

Oracle Fusion Cloud SCM

Implementing Innovation Management

26B

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Author: Landis Gwynn, Sabita Rao, Usha Pereira

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Get Help

There are a number of ways to learn more about your product and interact with Oracle and other users.

Get Help in the Applications

Some application pages have help icons  to give you access to contextual help. If you don't see any help icons on your page, click your user image or name in the global header and select Show Help Icons. If the page has contextual help, help icons will appear.

Get Training

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You can email your feedback to oracle_fusion_applications_help_ww_grp@oracle.com.

Thanks for helping us improve our user assistance!

1 Configure Innovation Management

An Introduction to Innovation Management

Oracle Innovation Management and Oracle Product Development, along with Oracle Product Hub, deliver comprehensive Innovation to Commercialization capabilities across your entire product value chain.

Innovation Management consists of the following products:

- Product Requirements and Ideation Management
- Concept Design Management

Product Development enables you to manage product data and change orders while balancing cost.

In the **Setup and Maintenance** work area, these products appear as **Functional Areas**. You can view and implement them through the **Product Management** offering.

Functional Area	Description
Product Requirements and Ideation Management	Allows employees and stakeholders to collaborate on product innovation ideas and record requirements. Product managers can integrate requirements with concepts in Concept Design Management.
Concept Design Management	Offers a collaborative design workspace for product architects, designers and executives to generate, capture, analyze, and approve product concepts that address product strategy goals. Approved concepts can then be transferred directly to Product Lifecycle Management (PLM) solutions for prototype planning, detailed design and product introduction.
Product Development	Uses Items, Structures (BOM), and Changes to track the development processes around products, and enable fast-track commercialization of the correct products. Product Development enables a company to incorporate concepts or early BOMs, designs, and other documents from sources such as Innovation Management or external PLM applications. Product Development manages changes formally and centrally on items (parts), and items/BOMs can be released to manufacturing with recommendations on sourcing (example, manufacturer parts).

For information about getting started with Oracle Cloud and implementing Oracle SCM Cloud, see the *Oracle Cloud Documentation* library. The following table lists the chapters that describe business process setup and functional area setup tasks, in that order.

Chapters	Description
Introduction to Innovation Management	Lists the setup tasks common to SCM implementation that are required before setting up Innovation Management. Includes information about deployment scenarios applicable to Innovation Management

Chapters	Description
Setting up the Functional Area Innovation Management	Provides a roadmap of setup tasks, and identifies key setup decisions that are required to set up individual modules in Innovation Management
Configuring Innovation Management for Integration with External Systems	Details the tasks required to configure Innovation Management for integration with external applications. Optional to implementors.
Configuring Agile PLM for Integration with Innovation Management	Details the tasks required to configure Agile PLM for integration with Innovation Management. Optional to implementors

Tasks for the PLM Administrator in External Environments

Let's have a look at the recommended steps to configure Agile PLM.

The following table describes how you can configure Agile PLM and is required only if you intend to integrate PLM with Innovation Management.

Task	Description
Configure a Target System for Integration (Optional)	Configure Agile PLM or Product Development to integrate with Innovation Management.
Configure Agile PLM	<p>The following tasks are required to integrate Innovation Management with Agile PLM only.</p> <ol style="list-style-type: none"> 1. Configure security certificates. 2. Configure web service connections in Enterprise Manager. 3. Create Innovation Management users in Agile PLM, or configure Agile PLM to use the same Lightweight Directory Access Protocol (LDAP) server as Oracle Innovation Management. 4. Enable Innovation Management attributes in Agile PLM. 5. Add Innovation Management attributes to required privileges in Agile PLM. 6. Configure External References Application and Subclass in Agile PLM. 7. Enable required privileges for Innovation Management users to create reference objects in Agile PLM.

Deploy Innovation Management

This topic discusses deployment and integration options available to implementors of Innovation Management.

Deployment Choices

Deploy Innovation Management in Cloud environments according to your required level of control and configurability. The following table lists the cloud deployment options.

Deployment Option	Deployed By	Level of Control and Configurability	Speed of Adoption and Agility
Private Cloud	Oracle deploys and manages for you in an exclusive private Cloud.	Medium	Medium
Oracle Public Cloud	Oracle provides a subscription-based service.	Low	High

Another possible deployment scenario is of a Hybrid Cloud, where Oracle integrates Cloud deployments with legacy applications on-premise, although configurations are limited.

Integration Choices

In addition to deploying on cloud, you can integrate Innovation Management with other Oracle Cloud and external PLM applications.

- Product Development

Streamline new product development and introduction processes. Innovation Management with Product Development helps in rapidly innovating and developing the best mix of profitable products.

- Project Portfolio Management

Track the conversion of ideas to projects and profitable products. Use tasks associated with work items for requirements specification, concept, and proposals of the project.

- Oracle Agile Product Lifecycle Management

Use legacy items and PLM processes by integrating Agile PLM with Innovation Management (in a Hybrid Cloud).

2 Set Up Innovation Management Functional Areas

Innovation Management Functional Areas

This topic outlines the default tasks required to define Innovation Management in the Setup and Maintenance work area.

You must first complete the common application setup and configuration tasks for Product Management.

In the **Setup and Maintenance** menu, click the **Product Management** offering. Navigate to the required task list to view the functional area tasks.

The table lists functional areas and tasks for Innovation Management.

Task List	Description
Define Product Requirements and Ideation Management <ul style="list-style-type: none"> • Manage Product Idea Classes • Manage Product Idea Statuses • Manage Product Requirement Classes • Manage Product Requirement Statuses • Manage Product Requirements and Ideation Lookups 	Use this task list to configure ideas, and requirements specifications.
Define Concept Design Management <ul style="list-style-type: none"> • Manage Product Concept Classes • Manage Product Concept Component Classes • Manage Product Concept Statuses • Manage Proposal Statuses • Manage Product Concept Lookups 	Use this task list to configure concepts and concept components.

Related Topics

- [Class Management in Oracle Innovation Management](#)
- [Innovation Management Lookups](#)

Configure External Systems for Integration

Oracle Innovation Management integrates with systems such as Agile PLM, and Oracle Product Development, through view objects, application modules, and web services.

You can perform the following tasks by integrating target systems:

- Associate issues to ideas
 - Relate issues to concepts that improve products
 - Relate issues or ideas to requirements to drive improved designs
- Create items in Product Development from concept components
 - Search and use an existing item to create a concept
 - Associate requirements to Agile items (trace which requirements were used to build the eventual product)
 - Map attributes from Agile PLM items to concept components
- Allow proposals to be related to or drive projects in Agile PPM
 - View status and key attributes of Projects within proposals
 - Integrate actual cost and resources from Agile PLM Project into proposals
 - Check how a proposal is progressing against projected cost and resources

Related Topics

- [Integration Tasks](#)

Class Management in Oracle Innovation Management

Class Management is the definition of classes, class hierarchies, and class codes to establish reusable business objects. Here we learn about class management for ideas, requirements specifications, and concepts in Innovation Management.

The tasks addressed here are:

- Manage Product Idea Classes
- Manage Product Requirement Classes
- Manage Product Concept Classes
- Manage Product Concept Component Classes

Class

Use classes and subclasses to define business object types.

When you create a class, the class name that you provide is stored and used as an object type, at the time of business object creation.

Select a class to edit the class name and description. The **Object Creation Allowed Indicator** in the **Edit Class** page controls the possibility of creating business objects of the current class value. Select the indicator to ensure that the class name is available to use as a type when creating a business object.

Class Code

A Class Code is a constant and unique value associated with each class across Innovation Management and associated PLM systems.

You can define a class code only once, when creating a class, as it's used during integration with external systems, and is required to remain a consistent internal code.

Note: You can't edit the class code after class creation. However, you can delete the existing class, if it isn't already used to create an object, and create a class with the required class code.

