiceListBRMCommsProvABCSImpl**.
8. On the **Project Technologies** tab, ensure that **SOA** appears in the Selected list.
9. Click **Next**.
10. From the **Composite Template** list, select **Empty Composite**.
11. Select the **Customizable** option.
12. Click **Finish**.
The project appears in the Projects section.
13. Expand the **Application Resources** section, then expand the **Descriptors** folder, and then the **ADF META-INF** folder.
14. Double-click the **adf-config.xml** element.
15. Click the **MDS Configuration** tab.
16. Next to **Customization Configuration: Match Path = "/"**, click the plus sign.
The Edit Customization Class dialog box appears.
17. In the **Match Class or Package Name** field, enter the beginning of the name of the customization class that you want to use.
A list of matching customization classes appears.
18. Select the customization class that you want to use and click **OK**.
19. Select the newly-added class and click the **Configure Design Time Customization Layer Values** link.
The **CustomizationLayerValues.xml** file opens.
20. Add layer values for this customization layer. For example:

```
<cust-layer name="industry">
  <cust-layer-value value="communications" display-name="Communications"/>
</cust-layer>
```
21. Click the **Save All** icon.
22. In the Projects section, select the top-level element. For example, **QueryInvoiceListBRMCommsProvABCSImpl**.
23. From the **File** menu, select **Import**.
24. Select **SOA Archive Into SOA Project** and click **OK**.
25. Click **Browse**.
26. Browse to the deploy directory under the directory where the BRM provider ABCS is copied from the Oracle AIA server. For example:

C:\DeployedFromServer\QueryInvoiceListBRMCommsProvABCSImpl\deploy

27. Select the JAR file associated with the provider ABCS and click **Open**.
28. Select the **Import for Customization** option and click **Finish**.
29. Click the **Save All** icon.
30. From the **Tools** menu, select **Preferences**.
31. In the navigation tree, select **Roles**.
32. Under Roles, select **Customization Developer**.
JDeveloper reopens in the new role.
33. In the Customization Context section, select the customization context that matches the layer values for the customization class you added earlier.
34. In the Project section, expand the top-level element.
35. Double-click the BPEL file for your composite.
The composite opens in Design mode.
36. Locate and expand the customizable scope where you want to make a customization.
37. Perform the customizations you require inside the customizable scope.
For example, to invoke a custom opcode, do the following:
 - a. Open the **AIAConfigurationProperties.xml** file, located in the *Comms_home/source/soainfra/apps/config* directory.
 - b. Under the entry for the service that you have customized, add a new property for invoking the custom opcode and set it to **true**. For example:

```
<Property name="Routing.BRMARServices.RouteToCustOp">true</Property>
```
 - c. In JDeveloper, in the BPEL file for the composite that you are customizing, create a partner link to represent the custom opcode.
 - d. In the switch that invokes the default BRM opcode or CAVS, add a new case with an expression linking it to the property for invoking the custom opcode.
For example, if you stored the property from **AIAConfigurationProperties.xml** in a variable in the composite's BPEL file, the expression might be as follows:

```
bpws:getVariableData('BRMARRouteToCustOp')
```
 - e. Within the new case, add a transform activity to transform the incoming message to the input field list (flist) of the custom opcode.
 - f. After the transform activity, add an invoke activity to invoke the partner link representing the custom opcode.
 - g. After the invoke activity, add a transform activity to transform the output flist of the custom opcode into the expected EBM that would be generated by the default opcode.
 - h. If the custom opcode output flist includes any attributes that are not present in the default opcode, extend the default EBM to include the attributes, and customize the PostXformEBMtoABM extension point with a transform or an assign activity to map the attribute values.
38. Click the **Save All** icon.

39. Redeploy the custom composite using JDeveloper or a deployment plan.

For more information about customizing and developing Oracle AIA composites, see the following documents:

- For information about customizing BPEL processes, including customization classes, layer values, transform and invoke activities, scopes, switches, and partner links, see *Oracle Fusion Middleware Developer's Guide for Oracle SOA Suite*.
- For information about designing and constructing Oracle AIA artifacts, see *Oracle Fusion Middleware Developer's Guide for Oracle SOA Core Extension*.
- For information about deploying applications using JDeveloper, see *Oracle Fusion Middleware User's Guide for Oracle JDeveloper*.

Managing Oracle AIA Files in the MDS Repository

When you modify a file stored in the MDS repository, you must upload the new version to the MDS repository for the modifications to take effect.

Additionally, before you modify the **AIAConfigurationProperties.xml** file, you must download the latest version from the MDS repository.

Downloading Files from the MDS Repository

To download a file from the MDS repository:

1. Navigate to the following directory:

Install_home/comms_home/bin

2. Run the following command:

```
source commsenv.sh
```

3. Navigate to the following directory:

domain_home/soa/aia/MDSUtils

4. Open the **DownloadMetaDataFileDP.xml** file.

5. In the DownloadMetadataFile element, specify the following:

- **downloadLocation:** The directory on your system where you want to temporarily store the file.
- **fileToDownload:** The the path in the MDS repository to the file you want to download.
- **wlserver:** The name of the WebLogic server where Oracle AIA is deployed.

For example:

```
<DownloadMetadataFile downloadLocation="/private/myhome" fileToDownload
="/soa/configuration/default/AIAConfigurationProperties.xml" wlserver="fp" />
```

6. Save and close the file.

7. Run the following command:

```
ant -f MW_home/soa/aiafp/Install/AID/UpdateMetaData.xml
-DdeploymentPlan=domain_home/soa/aia/MDSUtils/DownloadMetadataFileDP.xml
-DPropertiesFile=domain_home/soa/aia/bin/AIAInstallProperties.xml
```

The file is downloaded to the local directory.

Uploading Changed Files to the MDS Repository

To upload changed files to the MDS repository:

1. Navigate to the following directory:

Install_home/comms_home/bin

2. Run the following command:

```
source commsenv.sh
```

3. Navigate to the following directory:

domain_home/soa/aia/MDSUtils

4. Do one of the following:

- To upload a file from a local directory, open the **UpdateMetaDataFileDP.xml** file and, in the UpdateMetaDataFile element, specify the following:
 - **wlserver**: The name of the WebLogic server where Oracle AIA is deployed.
 - **mdslocation**: The location in MDS where the file should be uploaded.
 - **fileset dir**: The directory on your system where the changed file is stored.
 - **include name**: The name of the file to include, relative to the value of **fileset dir**. To upload all files in a directory, finish the file path with **/****.
- To upload a file from an MDS-related path, open the **UpdateMetaDataDP.xml** file and, in the UpdateMetaData element, specify the following:
 - **wlserver**: The name of the WebLogic server where Oracle AIA is deployed.
 - **fileset dir**: The MDS-related directory where the changed file is stored.
 - **include name**: The name of the file to include, relative to the value of **fileset dir**. To upload all files in a directory, finish the file path with **/****.
- To upload an archive file, open the **UploadMarDP.xml** file and, in the UploadMAR element, specify the following:
 - **marlocation**: The directory where the archive file is stored.
 - **wlserver**: The name of the WebLogic server where Oracle AIA is deployed.

