Oracle® Agile Product Lifecycle Management for Process

Integration Guide for Agile Product Portfolio Management

Feature Pack 3.12

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Agile Product Lifecycle Management for Process

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Preface

Audience

This guide is intended for client programmers involved with integrating Oracle Agile Product Lifecycle Management for Process. Information about using Oracle Agile PLM for Process resides in application-specific user guides. Information about administering Oracle Agile PLM for Process resides in the *Oracle Agile Product Lifecycle Management for Process Administrator User Guide*.

Variability of Installations

Descriptions and illustrations of the Agile PLM for Process user interface included in this manual may not match your installation. The user interface of Agile PLM for Process applications and the features included can vary greatly depending on such variables as:

- Which applications your organization has purchased and installed
- Configuration settings that may turn features off or on
- Customization specific to your organization
- Security settings as they apply to the system and your user account

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Software Availability

Oracle Software Delivery Cloud (OSDC) provides the latest copy of the core software. Note the core software does not include all patches and hot fixes. Access OSDC at:

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Chapter 1—Installing Product Portfolio Management

This user guide explains integration of Agile Product Portfolio Management (PPM) with Agile Product Lifecycle Management for Process (PLM for Process).

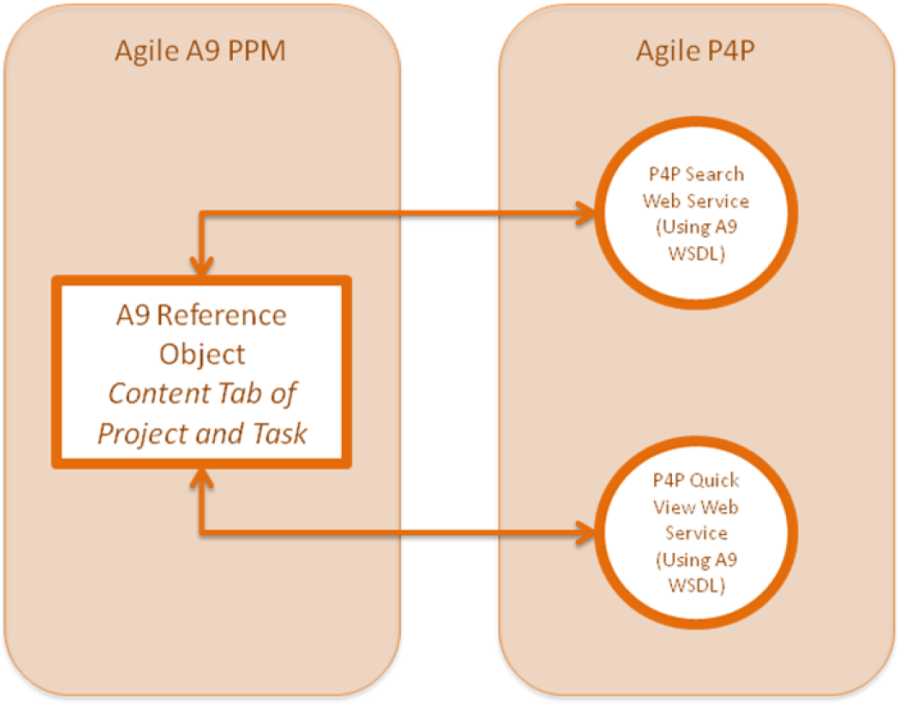
Introduction

Agile PPM is a web-based application that enables users to manage all aspects of a project or program. PPM is fully integrated with the complete Agile PLM suite of products to maintain a centralized view of project records and associated product information within the organization. Executives use the PPM Dashboards to view portfolio data pertaining to all projects or programs. Portfolio data includes risks such as schedule slips, lack of resources, and project costs that directly contribute to the overall status of the project.

Use Cases

Let's examine three use cases demonstrating the PPM integration:

1. Adding PLM for Process specification as an A9 reference object



2. Viewing linked A9 objects from a PLM for Process specification

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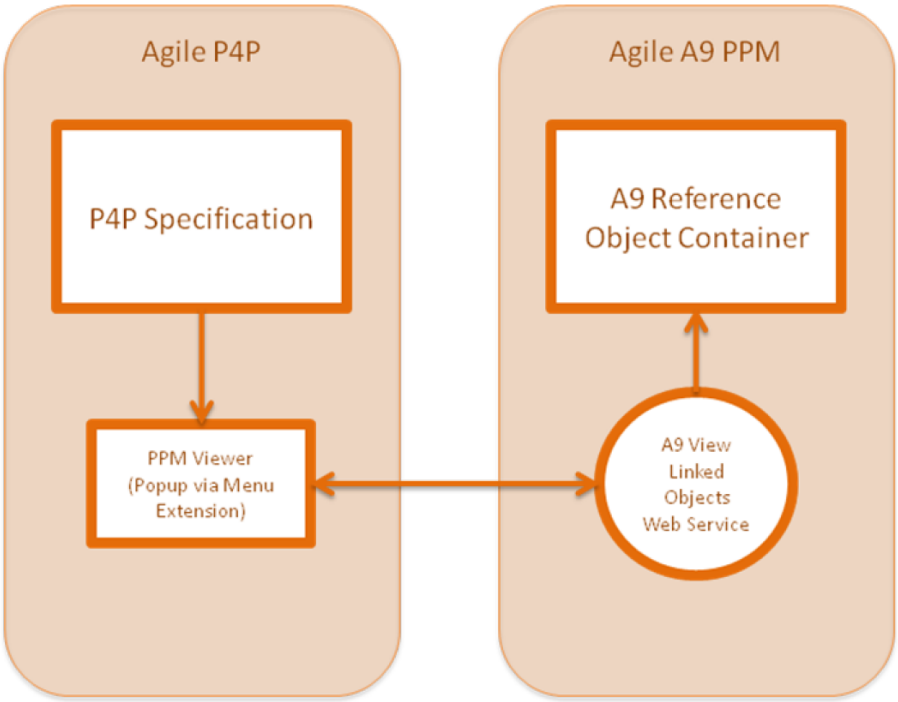