Class Hierarchy

Class Hierarchy enables you to group and search for classes, based on class values or business objects types.

Select a class in the **Manage Class** page to view the class hierarchy in the **Edit Class** page.

Related Topics

- [Innovation Management Functional Areas](#)

Innovation Management Lookups

Oracle Innovation Management provides lookups that you can use to define values in requirements, and concept modules during implementation.

This topic addresses the following tasks:

- Manage Product Requirements and Ideation Lookups
- Manage Product Concept Lookups

Use standard lookups in Innovation Management to define values such as type, status, priority, scope, compliance, resource pool, metrics, lifecycle phases, and rank.

Application statuses are also standard lookups. You can execute the following tasks as lookup tasks:

- Manage Product Idea Status
- Manage Product Requirement Status
- Manage Product Concept Status
- Manage Proposal Status

The following table details the standard lookups available in Innovation Management.

Lookup types with configuration level **System** don't allow you to add or delete lookup codes. However, you can edit the **Meaning** and **Description** fields of the existing lookup codes.

Application	Module	Lookup Type	Lookup Code Meaning	Configuration Level
Product Requirements and Ideation Management	Ideas	Status	Pending, Accepted, Rejected, Implemented, In Progress, Review	User
Product Requirements and Ideation Management	Requirements	Associated Product	Common Services, Product Concept Design, Product Requirements and Ideation Management	User
Product Requirements and Ideation Management	Requirements	Requirement Fulfillment	Yes, No	User
Product Requirements and Ideation Management	Requirements	Requirement Priority	Must Have, Nice to Have, Should Have	User
Product Requirements and Ideation Management	Requirements	Requirement Scope	Yes, No	System
Product Requirements and Ideation Management	Requirements	Requirement Status	Pending, Submitted, Released	System
Product Requirements and Ideation Management	Requirements	Comment Status	Open, Closed	System
Product Concept Design	Concepts	Proposal Business Unit	Business Unit	User
Product Concept Design	Concepts	Concept Product Type	New Product, Technology Evaluation, Product Redesign	User
Product Concept Design	Concepts	Component Product Type	Documentation, Electrical, Mechanical, Software, Tooling	User
Product Concept Design	Concepts	Concept Status	Draft, Submitted Approved, Converted	System
Product Concept Design	Concepts	Cost Category	Development, Production	System
Product Concept Design	Concepts	Cost Status	Actual, Projected	System
Product Concept Design	Concepts	Proposal Cost Types	Fixed, Labor, Material, Variable	System

Application	Module	Lookup Type	Lookup Code Meaning	Configuration Level
Product Concept Design	Concepts	Funding Request For	Concept, Feasibility, Product, Prototyping	User
Product Concept Design	Concepts	Market Strategy	Differentiation, Neutralization, Optimization, Others	System
Product Concept Design	Concepts	Primary Justification	Enter New Markets, Enter New Regions, Exit Market, Expand Market Share	User
Product Portfolios	Proposals	Portfolio Status	List of Portfolios	User

Set Up Concept Rollups

With the required administrator privileges, you can create concept metrics and configure how these are rolled up. Product managers can evaluate, approve or reject product concepts against these metrics.

You can also rename existing concept metrics using Application Composer.

To set up concept rollups:

- Navigate to the **Concept Design** work area.
- On the Manage Concepts page, expand the Tasks panel and click Setup Concept Rollups.
- On the Concept Rollups page, select the fields to use for the rollup.

The following table lists administrator-defined metrics that you can configure.

Column	Description
Active	If selected, includes the rollup definition in the calculation.
Rollup Column	Column of attributes selected for rollup and aggregation.
Result Column	Destination column that displays rolled up results and appears in the General Information tab of each component to all users.
Consider Quantity	If selected, multiplies the attribute in the Rollup column with the quantity in the Quantity column of the component.
Incomplete Rollup Count Column	Column that displays the number of leaf nodes that don't have a value entered in the rollup column.
Target Value Column	Identifies the column of data to compare with the Rollup column to find a variance.

Column	Description
	The default calculation for variance is: Variance = Rollup Result Column - Target Value Column
Variance Result Column	Destination column that displays the calculated variance.

Related Topics

- [How You Calculate Metrics in Concepts](#)
- [Analyze a Product Concept](#)
- [Rollups in Concept Design](#)

Set Up Approval Rules for Concepts

With the appropriate role, you can set up an approval rule for a concept type to automatically assign approvers for a concept class.

To set up an approval rule for concepts:

1. Navigate to the **Setup and Maintenance** work area.
2. From the Setup list, select Product Management.
3. Search for and open **Manage Approval Groups** task.
4. In the BPM Worklist, click **Task Configuration**.
5. In Tasks to be configured, search by the object type. For example: Search for concepts to get the approver task for concepts or proposals.
6. Select **ApproversTask** and click Edit Task.
7. Navigate to **Access > Actions**.
8. For the Approve and Reject rows, select both Assignees and Owners in the Individuals with Access column.
9. Click the **Commit Task** icon.
10. Enter comments and click the **OK** button.

Configure User Display Format

You can configure how users are displayed on the interface by choosing a user name display format in the Setup and Maintenance work area.

Use the **Manage Administrator Profile Values** task to configure the user name display format.

Profile Option Setting for User Display

Profile Option	Description
ORA_EGP_NAME_DISPLAY_MODE	Specifies how users are displayed on the user interface.

Profile Option	Description
	<p>You can select your preferred display format. The options are:</p> <ul style="list-style-type: none"> • User Name • Email • Name <p>Note: The Name format is derived from the Display Name setting configured using the Manage Person Name Formats task in the Setup and Maintenance work area.</p>

The default format for user display is applied on all pages and tabs, except the **Attachments** tab. The Attachments tab always displays users in the User Name format. If you haven't configured Email, First Name, and Last Name, then the User Name is displayed.

Configure Unique Number Attribute for Concepts, Proposals, and Ideas

There are two methods of generating numbers for proposals, concepts, and ideas - **Inherited from parent** and the **Sequence-generated**.

You can configure the sequence-generated method during class setup. This ensures that unique numbers are autogenerated and assigned to concepts, proposals, and ideas as they're created. The default number generation method is **Inherited from parent**. You can also set up the numbering method to use a prefix and suffix to help classify and identify the type of object.

- For proposals and concepts, the number appears along with the name and description on the **General Information** page, the **Manage Concepts** or **Manage Proposals** pages, in notifications, and in the proposal export page.
- For ideas, the number appears along with other object details such as the name and description in the **General Information** page, the **Manage Idea** page, and in notifications.

Note: You need the Setup Product Innovation (ACA_SETUP_PRODUCT_INNOVATION_PRIV) privilege to access the setup task.

Here's how you configure the number generation method:

1. Navigate to the following in the Setup and Maintenance work area:
 - For concepts and proposals, select:
 - Offering: Product Management
 - Functional Area: Concept Design Management
 - Task: Manage Product Concept Classes
 - For ideas, select:
 - Offering: Product Management
 - Functional Area: Product Requirements and Ideation Management

- Task: Product Idea Classes
- 2. Open the concept, proposal, or idea class for which you want to configure number generation.
- 3. In the **Number Generation Method** field, select an option:
 - o **Inherited from Parent:** applies the same number generation method of the parent class to this class.
 - o **Sequence-generated:** automatically generates values in a specified sequence, based on the increment setting. If you select this option, then enter the following criteria:
 - i. **Prefix:** text that automatically appears before the number
 - ii. **Suffix:** text that automatically appears after the number
 - iii. **Starting Number:** the first number in the sequence (Default Value =1)
 - iv. **Increment:** incremental difference between two numbers in the sequence (Default Value =1)
 - v. **Maximum Number of Attempts:** the number of attempts the application must make to generate the next available unique number (Default Value =50)
 - vi. **Description:** description of the number generation method for that class, which is a required field
- 4. Save your changes.