For example, to include the **AIAConfigurationProperties.xml** file stored in a local directory:

```
<UpdateMetadata wlserver="fp" mdslocation="soa/configuration/default/">
  <fileset dir="/private/myhome">
    <include name="AIAConfigurationProperties.xml" />
  </fileset>
</UpdateMetadata>
```

Or to upload all files in the **/private/myhome** directory:

```
<UpdateMetadata wlserver="fp">
  <fileset dir="/private/myhome">
    <include name="/**" />
  </fileset>
</UpdateMetadata>
```

5. Save and close the file.

6. Run the following command:

```
ant -f MW_home/soa/aiafp/Install/AID/UpdateMetaData.xml
-DdeploymentPlan=domain_home/soa/aia/MDSUtils/deployment_plan.xml
-DPropertiesFile=domain_home/soa/aia/bin/AIAInstallProperties.xml
```

where *deployment_plan* is **UpdateMetaDataFileDP**, **UpdateMetaDataDP**, or **UpdateMarDP**, depending on the location and type of file you are uploading.

The changed files are uploaded to the MDS repository.

Updating PublicationService User Credentials

For the Product Master Data Management pre-built integration, if the Oracle Product Hub user credentials change, you must also update them in Fusion Middleware.

To update the PublicationService user credentials:

1. Log in to Oracle Enterprise Manager Fusion Middleware Control.
2. In the Target Navigation pane, expand the **SOA** folder, then **soa-infra**, then **default**, then select **SyncItemCatalogCategoryPIMReqABSCImpl**.
3. In the **Services and References** section, select **PublicationService**.
4. Select the **Policies** tab.
5. Under **Directly Attached Policies**, select **oracle/wss_username_token_client_policy**.
6. Click **Override Policy Configuration**.

The Security Configuration Details dialog appears. Write down the current value of **csf-key**.

7. Click the **X** icon in the upper right corner of the Security Configuration Details dialog.
8. In the Target Navigation pane, expand the **WebLogic Domain** folder and right-click the node for your SOA domain.
9. Select **Security**, then select **Credentials**.
10. Expand **oracle.wsm.security**.
11. Select the row that matches the value that you wrote down for **csf-key** row and click **Edit**.
12. In the **User Name**, **Password**, and **Confirm Password** fields, enter the updated user credentials for the Oracle Product Hub development manager.
13. Click **OK**.
14. Restart the domain.

Splitting Cross Reference Tables

If you did not select the **Enable XREF split utility** option while configuring Oracle AIA, you can split your cross reference tables after installation.

To maintain performance levels when looking up values in large cross reference tables, Oracle recommends splitting cross reference tables into multiple tables, with one table for each cross-reference object.

For details about how to split cross reference tables, see the information about the XREF Migration Utility on the following Oracle Technology Network web site:

<http://www.oracle.com/technetwork/middleware/foundation-pack/learnmore/aia-xref-524690.html>

Verifying Oracle AIA Installation

This chapter describes how to verify that the Oracle Application Integration Architecture (Oracle AIA) pre-built integrations installation and configuration was successful.

Verifying File Creation

The Configuration Wizard copies DVM files and directories from Oracle Data Integrator to a folder in *Comms_home* for the Agent Assisted Billing Care pre-built integration. Verify that these files were created.

To verify file creation:

1. Navigate to directory that you specified for exported DVMs on the Oracle Data Integrator Access Information Details Screen of the Configuration Wizard.

The default path is:

Comms_home/source/soainfra/apps/AIAMetaData/dvm

2. Confirm that the following files exist:
 - CURRENCY_CODE.dvm
 - COLLECTION_STATUS.dvm
 - COLLECTION_ACTIONNAME.dvm
 - COLLECTION_PRIORITY.dvm
 - COLLECTION_SUBSTATUS.dvm

Verifying Logs

The installation and deployment logs for all pre-built integrations are located in the *domain_home/soa/aia/logs* directory.

The deployment logs are named in the following format:

PBIDP_Deployments_timestamp.log

where:

- *PBI* is the abbreviation representing the pre-built integration. For example, for Agent Assisted Billing Care, the abbreviation is **AABC**.
- *timestamp* is the time that the pre-built integration was deployed in YYYY-MM-DD_HH-MI-SS format.

To verify installation and deployment logs:

1. Navigate to the *domain_home/soa/aia/logs* directory.
2. Open the log file for your pre-built integration and verify that there are no errors or warnings.
3. For pre-built integrations that use Oracle Data Integrator, such as Agent Assisted Billing Care, do the following:
 - a. In the log file, search for the statements starting with the following text:


```
[exec] OracleDI: Starting Command: OdiImportObject -FILE_NAME=
```
 - b. Confirm that none of these statements are followed by error messages.

"[Troubleshooting Configuration and Deployment](#)" describes some common error messages and how to resolve them.

Verifying Composite Deployment

To verify composite deployment:

1. Log in to Oracle Enterprise Manager Fusion Middleware Control.
2. In the Target Navigation pane, expand the **SOA** folder, then **soa-infra**, then **default**.
3. Verify that the following composites appear:
 - [Table 7-1](#) lists the composites deployed for Order to Cash pre-built integration options.

