

# Oracle® Agile Product Lifecycle Management for Process

Web Services Guide  
Extensibility Pack 3.2  
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Oracle Agile Product Lifecycle Management for Process Web Services Guide, Extensibility Pack 3.2

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# ABOUT THIS MANUAL

## Oracle Agile Product Lifecycle Management for Process Documentation

The *Agile Product Lifecycle Management for Process Web Services Guide* explains how to use install and configure the Web Services API, and provides documentation of each available web service.

To use this document, you should have a basic familiarity with web services software development, and the Oracle Agile PLM for Process configuration files and user interface. The information presented for each web service is intended to give a business and technical view of the inputs, outputs, and possible results of the web service call. Contract details, such as detailed WSDL and XSD information is not presented here — rather, they are available from the web service metadata or from the provided WSDL and XSD files. This Preface contains these topics:

- ❑ Audience
- ❑ Variability of Installations
- ❑ Documentation Accessibility
- ❑ Software Availability
- ❑ Related Documents
- ❑ Document Conventions

### 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

## Documentation Accessibility

For information about Oracle's commitment to accessibility, visit the Oracle Accessibility Program website at <http://www.oracle.com/pls/topic/lookup?ctx=acc&id=docacc>.

## Access to Oracle Support

Oracle customers have access to electronic support through My Oracle Support. For information, visit <http://www.oracle.com/pls/topic/lookup?ctx=acc&id=info> or visit <http://www.oracle.com/pls/topic/lookup?ctx=acc&id=trs> if you are hearing impaired.

## 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:

<http://edelivery.oracle.com>.

## Related Documents

For more information, see the following documents in the Oracle Agile Product Lifecycle Management for Process Extensibility Pack documentation set:

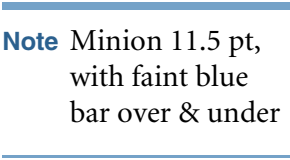
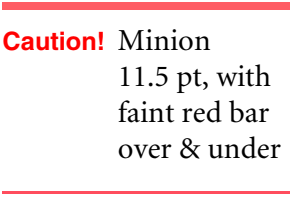
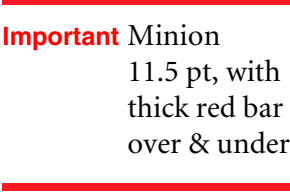
- ❑ *Agile Product Lifecycle Management for Process Extensibility Guide*
- ❑ *Agile Product Lifecycle Management for Process Data Administration Toolkit Guide*
- ❑ *Agile Product Lifecycle Management for Process Print Extensibility Guide*
- ❑ *Agile Product Lifecycle Management for Process Custom Section Denormalization Guide*
- ❑ *Agile Product Lifecycle Management for Process Extended Attribute Denormalization Guide*
- ❑ *Agile Product Lifecycle Management for Process Custom Report Configuration Guide*
- ❑ *Agile Product Lifecycle Management for Process Navigation Configuration Guide*
- ❑ *Agile Product Lifecycle Management for Process Extended Attribute Calculation Guide*
- ❑ *Agile Product Lifecycle Management for Process Release Notes*

Notes and other documentation are posted on Oracle Technology Network (OTN) at this location:

<http://www.oracle.com/technetwork/documentation/agile-085940.html#plmprocess>

## Document Conventions

The following formatting elements appear in Oracle Agile PLM for Process documentation.

Element	Meaning
<b>Helvetica Condensed, 9 pt. bold type</b>	A user interface (UI) element that a procedure is instructing you to click, select, or type into. For example, buttons or text entry fields.
9 pt. monospace font	Code samples
10 pt. monospace font	File names or directory names
<i>Blue italic font</i>	The linked portion of a cross-reference. Click it to go to the referenced heading, table, or figure.
Minion Typeface, Title Case	A named UI element that a procedure is describing but not instructing you to click, select, or type into.
 <b>Note</b> Minion 11.5 pt, with faint blue bar over & under	Alerts you to supplemental information.
 <b>Caution!</b> Minion 11.5 pt, with faint red bar over & under	Alerts you to possible data loss, breaches of security, or other more serious problems.
 <b>Important</b> Minion 11.5 pt, with thick red bar over & under	Alerts you to supplementary information that is essential to the completion of a task.



## Using the Web Services Application Programming Interface

---

*This chapter describes the Web Services Application Programming Interface that is used with Oracle Agile Product Lifecycle Management for Process. Topics in this chapter include:*

- ❑ *Web Services Application Programming Interface Overview*
  - ❑ *Versioning the Web Services*
  - ❑ *Supported Web Services Contracts*
  - ❑ *Common Response Headers*
- 

### **Web Services Application Programming Interface Overview**

Oracle Agile Product Lifecycle Management (PLM) for Process allows programmatic access to your organization's data using Oracle Agile PLM for Process Web Services API.

The API consists of a set of standardized, fully supported web services to provide clients with simple, rich, and secure integration capabilities. Each service is granular in nature, focused on delivering a specific business function. Consumers of the API will be able to compose multiple services as needed to meet larger business function needs.

Each major release of the Web Services API maintains backward compatibility with the previous release, allowing previous client integrations to remain unchanged, whenever possible. Any contract changes are only made in the new versions of the web services.

The Web Services are deployed into and hosted by the Integration web application. Several configuration file changes must be made to enable the web services, which determine the authentication & authorization mechanism that should be used for web service calls, as well as some other options. Additionally, a new virtual directory must be added in IIS within the Integration web application.

For installation and configuration details, please refer to Chapter 2, [Setting Up the Application Programming Interface](#).

## Supported Oracle Agile PLM for Process Versions

To use the Web Services available in this release, you must be using Oracle Agile PLM for Process version 6.1.1 or greater.

### Versioning the Web Services

To allow previous client implementations of the Web Service API to remain unchanged, yet still provide for new features, the release contains separate versions of the previous services and new versions of the full feature set.

Previous versions of the web services have no data contract changes, and the service endpoints remain unchanged.

This should allow previous client implementations to continue working as is. However, clients wishing to use new capability of the web service calls must implement the v30 versions.

The primary change that clients and integrators will see is that there are now three service endpoints for any pre-existing services:

- ❑ v21—The v21 web services are now deprecated.
- ❑ v24—The v24 web services will remain unchanged and support the previous functionality. They will be deprecated in an upcoming release.
- ❑ v25—The v25 web services will remain unchanged and support the previous functionality.
- ❑ v30—The v30 web services will support any relevant pre-existing functionality along with new operations and contract changes.

Each service version has its own endpoint, and therefore its own WSDL. For example, the following endpoints exist for GeneralSpecServices:

- ❑ v24 endpoint

`http://<servername>/Integration/ProdikaContracts/Specification/  
Common/v24/GeneralSpecServices.svc`

- ❑ v25 endpoint

`http://<servername>/Integration/ProdikaContracts/Specification/  
Common/v25/GeneralSpecServices.svc`

- ❑ v30 endpoint

`http://<servername>/Integration/ProdikaContracts/Specification/  
Common/v30/GeneralSpecServices.svc`

Clients and integrators that are new to the Web Service API are encouraged to implement the v30 versions only.

## Supported Web Services Contracts

### General Spec Services

General Spec Services provides operations that act on Global Specification Management (GSM) specifications.

Operations	v24	v25	v30	Notes
<b>GetSpecSummary</b>	●	●	●	v25 includes an IsTemplate return value.
<b>GetSpecNumbersForCriteria</b>	●	●	●	v25 includes an IncludeSpecTemplates search criterion.
<b>SaveSpecCrossReferences</b>	●	●	●	
<b>GetGSMPercentBreakdown</b>	●	●	●	
<b>GetComplianceData</b>	●	●	●	

See Chapter 3, [Using the General Spec Services Web Services](#) for more information.

### SCRM Services

SCRM Services provides operations that act on Supply Chain Relationship Management (SCRM) sourcing approvals, companies, and facilities.

Operations	v24	v25	v30	Notes
<b>GetCompany</b>	●	●	●	
<b>GetFacility</b>	●	●	●	
<b>GetSCRMSourcingApproval</b>	●	●	●	

See Chapter 4, [Using the SCRM Services Web Service](#) for more information.

### Nutrition Services

Nutrition Services provides nutrition and Nutrition Surveillance Management (NSM) related operations.

Operations	v24	v25	v30	Notes
<b>GetNutrientItemsPer100g</b>	●	●	●	
<b>SaveNutrientAnalysis</b>	●	●	●	
<b>GetNutrientAnalysis</b>	●	●	●	
<b>GetNutrientComposite</b>	●	●	●	

See Chapter 5, [Using the Nutrition Service Web Services](#) for more information.

## Custom Data Services

Custom Data Services provides operations related to extended attributes and custom sections.

Operations	v24	v25	v30	Notes
<b>GetCustomSectionSchema</b>	●	●	●	
<b>GetSpecCustomSections</b>	●	●	●	
<b>GetSpecExtendedAttributes</b>	●	●	●	
<b>GetSCRMCustomSections</b>	●	●	●	
<b>GetSCRMExtendedAttributes</b>	●	●	●	
<b>SaveCustomLookup</b>	●	●	●	
<b>GetCustomSectionsMetaData</b>	●	●	●	
<b>GetExtendedAttributesMetaData</b>	●	●	●	
<b>GetEQCustomSections</b>	●	●	●	
<b>GetEQExtendedAttributes</b>	●	●	●	
<b>GetCalculatedCustomSection</b>	●	●	●	
<b>GetPQMCustomSections</b>			●	
<b>AddPQMCustomSections</b>			●	
<b>DeletePQMCustomSections</b>			●	
<b>UpdatePQMCustomSection</b>			●	

See Chapter 6, [Using the Custom Data Services Web Services](#) for more information.

## Cost Services

Cost Services provides formulation specification costing related capabilities.

Operations	v24	v25	v30	Notes
<b>SaveDWBSpecCost</b>	●	●	●	

See Chapter 7, [Using the Cost Services Web Service](#) for more information.

## Bill of Materials Services

Bill of Materials Services provide operations related to a process specification's Bill of Materials (BOM).

Operations	v24	v25	v30	Notes
<b>GetOutputBOM</b>	●	●	●	
<b>GetFormulationBOM</b>	●	●	●	
<b>GetFormulationStepBOM</b>			●	

See Chapter 8, [Using the Bill of Materials Web Service](#) for more information.

## Spec Relationship Services

Spec Relationship Services provides operations that define a specification's related specification listing.

Operations	v24	v25	v30	Notes
<b>GetProductRelationships</b>	●	●	●	
<b>GetMaterialRelationships</b>	●	●	●	
<b>GetIngredientRelationships</b>			●	For v3.0 GetMaterialRelationships was renamed GetIngredientRelationships.
<b>GetPackagingRelationships</b>	●	●	●	
<b>GetPrintedPackagingRelationships</b>	●	●	●	
<b>GetFormulationRelationships</b>	●	●	●	
<b>GetNutrientProfileRelationships</b>	●	●	●	
<b>GetTradeSpecRelationships</b>	●	●	●	
<b>GetMenuItemRelationships</b>	●	●	●	

See Chapter 9, [Using the Spec Relationship Services](#) for more information.

## Specification Services

Specification Services provides operations that act on individual specification types.

Operations	v24	v25	v30	Notes
<b>GetActivity</b>	●	●	●	
<b>GetSpecIngredientStatements</b>	●	●	●	

See Chapter 10, [Using the Specification Services Web Services](#) for more information.

## EQ Services

EQ Services provides operations related to eQuestionnaire (eQ).

Operations	v24	v25	v30	Notes
<b>GetEQComplianceItems</b>	●	●	●	
<b>GetEQSummaryInfo</b>	●	●	●	
<b>GetEQNutritionInfo</b>	●	●	●	
<b>GetEQBreakdownInfo</b>	●	●	●	
<b>GetEQNumbersForCriteria</b>	●	●	●	

See Chapter 11, [Using the EQ Services Web Services](#) for more information.

## PQS Services

PQS Services provides operations related to Product Quality Scorecard (PQS).

Operations	v24	v25	v30	Notes
<b>SavePqsSamples</b>	●	●	●	

See Chapter 12, [Using the PQS Services Web Services](#) for more information.

## PQM Services

PQM Services provides operations related to Product Quality Management (PQM).

Operations	v24	v25	v30	Notes
<b>GetPQMSummary</b>			●	
<b>CreatePQMIssues</b>			●	
<b>UpdatePQMIssues</b>			●	
<b>CreatePQMActions</b>			●	
<b>UpdatePQMActions</b>			●	
<b>CreatePQMAudits</b>			●	
<b>UpdatePQMAudits</b>			●	
<b>GetSuppliers</b>			●	
<b>AddSuppliers</b>			●	
<b>DeleteSuppliers</b>			●	
<b>GetAffectedItems</b>			●	
<b>AddAffectedItems</b>			●	
<b>DeleteAffectedItems</b>			●	
<b>GetPQMItemByCriteria</b>			●	
<b>GetRelatedItems</b>			●	
<b>AddRelatedItems</b>			●	
<b>DeleteRelatedItems</b>			●	
<b>GetSupportingDocumentIDs</b>			●	
<b>GetURLSupportingDocument</b>			●	
<b>AddURLSupportingDocument</b>			●	
<b>DeleteURLSupportingDocuments</b>			●	
<b>AddSupportingDocumentAttachment</b>			●	
<b>DeleteSupportingDocumentAttachments</b>			●	
<b>GetRichTextSupportingDocument</b>			●	
<b>AddRichTextSupportingDocument</b>			●	
<b>DeleteRichTextSupportingDocuments</b>			●	
<b>GetDRLDocument</b>			●	
<b>AddDRLDocument</b>			●	
<b>DeleteDRLDocuments</b>			●	
<b>AddDRLCatalog</b>			●	

Operations	v24	v25	v30	Notes
<b>DeleteDRLCatalogs</b>			●	
<b>GetAttachment</b>			●	
<b>AddAttachmentProcedure</b>			●	
<b>DeleteAttachmentProcedures</b>			●	
<b>AddCrossReferences</b>			●	
<b>DeleteCrossReferences</b>			●	
<b>UpdateCrossReferences</b>			●	

See Chapter 13, *Using the PQM Services Web Services* for more information.

## CSS Services

CSS Services provides operations related to Content Synchronization and Syndication (CSS).

Operations	v24	v25	v30	Notes
<b>SendResponse</b>		●	●	

See Chapter 14, *Using the CSS Services Web Service* for more information.

## Custom Web Services

Please see the Reference Implementation for more information about custom web services.

## Common Response Headers

Each web service includes a common response in the SOAP Header. This common response consists of the following:

- ❑ **Result Code**—A string value representing the overall result of the web service call (for instance, `RESULT_NO_ERRORS`, `RESULT_INVALID_INPUT`, etc.). Possible values of the result code are documented for each web service.
- ❑ **List of Messages**—List of warning or error messages that provide details for any issues that occur when calling each web service. Each message has a message code, severity, and a description. Possible message codes and descriptions are documented for each web service.



# Setting Up the Application Programming Interface

---

*This chapter describes the setup process for the Application Programming Interface. Topics in this chapter include:*

- ❑ *Pre-requisites*
  - ❑ *Deploying the API Code*
  - ❑ *Configuration File Changes*
  - ❑ *Verifying the Installation*
- 

## Pre-requisites

Oracle Agile PLM for Process Web Services Application Programming Interface (API) requires Microsoft .NET Framework 3.5 and Windows Communication Foundation (WCF). These must be installed on the machine that will be hosting the Integration web application, which will host the web services.

## Registering Windows Communication Foundation

### To register Windows Communication Foundation:

- 1** Install Microsoft .NET Framework 3.5.
- 2** Register the Windows Communication Foundation.
  - a** Navigate to C:\WINDOWS\Microsoft.NET\Framework\v3.0\Windows Communication Foundation.
  - b** Run the following command to register this service and update your machine.config file: **ServiceModelReg.exe -i**
- 3** Verify .svc files are mapped in IIS.
  - a** IIS->Integration->Properties->Virtual Directory->Configuration
  - b** If .svc files are not mapped, run **ServiceModelReg.exe /s:W3SVC**

## Deploying the API Code

### Adding the Web Services API Files

Add the API files to an existing Oracle Agile PLM for Process environment:

#### To add the API files:

- 1 Extract all files from the extensibility pack release file to a temporary folder.
- 2 Switch to this temporary folder in Windows command prompt, and run the command: `FileCompressionHelper.exe -d`
- 3 From the temporary folder, copy the contents of the Integration folder within Web folder to the Prodika\web\Integration folder of your Oracle Agile PLM for Process installation.
  - a Make sure to include the web.config file.
  - b Overwrite existing files with the same name.

---

**Note** If deploying API on a 64-bit machine, please remove System.Web.dll and System.Web.xml from <PLM4P-install-folder>\Web\Integration\bin.

---

### Adding a Virtual Directory to IIS

#### To add a new ProdikaContracts virtual directory to IIS:

- 1 In the Internet Information Services Manager, find the virtual directory for the Integration web application.
- 2 Right click and select **New>Virtual Directory**.
- 3 Enter the following values in the wizard:
  - a Alias: 'ProdikaContracts'
  - b Path: <PLM4P-install-folder>\Web\Integration\Contracts\Prodika
  - c Permissions: Read
- 4 In the Internet Information Services Manager, find the new virtual directory for ProdikaContracts.
- 5 Right click and select **Properties**.
- 6 In the properties dialog, change the Execute Permissions field to 'Scripts Only' and then click **OK**.
- 7 Restart IIS.

## Configuration File Changes

Update the following configuration files to enable the Web Services API:

### config\DeployedConfig.config

Place the following configuration in the DeployedConfig node:

```
<ProdikaAPI>
  <ConfigInfo
    configReplace="file:%CONFIG_HOME%\environmentvariables.config"
    configExtends="file:%CONFIG_HOME%\Custom\EnvironmentSettings.config,EnvironmentSettings/ProdikaAPI/ConfigInfo" />
  </ProdikaAPI>
```

### config\Custom\EnvironmentSettings.config

---

**Note** The UserID and Password settings have been changed to pull data entered in the SetupAssistant. Be sure to configure the username and password entries (Prodika.ProdikaAPI.SysUser and Prodika.ProdikaAPI.SysPassword) using the SetupAssistant tool in Agile PLM for Process 6.1.1.

---

Place the following configuration in the EnvironmentSettings node:

```
<ProdikaAPI>
  <ConfigInfo configChildKey="key">
    <add key="UserID" value="Prodika.ProdikaAPI.SysUser" />
    <add key="Password" value="Prodika.ProdikaAPI.SysPassword" />
    <add key="IsUseTrustedAuth"
      value="@@VAR:Prodika.ProdikaAPI.IsUseTrustedAuth@" />
    <add key="IsLoginBypassOn"
      value="@@VAR:Prodika.ProdikaAPI.IsLoginBypassOn@" />
  </ConfigInfo>
</ProdikaAPI>
```

### config\Custom\CustomerSettings.config

Place the following configuration in the /CustomerSettings/Core/Prodika/Services node:

```
<ProdikaAPIConfigService refscope="Application"
  factory="Singleton:Xeno.Prodika.ProdikaAPI.Services.ProdikaAPICo
nfigServiceFactory,ProdikaAPILib" >
  <envvar name="MaxRecordCountGet" value="250"/>
  <envvar name="MaxRecordCountSave" value="250"/>
  <envvar name="ApprovedWorkflowName" value="Is Approved"/>
  <envvar name="SCRMApprovedWorkflowName" value="Is Approved"/>
</ProdikaAPIConfigService>
```

### Notes

- *MaxRecordCountGet*—Value to limit top-level records returned by web service Get operations

- *MaxRecordCountSave*—Value to limit number of records for Save operations
- *ApprovedWorkflowName*—Value can be set to the appropriate Workflow Tag name that is used in WFA to declare a step as Approved or Official
- *SCRMApprovedWorkflowName*—Value can be set to the appropriate Workflow Tag name that is used in WFA to declare a step in SCRМ workflow as Approved or Official

## config\environmentvariables.config

### *Determining the Authentication Approach*

The Web Services adhere to all security permission rules that are present in the core application, such as Spec read permissions, Business Unit visibility/security, and more. For instance, the GetSpecSummary web service will not return a spec that the user does not have valid Read permissions to. The permissions are evaluated against the PLM for Process user that is calling the web service. The web services API can therefore be set up for user authentication in two different ways, which has implications on the configuration required:

### **Option 1—Using one single declared PLM for Process user for all the web service calls**

This user is specified by the `Prodika.ProdikaAPI.SysUser` value, which is set by the Setup Assistant. Each web service call authenticates to the application, and evaluates permissions, with this user account. This option is the simplest to set up, as it requires no extra configuration steps, and is typically used when systems are communicating (via web services) without regard to individual permissions.

When using one single declared PLM for Process user for *all* the web service calls, the following configuration entries would need to be added to the `environmentvariables.config` file:

```
Prodika.ProdikaAPI.IsLoginBypassOn=true  
Prodika.ProdikaAPI.IsUseTrustedAuth=true
```

### **Option 2—Specifying a PLM for Process user for each web service call**

The user account must be supplied to each web service call by the client application, using the `ClientCredentials` of the client. You must set the `environmentvariables` configuration as follows: `IsLoginBypassOn=false`, which will ignore then `Prodika.ProdikaAPI.SysUser` value. To configure this option, you will have to install a web site certificate for IIS, and make additional configuration changes.

When specifying a PLM for Process user for each web service call, the following configuration entries would need to be added to the `environmentvariables.config` file:

```
Prodika.ProdikaAPI.IsLoginBypassOn=false
Prodika.ProdikaAPI.IsUseTrustedAuth=true
```

Additionally, the following four set up steps must be implemented for this option:

### ***Step 1—Installing certificates for the web server***

Before the web service APIs can support UserNamePasswordValidator authentication for every call, a web site certificate must be installed. This certificate is used to encrypt the messages transferred between the clients and web server. Internet Information Server (IIS), integrated wizard can be used to request and install a site certificate.

- ❑ For IIS 6.0 on Windows Server 2003 platform, please refer to the following article to see the detail about the installation:  
 “How To: Install Imported Certificates on a Web Server in Windows Server 2003” found at <http://support.microsoft.com/kb/816794>
- ❑ For IIS 7 on Windows Server 2008, please refer to the following article:  
 "Import a Server Certificate (IIS 7)" found at <http://technet.microsoft.com/en-us/library/cc732785%28WS.10%29.aspx>

### ***Step 2—Setting up the service credentials configuration***

Add a new configuration or modify an existing configuration node in:

```
<WEB_ROOT>\Integration/web.config
```

Node:

```
/configuration/system.serviceModel/behaviors/
serviceBehaviors/behavior/serviceCredentials
```

The following is a sample of <serviceCredentials> node:

```
<serviceCredentials>
  <serviceCertificate findValue="ApI_Cert"
    storeLocation="LocalMachine"
    x509FindType="FindBySubjectName" storeName="My" />
  <userNameAuthentication
    userNamePasswordValidationMode="Custom" customUserNamePasswordVali
    idatorType="WCFPlatformExtensions.WCFProdikaUserNamePasswordVali
    dator,ProdikaAPILib" />
</serviceCredentials>
```

You should modify the <serviceCertificate> node to adapt the information of the certificate installed in [Step 1—Installing certificates for the web server](#) on page 2-5.

For more information about how to config this node, please refer to the following article:

**<serviceCertificate> of <serviceCredentials>** found at <http://msdn.microsoft.com/en-us/library/ms731340.aspx>

---

**Note** If this node already exists in the configuration file, do not add another node. Instead, modify the information based on the original configuration.

---

### ***Step 3—Setting the wsHttpBinding configuration***

Add a new <wsHttpBinding> configuration node in:

```
<WEB_ROOT>\Integration\web.config
```

Node:

```
/configuration/system.serviceModel/bindings/
```

The following is a sample of <wsHttpBinding> node:

```
<wsHttpBinding>

  <binding name="prodikaAPIBinding">
    <security mode="Message">
      <message clientCredentialType="UserName" />
    </security>
  </binding>
```

Make sure the “Name” attribute of the <binding> node is unique in the whole <wsHttpBinding> node. This value will be used in [Step 4—Setting the service bindings configuration](#) on page 2-6.

### ***Step 4—Setting the service bindings configuration***

Open the configuration file:

```
<WEB_ROOT>\Integration\Contracts\Prodika\web.config
```

For each <endpoint> sub-node like shown in below of /configuration/system.serviceModel/services/service nodes,

```
<endpoint binding="basicHttpBinding" contract="..." />
```

update to:

```
<endpoint binding="wsHttpBinding"
bindingConfiguration="prodikaAPIBinding" contract="..." />
```

The value of the “bindingConfiguration” attribute should equal the value of “name” attribute configured in [Step 3—Setting the wsHttpBinding configuration](#) on page 2-6.

## Verifying the Installation

The final steps in setting up the API are verifying that the web services are accessible and that they are working.

To verify that the web services are accessible, bring up the services in Internet Explorer:

- 1** Launch Internet Explorer.
- 2** In the Address bar, type in:

```
http://<servername>/Integration/ProdikaContracts/  
Specification/Common/v30/GeneralSpecServices.svc
```

- 3** You should see a page titled GeneralSpecServices Service.
  - a** If you see the page, the web services are accessible.
  - b** If you do not see the page, please review the installation and configuration.

To verify the web services are operational, you will need to execute a web service call and get a result. Various web service clients provide this functionality. If you can call the web service and get a result, the set up process is complete.



# Using the General Spec Services Web Services

*This chapter describes the General Spec Services web service. Topics in this chapter include:*

- ❑ *Overview of General Spec Services*
- ❑ *Get Spec Summary*
- ❑ *Get Spec Numbers For Criteria*
- ❑ *Save Spec Cross References*
- ❑ *Get GSM Percent Breakdown*
- ❑ *Get Compliance Data*

## Overview of General Spec Services

GeneralSpecServices provides operations that act on Global Specification Management (GSM) specifications. The following operations are supported:

Operation	v24	v25	v30	Description
<a href="#">Get Spec Summary</a> on page 3-3	●	●	●	Returns the specification summary data and cross references for a given list of specifications
<a href="#">Get Spec Numbers For Criteria</a> on page 3-5	●	●	●	Returns the specification number and cross references for specifications matching several input criteria
<a href="#">Save Spec Cross References</a> on page 3-8	●	●	●	Creates, updates, and deletes cross references for a given specification
<a href="#">Get GSM Percent Breakdown</a> on page 3-10	●	●	●	Returns percent breakdown information for a list of specifications
<a href="#">Get Compliance Data</a> on page 3-13	●	●	●	Returns compliance data for a given list of specifications

## Service Endpoint Locations

### v24 endpoint

http://<servername>/Integration/ProdikaContracts/Specification/Common/  
v24/GeneralSpecServices.svc

**v25 endpoint**

`http://<servername>/Integration/ProdikaContracts/Specification/Common/  
v25/GeneralSpecServices.svc`

**v30 endpoint**

`http://<servername>/Integration/ProdikaContracts/Specification/Common/  
v30/GeneralSpecServices.svc`

## Get Spec Summary

### Description

Use the GetSpecSummary web service to retrieve specification summary information for a given list of specifications.

### Input

- 1 Allow Only Approved Spec—Specifications returned must be in an Approved status. (See [Condition C - Allow Only Approved Spec.](#))
- 2 A list of specification numbers, cross references, or a combination of either.

Table 3-1: Input

Name	Type	Description
<b>AllowOnlyApprovedSpec</b>	boolean	True—Specifications returned must be in an Approved status False—Specifications returned may be in any status
<b>specIdentifierCriterion</b>	tSpecIdentifierCriterion[]	Array of one or more tSpecIdentifierCriterion objects. See <a href="#">tSpecIdentifierCriterion</a> on page A-10.

### Output

The following specification summary data is returned for each specification:

- Name
- ShortName
- SpecificationIdentifier
  - SpecNumber and IssueNumber
  - List of Cross References—The cross reference consists of SystemID, EquivalentValue, Description, Status, and UOM
- SpecType (four digit specification type code; see [Condition D - Specification Types](#) on page A-2)
- Status
- Category
- SubCategory
- Group
- Originator
- EffectiveDate
- InactiveDate

---

**Note** If any date field is empty or “null”, the field is automatically populated with the maximum date value of 12/31/9999. The user interface will not show the date or will show it as “-----”.

---

- Supersedes
- ReasonForChange
- IsTemplate (v25 and v30 only)

Table 3-2: Output

Name	Type	Description
<b>tSpecificationSummaryWrapper</b>	tSpecificationSummaryWrapper[]	Array of tSpecificationSummaryWrapper objects

## Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 3-3: Result codes

Result Code	Possible Messages or Warnings	Comments
<b>RESULT_NO_ERRORS</b>	N/A	No errors occurred while processing request.
<b>RESULT_INVALID_INPUT</b>	INVALID_SPEC_NUMBER	Specification number input (specification number, issue number) format is invalid. See <a href="#">Condition E - Specification Identifier Input Formats</a> on page A-2.
	INVALID_CROSS_REFERENCE	Cross Reference input (SystemID, Equivalent) is required. See <a href="#">Condition E - Specification Identifier Input Formats</a> on page A-2.
<b>RESULT_WARNINGS</b>	MAX_RECORDS_RETRIEVED	Occurs if the number of records retrieved exceeds the maximum records allowed. See <a href="#">Condition F - Max Records Retrieved</a> on page A-2.
<b>RESULT_FAILURE</b>	SPEC_SUMMARY_RETRIEVAL_ERROR	Returned if an unexpected exception occurs when loading a specification.

## Notes

See Conditions A.1, A.2, B.1, C.1, C.2, E, F detailed in [Special Conditions](#) on page A-1.

## Get Spec Numbers For Criteria

### Description

Use the Get Spec Numbers for Criteria service to search for specifications using various predefined search criteria. The service returns a list of matching specification numbers (specification number, issue number, and list of cross references).

### Input

The following input criteria are available as search criteria:

- 1 Allow Only Approved Spec—Restricts results to specifications in an Approved status. See [Condition C - Allow Only Approved Spec](#) on page A-1.
  - True—Specifications returned must be in an “Approved” status
  - False—Specifications returned may be in any status
- 2 Spec Created/Modified Date Range—Restrict results to specifications created or modified in the given date range
  - Date Range Type —CreatedBetweenDateRange or ModifiedBetweenDateRange; **required**
  - Start Date —Datetime; **required**
  - End Date —Datetime; optional (if no End Date is provided, any specification date after the Start Date will be returned)
- 3 Originators—Restricts search results to specifications created by any user in the list of originators
  - Originator Type—OriginatorUserNames list or OriginatorExternalIDs list
    - OriginatorUserNames—List of strings representing the specification originator UserNames. These are login names.
    - OriginatorExternalIDs—List of strings representing the specification originator User External IDs
- 4 Spec Status—Restricts results to specifications whose statuses **contain** any of the listed workflow statuses. For example, “Draft” will also return “Draft Review”.
  - Spec Status name
  - If Allow Only Approved Spec is set to True and a Spec Status is provided, both values must resolve for a specification to be returned
- 5 Spec Name —Restricts results to specifications with a specification name **containing** the given string
- 6 Short Name—Restricts results to specifications with a specification short name **containing** the given string
- 7 Spec Types—Restricts results to specifications types in given list of specification types
  - Specification type must be four digits

- Possible specification type values: See [Condition D - Specification Types](#) on page A-2
- 8 Cross Reference—Restricts results to specifications **containing** the given cross reference System ID and Equivalent Code
  - 9 IncludeSpecTemplates—v25 and v30 only; Search results include specification templates. For v24, by default, excludes templates from search results.

Table 3-4: Input

Name	Type	Description
<b>QueryOptions</b>	tQueryOptions	Contains search criteria

## Output

A list of Specification Identifiers (tSpecificationIdentifier) that contain the following:

- SpecificationNumber
  - Spec Number
  - Issue Number
- List of Cross References
  - SystemId
  - Description
  - UOM
  - Status
  - Equivalent Value

Table 3-5: Output

Name	Type	Description
<b>specificationIdentifiers</b>	tSpecificationIdentifier []	Array of tSpecificationIdentifier

## Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 3-6: Result codes

Result Code	Possible Messages or Warnings	Comments
<b>RESULT_NO_ERRORS</b>	N/A	No errors occurred while processing request
<b>RESULT_INVALID_INPUT</b>	NO_VALID_PARAMETERS	No valid parameters passed in
	INVALID_CROSS_REFERENCE	Cross Reference input (SystemID, Equivalent) is required. See <a href="#">Condition E - Specification Identifier Input Formats</a> on page A-2.
	INVALID_ORIGINATOR_TYPE	Must be of type OriginatorUserNames or OriginatorExternalIDs
	INVALID_SPEC_TYPE	Must be numeric; four digits
	INVALID_DATE_RANGE	CreatedBetweenDateRange or ModifiedBetweenDateRange expected Start date required and must be prior to (optional) End date
<b>RESULT_WARNINGS</b>	MAX_RECORDS_RETRIEVED	Occurs if the number of records retrieved exceeds the maximum records allowed. See <a href="#">Condition F - Max Records Retrieved</a> on page A-2.
<b>RESULT_FAILURE</b>	SPEC_SUMMARY_RETRIEVAL_ERROR	Occurs when an unexpected exception occurs when loading a specification

## Notes

See Conditions A.1, A.2, B.1, C.1, C.2, D, E2, F in [Special Conditions](#) on page A-1.

## Save Spec Cross References

### Description

Use the SaveSpecCrossReferences web service to modify a given specification's list of cross references. The web service takes a list of cross reference change items, which may be Adds, Updates, and/or Deletes. It then applies those modifications to a given specification's cross references. Results of the web service call include a list of all specifications that have been affected, along with the newly updated list of cross references.

Any added or updated cross reference will have its Externally Managed flag set to that cross reference's default Externally Managed value.

Specifications that the user does not have workflow 'Write' permissions for will not be modified.

### Input

- 1 tSpecIdentifierCriterion—The specification to modify. **Required.**
- 2 List of Cross Reference change items (CrossRefUpdateItem). At least one is **required**. Allowed types:
  - AddCrossReference
    - NewCrossReference
  - UpdateCrossReference
    - OriginalCrossReference
    - ReplacementCrossReference
  - DeleteCrossReference
    - RemoveCrossReference

### Output

The result will be a list of specifications (SpecUpdatedWrappers) affected by the cross reference changes. For each specification affected, the results will include the full cross reference list. See Condition #1 in [Condition A - No Issue Specified in Input Criteria](#) on page A-1.

- 1 SpecUpdatedWrapper
  - SpecificationIdentifier
    - SpecNumber and IssueNumber
  - List of Cross References—The cross reference consists of SystemID, EquivalentValue, Description, UOM, and Status

## Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 3-7: Result codes

Result Code	Possible Messages or Warnings	Comments
<b>RESULT_NO_ERRORS</b>	N/A	No errors occurred while processing request
<b>RESULT_INVALID_INPUT</b>	NO_VALID_PARAMETERS	No valid parameters passed in
	INVALID_CROSS_REFERENCE	Cross Reference (SystemID, Equivalent) or Specification Number input is required. See <a href="#">Condition E - Specification Identifier Input Formats</a> on page A-2.
	NO_SPEC_FOUND	This may be caused by several factors. Details of the error will be provided in the Message Description. <ul style="list-style-type: none"> <li>• Unable to locate specification with given input</li> <li>• A Delete cross reference references a cross reference that does not exist on a specification</li> <li>• An Add cross reference is adding a cross reference that already exists</li> <li>• An Add cross reference is adding a cross references with a status of New, Inactive, or Archived</li> <li>• An Update cross reference is updating a cross reference where the status of the replacement cross reference is New, Inactive, or Archived</li> <li>• Referencing an unknown system ID</li> <li>• Referencing an unknown specification type</li> <li>• Equivalent length is invalid</li> </ul>
	INVALID_SECURITY_PRIVILEGES	User must have role [EXTERNALLY_MANAGED_CROSS_REF_ADMIN] to modify cross references
<b>RESULT_FAILURE</b>	SPEC_LOAD_ERROR	Occurs when an unexpected exception occurs loading a specification
	UNKNOWN_ERROR	Unknown exception retrieving specification relationships

## Notes

See Conditions A.1, A.2, B.1, D, E, F in [Special Conditions](#) on page A-1.

## Get GSM Percent Breakdown

### Description

The GetGSMPercentBreakdown service returns percent breakdown information for a list of specifications.

The web service respects:

- ❑ GSM BU Security
- ❑ WFA Permissions
- ❑ Formula Classifications

It returns the following pieces of data for each % breakdown:

- Breakdown Summary Information
- Breakdown Description
- Restrictions
- Formula Classifications
- Tags
- Breakdown Details
- Component Name
- Component ID (Unless it is free text)
- Component Description
- Component COO
- Component Complies With
- Component Formulation Amount
- Component Min Amount
- Component Max Amount
- Component Total Solids
- Component Function
- Component Critical Flag

### Specification Types

Compliance information is returned for the following specification types:

- ❑ Product Specification
- ❑ Material Specification
- ❑ Trade Specification

### Input

- 1 tSpecInputCriteria—A standard list of spec identifiers (specification #, issue #, or Cross Reference items)

### Output

- 1 SpecFormulaBreakdown
  - tSpecificationIdentifier SpecificationIdentifier
  - tFormulaBreakdowns[] FormulaBreakdowns
  - a tFormulaBreakdowns consist of the following:
    - tBreakdown[] breakdowns
    - boolean IsProprietary
    - boolean PublishToSupplierPortal
    - boolean IsMasterFormula

- DateTime CreationDate
  - string Description
  - tRestriction[] Restrictions (may be a string/alias, or may need other information)
  - string[] FormulationClassifications
- b** tBreakdowns consist of the following:
- string Name
  - string Description
  - string Caption (free text only)
  - tBreakdownSource breakdownSource {Material Spec, FIC Term, FoodItemCatalog, FreeText}
  - double PercentFormulation
  - double MinRange
  - double MaxRange
  - boolean IsCritical
  - integer SequenceNumber
  - tComplianceItem[] CompliesWith
  - tCountry[] CountriesOfOrigin
  - string ComponentFunction
- c** tCountry consists of the following:
- string CountryID
  - string CountryName
  - string ISOCode
  - integer ISONumericCode

## Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 3-8: Result codes

Result Code	Possible Messages or Warnings	Comments
<b>RESULT_NO_ERRORS</b>	N/A	No errors occurred while processing request
<b>RESULT_INVALID_INPUT</b>	INVALID_SPEC_NUMBER	Specification number input (specification number) format is invalid. See <a href="#">Condition E - Specification Identifier Input Formats</a> on page A-2.
	INVALID_CROSS_REFERENCE	Cross Reference input (SystemID, Equivalent) is required. See <a href="#">Condition E - Specification Identifier Input Formats</a> on page A-2.
<b>RESULT_WARNINGS</b>	MAX_RECORDS_RETRIEVED	Occurs if the number of records retrieved exceeds the maximum records allowed. See <a href="#">Condition F - Max Records Retrieved</a> on page A-2.
<b>RESULT_FAILURE</b>	SPEC_PERCENTBREAKDOWN_RETRIEVAL_ERROR	Returned if an unexpected exception occurs when loading specification %breakdown information

## Notes

See Conditions A.1, A.2, B, C.1, C.2, D.1 (1004, 2147, 6501), E.1, E.2, F in [Special Conditions](#) on page A-1.

## Get Compliance Data

### Description

Use the GetComplianceData web service to retrieve compliance information for a given list of specifications. The specification identifier passed in can include IncludeCompliesWith, IncludeAllergens, IncludeAdditives, and IncludeIntolerances. When these are set to True, the compliance items for that type are included. Otherwise, the compliance items for that type will not be included.