Points to Consider

- For data created before the 22B update, the Number attribute is set to NULL.
- Avoid duplicating the number generation criteria for different concept classes.
- Once you convert a concept to an item, the Number attribute will no longer be available.
- Import and export of setup data for the Product Requirements and Ideation Management functional area from the Setup and Maintenance work area includes the sequence generation criteria defined for each product idea class.

Configure Portfolios

You can configure the portfolio list using the **Manage Portfolios** task through the panel drawer in the Innovation Management work area.

To create portfolios:

1. Log in to the **Concept Design** work area.
2. Click **Tasks** from the panel drawer.
3. Click **Manage Portfolios**.
4. From the Standard Lookup Type, select a **Lookup Type** row on the Manage Portfolio Lookups page.
5. From the **Actions** menu, click **New** to add a portfolio.
6. Enter values in the following fields:
 - a. Lookup Code
 - b. Display Sequence
 - c. Meaning
 - d. Description
 - e. Tag
 - f. Lookup values descriptive flexfields.
7. The **Start Date** and **End Date** fields appear automatically.
8. The Enabled check box is enabled by default.
9. Click **Save**.

Related Topics

- [Associate Proposals to Portfolios](#)

Configure Email Notification Template

You can configure an email notification template using the Oracle Analytics Publisher Desktop Add-in for Microsoft Word for the following objects: change orders, change requests, problem reports, corrective actions, new item requests, proposals, and requirements.

You can view the object-specific labels for change requests, problem reports and corrective actions in the Change Order Approval Worklist and Email Notification Report template available in the Oracle Analytics Publisher. You can then set the configured template as the default template for all future approval notifications.

You can also configure approval notifications to add descriptive flexfields in the **Additional Information** section and view the impacted products for the engineering change orders, nonrevision control change orders, problem reports, and corrective actions. Configure notifications templates to view the attributes in the following notifications:

- Change Order Approval Worklist and Email Notification Report
- Change Order Reviewer Notification Report.

To view the configured descriptive flexfields in the additional information section, set **isAdditionalInformationEnabled** to true in the template.

Change request and commercial change order approval notifications won't display Impacted Products section.

Note:

- Before modifying the template, it's recommended that you familiarize yourself with Oracle Analytics Publisher. Also review the My Oracle Support (MOS) topic, Configurable Email Notifications: Implementation Considerations (Doc ID 2215570.1).
- Any user assigned with any of these predefined job roles can configure the notification template:
 - BI Author Role (BIAuthor)
 - BI Publisher Data Model Developer (BIPDataModelDeveloper)

Oracle recommends that security administrators don't assign these predefined roles directly to users. Instead, make a copy of a predefined role, remove the privileges that your users don't need, and assign users the role that contains only the privileges they need.

- Ensure that your users are assigned the privilege

Generate Item Change Order Report (EGO_GENERATE_ITEM_CHANGE_ORDER_REPORT_PRIV).

This role provides access to the following:

- New Item Request Participant Notification Report
- Change Order Participant Notification Report
- Edit a copy of predefined layout templates, rather than creating reports or layout templates from scratch.
- To edit the template, it's recommended that you use the add-in for Microsoft Word.
- Modified templates are refreshed every 24 hours by default after you upload them to the BI catalog. To reflect changes sooner, you can change the profile value setting as described in **Set Report Template Refresh Interval**.

Create Profile Options to Control the Refresh Interval

1. In the Setup and Maintenance work area, go to the **Manage Profile Options** task.
2. On the Manage Profile Options page, click the **New** icon.
3. On the Create Profile Option page, enter the profile option code BIP_CLIENT_REFRESH_TIME.
4. Enter a display name that you can easily remember to help you find the profile option later.
5. From the Application list, select **Oracle Middleware Extensions for Applications**.
6. From the Module list, select **Application Core**.

7. Specify a start date.
8. Click **Save and Close**.
9. On the Manage Profile Options page, make sure that you select your new profile option in the Search Results: Profile Options subsection.
10. In the <Profile Option>: Profile Option Levels subsection, select the **Enabled** and **Updatable** check boxes for the **Site** level.
11. Click **Save and Close**.

Set Report Template Refresh Interval

In the Setup and Maintenance work area, go to the **Manage Administrator Profile Values** task.

1. Search for the BIP_CLIENT_REFRESH_TIME profile option and select it.
2. Click the **Create** icon.
3. In the row that appears, select **Site** as the Profile Level. Then, enter a time interval of your choice (for example, 15) as the profile value.
4. Click **Save and Close**.

Install Oracle Analytics Publisher Desktop Add-In for Microsoft Word

1. Download Oracle Analytics Publisher Desktop from the following location: <https://www.oracle.com/middleware/technologies/analytics-publisher/downloads.html>
2. Install the latest version of the software for your operating system.
3. After you install the latest version, the add-in appears as the **Publisher** ribbon tab when you open Microsoft Word.

Download the Sample.xml File

1. Navigate to Reports and Analytics (Navigator > Tools > Reports and Analytics) and click **Browse Catalog**.
2. Navigate to the data model folder for the business object using the path listed in the Table 1 - Folder Path for Data Models.
3. Select the data model that you want and click **Edit**.
4. In the Data Model pane, click **Properties**.
5. In the Attachment section of the page that appears, click the file name, **sample.xml**, in the Sample Data field. The file downloads automatically.

Create and Publish a New Template

Download and Modify a Copy of the Original Template.

1. Click **Catalog**.
 - a. To download and modify the template, navigate to the template using the path listed in Table 2 - Folder Path for Templates.
 - b. Click **Edit**.
 - c. Click **Edit** on the new page. Save a copy of the report (.rtf).
 - d. Open the (.rtf) report in Microsoft Word.
 - e. Click **Publisher > Sample XML** to begin uploading the sample.xml file.
 - f. After the upload is complete, all the Oracle Analytics Publisher options are enabled to configure the template. When you click the **Field** icon, you see change order-related fields from the data model, including trading partner reference attributes such as Customer, Supplier, Manufacturer, and Source. You drag and drop or move the required fields to modify the template. You can configure conditional

rendering of these attributes and attribute values. For details, see the support note: Doc ID 29200671 on My Oracle Support.

- g. Save the template.

Upload the New Template.

1. Change to Oracle Analytics Publisher by replacing everything after the domain name in your URL with `/xmlpserver`
2. Click **Catalog**.
3. Ensure that the folder structure and files in Shared Folders/Custom/Supply Chain Management are the same as the ones in Shared Folders/Supply Chain Management, including the folder you need. If not, copy or create the folders you need into the Custom/Supply Chain Management folder.
4. To upload the template, navigate to **Shared Folders/Custom/Supply Chain Management** and find the relevant report.
5. Click **Edit**.
6. Click **Add New Layout** and click **Upload**. The Upload Template File dialog appears.
 - a. Enter a name for the template and select the template you modified.
 - b. Type: Select RTF
 - c. Locale: Select English
 - d. Click **Upload**.

Set the New Template as the Default

1. While still viewing the layouts, click **View a List**.
2. Select the Default Layout checkbox corresponding to the modified report.
3. Click the **Save** icon.

The following table lists folder paths for data models.

Folder Path for Data Models

Business Object	Data Model	Data Model Folder Path
Change Order	Change Order Participant Notification Data Model	Shared Folders > Supply Chain Management > Workflow Notifications > Product Management > Data Models
New Item Request	New Item Request Participant Notification Data Model	Shared Folders > Supply Chain Management > Workflow Notifications > Product Management > Data Models
Proposal	Proposal Participant and Workflow Notification Data Model	Shared Folders > Supply Chain Management > Workflow Notifications > Product Management > Data Models
Requirement	Requirement Participant and Workflow Notification Data Model	Shared Folders > Supply Chain Management > Workflow Notifications > Product Management > Data Models

The following table lists folder paths for configured templates.