3. Updating reference object's status in A9 from a PLM for Process specification

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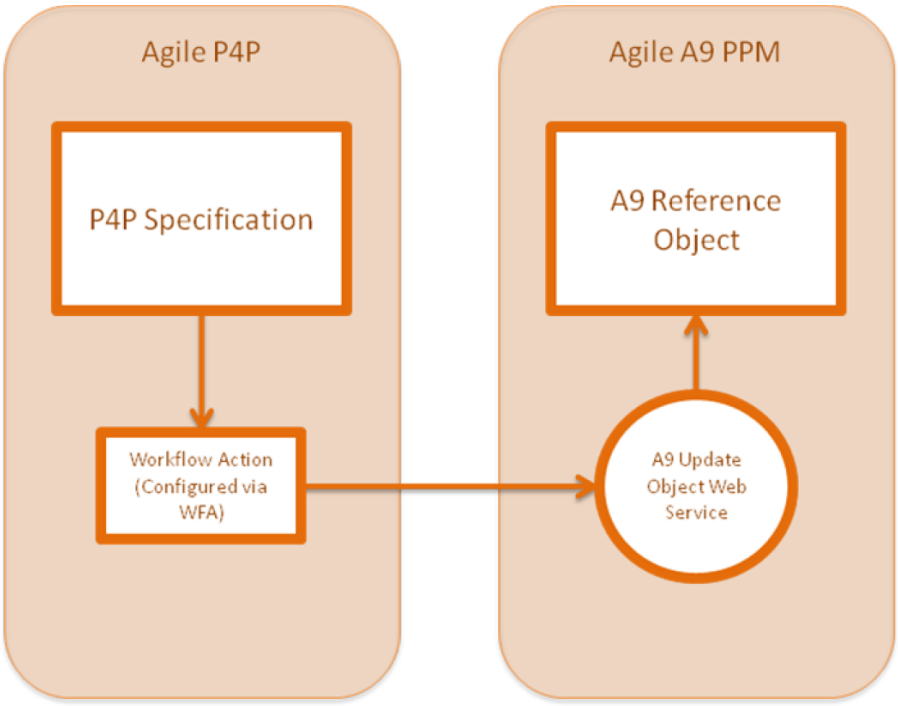

This section describes how to install Agile Product Portfolio Management integration.

Supported Versions

The following versions of PLM for Process and A9 are supported:

- P4P 6.1.1.5 with Feature Pack 3.12
- A9 9.3.3
- A9 9.3.4 Please contact Oracle Support for assistance with supporting this version

Installation

Adding New Files to Web Application Folders and Config

- Copy the Config and Web folders in the .\Install directory to the P4P HOME directory to add necessary files to config, web\gsm and web\integration. See Appendix A—Files to Add for Installation on page 24 for a list of files.

Adding Translations

- Run the SQL scripts in the .\Install\scripts\db directory in order.

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PLM for Process Configuration

GSM Configuration

1. Verify that the P4P_HOME\Web\gsm\bin directory contains the ProdikaAPILib.dll. If not, copy it into this directory from P4P_HOME\SharedLibs.

2. Enable AgileIntegrationService in GSM by adding the following to P4P_HOME\Web\gsm\Web.config:

    a) Under configuration/configSections add the following node:

```
<section name="AgileIntegrationConfig"
type="Xeno.Prodika.XML.XMLMergeConfigHandler,CoreAppPlatform"/>
```

    b) Under configuration/ add the following:

```
<AgileIntegrationConfig
handler="Class:PPM_Webservices.Config.AgileIntegrationConfigHandler,PPM_Webservi
ces"
configExtends="file:%CONFIG_HOME%\Extensions\AgileIntegrationConfig.xml,AgileInt
egrationConfig"/>
```

3. Enable a web service client to Agile Business Object Web Services by adding the following to the < system.serviceModel > node of the P4P_HOME\Web\gsm\Web.config:

```
<bindings>
      <basicHttpBinding>
                      <binding name="BusinessObject_Binding" >
                        <security mode="TransportCredentialOnly">
                              <transport clientCredentialType="Basic" />
                        </security>
                      </binding>
     </basicHttpBinding>
</bindings>
<client>
     <endpoint binding="basicHttpBinding"
bindingConfiguration="BusinessObject_Binding"
contract="AgileBusinessObject.BusinessObject_PortType" name="BusinessObject" />
</client>
```

4. Note that the security modes and binding types of these WCF web service configurations can be modified to support the requirements of the target environment.

Integrating the Web Application Configuration

1. Create a virtual directory to P4P_HOME\Web\integration\contracts\PPM called PPMContracts
2. Enable AgileIntegrationService in the Integration by adding the following to P4P_HOME\Web\gsm\Web.config:
    a) Under configuration/configSections add the following node:

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```
<section name="AgileIntegrationConfig"
type="Xeno.Prodika.XML.XMLMergeConfigHandler,CoreAppPlatform"/>
```

b) Under configuration/ add the following:

```
<AgileIntegrationConfig
handler="Class:PPM_Webservices.Config.AgileIntegrationConfigHandler,PPM_Webservi
ces"
configExtends="file:%CONFIG_HOME%\Extensions\AgileIntegrationConfig.xml,AgileInt
egrationConfig"/>
```

3. Update P4P_HOME\Web \Integration\Web.config as follows:
   a) Under configuration/FormsAuthenticationHelper add the following node:

```
<SkipPage xmlMergeKey="LinkedProjectsService.svc"
name="LinkedProjectsService.svc"/>

<SkipPage xmlMergeKey="QuickViewReferenceObjectService.svc"
name="QuickViewReferenceObjectService.svc"/>