The service returns the following:

- Complies With Items
- Allergens Know to Contain Item, Max/100g and Source/Comments
- Allergens May Contain Item, Max/100g and Source/Comments
- Allergens Does Not Contain Item
- Intolerances Know to Contain Item, Max/100g and Source/Comments
- Intolerances May Contain Item, Max/100g and Source/Comments
- Intolerances Does Not Contain Item
- Additives Know to Contain Item, Max/100g and Source/Comments
- Additives May Contain Item, Max/100g and Source/Comments
- Additives Does Not Contain Item

### Specification Types

Compliance information is returned for the following specification types:

- Menu Item specification
- Product specification
- Material specification
- Process specification (in v5.2 or less)
- Trade specification

### Input

- 1 Specification Identifier (spec number or cross reference)
- 2 Combine Like Items (Boolean)  
IncludeCompliesWith, IncludeAllergens, IncludeAdditives,  
IncludeIntolerances

- True—Include this item selection data
  - False—Do not include this item selection data
- 3** Allow Only Approved Spec—Top-level specification returned must be in an “Approved” status (For more information see [Condition C - Allow Only Approved Spec](#) on page A-1).

## Output

- 1** Each OutputItem in the OutputItems list includes:
- tSpecComplianceInfo[] complianceSpecs
- 2** Each tSpecComplianceInfo includes:
- tSpecificationIdentifier SpecificationIdentifier
  - tComplianceItem[] CompliesWith
  - tComplianceItemContained[] AllergensContained
  - tComplianceItemContained[] AdditivesContained
  - tComplianceItemContained[] IntolerancesContained
  - tComplianceItem[] AllergensNotContained
  - tComplianceItem[] AdditivesNotContained
  - tComplianceItem[] IntolerancesNotContained
  - tComplianceItemContained[] AllergensPossiblyContained
  - tComplianceItemContained[] AdditivesPossiblyContained
  - tComplianceItemContained[] IntolerancesPossiblyContained
- 3** Each tComplianceItemContained structure includes:
- tComplianceItem ComplianceItem
    - string Name
    - string ExternalID
  - tMeasurement MaxPer100Grams
    - double Value
      - tUOM UOM
  - Output Summary
    - Ref tSpecComplianceInfo structure
  - Input Summary

- Input Items—List of input items. Each Input item will include:
  - Specification Identifier (Spec Number-Issue Number or Cross References, IncludeCompliesWith, IncludeAllergens, IncludeAdditives, IncludeIntolerances)

## Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 3-9: Result codes

Result Code	Possible Messages or Warnings	Comments
<b>RESULT_NO_ERRORS</b>	N/A	No errors occurred while processing request
<b>RESULT_INVALID_INPUT</b>	INVALID_SPEC_NUMBER	Specification number input (specification number) format is invalid. See <a href="#">Condition E - Specification Identifier Input Formats</a> on page A-2.
	INVALID_CROSS_REFERENCE	Cross Reference input (SystemID, Equivalent) is required. See <a href="#">Condition E - Specification Identifier Input Formats</a> on page A-2.
	INVALID_INPUT	A valid SpecInputCriteria is required
<b>RESULT_WARNINGS</b>	MAX_RECORDS_RETRIEVED	Occurs if the number of records retrieved exceeds the maximum records allowed. See <a href="#">Condition F - Max Records Retrieved</a> on page A-2.
	BOM_ITEM_CALCULATION_ERROR	Occurs when an Input UOM category differs from the batch UOM category and it does not have a Density defined
<b>RESULT_FAILURE</b>	UNKNOWN_ERROR	Unexpected exception occurs when formatting the output items

## Notes

See Conditions A.1, A.2, C.1, C.2, E, F in [Special Conditions](#) on page A-1.



# Using the SCRM Services Web Service

*This chapter describes the SCRMServices web service. Topics in this chapter include:*

- ❑ *Overview of SCRM Services*
- ❑ *Get Company*
- ❑ *Get Facility*
- ❑ *Get SCRM Sourcing Approval*

## Overview of SCRM Services

SCRMServices provides operations that act on Supply Chain Relationship Management (SCRM) sourcing approvals (specification-related and non specification-related), companies, and facilities. The following operations are supported:

Operation	v24	v25	v30	Description
<a href="#">Get Company</a> on page 4-2	●	●	●	Returns SCRM company information, company hierarchies, and facilities for given company identifiers
<a href="#">Get Facility</a> on page 4-4	●	●	●	Returns SCRM facility information and related sourcing approvals for given facility identifiers
<a href="#">Get SCRM Sourcing Approval</a> on page 4-6	●	●	●	Returns specification-related or non specification-related sourcing approval information for given sourcing approval identifiers

## Service Endpoint Locations

### v24 endpoint

http://<servername>/Integration/ProdikaContracts/SCRM/v24/  
SCRMServices.svc

### v25 endpoint

http://<servername>/Integration/ProdikaContracts/SCRM/v25/  
SCRMServices.svc

## v30 endpoint

http://<servername>/Integration/ProdikaContracts/SCRM/v30/  
SCRMServices.svc

# Get Company

## Description

Use the GetCompany web service to retrieve the company profiles for a given list of companies.

## Input

- 1 A list of company numbers, cross references, or a combination of either

Table 4-1: Input

Name	Type	Description
<b>CompanyIdentifiers</b>	tSCRMENTityIdentifier []	Array of one or more tSCRMENTityIdentifier objects

## Output

The following company profile data is returned for each company:

- Company Profile Number
- Company Name
- Company business units and corresponding business unit status
- Postal Address (address 1, address 2, City, State, Postal Code, Country)
- Street Address (address 1, address 2, City, State, Postal Code, Country)
- Website
- Phone
- Fax
- Cross References
- Special Attributes
- Special Notes
- Parent Companies (Collection of parent company number only)
- Child Companies (Collection of child company number only)
- Facilities (Collection of facility numbers only)

Table 4-2: Output

Name	Type	Description
<b>Companies</b>	tCompany []	Array of tCompany objects

## Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 4-3: Result codes

Result Code	Possible Messages or Warnings	Comments
<b>RESULT_NO_ERRORS</b>	N/A	No errors occurred while processing request.
<b>RESULT_INVALID_INPUT</b>	INVALID_COMPANY_NUMBER	Company number input format is invalid. See #1 of <a href="#">Condition K - Invalid Company Input Formats</a> on page A-4.
	INVALID_CROSS_REFERENCE	Cross Reference input (SystemID, Equivalent) format is invalid. See # 2 of <a href="#">Condition K - Invalid Company Input Formats</a> on page A-4.
	NO_COMPANY_FOUND	Occurs if any company cannot be found for the input criteria (the service will continue to process remaining criteria).
	NOT_ENOUGH_PRIVILEGES	Occurs if the API user has no read permission to companies returned for the input criteria.
<b>RESULT_WARNINGS</b>	MAX_RECORDS_RETRIEVED	Occurs if the number of records retrieved exceeds the maximum records allowed. See <a href="#">Condition F - Max Records Retrieved</a> on page A-2.

## Notes

See Conditions F.1, K.1, and K.2 in [Special Conditions](#) on page A-1.

## Get Facility

### Description

Use the GetFacility web service to retrieve the facility profiles for a given list of facilities.

### Input

A list of facility numbers, cross references, or a combination of either

Table 4-4: Input

Name	Type	Description
<b>FacilityIdentifiers</b>	tSCRMEntityIdentifier []	Array of one or more tSCRMEntityIdentifier objects

### Output

The following facility profile data is returned for each facility:

- Facility Profile Number
- Facility Name
- Facility business units and corresponding business unit status
- Postal Address (address 1, address 2, City, State, Postal Code, Country)
- Street Address (address 1, address 2, City, State, Postal Code, Country)
- Website
- Phone
- Fax
- Cross References
- Special Attributes
- Special Notes
- Specification Related Sourcing Approvals (Collection of pkids, sourcing approval Number and GSM specification number )
- Non Specification Related Sourcing Approvals (Collection of pkids and sourcing approval number)

Table 4-5: Output

Name	Type	Description
<b>Facilities</b>	tFacility []	Array of tFacility objects

## Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 4-6: Result codes

Result Code	Possible Messages or Warnings	Comments
<b>RESULT_NO_ERRORS</b>	N/A	No errors occurred while processing request.
<b>RESULT_INVALID_INPUT</b>	INVALID_FACILITY_NUMBER	Facility number input format is invalid. See #1 of <a href="#">Condition L - Invalid Facility Input Formats</a> on page A-4.
	INVALID_CROSS_REFERENCE	Cross Reference input (SystemID, Equivalent) format is invalid. See # 2 of <a href="#">Condition L - Invalid Facility Input Formats</a> on page A-4.
	NO_FACILITY_FOUND	Occurs if any facility cannot be found for the input criteria (the service will continue to process remaining criteria).
	NOT_ENOUGH_PRIVILEGES	Occurs if the API user has no read permission to companies returned for the input criteria.
<b>RESULT_WARNINGS</b>	MAX_RECORDS_RETRIEVED	Occurs if the number of records retrieved exceeds the maximum records allowed. See <a href="#">Condition F - Max Records Retrieved</a> on page A-2.

## Notes

See Conditions L.1, L.2, and F.1 in [Special Conditions](#) on page A-1.

## Get SCRM Sourcing Approval

### Description

Use the GetSCRMSourcingApproval web service to retrieve sourcing approval information. The service returns specification-related or non specification-related sourcing approval information for given sourcing approval identifiers.

### Input

- 1 A list of sourcing approval PKIDs or sourcing approval numbers.
- 2 Allow Only Approved Entity—Specification-related sourcing approvals returned must be in an “Approved” workflow status (Non specification-related sourcing approvals ignore this setting). (See [Condition J - Allow Only Approved Entity](#) on page A-4).

Table 4-7: Input

Name	Type	Description
<b>AllowOnlyApprovedEntity</b>	boolean	True—Specification-related sourcing approvals returned must be in an Approved status. False—Specification-related sourcing approvals returned may be in any status. See <a href="#">Condition J - Allow Only Approved Entity</a> on page A-4 for details.
<b>SourcingApprovalIdentifier</b>	tSCRMSourcingApprovalIdentifier[]	Array of one or more sourcing approval PKIDs or sourcing approval numbers.

### Output

- 1 Each specification-related sourcing approval includes:
  - Source Company Number
  - Source Company Cross Reference(s)
  - Source Facility Number
  - Source Facility Cross Reference
  - Specification Number
  - Specification Cross Reference(s)
  - Receiving Facilities (collection of facility numbers, facility names, and cross references)
  - Status
  - Supplier Item Number
  - Supplier Signed Boolean
  - Supplier Signed Date
  - Supplier Signed Text
  - Sourcing Type

- Protocol ID
- Class
- Notes
- QA Assigned (usernames)
- SC Assigned (usernames)

**2** Each non-specification related sourcing approval includes:

- Source Company Number
- Source Facility Number
- Source Company Cross References
- Source Facility Cross References
- Item/Service Description
- Receiving Facilities (collection of facility numbers, facility names, and cross references)
- Status
- Sourcing Type
- Class
- Notes
- QA Assigned (usernames)
- SC Assigned (usernames)

## Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 4-8: Result codes

Result Code	Possible Messages or Warnings	Comments
<b>RESULT_NO_ERRORS</b>	N/A	No errors occurred while processing request
<b>RESULT_INVALID_INPUT</b>	NO_VALID_PARAMETERS	No valid parameters passed in (SCRM identifier is not a tSCRMSourcingApprovalPKID or tSCRMSourcingApprovalNumber type)
	INVALID_PKID	A valid Sourcing Approval PKID is required
	INVALID_SCRMENTITY_NUMBER	Occurs if you enter a sourcing approval number. A valid Sourcing Approval number is required.
<b>RESULT_WARNINGS</b>	MAX_RECORDS_RETRIEVED	Occurs if the number of records retrieved exceeds the maximum records allowed. See <a href="#">Condition F - Max Records Retrieved</a> on page A-2.
<b>RESULT_FAILURE</b>	UNKNOWN_ERROR	Occurs when an unexpected exception happens when formatting the output items

## Notes

See Conditions F1, I1, and I2 in [Special Conditions](#) on page A-1.

## CHAPTER 5

# Using the Nutrition Service Web Services

*This chapter describes the Nutrition Service web service. Topics in this chapter include:*

- ❑ *Overview of Nutrition Service*
- ❑ *Get Nutrient Items per 100g*
- ❑ *Save Nutrient Analysis*
- ❑ *Get Nutrient Analysis*
- ❑ *Get Nutrient Composite*

### Overview of Nutrition Service

NutritionService provides nutrition and Nutrition Surveillance Management (NSM) related operations. The following operations are supported:

Operation	v24	v25	v30	Description
<a href="#">Get Nutrient Items per 100g</a> on page 5-3	●	●	●	Returns the Nutrient Items for a given list of specifications
<a href="#">Save Nutrient Analysis</a> on page 5-5	●*	●*	●*	Saves nutrient analysis data (nutrient sample and nutrient item values) for a specification. *v24 added two new fields to analysis input
<a href="#">Get Nutrient Analysis</a> on page 5-8	●	●	●	Returns the Nutrient Analysis summary and list of Nutrient Items for a given nutrient analysis number
<a href="#">Get Nutrient Composite</a> on page 5-10	●	●	●	Returns the Nutrient Composite summary, list of Analyses that make up the composite, and the list resulting Nutrient Items for a given nutrient composite number

### Service Endpoint Locations

#### **v24 endpoint**

http://<servername>/Integration/ProdikaContracts/Nutrition/v24/  
NutritionService.svc

**v25 endpoint**

http://<servername>/Integration/ProdikaContracts/Nutrition/v25/  
NutritionService.svc

**v30 endpoint**

http://<servername>/Integration/ProdikaContracts/Nutrition/v30/  
NutritionService.svc

## Get Nutrient Items per 100g

### Description

The Get Nutrient Items per 100g web method gets a list of nutrient items for each of the specified GSM specifications. For material and product specifications, nutrient items are retrieved from the nutrient composition. For trade and menu item specifications, nutrient items are retrieved from the active nutrient profile. Additionally, the nutrient items from a given nutrient profile specification can also be retrieved.

### Input

- 1 AllowOnlyApprovedSpec flag—If included and set to “True,” only approved specifications will be included in the output. See [Condition C - Allow Only Approved Spec](#) on page A-1 for more information.
- 2 Array named specIdentifierCriterion of type tSpecIdentifierCriterion—The identifiers can refer to any GSM specification type that associates with nutrient profiles or nutrient compositions. See [tSpecIdentifierCriterion](#) on page A-10 for more information.

Table 5-1: Input

Name	Type	Description
<b>AllowOnlyApprovedSpec</b>	boolean	True—Specifications returned must be in an Approved status False—Specifications returned may be in any status
<b>specIdentifierCriterion</b>	tSpecIdentifierCriterion[]	Array of one or more tSpecIdentifierCriterion objects

### Output

The only output is an array named NutrientData. The elements are of type tNutrientDataWrapper (see [tNutrientDataWrapper](#) on page A-21 for more information). Each tNutrientDataWrapper element lists the nutrient items for one specification. Each nutrient item contains:

- InfoodsCode—The InFoodsID value of the nutrient. See [Condition H - InFoodsCode](#) on page A-3.
- ValuePer100Gms—The numerical value for 100 grams
- UOM—Unit of measure
  - ISOCode—The ISO code of the unit of measure. If no ISO code is available for the UOM, this field should not be used and the Abbreviation field should be populated.
  - ID—The unit of measure identification number.
  - Abbreviation—The abbreviation of the UOM to use. This field is only referenced if the ISOCode is not used.

- Source—The name of the location/source the nutrient analysis was produced. Uses the name column from the NutritionalOrigin table.
- Comments—Additional comments about this particular nutrient.

Table 5-2: Output

Name	Type	Description
<b>NutrientData</b>	tNutrientDataWrapper	Nutrient items for one specification

## Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 5-3: Result codes

Result Code	Possible Messages or Warnings	Comments
<b>RESULT_NO_ERRORS</b>	N/A	No errors occurred while processing request
<b>RESULT_FAILURE</b>	UNEXPECTED_RESULT	Unexpected exception occurs when loading specification information
<b>RESULT_INVALID_INPUT</b>	INVALID_SPEC_NUMBER	Specification number input (specification number) format is invalid. See #1 of <a href="#">Condition E - Specification Identifier Input Formats</a> on page A-2.
	INVALID_ISSUE_NUMBER	Issue input (issue number) format is invalid. See #1 of <a href="#">Condition E - Specification Identifier Input Formats</a> on page A-2.
	INVALID_CROSS_REFERENCE	Cross Reference input (SystemID, Equivalent) is required. See <a href="#">Condition E - Specification Identifier Input Formats</a> on page A-2.
	INVALID_SPEC_TYPE	The specification type is not supported
	NO_VALID_PARAMETERS	No valid parameters used
<b>RESULT_WARNINGS</b>	MAX_RECORDS_RETRIEVED	Occurs if the number of records retrieved exceeds the maximum records allowed. See <a href="#">Condition F - Max Records Retrieved</a> on page A-2.

## Notes

See Conditions A.1, A.2, B.1, C.1, C.2, D.1 (Types: 1004, 2147, 5750, 5816, 6500, 6501), E, F, and H in [Special Conditions](#) on page A-1.

## Save Nutrient Analysis

### Description

Use the SaveNutrientAnalysis web service to import new nutrient analysis entries into NSM. For a given specification, the web service takes a list of NutrientSamples, which includes a specification number, SCRM facility, a list of business units, and a list of nutrient items.

Results of the web service call include an overall success indicator and a list of all nutrient analyses that have been imported. Each nutrient analysis result contains a system-generated analysis number and the sample number used as input.

### Input

Input is a list of tNutrientSample objects. Each NutrientSample contains a SampleSummary and a list of NutrientItems.

- SampleSummary
  - SampleNumber—The number to assign to the nutrient analysis
  - SampleType—Type name to assign to the nutrient analysis
  - GtinUPC—GTIN UPC value
  - SpecNumber—The specification to associate this nutrient analysis to. May be a SpecNumber-IssueNumber or a cross reference. If using a cross reference and the cross reference is associated to multiple specifications, an error will occur.
  - SourceFacility—The SCRM facility to associate this nutrient analysis to. May be an facility number or cross reference. If the cross reference is associated to multiple facilities, an error will occur.
  - BusinessUnits—List of business units to associate the analysis to. Each business unit entry must contain the full business unit alias (for example, “CPI North America Retail”).
  - AnalysisDate
  - SentToLabDate—Optional; Available for v24 only
  - ReceivedFromLabDate—Optional; Available for v24 only
  - Description—Text field
- NutrientItems—List of nutrient items. Each nutrient item contains:
  - InfoodsCode—The InFoodsID value of the nutrient. See [Condition H - InFoodsCode](#) on page A-3.
  - ValuePer100Gms—The numerical value for 100 grams
  - UOM—Unit of measure
    - ISOCCode—The ISO code of the unit of measure. If no ISO code is available for the UOM, this field should not be used and the Abbreviation field should be populated.

- ID—Not used
- Abbreviation—The abbreviation of the UOM to use. This field is only referenced if the ISOCode is not used.
- Source—The name of the location/source the nutrient analysis was produced. Uses the name column from the NutritionalOrigin table.
- Comments—Text field

## Output

The result will be an overall success indicator and a list of all nutrient analyses that have been imported.

- IsSuccessful—True or False
- Results—List of NutrientAnalysisResult objects. Each NutrientAnalysisResult object provides a system generated AnalysisNumber for the newly imported nutrient analysis, and its corresponding SampleNumber used as input.
- AnalysisNumber—System generated reference number for the nutrient analysis
- SampleNumber—Number used as input to assign to the nutrient analysis

## Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 5-4: Result codes

Result Code	Possible Messages or Warnings	Comments
<b>INVALID_INPUT</b>	INVALID_SECURITY_PRIVILEGES	User must have role [NUTRIENT_ANALYSIS_CREATOR] to save nutrient analysis data
<b>RESULT_NO_ERRORS</b>	N/A	No errors occurred while processing request

Table 5-4: Result codes (continued)

Result Code	Possible Messages or Warnings	Comments
<b>RESULT_INVALID_INPUT</b>	NUTRITION_SAMPLE_INVALID	Nutrient sample required
	NUTRITION_ANALYSIS_INVALID	No valid parameters for nutrient analysis
	MAX_RECORDS_SAVED	Maximum records count allowed for nutrient analysis records save exceeded. Request rejected.
	NUTRITION_ANALYSIS_INVALID_SAMPLENUMBER	Nutrient analysis Sample Number input invalid (must be 50 alphanumeric characters or less)
	NUTRITION_ANALYSIS_INVALID_SAMPLETYPE	Nutrient analysis Sample Type input invalid (must be 50 alphanumeric characters or less)
	NUTRITION_ANALYSIS_INVALID_DESCRIPTION	Nutrient analysis Description length invalid (must be 1024 alphanumeric characters or less)
	NUTRITION_ANALYSIS_INVALID_GTINUPC	Nutrient analysis GTINUPC input invalid (must be 14 alphanumeric characters or less)
	NUTRITION_ANALYSIS_INVALID_SCRM_FACILITY	Nutrient analysis SCRM source Facility input invalid. See <a href="#">Condition I - SCRM Entity Input</a> on page A-4.
	NUTRIENT_ANALYSIS_INVALID_BUSINESS_UNIT	No business unit found for given alias
	INVALID_SPEC_NUMBER	Specification number input (specification number) format is invalid. See <a href="#">Condition E - Specification Identifier Input Formats</a> on page A-2.
	NUTRIENT_ITEM_INVALID_COMMENT	Nutrient item Comments must be 512 alphanumeric characters or less
	NUTRIENT_ITEM_INVALID_UOM	Unit of measure not found for given ISOCode or abbreviation
	NUTRIENT_ITEM_INVALID_INFOODS_CODE	No Infoods Code found for given input value
	NUTRIENT_ITEM_INVALID_SOURCE	Provide Source cannot be found
	UNKNOWN_ERROR	Unknown error retrieving SCRM facility information
<b>RESULT_FAILURE</b>	NUTRIENT_SAMPLE_SAVE_ERROR	Unknown error saving nutrient analysis

## Notes

See Conditions A.1, A.2, E, G, H, and I in [Special Conditions](#) on page A-1.

## Get Nutrient Analysis

### Description

Use the GetNutrientAnalysis web service to retrieve the Nutrient Analysis summary and list of Nutrient Items for a given nutrient analysis number. The associated SCRM facility information will only be returned if the calling user has access permission to the facility.

### Input

- 1 A nutrient analysis number

Table 5-5: Input

Name	Type	Description
<b>AnalysisNumber</b>	String Max length = 8	Unique numerical identifier for the nutrient analysis. Required.

### Output

- NutrientAnalysisSummary
  - AnalysisNumber —System-assigned analysis number
  - SampleNumber—User-defined number for the sample. This can be alpha or numeric.
  - Description—Description of the analysis
  - specificationIdentifier
    - Spec # and Issue #
    - List of Cross References
  - GTIN\_UPC—GTIN UPC value
  - SampleType —User-defined field denoting the type of sample, such as raw material or finished product
  - Facility—The facility where the sample is sourced
  - HasAccessToSourceFacility—Set to false if user does not have access to the source facility
  - List of BusinessUnits—List of business units to associate the analysis to. Each business unit entry must contain the full business unit alias (for example, “CPI North America Retail”).
  - AnalysisDate
  - LastUpdateDate
  - SentToLabDate
  - ReceivedFromLabDate
  - Originator (Name, ExternalId)

- List of Nutrient Items. Each nutrient item contains:
  - InfoodsCode—The InFoodsID value of the nutrient. See [Condition H - InFoodsCode](#) on page A-3.
  - ValuePer100Gms—The numerical value for 100 grams
  - UOM—Unit of measure
    - ISOCode—The ISO code of the unit of measure. If no ISO code is available for the UOM, this field should not be used and the Abbreviation field should be populated.
    - ID—The unit of measure identification number
    - Abbreviation—The abbreviation of the UOM to use. This field is only referenced if the ISOCode is not used.
  - Source—The name of the location/source the nutrient analysis was produced. Uses the name column from the NutritionalOrigin table.
  - Comments—Additional comments about this particular nutrient

## Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 5-6: Result codes

Result Code	Possible Messages or Warnings	Comments
<b>RESULT_NO_ERRORS</b>	N/A	No errors occur processing request
<b>RESULT_INVALID_INPUT</b>	NO_VALID_PARAMETERS	No valid request parameters
	NUTRITION_ANALYSIS_NUMBER_INVALID	Nutrient Analysis Number is required. Nutrient Analysis Number length must not be more than 8 characters
	NUTRITION_ANALYSIS_NOT_FOUND	No nutrient analysis found with given nutrient analysis number
	INVALID_SECURITY_PRIVILEGES	If user does not have permission for the nutrient analysis' related specification

## Notes

See Conditions B (for the nutrient analysis' related specification) and H in [Special Conditions](#) on page A-1.

## Get Nutrient Composite

### Description

Use the GetNutrientComposite web service to retrieve the Nutrient Composite summary, list of Analyses that make up the Composite, and the list resulting Nutrient Items for a given nutrient composite number. The resulting nutrient items list is a composite of the nutrient analyses according to their weighted values. Each resulting nutrient item returned does not include the source or comments data.

The nutrient composite information will only be returned if the calling user has access to the associated Specification.

### Input

- 1 A nutrient analysis number

Table 5-7: Input

Name	Type	Description
<b>CompositeNumber</b>	String Max length = 10	Unique numerical identifier for the nutrient composite. Required.

### Output

The following Nutrient Composite data is returned:

- NutrientCompositeSummary
  - CompositeNumber
  - Title
  - Description
  - SpecificationIdentifier
    - Spec # and Issue #
    - List of Cross References
  - List of BusinessUnits
  - CompositeDate
  - LastUpdateDate
  - Originator (Name, ExternalId)
- List of Weighted Nutrient Analyses

- Each Weighted Analysis has:
  - Analysis Number
  - Specification Identifier
  - Analysis Date
  - Weighting
  - Comments
- List of Nutrient Items. Each nutrient item has:
  - InfoodsCode—The InFoodsID value of the nutrient. See [Condition H - InFoodsCode](#) on page A-3.
  - ValuePer100Gms—The numerical value for 100 grams
  - UOM—Unit of measure
    - ISOCode—The ISO code of the unit of measure. If no ISO code is available for the UOM, this field should not be used and the Abbreviation field should be populated.
    - ID—The unit of measure identification number
    - Abbreviation—The abbreviation of the UOM to use. This field is only referenced if the ISOCode is not used.
  - Source—The name of the location/source the nutrient analysis was produced. Uses the name column from the NutritionalOrigin table.
  - Comments—Text field

## Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 5-8: Result codes

Result Code	Possible Messages or Warnings	Comments
<b>RESULT_NO_ERRORS</b>	N/A	No errors occur processing request
<b>RESULT_INVALID_INPUT</b>	NO_VALID_PARAMETERS	No valid request parameters
	NUTRITION_COMPOSITE_NUMBER_INVALID	Nutrient Composite Number is required. Nutrient Composite Number length must not be more than 10 characters.
	NUTRITION_COMPOSITE_NOT_FOUND	No nutrient composite found with given nutrient composite number
	INVALID_SECURITY_PRIVILEGES	If user does not have permission for the composite's specification

## Notes

See Conditions B (for the nutrient composite's related specification) and H in [\*Special Conditions\*](#) on page A-1.

# Using the Custom Data Services Web Services

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*This chapter describes the Custom Data Services web service. Topics in this chapter include:*

- ❑ *Overview of Custom Data Services*
  - ❑ *Service endpoint location(s)*
  - ❑ *Get Spec Custom Sections*
  - ❑ *Get Spec Extended Attributes*
  - ❑ *Get SCRM Custom Sections*
  - ❑ *Get SCRM Extended Attributes*
  - ❑ *Save Custom Lookup*
  - ❑ *Get Custom Sections MetaData*
  - ❑ *Get Extended Attributes MetaData*
  - ❑ *Get EQ Custom Sections*
  - ❑ *Get EQ Extended Attributes*
  - ❑ *Get Calculated Custom Section*
  - ❑ *Get PQM Custom Sections*
  - ❑ *Add PQM Custom Sections*
  - ❑ *Delete PQM Custom Sections*
  - ❑ *Update PQM Custom Section*
-

## Overview of Custom Data Services

CustomDataServices provides operations related to extended attributes and custom sections. The following operations are supported:

Operation	v24	v25	v30	Description
<a href="#">Service endpoint location(s)</a> on page 6-3	●	●	●	Returns an XML Schema describing the specified custom sections format expected when calling one of the other getXCustomSections web services.
<a href="#">Get Spec Custom Sections</a> on page 6-5	●	●	●	Returns the specified custom section data for the given specifications if the user has read permissions. The resulting custom section XML is unique for each custom section type/template.
<a href="#">Get Spec Extended Attributes</a> on page 6-7	●	●	●	Returns all extended attributes for the given GSM specifications.
<a href="#">Get SCRM Custom Sections</a> on page 6-9	●	●	●	Returns the specified custom section data for the given companies, facilities, or sourcing approvals.
<a href="#">Get SCRM Extended Attributes</a> on page 6-13	●	●	●	Returns all extended attribute data for the given companies, facilities, or sourcing approvals.
<a href="#">Save Custom Lookup</a> on page 6-15	●	●	●	Updates the custom import lookup table, used by qualitative lookup extended attributes, with the provided lookup entries.
<a href="#">Get Custom Sections MetaData</a> on page 6-17	●	●	●	Returns custom section meta data describing various attributes of the given custom section.
<a href="#">Get Extended Attributes MetaData</a> on page 6-19	●	●	●	Returns extended attribute meta data describing various attributes of the given extended attribute.
<a href="#">Get EQ Custom Sections</a> on page 6-21	●	●	●	Returns the specified custom section data for the given eQuestionnaire.
<a href="#">Get EQ Extended Attributes</a> on page 6-23	●	●	●	Returns all extended attribute data for the given eQuestionnaire.
<a href="#">Get Calculated Custom Section</a> on page 6-25	●	●	●	Returns a calculated version of a custom section for a given custom section number and GSM specification. Data can be provided to override existing specification data used in the calculation.
<a href="#">Get PQM Custom Sections</a> on page 6-29			●	Retrieves custom section data for specified PQM items
<a href="#">Add PQM Custom Sections</a> on page 6-31			●	Adds custom section data to specified PQM items
<a href="#">Delete PQM Custom Sections</a> on page 6-33			●	Removes existing custom sections from specified PQM items
<a href="#">Update PQM Custom Section</a> on page 6-35			●	Updates existing custom section data of specified PQM items

## Service endpoint location(s)

### **v24 endpoint**

`http://<servername>/Integration/ProdikaContracts/Common/v24/  
CustomDataServices.svc`

### **v25 endpoint**

`http://<servername>/Integration/ProdikaContracts/Common/v25/  
CustomDataServices.svc`

### **v30 endpoint**

`http://<servername>/Integration/ProdikaContracts/Common/v30/  
CustomDataServices.svc`

## Get Custom Section Schema

### Description

This web method gets an XML schema describing a custom section. (See <http://www.w3.org/XML/Schema> for the XML Schema specification.) Custom sections are composed of rows and columns of extended attributes. Extended attributes are of a limited number of types. Oracle Agile PLM for Process API supplies an XML schema file (ExtendedAttributeTypes.xsd) that specifies those types.

### Input

Table 6-1: Input

Name	Description
<b>CustomSectionID</b>	A unique ID number assigned to a custom section when it is created. The editor label for this value is: "Section Number."

### Output

Table 6-2: Output

Name	Description
<b>customSectionID</b>	The ID number passed as input
<b>Schema</b>	An XML schema describing the custom section

### Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 6-3: Result codes

Result Code	Possible Messages or Warnings	Comments
<b>RESULT_NO_ERRORS</b>	N/A	No errors occurred while processing request
<b>RESULT_INVALID_INPUT</b>	INVALID_CUSTOM_SECTION_NUMBER	Invalid Custom Section number
<b>RESULT_FAILURE</b>	UNEXPECTED_RESULT	The custom section ID number is invalid or the request could not be processed. The description explains the problem.

## Get Spec Custom Sections

### Description

This method gets custom section data for GSM specifications. The query is limited to the identified specifications and custom section types. Not all specified specifications may have every specified custom section type.

### Input

Table 6-4: Input

Name	Description
<b>CustomSectionNumbers</b>	Array of custom section ID numbers
<b>AllowOnlyApprovedSpec</b>	If set to true, only the latest Approved issue number is retrieved, if one exists (see <a href="#">Condition C - Allow Only Approved Spec</a> on page A-1).
<b>specIdentifierCriterion</b>	Array of tSpecIdentifierCriterion. These identify which specifications to query. For more information see <a href="#">tSpecIdentifierCriterion</a> on page A-10.

### Output

A tCustomSectionSpec element is returned for each specification that is found. These have two sub-elements:

- 1 **SpecificationNumber**—Identifies a specification that matched one input. It is of type tSpecificationNumber, as explained in [tSpecificationNumber](#) on page A-10.
- 2 **Sections**—Lists any custom sections of the types specified in the input that belong to the specification. Within “Sections” is one or more tCustomSectionSpec elements. There is one per custom section found. Each tCustomSectionSpec has a tExtension element containing an Any element. The nodes under this conform to the XML schema returned by GetCustomSectionSchema (see [Get Custom Section Schema](#) on page 6-4).

The sub-node is the section name. It in turn contains a node per row. Row nodes contain one node per column. Column nodes contain the actual values.

To summarize, the hierarchy is: Sections / tExtension / Any / <section-type> / <row\_name> / <column\_name> / <extended-attribute-type> / Value. The first column contains labels instead of values.

Object Level Security is evaluated for each custom section returned based on the web service user. Custom sections without appropriate security privileges are removed from the results, and include the INVALID\_SECURITY\_PRIVILEGES message.

## Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 6-5: Result codes

Result Code	Possible Messages or Warnings	Comments
<b>RESULT_NO_ERRORS</b>	N/A	No errors occurred while processing request
<b>RESULT_WARNINGS</b>	MAX_RECORDS_RETRIEVED	Occurs if the number of records retrieved exceeds the maximum records allowed. See <a href="#">Condition G - Max Records Allowed For Save</a> on page A-2.
	INVALID_SECURITY_PRIVILEGES	User must have role [EXTERNALLY_MANAGED_CROSS_REF_ADMIN] to modify cross references. User does not have access to requested custom section.
<b>RESULT_INVALID_INPUT</b>	NO_VALID_PARAMETERS	Missing criteria or custom section number
	INVALID_CROSS_REFERENCE	Cross Reference input (SystemID, Equivalent) is required. See <a href="#">Condition E - Specification Identifier Input Formats</a> on page A-2.
	INVALID_SPEC_NUMBER	Specification number input (specification number) format is invalid. See <a href="#">Condition E - Specification Identifier Input Formats</a> on page A-2.
<b>RESULT_FAILURE</b>	UNEXPECTED_RESULT	The custom section ID number is invalid or the request could not be processed. The description explains the problem.
	CUSTOM_SECTION_RETRIEVAL_ERROR	Unknown error getting custom section data

## Notes

See Conditions A.1, A.2, B.1, C.1, C.2, E, and F in [Special Conditions](#) on page A-1.

## Get Spec Extended Attributes

### Description

This web method gets extended attribute data for GSM specifications.

### Input

- 1 A list of specification numbers, cross references, or a combination of either
- 2 Allow Only Approved Spec—Specifications returned must be in an Approved status. See [Condition C - Allow Only Approved Spec](#) on page A-1.

Table 6-6: Input

Name	Type	Description
<b>AllowOnlyApprovedSpec</b>	boolean	True—Specifications returned must be in an Approved status False—Specifications returned may be in any status
<b>specIdentifierCriterion</b>	tSpecIdentifierCriterion[]	Array of one or more tSpecIdentifierCriterion objects. See <a href="#">tSpecIdentifierCriterion</a> on page A-10.

### Output

A tExtendedAttributeSpec element is returned for each specification that is found. These have two sub-elements:

- 1 SpecificationNumber—Identifies a specification that matched one input. It is of type tSpecificationNumber.
- 2 ExtendedAttributes—Lists any extended attributes that belong to the specification inside the Any node. Each attribute has a Value element. The body is the value. An ISO code for the unit of measure is in the unit of measure (UOM) attribute. Oracle Agile PLM for Process API supplies an XML schema file (ExtendedAttributeTypes.xsd) that specifies the format for each extended attribute type.

## Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 6-7: Result codes

Result Code	Possible Messages or Warnings	Comments
<b>RESULT_NO_ERRORS</b>	N/A	No errors occurred while processing request
<b>RESULT_FAILURE</b>	UNEXPECTED_RESULT	The custom section ID number is invalid or the request could not be processed. The description explains the problem.
	SPEC_LOAD_ERROR	Unexpected exception loading specifications
	UNKNOWN_ERROR	Unknown error getting extended attributes data
<b>RESULT_INVALID_INPUT</b>	NO_VALID_PARAMETERS	Missing criteria or custom section number
	INVALID_SPEC_NUMBER	Specification number input (specification number) format is invalid. See <a href="#">Condition E - Specification Identifier Input Formats</a> on page A-2.
	INVALID_CROSS_REFERENCE	Cross Reference input (SystemID, Equivalent) is required. See <a href="#">Condition E - Specification Identifier Input Formats</a> on page A-2.
<b>RESULT_WARNING</b>	EXTENDED_ATTRIBUTE_GENERATION_ERROR	Error generating extended attribute XML data for specification
	MAX_RECORDS_RETRIEVED	Occurs if the number of records retrieved exceeds the maximum records allowed. See <a href="#">Condition G - Max Records Allowed For Save</a> on page A-2.

## Notes

See Conditions A.1, A.2, B.1, C.1, C.2, E, and F in [Special Conditions](#) on page A-1.

## Get SCRM Custom Sections

### Description

This method gets custom section data for SCRM companies, facilities, and sourcing approvals. The query is limited to the identified companies, facilities, sourcing approvals, and custom section types. Not all specified companies, facilities, and sourcing approvals may have every specified custom section type.

The inputs and outputs for each SCRM object are listed below:

### Company Profile

Table 6-8: Input and Output

Input	Output
<b>CompanyNumber/CompanyCrossReference</b>	Custom Section message matching the specification custom section message
<b>CustomSectionNumbers</b>	

### Facility Profile

Table 6-9: Input and Output

Input	Output
<b>FacilityNumber/FacilityCrossReference</b>	Custom Section message matching the specification custom section message
<b>CustomSectionNumbers</b>	

## Specification Related Sourcing Approval

Table 6-10: Input, Output, and Security

Input	Output	Security
<b>Sourcing Approval Number/ PKID</b>	Custom Section message matching the specification custom section message	GSM Business Unit and Object Level Security
<b>CustomSectionNumbers</b>		
<b>AllowOnlyApprovedEntity (optional)</b>	boolean	<p>True—Sourcing approvals returned must be in an Approved status. An approved status is determined by a configurable tag. Refer to <a href="#">config\Custom\CustomSettings.config</a> on page 2-3 for more information.</p> <p>False—Sourcing approvals returned may be in any status.</p> <p>This input applies only to sourcing approvals. It is ignored when pulling data from companies or facilities.</p>

## Non-Specification Related Sourcing Approval

Table 6-11: Input, Output, and Security

Input	Output	Security
<b>Sourcing Approval Number/ PKID</b>	Custom Section message matching the specification custom section message	Object Level Security
<b>CustomSectionNumbers</b>		
<b>Allow Only Approved Entity (optional)</b>	Input for non-specification related sourcing approval.	