Folder Path for Configured Templates

Template Name	Folder Path
Change Order Participant Notification Report	Shared Folders/Supply Chain Management/Workflow Notifications/Product Management
New Item Request Definition and Participant Notification Report	Shared Folders/Supply Chain Management/Workflow Notifications/Product Management
Concept Participant and Workflow Notification Report	Shared Folders/Supply Chain Management/Workflow Notifications/Product Management
Proposal Participant and Workflow Notification Report	Shared Folders/Supply Chain Management/Workflow Notifications/Product Management
Requirement Participant And Workflow Notification Report	Shared Folders/Supply Chain Management/Workflow Notifications/Product Management

Related Topics

- [Modify the Notification Template for Change Orders](#)

Enable Single Sign-On for Innovation Management

You can make it possible for your users to use a single user name and password to sign in to all your on-premises and Oracle SCM Cloud applications by implementing Oracle Enterprise Single Sign-On.

Oracle Enterprise Single Sign-On (SSO) is available for customers who have implemented either the Microsoft Active Directory Federation Server 2.0 or the Oracle Identity Federation Service 11g identity provider (IdP). Other identity providers require special approval. Here's the standard approval process:

1. Contact your salesperson or open a service request for SSO Enablement on the Oracle support.oracle.com.
2. Your Oracle sales or help desk sends you a questionnaire to fill out.
3. After you return the questionnaire, Oracle representatives evaluate your responses and obtain approval, usually within 24 hours.
4. After you're approved, Oracle sets up your Oracle SCM Cloud environment and you receive the appropriate documentation on setting up your system.

After you obtain the necessary approval, it takes a minimum of two weeks for Oracle to implement the SSO for your Oracle SCM Cloud environment.

Attachment Categories for Objects in Innovation Management

You can choose the appropriate attachment category while adding attachments to concepts, requirements, proposals, and ideas and set up multiple attachment categories in the Setup and Maintenance work area to organize object attachments.

While using the Save As action to create a new concept proposal, or requirements, along with the attachment, attachment category details are also carried over to the new object. This enables you to select a specific category while uploading attachments, and improves both visibility and streamlining of relevant attachments for a specific process step. It's also a prerequisite for securing attachments based on category.

Note: You need an administrator role to manage the attachment categories and their assignment to the new object attachment entities in the Setup and Maintenance work area.

To assign additional attachment categories for Innovation Management:

1. Navigate to **Setup and Maintenance > Tasks > Search**.
2. Search for and open Manage Attachment Entities.
3. Select the entity to see the attachment categories assigned to that specific entity.
4. The following entities support attachment categories:

Innovation Management Objects	Attachment Entity
Requirement Specification	ACN_REQUIREMENT
Requirement	ACN_REQUIREMENT_LINE
Ideas	ACN_IDEA
Product Proposal	ACD_PROPOSAL
Concept and Concept Component	ACD_COMPONENT

5. Add the additional attachment categories that must be made available for selection when you create attachments.

Note: By default, only the Miscellaneous attachment category is assigned for these objects. The ACD_COMPONENT attachment entity is used for both Concept and Component line items in the concept structure and hence they share the same attachment categories.

3 Integrate Oracle PLM Cloud with External Applications

Integration Tasks

The tasks Register Agile PLM, and Manage Target System aren't module-specific. Complete these optional tasks, listed in the following table, as required to integrate external PLM systems with Oracle Product Lifecycle Management Cloud.

Note: You must first complete the common application setup and configuration tasks for Product Management in the **Setup and Maintenance** workspace.

Task List	Description
Register Agile PLM	This task is a prerequisite for the Manage Target System task, and required to integrate Agile PLM with Product Development and Innovation Management.
Manage Target Systems	Use this task to configure connections between Innovation Management and Product Development.

Related Topics

- [Register Agile PLM](#)
- [Manage Target System](#)

Manage Target System

Use the Manage Target System task to configure data connections, based on web services, between Innovation Management and Product Development.

- Use the **Manage Connections** tab to define template-based connectors that enable access between Agile PLM and Product Development.
- Use the **Manage Mapping to External System** tab to configure the display and usage of Product Development entities and their attributes within Innovation Management.
- Use the **Manage Mapping to Innovation Management** tab to map Innovation Management entities and attributes to Product Development entities.

Related Topics

- [Map to External Systems](#)
- [Manage Connections](#)
- [Manage Mapping to Innovation Management](#)

Register Agile PLM

This task is a prerequisite for the Manage Target System task to integrate Agile PLM with Innovation Management.

Note: You must first complete the common application setup and configuration tasks for Product Management in the Setup and Maintenance workspace.

The typical Agile PLM endpoint is {protocol}://{host}:{port}/CoreService/services/{service}?wsdl

The values for protocol, host, port, and context root {CoreService} need to be entered into the corresponding field for registering the target endpoint in your Cloud application using the Setup and Maintenance workspace.

Use the *Register Agile PLM* task, as described in the following table, to configure server details of the target system intended for use.

Value	Description
*Server Protocol	Select from the menu options (http or https)
*External Server Host	Enter the Agile PLM system name. Example: <plmserver>.oracle.com
*External Server Port	Example: 7001

The following table details the Associated Modules and their Context Root Values.

Module	Context Root Value
AgileA9WebClient	Agile
AgileA9CoreService	Enter the SAML web service reference value here that matches the value defined in the file application.xml . <context-root>CoreService</context-root>

Related Topics

- [Manage Target System](#)

Manage Connections

Use the **Manage Connections** task to configure connections to Product Development, and activate any one at a given time.

Note: The A9 connector is no longer supported.

A predefined connector template is available for Product Development configurations. You can identify the connector template by the prefix **ORA_** and the description in the **Connector Type** column.

Duplicate the connector template

Duplicate the existing connector template to create a connector.

Note: You can't edit a connector template directly.

To duplicate a connector template:

1. Select it and click the **Duplicate** icon or use the **Duplicate** option from the **Actions** menu.
2. Name the newly created connector.

Note: The connector name can't begin with **ORA_**.

Configure the Product Development Connector

To integrate Product Development with Innovation Management, start by duplicating the **ORA_PD** connector template. Edit the newly created connector using the **Edit** option from the **Actions** menu.

Or, select the newly created connector and click the **Edit** icon.

Use the tasks and in the Product Management offering to create and manage item classes, item organizations, and item templates.

Related Topics

- [Manage Target System](#)
- [Integration Tasks](#)
- [Item Classes](#)

Map to External Systems

Use the Manage Mapping to External System task to define entities, entity subtypes (subclass), and their relationships to corresponding entities in external PLM.

The configuration of entities in this task determines their availability and usage in all Innovation Management integration use cases.

Edit Base Entities

The connector template you use contains a nonnegotiable list of base entities. You can't add an entity that's absent from the list.

Note: You must duplicate a template connector and modify the copy. The connector template isn't modifiable.

1. Select the required connector from the **Connector Name** menu to view entities associated with it.
2. Click the **New** icon or **New** option from the **Actions** menu in the **Entity** pane to add entities from a list specific to each connector.

Edit or Remove Entity Subtypes

Some entities may contain subtypes that you can configure for additional value in an entity definition, and to appear in the **Quick View** of a PLM item in Innovation Management.

Note: Removing subtypes deletes all related records like assigned attributes and mappings. Deleting subtypes from an active connector can cause errors in active sessions.

Select an entity and click the **New** icon or **New** option from the **Actions** menu in the **Entity** pane, to add subtypes which are defined in the Agile PLM application for the selected base entity.

Edit an Entity

Select an entity and click the **Edit** icon or **Edit** option from the **Actions** menu in the **Entity** pane, to modify the entity name..