Table 7-1 Composites Deployed for Order to Cash Options

Option	Deployed Composites
Order to Cash Base	CreateFaultNotificationLFCommsJMSConsumer AIAOrderFalloutJMSBridgeService AIACOMOrderFalloutNotificationJMSConsumer CreateTroubleTicketAIACommsReqImpl AIAOrderFalloutErrorHandlerExtension - Java Class CustomerPartyEBSV2 CommunicationsCustomerPartyEBSV2Resequencer CommsProcessFulfillmentOrderBillingAccountListEBF CommsProcessBillingAccountListEBF CommsProcessFulfillmentOrderBillingAccountListEBF CommsProcessBillingAccountListEBF ProcessSalesOrderFulfillmentCommsJMSProducer ProcessSalesOrderFulfillmentCommsJMSConsumer ProcessSalesOrderFulfillmentCommsABCImpl CommunicationsPriceListEBSV2 CommunicationsItemCompositionEBSV1 QueryProdClassAndAttributesSCEReqCommsABCImpl QueryProdClassAndAttributesSCEReqCommsABCImplV2

Table 7–1 (Cont.) Composites Deployed for Order to Cash Options

Option	Deployed Composites
Order to Cash for Siebel CRM	SyncItemCompositionListSiebelCommsJMSConsumer SyncItemCompositionListSiebelCommsProvABCImpl ProductOptimizedSyncPriceListListSiebelCommsJMSConsumer ProductOptimizedSyncPriceListListSiebelCommsProvABCImpl QueryClassificationListSiebelCommsProvABCImpl QuerySpecificationListSiebelCommsProvABCImpl QuerySpecificationValueSetListSiebelCommsProvABCImpl ProcessSalesOrderFulfillmentSiebelCommsJMSConsumer ProcessSalesOrderFulfillmentSiebelCommsReqABCImpl QueryReceivedPaymentListSiebelCommsProvABCImpl UpdateSalesOrderSiebelCommsJMSConsumer UpdateSalesOrderSiebelCommsProvABCImpl SyncCustomerSiebelEventAggregator SyncAccountSiebelAggregatorAdapter SyncContactSiebelAggregatorAdapter SyncAddressSiebelAggregatorAdapter SyncBPSiebelAggregatorAdapter SyncAcctSiebelAggrEventConsumer ProcessAccountHierarchyListSiebelCommsProvABC QueryCustomerPartyListSiebelProvABCImplImplV2 SyncAccountSiebelReqABCImpl CreateTroubleTicketSiebelCommsProvABCImpl UpdateTroubleTicketSiebelCommsProvABCImpl ProcessInstalledProductSpecialRatingSetListSiebelCommsJMSConsumer ProcessInstalledProductSpecialRatingSetListSiebelCommsReqABCImpl
Order to Cash for BRM	SyncProductBRMCommsReqABCImpl SyncDiscountBRMCommsReqABCImpl SyncSponsorshipBRMCommsReqABCImpl CreateReceivedPaymentListBRMCommsProvABCImpl ProcessFulfillmentOrderBillingBRMCommsProvABCImpl ProcessFulfillmentOrderBillingBRMCommsAddSubProcess ProcessFulfillmentOrderBillingBRMCommsMoveAddSubProcess ProcessFulfillmentOrderBillingBRMCommsSuspendResumeSubProcess ProcessFulfillmentOrderBillingBRMCommsUpdateSubProcess ProcessFulfillmentOrderBillingBRMCommsDeleteSubProcess ProcessFulfillmentOrderBillingBRMCommsSharingGroupSubProcess SyncCustomerPartyListBRMCommsProvABCImpl SyncCustomerPartyListBRM_01CommsJMSConsumer ProcessInstalledProductSpecialRatingSetListBRMCommsProvABCImpl

Table 7–1 (Cont.) Composites Deployed for Order to Cash Options

Option	Deployed Composites
Order to Cash for OSM	ProcessSalesOrderFulfillmentOSMCFSCommsJMSProducer ProcessFulfillmentOrderBillingAccountListOSMCFSCommsJMConsumer ProcessFOBillingAccountListRespOSMCFSCommsJMSProducer ProcessFulfillmentOrderBillingOSMCFSCommsJMConsumer ProcessFulfillmentOrderBillingResponseOSMCFSCommsJMSProducer ProcessProvisioningOrderOSMCFSCommsJMConsumer ProcessProvisioningOrderOSMPROVCommsJMSProducer ProcessFulfillmentOrderUpdateOSMPROVCommsJMConsumer ProcessFulfillmentOrderUpdateOSMCFSCommsJMSProducer UpdateSalesOrderOSMCFSCommsJMConsumer CreateOrderFalloutNotificationOSMCFSCommsProvImpl CreateOrderFalloutNotificationOSMCFSCommsJMConsumer CreateOrderFalloutNotificationOSMCFSCommsJMSProducer CreateTroubleTicketOSMCFSCommsJMConsumer CreateTroubleTicketRespOSMCFSCommsJMSProducer UpdateTroubleTicketOSMCFSCommsJMConsumer

- The following composites are deployed for the Agent Assisted Billing Care pre-built integration:
 - AccountBalanceSiebelCommsReqABCS
 - AdjustmentSiebelCommsReqABCS
 - CommunicationsCustomerPartyEBSV2
 - CommunicationsCustomerPartyResponseEBSV2
 - Core2CommsCustomerPartyBridge
 - CreateAccountBalanceAdjustmentBRMCommsProvABCSImpl
 - CreateAccountBalanceAdjustmentListResponseBRMCommsJMConsumer
 - CreateAccountBalanceAdjustmentListResponseBRMCommsJMSProducer
 - CreateAccountBalanceAdjustmentSiebelCommsJMConsumer
 - CreateAccountBalanceAdjustmentSiebelCommsReqABCSImpl
 - CreateInvoicePaymentSiebelCommsReqABCSImpl
 - CreatePaymentSiebelCommsReqABCSImpl
 - CreateReceivedPaymentBRMCommsProvABCSImpl
 - CustomerPartyEBSV2
 - InvoiceSiebelCommsReqABCS
 - PaymentSiebelCommsReqABCS
 - QueryAccountBalanceAdjustmentBRMCommsProvABCSImpl
 - QueryAccountBalanceAdjustmentSiebelCommsReqABCSImpl
 - QueryBalanceDetailsSiebelCommsReqABCSImpl

- QueryBalanceGroupListSiebelCommsReqABCImpl
- QueryBalanceGroupServicesSiebelCommsReqABCImpl
- QueryBalanceSummarySiebelCommsReqABCImpl
- QueryCustomerPartyListBRMCommsProvABCImpl
- QueryInstalledProductListBRMCommsProvABCImpl
- QueryInvoiceBalanceDetailsSiebelCommsReqABCImpl
- QueryInvoiceEventDetailsSiebelCommsReqABCImpl
- QueryInvoiceListBRMCommsProvABCImpl
- QueryInvoiceListSiebelCommsReqABCImpl
- QueryInvoicePaymentSiebelCommsReqABCImpl
- QueryInvoiceSiebelCommsReqABCImpl
- QueryPaymentSiebelCommsReqABCImpl
- QueryReceivedPaymentListBRMCommsProvABCImpl
- QueryServiceUsageBRMCommsProvABCImpl
- QueryUnbilledBalanceDetailsSiebelCommsReqABCImpl
- QueryUnbilledEventDetailsSiebelCommsReqABCImpl
- QueryUnbilledUsageSiebelCommsReqABCImpl
- SearchInvoiceEventDetailsSiebelCommsReqABCImpl
- SearchPaymentSiebelCommsReqABCImpl
- SearchUnbilledEventDetailsSiebelCommsReqABCImpl
- SyncAccountSiebelAggregatorAdapter
- SyncAccountSiebelReqABCImpl
- SyncAcctSiebelAggrEventConsumer
- SyncAddressSiebelAggregatorAdapter
- SyncBPSiebelAggregatorAdapter
- SyncContactSiebelAggregatorAdapter
- SyncCustomerPartyListBRM_01CommsJMSConsumer
- SyncCustomerPartyListBRMCommsJMSProducer
- SyncCustomerPartyListBRMCommsProvABCImpl
- SyncCustomerSiebelEventAggregator
- SyncCollectionsInfoChangeBRMAQ
- SyncCollectionHeaderInfoBRMCommsReqImpl
- TransformAppContextSiebelService
- UnbilledUsageSiebelCommsReqABC
- UpdateAccountBalanceAdjustmentRespSiebelCommsProvABCImpl
- UpdateCreditAlertBRMCommsProvABCImpl
- UpdateCreditAlertSiebelCommsReqABCImpl