<SkipPage xmlMergeKey="ReferenceObjectService.svc"
name="ReferenceObjectService.svc"/>
```

Adding Tool Button UI Extension

1. Update config/extensions/MenuConfig-Extensions.xml as follows to add role security to PPM UI integration:
   a) Under MenuConfig/MenuBuilderServiceConfigExtensions/Xeno.Menu/Providers/Provider ID="SecurityProvider"/SecurityProfiles add the following node:

```
<SecurityProfile ID="PPMSecurityProfile" Mode="Visibility" Application="GSM">
        <Allow Roles="*"/>
</SecurityProfile>
```

2. Update config\extensions\SiteMap-Extensions.xml as follows to add PPM tool button to GSM navigation bar:
   a) Under SiteMap/MenuItem ID="GSMNavSpec"/MenuItem ID="toolbuttons" add the following node:

```
<MenuItem ID="lblPPM" MenuType="icon" DisplayText="**PPM"
SecurityProfileRef="PPMSecurityProfile" Visible="true"  HotKey="alt+p"
SortOrder="180"
ClientSideCommand="window.open('/gsm/PPM/PPM.aspx?SPEC_PKID='+GetObjectHeader_Ob
jectPKID() +'&amp;SuppressDone=true', '_mypopupwindow', 'toolbar=no,height='+
screen.height/2 + ',width=' + screen.width/2);" />
```

If the configuration file does not contain a menuItem node with ID="GSMNAvSpec" or a menuItem node with ID="toolbuttons", add them first as follows:

```
<MenuItem configChildKey="ID" IsInEditMode="${IsInEditMode}" ID="GSMNavSpec"
DisplayText="**GSM">
     <MenuItem configChildKey="ID" Visible="false" ID="toolbuttons">
     </MenuItem>
</MenuItem>
```

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3. Add the following to Web\css\icons.css:

```
#ynavMenuToolbar #ynavToolButton-lblPPM
{
        background-image:url(../images/Action-PPM.png);
}
```

AgileIntegrationConfig.xml

1. Updates to \config\extenstions\AgileIntegrationConfig.xml:
    a) Update the AgileServerUrl node to point to the A9 Server URL for this environment.
    b) If you are using an external authentication provider to login to A9 from P4P, update the AgileCredentialsHandler node to the value:
    "Class:PPM_Webservices.NullCredentialsHandler,PPM_Webservices"

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A9 Configuration

Installing Hotfixes

Install the following hotfixes:

- Install Agile HF 9.3.3.144
- Install Agile HF 9.3.3.104
- Install Agile HF 9.3.3.121
- Install Agile HF 9.3.3.186

Setting up Reference Objects

You must use the Agile Java client Admin utility to configure reference objects.

Configuring the External Application

Under System Settings / Reference Object Management, create a new application with the following values:

Name	P4P
API Name	P4P
Description	PLM for Process
Port	{Port for P4P server}
Host Base URL	{P4P Web Server address}
Virtual Path	/Integration/PPMContracts
User ID	Leave blank
Password	Leave blank
Enabled	Yes
Include Id of Active User	Yes

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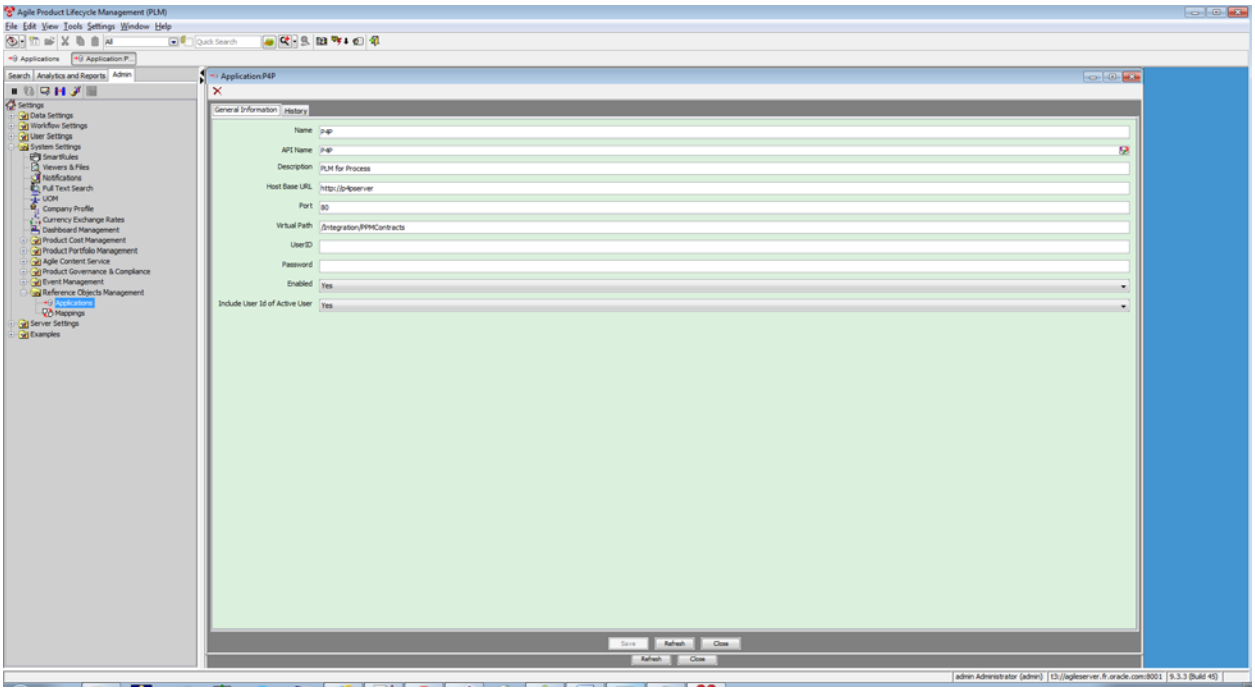

Figure 1. External application configuration

Creating Reference Object Subclasses for each Specification Type

Under Data Settings / Classes, add a new class of type Reference Object for each PLM for Process specification type that the integration supports.

PLM for Process Trade Specification

Name	P4P Trade Specification
API Name	P4PTradeSpec
Description	P4P Trade Spec
Enabled	True
Icon	2147-S.png
Application	P4P
Tokens	objectType=2147
Search Webservice	/ReferenceObjectService.svc
Quick View Webservice	/QuickViewReferenceObjectService.svc
Available On	Project;Task
Class	Reference objects

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P4P Formulation Specification

Name	P4P Formulation Specification
API Name	P4PFormulationSpec
Description	P4P Formulation Spec
Enabled	True
Icon	5816-S.png
Application	P4P
Tokens	objectType=5816
Search Webservice	/ReferenceObjectService.svc
Quick View Webservice	/QuickViewReferenceObjectService.svc