Define Individual Attributes of Entities

Among other options, decide the order of visibility of each attribute, and if it can be found in the Innovation Management search options.

1. Select an entity from the **Entity** pane to view its attributes in the **Attribute** pane.
2. Click the **New** icon or **New** option from the **Actions** menu in the **Attributes** pane to add attributes from a list predefined per entity.
3. Select an attribute and click the **Edit** icon or **Edit** option from the **Actions** menu in the **Attributes** pane to edit it.

Note: Attributes common to all subtypes, configured at the entity level in Innovation Management, are also known as **Title Block** or **Page Two** attributes in the Agile PLM Java Client. Attributes particular to some subtypes, configured at the subentity level in Innovation Management, are also known as **Page Three** attributes in the Agile PLM Java Client.

The following table lists and describes the attributes you can configure.

Value	Description
Attribute Name	<p>Enter the name of the field as intended for display for users.</p> <p>The modifiable name is the label of the attribute seen in Innovation Management, such as in Quick View or the search results table.</p>
API Name	<p>The auto-generated, unique system-wide identifier for objects in Oracle Agile PLM.</p> <p>API Name is a read-only value field.</p>
Data Type	<p>A predefined value indicating the type of attribute.</p> <p>Values include: SINGLELIST_DISPLAYVALUE, SINGLELIST_KEY, MULTILIST_DISPLAYVALUE, INTEGER, DATE, STRING, MONEY_AMOUNT, MONEY_CURRENCY, DOUBLE, UNITOFMEASURE_AMOUNT, UNITOFMEASURE_UNIT.</p>
Data Type Length	<p>A predefined value indicating the number of bytes that you can enter in the field.</p>
Scale	<p>Enter the number of digits required after the decimal point (in a numeric field only). This setting must be greater than or equal to zero (0).</p>
Searchable Indicator	<p>Enable or disable the attribute from being added as search criteria in the Innovation Management search options for Parts, Items, Designs and Relationships.</p> <p>Attributes from relation entities like part structure aren't searchable.</p>
Search Result Sequence	<p>Indicate the column order in which you require the attribute field to appear in search results within Innovation Management.</p> <p>Note: An empty value or a value less than 0 implies that the attribute isn't displayed.</p>
Quick View Sequence	<p>Indicate the row order in which you require the attribute field to appear in the Quick View box that's displayed on hovering over a PLM item within Innovation Management.</p> <p>Note: An empty value or a value less than 0 implies that the attribute isn't displayed.</p>
Default Value	<p>Assign a default value to be used for the attribute field in Innovation Management, if the user doesn't provide a value.</p> <p>Default values are relevant in the following use cases:</p> <ul style="list-style-type: none"> • In search results, when no value is defined in Agile PLM • When creating objects in Agile PLM. <p>For example, all attributes denoting currency have a default value of USD, as an Innovation Management user can't specify the currency type. In Oracle Agile PLM, the currency value of a business object obtained from Innovation Management is automatically appended with the value USD.</p>

Value	Description
Is Hover Over	Use the checkbox to enable or disable the attribute from being displayed as a Quick View attribute in Innovation Management.
Is Hyperlink	Use the checkbox to enable or disable the attribute from being linked directly to its source object in external PLM. For thumbnail attributes, a link to open the thumbnail image is provided.

Related Topics

- [Manage Target System](#)
- [Manage Mapping to Innovation Management](#)

Manage Mapping to Innovation Management

Use the Manage Mapping to Innovation Management task to configure value transformations for handling data across the data formats of Product Development and Innovation Management.

Mapping Sets

Each mapping set per connector template represents a use case that filters the data model of Innovation Management to fulfill unique scenario requirements.

Note: You can't edit the name of a mapping set, or create a mapping set.

The following table describes the mapping sets associated with the connector templates.

Mapping Set	Use Case
AUCommonReferences	Control entities and type of objects that you can link through the Relationships table
CDMCopyItem	Control entities when converting an item to a concept component The item can belong to either an external PLM system or Product Development.
CDMCreateItem	Control entities when converting a concept component to an item
CDMDefault	Determine how Designs are linked through the Designs table
CDMLinkItem	Control entities when linking them through to the concept structure
VINItem	Control entities in the graphical display of concept structure.

View and Edit Entity Mappings

Select a connector and a mapping set to view and edit the entity mappings associated with the mapping set.

Note: You can't add an entity that's absent from the list.

1. To add an entity to the active mapping set, click the **New** icon or **New** option from the **Actions** menu in the **Innovation Management Entity Mappings** pane.
2. To modify the **Innovation Management Entity Name**, select an entity mapping and click the **Edit** icon or **Edit** option from the **Actions** menu in the **Innovation Management Entity Mappings** pane.

You may edit the **Entity** name in the following use case:

- o Limit the type of objects to be linked through the relationships table or rename the object names to be shown in the list.

Note: Changing the name incorrectly can result in errors in the data model.

3. View, add, edit, or delete attributes of the selected entity mapping.
 - a. To view entity attributes in the **Attribute** pane, select an entity mapping from the **Innovation Management Entity Mappings** pane.
 - b. To add attributes from a list predefined per entity, click the **New** icon or **New** option from the **Actions** menu in the **Attributes** pane.
 - c. To edit an attribute, select it and click the **Edit** icon or **Edit** option from the **Actions** menu in the **Attributes** pane.

The following table describes the attributes you can configure.

Value	Description
Attribute Name	Define the Attribute name as it needs to be used in Innovation Management. Select from the list of attributes provided from the data definition in Manage Mapping to External System for the selected entity.
Innovation Management Attribute Name	The name of the attribute as known in Innovation Management.
Innovation Management Data Type	Value indicating the type of Innovation Management object attribute: DATE, DOUBLE, INTEGER, LONG, BOOLEAN, DECIMAL, STRING, JBO_NUMBER, JBO_DATE.
Innovation Management Type Length	Value indicating the number of numeric places or characters that you can enter in the field.
Innovation Management Type Scale	Enter the number of digits required after the decimal point (in a numeric field only). This setting must be greater than or equal to zero (0).
From Converter	Select from a list of values detailed in the section <i>Handling Conversions Between Data Types</i> .
To Converter	Select from a list of values detailed in the section <i>Handling Conversions Between Data Types</i> .

Handling Conversions Between Data Types

Use the **From Converter** and **To Converter** options for handling conversions between data types in Innovation Management and an external PLM system.

The following table lists and describes the conversion options.

From and To Converter Values	Converter Descriptions
oracle.apps.scm.productCollaboration.aulnt \$PositiveIntegerConverter.class	Converts negative integer values to 0; positive values remain intact.
oracle.apps.scm.productCollaboration.aulnt \$TolerantStringIntegerConverter.class	Converts strings which are numeric into positive integers (see PositiveInteger converter) and nonnumeric strings to 0 (as integer).
oracle.apps.scm.productCollaboration.aulnt \$TolerantStringDoubleConverter.class	Converts strings which are numeric into positive double values (see PositiveInteger converter) and nonnumeric strings to 0 (as double).
oracle.apps.scm.productCollaboration.aulnt \$TolerantStringBigDecimalConverter.class	Converts strings which are numeric into positive decimal values (see PositiveInteger converter) and nonnumeric strings to 0 (as decimal).
oracle.apps.scm.productCollaboration.aulnt \$BooleanYesNoConverter.class	Converts a Boolean true value to yes and a false to no .

Related Topics

- [Manage Target System](#)
- [Manage Connections](#)
- [Map to External Systems](#)

How You Enable Item Class Mapping in Product Development Connector

The Product Development (PD) connector supports flexible mapping of Innovation Management (IM) concept and component classes to Product Development item classes. In concept structures, you can also map specific user-defined attributes to item attributes in item structures.

The support of flexible mapping includes these integration scenarios:

- Convert concept component to item;
- Copy item to concept component; and,
- Display item data in concept structure.