- [Table 7–2](#) lists the composites deployed for Product Master Data Management pre-built integration options.

Table 7–2 Composites Deployed for Product Master Data Management

Option	Deployed Composites
Product Master Data Management Base	QueryBillOfMaterialsListPIMAdapter QueryItemListPIMAdapter SyncItemCatalogCategoryPIMEventConsumer SyncItemCatalogCategoryPIMReqABCImpl SyncItemListPIMEventConsumer SyncItemListPIMReqABCImpl SyncSpecificationValueSetListPIMEventConsumer SyncSpecificationValueSetListPIMReqABCImpl
Product Master Data Management for Siebel CRM	ProductOptimizedSyncPriceListListSiebelCommsProvABCImpl SyncBillOfMaterialsListSiebelProvABCImpl SyncClassificationSchemeListSiebelProvABCImpl SyncItemCompositionListSiebelCommsProvABCImpl SyncProductSiebelProvABCImpl SyncSpecificationValueSetListSiebelProvABCImpl
Product Master Data Management for BRM	SyncItemListBRMProvABCImpl SyncPriceListListBRMProvABCImpl
Product Master Data Management for PDC	SyncItemListPDCProvABCImpl CreateProductXrefBRMAQ CreateDiscountXrefBRMAQ CreateSponsorshipXrefBRMAQ SyncPriceListPDCProvABCImpl
Product Master Data Management for Design Studio	QueryClassificationListPIMCommsProvABCImpl QuerySpecificationValueSetListPIMCommsProvABCImpl

Table 7–2 (Cont.) Composites Deployed for Product Master Data Management

Option	Deployed Composites
Product Master Data Management Routing Rules	SpecificationValueSetEBS SpecificationValueSetResponseEBS ClassificationSchemeEBS ClassificationSchemeResponseEBS ItemEBSV2 ItemResponseEBSV2 PriceListResponseEBSV2 CommunicationsPriceListEBSV2 CommunicationsPriceListResponseEBSV2 PriceListEBSV2 CommunicationsItemCompositionEBSV1 CommunicationsItemCompositionResponseEBSV1 BillOfMaterialsEBS BillOfMaterialsResponseEBS Comms2CorePriceListBridgeService Core2CommsPriceListBridgeService

Verifying Session Pool Manager Connection

For any pre-built integration that uses Siebel CRM, do the following:

1. Log in to Oracle Enterprise Manager Fusion Middleware Control.
2. In the Target Navigation pane, expand the **SOA** folder, then **soa-infra**, then **default** and select **AIASessionPoolManager**.
3. Click **Test**.
4. From the **Operation** menu, select **Start**.
5. On the **Request** tab, in the Security section, select **OWSM Security Policies** and then **Username Token**.
6. In the **Security** section, under Configuration Properties, in **Username** and **Password** fields, enter the user name and password for the WebLogic Server administrator.
7. In the Input Arguments section, expand ***payload**.
8. In the Value column of the HostId row, enter **SEBL_01**.
9. Click **Test Web Service**.

A successful initialization response message appears.

For more information about Session Pool Manager, including troubleshooting steps if the test is unsuccessful, see *Oracle Application Integration Architecture Utilities Guide*.

Verifying Security Policy Attachment

All SOA composites are protected by global security policies. Some composites included in the pre-built integrations have locally attached security policies as well. You can verify that the locally-attached security policies were correctly attached.

To verify locally attached security policies:

1. Log in to Oracle Enterprise Manager Fusion Middleware Control.
2. Expand **WebLogic Domain**.
3. Right-click the node for your SOA domain.
4. Select **Web Services** then select **WSM Policies**.
5. In the WSM Policies table, find the row for the policy you are verifying.
6. Click the number in the **Attachment** column.

The Usage Analysis screen appears.

7. From the **Subject Type** list, select the subject type for the policy you are verifying.
8. Confirm that the composites listed in [Table 7–3](#) appear.

Table 7–3 Security Policies and Attached Composites

Policy	Subject Type	Composite
oracle/aia_wss_saml_or_username_or_http_token_service_policy_OPT_ON	SOA SOAP Service	Any pre-built integration: <ul style="list-style-type: none"> ▪ AIAAsyncErrorHandlerBPELProcess with service of client
oracle/aia_wss10_saml_token_client_policy_OPT_ON	SOA SOAP Reference	For all pre-built integrations: <ul style="list-style-type: none"> ▪ AIAAB2BInterface with reference of X12ProcessSalesOrderReqB2BCServiceImplService ▪ AIAReadJMSNotificationProcess with reference of AIAErrorTaskAdministrationProcess
oracle/no_authentication_service_policy	SOA SOAP Service	Order to Cash: <ul style="list-style-type: none"> ▪ SyncCustomerSiebelEventAggregator Agent Assisted Billing Care: <ul style="list-style-type: none"> ▪ AccountBalanceSiebelCommsReqABCS ▪ UpdateCreditAlertSiebelCommsReqABCSImpl ▪ SyncCustomerSiebelEventAggregator ▪ UnbilledUsageSiebelCommsReqABCS ▪ PaymentSiebelCommsReqABCS ▪ AdjustmentSiebelCommsReqABCS ▪ InvoiceSiebelCommsReqABCS