### Input

- 1 SCRMEntityInputCriteria—Include a set of SCRM entities which may be SCRMCompany, SCRMFacility or SCRMSourcingApproval.
- 2 CustomSectionNumbers—Include a list of custom section numbers needed to retrieve from the entities which match the criteria in SCRMEntityInputCriteria.
- 3 Allow Only Approved Entity (optional):
  - True—Sourcing approvals returned must be in an Approved status. An approved status is determined by a configurable tag.
  - False—Sourcing approvals returned may be in any status.

## Output

Each tSCRMCustomSection in the CustomSections list will include:

- 1 EntityInfo—If the entity is a company or facility, this field will include the entity number and cross references. For a sourcing approval entity, this field will include the sourcing approval PKID.
- 2 Sections—Lists any custom sections of the types specified in the input that belong to the entity.

Each [Sections] node has one or more Extension elements containing an [Any] element.

The sub-node is the section name. It in turn contains a node per row. Row nodes contain one node per column. Column nodes contain the actual values.

To summarize, the hierarchy is:

Sections / tExtension / Any / <section-type> / <row\_name> /  
<column\_name> / <extended-attribute-type> / Value.

The first column contains labels instead of values.

Object Level Security is evaluated for each custom section returned based on the web service user. Custom sections without appropriate security privileges are removed from the results, and include the INVALID\_SECURITY\_PRIVILEGES message.

## Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 6-12: Result codes

Result Code	Possible Messages or Warnings	Comments
<b>RESULT_NO_ERRORS</b>	N/A	No errors occurred while processing request
<b>RESULT_WARNINGS</b>	MAX_RECORDS_RETRIEVED	Occurs if the number of records retrieved exceeds the maximum records allowed. See <a href="#">Condition F - Max Records Retrieved</a> on page A-2.
	CUSTOM_SECTION_RETRIEVAL_ERROR	Occurs if cannot retrieve custom sections or if current user has no read permission about matching entity

Table 6-12: Result codes (continued)

<b>RESULT_INVALID_INPUT</b>	NO_VALID_PARAMETERS	Missing criteria or custom section number(s)
	INVALID_SCRMENTITY_NUMBER	Entity number is not a 7 digit number
	INVALID_CROSS_REFERENCE	Cross Reference input (SystemID, Equivalent) is required. See <a href="#">Condition E - Specification Identifier Input Formats</a> on page A-2.
	INVALID_PKID	PKID input is not a valid sourcing approval (specification-related and non-specification related) PKID
	INVALID_CUSTOM_SECTION_NUMBER	Custom Section numbers are required

## Notes

See Conditions F.1, I.1, and I.2 in [Special Conditions](#) on page A-1. For specification related sourcing approvals, see B.1.

## Get SCRM Extended Attributes

### Description

The GetSCRMExtendedAttributes web service pulls all extended attributes on a company, facility, or sourcing approval.

The inputs and outputs for each SCRM object are listed below:

### Company Profile

Table 6-13: Input and Output

Input	Output
<b>Company Identifier (CompanyNumber/ CompanyCrossReference)</b>	Group of Extended Attributes matching the specification extended attributes message

### Facility Profile

Table 6-14: Input and Output

Input	Output
<b>FacilityNumber/FacilityCrossReference</b>	Group of Extended Attributes matching the specification extended attributes message

### Specification Related Sourcing Approval

Table 6-15: Input, Output, and Security

Input	Output	Security
<b>Sourcing Approval Number/ PKID</b>	Group of Extended Attributes matching the specification extended attributes message	GSM Business Unit and Object Level Security
<b>Allow Only Approved Entity (optional)</b>		

### Non-Specification Related Sourcing Approval

Table 6-16: Input, Output, and Security

Input	Output	Security
<b>Sourcing Approval Number/ PKID</b>	Group of Extended Attributes matching the specification extended attributes message	Object Level Security
<b>Allow Only Approved Entity (optional)</b>		

### Input

- 1 SCRMEntityInputCriteria—Include a set of SCRM entities which may be SCRMCompany, SCRMFacility or SCRMSourcingApproval.
- 2 Allow Only Approved Entity (optional)
  - True—Sourcing approvals returned must be in an Approved status. An approved status is determined by a configurable tag.
  - False—Sourcing approvals returned may be in any status.

## Output

A `tSCRMExtendedAttributes` element is returned for each SCRM entity that is found. These have two sub-elements:

- 1 **EntityInfo**—If the entity is a company or facility, this field will include the entity number and cross references. For a sourcing approval entity, this field will include the sourcing approval PKID.
- 2 **ExtendedAttributes**—Lists any extended attributes that belong to the entity inside the `[Any]` node. Each attribute has a `Value` element. The body is the value. An ISO code for the unit of measure (UOM) is in the unit of measure attribute. Oracle Agile PLM for Process API supplies an XML schema file (`ExtendedAttributeTypes.xsd`) that specifies the format for each extended attribute type.

## Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 6-17: Result codes

Result Code	Possible Messages or Warnings	Comments
<b>RESULT_NO_ERRORS</b>	N/A	No errors occurred while processing request
<b>RESULT_INVALID_INPUT</b>	NO_VALID_PARAMETERS	SCRMEntityInputCriteria missing or input format is invalid
	INVALID_SCRMENTITY_NUMBER	Entity number is not a 7 digit number
	INVALID_CROSS_REFERENCE	Cross Reference input (SystemID, Equivalent) is required. See <a href="#">Condition I - SCRM Entity Input</a> on page A-4.
	INVALID_PKID	PKID input is not a valid sourcing approval (specification-related and non-specification related) PKID
<b>RESULT_WARNINGS</b>	MAX_RECORDS_RETRIEVED	Occurs if the number of records retrieved exceeds the maximum records allowed. See <a href="#">Condition F - Max Records Retrieved</a> on page A-2.
	SCRM_EXTENDEDATTRIBUTES_LOAD_ERROR	Occurs if cannot retrieve Extended Attributes or if the current user has no read permission about matching entity

## Notes

See Conditions F.1, I.1, and I.2 in [Special Conditions](#) on page A-1. For specification related sourcing approvals, see B.1.

## Save Custom Lookup

### Description

This web method adds items to the lookup lists used by qualitative lookup extended attributes. Those extended attributes refer to a category of lookups that are displayed as checkboxes, radio buttons, or other types of lists in the user interface.

Multiple lookup items may be added in each call. Lookup items must have a category, name, external ID, sequence, and status. If the category does not already exist, it is created.

### Input

The only input is an array named CustomLookup of type tCustomLookup. See [tCustomLookup](#) on page A-21 for more information. Category, SequenceID and Status are required fields.

### Output

The only output is a flag named IsSuccessful. It is “True” if no errors occurred while saving the new lookup options.

### Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 6-18: Result codes

Result Code	Possible Messages or Warnings	Comments
<b>INVALID_INPUT</b>	INVALID_SECURITY_PRIVILEGES	User must have role [DATA_ADMIN] or [SUPER_DATA_ADMIN] to save custom lookup data
<b>RESULT_NO_ERRORS</b>	N/A	No errors occurred while processing request
<b>RESULT_FAILURE</b>	UNEXPECTED_RESULT	The custom section ID number is invalid or the request could not be processed. The description explains the problem.

Table 6-18: Result codes (continued)

Result Code	Possible Messages or Warnings	Comments
<b>RESULT_INVALID_INPUT</b>	MAX_RECORDS_SAVED	Maximum records count allowed for save exceeded. Request rejected.
	CUSTOM_LOOKUP_CATEGORY_INVALID	Category required with maximum length of 150 characters
	CUSTOM_LOOKUP_EXTERNALID_INVALID	ExternalID must be <= 80 characters
	CUSTOM_LOOKUP_VALUE_INVALID	Value must be <= 150 characters
	CUSTOM_LOOKUP_STATUS_INVALID	Status must be 0 (Inactive) or 1 (Active)
	CUSTOM_LOOKUP_INVALID	tCustomLookup must contain data
	CUSTOM_LOOKUP_SEQUENCE_INVALID	Sequence must be numeric and <= 4 digits

## Notes

See Condition G in [Special Conditions](#) on page A-1.

## Get Custom Sections MetaData

### Description

Use the GetCustomSectionsMetaData web service to retrieve the custom section profiles for a given custom section.

### Input

- 1 A custom section ID or a custom section number.

Table 6-19: Input

Name	Type	Description
<b>customSectionMetaDataInputCriteria</b>	tCustomSectionMetaDataInputCriteria	A tCustomSectionMetaDataInputCriteria object

### Output

The following custom section profile data is returned for each custom section:

- Custom Section Number
- Custom Section ID
- Custom Section Dynamic Tags
- Custom Section Hide Header
- Custom Section Row (Sequence, ID and Dynamic Tags)
- Custom Section Column (Sequence, ID, Width, Print Width, and Dynamic Tags)

Table 6-20: Output

Name	Type	Description
<b>customSections</b>	tCustomSection[]	Array of tCustomSection objects

## Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 6-21: Result codes

Result Code	Possible Messages or Warnings	Comments
<b>RESULT_NO_ERRORS</b>	N/A	No errors occur processing request
<b>RESULT_INVALID_INPUT</b>	NO_VALID_PARAMETERS	No valid parameters
	CUSTOM_SECTION_ID_INVALID	Custom Section ID input format is invalid. See #1 of <a href="#">Condition O - Invalid Custom Sections MetaData Input Formats</a> on page A-5.
	CUSTOM_SECTION_NUMBER_INVALID	Custom Section Number input format is invalid. See #2 of <a href="#">Condition O - Invalid Custom Sections MetaData Input Formats</a> on page A-5.
	INVALID_INPUT_CRITERIA_NUMBER	Input type is neither tCustomSectionID nor tCustomSectionNumber
	NO_CUSTOM_SECTION_FOUND	Occurs if any custom section cannot be found for the input criteria (the service will continue to process remaining criteria)

## Notes

See Conditions O1 and O2 in [Special Conditions](#) on page A-1.

## Get Extended Attributes MetaData

### Description

Use the GetExtendedAttributesMetaData web service to retrieve the extended attribute profiles for a given extended attribute.

### Input

- 1 An extended attribute ID.

Table 6-22: Input

Name	Type	Description
<b>extendedAttributeID</b>	string	Extended Attribute ID

### Output

The following extended attribute profile data is returned for each extended attribute:

- Extended Attribute ID
- Extended Attribute Dynamic Tags

Table 6-23: Output

Name	Type	Description
<b>extendedAttributes</b>	tExtendedAttribute []	Array of tExtendedAttribute objects

### Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 6-24: Result codes

Result Code	Possible Messages or Warnings	Comments
<b>RESULT_NO_ERRORS</b>	N/A	No errors occur processing request
<b>RESULT_INVALID_INPUT</b>	NO_VALID_PARAMETERS	No valid parameters
	EXTENDED_ATTRIBUTE_ID_INVALID	Extended Attribute ID input format is invalid. See <a href="#">Condition P - Invalid Extended Attributes MetaData Input Formats</a> on page A-5.
<b>RESULT_WARNINGS</b>	NO_EXTENDED_ATTRIBUTE_FOUND	Occurs if any extended attribute cannot be found for the input criteria (the service will continue to process remaining criteria)

## Notes

See Condition P in [Special Conditions](#) on page A-1. If the Extended Attribute is distinct, there will be an extra value called “Is Distinct” returned in Dynamic Tags.

## Get EQ Custom Sections

### Description

Use the GetEQCustomSections web service to retrieve the eQ custom section profiles for a given eQ.

### Input

- 1 An eQ number and a list of custom section numbers.

Table 6-25: Input

Name	Type	Description
<b>eqNumber</b>	tEQNumber	An tEQNumber object
<b>csNumbers</b>	string []	A list of eQ custom section numbers

### Output

The following eQ custom section profile data is returned for each eQ:

- EQ Number
- tExtension (Any, MustUnderstand and MustUnderstandSpecified)

Table 6-26: Output

Name	Type	Description
<b>sections</b>	List<tExtension>	Array of tExtension objects

### Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 6-27: Result codes

Result Code	Possible Messages or Warnings	Comments
<b>RESULT_NO_ERRORS</b>	N/A	No errors occur processing request

Table 6-27: Result codes

<b>RESULT_INVALID_INPUT</b>	NO_VALID_PARAMETERS	No valid parameters
	INVALID_EQ_NUMBER	EQ Number input format is invalid. See <a href="#">Condition M - Invalid EQ Input Formats</a> on page A-4.
	EQ_CUSTOM_SECTION_NUMBER_INVALID	EQ Custom Section Number input format is invalid. See #2 of <a href="#">Condition O - Invalid Custom Sections MetaData Input Formats</a> on page A-5.
	INVALID_SECURITY_PRIVILEGES	Occurs if the API user has no read permission to eQ returned for the input criteria. See <a href="#">Condition N - Invalid Security Privileges</a> on page A-4.
<b>RESULT_WARNINGS</b>	NO_EQ_FOUND	Occurs if any eQ cannot be found for the input criteria (the service will continue to process remaining criteria)

## Notes

See Conditions M1, N1, N2, and O2 in [Special Conditions](#) on page A-1.

## Get EQ Extended Attributes

### Description

Use the GetEQExtendedAttributes web service to retrieve the eQ extended attribute profiles for a given list of eQs.

### Input

- 1 A list of eQ Numbers.

Table 6-28: Input

Name	Type	Description
<b>eqNumber</b>	tEQNumber	A list of tEQNumber objects

### Output

The following eQ extended attribute profile data is returned for each eQ:

- EQ Number
- tExtension (Any, MustUnderstand and MustUnderstandSpecified)

Table 6-29: Output

Name	Type	Description
<b>extensions</b>	tEQExtendedAttribute[]	Array of tEQExtendedAttribute objects

### Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 6-30: Result codes

Result Code	Possible Messages or Warnings	Comments
<b>RESULT_NO_ERRORS</b>	N/A	No errors occur processing request

Table 6-30: Result codes

<b>RESULT_INVALID_INPUT</b>	NO_VALID_PARAMETERS	No valid parameters
	INVALID_EQ_NUMBER	EQ Number input format is invalid. See <a href="#">Condition M - Invalid EQ Input Formats</a> on page A-4.
	INVALID_SECURITY_PRIVILEGES	Occurs if the API user has no read permission to eQ returned for the input criteria. See <a href="#">Condition N - Invalid Security Privileges</a> on page A-4.
<b>RESULT_WARNINGS</b>	NO_EQ_FOUND	Occurs if any eQ cannot be found for the input criteria (the service will continue to process remaining criteria)

## Notes

See Conditions M1, N1, and N2 in [Special Conditions](#) on page A-1.

## Get Calculated Custom Section

### Description

The GetCalculatedCustomSection web service provides the ability to retrieve and recalculate custom section data for a given specification with additional overridable parameters. The calculated custom section data is not preserved on the specification.

### Input

- 1 A specification number or cross reference
- 2 Custom Section ID
- 3 A list of custom section column IDs
- 4 A list of custom section row IDs
- 5 A set of overridable properties to be used by calculation scripts

Table 6-31: Input

Name	Type	Description
<b>CustomSectionID</b>	string	A custom section ID
<b>HostSpecificationIdentification</b>	tSpecIdentifierCriterion	tCrossReference: cross reference of a spec tSpecificationNumber: specification number of a spec
<b>HostContext</b>	tSpecIdentifierCriterion	The HostContext field is currently a placeholder, and is not used
<b>ColumnIDs</b>	String[]	An array of column IDs that a resulting custom section will have. If not specified, no column filter will be applied.
<b>RowIDs</b>	String[]	An array of row IDs that a resulting custom section will have. If not specified, no row filter will be applied.
<b>Overrides</b>	tOverrideParameterHolder	A holder for overridable specification properties. See Input Overrides for detailed list of overridable properties.

### Input Overrides

Table 6-32: Input Overrides

Name	Type	Description
<b>NutrientItems</b>	tNutrientItemInput[]	An array of nutrients to be overridden. If a nutrient is present on a specification, its value will be overridden if it is specified in this array.
<b>AllergensMustContain</b>	tComplianceItemContained[]	An array of “must contain” allergens to be overridden
<b>AllergensMayContain</b>	tComplianceItemContained[]	An array of “may contain” allergens to be overridden

Table 6-32: Input Overrides

<b>AdditivesMustContain</b>	tComplianceItemContained[]	An array of “must contain” additives to be overridden
<b>AdditivesMayContain</b>	tComplianceItemContained[]	An array of “may contain” additives to be overridden
<b>SensitivitiesMustContain</b>	tComplianceItemContained[]	An array of “must contain” sensitivities/intolerances to be overridden
<b>SensitivitiesMayContain</b>	tComplianceItemContained[]	An array of “may contain” sensitivities/intolerances to be overridden
<b>ExtendedAttributes</b>	tExtendedAttributeBase[]	An array of distinct extended attributes to be overridden. The following types can be specified: <ul style="list-style-type: none"> <li>• tExtendedAttributeText</li> <li>• tExtendedAttributeDate</li> <li>• tExtendedAttributeNumeric</li> <li>• tExtendedAttributeQuantitativeRange</li> <li>• tExtendedAttributeQualitative</li> <li>• tExtendedAttributeBoolean</li> </ul>
<b>PercentTotalSolids</b>	double	A decimal representation of a percent of a specification total solids
<b>EdiblePortion</b>	double	A decimal representation of a percent of a specification edible portion
<b>DensityMass</b>	tMeasurement	Mass portion of a specification density
<b>DensityVolume</b>	tMeasurement	Volume portion of a specification density
<b>AmountPerServing</b>	tMeasurement	Amount per serving of a specification
<b>ReferencedAmount</b>	tMeasurement	Reference amount of a specification
<b>TareWeightRefWeight</b>	tMeasurement	Tare weights reference weight of a specification
<b>TareWeight</b>	tMeasurement	Tare weight of a specification
<b>TareWeightBase</b>	double	Tare weight base amount of a specification

## Output

The following Custom section data is returned:

- A custom section (See the GetSpecCustomSection web service output for details)
- List of resulting calculation errors

Table 6-33: Output

Name	Type	Description
<b>CustomSectionSpecs</b>	tCustomSectionSpec[]	Array of one custom section specification
<b>CalculationErrors</b>	String[]	Array of calculation errors produced by calculation process

## Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 6-34: Result codes

Result Code	Possible Messages or Warnings	Comments
<b>RESULT_NO_ERRORS</b>	N/A	No errors occur processing request
<b>RESULT_INVALID_INPUT</b>	INVALID_SPEC_NUMBER	Specification number input (specification number) format is invalid. See #1 of <a href="#">Condition E - Specification Identifier Input Formats</a> on page A-2.
	INVALID_ISSUE_NUMBER	Issue input (issue number) format is invalid. See #1 of <a href="#">Condition E - Specification Identifier Input Formats</a> on page A-2.
	INVALID_CROSS_REFERENCE	Cross Reference input (SystemID, Equivalent) format is invalid. See #2 of <a href="#">Condition E - Specification Identifier Input Formats</a> on page A-2.
	INVALID_INPUT_CRITERIA_NUMBER	Input criteria is too broad. It has to match only one specification.
	INVALID_SECURITY_PRIVILEGES	Current user does not have access to the custom section for the given specification
	INVALID_CUSTOM_SECTION_NUMBER	Invalid custom section number
<b>RESULT_FAILURE</b>	UNKNOWN_SCHEMA_GENERATION_ERROR	Occurs when an unexpected exception occurs during a call of a web service

## Notes

The web service provides the ability to override values on distinct extended attributes only. There is no ability to override values on a particular cell unless it holds a distinct attribute.

Although the web service calculates and returns repeatable rows, filtering around these rows is not supported, as repeatable rows cannot be uniquely identified.

The web service currently does not support custom section calculations for Theoretical Outputs.

Any additional calculations on a specification (i.e. BOM calculation, per serving calculation) that are typically done through the **Calculate** button on the UI will not be performed.

## Get PQM Custom Sections

### Description

Use GetPQMCustomSections web service to retrieve custom section data for PQM items.

### Input

Table 6-35: Input

Name	Type	Description
<b>PQMItemIdentifiers</b>	tPQMItemSearchIdentifier[]	Array of one or more tPQMItemSearchIdentifier objects
<b>CustomSectionNumbers</b>	string[]	Array of one or more existing custom section numbers
<b>RestrictToStatusWithIDs</b>	integer[]	Array of one or more workflow status tag behavior IDs to restrict the PQM items found using the PQMItemIdentifier

### Output

Table 6-36: Output

Name	Type	Description
<b>PQMCustomSections</b>	tPQMCustomSection[]	Array of tPQMCustomSection objects

Each tPQMCustomSection returned will include:

- 1 PQMItemIdentifier
- 2 CustomSections - a list of tExtension objects representing custom sections in the types specified in the input belonging to the PQM item. Each tExtension contains an Any element, and the hierarchy conforms to the XML schema returned by GetCustomSectionSchema web service.

Table 6-37: tPQMCustomSection

Name	Type	Description
<b>PQMItemIdentifier</b>	tPQMItemIdentifier	
<b>CustomSections</b>	tExtension[]	

## Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 6-38: Result codes

Result Code	Possible Messages or Warnings	Comments
<b>RESULT_NO_ERRORS</b>	N/A	No errors occurred while processing request
<b>RESULT_INVALID_INPUT</b>	NO_VALID_PARAMETERS	Missing PQM item identifier or custom section number
	INVALID_PQM_ITEM_NUMBER	PQM item number input is invalid
	INVALID_PQM_ITEM_PKID	PQM item PKID input is invalid
	INVALID_CROSS_REFERENCE	Cross reference input is invalid
	CUSTOM_SECTION_NUMBER_INVALID	Custom section number input is invalid
	MAX_RECORDS_RETRIEVED	Occurs if the number of records retrieved exceeds the maximum records allowed
<b>RESULT_FAILURE</b>	CUSTOM_SECTION_RETRIEVAL_ERROR	Returned if an unexpected exception occurs while processing request
	INVALID_SECURITY_PRIVILEGES	User must have [PQM_ADMIN] role or WFA read permission to retrieve PQM item; User must meet the security access level to view the custom sections
	NO_CUSTOM_SECTION_FOUND	Custom section input not found on PQM item
	NO_PQM_ITEM_FOUND	Returned if no PQM item found for the input identifier

## Add PQM Custom Sections

### Description

Use AddPQMCustomSections web service to add custom section data to specified PQM items.

**Note** When adding a custom section to PQM item, all the columns and rows in “Active” status will be added, including those without the “Add this item when section is created” tag.

### Input

Table 6-39: Input

Name	Type	Description
<b>PQMItemIdentifiers</b>	tPQMItemSearchIdentifier[]	Array of one or more tPQMItemSearchIdentifier objects
<b>RestrictToStatusWithIDs</b>	integer[]	Array of one or more workflow status tag behavior IDs to restrict the PQM items found using the PQMItemIdentifier
<b>CustomSectionInstances</b>	tCustomSectionInstance[]	Array of one or more tCustomSectionInstance objects

Each tCustomSectionInstance object contains section number and a tExtension element holding the custom section data. The hierarchy under tExtension element is: tExtension/Any/<section-name>/<row\_name>/<column\_name>/<extended-attribute-type>/Value. The hierarchy must confront to the XML schema returned by GetCustomSectionSchema web service.

Table 6-40: tCustomSectionInstance

Name	Type	Description
<b>CustomSectionNumber</b>	string	
<b>Content</b>	tExtension	

### Output

An overall success indicator and a list of tPQMItemIdentifier objects representing the PQM items changed will be returned.

If all the custom sections input are successfully added, the overall result is success. Else, the overall result is fail and the changes will not be saved.

Table 6-41: tPQMCustomSection

Name	Type	Description
<b>IsSuccessful</b>	boolean	
<b>PQMItemsAffected</b>	tPQMItemIdentifier[]	Array of one or more PQM items which have been changed

## Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 6-42: Result codes

Result Code	Possible Messages or Warnings	Comments
<b>RESULT_NO_ERRORS</b>	N/A	No errors occurred while processing request
<b>RESULT_INVALID_INPUT</b>	NO_VALID_PARAMETER_S	Missing PQM item identifier or custom section instance
	INVALID_PQM_ITEM_NUMBER	PQM item number input is invalid
	INVALID_PQM_ITEM_PKID	PQM item PKID input is invalid
	INVALID_CROSS_REFERENCE	Cross reference input is invalid
	CUSTOM_SECTION_NUMBER_INVALID	Custom section number input is invalid or custom section already exists on the PQM item
	MAX_RECORDS_SAVED	Returned when the number of custom section instances input exceeds the max number allowed to save
<b>RESULT_FAILURE</b>	CUSTOM_SECTION_RETRIEVAL_ERROR	Returned if an unexpected exception occurs while processing request
	INVALID_SECURITY_PRIVILEGES	User must have [PQM_ADMIN] role or WFA read and write permissions to edit the PQM item; User also must have [ADD_CUSTOM_SECTION] role to add custom sections
	NO_PQM_ITEM_FOUND	Returned if no PQM item found for the input identifier

## Notes

User must have [PQM\_ADMIN] role or WFA read and write permissions to edit the PQM item.

User must have [ADD\_CUSTOM\_SECTION] role to add a custom section.

## Delete PQM Custom Sections

### Description

Use DeletePQMCustomSections web service to remove existing custom sections from specified PQM items.

### Input

Table 6-43: Input

Name	Type	Description
<b>PQMItemIdentifiers</b>	tPQMItemSearchIdentifier[]	Array of one or more tPQMItemSearchIdentifier objects
<b>RestrictToStatusWithIDs</b>	integer[]	Array of one or more workflow status tag behavior IDs to restrict the PQM items found using the PQMItemIdentifier
<b>CustomSectionNumbers</b>	string[]	Array of one or more existing custom section numbers

### Output

An overall success indicator and a list of tPQMItemIdentifier objects representing the PQM items changed will be returned.

If all the custom sections are successfully removed, the overall result is success. Otherwise the overall result is fail and the changes will not be saved.

Table 6-44: Output

Name	Type	Description
<b>IsSuccessful</b>	boolean	
<b>PQMItemsAffected</b>	tPQMItemIdentifier[]	Array of one or more PQM items which have been changed

### Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 6-45: Result codes

Result Code	Possible Messages or Warnings	Comments
<b>RESULT_NO_ERRORS</b>	N/A	No errors occurred while processing request

Table 6-45: Result codes

<b>RESULT_INVALID_INPUT</b>	NO_VALID_PARAMETER_S	Missing PQM item identifier or custom section number
	INVALID_PQM_ITEM_NUMBER	PQM item number input is invalid
	INVALID_PQM_ITEM_PKID	PQM item PKID input is invalid
	INVALID_CROSS_REFERENCE	Cross reference input is invalid
	CUSTOM_SECTION_NUMBER_INVALID	Custom section number input is invalid
	MAX_RECORDS_SAVED	Returned when the number of custom section instances input exceeds the max number allowed to save
<b>RESULT_FAILURE</b>	CUSTOM_SECTION_RETRIEVAL_ERROR	Returned if an unexpected exception occurs while processing request
	INVALID_SECURITY_PRIVILEGES	User must have [PQM_ADMIN] role or WFA read and write permissions to edit the PQM item; User also must have [REMOVE_CUSTOM_SECTION] role to delete custom sections
	NO_CUSTOM_SECTION_FOUND	Custom section input not found on PQM item
	NO_PQM_ITEM_FOUND	Returned if no PQM item found for the input identifier

## Notes

User must have [PQM\_ADMIN] role or WFA read and write permissions to edit the PQM item.

User must have [REMOVE\_CUSTOM\_SECTION] role to delete a custom section.

## Update PQM Custom Section

### Description

Use UpdatePQMCustomSections web service to update existing custom section data of specified PQM items.

### Input

Table 6-46: Input

Name	Type	Description
<b>PQMItemIdentifiers</b>	tPQMItemSearchIdentifier[]	Array of one or more tPQMItemSearchIdentifier objects
<b>RestrictToStatusWithIDs</b>	integer[]	Array of one or more workflow status tag behavior IDs to restrict the PQM items found using the PQMItemIdentifier
<b>CustomSectionInstances</b>	tCustomSectionInstance[]	Array of one or more tCustomSectionInstance objects

Each tCustomSectionInstance object contains section number and a tExtension element holding the custom section data. The hierarchy under tExtension element is: tExtension/Any/<section-name>/<row\_name>/<column\_name>/<extended-attribute-type>/Value. The hierarchy must confront to the XML schema returned by GetCustomSectionSchema web service.

### Output

An overall success indicator and a list of tPQMItemIdentifier objects representing the PQM items changed will be returned.

If all the custom sections are updated successfully, the overall result is success. Else the overall result is fail and the changes will not be saved.

Table 6-47: Output

Name	Type	Description
<b>IsSuccessful</b>	boolean	
<b>PQMItemsAffected</b>	tPQMItemIdentifier[]	Array of one or more PQM items which have been changed

## Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 6-48: Result codes

Result Code	Possible Messages or Warnings	Comments
<b>RESULT_NO_ERRORS</b>	N/A	No errors occurred while processing request
<b>RESULT_INVALID_INPUT</b>	NO_VALID_PARAMETER_S	Missing PQM item identifier or custom section instance
	INVALID_PQM_ITEM_NUMBER	PQM item number input is invalid
	INVALID_CROSS_REFERENCE	Cross reference input is invalid
	CUSTOM_SECTION_NUMBER_INVALID	Custom section number input is invalid
	MAX_RECORDS_SAVED	Returned when the number of custom section instances input exceeds the max number allowed to save
<b>RESULT_FAILURE</b>	CUSTOM_SECTION_RETRIEVAL_ERROR	Returned if an unexpected exception occurs while processing request
	INVALID_SECURITY_PRIVILEGES	User must have [PQM_ADMIN] role or WFA read and write permissions to edit the PQM item
	NO_PQM_ITEM_FOUND	Returned if no PQM item found for the input identifier

## Notes

User must have [PQM\_ADMIN] role or WFA read and write permissions to edit the PQM item.

# Using the Cost Services Web Service

*This chapter describes the Cost Services web service. Topics in this chapter include:*

- ❑ *Overview of Cost Services*
- ❑ *Save DWB Spec Cost*

## Overview of Cost Services

CostServices provides formulation specification costing related capabilities. The following operations are supported:

Operation	v24	v25	v30	Description
<a href="#">Save DWB Spec Cost</a> on page 7-2	●	●	●	Imports specification costing information for formulation specifications calculations based on cost type, SCRM entity, and more.

## Service Endpoint Location(s)

### v24 endpoint

`http://<servername>/Integration/ProdikaContracts/DWB/v24/CostServices.svc`

### v25 endpoint

`http://<servername>/Integration/ProdikaContracts/DWB/v25/CostServices.svc`

### v30 endpoint

`http://<servername>/Integration/ProdikaContracts/DWB/v30/CostServices.svc`

## Save DWB Spec Cost

### Description

SaveDWBSpecCost saves costing data for specifications used as inputs in formulation specification calculations. Multiple cost items can be sent in one message group, where the Timestamp input value determines cost availability. Each cost item is categorized by the SCRM entity, cost type grouping, specification, and currency. Formulation specifications can pull in the data imported through this web service by refreshing the application cache.

### Input

Table 7-1: Input

Name	Description
<b>CostCulture</b>	Optional description of the culture
<b>MessageID</b>	This alphanumeric value must be unique. It helps prevent the same cost data being imported twice.
<b>OrganizationalUnitID</b>	Optional key for a business unit
<b>PrincipalName</b>	Optional name
<b>Timestamp</b>	Current time
<b>CostItems</b>	Array of tCostItem, as described on <a href="#">tCostItem</a> on page A-14

### Output

Table 7-2: Output

Name	Description
<b>SequenceNumber</b>	Unique ID assigned to this cost import
<b>NumberOfItemsImported</b>	This number should match the number of tCostItem nodes in the input. See <a href="#">tCostItem</a> on page A-14 for more information.

## Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 7-3: Result codes

Result Code	Possible Messages or Warnings	Comments
<b>RESULT_NO_ERRORS</b>	N/A	No errors occurred while processing request
<b>RESULT_INVALID_INPUT</b>	INVALID_MESSAGE_ID	The input message ID must be unique across all calls, and must be 128 characters or less
	NO_VALID_PARAMETERS	Invalid Cost message - no data passed
	MAX_RECORDS_SAVE	Maximum records count allowed for save exceeded. Request rejected.
	INVALID_COST_MESSAGE_COST_CULTURE	Optional, must be <= 10 characters
	INVALID_COST_MESSAGE_ORGUNITID	Optional, must be <= 48 characters
	INVALID_COST_MESSAGE_PRINCIPAL_NAME	Optional, must be <= 100 characters
	INVALID_COST_ITEMS_INPUT	No cost items to import
<b>RESULT_FAILURE</b>	UNEXPECTED_RESULT	The description explains the problem
	INVALID_CURRENCY	No currency has the specified ISO code
	INVALID_UOM_ISO_CODE	No unit of measure was found for an ISO code
	INVALID_COST_TYPE	Cost Type must be <= 12 characters
	INVALID_COSTITEM_EQUIVALENT	Optional; must be <= 24 characters
	INVALID_SCRM_ENTITY	Invalid SCRM Facility input; SCRM Facility could not be found
	INVALID_CROSS_REFERENCE	Cross Reference input (SystemID, Equivalent) is required. See <a href="#">Condition E - Specification Identifier Input Formats</a> on page A-2.

## Notes

See Conditions E, G, and I in [Special Conditions](#) on page A-1.



# Using the Bill of Materials Web Service

*This chapter describes the Bill of Materials web service. Topics in this chapter include:*

- ❑ *Overview of Bill of Materials*
- ❑ *Get Output BOM*
- ❑ *Get Formulation BOM*
- ❑ *Get Formulation Step BOM*

## Overview of Bill of Materials

BillOfMaterials provide capabilities related to a formulation specification's Bill of Materials (BOM) information. The following operations are supported:

Operation	v24	v25	v30	Description
<a href="#">Get Output BOM</a> on page 8-3	●	●	●	Returns the bill of materials data for a given material specification which is an output of a formulation specification.
<a href="#">Get Formulation BOM</a> on page 8-8	●	●	●	Returns the bill of materials data for a given formulation specification.
<a href="#">Get Formulation Step BOM</a> on page 8-11			●	Returns a list of steps, BOM inputs (including consume from step outputs), and outputs for a given formulation specification.

## Service Endpoint Locations

### v24 endpoint

`http://<servername>/Integration/ProdikaContracts/ Specification/Formulation /v24/ BillOfMaterialsServices.svc`

### v25 endpoint

`http://<servername>/Integration/ProdikaContracts/ Specification/Formulation /v25/ BillOfMaterialsServices.svc`

### v30 endpoint

`http://<servername>/Integration/ProdikaContracts/ Specification/Formulation /v30/ BillOfMaterialsServices.svc`

## Get Output BOM

### Description

Use the GetOutputBOM web service to retrieve the Bill of Materials (BOM) for a given material specification which is an output of formulation specifications. The specification identifier passed in can optionally include a context (specification identifier) which limits the BOM information to a certain formulation specification by that context. If a context is not given, BOM data for all available formulation specifications containing that output will be returned.

A Boolean parameter, CombineLikeItems, is used to determine if the same formula item used in multiple steps of a formulation specification to produce the output material will be returned as one combined row, or as unique rows.

Business unit visibility will be enforceable via the standard API configuration options, but will only be used for determining visibility to the top level specification. All BOM input items will be returned, regardless of BU visibility.

Results will consist of a list of OutputItems for the matching input criteria. Each OutputItem will consist of a list of tBillOfMaterialsContainer items. tBillOfMaterialsContainer has OutSummary, InputSummary, and Context. The context is the formulation specification generating the output item. Also if an input Item A has a context (formulation specification), the input items generate item A from that formulation specification will be returned recursively.

See the [Output](#) section below for details of the data that each context specific Output specification in the result will include.

### Input

- 1 Specification Identifier (specification number or cross reference)
- 2 Specification Context (specification identifier)—Optional; if used, limits the Output BOM information to the BOM data from the producing specification matching the context.
- 3 Combine Like Items (Boolean)
  - True—Combines identical formula items used in multiple steps into one.
  - False—Displays each as a unique item; does not combine.
- 4 Allow Only Approved Spec—Top level specification returned to must be in an Approved status. See [Condition C - Allow Only Approved Spec](#) on page A-1.

### Output

Each OutputItem in the OutputItems list will include:

- 1 Specification Identifier
- 2 List of tBillOfMaterialsContainer object

Each tBillOfMaterialsContainer will include:

- 1** Context—The context for the output material is the formulation specification that produced it
- 2** Output Summary
  - Output type (string)
    - Product, By-product, Waste, or Reference
  - Beginning Batch Size (Quantity and UOM)
  - Processing Loss Factor
  - Approximate Yield (Quantity and UOM)
  - Beginning Percent Total Solids
  - Water Gain/Loss Factor
  - Final Percent Total Solids
  - Final Density (Mass and volume conversion)
- 3** Input Summary
  - Input Items —List of input items. Each Input item will include:
    - Specification Identifier
    - BOM Annotation—Not used if CombineLikeItems is True
    - Quantity Details
      - Quantity
      - UOM
      - Percent
    - Gain/Loss Factor
    - Quantity Range—Include the max and min quantities of the input when the formulation calculation path set to "Quantity Range". Not used for other calculation paths.
      - Max
        - Quantity
        - UOM
      - Min
        - Quantity
        - UOM
    - Yield Range—Include the max and min quantities of the input when the formulation calculation path is set to "Yield Range". Not used for other calculation paths.
      - Max
        - Quantity
        - UOM

- Min
  - Quantity
  - UOM
- Percent Factor Range—Include the max and min percent factors of the input when the formulation calculation path is set to "Percent Range". Not used for other calculation paths.
  - Max
  - Min
- Yield Details
  - Quantity
  - UOM
  - Percent
- Alternate Input Items—List of alternate input items. Each Alternate will consist of:
  - List of Original Spec Identifier
  - List of Substitute Material items. Each Substitute Material will include:
    - Substitute Material identifier
    - Producing Spec Context
    - Substitute Factor
    - Gain Loss Factor
    - Description
- Packaging Materials
  - Spec Identifier
  - Packaging Type
  - Units: Quantity
  - UOM
  - UOM Category
  - Scrap Factor
  - Quantity Range—Include the max and min quantities of the packaging materials when the formulation calculation path is set to "Quantity Range". Not used for other calculation paths.
    - Max
      - Quantity
      - UOM
    - Min
      - Quantity
      - UOM

- Yield Range—Include the max and min quantities of the packaging materials when the formulation calculation path is set to "Yield Range". Not used for other calculation paths.
  - Max
    - Quantity
    - UOM
  - Min
    - Quantity
    - UOM
- Percent Factor Range—Include the max and min percent factors of the packaging materials when the formulation calculation path is set to "Percent Range". Not used for other calculation paths.
  - Max
  - Min
- Alternate Packaging Materials
  - Original Material Spec Identifier
  - Substitute Material
    - Substitute Material Identifier
    - Producing Spec Content
    - Substitute Factor
    - Gain Loss Factor
    - Description

## Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 8-1: Result codes

Result Code	Possible Messages or Warnings	Comments
<b>RESULT_NO_ERRORS</b>	N/A	No errors occurred while processing request

Table 8-1: Result codes (continued)

<b>RESULT_INVALID_INPUT</b>	INVALID_SPEC_NUMBER	Specification number input (specification number) format is invalid. See #1 of <a href="#">Condition E - Specification Identifier Input Formats</a> on page A-2.
	INVALID_ISSUE_NUMBER	Issue input (issue number) format is invalid. See #1 of <a href="#">Condition E - Specification Identifier Input Formats</a> on page A-2.
	INVALID_CROSS_REFERENCE	Cross Reference input (SystemID, Equivalent) is invalid. See #2 of <a href="#">Condition E - Specification Identifier Input Formats</a> on page A-2.
	INVALID_INPUT	A valid tBOMInputCriteria is required
<b>RESULT_WARNINGS</b>	MAX_RECORDS_RETRIEVED	Occurs if the number of records retrieved exceeds the maximum records allowed. See <a href="#">Condition F - Max Records Retrieved</a> on page A-2.
	UNSUPPORTED_SPEC_TYPE	Specification (specification number-issue number) must be a material specification
	BOM_ITEM_CALCULATION_ERROR	Occurs when an Input UOM category differs from the batch UOM category and it does not have a Density defined
<b>RESULT_FAILURE</b>	UNKNOWN_ERROR	Occurs when an unexpected exception happens when formatting the output items

## Notes

See Conditions A.1, A.2, B.1, C.1, C.2, and E in [Special Conditions](#) on page A-1.