Run the following administrative tasks.

1. Navigate to the Product Development work area (logged in as an administrator). Open the side panel and, in Settings, click **Manage Configurations**. From the **Settings** tab, set up the **Default Organization**: this will be the item organization when you convert concept components to items in Product Development. Be sure to select the Default Organization.
2. Define an item class for each different type of component. In Innovation Management, open **Setup and Maintenance**. Navigate to **Manage Target System**. Create a new Product Development connector by duplicating it from the Oracle Template **ORA_PD**.
3. Go to **Manage Mapping to External System** and click the **Add +** button to add a subentity - a subclass of the Item class. Select the new item class and add class-specific extensible flex-fields (EFFs).
Note: Add EFF attributes on the same hierarchy level of the item class on which the EFF is defined. Also, remember that only one connector can be active at a time.
4. In Innovation Management, go to Manage Mapping where you enable class-specific mapping for the mapping sets Create Item (CDMCreateItem), Copy Item (CDMCopyItem) and Link Item (CDMLinkItem). Select the Mapping Set to which you want to add the class mapping. Then select the entity Item and add the subclass you created.
5. Select the additional item class and add the Innovation Management (IM) attribute to Item EFF mapping (in the Attribute section). You've created a user-defined attribute for a concept structure in Innovation Management (IM), created an EFF in an item structure in Product Development, and now the data can go from the concept structure to the item structure. Repeat these steps for every type and class combination to be mapped.

Note: As a parent class must be added to the mapping before its child classes can be mapped, you may add dummy mappings for intermediate classes if they don't correspond to a concept component type. In this case, the user can type in any value for Innovation Management (IM) **Entity Name** column.

Oracle Project Portfolio Management Cloud in Innovation Management

Manage Innovation Management projects by associating work items such as concepts, proposals, and requirements specifications to a project task.

You can define rules to associate work items to project tasks and determine the completion of tasks based on work item statuses.

When you associate Oracle PLM objects with tasks in the Project Management work area, you can view the relationships in Oracle PLM pages also. Or, you can search for project tasks in Oracle PLM, and associate them with PLM objects as relationships.

Implement Oracle Innovation Management and Oracle Project Portfolio Management Cloud for Integration

You must implement the following tasks in the *Product Requirements and Ideation Management* or *Concept Design Management* functional areas in the Product Management offering to integrate Innovation Management with Project Portfolio Management.

The following table lists the functional areas and their associated tasks.

Functional Area	Enable for Implementation
Concept Design Management	Manage Product Concept Classes
Concept Design Management	Manage Product Concept Component Classes
Concept Design Management	Manage Product Concept Statuses
Concept Design Management	Manage Proposal Statuses
Concept Design Management	Manage Product Concept Lookups
Product Requirements and Ideation Management	Manage Product Idea Classes
Product Requirements and Ideation Management	Manage Product Idea Statuses
Product Requirements and Ideation Management	Manage Product Requirement Classes
Product Requirements and Ideation Management	Manage Product Requirement Statuses
Product Requirements and Ideation Management	Manage Product Requirements and Ideation Lookups

Oracle Innovation Management Business Objects in Project Tasks

The user can manage product-development projects in Oracle Project Management Cloud, but only if the administrator has assigned the user with appropriate job roles, such as Project Manager or Team Member of projects, in the project plan.

Project managers who are assigned Product Manager, or Product Design Manager, can perform the following actions:

- Open and manage project work items in Oracle PLM.
- Navigate to Projects from the Relationships tab in Oracle PLM, and view summary information of the related object on hover.
- Define rules to specify statuses that determine when work items can be considered complete. When a work item reaches the appropriate status, the task is updated to complete.
- Set task completion rules, based on status, for each Oracle PLM business object that's associated with a project task.

Related Topics

- [Example of Creating a Project to Manage Product Development](#)
- [Work Items](#)

Assign Objects to Projects Work Items

In this procedure you can see how you assign objects to Project Work Items.

1. Navigate to the Project Management work area.
2. Create a project or open an existing project .
3. Click the **Create Task** icon (+) and add a task to the project.
4. Name the task and click the **Edit** button in the Work Items column.
5. In the Manage Work Items dialog box, select the object type from the **Type** list.
6. Search for and select the object from the **Name** list.
7. Select a status for the task from the **Task Completion Event** menu (for a requirements specification) - Submitted, Approved, or Converted. The task completion event menu varies for different objects.
8. Click **Save and Close**.

Now that you've created a task and assigned it to the work item, click **Save** to save the changes.

Validate Configurations in Innovation Management

Validate external PLM system configurations and Innovation Management integration with the use cases listed in this section.

- Search for PLM items, documents, and designs
- Read attribute values of PLM items and designs
- Read structure and relationships of PLM items and designs
- Create PLM items and designs
- Create structure and relationships for items and designs
- Read and write file contents to and from file servers

If the following issues occur, see the chapter *SmartRules* in the Agile PLM Administrator Guide for more information:

- Converting to an item structure when the parent item has a file attachment doesn't create a child item, if the Agile PLM SmartRule is set to either "Copy with Warning" or "Reference with Warning".
- The Design table has no rows, but the header has a count for users with a default privilege in Agile PLM.
- An Agile PLM Integration Framework error occurs when trying to add some single-list and multilist attributes.

Related Topics

- [Errors in Integrating Innovation Management](#)

Errors in Integrating Innovation Management

This topic lists error messages that you may encounter while integrating Innovation Management Cloud to external PLM systems, their causes, and actions that may resolve these errors.

The following table lists errors and their possible causes.

Error	Cause and Action
<p>Search errors for Agile PLM items in the Edit Concept page</p>	<p>Cause: Change the Web Services policy assignment to: <code>oracle/wss_saml_bearer_or_username_token_service_policy</code></p> <p>Action: Import the Innovation Management certificate as a Trusted Certificate. In Enterprise Manager, navigate to WebLogicDomain > Context Menu: Security > Keystore.</p> <ol style="list-style-type: none"> 1. Select: OWSM > Keystore 2. Select Manage. 3. Select Import. 4. Select Import as a trusted certificate. 5. Browse to find the certificate file. Open the certificate file; or, paste the certificate text contents into the space provided. 6. Click OK. <p>Repeat for all certificates in the hierarchy up to the Root Certificate Authority.</p>
<p>SOAP Fault code: MustUnderstand</p>	<p>Cause: The Policy Header sent by the client in the SOAP message wasn't understood by the Agile PLM server. An immediate child element of the Header element, with the <code>mustUnderstand</code> attribute set to <code>1</code>, wasn't understood.</p> <p>Action: Confirm that the alias used to import the certificate matches the <code>Keystore.Recipient.Alias</code> value.</p>
<p>General security error from WSSecurityEngine: Callback supplied no password for null</p>	<p>Cause: The alias that was used to import the Agile PLM certificate into the Innovation Management server keystore doesn't match the value that was configured for <code>Keystore.Recipient.Alias</code> of the WebServices policy.</p> <p>Action: The alias used to import the Agile PLM certificate into the Innovation Management server keystore doesn't match the value that was configured for the <code>Keystore.Recipient.Alias</code> of the WebServices policy.</p>
<p>Security error</p>	<p>Cause: The server couldn't process the security token; or, the security token failed validation.</p> <p>Action: Check the log files for security-related errors. It's possible that the security certificate wasn't imported properly as a trusted certificate; or, within the certification hierarchy, the certification authority from Agile PLM isn't trusted. All the certificates in the hierarchy up to the Root Certificate Authority must be imported as trusted certificates.</p>
<p>The thumbnail image for an Agile PLM item doesn't display when the item is added to a concept structure</p>	<p>Cause: Thumbnails aren't configured in Agile PLM or enabled for the current user.</p> <p>Action: Confirm that the user account in Innovation Management has an identical user account in Agile PLM. Enable thumbnail settings for both Agile PLM and the Agile PLM user account.</p> <p>The Innovation Management Web Service Client sends a SOAP Message to the Agile PLM Server, which isn't processed on the server side.</p> <ul style="list-style-type: none"> • Agile Java Client > Server Settings > Preferences > Thumbnail Display > Enable • Agile Java Client > Users > [user account] > Preferences > Thumbnails: On <p>Ensure that each file type used is enabled for AutoVue in Agile PLM.</p> <ul style="list-style-type: none"> • Agile Java Client > System Settings > Viewers and Files > File Association [tab]
<p>An Error occurred in the Applications Unlimited PLM Integration</p>	<p>Cause: The requested attribute isn't enabled.</p>

Error	Cause and Action
Framework. For example, Item<Item name>.Attribute<attribute ID> not found.	Action: Confirm that every Agile PLM attribute intended to be mapped to an Innovation Management Cloud attribute has been enabled (for example, Visible is set to Yes). Resolve the issue and try again.