Table 7–3 (Cont.) Security Policies and Attached Composites

Policy	Subject Type	Composite
oracle/no_authentication_client_policy	SOA SOAP Reference	<p>Order to Cash (all):</p> <ul style="list-style-type: none"> SyncAccountSiebelReqABCImpl QuerySpecificationListSiebelCommsProvABCImpl ProductOptimizedSyncPriceListListSiebelCommsProvABCImpl (once with SWIPPriceListItem port and once with SWIPProductImport port) QuerySpecificationValueSetListSiebelCommsProvABCImpl UpdateTroubleTicketSiebelCommsProvABCImpl SyncItemCompositionListSiebelCommsProvABCImpl UpdateSalesOrderSiebelCommsProvABCImpl CreateTroubleTicketSiebelCommsProvABCImpl QueryCustomerPartyListSiebelProvABCImplV2 QueryClassificationListSiebelCommsProvABCImpl <p>Order to Cash (including BRM):</p> <ul style="list-style-type: none"> ProcessAccountHierarchyListSiebelCommsProvABCImpl ProcessFulfillmentOrderBillingBRMCommsSharingGroupSubProcess <p>Agent Assisted Billing Care:</p> <ul style="list-style-type: none"> SyncAccountSiebelReqABCImpl UpdateAccountBalanceAdjustmentRespSiebelCommsProvABCImpl <p>Product MDM for Siebel CRM:</p> <ul style="list-style-type: none"> SyncClassificationSchemeListSiebelProvABCImpl SyncSpecificationValueSetListSiebelProvABCImpl SyncBillOfMaterialsListSiebelProvABCImpl SyncItemCompositionListSiebelCommsProvABCImpl ProductOptimizedSyncPriceListListSiebelCommsProvABCImpl SyncProductSiebelProvABCImpl
oracle/aia_wss_saml_or_username_token_service_policy_OPT_ON	SOA SOAP Service	<p>All pre-built integrations:</p> <ul style="list-style-type: none"> AIAB2BInterface with service of ProcessB2BDocument_ep AIAErrorTaskAdministrationProcess with service of aiaerrortaskadministrationprocess_ep ReloadProcess with service of reloadconfigurationprocess_client_ep <p>Product MDM for Siebel CRM:</p> <ul style="list-style-type: none"> AIASessionPoolManager
oracle/wss_username_token_client_policy	SOA SOAP Reference	<p>Product MDM Base:</p> <ul style="list-style-type: none"> SyncItemListPIMReqABCImpl with reference of PublicationService SyncItemListPIMReqABCImpl with reference of GetListOfTargetSystems SyncItemCatalogCategoryPIMReqABCImpl with reference of ItemCatalogService SyncItemCatalogCategoryPIMReqABCImpl with reference of PublicationService

For more information about Oracle AIA security in the SOA suite, see the discussion of working with security in *Oracle Fusion Middleware Developer's Guide for Oracle SOA Core Extension*.

Upgrading to Oracle AIA 12.2

This chapter describes how to upgrade Oracle Application Integration Architecture (Oracle AIA).

About Upgrading to Oracle AIA 12.2

This chapter describes the upgrade procedure for Oracle AIA pre-built integrations and Oracle AIA Foundation Pack to Oracle AIA 12.2. It applies to upgrades from Oracle AIA versions deployed on Oracle Fusion Middleware 10g and 11g, referred to as the **source** versions.

Oracle AIA 12.2 includes significant structural changes, including compatibility with Oracle Service Oriented Architecture (SOA) 12.2.1.1. Because of these changes, you cannot perform a traditional upgrade, and instead must perform a new installation of SOA 12.2.1.1 and migrate any relevant data.

Pre-Upgrade Tasks

Before upgrading to Oracle AIA 12.2, perform the following pre-upgrade tasks:

1. Back up your source version of Oracle AIA, including the Oracle AIA home directory and any customized Oracle AIA artifacts in the enterprise object library. This includes customizations to:
 - Enterprise Business Objects (EBOs), including custom XSD files in the following directories:
 - *Install_home/comms_home/source/soainfra/apps/AIAMetaData/AIAComponents/EnterpriseObjectLibrary/Core/Custom/EBO/*
 - *Install_home/comms_home/source/soainfra/apps/AIAMetaData/AIAComponents/EnterpriseObjectLibrary/Industry/Industry_Name/Custom/EBO*
 - Extensible style sheet language transformations (XSLTs)
 - Enterprise Business Services (EBS) Web Service Definition Language (WSDL)
 - Any EBS with custom routing rules
 - The **AIAConfigurationProperties.xml** file.
2. Install or upgrade to compatible versions of the foundational software, as described in "[Software Requirements](#)".

Note: You must install a new version of SOA Suite and create a new domain. Because Oracle AIA 12.2 requires a custom domain extension, you cannot simply upgrade an existing SOA domain.

For information about installing SOA Suite, see *Oracle Fusion Middleware Upgrading SOA Suite and Business Process Management*.

For information about version compatibility, search for Oracle AIA on the My Oracle Support **Certifications** tab.

Upgrading to Oracle AIA 12.2

To upgrade to Oracle AIA 12.2, install and configure Oracle AIA 12.2 as described in this guide. Because of the structural changes between source versions and Oracle AIA 12.2, you must perform a new installation of Oracle AIA.

See ["Oracle AIA Installation Overview"](#) for more information about the installation process.

Do not deploy the pre-built integrations until after you have performed the other post-upgrade tasks described in ["Post-Upgrade Tasks"](#).

Post-Upgrade Tasks

After upgrading to Oracle AIA 12.2, perform the following tasks:

1. Set JVM parameters for Siebel CRM. See ["Setting JVM Parameters for Siebel CRM"](#) for more information.
2. Manually migrate any customizations or extensions that you made in source files and composites to 12.2 versions. See ["Migrating Custom Data"](#) for more information.
3. Migrate Oracle AIA database tables, including error tables and cross-reference tables to the 12.2 database schema. See ["Migrating Database Tables"](#) for more information.
4. Deploy the 12.2 pre-built integrations as described in ["Deploying Pre-Built Integrations"](#).
5. Perform post-installation tasks as described in ["Oracle AIA Post-Installation Tasks"](#).

Setting JVM Parameters for Siebel CRM

After upgrading installing Oracle AIA 12.2, the Siebel CRM administrator must perform the following tasks for Siebel CRM:

1. Set up the Oracle WebLogic Server thin client for Siebel CRM:
 - a. On the SOA 12.2.1.1 host, navigate to the following directory:

`MW_home/wlserver/server/lib`

- b. Run the following command:

```
java -jar wljarbuilder.jar
```

The `wlthint3client.jar` file is generated.