Packaging Items, Alternate Packaging Items, and Alternate Input Items do not respect “CombineLikeItems”.

## Get Formulation BOM

### Description

Use the GetFormulationBOM web service to retrieve all the formulation outputs with their Bill of Materials (BOM) data for one or more formulation(s) specifications.

A Boolean parameter, CombineLikeItems, is used to determine if the same formula item used in multiple steps of a formulation specification to produce the output material will be returned as one combined row, or as unique rows.

Business unit visibility will be enforceable via the standard API configuration options, but will only be used for determining visibility to the top level specification. All BOM input items will be returned, regardless of BU visibility.

Results will consist of a list of formulation specifications for the matching input criteria. Each formulation specification will consist of a list of outputItems. See the [Get Output BOM](#) on page 8-3 for the details information about OutputItem.

### Input

- 1 Specification Identifier (specification number or cross reference)
- 2 Combine Like Items (Boolean)
  - True —Combines identical formula items used in multiple steps into one.
  - False—Displays each as a unique item; does not combine.
- 3 Allow Only Approved Spec: Specifications returned to must be in an Approved status (see [Condition C - Allow Only Approved Spec](#) on page A-1)

### Output

The following Formulation Specification data is returned for each specification:

- 1 specificationIdentifier
  - Spec # and Issue #
  - List of Cross References
- 2 Array Of tOutputItem outputItems
  - Specification Identifier
  - List of tBillOfMaterialsContainer object
    - OutputSummary
      - Context—Formulation specification
    - Output Summary
      - Output type (string): combination of Product, By-product, Waste, or Reference
      - Beginning Batch Size (quantity & UOM)
      - Processing Loss Factor

- Approximate Yield (quantity & UOM)
- Beginning Percent Total Solids
- Water Gain/Loss Factor
- Min/Max Formula Values
- Final Percent Total Solids
- Final Density (mass & volume conversion)
- InputSummary
  - Array of tInputItems: Input Item
    - Specification Identifier
    - BOM Annotation-Not used if CombineLikeItems is True
    - Quantity Details
      - Quantity
      - UOM
      - Percent
    - Gain/Loss Factor
    - Yield Details
      - Quantity
      - UOM
      - Percent
  - Array of tAlternateInputItems: Alternate Input
    - List of Original Spec Identifier
    - List of Substitute Material items.
      - Substitute Material identifier
      - Producing Spec Context—Not used
      - Substitute Factor
      - Gain/Loss Factor
    - Description
  - Array of tBOMPackagingMaterials: Packaging Material
    - Specification Identifier
    - UOM
    - UOMCategory
    - PackagingType
    - ScrapFactor
    - Units: Quantity
  - Array of tAlternateInputItems: Alternate Packaging Material
    - List of Original Spec Identifier
    - List of Substitute Material items

- Substitute Material identifier
- Producing Spec Context (not used pre 6.0)
- Substitute Factor
- Gain Lost Factor
- Description

## Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 8-2: Result codes

Result Code	Possible Messages or Warnings	Comments
<b>RESULT_NO_ERRORS</b>	N/A	No errors occurred while processing request
<b>RESULT_INVALID_INPUT</b>	INVALID_SPEC_NUMBER	Specification number input (specification number) format is invalid. See #1 of <a href="#">Condition E - Specification Identifier Input Formats</a> on page A-2.
	INVALID_ISSUE_NUMBER	Issue input (issue number) format is invalid. See #1 of <a href="#">Condition E - Specification Identifier Input Formats</a> on page A-2.
	INVALID_CROSS_REFERENCE	Cross Reference input (SystemID, Equivalent) is invalid. See #2 of <a href="#">Condition E - Specification Identifier Input Formats</a> on page A-2 .
<b>RESULT_WARNINGS</b>	MAX_RECORDS_RETRIEVED	Occurs if the number of records retrieved exceeds the maximum records allowed. See <a href="#">Condition F - Max Records Retrieved</a> on page A-2.
<b>RESULT_FAILURE</b>	SPEC_SUMMARY_RETRIEVAL_ERROR	Occurs when an unexpected exception occurs loading a specification

## Notes

See Conditions A.1, A.2, B.1, C.1, C.2, and E in [Special Conditions](#) on page A-1.

Packaging Items, Alternate Packaging Items, and Alternate Input Items do not respect “CombineLikeItems”.

## Get Formulation Step BOM

### Description

Use the GetFormulationStepBOM to retrieve a list of steps, BOM inputs (including consume from step outputs), and outputs.

### Input

- 1 A list of specification numbers, cross references, or a combination of either
- 2 Allow Only Approved Spec—Specifications returned to must be in an Approved status

Table 8-3: Input

Name	Type	Description
<b>specIdentifierCriterion</b>	<b>tSpecIdentifierCriterion[]</b>	Array of one or more tSpecIdentifierCriterion objects
<b>AllowOnlyApprovedSpec</b>	<b>boolean</b>	<ul style="list-style-type: none"><li>• True: Specifications returned to must be in an Approved status</li><li>• False: Specifications returned may be in any status</li></ul>

### Output

The following Specification Step data is returned for each spec:

- 1 Step Details
  - Step PKID—System generated unique identifier for the Step
  - Step Number
  - Step Name
  - Step Instructions
- 2 Step Behavior
  - Behavior Type
  - Behavior Name

Table 8-4: Output

Name	Type	Description
<b>FormulationSteps</b>	<b>tFormulationStep []</b>	Array of tFormulationStep objects

The following Input BOM data is returned for each Input BOM item/Step combination. In other words if an item was used in three separate steps, it should be represented in three rows, with the step differentiating between them. The items include 'consume from step' items, which are outputs from other steps that are used as inputs.

- PKID for Line—System generated unique identifier for the row

- Spec Identifier
  - Spec Number—Including Spec Number and Issue Number
  - Cross References
  - Spec PKID
  - Spec Name
- Step Number—The step for the BOM input. If the input item is used in multiple steps then there should be multiple rows.
- Sequence Number—The order in which is used to sort on the UI
- BOM Annotation—Inline comments of the BOM input
- %Batch
- Quantity Details
  - Quantity
  - Quantity UOM
  - Quantity in the base mass UOM—Value that it is stored in
  - Quantity in the base volume UOM—Value that it is stored in. Only available if density is defined.
- Gain/Loss
- Yield Details
  - Yield
  - Yield UOM
  - Yield in the base mass UOM
  - Yield in the base volume UOM
- Extended Cost

The values below should be taken from the Material Basis if they exist, if not then from the Material itself.

- Spec Number
- Spec Issue
- Spec Name
- Total Solids
- Density Details
  - Density Quantity (mass)
  - Density Quantity UOM (mass)
  - Density Quantity (volume)
  - Density Quantity UOM (volume)
  - Density Quantity in base mass
  - Density Quantity in base volume
- Cost—Including Price (double), Currency (string), and PerValue (tMeasurement)

Table 8-5: Input Items

Name	Type	Description
<b>InputItems</b>	<b>tSpecificationBOMInputWrapper []</b>	Array of tSpecificationBOMInputWrapper objects

The following are the outputs and their associated input and output steps:

- PKID for Line—System generated unique identifier for the row
- Spec Identifier
  - Spec Number—Including Spec Number and Issue Number
  - Cross References
  - Spec PKID
  - Spec Name
- Output Step Number
- Input Step Number—If the output is used as an input, this represents the step number
- Sequence Number—The order in which is used to sort on the UI
- Quantity Details
  - Quantity
  - Quantity UOM
  - Quantity in the base mass UOM—Value that it is stored in.
  - Quantity in the base volume UOM—Value that it is stored in. Only available if density is defined.
- Yield Details
  - Yield
  - Yield UOM
  - Yield in the base mass UOM
  - Yield in the base volume UOM
- Output Type—Internal, External, Referenced

The Below values should be taken from the material itself:

- Spec Number
- Spec Issue
- Spec Name
- Process Gain/Loss
- Water Gain/Loss
- Total Solids
- Density Details
  - Density Quantity (mass)

- Density Quantity UOM(mass)
- Density Quantity (volume)
- Density Quantity UOM (volume)
- Density Quantity in base mass
- Density Quantity in base volume

Table 8-6: Output Items

Name	Type	Description
<b>OutputItems</b>	<b>tSpecificationBOMOutputWrapper [</b>	Array of tSpecificationBOMOutputWrapper objects

## Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 8-7: Result codes

Result Code	Possible Messages or Warnings	Comments
<b>RESULT_NO_ERRORS</b>	N/A	No errors occurred while processing request
<b>RESULT_INVALID_INPUT</b>	INVALID_SPEC_NUMBER	Specification number input (specification number, issue number) format is invalid. See #1 of <a href="#">Condition E - Specification Identifier Input Formats</a> on page A-2.
	INVALID_CROSS_REFERENCE	Cross Reference input (SystemID, Equivalent) is invalid. See <a href="#">Condition E - Specification Identifier Input Formats</a> on page A-2.
<b>RESULT_WARNINGS</b>	MAX_RECORDS_RETRIEVED	Occurs if the number of records retrieved exceeds the maximum records allowed. See <a href="#">Condition F - Max Records Retrieved</a> on page A-2.
	NO_SPEC_FOUND	Occurs if any specification cannot be found for the input criteria (the service will continue to process remaining criteria).
<b>RESULT_FAILURE</b>	SPEC_SUMMARY_RETRIEVAL_ERROR	Occurs when an unexpected exception occurs loading a specification

## Notes

See Conditions A.1, A.2, B.1, C.1, C.2, and E in [Special Conditions](#) on page A-1.



# Using the Spec Relationship Services

*This chapter describes the Spec Relationship web service. The operations contained herein were once contained in the GeneralServices - GetSpecRelationships web service, and are now broken out into individual operations for each specification type. Topics in this chapter include:*

- ❑ *Overview of Spec Relationship Services*
- ❑ *Get Formulation Relationships*
- ❑ *Get Material Relationships*
- ❑ *Get Menu Item Relationships*
- ❑ *Get Nutrient Profile Relationships*
- ❑ *Get Packaging Relationships*
- ❑ *Get Printed Packaging Relationships*
- ❑ *Get Product Relationships*
- ❑ *Get Trade Spec Relationships*

## Overview of Spec Relationship Services

SpecRelationship Services provides operations that describe a specification's relationship to other specifications. Specification identifiers are returned for each relationship, and in some cases, contextual information such as quantities, units of measure, and relationships. The following operations are supported:

Operation	Description
<a href="#">Get Formulation Relationships</a> on page 9-3	Returns given formulation specifications' relationships to GSM activities, master specifications, and owned and linked associated specifications.
<a href="#">Get Material Relationships</a> on page 9-5	Returns given material specifications' relationships to packing configuration specifications, parent trade specifications, parent formulation specifications, GSM activities, master specifications, and owned and linked associated specifications.
<a href="#">Get Menu Item Relationships</a> on page 9-8	Returns given menu item specifications' relationships to packaging materials, alternate packaging materials, menu item build items, alternate menu item build items, nutrient profiles, GSM activities, and owned and linked associated specifications.
<a href="#">Get Nutrient Profile Relationships</a> on page 9-11	Returns given nutrient profiles' relationships to various related specifications and GSM activities.

Operation	Description
<a href="#">Get Packaging Relationships</a> on page 9-13	Returns given packaging specifications' relationships to printed packaging specifications, sub components, packing configurations specifications, equipment specifications, GSM activities, and master specifications.
<a href="#">Get Printed Packaging Relationships</a> on page 9-15	Returns given printed packaging specifications' relationships to parent packaging specifications, GSM activities, and master specifications.
<a href="#">Get Product Relationships</a> on page 9-17	Returns given product specifications' relationships to packing configuration specifications, GSM activities, master specifications, and owned and linked associated specifications.
<a href="#">Get Trade Spec Relationships</a> on page 9-19	Returns given trade specifications' relationships to parent trade specifications, next lower level trade specifications, packaging specifications, printed packaging specifications, the related material specification, nutrient profiles, GSM activities, master specifications, and owned and linked associated specifications.

## Service Endpoint Locations

### **v24 endpoint**

<http://<servername>/Integration/ProdikaContracts/Specification/Common/v24/SpecRelationshipServices.svc>

### **v25 endpoint**

<http://<servername>/Integration/ProdikaContracts/Specification/Common/v25/SpecRelationshipServices.svc>

### **v25 endpoint**

<http://<servername>/Integration/ProdikaContracts/Specification/Common/v30/SpecRelationshipServices.svc>

## Get Formulation Relationships

### Description

Use the GetFormulationRelationships web service to retrieve related specification information for a given formulation specification. The service returns given formulation specifications' relationships to GSM activities, master specifications, and owned and linked associated specifications.

Detailed Bill of Material Inputs and Outputs information is available in [Using the Bill of Materials Web Service](#) on page 8-1.

### Input

- 1 A list of specification numbers, cross references, or a combination of either.
- 2 Allow Only Approved Spec—Specifications returned must be in an approved status. See [Condition C - Allow Only Approved Spec](#) on page A-1.

Table 9-1: Input

Name	Type	Description
<b>specIdentifierCriterion</b>	tSpecIdentifierCriterion[]	Array of one or more tSpecIdentifierCriterion objects
<b>AllowOnlyApprovedSpec</b>	boolean	True—Specifications returned must be in an “Approved” status False—Specifications returned may be in any status

### Output

The following specification data is returned:

- 1 Specification Identifier
  - Specification Number
  - Cross References
- 2 GSM Activities
  - Activity Type
  - Description
  - Status
  - Relationship
- 3 Explicit Master Specs
  - Specification Identifier (specification number, cross references)
- 4 Owned Associated Specifications
  - Specification Identifier (specification number, cross references)
  - Association
  - Comments
- 5 Linked Associated Specifications
  - Specification Identifier (specification number, cross references)

- Association
- Comments

## Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 9-2: Result codes

Result Code	Possible Messages or Warnings	Comments
<b>RESULT_NO_ERRORS</b>	N/A	No errors occurred while processing request
<b>RESULT_INVALID_INPUT</b>	NO_VALID_PARAMETERS	No valid request parameters
	INVALID_SPEC_NUMBER	Specification number input (specification number) format is invalid. See #1 of <a href="#">Condition E - Specification Identifier Input Formats</a> on page A-2.
	INVALID_ISSUE_NUMBER	Issue input (issue number) format is invalid. See #1 of <a href="#">Condition E - Specification Identifier Input Formats</a> on page A-2.
	INVALID_CROSS_REFERENCE	Cross Reference input (SystemID, Equivalent) is invalid. See <a href="#">Condition E - Specification Identifier Input Formats</a> on page A-2.
<b>RESULT_WARNINGS</b>	MAX_RECORDS_RETRIEVED	Occurs if the number of records retrieved exceeds the maximum records allowed. See <a href="#">Condition F - Max Records Retrieved</a> on page A-2.
	UNSUPPORTED_SPEC_TYPE	A specification type used as input is not supported
<b>RESULT_FAILURE</b>	SPEC_LOAD_ERROR	Occurs when an unexpected exception occurs when loading a specification
	UNKNOWN_ERROR	Occurs when an unexpected exception happens when formatting the output items

## Notes

See Conditions A.1, A.2, B.1, C.1, C.2, E, and F in [Special Conditions](#) on page A-1.

## Get Material Relationships

### Description

Use the GetMaterialRelationships web service to retrieve related specification information for a given material specification. Returns given material specifications' relationships to packing configuration specifications, parent trade specifications, parent formulation specifications, GSM activities, master specifications, and owned and linked associated specifications.

### Input

- 1 A list of specification numbers, cross references, or a combination of either.
- 2 Allow Only Approved Spec—Specifications returned must be in an approved status. See [Condition C - Allow Only Approved Spec](#) on page A-1.

Table 9-3: Input

Name	Type	Description
<b>specIdentifierCriterion</b>	tSpecIdentifierCriterion[]	Array of one or more tSpecIdentifierCriterion objects
<b>AllowOnlyApprovedSpec</b>	boolean	True—Specifications returned must be in an “Approved” status False—Specifications returned may be in any status

### Output

The following specification data is returned:

- 1 Specification Identifier
  - Specification Number
  - Cross References
- 2 Packing Configuration Specifications
  - Specification Identifier (specification number, cross references)
  - Comments
  - Equivalent
- 3 Parent Trade Specifications
  - Specification Identifier (specification number, cross references)
  - Context Specification Identifier
- 4 Parent Formulation Specifications
  - Specification Identifier (specification number, cross references)
- 5 GSM Activities
  - Activity Type
  - Description
  - Status
  - Relationship

- 6** Explicit Master Specifications
  - Specification Identifier (specification number, cross references)
- 7** Owned Associated Specifications
  - Specification Identifier (specification number, cross references)
  - Association
  - Comments
- 8** Linked Associated Specifications
  - Specification Identifier (specification number, cross references)
  - Association
  - Comments

## Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 9-4: Result codes

Result Code	Possible Messages or Warnings	Comments
<b>RESULT_NO_ERRORS</b>	N/A	No errors occurred while processing request
<b>RESULT_INVALID_INPUT</b>	NO_VALID_PARAMETERS	No valid request parameters
	INVALID_SPEC_NUMBER	Specification number input (specification number) format is invalid. See #1 of <a href="#">Condition E - Specification Identifier Input Formats</a> on page A-2.
	INVALID_ISSUE_NUMBER	Issue input (issue number) format is invalid. See #1 of <a href="#">Condition E - Specification Identifier Input Formats</a> on page A-2.
	INVALID_CROSS_REFERENCE	Cross Reference input (SystemID, Equivalent) is invalid. See <a href="#">Condition E - Specification Identifier Input Formats</a> on page A-2.

Table 9-4: Result codes (continued)

<b>RESULT_WARNINGS</b>	MAX_RECORDS_RETRIEVED	Occurs if the number of records retrieved exceeds the maximum records allowed. See <a href="#">Condition F - Max Records Retrieved</a> on page A-2.
	UNSUPPORTED_SPEC_TYPE	A specification type used as input is not supported
<b>RESULT_FAILURE</b>	SPEC_LOAD_ERROR	Occurs when an unexpected exception occurs when loading a specification
	UNKNOWN_ERROR	Occurs when an unexpected exception happens when formatting the output items

## Notes

See Conditions A.1, A.2, B.1, C.1, C.2, E, and F in [Special Conditions](#) on page A-1.

## Get Menu Item Relationships

### Description

Use the GetMenuItemRelationships web service to retrieve related specification information for a given menu item specification. The service returns given menu item specifications' relationships to packaging materials, alternate packaging materials, menu item build items, alternate menu item build items, nutrient profiles, GSM activities, and owned and linked associated specifications.

### Input

- 1 A list of specification numbers, cross references, or a combination of either.
- 2 Allow Only Approved Spec—Specifications returned must be in an approved status. See [Condition C - Allow Only Approved Spec](#) on page A-1.

Table 9-5: Input

Name	Type	Description
<b>specIdentifierCriterion</b>	tSpecIdentifierCriterion[]	Array of one or more tSpecIdentifierCriterion objects
<b>AllowOnlyApprovedSpec</b>	boolean	True—Specifications returned must be in an “Approved” status False—Specifications returned may be in any status

### Output

The following specification data is returned:

- 1 Specification Identifier
  - Specification Number
  - Cross References
- 2 Packaging Materials
  - Specification Type (packaging, printed packaging)
  - Specification Identifier (specification number, cross references)
  - Packaging Type (Inner, Intermediate, Outer, Label)
  - Units
  - UOM
  - Scrap Factor
- 3 Alternate Packaging Materials
  - Specification Type (packaging, printed packaging)
  - Specification Identifier (specification number, cross references)
  - Packaging Type (Inner, Intermediate, Outer, Label)
  - Units
  - UOM
  - Scrap Factor
  - Substitutes

- 4** Menu Item Build Items
  - Specification Identifier (specification number, cross references)
  - Quantity
  - UOM
  - Comments
- 5** Alternate Menu Item Build Items
  - Specification Identifier (specification number, cross references)
  - Original Spec Identifier
  - Substitution Factor
  - Description
- 6** Nutrient Profiles
  - Specification Identifier (specification number, cross references)
  - IsActive
  - EffectiveDate
  - Status
- 7** GSM Activities
  - Activity Type
  - Description
  - Status
  - Relationship
- 8** Owned Associated Specifications
  - Specification Identifier (specification number, cross references)
  - Association
  - Comments
- 9** Linked Associated Specifications
  - Specification Identifier (specification number, cross references)
  - Association
  - Comments

## Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 9-6: Result codes

Result Code	Possible Messages or Warnings	Comments
<b>RESULT_NO_ERRORS</b>	N/A	No errors occurred while processing request
<b>RESULT_INVALID_INPUT</b>	NO_VALID_PARAMETERS	No valid request parameters
	INVALID_SPEC_NUMBER	Specification number input (specification number) format is invalid. See #1 of <a href="#">Condition E - Specification Identifier Input Formats</a> on page A-2.
	INVALID_ISSUE_NUMBER	Issue input (issue number) format is invalid. See #1 of <a href="#">Condition E - Specification Identifier Input Formats</a> on page A-2.
	INVALID_CROSS_REFERENCE	Cross Reference input (SystemID, Equivalent) is required. See #2 of <a href="#">Condition E - Specification Identifier Input Formats</a> on page A-2 .
<b>RESULT_WARNINGS</b>	MAX_RECORDS_RETRIEVED	Occurs if the number of records retrieved exceeds the maximum records allowed. See <a href="#">Condition F - Max Records Retrieved</a> on page A-2.
	UNSUPPORTED_SPEC_TYPE	A specification type used as input is not supported
<b>RESULT_FAILURE</b>	SPEC_LOAD_ERROR	Occurs when an unexpected exception occurs when loading a specification
	UNKNOWN_ERROR	Occurs when an unexpected exception happens when formatting the output items

## Notes

See Conditions A.1, A.2, B.1, C.1, C.2, E, and F in [Special Conditions](#) on page A-1.

## Get Nutrient Profile Relationships

### Description

Use the GetNutrientProfileRelationships web service to retrieve related specification information for a given nutrient profile specification. This service returns given Nutrient Profile(s) relationships to various related specifications and GSM activities.

### Input

- 1 A list of specification numbers, cross references, or a combination of either.
- 2 Allow Only Approved Spec—Specifications returned must be in an approved status. See [Condition C - Allow Only Approved Spec](#) on page A-1.

Table 9-7: Input

Name	Type	Description
<b>specIdentifierCriterion</b>	tSpecIdentifierCriterion[]	Array of one or more tSpecIdentifierCriterion objects
<b>AllowOnlyApprovedSpec</b>	boolean	True—Specifications returned must be in an “Approved” status False—Specifications returned may be in any status

### Output

The following specification data is returned:

- 1 Specification Identifier
  - Specification Number
  - Cross References
- 2 Related Specifications
  - Specification Identifier (specification number, cross references)
  - Specification Type
- 3 GSM Activities
  - Activity Type
  - Description
  - Status
  - Relationship

## Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 9-8: Result codes

Result Code	Possible Messages or Warnings	Comments
<b>RESULT_NO_ERRORS</b>	N/A	No errors occurred while processing request
<b>RESULT_INVALID_INPUT</b>	NO_VALID_PARAMETERS	No valid request parameters
	INVALID_SPEC_NUMBER	Specification number input (specification number) format is invalid. See #1 of <a href="#">Condition E - Specification Identifier Input Formats</a> on page A-2.
	INVALID_ISSUE_NUMBER	Issue input (issue number) format is invalid. See #1 of <a href="#">Condition E - Specification Identifier Input Formats</a> on page A-2.
	INVALID_CROSS_REFERENCE	Cross Reference input (SystemID, Equivalent) is required. See <a href="#">Condition E - Specification Identifier Input Formats</a> on page A-2.
<b>RESULT_WARNINGS</b>	MAX_RECORDS_RETRIEVED	Occurs if the number of records retrieved exceeds the maximum records allowed. See <a href="#">Condition F - Max Records Retrieved</a> on page A-2.
	UNSUPPORTED_SPEC_TYPE	A specification type used as input is not supported
<b>RESULT_FAILURE</b>	SPEC_LOAD_ERROR	Occurs when an unexpected exception occurs when loading a specification
	UNKNOWN_ERROR	Occurs when an unexpected exception happens when formatting the output items

## Notes

See Conditions A.1, A.2, B.1, C.1, C.2, E, and F in [Special Conditions](#) on page A-1.

## Get Packaging Relationships

### Description

Use the GetPackagingRelationships web service to retrieve related specification information for a given packaging specification. This service returns given packaging specifications' relationships to printed packaging specifications, sub components, packing configurations specifications, equipment specifications, GSM activities, and master specifications.

### Input

- 1 A list of specification numbers, cross references, or a combination of either.
- 2 Allow Only Approved Spec—Specifications returned must be in an approved status. See [Condition C - Allow Only Approved Spec](#) on page A-1.

Table 9-9: Input

Name	Type	Description
<b>specIdentifierCriterion</b>	tSpecIdentifierCriterion[]	Array of one or more tSpecIdentifierCriterion objects
<b>AllowOnlyApprovedSpec</b>	boolean	True—Specifications returned must be in an “Approved” status False—Specifications returned may be in any status

### Output

The following specification data is returned:

- 1 Specification Identifier
  - Specification Number
  - Cross References
- 2 Printed Packaging Specifications
  - Specification Identifier (specification number, cross references)
- 3 Sub Components
  - Specification Identifier (specification number, cross references)
  - Packaging Type (Inner, Intermediate, Outer, Label)
  - Units
  - UOM
- 4 Packing Configuration Specifications
  - Specification Identifier (specification number, cross references)
  - Equivalent
  - Comments
- 5 Equipment Specifications
  - Specification Identifier (specification number, cross references)
- 6 Explicit Master Specifications
  - Specification Identifier (specification number, cross references)

## 7 GSM Activities

- Activity Type
- Description
- Status
- Relationship

## Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 9-10: Result codes

Result Code	Possible Messages or Warnings	Comments
<b>RESULT_NO_ERRORS</b>	N/A	No errors occurred while processing request
<b>RESULT_INVALID_INPUT</b>	NO_VALID_PARAMETERS	No valid request parameters
	INVALID_SPEC_NUMBER	Specification number input (specification number) format is invalid. See #1 of <a href="#">Condition E - Specification Identifier Input Formats</a> on page A-2.
	INVALID_ISSUE_NUMBER	Issue input (issue number) format is invalid. See #1 of <a href="#">Condition E - Specification Identifier Input Formats</a> on page A-2.
	INVALID_CROSS_REFERENCE	Cross Reference input (SystemID, Equivalent) is required. See #2 of <a href="#">Condition E - Specification Identifier Input Formats</a> on page A-2.
<b>RESULT_WARNINGS</b>	MAX_RECORDS_RETRIEVED	Occurs if the number of records retrieved exceeds the maximum records allowed. See <a href="#">Condition F - Max Records Retrieved</a> on page A-2.
	UNSUPPORTED_SPEC_TYPE	A specification type used as input is not supported
<b>RESULT_FAILURE</b>	SPEC_LOAD_ERROR	Occurs when an unexpected exception occurs when loading a specification
	UNKNOWN_ERROR	Unknown exception occurs while retrieving specification relationships

## Notes

See Conditions A.1, A.2, B.1, C.1, C.2, E, and F in [Special Conditions](#) on page A-1.

## Get Printed Packaging Relationships

### Description

Use the GetPrintedPackagingRelationships web service to retrieve related specification information for a given printed packaging specification. The service returns given printed packaging specifications' relationships to parent packaging specifications, GSM activities, and master specifications.

### Input

- 1 A list of specification numbers, cross references, or a combination of either.
- 2 Allow Only Approved Spec—Specifications returned must be in an approved status. See [Condition C - Allow Only Approved Spec](#) on page A-1.

Table 9-11: Input

Name	Type	Description
<b>specIdentifierCriterion</b>	tSpecIdentifierCriterion[]	Array of one or more tSpecIdentifierCriterion objects
<b>AllowOnlyApprovedSpec</b>	boolean	True—Specifications returned must be in an “Approved” status False—Specifications returned may be in any status

### Output

The following specification data is returned:

- 1 Specification Identifier
  - Specification Number
  - Cross References
- 2 Parent Packaging Material Specifications
  - Specification Identifier (specification number, cross references)
- 3 Explicit Master Specs
  - Specification Identifier (specification number, cross references)
- 4 GSM Activities
  - Activity Type
  - Description
  - Status
  - Relationship

## Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 9-12: Result codes

Result Code	Possible Messages or Warnings	Comments
<b>RESULT_NO_ERRORS</b>	N/A	No errors occurred while processing request
<b>RESULT_INVALID_INPUT</b>	NO_VALID_PARAMETERS	No valid request parameters
	INVALID_SPEC_NUMBER	Specification number input (specification number) format is invalid. See #1 of <a href="#">Condition E - Specification Identifier Input Formats</a> on page A-2.
	INVALID_ISSUE_NUMBER	Issue input (issue number) format is invalid. See #1 of <a href="#">Condition E - Specification Identifier Input Formats</a> on page A-2.
	INVALID_CROSS_REFERENCE	Cross Reference input (SystemID, Equivalent) is required. See #2 of <a href="#">Condition E - Specification Identifier Input Formats</a> on page A-2.
<b>RESULT_WARNINGS</b>	MAX_RECORDS_RETRIEVED	Occurs if the number of records retrieved exceeds the maximum records allowed. See <a href="#">Condition F - Max Records Retrieved</a> on page A-2.
	UNSUPPORTED_SPEC_TYPE	A specification type used as input is not supported
<b>RESULT_FAILURE</b>	SPEC_LOAD_ERROR	Occurs when an unexpected exception occurs when loading a specification
	UNKNOWN_ERROR	Unknown exception occurs while retrieving specification relationships

## Notes

See Conditions A.1, A.2, B.1, C.1, C.2, E, and F in [Special Conditions](#) on page A-1.

## Get Product Relationships

### Description

Use the GetProductRelationships web service to retrieve related specification information for a given product specification. The service returns given product specifications' relationships to packing configuration specifications, GSM activities, master specifications, and owned and linked associated specifications.

### Input

- 1 A list of specification numbers, cross references, or a combination of either.
- 2 Allow Only Approved Spec—Specifications returned must be in an approved status. See [Condition C - Allow Only Approved Spec](#) on page A-1.

Table 9-13: Input

Name	Type	Description
<b>specIdentifierCriterion</b>	tSpecIdentifierCriterion[]	Array of one or more tSpecIdentifierCriterion objects
<b>AllowOnlyApprovedSpec</b>	boolean	True—Specifications returned must be in an “Approved” status False—Specifications returned may be in any status

### Output

The following specification data is returned:

- 1 Specification Identifier
  - Specification Number
  - Cross References
- 2 Packing Configuration Specifications
  - Specification Identifier (specification number, cross references)
  - Comments
  - Equivalent
- 3 GSM Activities
  - Activity Type
  - Description
  - Status
  - Relationship
- 4 Explicit Master Specifications
  - Specification Identifier (specification number, cross references)
- 5 Owned Associated Specifications
  - Specification Identifier (specification number, cross references)
  - Association
  - Comments

**6 Linked Associated Specifications**

- Specification Identifier (specification number, cross references)
- Association
- Comments

**Possible Result Codes**

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 9-14: Result codes

Result Code	Possible Messages or Warnings	Comments
<b>RESULT_NO_ERRORS</b>	N/A	No errors occurred while processing request
<b>RESULT_INVALID_INPUT</b>	NO_VALID_PARAMETERS	No valid request parameters
	INVALID_SPEC_NUMBER	Specification number input (specification number) format is invalid. See #1 of <a href="#">Condition E - Specification Identifier Input Formats</a> on page A-2.
	INVALID_ISSUE_NUMBER	Issue input (issue number) format is invalid. See #1 of <a href="#">Condition E - Specification Identifier Input Formats</a> on page A-2.
	INVALID_CROSS_REFERENCE	Cross Reference input (SystemID, Equivalent) is required. See #2 of <a href="#">Condition E - Specification Identifier Input Formats</a> on page A-2.
<b>RESULT_WARNINGS</b>	MAX_RECORDS_RETRIEVED	Occurs if the number of records retrieved exceeds the maximum records allowed. See <a href="#">Condition F - Max Records Retrieved</a> on page A-2.
	UNSUPPORTED_SPEC_TYPE	A specification type used as input is not supported
<b>RESULT_FAILURE</b>	SPEC_LOAD_ERROR	Occurs when an unexpected exception occurs when loading a specification
	UNKNOWN_ERROR	Unknown exception occurs while retrieving specification relationships

**Notes**

See Conditions A.1, A.2, B.1, C.1, C.2, E, and F in [Special Conditions](#) on page A-1.

## Get Trade Spec Relationships

### Description

Use the GetTradeSpecRelationships web service to retrieve related specification information for a given trade specification. The service returns given trade specifications' relationships to parent trade specifications, next lower level trade specifications, packaging specifications, printed packaging specifications, the related material specification, nutrient profiles, GSM activities, master specifications, and owned and linked associated specifications.

### Input

- 1 A list of specification numbers, cross references, or a combination of either.
- 2 Allow Only Approved Spec—Specifications returned must be in an approved status. See [Condition C - Allow Only Approved Spec](#) on page A-1.

Table 9-15: Input

Name	Type	Description
<b>specIdentifierCriterion</b>	tSpecIdentifierCriterion[]	Array of one or more tSpecIdentifierCriterion objects
<b>AllowOnlyApprovedSpec</b>	boolean	True—Specifications returned must be in an “Approved” status False—Specifications returned may be in any status

### Output

The following specification data is returned:

- 1 Specification Identifier
  - Specification Number
  - Cross References
- 2 Trade Parent Trade Items
  - Specification Identifier (specification number, cross references)
  - GTIN/UPC/EAN
- 3 Trade Child Trade Items
  - Specification Identifier (specification number, cross references)
  - GTIN/UPC/EAN
  - Quantity
- 4 Packaging Materials
  - Specification Identifier (specification number, cross references)
  - SpecType (packaging, printed packaging)
  - Packaging Type (Inner, Intermediate, Outer, Label)
  - Units
  - UOM
  - Scrap Factor

- 5** Alternate Packaging Materials
  - Specification Identifier (specification number, cross references)
  - Packaging Type (Inner, Intermediate, Outer, Label)
  - Units
  - UOM
  - Scrap Factor
  - Substitutes For
  - Spec Type (packaging, printed packaging)
- 6** Material Specification
  - Specification Identifier (specification number, cross references)
  - Context Specification Identifier
  - Quantity
  - UOM
- 7** Nutrient Profiles
  - Specification Identifier (specification number, cross references)
  - IsActive
  - EffectiveDate
  - Status
- 8** GSM Activities
  - Activity Type
  - Description
  - Status
  - Relationship
- 9** Explicit Master Specs
  - Specification Identifier (specification number, cross references)
- 10** Owned Associated Specifications
  - Specification Identifier (specification number, cross references)
  - Association
  - Comments
- 11** Linked Associated Specifications
  - Specification Identifier (specification number, cross references)
  - Association
  - Comments

## Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 9-16: Result codes

Result Code	Possible Messages or Warnings	Comments
<b>RESULT_NO_ERRORS</b>	N/A	No errors occurred while processing request
<b>RESULT_INVALID_INPUT</b>	NO_VALID_PARAMETERS	No valid request parameters
	INVALID_SPEC_NUMBER	Specification number input (specification number) format is invalid. See #1 of <a href="#">Condition E - Specification Identifier Input Formats</a> on page A-2.
	INVALID_ISSUE_NUMBER	Issue input (issue number) format is invalid. See #1 of <a href="#">Condition E - Specification Identifier Input Formats</a> on page A-2.
	INVALID_CROSS_REFERENCE	Cross Reference input (SystemID, Equivalent) is required. See #2 of <a href="#">Condition E - Specification Identifier Input Formats</a> on page A-2.
<b>RESULT_WARNINGS</b>	MAX_RECORDS_RETRIEVED	Occurs if the number of records retrieved exceeds the maximum records allowed. See <a href="#">Condition F - Max Records Retrieved</a> on page A-2.
	UNSUPPORTED_SPEC_TYPE	A specification type used as input is not supported
<b>RESULT_FAILURE</b>	SPEC_LOAD_ERROR	Occurs when an unexpected exception occurs when loading a specification
	UNKNOWN_ERROR	Unknown exception occurs while retrieving specification relationships

## Notes

See Conditions A.1, A.2, B.1, C.1, C.2, E, and F in [Special Conditions](#) on page A-1.



# Using the Specification Services Web Services

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*This chapter describes the Specification Services web service. Topics in this chapter include:*

- ❑ *Overview of Specification Services*
  - ❑ *Get Activity*
  - ❑ *Get Spec Ingredient Statements*
- 

## Overview of Specification Services

SpecificationServices provides specific operations that act on individual specification types. The following operations are supported:

Operation	Description
<a href="#">Get Activity</a> on page 10-2	Returns the primary and related activity specifications for a given list of specifications.
<a href="#">Get Spec Ingredient Statements</a> on page 10-4	Returns ingredient statement information for a given list of (ingredient, product, and nutrient profile) specifications.

## Service Endpoint Locations

### v24 endpoint

`http://<servername>/Integration/ProdikaContracts/Specification/v24/SpecificationServices.svc`

### v25 endpoint

`http://<servername>/Integration/ProdikaContracts/Specification/v25/SpecificationServices.svc`

### v30 endpoint

`http://<servername>/Integration/ProdikaContracts/Specification/v30/SpecificationServices.svc`

## Get Activity

### Description

Use the GetActivity web service to retrieve activity info for a given list of activity specifications or for associated activities for a given list of specifications.

### Input

- 1 A list of specification numbers, cross references, or a combination of either.
- 2 Allow Only Approved Spec—Specifications returned must be in an approved status. See [Condition C - Allow Only Approved Spec](#) on page A-1.