Related Topics

- [Validate Configurations in Innovation Management](#)

Why does the web service connection fail?

A user of an Innovation Management application may try to call a web service, and the call fails.

The web service call may fail due to several possible exceptions, including path certification, bad encryption, and policy enforcement exceptions. The end-user should create a service request for the administrator to resolve the possible issues. This summary may help both the user and the administrator.

Verify that these prerequisite steps are completed:

1. Obtain details of the WSDL URL and the user credentials to use from the web service provider.
2. Get the server encryption certificate and the Certificate Authority (issuer) certificate from the web service provider.
3. Create a user-defined field for an object that has a calculated default value.
4. Prepare the Groovy script for the expression used to calculate the field's default value. The Groovy code must prepare the argument values, which in this example are two values that are summed.

To call a web service from a Groovy script that's secured with message protection, verify that these tasks are completed:

1. Create the web service connection.
2. Add the web service call to the Groovy script, and check whether the call succeeds.
3. Contact the administrator to resolve runtime exceptions

Create a service request for your administrator:

- a. Retrieve the server encryption certificate and the Certificate Authority (issuer) certificate from the web service provider.
- b. Attach the server encryption certificate and the issuer certificate to the service request, and include the WSDL location, and error details.
- c. Submit the service request.

The administrator adds the server encryption certificate and the issuer certificate into the Innovation Management trust store. The administrator also creates an alias for the server encryption key, which you must use to recreate the web service connection.

- d. Wait until your administrator informs you that the certificates have been imported, and that the server encryption alias has been created; then close the service request.
4. Recreate the web service connection.
 5. Verify that the web service call succeeds.

Related Topics

- [Enable Single Sign-On for Innovation Management](#)

How can I prevent unsaved changes from disappearing when I switch between tabs?

Use Page Composer to configure field settings so that edits are automatically saved.

To do this, edit the task flow using Page Composer. In a sandbox that includes the Page Composer tool, open the page where the field appears. Click **Tools > Page Composer** to enable the Page Composer view, and then click the Structure tab. Select the field component, open its properties panel and select the Auto Submit checkbox.

4 Appendix: Configure Agile PLM for Integration with Innovation Management

Overview on Configuring Agile PLM

This topic details the process of configuring Agile Product Lifecycle Management (PLM) to integrate with Innovation Management.

Prerequisites

Ensure that the configuration tasks are executed by an administrator with knowledge of both:

- Oracle Agile PLM **Java Client**, and
- Oracle **Functional Setup Manager (FSM)**.

The administrator user must have all required Administrator-related privileges in Agile PLM.

These Agile PLM versions can be integrated with Innovation Management:

- **Oracle Agile PLM 9.3.6** or any Release Update Pack installed

OR

- **Oracle Agile PLM 9.3.5** with Hot Fixes 15 and 24 installed, or any Release Update Pack installed

OR

- **Oracle Agile PLM 9.3.4** with Hot Fixes 1, 2, 3, 11, 26, 43, 52, and 146 installed

as per the guidelines in the Agile Installation documentation.

You must also complete the **Agile PLM 9.x ("A9") and File Manager Web Services Setup Checklist** to configure web service security.

Configuration Process

This table lists required configuration tasks, which must be completed in the numbered sequence.

Task	Summary
1. Create a service request to exchange security certificate information.	Exchange security certificates between the Agile PLM and Innovation Management systems.
2. Import the Innovation Management security certificate to Agile PLM.	Use Enterprise Manager to import the security certificate that you receive from Support.

Task	Summary
3. Enter the Agile PLM WebServices URL into Oracle Cloud	Configure Application Development Framework (ADF) connections - web service connections - in Enterprise Manager and enable the SAML policy (OWSM policy <code>oracle/wss11_saml_token_with_message_protection_client_policy</code>) on client side.
4. Make sure the endpoint is visible from outside your firewall	Confirm that the endpoint is accessible.
5. Create Innovation Management users in Agile PLM	Create users in Agile PLM with user IDs identical to those in Innovation Management.
Or, configure Agile PLM to use the same LDAP server as Innovation Management	Set up Oracle Identity and Access Management. See the Oracle Agile PLM Administrator Guide.
6. Enable Innovation Management attributes in Agile PLM	Enable Page Two attributes in Agile PLM Java client for Innovation Management Cloud.
7. Add Innovation Management attributes to required privileges in Agile PLM	Enable appropriate roles for Innovation Management users in Agile PLM. Enable Read Items , Modify Preliminary Items , and Modify Released Item privileges for Innovation Management users in Agile PLM.
8. Configure Reference Objects in Agile PLM	Create reference objects in Agile PLM to support linking back from Agile PLM to Innovation Management.
9. Set privileges for Innovation Management users to interact with Agile PLM reference objects	Create Discovery and Read privileges for reference objects.
10. Configure and activate the connector	Verify the connector can communicate between the two products.

Related Topics

- [Configure Users in Agile PLM](#)
- [Configure Message Protection for Agile PLM](#)

Configure Message Protection for Agile PLM

For the integration between Innovation Management and Agile PLM to work, you must configure a domain trust between the WebLogic domain, where Innovation Management is running, and the domain where Agile PLM is running.

In production environments, the security certificates that are configured in the identity keystore of an Agile PLM WebLogic domain are official certificates provided by a Certificate Authority (CA) to ensure that the identity of the Agile PLM host is officially certified.

Even so, the certificate provided by the CA and imported into the identity keystore may not be enough for the Cloud application domain to trust the identity of the target system host, given that the hierarchy of certification up to the root certificate may not be known to the WebLogic domain.

To resolve this potential problem, you can let identity trust by:

- providing the public certificate that's associated with your system host and all certificates in the hierarchy to the root; and,
- submitting a service request to ask for those certificates to be imported to the trust store of the WebLogic domain.

Follow these steps to configure message protection for Agile PLM:

1. Create a service request with the following information:

- a. Name of the service request: Message Protection Configuration on Oracle Cloud To Integrate With Agile PLM
- b. Include the following information in the comments section:
 - Specify the version of Agile PLM you're using.
 - Specify message protection policy to `oracle/wss11_saml_token_bearer_over_ssl_client_policy`.
- c. Submit the service request.
- d. Wait until your administrator informs you that the service request has been processed. Name of the service request: Message Protection Configuration on Oracle Cloud To Integrate with Agile PLM

2. Import the signature certificates used by Oracle Cloud into Agile PLM.

When the service request is processed, the security certificates used by the Oracle Cloud WebLogic domain to sign the Web Service requests are attached to the service request. You're notified that you can proceed to import the certificate to the trust keystore of Agile PLM.

Download the certificates attached to the service request. The trusted certificates must be imported to the Oracle Web Services Manager KSS keystore and the full certificate chain must be available.