- c. Copy the **wlthint3client.jar** file to the JMS directory on the Siebel CRM host. This is the directory containing the JNDI properties, **siebel.jar**, and **siebelUI_enu.jar** files.
- d. If the **wlfullclient.jar** file also appears in the JMS directory on the Siebel CRM host, back the file up to another location and remove it from the JMS directory.
2. In Siebel CRM, from the site map, select **Administration - Server Configuration** and then select **Profile Configuration**.
3. In the Enterprise Profiles list, select the row with **JAVA** in the **Alias** column.
4. In the Profile Parameters list, select the **JVM DLL Name** row.
5. In the value column, update the value to the path to the JVM library file for Java Development Kit (JDK) version 1.8.
For example:
`Oracle_home/Java/jdk1.8.0_102/jre/lib/i386/client/libjvm.so`
6. Select the JVM Classpath row.
7. In the value column, add the path to the newly-copied **wlthint3client.jar** file.
On UNIX, separate files in this field with a colon (:). On Windows, separate files in this field with a semicolon (;).
For example, on UNIX:
`Oracle_home/jms/Siebel.jar:Oracle_home/jms/wlthint3client.jar`
8. Restart the Siebel CRM services.

Migrating Custom Data

After installing Oracle AIA 12.2, you must manually migrate any customizations you made to the source data. There are no automated scripts or tools to assist in this task.

To migrate custom data:

1. For any of the Oracle AIA artifacts listed in [Table 8–1](#), merge any customizations to ready-to-use artifacts and copy custom-created artifacts into the 12.2 directory. The artifacts listed in the 12.2 Directory and Modified Artifacts column have been updated for 12.2. When merging customizations to these artifacts, be careful not to overwrite the updated functionality.

Table 8–1 Customized Oracle AIA Artifacts to Migrate

Artifact	12.2 Directory and Modified Artifacts
Enterprise Business Objects	Directory:
Enterprise Business Services	The appropriate subdirectory under <i>Comms_home/source/soainfra/apps/AIAMetaData/AIAComponents</i>
WSDL schemas	No modified artifacts.

Table 8–1 (Cont.) Customized Oracle AIA Artifacts to Migrate

Artifact	12.2 Directory and Modified Artifacts
Cross reference files	Directory: <i>Comms_home/source/soainfra/apps/AIAMetaData/xref</i> Modified artifacts: <ul style="list-style-type: none"> ■ CUSTOMERPARTY_PARTYLOCATIONID ■ CUSTOMERPARTY_PAYPROFILEID ■ CUSTOMERPARTY_LOCATIONREFID ■ CUSTOMERPARTY_PARTYCONTACTID ■ CUSTOMERPARTY_BILLPROFILEID ■ SALESORDER_LINEID ■ CUSTOMERPARTY_ACCOUNTID ■ ITEM_ITEMID ■ CUSTOMERPARTY_CONTACTID ■ CUSTOMERPARTY_CONTACT_PHONECOMMID ■ CUSTOMERPARTY_ADDRESSID ■ CUSTOMERPARTY_HIERARCHYBILLINFO ■ CUSTOMERPARTY_PARTYID ■ INSTALLEDPRODUCT_ID ■ CUSTOMERPARTY_DEFAULTBALANCEGROUPID ■ SALESORDER_ID ■ CUSTOMERPARTY_CONTACT_EMAILCOMMID
Domain value maps	Directory: <i>Comms_home/source/soainfra/apps/AIAMetaData/dvm</i> Modified artifacts: <ul style="list-style-type: none"> ■ SALESORDER_STATUS ■ ADDRESS_COUNTRYID ■ PRICE_OVERRIDETYPECODE ■ CUSTOMERPARTY_ACCOUNTTYPECODE ■ APPLIES_TO ■ PRICECHARGETYPE ■ SALESORDER_LINESTATUS ■ CUSTOMERPARTY_PAYPROFILE_PAYMETHODCODE ■ ITEM_BILLINGTYPECODE ■ CURRENCY_CODE ■ STATE
XSLT files	Directory: <i>Comms_home/source/soainfra/apps/services/.../service_name/SOA/Transformations</i> No modified artifacts.

2. Upload any new or changed files to the Oracle Metadata Services repository as described in ["Managing Oracle AIA Files in the MDS Repository"](#).
3. For any custom-created source services:

- a. In Oracle JDeveloper version 12.2.1.1, open the **.jpr** file for the service.
JDeveloper updates the composite.
 - b. Save the project and files under the appropriate directories. For example, save **.wsdl** files in the WSDL directory.
 - c. Deploy the custom services from the JDeveloper context menu. Use the **composite.xml** file in the service's SOA directory as the deployment descriptor file.

For information about deploying applications using JDeveloper, see *Oracle Fusion Middleware Developing Applications with Oracle JDeveloper*.
4. For any ready-to-use source services that you have customized within customizable scopes:
 - a. Open JDeveloper 12.2.1.1.
The Select Role dialog box appears.
 - b. Select **Default Role** and click **OK**.
 - c. In the Projects section, select the top-level element.
 - d. From the **File** menu, select **Import**.
 - e. Select **SOA Archive Into SOA Project** and click **OK**.
 - f. Click **Browse**.
 - g. Browse to the directory where the upgraded version of the deployed composite is copied. For example:

`C:\DeployedCodeFromServer\ABCS\ABCS_V2\deploy`

where *DeployedCodeFromServer* is the directory where the deployed composite is copied, *ABCS* is the composite name, and *ABCS_V2* is the upgraded version of the composite.
 - h. Select the **.jar** file for the new composite and click **Open**.
 - i. Select the **Import for Customization** option and click **Finish**.
 - j. From the **Tools** menu, select **Preferences**.
 - k. From the navigation tree, select **Roles**.
 - l. Under Roles, select **Customization Developer**.
JDeveloper reopens in the new role.
 - m. In the Projects section, expand the composite and double-click the BPEL file.
 - n. Locate the customizable scope where the customizations were made.
 - o. Confirm that the customizations appear and resolve any conflicts.
 - p. Redeploy the custom composite using JDeveloper or a deployment plan.
5. For the Agent Assisted Billing Care pre-built integration, manually migrate any customizations made in source Oracle Data Integrator integration projects to 12.2. See *Oracle Fusion Middleware Developer's Guide for Oracle Data Integrator* for information about customizing Oracle Data Integrator integration projects.

Migrating Database Tables

After migrating customizations, you must migrate the data in the following Oracle AIA database tables:

- Migrate the data in the source *domainName_AIA* schema to the 12.2 SOAINFRA schema for the following tables:
 - AIA_ERROR_MONITOR
 - AIA_ERROR_FLEX_FIELD

Note: Because AIA_ERROR_FLEX_FIELD depends on AIA_ERROR_MONITOR, you must migrate the data in AIA_ERROR_MONITOR first.