Available On	Project;Task
Class	Reference objects

P4P Material Specification

Name	P4P Material Specification
API Name	P4PMaterialSpec
Description	P4P Material Spec
Enabled	True
Icon	1004-S.png
Application	P4P
Tokens	objectType= 1004
Search Webservice	/ReferenceObjectService.svc
Quick View Webservice	/QuickViewReferenceObjectService.svc
Available On	Project;Task
Class	Reference objects

P4P Packaging Specification

Name	P4P Packaging Specification
API Name	P4PPackagingSpec
Description	P4P Packaging Spec
Enabled	True
Icon	1009-S.png
Application	P4P
Tokens	objectType= 1009

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Name	P4P Packaging Specification
Search Webservice	/ReferenceObjectService.svc
Quick View Webservice	/QuickViewReferenceObjectService.svc
Available On	Project;Task
Class	Reference objects

P4P Labeling Specification

Name	P4P Labeling Specification
API Name	P4PLabelingSpec
Description	P4P Labeling Spec
Enabled	True
Icon	1006-S.png
Application	P4P
Tokens	objectType= 1006
Search Webservice	/ReferenceObjectService.svc
Quick View Webservice	/QuickViewReferenceObjectService.svc
Available On	Project;Task
Class	Reference objects

P4P Master Specification

Name	P4P Master Specification
API Name	P4PMasterSpec
Description	P4P Master Spec
Enabled	True
Icon	1005-S.png
Application	P4P
Tokens	objectType= 1005
Search Webservice	/ReferenceObjectService.svc
Quick View Webservice	/QuickViewReferenceObjectService.svc
Available On	Project;Task
Class	Reference objects

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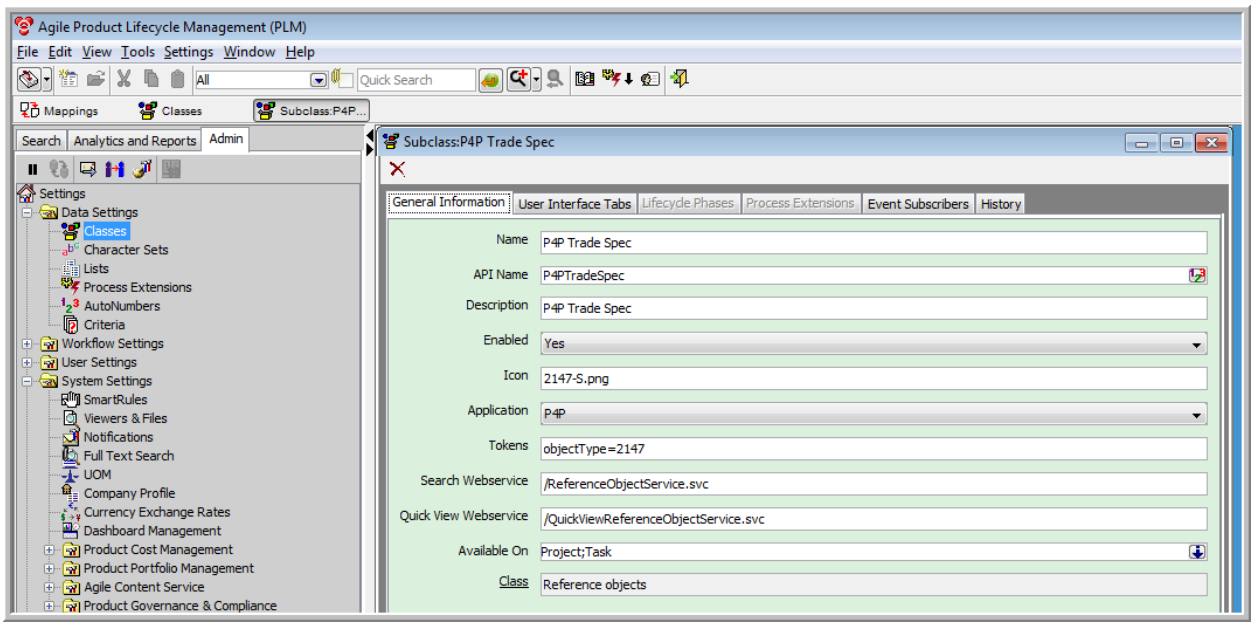

Figure 2. Subclass for trade specification

Configuring External Application Mappings

These settings control how data being returned from Search and Quick View web service calls against P4P are mapped to their corresponding Agile reference object.

Under System Settings / Reference Object Management select **Mappings**. You must create these mappings for each reference object subclass you define.

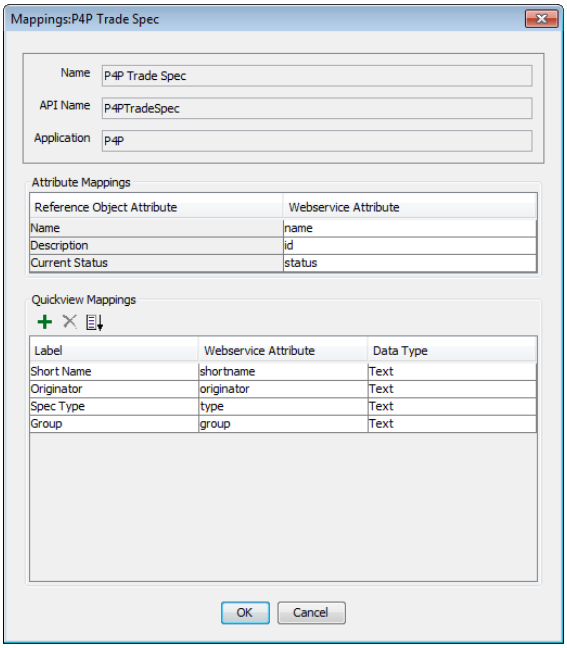

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Figure 3. Mappings

Setting up Reference Object Permissions

First, under Data Settings / Criteria create a new criterion that returns all reference objects (if this criterion does not already exist).