- a. Open Enterprise Manager for your Agile PLM installation.
- b. Navigate to agileDomain > (Context Menu) Security > Keystore.
- c. Expand OWSM > Select the **Manage** button.
- d. Click the **Import** button, a dialog box appears.
- e. Select Trusted Certificate for Certificate Type, provide an alias, and copy and paste or choose a local file containing the certificate.
- f. Repeat steps 3.4 and 3.5 to import each certificate attached in the service request.

3. Determine the target URL for the Web Services.

Determine the target URL for the Web Services that are being used for the integration. Enter the corresponding values in Oracle Cloud using Setup and Maintenance. The typical endpoint for Agile PLM is as follows:

`{protocol}://{host}:{port}/CoreService/services/{service}?wsdl`; for example, `http://example.com:7001/CoreService/services/Search?wsdl`

- a. Enter the values for protocol, host, port, and context root into the corresponding fields for registering the target endpoint in Oracle Cloud, using the Setup and Maintenance workspace, as follows:
 - Sign in to Oracle Cloud as a user with the privilege to modify configuration values, and then click **Setup and Maintenance**.
 - On the Setup and Maintenance page, search for the **Register Agile PLM** task.
 - Click the task name.
 - Select the **Server Protocol** and enter values for External Server Host and External Server Port in the **Server Details** section. Enter the Context Root in the row named `AgiLeA9CoreServices` in the **Associated Modules** section.
 - Click **Save and Close**.
4. **Make sure the endpoint is visible from outside your corporate firewall.**

The web services endpoint registered in Oracle Cloud must be reachable from outside your corporate firewall, so Oracle Cloud can call the corresponding web services. Make sure the port is open for incoming traffic and the host name is valid from outside the firewall.
5. **Configure users to ensure that they're consistent on both systems.**
6. **Configure and activate the connector.**

Configure Users in Agile PLM

After you configure the web services security layer, ensure that the user ID defined in Innovation Management also exists in Agile PLM. The user must also have enough privileges granted to execute required web services.

The identity of the user signing in to Innovation Management is applied to the web service call; it's implied that the same user tries to execute actions in Agile PLM through the web services.

Use the following methods to make the required users available in Agile PLM:

Method 1: Create the same Innovation Management users in Agile PLM using the Java Client.

Method 2: Configure Agile PLM to use the same LDAP server as Innovation Management.

Related Topics

- [Innovation Management Attributes in Agile PLM \(On Page Two\)](#)
- [Overview on Configuring Agile PLM](#)
- [Configure Message Protection for Agile PLM](#)

Innovation Management Attributes in Agile PLM (On Page Two)

Enable users to add attributes, and add or edit values of attributes on items in Agile PLM, that can be used to hold information related to Innovation Management.

In Agile PLM Java Client, enable the **Page Two** tab for **Parts** and the attributes listed in the following table.

Attribute API Name	Attribute Name	Type	Attribute Base ID
IMDate16	Last Cost Update	Date	2000019547
IMList26	Country of Origin	List	2000019548
IMMoney11	Material Cost	Money	2000019549
IMMoney12	Nonmaterial Cost	Money	2000019550
IMMoney13	Nonrecurring Cost	Money	2000019551
IMNumeric11	Lead Time (days)	Numeric	2000019552
IMNumeric12	Number of Where Used	Numeric	2000019553
IMNumeric13	Number of Incidents	Numeric	2000019554
IMNumeric14	Number of Manufacturer Parts	Numeric	2000019555
IMNumeric15	Power Consumption	Numeric	2000019556
IMNumeric16	Item Score	Numeric	2000019557

Related Topics

- [Overview on Configuring Agile PLM](#)
- [Configure Users in Agile PLM](#)

Add Oracle Innovation Management Attributes to Required Privileges in Agile PLM

Firstly, enable the attributes that have API names starting with IM in Agile PLM (on Page Two). Next, add Innovation Management attributes to the required Agile PLM privileges to ensure successful integration.

The privileges in Agile PLM are:

- Read Items
- Modify Preliminary Items
- Modify Released Items

Execute the following steps:

1. In the Agile PLM Java Client **Admin** tab, expand **User Settings**, then expand **Privileges** and double-click **All Privileges**.
2. Repeat the following steps for each of the privileges.
 - a. Search for the privilege in the **All Privileges** window and double-click it.
 - b. Expand the menu of the **Applied to** field and ensure all the attributes are present in the **Selected** panel. Move them from the list, if needed.

Related Topics

- [Configure Users in Agile PLM](#)
- [Innovation Management Attributes in Agile PLM \(On Page Two\)](#)

Configure Reference Objects in Agile PLM

To support linking back from Agile PLM to the Innovation Management system, the integration engages the External References functionality in Agile PLM.

To configure this functionality:

1. Sign in to the Agile PLM Java Client with Administrator privileges.
2. Select the **Admin** tab and expand **System Settings**.
3. Expand the node **Reference Objects Management** and double-click **Applications**. The **Applications** window is displayed.
4. To add the Innovation Management system as an additional Application, click **New** in the **Applications** window.
5. Complete the fields to create the application. While **Name**, **API Name**, and **Description** can be freely defined, pay attention to the following fields:

Host Base URL must include the protocol, but no context path or port.

Port must include the port number (digits only) of the port where the Innovation Management application is running. Example: 443

Note: The host base URL is the one you used to sign Innovation Management Cloud with no context path and port. For on-premise deployments, sign in to your Innovation Management system and navigate to **Concept Design**. Use the URL in the browser to determine the protocol, host name, and port.

Virtual Path must remain blank.

User ID and Password may remain blank

Enabled must be set to **Yes**.

6. Click **OK** to create the application.
7. In the **Admin** tab, expand **Data Settings** and double-click **Classes** underneath it.
The **Classes** window appears.
8. Scroll to the class **Reference** objects (note that there's a base class called **Reference Objects**; select the class which is directly following the base class).
9. Click **New** to create a subclass of the class **Reference Objects**.

10. Complete the fields to create a subclass.
11. Click **OK** to create the subclass.
12. In the window that opens, complete the following fields:

Application: Select the application from the menu, which is the Reference Object created in step 6.

Available On: Expand the menu from the list, select **Items** and move it to the **Selected** panel.

Click **OK**.

13. Click **Save**.

Related Topics

- [Add Oracle Innovation Management Attributes to Required Privileges in Agile PLM](#)
- [Privileges for Innovation Management Users in Agile PLM](#)
- [Overview on Configuring Agile PLM](#)

Privileges for Innovation Management Users in Agile PLM

In Agile PLM, enable the required privileges for Innovation Management users so they can interact with Agile PLM Reference Objects successfully.

1. Sign in to the Agile PLM Java Client with Administrator privileges.
2. Select the **Admin** tab and expand **User Settings**, then expand **Privileges**, and double-click **All Privileges**.
3. In the **All Privileges** window, click **New** to create a privilege.
4. Name the privilege **Discover Reference Objects**; optionally, provide a **Description**.
5. In the **Privilege** menu, select **Discovery**.
6. Click **New** next to the **Criteria** menu, to create a **Criteria**.
7. Name the criteria **All Reference Objects**; optionally, provide a **Description**.
8. In the **Object Type** field, select **Reference Objects**.
9. Click **OK** to create the criteria.
10. Click **OK** to create the privilege.
11. In the **All Privileges** window, click **New** to create a privilege.
12. Name the privilege **Read Reference Objects**; optionally, provide a **Description**.
13. In the **Privilege** menu, select **Read**.
14. In the **Criteria** menu, select the newly created criteria.
15. Expand the menu in the **Applied to** field and move all the fields to the **Selected** panel. Click **OK**.
16. Click **OK** to create the privilege.
17. Assign the two created privileges to the appropriate roles according to the users configured in Innovation Management.

Related Topics

- [Overview on Configuring Agile PLM](#)
- [Configure Reference Objects in Agile PLM](#)