- Migrate your Oracle AIA cross reference data from the source *AIAInstanceName_XREF* schema to the 12.2 *domainName_COMMS_XREF* schema created by the Oracle AIA Configuration Wizard (where *AIAInstanceName* is the name of the source Oracle AIA instance and *domainName* is the name of the 12.2.1.1 SOA domain). You must migrate one cross reference table at a time.

You can use Oracle SQL Developer to migrate the data as follows:

1. On the source environment in SQL Developer, in the Connections navigator, expand your source database connection, then expand **Tables**.
2. Right click the table you want to export and select **Export**.
3. Select the **Export Data** option, specify the SQL format, and complete the export.
4. Move the exported SQL file from the source environment to the 12.2 environment and open it in a text editor.
5. Remove the schema name and keep the file open.
6. On the 12.2 environment in SQL Developer, open the SQL Worksheet for your 12.2 database connection.
7. From the exported SQL file, copy all SQL statements and paste them into the SQL Worksheet.
8. Click the **Run Script** icon.

The data is imported.

Note: If you see an error about large data size in the stack trace column, edit the SQL file to make one insert statement in a single line and try the import again.

Consult your database administrator for help migrating database data and see *Oracle SQL Developer User's Guide* for more details about using SQL Developer.

Uninstalling Oracle AIA

This chapter discusses how to uninstall the Oracle Application Integration Architecture (Oracle AIA) pre-built integrations.

About Uninstalling Pre-Built Integrations

Uninstalling Oracle AIA involves the following tasks:

1. Back up the Oracle AIA home directory and any customized Oracle AIA artifacts in the enterprise object library. This includes customizations to:
 - Enterprise Business Objects (EBOs), including custom XSD files in the following directories:
 - *Install_home/comms_home/source/soainfra/apps/AIAMetaData/AIAComponents/EnterpriseObjectLibrary/Core/Custom/EBO/*
 - *Install_home/comms_home/source/soainfra/apps/AIAMetaData/AIAComponents/EnterpriseObjectLibrary/Industry/Industry_Name/Custom/EBO*
 - Extensible style sheet language transformations (XSLTs)
 - Enterprise Business Services (EBS) Web Service Definition Language (WSDL)
 - Any EBS with custom routing rules
 - The **AIAConfigurationProperties.xml** file.
2. Undeploying pre-built integrations using scripted undeployment plans. See ["Undeploying Pre-Built Integrations"](#).
3. Uninstalling Oracle AIA.

Uninstalling Oracle AIA removes everything in the Oracle AIA home directory. Although you can undeploy an individual pre-built integration from the server, you cannot uninstall an individual pre-built integration option. You uninstall all pre-built integration options together.
4. Cleaning the environment. See ["Cleaning the Environment"](#).
5. Verifying the uninstallation. See ["Verifying Uninstallation"](#).

Undeploying Pre-Built Integrations

To undeploy a pre-built integration from the server:

1. Navigate to the following directory:

Install_home/comms_home/bin

2. Run one of the following commands:

- On UNIX:

```
source commsenv.sh
```

- On Windows:

```
source commsenv.bat
```

This command sources the **aiaenv** script and sets the COMMS_HOME environment variable to *Install_home/comms_home*.

3. Navigate to the following directory:

Install_home/comms_home/pips/Communications

4. Run one of the commands listed in [Table 9-1](#), depending on your platform and the pre-built integration you are undeploying.

Table 9–1 Pre-Built Integration Undeployment Commands

Pre-Built Integration	Platform	Command
Order to Cash	UNIX	<p>Order to Cash base:</p> <pre>sh \$COMMS_ HOME/pips/Communications/O2CBase/Deployments/undeployO2CBase.sh</pre> <p>Order to Cash for Siebel CRM:</p> <pre>sh \$COMMS_ HOME/pips/Communications/Deployments/O2CSiebel/undeployO2CSiebel.sh</pre> <p>Order to Cash for BRM:</p> <pre>sh \$COMMS_ HOME/pips/Communications/O2CBRM/Deployments/undeployO2CBRM.sh</pre> <p>Order to Cash for OSM:</p> <pre>sh \$COMMS_ HOME/pips/Communications/O2COSM/Deployments/undeployO2COSM.sh</pre>
Order to Cash	Windows	<p>Order to Cash base:</p> <pre>%COMMS_ HOME%\pips\Communications\O2CBase\Deployments\undeployO2CBase.bat</pre> <p>Order to Cash for Siebel CRM:</p> <pre>%COMMS_ HOME%\pips\Communications\O2CSiebel\Deployments\undeployO2CSiebel.bat</pre> <p>Order to Cash for BRM:</p> <pre>%COMMS_ HOME%\pips\Communications\O2CBRM\Deployments\undeployO2CBRM.bat</pre> <p>Order to Cash for OSM:</p> <pre>%COMMS_ HOME%\pips\Communications\O2COSM\Deployments\undeployO2COSM.bat</pre>
Agent Assisted Billing Care	UNIX	<pre>sh \$COMMS_ HOME/pips/Communications/AABC/DeploymentPlans/undeployAABC.sh</pre>

Table 9–1 (Cont.) Pre-Built Integration Undeployment Commands

Pre-Built Integration	Platform	Command
Agent Assisted Billing Care	Windows	%COMMS_HOME%\pips\Communications\AABC\DeploymentPlans\undeployAABC.bat
Product MDM	UNIX	<p>Product Master Data Management Base:</p> <pre>sh \$COMMS_HOME/pips/MDMProductPIM/DeploymentPlans/undeployPIM.sh</pre> <p>Product Master Data Management for Siebel CRM:</p> <pre>sh \$COMMS_HOME/pips/MDMProductSiebel/DeploymentPlans/undeploySiebel.sh</pre> <p>Product Master Data Management for BRM:</p> <pre>sh \$COMMS_HOME/pips/MDMProductBRM/DeploymentPlans/undeployMDMProductBRM.sh</pre> <p>Product Master Data Management for PDC:</p> <pre>sh \$COMMS_HOME/pips/MDMProductPDC/DeploymentPlans/undeployMDMProductPDC.sh</pre> <p>Product Master Data Management for Design Studio:</p> <pre>sh \$COMMS_HOME/pips/MDMProductDS/DeploymentPlans/undeployDS.sh</pre> <p>Product Master Data Management Routing Rules:</p> <pre>sh \$COMMS_HOME/pips/MDMProduct/DeploymentPlans/undeployEBS.sh</pre>
Product MDM	Windows	<p>Product Master Data Management Base:</p> <pre>%COMMS_HOME%\pips\MDMProductPIM\DeploymentPlans\undeployPIM.bat</pre> <p>Product Master Data Management for Siebel CRM:</p> <pre>%COMMS_HOME%\pips\MDMProductSiebel\DeploymentPlans\undeploySiebel.bat</pre> <p>Product Master Data Management for BRM:</p> <pre>%COMMS_HOME%\pips\MDMProductBRM\DeploymentPlans\undeployMDMProductBRM.bat</pre> <p>Product Master Data Management for PDC:</p> <pre>%COMMS_HOME%\pips\MDMProductPDC\DeploymentPlans\undeployMDMProductPDC.bat</pre> <p>Product Master Data Management for Design Studio:</p> <pre>s%COMMS_HOME%\pips\MDMProductDS\DeploymentPlans\undeployDS.bat</pre> <p>Product Master Data Management Routing Rules:</p> <pre>%COMMS_HOME%\pips\MDMProduct\DeploymentPlans\undeployEBS.bat</pre>

A message showing uninstallation progress appears. A success message is displayed when uninstallation is complete.