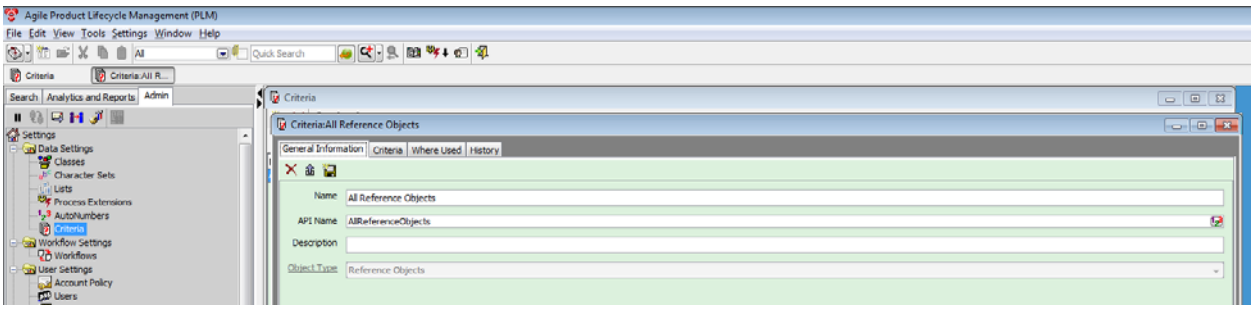

Figure 4. New Criterion

Next, under User Settings / Privileges, create the following privileges on Reference Objects (using the criterion defined in the previous step):

- Create
- Delete
- Discover
- Modify
- Read

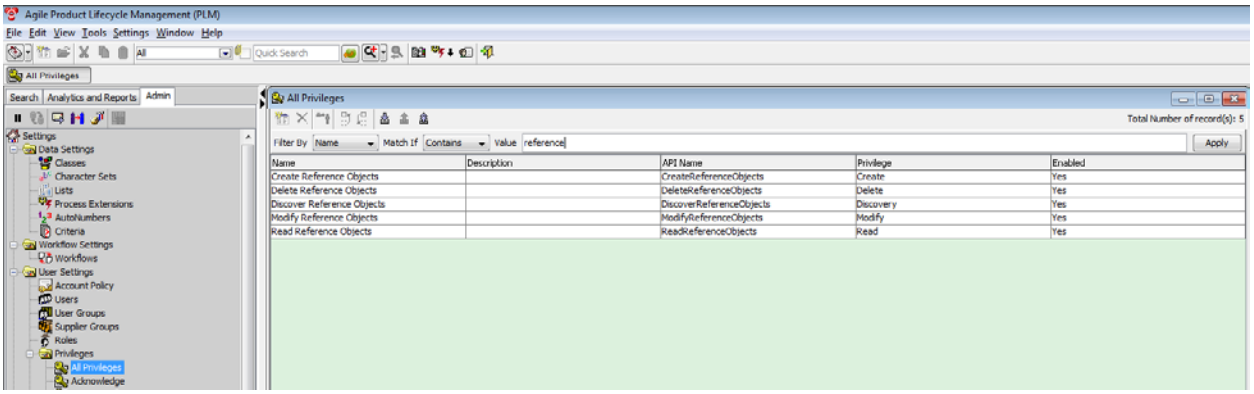

Figure 5. Privileges

Finally, assign these privileges to the users or groups that you want to have access to Reference Objects.

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Adding Custom P4P Icons to Agile Server

In setting up the P4P Reference Object subclasses we specified a number of .PNG files as custom icons to display in Agile PPM. The necessary P4P icons can be found in the release package.

These need to be added to the Agile server as outlined in the *Agile Product Lifecycle Management Administrator Guide*:

1. Stop WebLogic.
2. For Web Client, place the custom graphic in the location \AGILE_HOME\agileDomain\applications\application.ear\application.war\images\.
3. For Java Client, place the custom graphic in the location \AGILE_HOME\agileDomain\applications\application.ear\JavaClient.war\lib\images\custom.jar.
4. Delete \AGILE_HOME\agileDomain\servers\xxxx\.
5. Restart WebLogic.

Chapter 2—Using Agile Product Portfolio Management

Adding a P4P Specification from A9

You can add a PLM for Process specification as a reference object from an A9 project or task. The reference objects are available on the Content tab of the project or task. To search for a PLM for Process specification, click “Add” and select the “Reference Objects”. A popup window allows you to choose the specification type you want to search and enter search criteria.

You can search on specification name or specification number.

Double click on the search result row to add it to your A9 project or task.

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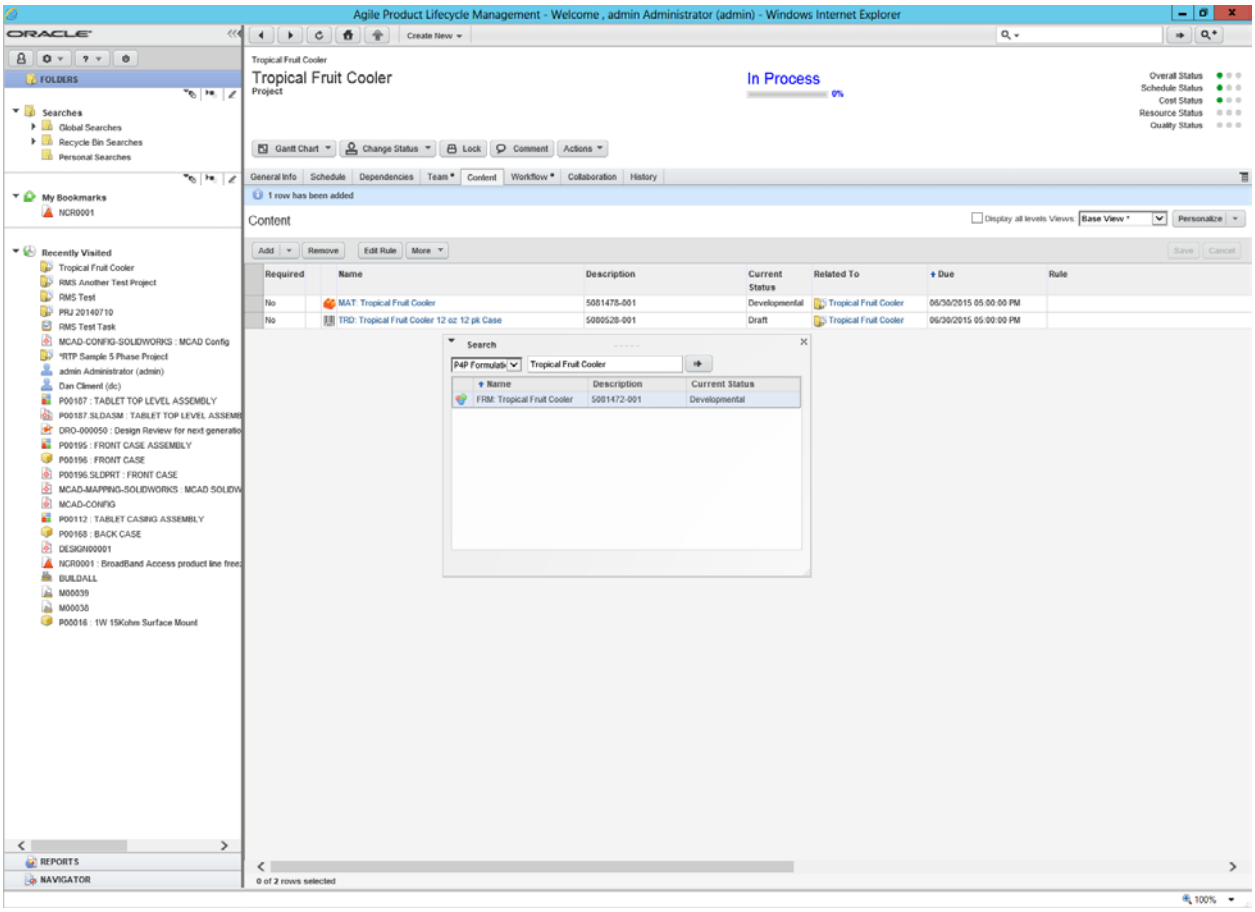

Figure 6. Adding a specification from A9

Viewing PLM for Process Specification Details in Quick View

Additional data about the P4P specification can be viewed by using the Agile Quick View feature. Hold your cursor over the specification to open a Quick View tooltip. Click the Quick View link to launch a popup with the additional specification data.