Table 10-1: Input

Name	Type	Description
<b>specIdentifierCriterion</b>	tSpecIdentifierCriterion[]	Array of one or more tSpecIdentifierCriterion objects
<b>AllowOnlyApprovedSpec</b>	boolean	True—Specifications returned must be in an “Approved” status False—Specifications returned may be in any status

### Output

The following activity data is returned for each activity:

- 1 Activity Summary Information
  - Activity Title
  - Activity # (Spec #-Issue #)
  - Activity Type (ID, Name)
  - Originator
  - Status
  - Special Notes
  - Spec Reader Notification Flag
  - Effective Date
  - Inactive Date
  - Last Edit Date
- 2 Primary Action Item Information
  - Primary Item Name
  - Primary Item # (Spec #-Issue #)
  - Item Status Dependent flag
- 3 Related Items information
  - Specification Type (ID, Name)
  - Related Item Name
  - Related Item (Spec #-Issue #)

- Status
- Comments

Table 10-2: Output

Name	Type	Description
<b>ActivityInfos</b>	tActivitySpecContainer []	Array of tActivitySpecContainer objects

## Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 10-3: Result codes

Result Code	Possible Messages or Warnings	Comments
<b>RESULT_NO_ERRORS</b>	N/A	No errors occurred while processing request
<b>RESULT_INVALID_INPUT</b>	INVALID_SPEC_NUMBER	Specification number input (specification number) format is invalid. See #1 of <a href="#">Condition E - Specification Identifier Input Formats</a> on page A-2.
	INVALID_ISSUE_NUMBER	Issue input (issue number) format is invalid. See #1 of <a href="#">Condition E - Specification Identifier Input Formats</a> on page A-2.
	INVALID_CROSS_REFERENCE	Cross Reference input (SystemID, Equivalent) is required. See #2 of <a href="#">Condition E - Specification Identifier Input Formats</a> on page A-2.
	NOT_ENOUGH_PRIVILEGES	Occurs only when API user has no read permission to any specification qualified for the input criteria
	NO_SPEC_FOUND	Occurs if any specification cannot be found for the input criteria
<b>RESULT_WARNINGS</b>	MAX_RECORDS_RETRIEVED	Occurs if the number of records retrieved exceeds the maximum records allowed. See <a href="#">Condition F - Max Records Retrieved</a> on page A-2.

## Notes

See Conditions A.1, A.2, B.1, C.1, C.2, E, and F in [Special Conditions](#) on page A-1.

## Get Spec Ingredient Statements

### Description

Use the GetSpecIngredientStatements web service to retrieve the ingredient statements for a given list of specifications.

**Note** This service is only supported for material specifications, product specifications, and nutrient profiles as defined in [Condition D - Specification Types](#) on page A-2.

### Input

- 1 A list of specification numbers, cross references, or a combination of either.
- 2 Allow Only Approved Spec—Specifications returned must be in an approved status. See [Condition C - Allow Only Approved Spec](#) on page A-1.

Table 10-4: Input

Name	Type	Description
<b>specIdentifierCriterion</b>	tSpecIdentifierCriterion[]	Array of one or more tSpecIdentifierCriterion objects
<b>AllowOnlyApprovedSpec</b>	boolean	True—Specifications returned must be in an “Approved” status False—Specifications returned may be in any status

### Output

The following specification ingredient statements are returned for each supported specification:

- 1 Specification Identifier
  - Specification Number
  - Cross References
- 2 Ingredient statement
- 3 Combined statement

Table 10-5: Output

Name	Type	Description
<b>SpecIngredientStatement Infos</b>	tSpecIngredientStatement Info []	Array of tSpecIngredientStatementInfo objects

## Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 10-6: Result codes

Result Code	Possible Messages or Warnings	Comments
<b>RESULT_NO_ERRORS</b>	N/A	No errors occurred while processing request
<b>RESULT_INVALID_INPUT</b>	INVALID_SPEC_NUMB ER	Specification number input (specification number) format is invalid. See #1 of <a href="#">Condition E - Specification Identifier Input Formats</a> on page A-2.
	INVALID_ISSUE_NUMB ER	Issue input (issue number) format is invalid. See #1 of <a href="#">Condition E - Specification Identifier Input Formats</a> on page A-2.
	INVALID_CROSS_REFE RENCE	Cross Reference input (SystemID, Equivalent) is required. See #2 of <a href="#">Condition E - Specification Identifier Input Formats</a> on page A-2.
	NOT_ENOUGH_PRIVIL EGES	Occurs only when API user has no read permission to any specification qualified for the input criteria
	NO_SPEC_FOUND	Occurs if any specification cannot be found for the input criteria
<b>RESULT_WARNINGS</b>	MAX_RECORDS_RETRI EVED	Occurs if the number of records retrieved exceeds the maximum records allowed. See <a href="#">Condition F - Max Records Retrieved</a> on page A-2.

## Notes

See Conditions A.1, A.2, B.1, C.1, C.2, E and F in [Special Conditions](#) on page A-1.



# Using the EQ Services Web Services

*This chapter describes the EQ Services web service. Topics in this chapter include:*

- ❑ *Overview of EQServices*
- ❑ *Get EQ Compliance Items*
- ❑ *Get EQ Summary Info*
- ❑ *Get EQ Nutrition Info*
- ❑ *Get EQ Breakdown Info*
- ❑ *Get EQ Numbers For Criteria*

## Overview of EQServices

EQServices provides operations that act on EQ items. The following operations are supported:

Operation	Description
<a href="#">Get EQ Compliance Items</a> on page 11-2	Returns compliance data for a given list of EQs
<a href="#">Get EQ Summary Info</a> on page 11-4	Returns the EQ summary information for a given list of EQs
<a href="#">Get EQ Nutrition Info</a> on page 11-6	Returns the Nutrient Items for a given list of EQs
<a href="#">Get EQ Breakdown Info</a> on page 11-8	Returns percent breakdown information for a given list of EQs
<a href="#">Get EQ Numbers For Criteria</a> on page 11-10	Returns the EQ identifiers for EQs matching several input search criteria

## Service Endpoint Locations

### v24 endpoint

`http://<servername>/Integration/ProdikaContracts/EQ/v24/EQServices.svc`

### v25 endpoint

`http://<servername>/Integration/ProdikaContracts/EQ/v25/EQServices.svc`

**v30 endpoint**

http://<servername>/Integration/ProdikaContracts/EQ/v30/EQServices.svc

**Get EQ Compliance Items****Description**

Use the GetEQComplianceItems web service to retrieve the EQ compliance for a given EQ. This service can be used for material, product, and trade questionnaire types.

**Input**

- 1 EQ number list

Table 11-1: Input

Name	Type	Description
<b>eqNumbers</b>	tEQNumber[]	An tEQNumber object

**Output**

The following EQ compliance data is returned for each EQ:

- 1 Questionnaire Number
- 2 Compliance values (Allergens, Additives, Intolerances (know to contain, does not contain))

Table 11-2: Output

Name	Type	Description
<b>eqComplianceInfo</b>	tEQComplianceInfo	EQ compliance details

## Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 11-3: Result codes

Result Code	Possible Messages or Warnings	Comments
<b>RESULT_NO_ERRORS</b>	N/A	No errors occurred while processing request
<b>RESULT_INVALID_INPUT</b>	NO_VALID_PARAMETERS	No valid parameters
	INVALID_EQ_NUMBER	EQ Number input format is invalid. See <a href="#">Condition M - Invalid EQ Input Formats</a> on page A-4.
	INVALID_SECURITY_PRIVILEGES	If the API user has no read permission to EQ returned for the input criteria. See <a href="#">Condition N - Invalid Security Privileges</a> on page A-4.
	NO_EQ_FOUND	Occurs if any EQ cannot be found for the input criteria (the service will continue to process remaining criteria)

## Notes

See Conditions M1, N1, and N2 in [Special Conditions](#) on page A-1.

## Get EQ Summary Info

### Description

Use the GetEQSummaryInfo web service to retrieve the EQ summary for a given EQ. This service can be used for all available eQ types (material, product, printed packaging, packaging, and trade).

### Input

- 1 EQ number list

Table 11-4: Input

Name	Type	Description
<b>eqNumbers</b>	tEQNumber[]	A tEQNumber object

### Output

The following EQ summary data is returned for each EQ:

- Questionnaire Number
- Questionnaire Label
- Questionnaire Type
- Status
- Date Sent
- Due Date
- Date Received
- Supplier Initiated?
- Imported?
- Comments
- Primary Owner
- Additional Administrators
- Supplier Contact Information (Contact Name, Company Name, Prodika SCRM #, email address)
- Company Contact Information (Contact Name, email address)
- Material Name

Table 11-5: Output

Name	Type	Description
<b>EQSummaryInfo</b>	tEQSummaryInfo[]	EQ summary details

## Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 11-6: Result codes

Result Code	Possible Messages or Warnings	Comments
<b>RESULT_NO_ERRORS</b>	N/A	No errors occurred while processing request
<b>RESULT_INVALID_INPUT</b>	NO_VALID_PARAMETERS	No valid parameters
	INVALID_EQ_NUMBER	EQ Number input format is invalid. See <a href="#">Condition M - Invalid EQ Input Formats</a> on page A-4.
	INVALID_SECURITY_PRIVILEGES	If the API user has no read permission to EQ returned for the input criteria. See <a href="#">Condition N - Invalid Security Privileges</a> on page A-4.
	NO_EQ_FOUND	Occurs if any EQ cannot be found for the input criteria (the service will continue to process remaining criteria)

## Notes

See Conditions M1, N1, and N2 in [Special Conditions](#) on page A-1.

## Get EQ Nutrition Info

### Description

Use the GetEQNutritionInfo web service to retrieve the EQ nutrition for a given EQ. This service can be used for material, product, and trade questionnaire types.

### Input

- 1 EQ number list

Table 11-7: Input

Name	Type	Description
<b>eqNumbers</b>	tEQNumber[]	A tEQNumber object

### Output

The following EQ nutrition data is returned for each EQ:

- 1 Questionnaire Number
- 2 Nutrient Values

Table 11-8: Output

Name	Type	Description
<b>NutrientInfo</b>	tNutrientInfo[]	EQ nutrient details

### Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 11-9: Result codes

Message Code	Possible Messages or Warnings	Comments
<b>RESULT_NO_ERRORS</b>	N/A	No errors occurred while processing request

Table 11-9: Result codes

<b>RESULT_INVALID_INPUT</b>	NO_VALID_PARAMETERS	No valid parameters
	INVALID_EQ_NUMBER	EQ Number input format is invalid. See <a href="#">Condition M - Invalid EQ Input Formats</a> on page A-4.
	INVALID_SECURITY_PRIVILEGES	If the API user has no read permission to EQ returned for the input criteria. See <a href="#">Condition N - Invalid Security Privileges</a> on page A-4.
	NO_EQ_FOUND	Occurs if any EQ cannot be found for the input criteria (the service will continue to process remaining criteria)

## Notes

See Conditions M1, N1, and N2 in [Special Conditions](#) on page A-1.

## Get EQ Breakdown Info

### Description

Use the GetEQBreakdownInfo web service to retrieve the EQ breakdown for a given EQ. This service can be used for material, product, and trade questionnaire types.

### Input

- 1 EQ number list

Table 11-10: Input

Name	Type	Description
<b>eqNumbers</b>	tEQNumber[]	A tEQNumber object

### Output

The following EQ breakdown data is returned for each EQ:

- 1 Questionnaire Number
- 2 Breakdown Message

Table 11-11: Output

Name	Type	Description
<b>EQFormulaBreakdown</b>	tEQFormulaBreakdown[]	EQ breakdown details

### Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 11-12: Result codes

Result Code	Possible Messages or Warnings	Comments
<b>RESULT_NO_ERRORS</b>	N/A	No errors occurred while processing request

Table 11-12: Result codes

<b>RESULT_INVALID_INPUT</b>	NO_VALID_PARAMETERS	No valid parameters
	INVALID_EQ_NUMBER	EQ Number input format is invalid. See <a href="#">Condition M - Invalid EQ Input Formats</a> on page A-4.
	INVALID_SECURITY_PRIVILEGES	If the API user has no read permission to EQ returned for the input criteria. See <a href="#">Condition N - Invalid Security Privileges</a> on page A-4.
	NO_EQ_FOUND	Occurs if any EQ cannot be found for the input criteria (the service will continue to process remaining criteria)

## Notes

See Conditions M1, N1, and N2 in [Special Conditions](#) on page A-1.

## Get EQ Numbers For Criteria

### Description

Use the GetEQByCriteria web service to retrieve the EQ numbers for a given EQ. This service can be used for all available eQ types (material, product, printed packaging, packaging, and trade).

### Input

The following input criteria are available as search criteria:

Table 11-13: Input

Name	Type	Description
<b>eqInputCriteria</b>	tEQInputCriteria	EQ input criteria

### Output

The following EQ number data is returned for each EQ:

- 1 Questionnaire Number
- 2 EQ Types ID—Restricts results to questionnaire types in given list of questionnaire types

### Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 11-14: Result codes

Result Code	Possible Messages or Warnings	Comments
<b>RESULT_NO_ERRORS</b>	N/A	No errors occurred while processing request

Table 11-14: Result codes

<b>RESULT_INVALID_INPUT</b>	NO_VALID_PARAMETERS	No valid parameters
	INVALID_EQ_NUMBER	EQ Number input format is invalid. See <a href="#">Condition M - Invalid EQ Input Formats</a> on page A-4.
	INVALID_SECURITY_PRIVILEGES	If the API user has no read permission to EQ returned for the input criteria. See <a href="#">Condition N - Invalid Security Privileges</a> on page A-4.
	NO_EQ_FOUND	Occurs if any EQ cannot be found for the input criteria (the service will continue to process remaining criteria)
	INVALID_EQ_STATUS	EQ status must be New, Sent, In Progress, Submitted
<b>RESULT_WARNINGS</b>	MAX_RECORDS_RETRIEVED	Occurs if the number of records retrieved exceeds the maximum records allowed. See <a href="#">Condition F - Max Records Retrieved</a> on page A-2.

## Notes

See Conditions F1, M1, N1, and N2 in [Special Conditions](#) on page A-1.



# Using the PQS Services Web Services

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*This chapter describes the PQS Services web service. Topics in this chapter include:*

- ❑ *Overview of PQSServices*
  - ❑ *Save PQS Sample*
- 

## Overview of PQSServices

PQSServices provides operations that act on PQS lot samples. The following operations are supported:

Operation	Description
<a href="#">Save PQS Sample</a> on page 12-2	Creates PQS lot samples and returns a sample number for each new sample created

## Service Endpoint Locations

### v24 endpoint

http://<servername>/Integration/ProdikaContracts/PQS/v24/PQSServices.svc

### v25 endpoint

http://<servername>/Integration/ProdikaContracts/PQS/v25/PQSServices.svc

### v30 endpoint

http://<servername>/Integration/ProdikaContracts/PQS/v30/PQSServices.svc

## Save PQS Sample

### Description

Use the SavePqsSamples web service to import new PQS lot sample entries into PQS. Lot sample data includes the associated GSM specification, SCRM facilities (Source, Receiving, and Location Facilities), PQS sample type, and more.

Results of the web service call include an overall success indicator and a list of all lot samples that have been created. Each lot sample contains a system-generated SampleNumber and the specification used as input.

### Input

- 1** Specification—SpecIdentifierCriterion. It can be SpecNumber or IssueNumber.
  - a** Specification Number
    - SpecNumber—Required, must be seven digits. Specification names matching the entry are displayed to the right of the field.
    - IssueNumber—Required, must be three digits. IssueNumber should match SpecNumber entry.
- 2** SourceFacility—SCRMEntityIdentifier
  - a** SCRMEntityNumber
    - EntityNumber—String, seven digits, facility or company number. Company/Facility name matching the entry are displayed to the right of the field.
- 3** ReceivingFacility—SCRMEntityIdentifier
- 4** SampleType—String, 32 characters or fewer
- 5** Location—SCRMEntityIdentifier
- 6** InternalAlias—String, 15 characters or fewer
- 7** CodeDate—String, 35 characters or fewer
- 8** GTINUPCEAN—String, 14 characters or fewer
- 9** ManufactureDate—Datetime
- 10** Use-ThroughDate—Datetime
- 11** LogReceiving#—String, 20 characters or fewer
- 12** WaybillInvoice#—String, 20 characters or fewer
- 13** Quantity—Float
- 14** QuantityLookup—String, 150 characters or fewer
- 15** Temperature—Float
- 16** ReceivingCondition—String, 400 characters or fewer
- 17** DateReceived—Datetime
- 18** ScheduledEvaluation—Datetime
- 19** Notes—String, 1024 characters or fewer

## Output

The result will be an overall success indicator with a list of all lot samples that have been created.

- 1 IsSuccessful—True or False
- 2 Results—List of lot sample result objects. Each sample provides a system generated Sample#.
  - a Sample#—System generated number for the lot samples
  - b Specification Identifier—SpecNumber used as input to assign to the lot samples, along with any related cross references

## Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 12-1: Result codes

Result Code	Possible Messages or Warnings	Comments
<b>RESULT_NO_ERRORS</b>	N/A	No errors occurred while processing request

Table 12-1: Result codes

<b>RESULT_INVALID_INPUT</b>	INVALID_SPEC_NUMBER	Specification number input (specification number, issue number) format is invalid. See <a href="#">Condition E - Specification Identifier Input Formats</a> on page A-2.
	INVALID_SPEC_TYPE	Specification should be of type Material, Menu, Product, or Trade
	INVALID_CROSS_REFERENCE	Cross Reference input (SystemID, Equivalent) is required. See <a href="#">Condition E - Specification Identifier Input Formats</a> on page A-2.
	INVALID_SOURCE_FACILITY	SCRM source facility input invalid: input format is invalid, facility is not found, or more than one facility is found
	INVALID_RECEIVING_FACILITY	SCRM receiving facility input invalid: input format is invalid, facility is not found, or more than one facility is found
	INVALID_SAMPLETYPE	Sample type input invalid: <ul style="list-style-type: none"> <li>• Must be 15 alphanumeric characters or fewer</li> <li>• Must be an existing Sample Type lookup value</li> </ul>
	INVALID_LOCATION	SCRM location facility input invalid: input format is invalid, facility is not found, or more than one facility is found
	INVALID_INTERNAL_ALIAS	Internal alias input is invalid; must be 15 alphanumeric characters or fewer
	INVALID_CODE_DATE	Code date input is invalid; must be 35 alphanumeric characters or fewer
	INVALID_GTINUPCEAN	GTIN/UPC/EAN input is invalid; must be 14 alphanumeric characters or fewer

Table 12-1: Result codes

	INVALID_LOG_RECEIVING_NUMBER	LogReceiving# input invalid; must be 20 alphanumeric characters or fewer
	INVALID_WAYBILL_INVOICE_NUMBER	WaybillInvoice# input invalid; must be 20 alphanumeric characters or fewer
	INVALID_QUANTITY	<ul style="list-style-type: none"> <li>Quantity value must be greater than 0</li> <li>Quantity is required when a Quantity UOM is specified</li> <li>Quantity UOM is required when a Quantity is specified</li> </ul>
	INVALID_QUANTITY_LOOKUP	Quantity Lookup input invalid; must be 150 alphanumeric characters or fewer, or no PQS Quantity Lookup value is found for given input
	INVALID_TEMPERATURE	Temperature input invalid; temperature UOM must be Celsius or Fahrenheit (ISOCODE value CE or FA)
	INVALID_UOM	Valid UOM format required, or UOM not found for given input data
	INVALID_UOM_STATUS	UOM must be in an assignable status
	INVALID_RECEIVING_CONDITION	ReceivingCondition input invalid; must be 400 alphanumeric characters or fewer
	INVALID_NOTES	Notes input invalid; must be 1024 alphanumeric characters or fewer
	NO_SPEC_FOUND	No specification found for specification identifier or specification cross reference
<b>RESULT_FAILURE</b>	NOT_ENOUGH_PRIVILEGES	User does not have permissions to add PQS samples. Doing so requires the [PQS_SAMPLE_CREATOR] role.
	UNKNOWN_ERROR	Unknown error retrieving SCRM facility information
	SAVE_ERROR	Unexpected error occurred attempting to save PQS samples

## Notes

See Conditions A, C, E, G, and L in [Special Conditions](#) on page A-1.



## Using the PQM Services Web Services

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*This chapter describes the PQM Services web service. Topics in this chapter include:*

- ❑ *Overview of PQMServices*
- ❑ *Get PQM Summary*
- ❑ *Create PQM Issues*
- ❑ *Update PQM Issues*
- ❑ *Create PQM Actions*
- ❑ *Update PQM Actions*
- ❑ *Create PQM Audits*
- ❑ *Update PQM Audits*
- ❑ *Get Suppliers*
- ❑ *Add Suppliers*
- ❑ *Delete Suppliers*
- ❑ *Get Affected Items*
- ❑ *Add Affected Items*
- ❑ *Delete Affected Items*
- ❑ *Get PQM Item By Criteria*
- ❑ *Get Related Items*
- ❑ *Add Related Items*
- ❑ *Delete Related Items*
- ❑ *Get Supporting Document IDs*
- ❑ *Get URL Supporting Document*
- ❑ *Add URL Supporting Documents*
- ❑ *Delete URL Supporting Documents*
- ❑ *Add Supporting Document Attachment*
- ❑ *Delete Supporting Document Attachment*
- ❑ *Get Rich Text Supporting Document*
- ❑ *Add Rich Text Supporting Document*
- ❑ *Delete Rich Text Supporting Documents*
- ❑ *Get DRL Document*
- ❑ *Add DRL Document*
- ❑ *Delete DRL Documents*
- ❑ *Add DRL Catalog*

- ❑ *Delete DRL Catalogs*
- ❑ *Get Attachment*
- ❑ *Add Attachment Procedure*
- ❑ *Delete Attachment Procedures*
- ❑ *Add Cross References*
- ❑ *Delete Cross References*
- ❑ *Update Cross References*

## Overview of PQMServices

PQMServices provides operations that act on PQM actions, audits, and issues. The following operations are supported:

Operation	v30	Description
<a href="#">Get PQM Summary</a> on page 13-4	●	Returns summary information for PQM items
<a href="#">Create PQM Issues</a> on page 13-7	●	Adds new PQM issues
<a href="#">Update PQM Issues</a> on page 13-11	●	Updates PQM issues
<a href="#">Create PQM Actions</a> on page 13-14	●	Adds new PQM actions
<a href="#">Update PQM Actions</a> on page 13-18	●	Updates PQM actions
<a href="#">Create PQM Audits</a> on page 13-21	●	Adds new PQM audits
<a href="#">Update PQM Audits</a> on page 13-25	●	Updates PQM audits
<a href="#">Get Suppliers</a> on page 13-28	●	Returns suppliers for PQM items
<a href="#">Add Suppliers</a> on page 13-30	●	Adds suppliers to PQM
<a href="#">Delete Suppliers</a> on page 13-33	●	Deletes suppliers from PQM
<a href="#">Get Affected Items</a> on page 13-36	●	Returns affected items for PQM items
<a href="#">Add Affected Items</a> on page 13-39	●	Adds affected items to a PQM item
<a href="#">Delete Affected Items</a> on page 13-45	●	Deleted affected items from a PQM item
<a href="#">Get PQM Item By Criteria</a> on page 13-47	●	Retrieves a list of PQM items
<a href="#">Get Related Items</a> on page 13-49	●	Retrieves the various related items for specified PQM items
<a href="#">Add Related Items</a> on page 13-51	●	Adds existing PQM Actions, Issues, and Audits as related items for given PQM items
<a href="#">Delete Related Items</a> on page 13-53	●	Removes the existing related items from given PQM items
<a href="#">Get Supporting Document IDs</a> on page 13-55	●	Retrieves the supporting documents identifiers of specified PQM items, including supporting document attachments, URLs, rich text, DRL catalogs, and DRL documents
<a href="#">Get URL Supporting Document</a> on page 13-58	●	Retrieves a URL supporting document
<a href="#">Add URL Supporting Documents</a> on page 13-60	●	Adds a URL supporting document to existing PQM items

Operation	v30	Description
<a href="#">Delete URL Supporting Documents</a> on page 13-62	●	Deletes a URL supporting document from existing PQM items
<a href="#">Add Supporting Document Attachment</a> on page 13-64	●	Adds an attachment file to an existing attachments procedure on a PQM item
<a href="#">Delete Supporting Document Attachment</a> on page 13-66	●	Delete existing supporting document attachments from a PQM item
<a href="#">Get Rich Text Supporting Document</a> on page 13-68	●	Retrieves a rich text supporting document
<a href="#">Add Rich Text Supporting Document</a> on page 13-70	●	Adds a rich text supporting document to existing PQM items
<a href="#">Delete Rich Text Supporting Documents</a> on page 13-72	●	Deletes existing rich text supporting documents from a PQM item
<a href="#">Get DRL Document</a> on page 13-74	●	Retrieves a DRL document
<a href="#">Add DRL Document</a> on page 13-76	●	Adds a DRL document to existing PQM items
<a href="#">Delete DRL Documents</a> on page 13-78	●	Deletes existing DRL documents from a PQM item
<a href="#">Add DRL Catalog</a> on page 13-80	●	Adds a DRL catalog to existing PQM items
<a href="#">Delete DRL Catalogs</a> on page 13-82	●	Deletes existing DRL catalogs from a PQM item
<a href="#">Get Attachment</a> on page 13-84	●	Retrieves an attachment file of supporting document or DRL document.
<a href="#">Add Attachment Procedure</a> on page 13-86	●	Adds an attachment procedure to an existing PQM item
<a href="#">Delete Attachment Procedures</a> on page 13-88	●	Deletes existing supporting documents from a PQM item
<a href="#">Add Cross References</a> on page 13-90	●	Adds cross references to a PQM item
<a href="#">Delete Cross References</a> on page 13-92	●	Deletes cross references from a PQM item
<a href="#">Update Cross References</a> on page 13-95	●	Updates cross references to a PQM item

## Service Endpoint Locations

### v30 endpoint

`http://<servername>/Integration/ProdikaContracts/PQM/v30/  
PQMServices.svc`

## Get PQM Summary

### Description

Use the GetPQMSummary web service to retrieve a list of summary information for auctions, audits, and issues.

### Input

- 1 PQMItemSearchIdentifiers—A list of tPQMItemSearchIdentifier
- 2 RestrictToStatusWithBehaviorIDs—A list of the workflow status behaviorIDs

Table 13-1: Input

Name	Type	Description
<b>PQMItemSearchIdentifiers</b>	tPQMItemSearchIdentifier[]	Array of tPQMItemSearchIdentifier
<b>RestrictToStatusWithBehaviorIDs</b>	Int[]	Array of workflow tag behavior IDs of allowed PQM object

### Output

The result will be list of summary information objects.

- 1 GetPQMSummary—An array of tPqmSummaryWrapper objects.
- 2 tPqmSummaryWrapper is composed of the following 2 parts:

Table 13-2: Output, tPqmSummaryWrapper

Name	Type	Description
<b>PqmCommonSummary</b>	tPqmCommonSummary	PQM summary information shared by all PQM types
<b>PqmSpecificSummary</b>	<ul style="list-style-type: none"> <li>• tPqmIssueSpecificSummary or</li> <li>• tPqmActionSpecificSummary or</li> <li>• tPqmAuditSpecificSummary</li> </ul>	PQM summary information only related with specific PQM types. Data could be one of the following implementations: <ul style="list-style-type: none"> <li>• ItPqmIssueSpecificSummary</li> <li>• ItPqmActionSpecificSummary</li> <li>• ItPqmAuditSpecificSummary</li> </ul>

- 1 tPqmCommonSummary
  - tPQMItemIdentifier PQMItemIdentifier
    - string Description
    - string Originator
    - string ProcessTemplate
    - tCommonLookup[] ProductLines
      - Name
      - OptionalValue

- tCommonLookup [] Customers
    - Name
    - OptionalValue
  - bool IsTemplate
  - DateTime CreatedDate
  - DateTime CompletedDate
  - DateTime ReleasedDate
  - DateTime SubmittedDate
- 2** tPqmIssueSpecificSummary
- DateTime OccurrenceDate
  - DateTime ExpectedResolutionDate
  - tCommonLookup Severity
  - tCommonLookup Resolution
- 3** tPqmActionSpecificSummary
- string PreventativeAction
  - string RootCauseAnalysis
  - tPQMAssociatedProject AssociatedProject
    - string ProjectName
    - string ProjectOwner
    - string ProjectNumber
- 4** tPqmAuditSpecificSummary
- DateTime PlannedAuditDate
  - DateTime ActualAuditDate
  - tCommonLookup AuditResult

## Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 13-3: Result codes

Result Code	Possible Messages or Warnings	Comments
<b>RESULT_NO_ERRORS</b>	N/A	No errors occurred while processing request
<b>RESULT_INVALID_INPUT</b>	NO_VALID_PARAMETERS	PQMItemIdentifier is empty (at least one field is required, Pkid, item number, crossreference)
	INVALID_PQM_ITEM_PKID	PQM Item PKID input (issue number/action number/audit number) format is invalid. See <a href="#">Condition Q - PQM Item Identifier Formats</a> on page A-5.
	INVALID_PQM_ITEM_NUMBER	PQM Item number input (issue number/action number/audit number) format is invalid. See <a href="#">Condition Q - PQM Item Identifier Formats</a> on page A-5.
	INVALID_CROSS_REFERENCE	Cross Reference input (SystemID, Equivalent) is required. When adding or updating a cross reference, SystemID and Status must be defined in system. See <a href="#">Condition E - Specification Identifier Input Formats</a> on page A-2.
	INVALID_PQM_ITEM_TYPE	Invalid item type; must only be one of the four valid values: ALL, ACTION, AUDIT, ISSUE
<b>RESULT_WARNINGS</b>	MAX_RECORDS_RETRIEVED	Occurs if the number of records retrieved exceeds the maximum records allowed. See <a href="#">Condition F - Max Records Retrieved</a> on page A-2.
<b>RESULT_FAILURE</b>	PQM_RETRIEVAL_ERROR	Returned if an unexpected exception occurs when loading a PQM object's supplier information

## Notes

See Conditions E, F, and Q in [Special Conditions](#) on page A-1.

## Create PQM Issues

### Description

Use the CreatePQMIssues web service to add new PQM issues.

### Input

The input is tCreatePQMIssueRequest, including the following properties:

Table 13-4: Input

Name	Type	Description
<b>IssueSummaryCreateWrappers</b>	tIssueSummaryCreateWrapper[]	List of basic PQM issue summary information and issue template identifier

tIssueSummaryCreateWrapper is composed of the following parts:

Table 13-5: tIssueSummaryCreateWrapper

Name	Type	Description
<b>IssueDetail</b>	tIssueDetails	Basic PQM issue summary information (issue number not included)
<b>IsFromTemplate</b>	boolean	Optional field. Set this value as true to create from template; Default value is false
<b>PQMTemplateIdentifier</b>	tBasePQMItemSearchIdentifier	Optional. Issue template identifier If you create a PQM issue from template, the field is required in validation
<b>CrossRefs</b>	tExtCrossReference []	Optional. Important: When creating from template, if this value is not provided, the template cross reference setting is used. If this value is provided, this input is used to replace the value in the template.

tIssueDetails is composed of the following parts:

Table 13-6: tIssueDetails

Name	Type	Description
<b>IssueTitle</b>	string	Required; PQM item title
<b>IssueDescription</b>	string	PQM issue description
<b>IssueType</b>	string	Required Name of issue type as defined in ADMN>>PQM>>Issue
<b>WorkflowTemplateName</b>	string	Required
<b>WorkflowStepBehaviorID</b>	integer	Required Used with WorkflowTemplateName to retrieve the workflow status

Table 13-6: tIssueDetails

<b>Originator</b>	tOriginatorIdentifier	User login name or external ID as defined in ADMN 1 of the 2 (user login name or external ID) is required and only 1 is allowed
<b>OccurenceDate</b>	DateTime	
<b>ExpectedResolutionDate</b>	DateTime	
<b>Severity</b>	string	Name of severity. This should be an Active value defined in Admin>>PQM>>Severity
<b>Resolution</b>	string	Name of resolution. This should be an Active value defined in Admin>>PQM>> Resolution.
<b>ProductLines</b>	string[]	Name of product line. This should be an Active value defined in Admin>>PQM>> Product Lines
<b>Customers</b>	string[]	Customer name. This should be a Active value defined in Admin>>PQM>> Customers
<b>CreateDate</b>	DateTime	
<b>CompleteDate</b>	DateTime	
<b>ReleasedDate</b>	DateTime	
<b>SubmittedDate</b>	DateTime	

## Output

CreatePQMIssues returns a status (bool) and array of tPQMItemidentifier.

## Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 13-7: Result codes

Result Code	Possible Messages or Warnings	Comments
<b>RESULT_NO_ERRORS</b>	N/A	No errors occurred while processing request
<b>RESULT_INVALID_INPUT</b>	NO_VALID_PARAMETER S	PQMItemIdentifier is empty (at least one field is required, Pkid, item number, crossreference) IssueDetails should not be empty.
	INVALID_PQM_ITEM_PK ID	PQM Item PKID input (issue number/action number/audit number) format is invalid. See <a href="#">Condition Q - PQM Item Identifier Formats</a> on page A-5.

Table 13-7: Result codes

<b>RESULT_INVALID_INPUT (continued)</b>	INVALID_PQM_ITEM_NUMBER	PQM Item number input (issue number/action number/audit number) format is invalid. See <a href="#">Condition Q - PQM Item Identifier Formats</a> on page A-5.
	INVALID_CROSS_REFERENCE	Cross Reference input (SystemID, Equivalent) is required. When adding or updating a cross reference, SystemID and Status must be defined in system. See <a href="#">Condition E - Specification Identifier Input Formats</a> on page A-2.
	INVALID_PQM_ITEM_TYPE	Invalid item type; must be only one of the four valid values: All, Action, Audit, Issue
	CANNOT_OVERRIDE_TEMPLATE	Occurs if a user without the Override Template role attempts to create from template; cannot override the locked fields
	MAX_RECORDS_SAVED	Occurs if the number of records to be created exceeds the maximum records allowed
	INSUFFICIENT_PQM_ROLE_ERROR	Occurs when user does not have create issue permission, or If a user without the Override Template role attempts to create from template; cannot override the locked fields
	INVALID_PQM_TEMPLATE	If IsFromTemplate is true, must have a PQMTemplateIdentifier, and should have 1 (and only 1) issue template found based on PQMTemplateIdentifier
	INVALID_PQM_TITLE	Issue/action/audit title should not be empty or exceed the max length 256
	INVALID_PQM_DESCRIPTION	Issue/action/audit description should not exceed the max length 4000
	INVALID_PQM_ISSUE_TYPE	Issue type should not be empty and should be a value in system
	INVALID_PQM_WORKFLOW_TEMPLATE_NAME	WorkflowTemplateName can't be empty PQM issue workflow template name {WorkflowTemplateName} should be defined in system
	INVALID_PQM_WORKFLOW_STEP_BEHAVIORID	WorkflowStepBehaviorID cannot be empty. No valid PQM template steps or multiple PQM template steps found with behavior: {WorkflowStepBehaviorID}

Table 13-7: Result codes

<b>RESULT_INVALID_INPUT (continued)</b>	INVALID_ORIGINATOR	<ul style="list-style-type: none"> <li>Should be a value defined in system</li> <li>Originator should not be empty and can only accept 1 userName or 1 external ID</li> <li>This field is required</li> </ul>
	INVALID_PQM_ISSUE_SEVERITY	No Data found in commonlookup table for name:{Severity}
	INVALID_PQM_ISSUE_RESOLUTION	No Data found in commonlookup table for name: {Resolution}
	INVALID_PQM_PRODUCT_LINES	No Data found in commonlookup table for name:{PRODUCT LINE}
	INVALID_PQM_CUSTOMERS	No Data found in commonlookup table for name:{Customer}
	PQM_WORKFLOW_ERROR	Error occurs when running workflow, may be caused by invalid input/system crash
<b>RESULT_FAILURE</b>	SAVE_PQM_ISSUE_ERROR	Unexpected exception occurs when attempting to save PQM issue

## Notes

See Conditions E and Q in *Special Conditions* on page A-1.

## Update PQM Issues

### Description

Use the UpdatePQMIssues web service to update PQM issues.

### Input

The input is tUpdatePQMIssueRequest, including the following properties:

Table 13-8: Input

Name	Type	Description
<b>IssueSummaryUpdateWrappers</b>	tIssueSummaryUpdateWrapper[]	List of basic PQM issue summary information and issue template identifier

tIssueSummaryUpdateWrapper is composed by following parts:

Table 13-9: tIssueSummaryUpdateWrapper

Name	Type	Description
<b>IssueDetails</b>	tIssueDetails	Basic PQM issue summary information (issue number not included)
<b>PqmltemIdentifier</b>	tBasePQMItemSearchIdentifier	Required Issue identifier
<b>RestrictToStatusWithBehaviorIDs</b>	int[]	An array of workflow tag behavior IDs of allowed PQM object

tIssueDetails is composed by following parts:

Table 13-10: tIssueDetails

Name	Type	Description
<b>IssueTitle</b>	string	Required; PQM item title
<b>IssueDescription</b>	string	PQM item description
<b>IssueType</b>	string	Required; name of Issue type defined in ADMN
<b>WorkflowTemplateName</b>	string	Required
<b>WorkflowStepBehaviorID</b>	integer	Required; used with WorkflowTemplateName to retrieve the workflow status
<b>Originator</b>	tOriginatorIdentifier	User login name or external ID Defined in ADMN 1 of the 2 (user login name or external ID) is required and only 1 is allowed
<b>OccurenceDate</b>	DateTime	
<b>ExpectedResolutionDate</b>	DateTime	
<b>Severity</b>	string	An Active value defined in Admin>>PQM>>Severity
<b>Resolution</b>	string	An Active value defined in Admin>>PQM>> Resolution

Table 13-10: tIssueDetails

<b>ProductLines</b>	String[]	An Active value defined in Admin>>PQM>> Product Lines
<b>Customers</b>	String[]	An Active value defined in Admin>>PQM>> Customers
<b>CreateDate</b>	DateTime	
<b>CompleteDate</b>	DateTime	
<b>ReleasedDate</b>	DateTime	
<b>SubmittedDate</b>	DateTime	

## Output

UpdatePQMIssues returns status (bool) and array of tPQMItemidentifier.

## Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 13-11: Result codes

Result Code	Possible Messages or Warnings	Comments
<b>RESULT_NO_ERRORS</b>	N/A	No errors occurred while processing request
<b>RESULT_INVALID_INPUT</b>	NO_VALID_PARAMETERS	PQMItemIdentifier is empty (at least one field is required, Pkid, item number, crossreference) IssueDetails should not be empty.
	INVALID_PQM_ITEM_PKID	PQM Item PKID input (issue number/action number/audit number) format is invalid. See <a href="#">Condition Q - PQM Item Identifier Formats</a> on page A-5.
	INVALID_PQM_ITEM_NUMBER	PQM Item number input (issue number/action number/audit number) format is invalid. See <a href="#">Condition Q - PQM Item Identifier Formats</a> on page A-5.
	INVALID_CROSS_REFERENCE	Cross Reference input (SystemID, Equivalent) is required. When adding or updating a cross reference, SystemID and Status must be defined in system. See <a href="#">Condition E - Specification Identifier Input Formats</a> on page A-2.
	UPDATE_DUPLICATE_PQM_ITEM_ERROR	Update a PQM item: {0} Multiple times is not Allowed.