- Restart the server.

6. Uninstall Oracle AIA following the instructions in the ["Uninstalling Oracle AIA"](#).

Uninstalling Oracle AIA

To uninstall Oracle AIA:

1. Navigate to the following directory:

Install_home/oui/bin

2. Run one of the following commands:

- On UNIX:

```
sh deinstall.sh
```

- On Windows:

```
deinstall.cmd
```

The Welcome screen of the Oracle AIA Uninstaller appears.

3. Review list of components to be uninstalled and click **Next**.

The Uninstallation Summary screen appears.

4. Review the home directory that will be cleared and the log file location and click **Uninstall**.

The Uninstallation Progress screen appears.

5. Wait for the progress bar to reach 100% and click **Next**.

The Uninstallation Complete screen appears.

6. Review the information and click **Finish**.

7. Clean the environment as described in ["Cleaning the Environment"](#).

Note: The Uninstaller does not list which pre-built integration options are uninstalled on the Uninstallation Summary or Uninstallation Complete screens.

All options are uninstalled.

Cleaning the Environment

Cleaning the environment involves the following tasks:

1. [Removing Oracle AIA Artifacts from the WebLogic Server](#)
2. [Deleting Oracle AIA Files](#)
3. [Deleting Oracle AIA Metadata](#)
4. [Deleting Oracle AIA Security Policies](#)

Note: If you plan to reinstall Oracle AIA, you must use a newly-created domain. Do not reuse a domain from which Oracle AIA was uninstalled.

Removing Oracle AIA Artifacts from the WebLogic Server

To remove Oracle AIA artifacts from the WebLogic server:

1. Log in to the Oracle WebLogic Server Administration Console.
2. From the Domain Structure panel, select **Deployments**.
The Summary of Deployments page appears.
3. If any Oracle AIA deployments appear, such as AIAHomeApp, select the check box beside the deployment and click **Delete**.
4. From the Domain Structure panel, expand **Services** and select **Data Sources**.
5. If any Oracle AIA data sources appear, such as AIADataSourceDS, select the check box beside the data source and click **Delete**.
6. From the Domain Structure panel, expand **Services**, expand **Messaging**, and select **JMS Modules**.
7. If any Oracle AIA JMS modules appear, such as AIAJMSModule, select the check box beside the module and click **Delete**.
8. From the Domain Structure panel, select **Security Realms**.
9. From the list of security realms, select **myrealm**.
10. Select the **Users and Groups** tab.
11. Select the check box beside any Oracle AIA users, such as AIAIntegrationAdmin, and click **Delete**.
12. Select the **Groups** tab.
13. Select the check box beside any Oracle AIA groups and click **Delete**. The default Oracle AIA groups to delete include the following:
 - AIAApplicationUser
 - AIAMappingCustomizer
 - AIAResubmissionAdmin
14. Shut down the managed server on which Oracle AIA is deployed.
15. Shut down the administration server for the cluster.
After shutting down the administration server, the Administration Console is no longer available.
16. Start the administration server for the cluster.
See Oracle Fusion Middleware Administering Server Startup and Shutdown for Oracle WebLogic Server for information about how to start the administration server using a script, a Java command, or WebLogic Scripting Tool.
17. Log in to the WebLogic Server Administration Console.
18. From the Change Center panel, select **View changes and restarts**.
19. Select any changes in the table and click **Activate Changes**.
20. Restart the managed server.

Deleting Oracle AIA Files

To delete any remaining Oracle AIA files:

1. On the system where you uninstalled Oracle AIA, navigate to the *domain_home* directory.
2. Delete the **edit.lok** file.
3. Navigate to the *domain_home/pending* directory.
4. Delete all files in this directory.
5. Restart the managed server from which you undeployed the prebuilt integrations.
6. Navigate to the Oracle AIA home directory and delete any remaining files.

Deleting Oracle AIA Metadata

To delete the Oracle AIA metadata:

1. Navigate to the *SOA_home/common/bin* directory.
2. From the command line, run one of the following commands:

- On Linux:

```
wlst.sh
```

- On Windows:

```
wlst.cmd
```

The WebLogic Scripting Tool (WLST) starts.

3. Run the following command:

```
connect('username', 'password', 'server:port')
```

where:

- *username* and *password* are the user name and password for the WebLogic Server administration user
- *server* and *port* are the address and port of the managed server to which Oracle AIA was deployed

WSLT connects to the managed server.

4. Run the following command:

```
domainConfig()
```

WLST navigates to the *domainConfig* directory of the domain.

5. Run the following command:

```
deleteMetadata(application='soa-infra', server='server',  
docs='/apps/AIAMetaData/**')
```

where *server* is the SOA server or managed server to which Oracle AIA was deployed.

WSLT deletes the Oracle AIA metadata from the server.

For more information about WLST commands, see *Oracle Fusion Middleware WebLogic Scripting Tool Command Reference*.

Deleting Oracle AIA Security Policies

To delete Oracle AIA security policies:

1. Log in to Oracle Enterprise Manager Fusion Middleware Control.
2. Expand **WebLogic Domain**.
3. Right-click the node for your SOA domain.
4. Select **Web Services** then select **WSM Policies**.
5. Select the following policies and click **Delete**.
 - oracle/aia_wss_saml_or_username_token_service_policy_OPT_ON
 - oracle/aia_wss_saml_or_username_or_http_token_serivce_policy_OPT_ON
 - oracle/aia_wss10_saml_token_client_policy_OPT_ON

Verifying Uninstallation

To verify uninstallation:

1. Log in to Oracle Enterprise Manager Fusion Middleware Control.
2. In the Target Navigation pane, expand the **SOA** folder, then **soa-infra**, then **default**.
3. Verify that no Oracle AIA composites appear.