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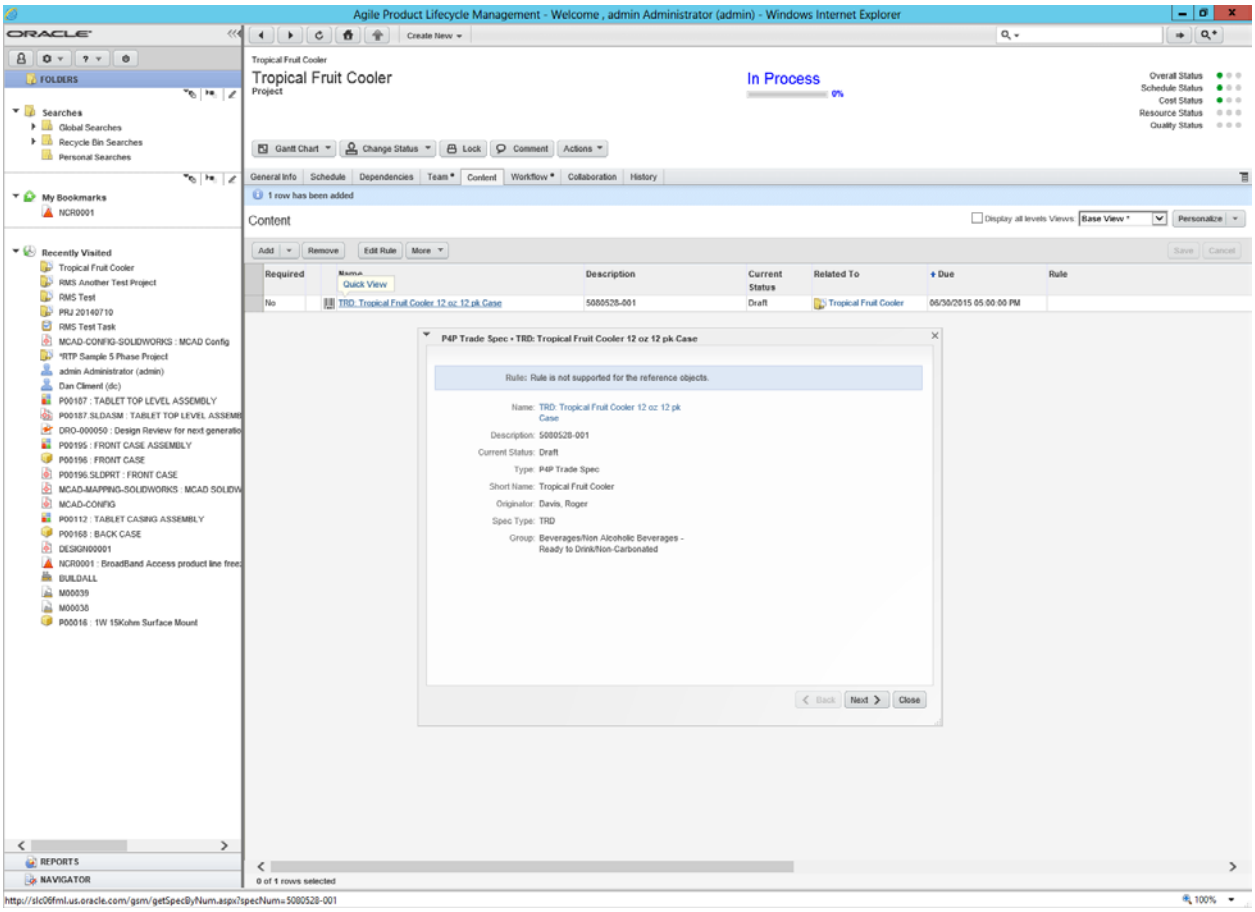

Figure 7. Quick View feature

Navigating to Specification from A9

Click the name of the PLM for Process specification in the A9 Content grid to launch a popup window that will open the specification in PLM for Process.

Viewing Linked A9 Projects and Tasks from P4P

If a PLM for Process specification is linked to an A9 project or task you can view those related A9 objects from within PLM for Process. There is a PPM tool button in the navigation bar at the top of the page when you are viewing a supported specification. Click this button to launch a popup window that will display the related A9 objects.

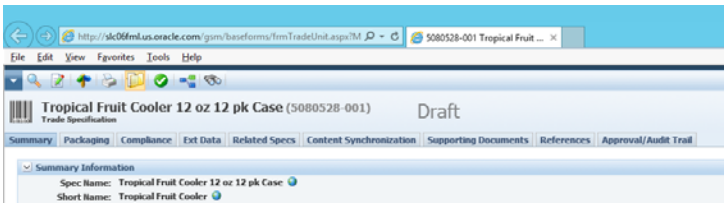

Figure 8. PPM tool button

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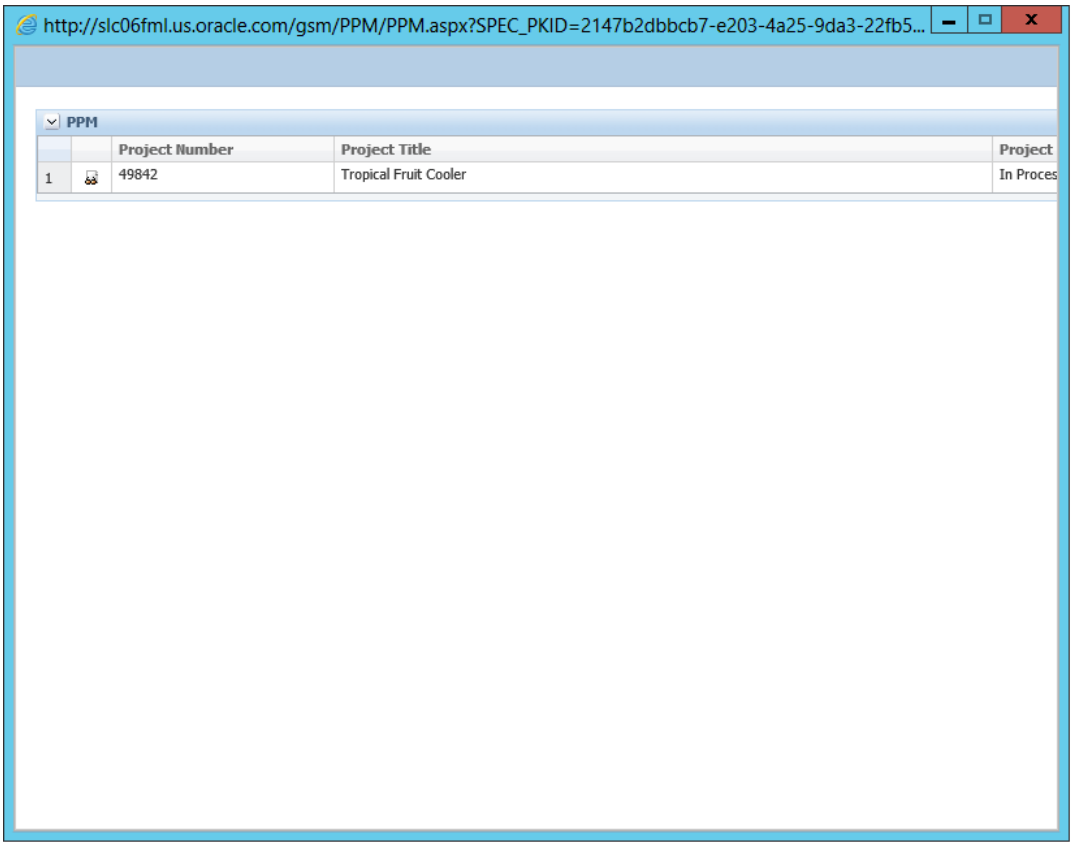

Figure 9. Related object

Using Workflow Actions to Notify A9 of Changes to Linked PLM for Process Specifications

Information about updates to the PLM for Process specification may need to be sent to the related objects in A9. One mechanism for publishing these changes is through the P4P Workflow Action.

> *Workflow actions are an extensibility point that trigger the execution of classes when a workflow transition occurs. The classes can access the item being workflowed to execute specialized actions programmatically. These classes are made available for selection as workflow actions by including them in the config\Extensions\CustomWFAExtensionsConfig.xml file.*

This is described in the *Agile Product Lifecycle Management for Process Administrator User Guide.*

The PPM Integration Feature Pack includes a simple workflow action that uses the A9 web service API to update the P4P reference object name and status. You can configure the workflow action to execute upon any (or all) workflow transitions for a specification.

To make the PPM Integration workflow action available, add the following to the "WorkflowActionTemplates" node in *config\Extensions\CustomWFAExtensionsConfig.xml*:

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```
<WorkflowAction processTemplateTypes="GSM" name="UpdateRefObject"
FactoryURL="Class:PPM_Webservices.WorkflowActions.UpdateRefObjectWorkflowAction,PPM_Web
services" />
```