Table 13-11: Result codes

<b>RESULT_INVALID_INPUT (continued)</b>	MAX_RECORDS_SAVED	Occurs if the number of records to be created exceeds the maximum records allowed
	INSUFFICIENT_PQM_ROLE_ERROR	Occurs when user does not have permission to update the issue
	INVALID_PQM_TITLE	Issue/action/audit title should not be empty or exceed the max length 256
	INVALID_PQM_DESCRIPTION	Issue/action/audit description should not exceed the max length 4000
	INVALID_PQM_ISSUE_TYPE	Issue type should not be empty and should be a value in system
	INVALID_PQM_WORKFLOW_TEMPLATE_NAME	WorkflowTemplateName can't be empty PQM issue workflow template name {WorkflowTemplateName} should be defined in system
	INVALID_PQM_WORKFLOW_STEP_BEHAVIORID	WorkflowStepBehaviorID can't be empty. No valid PQM template steps or multiple PQM template steps found with behavior: {WorkflowStepBehaviorID}
	INVALID_ORIGINATOR	<ul style="list-style-type: none"> <li>Should be a value defined in system</li> <li>Originator should not be empty and can only accept 1 userName or 1 external ID</li> <li>This field is required</li> </ul>
	INVALID_PQM_ISSUE_SEVERITY	No Data found in commonlookup table for with name:{Severity}
	INVALID_PQM_ISSUE_RESOLUTION	No Data found in commonlookup table for with name: {ResolutionDisposition}
	INVALID_PQM_PRODUCT_LINES	No Data found in commonlookup table for with name:{PRODUCT LINE}
	INVALID_PQM_CUSTOMERS	No Data found in commonlookup table for with name:{Customer}
	PQM_WORKFLOW_ERROR	Error occurs when running workflow, may be caused by invalid input/system crash
<b>RESULT_FAILURE</b>	SAVE_PQM_ISSUE_ERROR	Occurs when attempting to save PQM issue

## Notes

See Conditions E and Q in *Special Conditions* on page A-1.

## Create PQM Actions

### Description

Use the CreatePQMActions web service to add new PQM actions.

### Input

The input is tCreatePQMActionRequest, including the following properties:

Table 13-12: Input

Name	Type	Description
<b>ActionSummaryCreateWrappers</b>	tActionSummaryCreateWrapper []	List of basic PQM action summary information and action template identifier

tActionSummaryCreateWrapper is composed by following parts:

Table 13-13: tIssueSummaryUpdateWrapper

Name	Type	Description
<b>ActionDetails</b>	tActionDetails	Basic PQM action summary information (action number not included)
<b>IsFromTemplate</b>	boolean	<ul style="list-style-type: none"> <li>Optional</li> <li>Set this value as true if you want to create from template</li> <li>Default value is false</li> </ul>
<b>PQMTemplateIdentifier</b>	tBasePQMItemSearchIdentifier	<ul style="list-style-type: none"> <li>Optional</li> <li>Action template identifier</li> <li>If you create a PQM action from a template, the field is required</li> </ul>
<b>CrossRefs</b>	tExtCrossReference	Optional Important: When you create from template, if this value is not provided, the template cross reference setting is used. If this value is provided, this input is used to replace the value in the template.

tActionDetails composed by following parts:

Table 13-14: tActionDetails

Name	Type	Description
<b>ProblemStatement</b>	string	Required; PQM action title
<b>ActionDescription</b>	string	PQM action description
<b>ActionType</b>	string	Required; name of Action type defined in ADMN
<b>WorkflowTemplateName</b>	string	Required
<b>WorkflowStepBehaviorID</b>	integer	Required; used with WorkflowTemplateName to retrieve the workflow status

Table 13-14: tActionDetails

<b>Originator</b>	tOriginatorIdentifier	User login name or external ID Defined in ADMN 1 of the 2 (user login name or external ID) is required and only 1 is allowed
<b>ProductLines</b>	String[]	An Active value defined in Admin>>PQM>> Product Lines
<b>Customers</b>	String[]	An Active value defined in Admin>>PQM>> Customers
<b>PreventativeAction</b>	string	
<b>RootCauseAnalysis</b>	string	
<b>AssociatedNPDProject</b>	tAssociatedNPDProject	Important: If the associated project is from our NPD system, then you must set SourceSystemID ='NPD', and set ItemInternalID as NPD project PKID or set NPDProjectNum as NPD project number
<b>CreateDate</b>	DateTime	
<b>CompleteDate</b>	DateTime	
<b>ReleasedDate</b>	DateTime	
<b>SubmittedDate</b>	DateTime	

## Output

CreatePQMActions returns status (bool) and array of tPQMItemidentifier.

## Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 13-15: Result codes

Result Code	Possible Messages or Warnings	Comments
<b>RESULT_NO_ERRORS</b>	N/A	No errors occurred while processing request

Table 13-15: Result codes

<b>RESULT_INVALID_INPUT</b>	NO_VALID_PARAMETERS	PQMItemIdentifier is empty (at least one field is required, Pkid, item number, crossreference) IssueDetails should not be empty.
	INVALID_PQM_ITEM_PKID	PQM Item PKID input (issue number/action number/audit number) format is invalid. See <a href="#">Condition Q - PQM Item Identifier Formats</a> on page A-5.
	INVALID_PQM_ITEM_NUMBER	PQM Item number input (issue number/action number/audit number) format is invalid. See <a href="#">Condition Q - PQM Item Identifier Formats</a> on page A-5.
	INVALID_CROSS_REFERENCE	Cross Reference input (SystemID, Equivalent) is required. When adding or updating a cross reference, SystemID and Status must be defined in system. See <a href="#">Condition E - Specification Identifier Input Formats</a> on page A-2.
	MAX_RECORDS_SAVED	Occurs if the number of records to be created exceeds the maximum records allowed
	INSUFFICIENT_PQM_ROLE_ERROR	Occurs when user does not have create action permission or If a user without Override Template role attempts to create from template; cannot override the locked fields
	INVALID_PQM_TEMPLATE	If IsFromTemplate is true, it must have a PQMTemplateIdentifier, and should have 1 (and only 1) action template found based on PQMTemplateIdentifier
	INVALID_PQM_TITLE	Issue/action/audit title should not be empty or exceed the max length 256
	INVALID_PQM_DESCRIPTION	Issue/action/audit description should not exceed the max length 4000
	INVALID_PQM_ACTION_TYPE	Action type should not be empty and should be a value in system
	INVALID_PQM_WORKFLOW_TEMPLATE_NAME	WorkflowTemplateName can't be empty PQM action workflow template name {WorkflowTemplateName} should be defined in system

Table 13-15: Result codes

<b>RESULT_INVALID_INPUT (continued)</b>	INVALID_PQM_WORKFLOW_STEP_BEHAVIORID	WorkflowStepBehaviorID can't be empty. No valid PQM template steps or multiple PQM template steps found with behavior: {WorkflowStepBehaviorID}
	INVALID_ORIGINATOR	<ul style="list-style-type: none"> <li>Should be a value defined in system</li> <li>Originator should not be empty and can only accept 1 userName or 1 external ID</li> <li>Required</li> </ul>
	INVALID_PQM_PREVENTIVE_ACTION	Exceeds the max length 4000
	INVALID_PQM_ROOTCAUSE_ANALYSIS	Exceeds the max length 4000
	INVALID_SOURCE_SYSTEM_ID	Exceeds the max length
	INVALID_ITEM_INTERNAL_ID	Exceeds the max length
	INVALID_ITEM_EXTERNAL_ID	Exceeds the max length
	INVALID_ASSOCIATED_NPD_PROJECT	IF SourceSystemID is NPD, either a valid ItemInternalID or a valid NPD Project Number should be provided
	INVALID_PQM_PRODUCT_LINES	No Data found in commonlookup table for with name:{PRODUCT LINE}
	INVALID_PQM_CUSTOMERS	No Data found in commonlookup table for with name:{Customer}
	PQM_WORKFLOW_ERROR	Error occurs when running workflow, may be caused by invalid input/system crash
<b>RESULT_FAILURE</b>	SAVE_PQM_ACTION_ERROR	Unexpected exception occurs when attempting to save PQM action

## Notes

See Conditions E and Q in *Special Conditions* on page A-1.

## Update PQM Actions

### Description

Use the UpdatePQMActions web service to update PQM actions.

### Input

The input is tUpdatePQMActionRequest, including the following properties:

Table 13-16: Input

Name	Type	Description
<b>ActionSummaryUpdateWrappers</b>	tActionSummaryUpdateWrapper[]	List of basic PQM action summary information and action template identifier

tActionSummaryUpdateWrapper is composed by following parts:

Table 13-17: tActionSummaryUpdateWrapper

Name	Type	Description
<b>ActionDetails</b>	tActionDetails	Basic PQM action summary information (action number not included)
<b>PQMItemIdentifier</b>	tBasePQMItemSearchIdentifier	<ul style="list-style-type: none"><li>• Required</li><li>• Action identifier</li></ul>
<b>RestrictToStatusWithBehaviorIDs</b>	int[]	Array of workflow tag behavior IDs of allowed PQM object

### Output

UpdatePQMActions returns status (bool) and array of tPQMItemidentifier.

## Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 13-18: Result codes

Result Code	Possible Messages or Warnings	Comments
<b>RESULT_NO_ERRORS</b>	N/A	No errors occurred while processing request
<b>RESULT_INVALID_INPUT</b>	NO_VALID_PARAMETERS	PQMItemIdentifier is empty (at least one field is required, Pkid, item number, crossreference) IssueDetails should not be empty.
	INVALID_PQM_ITEM_PKID	PQM Item PKID input (issue number/action number/audit number) format is invalid. See <a href="#">Condition Q - PQM Item Identifier Formats</a> on page A-5.
	INVALID_PQM_ITEM_NUMBER	PQM Item number input (issue number/action number/audit number) format is invalid. See <a href="#">Condition Q - PQM Item Identifier Formats</a> on page A-5.
	INVALID_CROSS_REFERENCE	Cross Reference input (SystemID, Equivalent) is required. When adding or updating a cross reference, SystemID and Status must be defined in system. See <a href="#">Condition E - Specification Identifier Input Formats</a> on page A-2.
	UPDATE_DUPLICATE_PQM_ITEM_ERROR	Update a PQM item: {0} Multiple times is not Allowed.
	MAX_RECORDS_SAVED	Occurs if the number of records to be created exceeds the maximum records allowed
	INSUFFICIENT_PQM_ROLE_ERROR	Occurs when user does not have permission to update the action
	INVALID_PQM_TITLE	Issue/action/audit title should not be empty or exceed the max length 256
	INVALID_PQM_DESCRIPTION	Issue/action/audit description should not exceed the max length 4000
	INVALID_PQM_ACTION_TYPE	Action type should not be empty and should be a value in system
	INVALID_PQM_WORKFLOW_TEMPLATE_NAME	WorkflowTemplateName can't be empty PQM action workflow template name {WorkflowTemplateName} should be defined in system

Table 13-18: Result codes

<b>RESULT_INVALID_INPUT (continued)</b>	INVALID_PQM_WORKFLOW_STEP_BEHAVIORID	WorkflowStepBehaviorID can't be empty. No valid PQM template steps or multiple PQM template steps found with behavior: {WorkflowStepBehaviorID}
	INVALID_ORIGINATOR	<ul style="list-style-type: none"> <li>Should be a value defined in system</li> <li>Originator should not be empty and can only accept 1 userName or 1 external ID</li> <li>Required</li> </ul>
	INVALID_PQM_PREVENTIVE_ACTION	Exceeds the max length 4000
	INVALID_PQM_ROOTCAUSE_ANALYSIS	Exceeds the max length 4000
	INVALID_SOURCE_SYSTEM_ID	Exceeds the max length
	INVALID_ITEM_INTERNAL_ID	Exceeds the max length
	INVALID_ITEM_EXTERNAL_ID	Exceeds the max length
	INVALID_PQM_PRODUCT_LINES	No Data found in commonlookup table for with name:{PRODUCT LINE}
	INVALID_PQM_CUSTOMERS	No Data found in commonlookup table for with name:{Customer}
	PQM_WORKFLOW_ERROR	Error occurs when running workflow, may be caused by invalid input/system crash
<b>RESULT_FAILURE</b>	SAVE_PQM_ACTION_ERROR	Unexpected exception occurs when attempting to save PQM action

## Notes

See Conditions E and Q in [Special Conditions](#) on page A-1.

## Create PQM Audits

### Description

Use the CreatePQMAudits web service to add new PQM audits.

### Input

The input is tCreatePQMAuditRequest, including the following properties:

Table 13-19: Input

Name	Type	Description
<b>AuditSummaryCreateWrappers</b>	tAuditSummaryCreateWrapper[]	List of basic PQM audit summary information and audit template identifier

tAuditSummaryCreateWrapper is composed of the following parts:

Table 13-20: tAuditSummaryCreateWrapper

Name	Type	Description
<b>AuditDetails</b>	tAuditDetails	Basic PQM audit summary information (audit number not included)
<b>IsFromTemplate</b>	boolean	<ul style="list-style-type: none"> <li>Optional</li> <li>Set this value as true if you want to create from template</li> <li>Default value is false</li> </ul>
<b>PQMTemplateIdentifier</b>	tBasePQMItemSearchIdentifier	<ul style="list-style-type: none"> <li>Optional</li> <li>Audit template identifier</li> <li>If creating PQM audit from template, the field is required in validation</li> </ul>
<b>CrossRefs</b>	tExtCrossReference	Optional Important: When creating from template, if this value is not provided, will use the template cross reference setting. If this value is provided, will use this input to replace the value in the template.

tAuditDetails is composed by following parts:

Table 13-21: tAuditDetails

Name	Type	Description
<b>AuditTitle</b>	string	Required; PQM audit title
<b>AuditDescription</b>	string	PQM audit description
<b>AuditType</b>	string	Required; name of Audit type defined in ADMN
<b>WorkflowTemplateName</b>	string	Required

Table 13-21: tAuditDetails

<b>WorkflowStepBehaviorID</b>	integer	<ul style="list-style-type: none"> <li>Required</li> <li>Used with WorkflowTemplateName to retrieve the workflow status</li> <li>If multiple value returned, report error</li> </ul>
<b>Originator</b>	tOriginatorIdentifier	<ul style="list-style-type: none"> <li>User login name or external ID</li> <li>Defined in ADMN</li> <li>1 of the 2 (user login name or external ID) is required and only 1 is allowed</li> </ul>
<b>PlannedAuditDate</b>	DateTime	•
<b>ProductLines</b>	string[]	An Active value defined in Admin>>PQM>> Product Lines
<b>Customers</b>	string[]	An Active value defined in Admin>>PQM>> Customers
<b>AuditResult</b>	string	An Active value defined in Admin>>PQM>> Audit Result
<b>CreateDate</b>	DateTime	
<b>CompleteDate</b>	DateTime	
<b>ReleasedDate</b>	DateTime	
<b>SubmittedDate</b>	DateTime	

## Output

CreatePQMAudits returns status (bool) and array of tPQMItemidentifier.

## Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 13-22: Result codes

Result Code	Possible Messages or Warnings	Comments
<b>RESULT_NO_ERRORS</b>	N/A	No errors occurred while processing request

Table 13-22: Result codes

<b>RESULT_INVALID_INPUT</b>	NO_VALID_PARAMETERS	PQMItemIdentifier is empty (at least one field is required, Pkid, item number, crossreference) IssueDetails should not be empty.
	INVALID_PQM_ITEM_PKID	PQM Item PKID input (issue number/action number/audit number) format is invalid. See <a href="#">Condition Q - PQM Item Identifier Formats</a> on page A-5.
	INVALID_PQM_ITEM_NUMBER	PQM Item number input (issue number/action number/audit number) format is invalid. See <a href="#">Condition Q - PQM Item Identifier Formats</a> on page A-5.
	INVALID_CROSS_REFERENCE	Cross Reference input (SystemID, Equivalent) is required. When adding or updating a cross reference, SystemID and Status must be defined in system. See <a href="#">Condition E - Specification Identifier Input Formats</a> on page A-2.
	MAX_RECORDS_SAVED	Occurs if the number of records to be created exceeds the maximum records allowed
	INSUFFICIENT_PQM_ROLE_ERROR	Occurs when user does not have create audit permission Or If a user without Override Template role to create from template, cannot override the locked fields
	INVALID_PQM_TEMPLATE	If IsFromTemplate is true, must have a PQMTemplateIdentifier, and should have 1 (and only 1) audit template found based on PQMTemplateIdentifier
	INVALID_PQM_TITLE	Issue/action/audit title should not be empty or exceed the max length 256
	INVALID_PQM_DESCRIPTION	Issue/action/audit description should not exceed the max length 4000
	INVALID_PQM_AUDIT_TYPE	Audit type should not be empty and should be a value in system

Table 13-22: Result codes

<b>RESULT_INVALID_INPUT (continued)</b>	INVALID_PQM_WORKFLOW_TEMPLATE_NAME	WorkflowTemplateName can't be empty  PQM audit workflow template name {WorkflowTemplateName} should be defined in system
	INVALID_PQM_WORKFLOW_STEP_BEHAVIORID	WorkflowStepBehaviorID can't be empty. No valid PQM template steps or multiple PQM template steps found with behavior: {WorkflowStepBehaviorID}
	INVALID_ORIGINATOR	<ul style="list-style-type: none"> <li>• Should be a value defined in system</li> <li>• Originator should not be empty and can only accept 1 userName or 1 external ID</li> <li>• Required</li> </ul>
	INVALID_PQM_AUDIT_RESULT	No Data found in commonlookup table for with name: {audit result}
	INVALID_PQM_PRODUCT_LINES	No Data found in commonlookup table for with name:{PRODUCT LINE}
	INVALID_PQM_CUSTOMERS	No Data found in commonlookup table for with name:{Customer}
	PQM_WORKFLOW_ERROR	Error occurs when running workflow, may be caused by invalid input/system crash
<b>RESULT_FAILURE</b>	SAVE_PQM_AUDIT_ERROR	Unexpected exception occurs when attempting to save PQM audit

## Notes

See Conditions E and Q in [Special Conditions](#) on page A-1.

## Update PQM Audits

### Description

Use the UpdatePQMAudits web service to update PQM audits.

### Input

The input is tUpdatePQMAuditRequest, including the following properties:

Table 13-23: Input

Name	Type	Description
<b>AuditSummaryUpdateWrappers</b>	tAuditSummaryUpdateWrapper[]	List of basic PQM audit summary information and audit template identifier

tAuditSummaryUpdateWrapper composed by following parts:

Table 13-24: tAuditSummaryUpdateWrapper

Name	Type	Description
<b>AuditDetails</b>	tAuditDetails	Basic PQM audit summary information (audit number not included)
<b>pqmItemIdentifier</b>	tBasePQMItemSearchIdentifier	<ul style="list-style-type: none"><li>• Required</li><li>• Audit identifier</li></ul>
<b>RestrictToStatusWithBehaviorIDs</b>	int[]	Array of workflow tag behavior IDs of allowed PQM object

### Output

CreatePQMAudits returns status (bool) and array of tPQMItemidentifier.

## Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 13-25: Result codes

Result Code	Possible Messages or Warnings	Comments
<b>RESULT_NO_ERRORS</b>	N/A	No errors occurred while processing request
<b>RESULT_INVALID_INPUT</b>	NO_VALID_PARAMETERS	PQMItemIdentifier is empty (at least one field is required, Pkid, item number, crossreference) IssueDetails should not be empty.
	INVALID_PQM_ITEM_PKID	PQM Item PKID input (issue number/action number/audit number) format is invalid. See <a href="#">Condition Q - PQM Item Identifier Formats</a> on page A-5.
	INVALID_PQM_ITEM_NUMBER	PQM Item number input (issue number/action number/audit number) format is invalid. See <a href="#">Condition Q - PQM Item Identifier Formats</a> on page A-5.
	INVALID_CROSS_REFERENCE	Cross Reference input (SystemID, Equivalent) is required. When adding or updating a cross reference, SystemID and Status must be defined in system. See <a href="#">Condition E - Specification Identifier Input Formats</a> on page A-2.
	UPDATE_DUPLICATE_PQM_ITEM_ERROR	Update a PQM item: {0} Multiple times is not allowed.

Table 13-25: Result codes

<b>RESULT_INVALID_INPUT (continued)</b>	MAX_RECORDS_SAVED	Occurs if the number of records to be created exceeds the maximum records allowed
	INSUFFICIENT_PQM_ROLE_ERROR	Occurs when user does not have permission to update the audit
	INVALID_PQM_TITLE	Issue/action/audit title should not be empty or exceed the max length 256
	INVALID_PQM_DESCRIPTION	Issue/action/audit description should not exceed the max length 4000
	INVALID_PQM_AUDIT_TYPE	Audit type should not be empty and should be a value in system
	INVALID_PQM_WORKFLOW_TEMPLATE_NAME	WorkflowTemplateName can't be empty PQM audit workflow template name {WorkflowTemplateName} should be defined in system
	INVALID_PQM_WORKFLOW_STEP_BEHAVIORID	WorkflowStepBehaviorID can't be empty. No valid PQM template steps or multiple PQM template steps found with behavior: {WorkflowStepBehaviorID}
	INVALID_ORIGINATOR	<ul style="list-style-type: none"> <li>Should be a value defined in system</li> <li>Originator should not be empty and can only accept 1 userName or 1 external ID</li> <li>Required</li> </ul>
	INVALID_PQM_AUDIT_RESULT	No Data found in commonlookup table for with name:{audit result}
	INVALID_PQM_PRODUCT_LINES	No Data found in commonlookup table for with name:{PRODUCT LINE}
	INVALID_PQM_CUSTOMERS	No Data found in commonlookup table for with name:{Customer}
	PQM_WORKFLOW_ERROR	Error occurs when running workflow, may be caused by invalid input/system crash
<b>RESULT_FAILURE</b>	SAVE_PQM_AUDIT_ERROR	Unexpected exception occurs when attempting to save PQM audit

## Notes

See Conditions E and Q in *Special Conditions* on page A-1.

## Get Suppliers

### Description

Use the GetSuppliers web service to retrieve suppliers for PQM items.

### Input

- 1 PQMItemSearchIdentifiers—A list of tPQMItemSearchIdentifier
- 2 RestrictToStatusWithBehaviorIDs—A list of the workflow status behaviorID

Table 13-26: Input

Name	Type	Description
<b>PQMItemSearchIdentifiers</b>	tPQMItemSearchIdentifier[]	Array of tPQMItemSearchIdentifier
<b>RestrictToStatusWithBehaviorIDs</b>	Int[]	Array of workflow tag behavior IDs of allowed PQM object

### Output

GetSuppliers returns array of tPQMItemSupplierIdentifier

- 1 tPQMItemSupplierIdentifier
  - tPQMItemIdentifier PQMItemIdentifier
  - tPQMItemSupplier[] PQMItemSuppliers
- 2 tPQMItemSupplier
  - tSourceSystemIdentifier SourceSystemIdentifier
  - string CompanyDescription
  - string FacilityDescription
- 3 tSourceSystemIdentifier
  - string ItemInternalID
  - string ItemExternalID
  - string ItemType
  - string SourceSystemID

## Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 13-27: Result codes

Result Code	Possible Messages or Warnings	Comments
<b>RESULT_NO_ERRORS</b>	N/A	No errors occurred while processing request
<b>RESULT_INVALID_INPUT</b>	NO_VALID_PARAMETERS	PQMItemIdentifier is empty (at least one field is required, Pkid, item number, crossreference)
	INVALID_PQM_ITEM_PKID	PQM Item PKID input (issue number/action number/audit number) format is invalid. See <a href="#">Condition Q - PQM Item Identifier Formats</a> on page A-5.
	INVALID_PQM_ITEM_NUMBER	PQM Item number input (issue number/action number/audit number) format is invalid. See <a href="#">Condition Q - PQM Item Identifier Formats</a> on page A-5.
	INVALID_CROSS_REFERENCE	Cross Reference input (SystemID, Equivalent) is required. When adding or updating a cross reference, SystemID and Status must be defined in system. See <a href="#">Condition E - Specification Identifier Input Formats</a> on page A-2.
	INVALID_PQM_ITEM_TYPE	Invalid item type, could only be one of the 4 values: ALL, ACTION, AUDIT, ISSUE
<b>RESULT_WARNINGS</b>	MAX_RECORDS_RETRIEVED	Occurs if the number of records retrieved exceeds the maximum records allowed. See <a href="#">Condition F - Max Records Retrieved</a> on page A-2.
<b>RESULT_FAILURE</b>	PQM_RETRIEVAL_ERROR	Returned if an unexpected exception occurs when loading a PQM object's summary information

## Notes

See Conditions E, F, and Q in [Special Conditions](#) on page A-1.

## Add Suppliers

### Description

Use the AddSuppliers web service to add PQM suppliers.

### Input

The input contains an array of tAddDeleteSuppliersInputWrapper[].

tAddDeleteSuppliersInputWrapper is composed of the following fields:

Table 13-28: Input

Name	Type	Description
<b>PQMItemIdentifier</b>	tPQMItemSearchIdentifier	An input in a PQM web service to identifier a PQM item
<b>RestrictToStatusWithBehaviorIDs</b>	Int[]	Array of workflow tag behavior IDs of allowed PQM object
<b>Suppliers</b>	tPQMItemSupplierSearchIdentifier []	<ul style="list-style-type: none"> <li>tSourceSystemPQMItemSupplierIdentifier</li> <li>tSCRMEntityNumberPQMItemSupplierIdentifier</li> <li>tSCRMEntityCrossRefPQMItemSupplierIdentifier</li> </ul> <p>Important: If the supplier is already in our system, it is strongly recommended to use tSCRMEntityNumberPQMItemSupplierIdentifier or tSCRMEntityCrossRefPQMItemSupplierIdentifier to add it.</p> <p>tSourceSystemPQMItemSupplierIdentifier is designed for third party systems data. Using it incorrectly to add a SCRM company/facility may cause a UI crash if using v611 default implementation.</p>

- 1 tSourceSystemPQMItemSupplierIdentifier extends tPQMItemSupplierSearchIdentifier
  - tSourceSystemIdentifier
- 2 tSCRMEntityNumberPQMItemSupplierIdentifier extends tPQMItemSupplierSearchIdentifier
  - tSCRMEntityNumber
- 3 tSCRMEntityCrossRefPQMItemSupplierIdentifier extends tPQMItemSupplierSearchIdentifier
  - tSCRMEntityCrossRef

### Output

AddSuppliers service returns status (bool) and array of tPQMItemIdentifier.

## Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 13-29: Result codes

Result Code	Possible Messages or Warnings	Comments
<b>RESULT_NO_ERRORS</b>	N/A	No errors occurred while processing request
<b>RESULT_INVALID_INPUT</b>	NO_VALID_PARAMETER_S	PQMItemIdentifier is empty(at least one field is required, Pkid, item number, crossreference) AffectedItemIdentifiers should not be empty.
	INVALID_PQM_ITEM_PKID	PQM Item PKID input (issue number/action number/audit number) format is invalid. See <a href="#">Condition Q - PQM Item Identifier Formats</a> on page A-5.
	INVALID_PQM_ITEM_NUMBER	PQM Item number input (issue number/action number/audit number) format is invalid. See <a href="#">Condition Q - PQM Item Identifier Formats</a> on page A-5.
	INVALID_CROSS_REFERENCE	Cross Reference input (SystemID, Equivalent) is required. When adding or updating a cross reference, SystemID and Status must be defined in system. See <a href="#">Condition E - Specification Identifier Input Formats</a> on page A-2.
	INVALID_PQM_ITEM_TYPE	Invalid item type,could only be one of the 4 values: ALL, ACTION, AUDIT, ISSUE
	UPDATE_DUPLICATE_PQM_ITEM_ERROR	Update a PQM item: {0} Multiple times is not allowed.

Table 13-29: Result codes

<b>RESULT_INVALID_INPUT</b> <b>continued</b>	MAX_RECORDS_SAVED	Occurs if the number of records to be created exceeds the maximum records allowed
	INSUFFICIENT_PQM_ROLE_ERROR	Occurs when the user does not have permission to update the PQM object: {pqm identifier}
	INVALID_PQM_SUPPLIER_IDENTIFIER	Occurs when any field in SourceSystemIdentifier exceeds the max length, including: ItemType, ItemInternalID, ItemExternalID, and SourceSystemID.  At least one field is ItemInternalID, ItemExternalID.  The Supplier to be added has already been attached to the PQM item.  Added a new scenario which also returns INVALID_SUPPLIER_IDENTIFIER:  If using tSCRMEntityCrossRefPQMItemSupplierIdentifier or tSCRMEntityNumberPQMItemSupplierIdentifier to identify a supplier, a SCRM company/facility should be found.
<b>RESULT_FAILURE</b>	ADD_PQM_SUPPLIERS_ERROR	An unexpected exception occurs when attempting to add PQM suppliers

## Notes

See Conditions E and Q in *Special Conditions* on page A-1.

## Delete Suppliers

### Description

Use the DeleteSuppliers web service to delete PQM suppliers.

### Input

The input contains an array of tAddDeleteSuppliersInputWrapper[].

tAddDeleteSuppliersInputWrapper is composed of the following fields:

Table 13-30: Input

Name	Type	Description
<b>PQMItemIdentifier</b>	tPQMItemSearchIdentifier	An input in a PQM web service to identify a PQM item
<b>RestrictToStatusWithBehaviorIDs</b>	Int[]	Array of workflow tag behavior IDs of allowed PQM object
<b>Suppliers</b>	tPQMItemSupplierSearchIdentifier []	<ul style="list-style-type: none"><li>• tSourceSystemPQMItemSupplierIdentifier</li><li>• tSCRMEntityNumberPQMItemSupplierIdentifier</li><li>• tSCRMEntityCrossRefPQMItemSupplierIdentifier</li></ul>

### Output

DeleteSuppliers service returns status (bool) and array of tPQMItemIdentifier.

### Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 13-31: Result codes

Result Code	Possible Messages or Warnings	Comments
<b>RESULT_NO_ERRORS</b>	N/A	No errors occurred while processing request

Table 13-31: Result codes

<b>RESULT_INVALID_INPUT</b>	NO_VALID_PARAMETERS	PQMItemIdentifier is empty(at least one field is required, Pkid, item number, crossreference) AffectedItemIdentifiers should not be empty.
	INVALID_PQM_ITEM_PKID	PQM Item number input (issue number/action number/audit number) format is invalid. See <a href="#">Condition Q - PQM Item Identifier Formats</a> on page A-5.
	INVALID_PQM_ITEM_NUMBER	PQM Item number input (issue number/action number/audit number) format is invalid. See <a href="#">Condition Q - PQM Item Identifier Formats</a> on page A-5.
	INVALID_CROSS_REFERENCE	Cross Reference input (SystemID, Equivalent) is required. When adding or updating a cross reference, SystemID and Status must be defined in system. See <a href="#">Condition E - Specification Identifier Input Formats</a> on page A-2.
	INVALID_PQM_ITEM_TYPE	Invalid item type,could only be one of the 4 values: ALL, ACTION, AUDIT, ISSUE
	UPDATE_DUPLICATE_PQM_ITEM_ERROR	Update a PQM item: {0} Multiple times is not allowed.

Table 13-31: Result codes

<b>RESULT_INVALID_INPUT</b> <b>continued</b>	MAX_RECORDS_SAVED	Occurs if the number of records to be created exceeds the maximum records allowed
	INSUFFICIENT_PQM_ROLE_ERROR	Occurs when the user does not have permission to update the PQM object: {pqm identifier}
	INVALID_PQM_SUPPLIER_IDENTIFIER	Occurs when any field in SourceSystemIdentifier exceeds the max length, including: ItemType, ItemInternalID, ItemExternalID, and SourceSystemID.  At least one field is ItemInternalID, ItemExternalID.  The Supplier to be added has already been attached to the PQM item.  Adds a new scenario which also returns INVALID_SUPPLIER_IDENTIFIER  If using tSCRMEntityCrossRefPQMItemSupplierIdentifier or tSCRMEntityNumberPQMItemSupplierIdentifier to identifier a supplier, a SCRM company/facility should be found.
<b>RESULT_FAILURE</b>	DELETE_PQM_SUPPLIER_S_ERROR	An unexpected exception occurs when attempting to remove PQM suppliers

## Notes

See Conditions E and Q in *Special Conditions* on page A-1.

## Get Affected Items

### Description

Use the GetAffectedItems web service to retrieve affected items for PQM items.

### Input

- 1 PQMItemSearchIdentifiers—A list of tPQMItemSearchIdentifier
- 2 RestrictToStatusWithBehaviorIDs—A list of the workflow status behaviorIDs

Table 13-32: Input

Name	Type	Description
<b>PQMItemSearchIdentifiers</b>	tPQMItemSearchIdentifier[]	Array of tPQMItemSearchIdentifier
<b>RestrictToStatusWithBehaviorIDs</b>	Int[]	Array of workflow tag behavior IDs of allowed PQM object

### Output

- 1 GetAffectedItems returns array of tPQMItemAffectedItemsResult.
- 2 tPQMItemAffectedItemsResult composed by the following 2 parts:

Table 13-33: Output

Name	Type	Description
<b>PQMItemIdentifier</b>	tPQMItemIdentifier	Represents a PQM item identifying information used as output, includes the Pqm number and a list of cross references (SystemId and Equivalent), etc.
<b>AffectedItems</b>	tPQMAffectedItem[]	PQM affected item detail information only related with specific PQM types. Could be one of the following implementations: <ul style="list-style-type: none"> <li>• tPQMAffectedItem</li> <li>• tIssueAffectedItem</li> </ul>

- 1 tPQMItemAffectedItemsResult
  - tPQMItemIdentifier PQMItemIdentifier
  - tPQMAffectedItem []AffectedItems
- 2 tPQMAffectedItem
  - string RevisionFoundItemNumber
  - string RevisionFoundItemRevision
  - string RevisionFoundComment
  - string RevisionFixedItemNumber
  - string RevisionFixedItemRevision
  - string RevisionFoundItemInternalID

- string RevisionFoundItemExternalID
  - string RevisionFixedItemInternalID
  - string RevisionFixedItemExternalID
  - string ItemType
  - string SourceSystemID
  - string Description
- 3** ItIssueAffectedItem extends ItPQMAffectedItem
- tcommonlookup FailureType
  - tMeasurement QuantityAffected
  - string AdditionalDisplayIdentifier
  - PQMItemSupplier siteAffected
  - string ConformanceItemDescription
  - string ConformanceItemID
  - string ConformanceItemDescriptionExtended
  - tMeasurement QtySuspected
  - string SerialLotNum
  - tMeasurement QtyChecked
  - string ContainmentActions
  - string RMANum
  - Date ConformingMaterialDate

## Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 13-34: Result codes

Result Code	Possible Messages or Warnings	Comments
<b>RESULT_NO_ERRORS</b>	N/A	No errors occurred while processing request

Table 13-34: Result codes

<b>RESULT_INVALID_INPUT</b>	NO_VALID_PARAMETERS	PQMItemIdentifier is empty (at least one field is required, Pkid, item number, crossreference)
	INVALID_PQM_ITEM_PKID	PQM Item number input (issue number/action number/audit number) format is invalid. See <a href="#">Condition Q - PQM Item Identifier Formats</a> on page A-5.
	INVALID_PQM_ITEM_NUMBER	PQM Item number input (issue number/action number/audit number) format is invalid. See <a href="#">Condition Q - PQM Item Identifier Formats</a> on page A-5.
	INVALID_CROSS_REFERENCE	Cross Reference input (SystemID, Equivalent) is required. When adding or updating a cross reference, SystemID and Status must be defined in system. See <a href="#">Condition E - Specification Identifier Input Formats</a> on page A-2.
	INVALID_PQM_ITEM_TYPE	Invalid item type,could only be one of the 4 values: ALL, ACTION, AUDIT, ISSUE
<b>RESULT_WARNINGS</b>	MAX_RECORDS_RETRIEVED	Occurs if the number of records retrieved exceeds the maximum records allowed. See <a href="#">Condition F - Max Records Retrieved</a> on page A-2.
<b>RESULT_FAILURE</b>	PQM_RETRIEVAL_ERROR	An unexpected exception occurs when loading a PQM object affected items information

## Notes

See Conditions E, F, and Q in [Special Conditions](#) on page A-1.

## Add Affected Items

### Description

Use the AddAffectedItems web service to add affected items to a PQM item.

### Input

The input is an array of tAddAffectedItemInputWrapper.

tAddAffectedItemInputWrapper is composed of the following three fields:

Table 13-35: Input

Name	Type	Description
<b>PQMItemIdentifier</b>	tPQMItemSearchIdentifier	An input in a PQM web service to identifier a PQM item
<b>RestrictToStatusWithBehaviorIDs</b>	Int[]	Array of workflow tag behavior IDs of allowed PQM object
<b>AffectedItems</b>	tAffectedItemInput []	Could be the 3 types: <ul style="list-style-type: none"> <li>tAffectedItemInput: used for general purpose</li> <li>tIssueAffectedInpt: used to add more fields for PQM issue</li> <li>tNCRAffectedInpt: used to add more field for PQM issue NCR type</li> </ul>

tAffectedItemInput is composed of the following fields:

Table 13-36: tAffectedItemInput

Name	Type	Description
<b>AffectedItemIdentifier</b>	tPQMAffectedItemIdentifier	Affected item identifier Could be 2 sub types: <ul style="list-style-type: none"> <li>tPQMAffectedItemSourceSystemIdentifier is used to identify affected items from third party system</li> </ul> It is strongly recommended to use tPQMAffectedItemGSMIdentifier if the affected item is GSM Spec. Incorrect use of tPQMAffectedItemSourceSystemIdentifier may lead to UI crash if using default config in v6.1.1. <ul style="list-style-type: none"> <li>tPQMAffectedItemGSMIdentifier is used to identify the affected item using GSM Spec Identifier Criterion</li> </ul>
<b>RevisionFoundComment</b>	string	Comments of the affected item

tPQMAffectedItemGSMIdentifier is composed of the 2 fields:

Table 13-37: tPQMAffectedItemGSMIdentifier

Name	Type	Description
<b>AffectedGSMSpecFound</b>	tSpecIdentifierCriterion	Identifies the affected GSM specification that was found
<b>AffectedGSMSpecFixed</b>	tSpecIdentifierCriterion	Identifies the affected GSM specification that was fixed

tPQMAffectedItemSourceSystemIdentifier is composed of the following fields:

Table 13-38: tPQMAffectedItemSourceSystemIdentifier

Name	Type	Description
<b>SourceSystemID</b>	string	SourceSystemID of the affected item
<b>RevisionFoundItemNumber</b>	string	ItemNumber of the affected item found
<b>RevisionFoundItemRevision</b>	string	Revision of the affected item found
<b>RevisionFixedItemNumber</b>	string	ItemNumber of the affected item fixed
<b>RevisionFixedItemRevision</b>	string	Revision of the affected item fixed
<b>RevisionFoundItemInternalID</b>	string	ItemInternalID of the affected item found
<b>RevisionFoundItemExternalID</b>	string	ExternalID of the affected item found
<b>RevisionFixedItemInternalID</b>	string	ItemInternalID of the affected item fixed
<b>RevisionFixedItemExternalID</b>	string	ExternalID of the affected item fixed
<b>ItemType</b>	string	ItemType of the affected item

tIssueAffectedItemInput is composed of the following fields:

Table 13-39: tIssueAffectedItemInput

Name	Type	Description
<b>AffectedItemIdentifier</b>	tPQMAffectedItemIdentifier	Affected item identifier Could be 2 sub types: <ul style="list-style-type: none"> <li>tPQMAffectedItemSourceSystemIdentifier is used to identify affected items from third party system.</li> </ul> It is strongly recommended to use tPQMAffectedItemGSMIdentifier if the affected item is GSM Spec. Incorrect use of tPQMAffectedItemSourceSystemIdentifier may lead to UI crash if using default config in v6.1.1. <ul style="list-style-type: none"> <li>tPQMAffectedItemGSMIdentifier is used to identify the affected item using GSM Spec Identifier Criterion.</li> </ul>
<b>RevisionFoundComment</b>	string	Comments of the affected item
<b>FailureType</b>	string	FailureType of the issue affected item
<b>QuantityAffected</b>	tMeasurement	QuantityAffected of the issue affected item
<b>SiteAffected</b>	tPQMItemSupplierSearchIdentifier	SiteAffected of the issue affected item

tNCRAffectedItemInput is composed of the following fields:

Table 13-40: tNCRAffectedItemInput

Name	Type	Description
<b>AffectedItemIdentifier</b>	tPQMAffectedItemIdentifier	Affected item identifier Could be 2 sub types: <ul style="list-style-type: none"> <li>tPQMAffectedItemSourceSystemIdentifier is used to identify affected items from third party system.</li> </ul> It is strongly recommended to use tPQMAffectedItemGSMIdentifier if the affected item is GSM Spec. Incorrect use of tPQMAffectedItemSourceSystemIdentifier may lead to UI crash if using default config in v6.1.1.  tPQMAffectedItemGSMIdentifier is used to identifier the affected item using GSM Spec Identifier Criterion.
<b>RevisionFoundComment</b>	string	Comments of the affected item
<b>FailureType</b>	string	FailureType of the issue affected item
<b>QuantityAffected</b>	tMeasurement	QuantityAffected of the issue affected item

Table 13-40: tNCRAffectedItemInput

<b>SiteAffected</b>	tPQMItemSupplierSearch Identifier	SiteAffected of the issue affected item
<b>ConformanceItemIdentifier</b>	tConformanceItemIdentifier	ConformanceItemIdentifier of the NCR issue affected item
<b>QtySuspected</b>	tMeasurement	QtySuspected of the NCR issue affected item
<b>SerialLotNum</b>	string	SerialLotNum of the NCR issue affected item
<b>QtyChecked</b>	tMeasurement	QtyChecked of the NCR issue affected item
<b>ContainmentAction</b>	string	ContainmentActions of the NCR issue affected item
<b>RMA Num</b>	string	RMA Num of the NCR issue affected item
<b>ConformingMaterialDate</b>	DateTime	ConformingMaterialDate of the NCR issue affected item

## Output

AddAffectedItems service returns status (bool) and array of tPQMItemIdentifier.

## Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 13-41: Result codes

Result Code	Possible Messages or Warnings	Comments
<b>RESULT_NO_ERRORS</b>	N/A	No errors occurred while processing request
<b>RESULT_INVALID_INPUT</b>	NO_VALID_PARAMETERS	PQMItemIdentifier is empty (at least one field is required, Pkid, item number, crossreference) IssueDetails should not be empty
	INVALID_PQM_ITEM_PKID	PQM Item PKID input (issue number/action number/audit number) format is invalid. See <a href="#">Condition Q - PQM Item Identifier Formats</a> on page A-5.
	INVALID_PQM_ITEM_NUMBER	PQM Item number input (issue number/action number/audit number) format is invalid. See <a href="#">Condition Q - PQM Item Identifier Formats</a> on page A-5.

Table 13-41: Result codes

<b>RESULT_INVALID_INPUT</b> <b>continued</b>	INVALID_CROSS_REFERENC	Cross Reference input (SystemID, Equivalent) is required. When adding or updating a cross reference, SystemID and Status must be defined in system. See <a href="#">Condition E - Specification Identifier Input Formats</a> on page A-2.
	INVALID_PQM_ITEM_TYPE	Invalid item type,could only be one of the 4 values: ALL, ACTION, AUDIT,ISSUE
	UPDATE_DUPLICATE_PQM_ITEM_ERROR	Update a PQM item: {0} Multiple times is not allowed
	MAX_RECORDS_SAVED	Occurs if the number of records to be created exceeds the maximum records allowed
	INSUFFICIENT_PQM_ROLE_ERROR	Occurs when the user does not have permission to update the PQM object: {pqm identifier}
	INVALID_PQM_AFFECTED_ITEM_SOURCE_SYSTEM_IDENTIFIER	Occurs when any field in AffectedItemIdentifier exceeds the max length,including: <ul style="list-style-type: none"> <li>• ItemType</li> <li>• RevisionFixedItemExternalID</li> <li>• RevisionFixedItemInternalID</li> <li>• RevisionFixedItemNumber</li> <li>• RevisionFixedItemRevision</li> <li>• RevisionFoundItemExternalID</li> <li>• RevisionFoundItemInternalID</li> <li>• RevisionFoundItemNumber</li> <li>• RevisionFoundItemRevision</li> <li>• SourceSystemID</li> </ul>
	INVALID_PQM_SUPPLIER_IDENTIFIER	Any fields in Site affected exceed the max length.
	INVALID_FailureType	FailureType exceeds the maxlength
	INVALID_ContainmentActions	ContainmentActions exceeds the maxlength
	INVALID_RMANum	RMANum exceeds the maxlength
	INVALID_SerialLotNum	SerialLotNum exceeds the maxlength
	INVALID_ConformanceItemInternalID	ConformanceItemInternalID exceeds the maxlength

Table 13-41: Result codes

<b>RESULT_INVALID_INPUT</b> <b>continued</b>	INVALID_MEASUREMENT	UOM should not be empty
	INVALID_PQM_AFFECTED_ITEM_INPUT	No GSM Spec Found for AffectedGSMSpecFound: AffectedGSMSpecFound Multiple GSM Specs Found for AffectedGSMSpecFixed: AffectedGSMSpecFixed No GSM Spec Found for ConformanceItemIdentifier:{ConformanceItemIdentifier} Multiple GSM Specs Found for ConformanceItemIdentifier:{ConformanceItemIdentifier}
	INVALID_PQM_AFFECTED_ITEM_INPUT_TYPE	Pass in tIssueAffectedInput type to a non PQM-issue object Or Pass in tNCRAffectedInput type to a non PQM -issue_Non Conformance object
	INVALID_PQM_SITE_AFFECTED	
	INVALID_PQM_FAILURE_TYPE	No Data found in commonlookup table for name: {PQMFailureType}
	ADD_PQM_SUPPLIERS_ERROR	An unexpected exception occurs when attempting to add PQM suppliers
<b>RESULT_FAILURE</b>	ADD_PQM_AFFECTED_ITEMS_ERROR	Unexpected exception occurs when attempting to add PQM affected items

## Notes

See Conditions E and Q in [Special Conditions](#) on page A-1.

## Delete Affected Items

### Description

Use the DeleteAffectedItems web service to delete affected items from a PQM item.

### Input

Table 13-42: Input

Name	Type	Description
<b>PQMItemIdentifier</b>	tPQMItemSearchIdentifier	An input in a PQM web service to identify a PQM item
<b>RestrictToStatusWithBehaviorIDs</b>	Int[]	Array of workflow tag behavior IDs of allowed PQM object
<b>AffectedItemIdentifiers</b>	tPQMAffectedItemIdentifier[]	<ul style="list-style-type: none"> <li>tPQMAffectedItemSourceSystemIdentifier</li> <li>tPQMAffectedItemGSMIdentifier</li> </ul>

### Output

DeleteAffectedItems service returns the status (bool) and array of tPQMItemIdentifier.

### Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 13-43: Result codes

Result Code	Possible Messages or Warnings	Comments
<b>RESULT_NO_ERRORS</b>	N/A	No errors occurred while processing request
<b>RESULT_INVALID_INPUT</b>	NO_VALID_PARAMETERS	PQMItemIdentifier is empty(at least one field is required, Pkid, item number, crossreference) AffectedItemIdentifiers should not be empty.
	INVALID_PQM_ITEM_PKID	PQM Item number input (issue number/action number/audit number) format is invalid. See <a href="#">Condition Q - PQM Item Identifier Formats</a> on page A-5.

Table 13-43: Result codes

<b>RESULT_INVALID_INPUT</b> <b>continued</b>	INVALID_PQM_ITEM_NUMBER	PQM Item number input (issue number/action number/audit number) format is invalid. See <a href="#">Condition Q - PQM Item Identifier Formats</a> on page A-5.
	INVALID_CROSS_REFERENCE	Cross Reference input (SystemID, Equivalent) is required. When adding or updating a cross reference, SystemID and Status must be defined in system. See <a href="#">Condition E - Specification Identifier Input Formats</a> on page A-2.
	INVALID_PQM_ITEM_TYPE	Invalid item type; could only be one of the 4 values: ALL, ACTION, AUDIT, ISSUE
	UPDATE_DUPLICATE_PQM_ITEM_ERROR	Update a PQM item: {0} Multiple times is not allowed
	MAX_RECORDS_SAVED	Occurs if the number of records to be created exceeds the maximum records allowed
	INSUFFICIENT_PQM_ROLE_ERROR	Occurs when the user does not have permission to update the PQM object: {pqm identifier}
	INVALID_PQM_AFFECTED_ITEM_SOURCE_SYSTEM_IDENTIFIER	Any field in AffectedItemIdentifier exceed the max length, including: ItemType <ul style="list-style-type: none"> <li>RevisionFixedItemExternalID</li> <li>RevisionFixedItemInternalID</li> <li>RevisionFixedItemNumber</li> <li>RevisionFixedItemRevision</li> <li>RevisionFoundItemExternalID</li> <li>RevisionFoundItemInternalID</li> <li>RevisionFoundItemNumber</li> <li>RevisionFoundItemRevision</li> <li>SourceSystemID</li> </ul> At least one field is required: RevisionFoundItemInternalID, RevisionFoundItemExternalID, RevisionFoundItemNumber
	INVALID_PQM_AFFECTED_ITEM_INPUT	No GSM Spec Found for AffectedGSMSpecFound: + AffectedGSMSpecFound
<b>RESULT_FAILURE</b>	DELETE_PQM_AFFECTED_ITEMS_ERROR	An unexpected exception occurs when attempting to add PQM affected items

## Notes

See Conditions E and Q in [Special Conditions](#) on page A-1.

## Get PQM Item By Criteria

### Description

Use the GetPQMItemByCriteria to retrieve a list of PQM items.

### Input

The input is tGetPQMItemByCriteriaRequest, including the following properties:

Table 13-44: Input

Name	Type	Description
<b>IncludePQMActions</b>	boolean	
<b>ActionTypes</b>	string[]	Valid action type names defined in ADMN>PQM>Action Type
<b>IncludePQMAudits</b>	boolean	
<b>AuditTypes</b>	string[]	Valid audit type names defined in ADMN>PQM>Audit Type
<b>IncludePQMIssues</b>	boolean	
<b>IssueTypes</b>	string[]	Should be valid issue type names defined in ADMN>PQM>Issue Type
<b>Title</b>	string	PQM item title
<b>Description</b>	string	The whole or part of PQM item description
<b>ProductLines</b>	string[]	Valid product line names defined in Admin>PQM> Product Lines
<b>Customers</b>	string[]	Should be valid customer names defined in ADMN>PQM>Customers
<b>Originators</b>	tUser[]	Array of originators
<b>Owners</b>	tUser[]	Array of owners
<b>IssueSeverity</b>	string	Should be a valid severity value for issue items
<b>Suppliers</b>	tSupplierSearchIdentifier []	Array of supplier search identifiers
<b>Status</b>	string[]	PQM workflow status names
<b>RestrictToStatusWithIDs</b>	integer[]	Array of workflow tag behavior IDs

tSupplierSearchIdentifier contains the following properties:

- tExternalSupplierSearchIdentifier ExternalSearchIdentifier
  - string InternalItemID
  - string ExternalItemID
  - string SourceSystemID
  - string ItemType
- tSCRMSupplierSearchIdentifier SCRMSearchIdentifier
  - tSCRMEntityNumber SCRMEntityNum

- tSCRMEntityCrossRef SCRMEntityCrossRef
- string SCRMEntityPKID

tUser contains following properties which are defined in Nutrition Services:

- string Name —The UserName used for login
- string ExternalId

## Output

GetPQMItemByCriteria returns array of tPQMItemIdentifier objects.

## Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 13-45: Result codes

Result Code	Possible Messages or Warnings	Comments
<b>RESULT_NO_ERRORS</b>	N/A	No errors occurred while processing request
<b>RESULT_INVALID_INPUT</b>	INVALID_SUPPLIER_IDENTIFIER	Each supplier search identifier should only contain either external supplier search identifier or SCRM supplier search identifier
	INVALID_USER_IDENTIFIER	Each tUser object should only contain either UserName or ExternalId
<b>RESULT_WARNINGS</b>	MAX_RECORDS_RETRIEVED	Occurs if the number of records retrieved exceeds the maximum records allowed. See <a href="#">Condition F - Max Records Retrieved</a> on page A-2.
<b>RESULT_FAILURE</b>	PQM_ITEM_RETRIEVAL_ERROR	Returned if an unexpected exception occurs when loading a PQM item

## Notes

See Condition F in [Special Conditions](#) on page A-1.

## Get Related Items

### Description

Use the GetRelatedItems web service to retrieve the various related items for specified PQM items.

### Input

- 1 A list of PQM item identifiers and one or more workflow status tag behavior IDs.

Table 13-46: Input

Name	Type	Description
<b>PQMItemIdentifiers</b>	tPQMItemSearchIdentifier[]	Array of one or more tPQMItemSearchIdentifier objects
<b>RestrictToStatusWithIDs</b>	int[]	Array of one or more workflow status tag behavior IDs to restrict the PQM items found using the PQMItemIdentifier

### Output

The GetRelatedItems web service returns list of tRelatedPQMItemsWrapper objects.

Table 13-47: Input

Name	Type	Description
<b>RelatedPQMItemsWrappers</b>	tRelatedPQMItemsWrapper[]	Array of one or more tRelatedPQMItemsWrapper objects

tRelatedPQMItemsWrapper contains a PQM item's identifier and its related items depending on the item type:

- Related items of action returned: related issues, related actions, and related audits
- Related items of issue returned: related actions, related audits
- Related items of audit returned: related issues, related actions

Here are the definitions:

- 1 tRelatedPQMItemsWrapper
  - tPQMItemIdentifier PQMItemIdentifier
  - tRelatedPQMItem[] RelatedIssues
  - tRelatedPQMItem[] RelatedActions
  - tRelatedPQMItem[] RelatedAudits
- 2 tRelatedPQMItem
  - tPQMItemIdentifier PQMItemIdentifier
  - string ExtendedDescription

- 3 tRelatedPQMAuditItem: tRelatedPQMItem
  - Date PlannedAuditDate
- 4 tRelatedPQMActionItem: tRelatedPQMItem
  - string Relationship//Relationship of Child or Parent
- 5 tRelatedPQMItemIssueItem: tRelatedPQMItem

## Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 13-48: Result codes

Result Code	Possible Messages or Warnings	Comments
<b>RESULT_NO_ERRORS</b>	N/A	No errors occurred while processing request
<b>RESULT_INVALID_INPUT</b>	NO_VALID_PARAMETERS	Missing PQM item identifier
	INVALID_PQM_PKID	PQM item PKID input is invalid
	INVALID_PQM_ITEM_NUMBER	PQM item number input is invalid
	INVALID_PQM_CROSS_REFERENCE	Cross reference input is invalid
	MAX_RECORDS_RETRIEVED	Occurs if the number of records retrieved exceeds the maximum records allowed. See <a href="#">Condition F - Max Records Retrieved</a> on page A-2.
<b>RESULT_FAILURE</b>	PQM_ITEM_RETRIEVAL_ERROR	Unhandled error happened when loading PQM items
	NO_PQM_ITEM_FOUND	Returned if no PQM item was found for the input identifier

## Notes

User must have [PQM\_ADMIN] role or WFA read permission to retrieve the PQM item.

See Condition F in [Special Conditions](#) on page A-1.

## Add Related Items

### Description

Use the AddRelatedItems web service to add existing PQM Actions, Issues, and Audits as related items for given PQM items.

### Input

Table 13-49: Input

Name	Type	Description
<b>PQMItemIdentifiers</b>	tPQMItemSearchIdentifier[]	Specify the PQM items to edit
<b>RelatedItemIdentifiers</b>	tPQMItemSearchIdentifier[]	Specify the existing related PQM items to add
<b>RestrictToStatusWithIDs</b>	integer[]	Array of one or more workflow status tag behavior IDs to restrict the PQM items found using the PQMItemIdentifier

### Output

An overall success indicator and a list of tPQMItemIdentifier objects representing the PQM items changed will be returned.

Table 13-50: Output

Name	Type	Description
<b>IsSuccessful</b>	boolean	
<b>PQMItemsAffected</b>	tPQMItemIdentifier[]	Array of one or more PQM items which have been changed

### Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 13-51: Result codes

Result Code	Possible Messages or Warnings	Comments
<b>RESULT_NO_ERRORS</b>	N/A	No errors occurred while processing request

Table 13-51: Result codes

<b>RESULT_INVALID_INPUT</b>	NO_VALID_PARAMETERS	Missing PQM item identifier or related item identifiers
	INVALID_PQM_PKID	PQM item PKID input is invalid
	INVALID_PQM_ITEM_NUMBER	PQM item number input is invalid
	INVALID_PQM_CROSS_REFERENCE	Cross reference input is invalid
	MAX_RECORDS_SAVED	Maximum records count allowed for save exceeded
<b>RESULT_FAILURE</b>	CANNOT_ADD_RELATED_ITEM	See additional notes below
	NO_PQM_ITEM_FOUND	Returned if no PQM item found for the input identifier

## Notes

- 1 AddRelatedItems web service adds related items depending on the type of input item.
  - Related items add to issue: none
  - Related items add to action: issue, action, and audit
  - Related items add to audit: issue, action
- 2 User must have [PQM\_ADMIN] role or WFA read and write permissions to edit the PQM item.

## Delete Related Items

### Description

Use the DeleteRelatedItems web service to remove the existing related items from given PQM items.

### Input

Table 13-52: Input

Name	Type	Description
<b>PQMItemIdentifiers</b>	tPQMItemSearchIdentifier[]	Specify the PQM items to edit
<b>RelatedItemIdentifiers</b>	tPQMItemSearchIdentifier[]	Specify the existing related PQM items to remove
<b>RestrictToStatusWithIDs</b>	Integer	Array of one or more workflow status tag behavior IDs to restrict the PQM items found using the PQMItemIdentifier

### Output

An overall success indicator and a list of tPQMItemIdentifier objects representing the PQM items affected will be returned.

Table 13-53: Output

Name	Type	Description
<b>IsSuccessful</b>	boolean	
<b>PQMItemsAffected</b>	tPQMItemIdentifier[]	Array of one or more PQM items which have been changed

### Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 13-54: Result codes

Result Code	Possible Messages or Warnings	Comments
<b>RESULT_NO_ERRORS</b>	N/A	No errors occurred while processing request

Table 13-54: Result codes

<b>RESULT_INVALID_INPUT</b>	NO_VALID_PARAMETERS	Missing PQM item identifier or related item identifiers
	INVALID_PQM_PKID	PQM item PKID input is invalid
	INVALID_PQM_ITEM_NUMBER	PQM item number input is invalid
	INVALID_PQM_CROSS_REFERENCE	Cross reference input is invalid
	MAX_RECORDS_SAVED	Maximum records count allowed for save exceeded
<b>RESULT_FAILURE</b>	CANNOT_REMOVE_RELATED_ITEM	See additional notes below
	NO_PQM_ITEM_FOUND	Returned if no PQM item found for the input identifier

## Notes

- 1 DeleteRelatedItems web service removes related items depending on the type of input item.
  - Related items remove from issue: none
  - Related items remove from action: issue, action (only action items with Child relationship can be removed)
  - Related items remove from audit: issue, action
- 2 User must have [PQM\_ADMIN] role or WFA read and write permissions to edit the PQM item.

## Get Supporting Document IDs

### Description

Use the GetSupportingDocumentIDs web service to retrieve the supporting documents identifiers of specified PQM items, including supporting document attachments, URLs, rich text, DRL catalogs, and DRL documents.

### Input

A list of PQM item identifiers and one or more workflow status tag behavior IDs.

Table 13-55: Input

Name	Type	Description
<b>PQMItemIdentifiers</b>	tPQMItemSearchIdentifier[]	Array of one or more tPQMItemSearchIdentifier objects
<b>RestrictToStatusWithIDs</b>	int[]	Array of one or more workflow status tag behavior IDs to restrict the PQM items found using the PQMItemIdentifier

### Output

A list of tPQMSupportingDocWrapper will be returned. Each tPQMSupportingDocWrapper contains:

- 1 tPQMItemIdentifier PQMItemIdentifier
- 2 tAttachmentsWrapper[] SupportingDocuments
- 3 tCommonIdentifier[] RichTextIdentifiers
- 4 tCommonIdentifier[] URLSourceIdentifiers
- 5 tDRLDocumentIdentifiers[] DRLDocumentIdentifiers
- 6 tDRLCatalog[] DRLCatalogs

tCommonIdentifier contains following members:

- string PKID
- string Title

tDRLDocumentIdentifier: tCommonIdentifier

- ItSpecificationNumber DocumentID

tDRLCatalogIdentifier: tCommonIdentifier

- String ExternalID

## 1 tAttachmentsWrapper

Table 13-56: tAttachmentsWrapper

Name	Type	Description
<b>Identifier</b>	tCommonIdentifier	
<b>SecurityClassification</b>	string	
<b>CreationDate</b>	DateTime	
<b>Attachments</b>	tCommonIdentifier[]	

## 2 tDRLCatalog

Table 13-57: tDRLCatalog

Name	Type	Description
<b>CatalogIdentifier</b>	tDRLCatalogIdentifier	
<b>DRLDocuments</b>	tDRLDocumentIdentifier []	Returned if DRL catalog is visible to user

## Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 13-58: Result codes

Result Code	Possible Messages or Warnings	Comments
<b>RESULT_NO_ERRORS</b>	N/A	No errors occurred while processing request
<b>RESULT_INVALID_INPUT</b>	NO_VALID_PARAMETERS	Missing PQM item identifiers
	INVALID_PQM_PKID	PQM item PKID input is invalid
	INVALID_PQM_ITEM_NUMBER	PQM item number input is invalid
	INVALID_CROSS_REFERENCE	Cross reference input is invalid
	MAX_RECORDS_RETRIEVED	Occurs if the number of records retrieved exceeds the maximum records allowed. See <a href="#">Condition F - Max Records Retrieved</a> on page A-2.

## Notes

User must have [PQM\_ADMIN] role or WFA read permission to retrieve the PQM item.

User must have [DRL\_VIEWER] role to retrieve the sub-nodes (including DRL catalogs and documents) of DRL catalog.

See Condition F in *Special Conditions* on page A-1.

## Get URL Supporting Document

### Description

Use the GetURLSupportingDocument service to retrieve a URL supporting document.

### Input

Table 13-59: Input

Name	Type	Description
<b>PQMItemIdentifier</b>	tPQMItemSearchIdentifier	
<b>RestrictToStatusWithIDs</b>	integer[]	Array of one or more workflow status tag behavior IDs to restrict the PQM items found using the PQMItemIdentifier
<b>PKID</b>	string	The PKID of URL supporting document is required

### Output

A tPQMItemIdentifier object and tURLSource object with following members would be returned.

Table 13-60: Output

Name	Type	Description
<b>Identifier</b>	tCommonIdentifier	
<b>EffectiveDate</b>	DateTime	
<b>InactiveDate</b>	DateTime	
<b>UploadDate</b>	DateTime	
<b>URLPath</b>	string	
<b>PubToSupplierPortal</b>	boolean	
<b>IsProprietary</b>	boolean	
<b>ExpireDateNotify</b>	boolean	
<b>ExpireDateNotifyNumDays</b>	integer	

## Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 13-61: Result codes

Result Code	Possible Messages or Warnings	Comments
<b>RESULT_NO_ERRORS</b>	N/A	No errors occurred while processing request
<b>RESULT_INVALID_INPUT</b>	NO_VALID_PARAMETER_S	The tPQMItemSearchIdentifier or PKID input is missing
	INVALID_PQM_PKID	PQM item PKID input is invalid
	INVALID_PQM_ITEM_NUMBER	PQM Item number input (issue number/action number/audit number) format is invalid. See <a href="#">Condition Q - PQM Item Identifier Formats</a> on page A-5.
	INVALID_PQM_CROSS_REFERENCE	Cross Reference input (SystemID, Equivalent) is required. When adding or updating a cross reference, SystemID and Status must be defined in system. See <a href="#">Condition E - Specification Identifier Input Formats</a> on page A-2.
	INVALID_PKID_INPUT	The URL source PKID input is invalid
<b>RESULT_WARNINGS</b>	PQM_ITEM_RETRIEVAL_ERROR	Return if unhandled error happened when processing the request

## Notes

User must have [PQM\_ADMIN] role or WFA read permission to retrieve the PQM item.

See Conditions E and Q in [Special Conditions](#) on page A-1.

## Add URL Supporting Documents

### Description

Use the AddURLSupportingDocument service to add a URL supporting document to existing PQM items.

### Input

Table 13-62: Input

Name	Type	Description
<b>PQMSearchIdentifiers</b>	tPQMItemSearchIdentifier[]	
<b>RestrictToStatusWithIDs</b>	integer[]	Array of one or more workflow status tag behavior IDs to restrict the PQM items found using the PQMItemIdentifier
<b>NewURLSource</b>	tNewURLSource	

tNewURLSource contains following members:

Table 13-63: tNewURLSource

Name	Type	Description
<b>Title</b>	string	Required
<b>EffectiveDate</b>	DateTime	
<b>InactiveDate</b>	DateTime	Should not be earlier than the effective date
<b>URLPath</b>	string	Required. Should start with http://
<b>PubToSupplierPortal</b>	boolean	
<b>IsProprietary</b>	boolean	
<b>ExpireDateNotify</b>	boolean	
<b>ExpireDateNotifyNumDays</b>	integer	

### Output

An overall success indicator and a list of tPQMItemIdentifier objects will be returned.

## Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 13-64: Result codes

Result Code	Possible Messages or Warnings	Comments
<b>RESULT_NO_ERRORS</b>	N/A	No errors occurred while processing request
<b>RESULT_INVALID_INPUT</b>	NO_VALID_PARAMETER_S	The tPQMItemSearchIdentifier objects or tNewURLSource object input is missing
	INVALID_PQM_PKID	PQM item PKID input is invalid
	INVALID_PQM_ITEM_NUMBER	PQM Item number input (issue number/action number/audit number) format is invalid. See <a href="#">Condition Q - PQM Item Identifier Formats</a> on page A-5.
	INVALID_PQM_CROSS_REFERENCE	Cross reference input is invalid. See <a href="#">Condition E - Specification Identifier Input Formats</a> on page A-2.
	INVALID_URL_SOURCE	The tNewURLSource object input is invalid
	MAX_RECORDS_SAVED	Returned when the number of custom section instances input exceeds the max number allowed to save
<b>RESULT_FAILURE</b>	INVALID_SECURITY_PRIVILEGES	See additional notes below
	CANNOT_ADD_SUPPORTING_DOC	Return if unhandled error happened when processing the request

## Notes

User must have [PQM\_ADMIN] role or WFA read and write permissions to edit the PQM item.

See Conditions E and Q in [Special Conditions](#) on page A-1.

## Delete URL Supporting Documents

### Description

Use the DeleteURLSupportingDocuments to delete existing URL supporting documents from a PQM item.

### Input

Table 13-65: Input

Name	Type	Description
<b>PQMItemIdentifier</b>	tPQMItemSearchIdentifier	
<b>RestrictToStatusWithIDs</b>	Int[]	Array of one or more workflow status tag behavior IDs to restrict the PQM items found using the PQMItemIdentifier
<b>PKIDs</b>	string[]	The PKID(s) of URL supporting documents to remove

### Output

An overall success indicator and a tPQMItemIdentifier object will be returned.

If all the supporting documents input are successfully removed, the overall result is success. Else, the overall result is fail and the changes will not be saved.

### Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 13-66: Result codes

Result Code	Possible Messages or Warnings	Comments
<b>RESULT_NO_ERRORS</b>	N/A	No errors occurred while processing request

Table 13-66: Result codes

<b>RESULT_INVALID_INPUT</b>	NO_VALID_PARAMETER_S	The PQMItemIdentifier or PKIDs input is missing
	INVALID_PQM_ITEM_NUMBER	PQM Item number input (issue number/action number/audit number) format is invalid. See <a href="#">Condition Q - PQM Item Identifier Formats</a> on page A-5.
	INVALID_PQM_ITEM_PKID	PQM item PKID input is invalid
	INVALID_CROSS_REFERENCE	Cross reference input is invalid
	INVALID_PKID_INPUT	The URL source PKID input is invalid
	MAX_RECORDS_SAVED	Returned when the number of rich text PKID input exceeds the max number allowed to save
<b>RESULT_FAILURE</b>	CANNOT_REMOVE_SUPPORTING_DOC	Unexpected exception occurs when attempting to processing request
	INVALID_SECURITY_PRIVILEGES	See additional notes below
	NO_PQM_ITEM_FOUND	Returned if no PQM item found for the input

## Notes

User must have [PQM\_ADMIN] role or WFA read and write permissions to edit the PQM item.

User must have read access to the URL supporting documents input.

See Condition Q in [Special Conditions](#) on page A-1.

## Add Supporting Document Attachment

### Description

Use the AddSupportingDocumentAttachment web service to add an attachment file to an existing attachments procedure on a PQM item.

### Input

Table 13-67: Input

Name	Type	Description
<b>PQMSearchIdentifier</b>	tPQMItemSearchIdentifier	
<b>RestrictToStatusWithIDs</b>	integer[]	Array of one or more workflow status tag behavior IDs to restrict the PQM items found using the PQMItemIdentifier
<b>ProcedureID</b>	string	The PKID of attachments procedure
<b>NewAttachment</b>	tNewAttachment	

Each tNewAttachment contains following members:

Table 13-68: tNewAttachment

Name	Type	Description
<b>BlobStream</b>	type[]	Required
<b>Title</b>	string	Required
<b>FileName</b>	string	Required
<b>FileType</b>	string	Required
<b>Owner</b>	tUser	
<b>EffectiveDate</b>	DateTime	
<b>InactiveDate</b>	DateTime	Should not be earlier than the effective date
<b>PubToSupplierPortal</b>	boolean	
<b>IsProprietary</b>	boolean	
<b>ExpireDateNotify</b>	boolean	
<b>ExpireDateNotifyNumDays</b>	integer	

### Output

The output data includes a success indicator, a tPQMItemIdentifier object, and a tAttachmentsWrapper object representing the attachments procedure changed will be returned.

The attachment is not added successfully, the changes will not be saved.

## Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 13-69: Result codes

Result Code	Possible Messages or Warnings	Comments
<b>RESULT_NO_ERRORS</b>	N/A	No errors occurred while processing request
<b>RESULT_INVALID_INPUT</b>	NO_VALID_PARAMETER_S	The tPQMItemSearchIdentifier objects or tDRLCatalogIdentifier object input is missing
	INVALID_PQM_ITEM_NUMBER	PQM Item number input (issue number/action number/audit number) format is invalid. See <a href="#">Condition Q - PQM Item Identifier Formats</a> on page A-5.
	INVALID_PQM_PKID	PQM item PKID input is invalid
	INVALID_PQM_CROSS_REFERENCE	Cross reference input is invalid
	INVALID_PKID_INPUT	The procedure ID input is invalid
	INVALID_ATTACHMENT	The supporting document attachment input is invalid
<b>RESULT_FAILURE</b>	INVALID_SECURITY_PRIVILEGES	See additional notes below
	CANNOT_ADD_SUPPORTING_DOC	Return if unhandled error happened when processing the request

## Notes

User must have [PQM\_ADMIN] role or WFA read and write permissions to edit the PQM item.

See Condition Q in [Special Conditions](#) on page A-1.

## Delete Supporting Document Attachment

### Description

Use the DeleteSupportingDocumentAttachments web service to delete existing supporting document attachments from a PQM item.

### Input

Table 13-70: Input

Name	Type	Description
<b>PPQMItemIdentifier</b>	tPQMItemSearchIdentifier	
<b>RestrictToStatusWithIDs</b>	integer[]	Array of one or more workflow status tag behavior IDs to restrict the PQM items found using the PQMItemIdentifier
<b>PKIDs</b>	string[]	The PKID(s) of supporting document attachments to remove

### Output

An overall success indicator and a tPQMItemIdentifier object will be returned.

If all the supporting documents input are successfully removed, the overall result is success. Otherwise, the overall result is fail and the changes will not be saved.

### Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 13-71: Result codes

Result Code	Possible Messages or Warnings	Comments
<b>RESULT_NO_ERRORS</b>	N/A	No errors occurred while processing request

Table 13-71: Result codes

<b>RESULT_INVALID_INPUT</b>	NO_VALID_PARAMETER_S	The PQMItemIdentifier or PKIDs input is missing
	INVALID_PQM_ITEM_NUMBER	PQM Item number input (issue number/action number/audit number) format is invalid. See <a href="#">Condition Q - PQM Item Identifier Formats</a> on page A-5.
	INVALID_PQM_ITEM_PKID	PQM item PKID input is invalid
	INVALID_CROSS_REFERENCE	Cross reference input is invalid
	INVALID_PKID_INPUT	The supporting document attachment PKID input is invalid
	MAX_RECORDS_SAVED	Returned when the number of rich text PKID input exceeds the max number allowed to save
<b>RESULT_FAILURE</b>	CANNOT_REMOVE_SUPPORTING_DOC	Unexpected exception occurs when attempting to processing request
	INVALID_SECURITY_PRIVILEGES	See additional notes below
	NO_PQM_ITEM_FOUND	Returned if no PQM item found for the input

## Notes

User must have [PQM\_ADMIN] role or WFA read and write permissions to edit the PQM item.

User must have read access to the parent attachment procedures which hold the supporting document attachments input.

See Condition Q in [Special Conditions](#) on page A-1.

## Get Rich Text Supporting Document

### Description

Use the GetRichTextSupportingDocument web service to retrieve a rich text supporting document.

### Input

Table 13-72: Input

Name	Type	Description
<b>PPQMItemIdentifier</b>	tPQMItemSearchIdentifier	
<b>RestrictToStatusWithIDs</b>	integer[]	Array of one or more workflow status tag behavior IDs to restrict the PQM items found using the PQMItemIdentifier
<b>PKID</b>	string	The PKID of rich text supporting document is required

### Output

A tPQMItemIdentifier object and a tRichTextDoc object with following members would be returned.

Table 13-73: Output

Name	Type	Description
<b>Identifier</b>	tCommonIdentifier	Including PKID and title
<b>CreationDate</b>	DateTime	The creation date of this rich text supporting document
<b>Content</b>	string	The html data content of the rich text supporting document

## Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 13-74: Result codes

Result Code	Possible Messages or Warnings	Comments
<b>RESULT_NO_ERRORS</b>	N/A	No errors occurred while processing request
<b>RESULT_INVALID_INPUT</b>	NO_VALID_PARAMETER_S	The PQMItemSearchIdentifier or PKID input is missing
	INVALID_PQM_ITEM_NUMBER	PQM Item number input (issue number/action number/audit number) format is invalid. See <a href="#">Condition Q - PQM Item Identifier Formats</a> on page A-5.
	INVALID_PQM_PKID	PQM item PKID input is invalid
	INVALID_PQM_CROSS_REFERENCE	Cross reference input is invalid
	INVALID_PKID_INPUT	The rich text PKID input is invalid
<b>RESULT_WARNINGS</b>	PQM_ITEM_RETRIEVAL_ERROR	Returned if unhandled error happened when processing the request

## Notes

See Condition Q in [Special Conditions](#) on page A-1.

## Add Rich Text Supporting Document

### Description

Use the AddRichTextSupportingDocument service to add a rich text supporting document to existing PQM items.

### Input

Table 13-75: Input

Name	Type	Description
<b>PQMSearchIdentifiers</b>	tPQMItemSearchIdentifier	
<b>RestrictToStatusWithIDs</b>	integer[]	Array of one or more workflow status tag behavior IDs to restrict the PQM items found using the PQMItemIdentifier
<b>NewRichTextDoc</b>	tNewRichTextDoc	

tNewRichTextDoc contains following members:

Table 13-76: tNewRichTextDoc

Name	Type	Description
<b>Title</b>	string	Required
<b>Content</b>	string	
<b>KeyWords</b>	string	

### Output

An overall success indicator and a list of tPQMItemIdentifier objects will be returned.

### Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 13-77: Result codes

Result Code	Possible Messages or Warnings	Comments
<b>RESULT_NO_ERRORS</b>	N/A	No errors occurred while processing request

Table 13-77: Result codes

<b>RESULT_INVALID_INPUT</b>	NO_VALID_PARAMETER_S	The tPQMItemSearchIdentifier objects or tNewRichTextDoc object input is missing
	INVALID_PQM_PKID	PQM item PKID input is invalid
	INVALID_PQM_ITEM_NUMBER	PQM item number input is invalid
	INVALID_PQM_CROSS_REFERENCE	Cross reference input is invalid
	INVALID_RICH_TEXT_DOC	The tNewRichTextDoc object input is invalid
	MAX_RECORDS_SAVED	Returned when the number of custom section instances input exceeds the max number allowed to save
<b>RESULT_FAILURE</b>	INVALID_SECURITY_PRIVILEGES	See additional notes below
	CANNOT_ADD_SUPPORTING_DOC	Return if unhandled error happened when processing the request

## Notes

User must have [PQM\_ADMIN] role or WFA read and write permissions to edit the PQM item.

## Delete Rich Text Supporting Documents

### Description

Use the DeleteRichTextSupportingDocuments to delete existing rich text supporting documents from a PQM item.

### Input

Table 13-78: Input

Name	Type	Description
<b>PQMItemIdentifier</b>	tPQMItemSearchIdentifier	
<b>RestrictToStatusWithIDs</b>	integer[]	Array of one or more workflow status tag behavior IDs to restrict the PQM items found using the PQMItemIdentifier
<b>PKIDs</b>	string[]	The PKID(s) of rich text supporting documents to remove

### Output

An overall success indicator and a tPQMItemIdentifier object will be returned.

If all the supporting documents input are successfully removed, the overall result is success. Otherwise, the overall result is fail and the changes will not be saved.

### Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 13-79: Result codes

Result Code	Possible Messages or Warnings	Comments
<b>RESULT_NO_ERRORS</b>	N/A	No errors occurred while processing request

Table 13-79: Result codes

<b>RESULT_INVALID_INPUT</b>	NO_VALID_PARAMETER S	The PQMItemIdentifier or PKIDs input is missing
	INVALID_PQM_ITEM_PK ID	PQM item PKID input is invalid
	INVALID_PQM_ITEM_N UMBER	PQM item number input is invalid
	INVALID_CROSS_REFERE NCE	Cross reference input is invalid
	INVALID_PKID_INPUT	The rich text PKID input is invalid
	MAX_RECORDS_SAVED	Returned when the number of rich text PKID input exceeds the max number allowed to save
<b>RESULT_FAILURE</b>	CANNOT_REMOVE_SUP PORTING_DOC	Unexpected exception occurs when attempting to processing request
	INVALID_SECURITY_PRI VILEGES	See additional notes below
	NO_PQM_ITEM_FOUND	Returned if no PQM item found for the input

## Notes

User must have [PQM\_ADMIN] role or WFA read and write permissions to edit the PQM item.

User must have read access to the rich text supporting documents input.

## Get DRL Document

### Description

Use the GetDRLDocument service to retrieve a DRL document.

### Input

Table 13-80: Input

Name	Type	Description
<b>PQMItemIdentifier</b>	tPQMItemSearchIdentifier	
<b>RestrictToStatusWithIDs</b>	integer[]	Array of one or more workflow status tag behavior IDs to restrict the PQM items found using the PQMItemIdentifier
<b>PKID</b>	string	The PKID of DRL Document

### Output

A tPQMItemIdentifier object and a tDRLDocument object with following members would be returned.