Next, add the Workflow Action to any Workflow transitions as described in the *Agile Product Lifecycle Management for Process Administrator User Guide*.

See the "Workflow Actions and Guard Conditions for WFA" document in the Feature Pack Reference Implementations\ WorkflowActions\Documentation directory for details about creating and configuring custom workflow actions.

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Appendix A—Files to Add for Installation

This appendix lists the new files added in the "Adding New Files to Web Application Folders and Config" described in Adding New Files to Web Application Folders and Config on page 9.

P4P_Home\Config\Extensions\AgileIntegrationConfig.xml

P4P_Home\Web\gsm\bin\PPM_UIExtensions.dll

P4P_Home\Web\gsm\bin\PPM_WebServices.dll

P4P_Home\Web\gsm\PPM\PPM.aspx

P4P_Home\Web\gsm\PPM\PPMSearch.aspx

P4P_Home\Web\gsm\PPM\Web.config

P4P_Home \Web\integration\Contracts\PPM\ bin\PPM_WebServices.dll

P4P_Home \Web\integration\Contracts\PPM\LinkedProjectsService.svc

P4P_Home \Web\integration\Contracts\PPM\ManageAgileReferenceObjectService.svc

P4P_Home \Web\integration\Contracts\PPM\QuickViewReferenceObjectService.svc

P4P_Home \Web\integration\Contracts\PPM\ReferenceObjectService.svc

P4P_Home \Web\integration\Contracts\PPM\SearchAgileObjectsService.svc

P4P_Home \Web\integration\Contracts\PPM\Web.config

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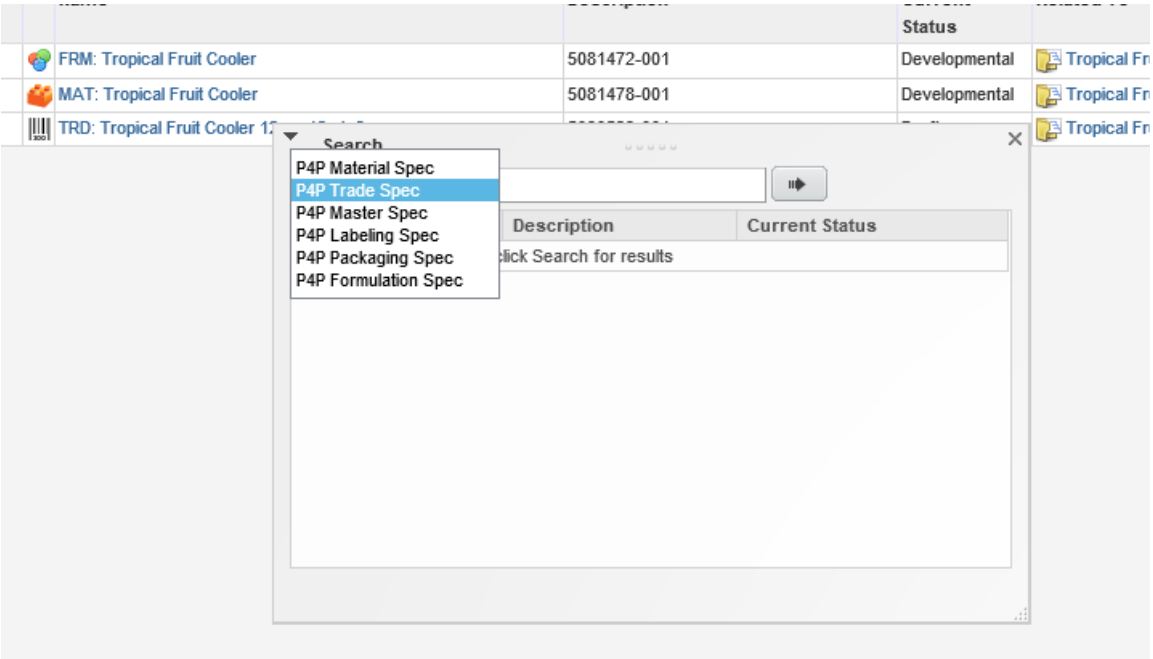
Appendix B—Troubleshooting

- If A9 encounters an error searching for P4P Specification, there is not an error indicator. The popup window will simply show no results and may appear to be still running.



- Verify that the A9 server can access the P4P web services using a web service client (such as SOAP UI) from the A9 server.
- Verify that the P4P server can access the A9 web services with the same approach.
- P4P Web Service URLs:
  - http://{P4PServer}/Integration/PPMContracts/ReferenceObjectService.svc
  - http://{P4PServer}/Integration/PPMContracts/QuickViewReferenceObjectService.svc
- A9 Web Service URLs:
  - http://{A9Server}/CoreService/services/BusinessObject
- Turn on WCF Tracing on the P4P server to view inbound and outbound web service calls.
  - https://msdn.microsoft.com/en-us/library/ms733025%28v=vs.110%29.aspx
- Enable this in the /web/Integration/PPMContracts/web.config for inbound calls to the P4P server.
- Enable this in the /web/gsm/Web.config for outbound calls to the A9 server.

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- You can copy the raw message to test with a SOAP client.
- Log will include stack traces and more detailed error messages.

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