Table 13-81: Output

Name	Type	Description
<b>DocumentIdentifier</b>	tDRLDocumentIdentifier	
<b>Description</b>	string	
<b>Classifications</b>	string	
<b>Version</b>	string	
<b>Originator</b>	tUser	
<b>DocumentDate</b>	DateTime	
<b>ExpirationDate</b>	DateTime	
<b>PubToSupplierPortal</b>	boolean	
<b>ExpireDateNotify</b>	boolean	
<b>ExpireDateNotifyNumDays</b>	integer	
<b>Attachments</b>	tCommonIdentifier[]	

## Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 13-82: Result codes

Result Code	Possible Messages or Warnings	Comments
<b>RESULT_NO_ERRORS</b>	N/A	No errors occurred while processing request
<b>RESULT_INVALID_INPUT</b>	NO_VALID_PARAMETER_S	The tPQMItemSearchIdentifier or PKID input is missing
	INVALID_PQM_PKID	PQM item PKID input is invalid
	INVALID_PQM_ITEM_NUMBER	PQM item number input is invalid
	INVALID_PQM_CROSS_REFERENCE	Cross reference input is invalid
	INVALID_SECURITY_PRIVILEGES	User has no permission to view the PQM item or DRL document
	INVALID_PKID_INPUT	The DRL document PKID input is invalid
<b>RESULT_WARNINGS</b>	PQM_ITEM_RETRIEVAL_ERROR	Return if unhandled error happened when processing the request

## Notes

User must have [PQM\_ADMIN] role or WFA read permission to retrieve the PQM item.

User must have [DRL\_VIEWER] role to retrieve the DRL document.

## Add DRL Document

### Description

Use the AddDRLDocument service to add a DRL document to existing PQM items.

### Input

Table 13-83: Input

Name	Type	Description
<b>PQMSearchIdentifiers</b>	tPQMItemSearchIdentifier[]	
<b>RestrictToStatusWithIDs</b>	integer[]	Array of one or more workflow status tag behavior IDs to restrict the PQM items found using the PQMItemIdentifier
<b>DRLDocumentIdentifier</b>	tDRLDocumentIdentifier	

Each tDRLDocumentIdentifier specifies DRL documents according to following rules:

- 1** If the PKID value is given, the DRL document with the same PKID would be added;
- 2** When the DocumentID is given,
  - a** If both DocumentNumber and IssueNumber are given, the DRL document with the same DocumentID will be added;
  - b** If DocumentNumber is given while IssueNumber is not, all DRL documents with the same DocumentNumber will be added;
- 3** When the Title is given, all DRL documents with the same title will be added.

### Output

An overall success indicator and a list of tPQMItemIdentifier objects will be returned.

## Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 13-84: Result codes

Result Code	Possible Messages or Warnings	Comments
<b>RESULT_NO_ERRORS</b>	N/A	No errors occurred while processing request
<b>RESULT_INVALID_INPUT</b>	NO_VALID_PARAMETER_S	The tPQMItemSearchIdentifier objects or tDRLDocumentIdentifier object input is missing
	INVALID_PQM_PKID	PQM item PKID input is invalid
	INVALID_PQM_ITEM_NUMBER	PQM item number input is invalid
	INVALID_PQM_CROSS_REFERENCE	Cross reference input is invalid
	INVALID_PKID_INPUT	The DRL document PKID input is invalid
	INVALID_DOCUMENT_ID	The DRL document ID input is invalid
	MAX_RECORDS_SAVED	Returned when the number of rich text PKID input exceeds the max number allowed to save
<b>RESULT_FAILURE</b>	INVALID_SECURITY_PRIVILEGES	See additional notes below
	CANNOT_ADD_SUPPORTING_DOC	Return if unhandled error happened when processing the request

## Notes

User must have [PQM\_ADMIN] role or WFA read and write permissions to edit the PQM item.

## Delete DRL Documents

Use the DeleteDRLDocuments service to delete existing DRL documents from a PQM item.

### Input

Table 13-85: Input

Name	Type	Description
<b>PQMItemIdentifier</b>	tPQMItemSearchIdentifier[]	
<b>RestrictToStatusWithIDs</b>	integer[]	Array of one or more workflow status tag behavior IDs to restrict the PQM items found using the PQMItemIdentifier
<b>DRLDocumentIdentifiers</b>	tDRLDocumentIdentifier[]	The identifier of DRL document to remove

Each tDRLDocumentIdentifier specifies DRL documents according to following rules:

- 1** If the PKID value is given, the DRL document with the same PKID would be removed;
- 2** When the DocumentID is given,
  - a** If both DocumentNumber and IssueNumber are given, the DRL document with the same DocumentID will be removed;
  - b** If DocumentNumber is given while IssueNumber is not, all DRL documents with the same DocumentNumber will be removed;
- 3** When the Title is given, all DRL documents with the same title will be removed.

### Output

An overall success indicator and a tPQMItemIdentifier object will be returned.

If all the supporting documents input are successfully removed, the overall result is success. Else, the overall result is fail and the changes will not be saved.

## Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 13-86: Result codes

Result Code	Possible Messages or Warnings	Comments
<b>RESULT_NO_ERRORS</b>	N/A	No errors occurred while processing request
<b>RESULT_INVALID_INPUT</b>	NO_VALID_PARAMETER_S	The PQMItemIdentifier or PKIDs input is missing
	INVALID_PQM_ITEM_PKID	PQM item PKID input is invalid
	INVALID_PQM_ITEM_NUMBER	PQM item number input is invalid
	INVALID_CROSS_REFERENCE	Cross reference input is invalid
	INVALID_PKID_INPUT	The DRL document PKID input is invalid
	INVALID_DOCUMENT_ID	The DRL document ID input is invalid
	MAX_RECORDS_SAVED	Returned when the number of rich text PKID input exceeds the max number allowed to save
<b>RESULT_FAILURE</b>	CANNOT_REMOVE_SUPPORTING_DOC	unexpected exception occurs when attempting to processing request
	INVALID_SECURITY_PRIVILEGES	See additional notes below
	NO_PQM_ITEM_FOUND	Returned if no PQM item found for the input

## Notes

User must have [PQM\_ADMIN] role or WFA read and write permissions to edit the PQM item.

## Add DRL Catalog

### Description

Use the AddDRLCatalog service to add a DRL catalog to existing PQM items.

### Input

Table 13-87: Input

Name	Type	Description
<b>PQMSearchIdentifiers</b>	tPQMItemSearchIdentifier[]	
<b>RestrictToStatusWithIDs</b>	integer[]	Array of one or more workflow status tag behavior IDs to restrict the PQM items found using the PQMItemIdentifier
<b>DRLCatalogIdentifier</b>	tDRLCatalogIdentifier	

Each tDRLCatalogIdentifier object specifies DRL catalogs according to following rules:

- 1 When the PKID is given, the DRL catalog with the same PKID will be added;
- 2 When the external ID is given, the DRL catalog with the same external ID will be added;
- 3 When the title is given, all DRL catalogs with the same title will be added.

### Output

An overall success indicator and a list of tPQMItemIdentifier objects will be returned.

### Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 13-88: Result codes

Result Code	Possible Messages or Warnings	Comments
<b>RESULT_NO_ERRORS</b>	N/A	No errors occurred while processing request

Table 13-88: Result codes

<b>RESULT_INVALID_INPUT</b>	NO_VALID_PARAMETER_S	The tPQMItemSearchIdentifier objects or tDRLCatalogIdentifier object input is missing
	INVALID_PQM_PKID	The DRL catalog PKID input is invalid
	INVALID_EXTERNAL_ID	The DRL catalog external ID input is invalid
	INVALID_PQM_CROSS_REFERENCE	Cross reference input is invalid
	INVALID_PKID_INPUT	The DRL document PKID input is invalid
	INVALID_EXTERNAL_ID	The DRL catalog external ID input is invalid
	MAX_RECORDS_SAVED	Returned when the number of PQMSearchIdentifiers input exceeds the max number allowed to save
<b>RESULT_FAILURE</b>	INVALID_SECURITY_PRIVILEGES	See additional notes below
	CANNOT_ADD_SUPPORTING_DOC	Returned if unhandled error happened when processing the request

## Notes

User must have [PQM\_ADMIN] role or WFA read and write permissions to edit the PQM item.

## Delete DRL Catalogs

### Description

Use the DeleteDRLCatalogs to delete existing DRL catalogs from a PQM item.

### Input

Table 13-89: Input

Name	Type	Description
<b>PQMItemIdentifier</b>	tPQMItemSearchIdentifier[]	
<b>RestrictToStatusWithIDs</b>	integer[]	Array of one or more workflow status tag behavior IDs to restrict the PQM items found using the PQMItemIdentifier
<b>DRLCatalogIdentifiers</b>	tDRLCatalogIdentifier[]	The identifiers of DRL catalog to remove

Each tDRLCatalogIdentifier object specifies DRL catalogs according to following rules:

- 1 When the PKID is given, the DRL catalog with the same PKID will be removed;
- 2 When the external ID is given, the DRL catalog with the same external ID will be removed;
- 3 When the title is given, all DRL catalogs with the same title will be removed.

### Output

An overall success indicator and a tPQMItemIdentifier object will be returned.

If all the supporting documents input are successfully removed, the overall result is success. Else, the overall result is fail and the changes will not be saved.

## Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 13-90: Result codes

Result Code	Possible Messages or Warnings	Comments
<b>RESULT_NO_ERRORS</b>	N/A	No errors occurred while processing request
<b>RESULT_INVALID_INPUT</b>	NO_VALID_PARAMETER S	The PQMItemIdentifier or DRL catalog identifiers input is missing
	INVALID_PQM_ITEM_NUMBER	PQM item number input is invalid
	INVALID_PQM_ITEM_PKID	PQM item PKID input is invalid
	INVALID_CROSS_REFERENCE	Cross reference input is invalid
	INVALID_PKID_INPUT	The DRL catalog PKID input is invalid
	INVALID_EXTERNAL_ID	The DRL catalog external ID input is invalid
	MAX_RECORDS_SAVED	Returned when the number of DRL catalog identifiers input exceeds the max number allowed to save
<b>RESULT_FAILURE</b>	CANNOT_REMOVE_SUPPORTING_DOC	Unexpected exception occurs when attempting to processing request
	INVALID_SECURITY_PRIVILEGES	See additional notes below
	NO_PQM_ITEM_FOUND	Returned if no PQM item found for the input

## Notes

User must have [PQM\_ADMIN] role or WFA read and write permissions to edit the PQM item.

## Get Attachment

### Description

Use the GetAttachment service to retrieve an attachment file of supporting document or DRL document.

### Input

Table 13-91: Input

Name	Type	Description
<b>PQMItemIdentifier</b>	tPQMItemSearchIdentifier[]	
<b>RestrictToStatusWithIDs</b>	integer[]	Array of one or more workflow status tag behavior IDs to restrict the PQM items found using the PQMItemIdentifier
<b>PKID</b>	string	The PKID of attachment document

### Output

A tPQMItemIdentifier object along with a tAttachment object or tSupportingDocumentAttachment object would be returned.

Each tAttachment object contains following members:

Table 13-92: tAttachment

Name	Type	Description
<b>Identifier</b>	tCommonIdentifier	
<b>Path</b>	string	
<b>PKID</b>	string	The PKID of attachment document
<b>FileSize</b>	long	
<b>FileName</b>	string	
<b>BlobStream</b>	Byte[]	

tSupportingDocumentAttachment: tAttachment is defined as:

Table 13-93: tSupportingDocumentAttachment

Name	Type	Description
<b>FileType</b>	string	
<b>Owner</b>	tUser	
<b>EffectiveDate</b>	DateTime	
<b>InactiveDate</b>	DateTime	
<b>UploadDate</b>	DateTime	
<b>PubToSupplierPortal</b>	boolean	
<b>IsProprietary</b>	boolean	
<b>ExpireDateNotify</b>	boolean	
<b>ExpireDateNotifyNumDays</b>	integer	

## Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 13-94: Result codes

Result Code	Possible Messages or Warnings	Comments
<b>RESULT_NO_ERRORS</b>	N/A	No errors occurred while processing request
<b>RESULT_INVALID_INPUT</b>	NO_VALID_PARAMETERS	The PKID or tPQMItemSearchIdentifier input is missing
	INVALID_PKID_INPUT	The attachment PKID input is invalid
	INVALID_PQM_PKID	PQM item PKID input is invalid
	INVALID_PQM_ITEM_NUMBER	PQM item number input is invalid
	INVALID_PQM_CROSS_REFERENCE	Cross reference input is invalid
	INVALID_SECURITY_PRIVILEGES	User has no permission to view the PQM item or attachment document
<b>RESULT_WARNINGS</b>	PQM_ITEM_RETRIEVAL_ERROR	Return if unhandled error happened when processing the request

## Add Attachment Procedure

### Description

Use the AddAttachmentProcedure service to add a attachment procedure to an existing PQM item.

### Input

Table 13-95: Input

Name	Type	Description
<b>PQMItemIdentifier</b>	tPQMItemSearchIdentifier[]	
<b>RestrictToStatusWithIDs</b>	integer[]	Array of one or more workflow status tag behavior IDs to restrict the PQM items found using the PQMItemIdentifier
<b>NewAttachmentProcedure</b>	tNewAttachmentsWrapper	

Each tNewAttachmentsWrapper object contains following members:

Table 13-96: tNewAttachmentsWrapper

Name	Type	Description
<b>SecurityClassification</b>	EnumSecurityClassifications	Required. Could be Undefined, Contextual, or NonContextual
<b>NewAttachments</b>	tNewAttachment[]	

### Output

An overall success indicator and a list of tPQMItemIdentifier objects will be returned.

### Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 13-97: Result codes

Result Code	Possible Messages or Warnings	Comments
<b>RESULT_NO_ERRORS</b>	N/A	No errors occurred while processing request

Table 13-97: Result codes

<b>RESULT_INVALID_INPUT</b>	NO_VALID_PARAMETERS	The tPQMItemSearchIdentifier object or tNewAttachmentsWrapper object input is missing
	INVALID_PQM_PKID	PQM item PKID input is invalid
	INVALID_PQM_ITEM_NUMBER	PQM item number input is invalid
	INVALID_PQM_CROSS_REFERENCE	Cross reference input is invalid
	INVALID_ATTACHMENT	The tNewAttachmentsWrapper input is invalid
<b>RESULT_FAILURE</b>	INVALID_SECURITY_PRIVILEGES	See additional notes below
	CANNOT_ADD_SUPPORTING_DOC	Return if unhandled error happened when processing the request

## Notes

User must have [PQM\_ADMIN] role or WFA read and write permissions to edit the PQM item.

## Delete Attachment Procedures

### Description

Use the DeleteAttachmentProcedures web service to delete existing supporting documents from a PQM item.

### Input

Table 13-98: Input

Name	Type	Description
<b>PQMItemIdentifier</b>	tPQMItemSearchIdentifier[]	
<b>RestrictToStatusWithIDs</b>	integer[]	Array of one or more workflow status tag behavior IDs to restrict the PQM items found using the PQMItemIdentifier
<b>PKIDs</b>	string[]	The PKID(s) of attachments procedures to remove

### Output

An overall success indicator and a tPQMItemIdentifier object will be returned.

If all the supporting documents input are successfully removed, the overall result is success. Otherwise, the overall result is fail and the changes will not be saved.

### Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 13-99: Result codes

Result Code	Possible Messages or Warnings	Comments
<b>RESULT_NO_ERRORS</b>	N/A	No errors occurred while processing request

Table 13-99: Result codes

<b>RESULT_INVALID_INPUT</b>	NO_VALID_PARAMETER_S	The PQMItemIdentifier or PKIDs input is missing
	INVALID_PQM_ITEM_NUMBER	PQM item number input is invalid
	INVALID_PQM_ITEM_PKID	PQM item PKID input is invalid
	INVALID_PQM_CROSS_REFERENCE	Cross reference input is invalid
	INVALID_PKID_INPUT	The attachments procedure PKID input is invalid
	MAX_RECORDS_SAVED	The tNewAttachmentsWrapper input is invalid
<b>RESULT_FAILURE</b>	CANNOT_REMOVE_SUPPORTING_DOC	An unexpected exception occurs when attempting to processing request
	INVALID_SECURITY_PRIVILEGES	See additional notes below
	NO_PQM_ITEM_FOUND	Returned if no PQM item found for the input

## Notes

User must have [PQM\_ADMIN] role or WFA read and write permissions to edit the PQM item.

User must have read access to the attachment procedures input.

## Add Cross References

### Description

Use the AddCrossReferences web service to add cross references to a PQM item.

### Input

The input is an array of tAddCrossReferencesInputWrapper.

tAddCrossReferencesInputWrapper is composed of the following three fields:

Table 13-100: Input

Name	Type	Description
<b>PQMItemIdentifier</b>	tPQMItemSearchIdentifier	
<b>RestrictToStatusWithBehaviorIDs</b>	int []	An array of workflow tag behavior IDs of allowed PQM object
<b>CrossRefs</b>	tExtCrossReference[]	

### Output

The result will be status (bool) and a list of PQMs (tPQMItemIdentifier) affected by the cross reference changes. For each PQM affected, the results include the full cross reference list.

AddCrossReferences returns array of tPQMItemIdentifier.

### Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 13-101: Result codes

Result Code	Possible Messages or Warnings	Comments
<b>RESULT_NO_ERRORS</b>	N/A	No errors occurred while processing request

Table 13-101: Result codes

<b>RESULT_INVALID_INPUT</b>	NO_VALID_PARAMETERS	NPQMItemIdentifier is empty (at least one field is required, Pkid, item number, crossreference). CrossReferenceInputs should not be empty.
	INVALID_PQM_ITEM_PKID	PQM Item pkid input (issue number/action number/audit number) format is invalid. See <a href="#">Condition Q - PQM Item Identifier Formats</a> on page A-5.
	INVALID_PQM_ITEM_NUMBER	PQM Item number input (issue number/action number/audit number) format is invalid. See <a href="#">Condition Q - PQM Item Identifier Formats</a> on page A-5.
	INVALID_CROSS_REFERENCE	Cross Reference input (SystemID, Equivalent) is required. When adding or updating a cross reference, SystemID and Status must be defined in system. See <a href="#">Condition E - Specification Identifier Input Formats</a> on page A-2.
	INVALID_PQM_ITEM_TYPE	Invalid item type, could only be one of the 4 values: ALL, ACTION, AUDIT, ISSUE
	NO_PQM_CROSS_REFERENCE_FOUND	The cross reference to be added must contain a System ID and Equipment and a valid status defined in system
	UPDATE_DUPLICATE_PQM_ITEM_ERROR	Update a PQM item: {0} Multiple times is not allowed.
	NO_PQM_CROSS_REFERENCE_FOUND	Trying to add Duplicate Cross Reference {0} to the PQM item: {1}
	MAX_RECORDS_SAVED	Occurs if the number of records to be created exceeds the maximum records allowed
	INSUFFICIENT_PQM_ROLE_ERROR	Occurs when the user does not have permission to update the PQM object: {pqm identifier}
<b>RESULT_FAILURE</b>	INVALID_SECURITY_PRIVILEGES	User must have role [EXTERNALLY_MANAGED_CROSS_REF_ADMIN] to modify externally managed cross references
	ADD_PQM_CROSS_REFERENCES_ERROR	Occurs when an unexpected exception occurs adding cross references to a PQM

## Notes

See Conditions E and Q in [Special Conditions](#) on page A-1.

## Delete Cross References

### Description

Use the DeleteCrossReferences web service to delete cross references from a PQM item.

### Input

The input is an array of tDeleteCrossReferencesInput.

tDeleteCrossReferencesInput is composed of the following three fields:

Table 13-102: Input

Name	Type	Description
<b>PQMItemIdentifier</b>	tPQMItemSearchIdentifier	
<b>RestrictToStatusWithBehaviorIDs</b>	int[]	An array of workflow tag behavior IDs of allowed PQM object
<b>CrossRefs</b>	tCrossReference []	

### Output

The result will be status (bool) and a list of PQMs (tPQMItemIdentifier) affected by the cross reference changes. For each PQM affected, the results include the full cross reference list.

DeleteCrossReferences returns array of tPQMItemIdentifier.

### Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 13-103: Result codes

Result Code	Possible Messages or Warnings	Comments
<b>RESULT_NO_ERRORS</b>	N/A	No errors occurred while processing request

Table 13-103: Result codes

<b>RESULT_INVALID_INPUT</b>	NO_VALID_PARAMETERS	PQMItemIdentifier is empty (at least one field is required, Pkid, item number, crossreference). CrossReferenceInputs should not be empty.
	INVALID_PQM_ITEM_PKID	PQM Item pkid input (issue number/action number/audit number) format is invalid. See <a href="#">Condition Q - PQM Item Identifier Formats</a> on page A-5.
	INVALID_PQM_ITEM_NUMBER	PQM Item number input (issue number/action number/audit number) format is invalid. See <a href="#">Condition Q - PQM Item Identifier Formats</a> on page A-5.
	INVALID_CROSS_REFERENCE	Cross Reference input (SystemID, Equivalent) is required. When adding or updating a cross reference, SystemID and Status must be defined in system. See <a href="#">Condition E - Specification Identifier Input Formats</a> on page A-2.
	INVALID_PQM_ITEM_TYPE	Invalid item type, could only be one of the 4 values: ALL, ACTION, AUDIT, ISSUE
	NO_PQM_CROSS_REFERENCE_FOUND	The cross reference to be removed must contain a System ID and Equipment
	UPDATE_DUPLICATE_PQM_ITEM_ERROR	Update a PQM item: {0} Multiple times is not allowed
	NO_PQM_CROSS_REFERENCE_FOUND	Trying to remove Duplicate Cross Reference {0} from the PQM item: {1}  Cross Reference ({0}) to be removed didn't exist on PQM item({1})
	MAX_RECORDS_SAVED	Occurs if the number of records to be created exceeds the maximum records allowed
	INSUFFICIENT_PQM_ROLE_ERROR	Occurs when the user does not have permission to update the PQM object: {pqm identifier}
<b>RESULT_FAILURE</b>	INVALID_SECURITY_PRIVILEGES	User must have role [EXTERNALLY_MANAGED_CROSS_REF_ADMIN] to modify externally managed cross references
	DELETE_PQM_CROSS_REFERENCES_ERROR	Occurs when an unexpected exception occurs removing cross references from a PQM item

## Notes

See Conditions E and Q in [Special Conditions](#) on page A-1.

## Update Cross References

### Description

Use the UpdateCrossReferences web service to update cross references to a PQM item.

### Input

The input is an array of tUpdateCrossReferencesInputWrapper. tUpdateCrossReferencesInputWrapper is composed of the following three fields:

Table 13-104: Input

Name	Type	Description
<b>PQMItemIdentifier</b>	tPQMItemSearchIdentifier	
<b>RestrictToStatusWithBehaviorIDs</b>	int[]	An array of workflow tag behavior IDs of allowed PQM object
<b>UpdateCrossRefDetails</b>	tUpdateCrossRefDetail []	

tUpdateCrossRefDetail contains:

- tCrossReference OriginalCrossRef
- tExtCrossReference NewCrossRef

### Output

The result will be status (bool) and a list of PQMs (tPQMItemIdentifier) affected by the cross reference changes. For each PQM affected, the results include the full cross reference list.

UpdateCrossReferences returns array of tPQMItemIdentifier.

## Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 13-105: Result codes

Result Code	Possible Messages or Warnings	Comments
<b>RESULT_NO_ERRORS</b>	N/A	No errors occurred while processing request
<b>RESULT_INVALID_INPUT</b>	NO_VALID_PARAMETER_S	PQMItemIdentifier is empty (at least one field is required, Pkid, item number, crossreference) UpdateCrossReferenceInputs should not be empty. UpdateCrossRefDetails should not be empty.
	INVALID_PQM_ITEM_PKID	PQM Item pkid input (issue number/action number/audit number) format is invalid. See <a href="#">Condition Q - PQM Item Identifier Formats</a> on page A-5.
	INVALID_PQM_ITEM_NUMBER	PQM Item number input (issue number/action number/audit number) format is invalid. See <a href="#">Condition Q - PQM Item Identifier Formats</a> on page A-5.
	INVALID_CROSS_REFERENCE	Cross Reference input (SystemID, Equivalent) is required. When adding or updating a cross reference, SystemID and Status must be defined in system. See <a href="#">Condition E - Specification Identifier Input Formats</a> on page A-2.
	INVALID_PQM_ITEM_TYPE	Invalid item type,could only be one of the 4 values: ALL, ACTION, AUDIT, ISSUE
	NO_PQM_CROSS_REFERENCE_FOUND	The cross reference to be removed must contain a System ID and Equipment. The cross reference to be added must contain a System ID and Equipment and a valid status defined in system. Cross Reference [{0} and {1}] must contain the same System ID and Equivalent.
	UPDATE_DUPLICATE_PQM_ITEM_ERROR	Update a PQM item: {0} Multiple times is not allowed.

Table 13-105: Result codes

<b>RESULT_INVALID_INPUT</b> <b>continued</b>	NO_PQM_CROSS_REFER ENCE_FOUND	Trying to add Duplicate Cross Reference {0} to the PQM item: {1}
	MAX_RECORDS_SAVED	Occurs if the number of records to be created exceeds the maximum records allowed
	INSUFFICIENT_PQM_RO LE_ERROR	Occurs when the user does not have permission to update the PQM object: {pqm identifier}
	INVALID_SECURITY_ PRIVILEGES	User must have role [EXTERNALLY_MANAGED_CR OSS_REF_ADMIN] to modify externally managed cross references
<b>RESULT_FAILURE</b>	UPDATE_PQM_CROSS_R EFERENCES_ERROR	Occurs when an unexpected exception occurs updating cross references of a PQM item

## Notes

See Conditions E and Q in *Special Conditions* on page A-1.



# Using the CSS Services Web Service

---

*This chapter describes the CSS Services web service. Topics in this chapter include:*

- *Overview of CSS Services*
  - *SendResponse*
- 

## Overview of CSS Services

CSS Services provide capabilities related to a Transactive Item Publication (TIP). The following operations are supported:

Operation	v24	v25	v30	Description
<a href="#">SendResponse</a> on page 14-2		●	●	Used to asynchronously update a syndicated TIP's status, and provide a Cross Reference to add to the TIP.

## Service Endpoint Locations

### v25 endpoint

`http://<servername>/Integration/ProdikaContracts/CSS/CSSServices.svc`

### v30 endpoint

`http://<servername>/Integration/ProdikaContracts/CSS/CSSServices.svc`

## SendResponse

### Description

The CSS Send Response web service allows external systems to asynchronously update the status of syndicated TIP. A list of Cross References can be included in the message to be added to the specification that contains the TIP. The web service message is serialized and saved as an XML file in the relevant CSS directory for the CSS Reconciler to process.

### Input

The following input criteria are available:

Table 14-1: Input

Name	Type	Description
<b>crossReference</b>	tLegacySystem	Array of tLegacySystem, as described in <a href="#">tLegacySystem</a> on page A-29
<b>header</b>	tHeader	Message header, as described below
<b>message</b>	tMessage	Array of tMessage, as described below

### tHeader

Represents header information for the TIP

Table 14-2: Objects

Name	Description
<b>dateSent</b>	The time stamp of the TIP sent out by CSS.
<b>messageIdentifier</b>	The unique identifier and correlation of the message sent out by CSS.
<b>receiver</b>	The registered syndicate target system identifier.
<b>sender</b>	The registered syndicate source system (Agile PLM for Process) identifier.

### tMessage

Represents a syndicate message

Table 14-3: Objects

Name	Description
<b>code</b>	Identifies the syndicate result status, following this rule: 1: New 2: Pending 4: Successful 8 or 600: Failed
<b>description</b>	Syndicate result message from the target system.
<b>severity</b>	Extendable field for customer; not used by core functionality.

# APPENDIX A

## Special Conditions, Status Codes, and Core Objects

---

*This appendix contains a list of special conditions, status codes, and core objects.*

---

### Special Conditions

#### Condition A - No Issue Specified in Input Criteria

- 1 Because multiple specifications may reference the same Cross Reference, calling this service using a Cross Reference may return more than one specification.
- 2 If a Cross Reference (or a Spec Number without an Issue Number) is used as input, the latest Issue Number is retrieved. Additionally, if AllowOnlyApprovedSpec is set to “True,” only the latest Approved issue number is retrieved, if one exists (see Condition C, below).

#### Condition B - Business Unit Visibility

- 1 Business unit visibility rules are enforced to restrict access to specifications. The user calling the web service will not be able to retrieve specification information for specifications outside of his/her business unit access.

#### Condition C - Allow Only Approved Spec

- 1 Restricts results to only return specifications that are in an Approved workflow status. Uses a configurable SystemAction name that can be modified through configuration settings. Validates this system action is associated to the workflow status of the specification.

---

**Note** This requires workflow tags to be set up on workflows indicating which workflow status should be considered as Approved.

---

- 2 If a Spec Input criterion includes the Spec Number and Issue Number, and Allow Only Approved Spec is set to “True,” the specification will only be returned if the workflow status it is in has the associated system action.

## **Condition D - Specification Types**

### **1 Possible specification type values:**

1004—Material specification  
1005—Master specifications  
1006 —Labeling specification  
1009—Packaging material specification  
1010—Delivered material packing specification  
2076—Packing configuration  
2121—Printed packaging specification  
2147—Trade specification  
2280—Equipment specification  
5750—Nutrient profile  
5816—Formulation specification  
6500—Menu Item specification  
6501—Product specification

## **Condition E - Specification Identifier Input Formats**

### **1 SpecificationNumber**

- SpecNumber—**Required**; must be seven digits
- IssueNumber—**Optional**; if provided must be three digits

### **2 Cross Reference format allowed**

- SystemId—**Required**
- Equivalent Value—**Required**

## **Condition F - Max Records Retrieved**

- 1** Maximum record count was exceeded. Additional records may be available, but only the maximum record count of records will be returned. Maximum record count settings are configurable.

## **Condition G - Max Records Allowed For Save**

- 1** Allowable maximum record count for Saves was exceeded. Maximum record count settings are configurable.

## Condition H - InFoodsCode

Run the following SQL query to retrieve the list of InFoods IDs:

```
select ml.Name, p.InFoodsID, p.UNID, p.SequenceNumber
from
    comStandardNutrientProperties p
    inner join comStdNutrientPropertiesML ml
    on ml.fkStandardNutrientProperties = p.pkid
    and langID = 0 and Status = 1
order by ml.name
```

Figure A-1: Some common InFoods IDs

Name	InFoods ID	UNID	Sequence
Calcium	CA	CA	350
Calories	ENERC_KCAL	ENERC_KCAL	10
Carbohydrate (Available)	CHOAVL	CHOAVL	45
Carbohydrates	CHOCDF	CHOCDF	40
Cholesterol	CHOLE	CHOLE	190
Dietary Fiber	FIBTS	FIBTS	50
Energy kJ	ENERC_KJ	ENERC_KJ	20
Iron	FE	FE	370
Polyunsaturated Fat	FAPU	FAPU	150
Potassium	K	K	400
Protein	PROCNT	PROCNT	30
Protein (Nx6.25)	PROCNT_NX625	PROCNTx625	32
Saturated Fat	FASAT	FASAT	130
Sodium	NA	NA	410
Total Fat	FAT	FAT	120
Total solids	TTLSOLID	TTLSOLID	205
Total Sugar	SUGAR	SUGAR	70
Trans Fatty Acid	FATRNL	FATRNL	180
Vitamin A - IU	VITA_IU	VITA_IU	223
Vitamin A - Total	VITA-	VITA-	220
Vitamin C	VITC	VITC	290
Vitamin D	VITD-	VITD-	300
Vitamin E	VITE	VITE	310
Vitamin K	VITK	VITK	330
Zinc	ZN	ZN	420

### Condition I - SCRM Entity Input

- 1 tSCRMEntity must be a tSCRMFacility
  - a tSCRMFacility
    - tSCRMEntityIdentifier facilityIdentifier
- 2 tSCRMEntityIdentifier must be a tSCRMEntityNumber or tSCRMEntityCrossRef
  - a tSCRMEntityNumber
    - EntityNumber (string, seven characters) - Oracle Agile PLM facility or company number
  - b tSCRMEntityCrossRef
    - SystemID (string, 100 characters)
    - EquivalentValue (string, 100 characters)

### Condition J - Allow Only Approved Entity

- 1 Setting value to true restricts the results to only return specification-related sourcing approvals that are in an approved workflow status. Non specification-related sourcing approvals are not affected by this setting.
- 2 Uses a configurable workflow tag name that can be modified through a configuration setting (see Chapter 2, [Configuration File Changes](#) section, using the SCRMApprovedWorkflowName variable). Validates this workflow tag is associated to the workflow status of the sourcing approval.

---

**Note** Note this requires workflow tags to be set up on workflows indicating which workflow status should be considered as approved.

---

### Condition K - Invalid Company Input Formats

- 1 Company Number format allowed: **Required**; must be 7 digits
- 2 Cross Reference format allowed: SystemId and EquivalentValue are required

### Condition L - Invalid Facility Input Formats

- 1 Facility Number format allowed: **Required**; must be 7 digits
- 2 Cross Reference format allowed: SystemId and EquivalentValue are required

### Condition M - Invalid EQ Input Formats

- 1 EQ Number format allowed: **Required**; must be 7 digits

### Condition N - Invalid Security Privileges

- 1 Must be EQ owner or Additional Administrators
- 2 All EQ types are accepted except Get Compliance Items, Get Breakdown Info, and Get Nutrition info, which are only accepted for material, product, and trade questionnaires

**Condition O - Invalid Custom Sections MetaData Input  
Formats**

- 1 Custom Section ID format allowed: Optional; not more than 24 digits
- 2 Custom Section Number format allowed: Optional; not more than 8 digits

**Condition P - Invalid Extended Attributes MetaData Input  
Formats**

- 1 Extended Attribute ID format allowed: Required; not more than 24 digits

**Condition Q - PQM Item Identifier Formats**

- 1 ItemNumber: Issue Number, Action Number, or Audit Number; 8 digits
- 2 ItemPKID: Issue PKID, Action PKID, or Audit PKID; 10 characters
- 3 CrossReference: CrossReference values on issue, action, or audit

## Status Codes

Status codes determine how the user interface displays an item. The codes are detailed in the table below:

Table A-1: Status Codes

Code	Status	Description
<b>0</b>	Inactive	The item may not be assigned but may be searched
<b>1</b>	Active	The item is assignable and searchable
<b>-1</b>	Archived	The item is neither assignable nor searchable

## Core Objects

This section provides a list of some of the core objects exposed in the API. Please refer to the XSDs for more detail.

- [\*tSpecIdentifierCriterion\*](#) on page A-10
- [\*tSpecificationNumber\*](#) on page A-10
- [\*tCrossReference\*](#) on page A-10
- [\*tExtCrossReference\*](#) on page A-11
- [\*tSpecificationIdentifier\*](#) on page A-11
- [\*tQueryOptions\*](#) on page A-12
- [\*DateRange\*](#) on page A-12
- [\*ModifiedBetweenDateRange\*](#) on page A-13
- [\*CreatedBetweenDateRange\*](#) on page A-13
- [\*tSpecificationSummaryWrapper\*](#) on page A-13
- [\*tSpecificationSummary\*](#) on page A-14
- [\*tCostItem\*](#) on page A-14
- [\*tSCRMEntity\*](#) on page A-14
- [\*tSCRMCompany\*](#) on page A-15
- [\*tSCRMFacility\*](#) on page A-15
- [\*tSCRMEntityIdentifier\*](#) on page A-15
- [\*tSCRMEntityNumber\*](#) on page A-15
- [\*tSCRMEntityCrossRef\*](#) on page A-16
- [\*tExtSCRMEntityCrossRef\*](#) on page A-16
- [\*tSCRMEntityIdentifier\*](#) on page A-16
- [\*tSCRMEntityNumber\*](#) on page A-17
- [\*tSCRMEntityCrossRef\*](#) on page A-17
- [\*tFacility\*](#) on page A-18
- [\*tFacilityInfo\*](#) on page A-18
- [\*tCompany\*](#) on page A-18
- [\*tCompanyInfo\*](#) on page A-19
- [\*tSCRMAddress\*](#) on page A-19
- [\*tSCRMAdministrativeInfo\*](#) on page A-20
- [\*tSCRMBusinessUnits\*](#) on page A-20
- [\*tSpecRelatedSourcingApprovalInfo\*](#) on page A-20
- [\*tSCRMSourcingApprovalInfo\*](#) on page A-20
- [\*tCustomLookup\*](#) on page A-21
- [\*tNutrientDataWrapper\*](#) on page A-21
- [\*tNutrientItem\*](#) on page A-21
- [\*tActivityInfo\*](#) on page A-22

- [\*tActivitySummary\*](#) on page A-22
- [\*tPrimaryActionItemInfo\*](#) on page A-22
- [\*tRelatedItemInfo\*](#) on page A-23
- [\*tIDName\*](#) on page A-23
- [\*tCustomSectionMetaDataInputCriteria\*](#) on page A-23
- [\*tCustomSectionID\*](#) on page A-23
- [\*tCustomSectionNumber\*](#) on page A-24
- [\*tCustomSection\*](#) on page A-24
- [\*tCustomSectionRow\*](#) on page A-24
- [\*tCustomSectionColumn\*](#) on page A-24
- [\*tExtendedAttribute\*](#) on page A-25
- [\*tSpecIngredientStatementInfo\*](#) on page A-25
- [\*tEQNumber\*](#) on page A-25
- [\*tEQExtendedAttribute\*](#) on page A-25
- [\*tExtension\*](#) on page A-26
- [\*tEQComplianceInfo\*](#) on page A-26
- [\*tEQIdentifier\*](#) on page A-27
- [\*tComplianceItem\*](#) on page A-27
- [\*tComplianceItemContained\*](#) on page A-27
- [\*tEQSummary\*](#) on page A-27
- [\*tSupplierContactInfo\*](#) on page A-28
- [\*tCompanyContactInfo\*](#) on page A-28
- [\*tEQIdentifier\*](#) on page A-28
- [\*tNutrientInfo\*](#) on page A-28
- [\*tEQCriteriaItem\*](#) on page A-29
- [\*tLegacySystem\*](#) on page A-29
- [\*tPQMItemIdentifier\*](#) on page A-29
- [\*tExtCrossReference\*](#) on page A-30
- [\*tPQMItemType\*](#) on page A-30
- [\*tCommonLookup\*](#) on page A-30
- [\*tPqmCommonSummary\*](#) on page A-30
- [\*tPqmIssueSpecificSummary\*](#) on page A-31
- [\*tPqmActionSpecificSummary\*](#) on page A-31
- [\*tPqmAuditSpecificSummary\*](#) on page A-31
- [\*tPQMAssociatedProject\*](#) on page A-32
- [\*tBasePQMItemSearchIdentifier\*](#) on page A-32
- [\*tCrossReference\*](#) on page A-32
- [\*tPQMItemSearchIdentifier\*](#) on page A-32
- [\*tIssueDetails\*](#) on page A-33

- [\*tActionDetails\*](#) on page A-34
- [\*tAssociatedNPDProject\*](#) on page A-35
- [\*tAuditDetails\*](#) on page A-35
- [\*tPQMItemSupplierIdentifier\*](#) on page A-36
- [\*tPQMItemSupplier\*](#) on page A-37
- [\*tSourceSystemIdentifier\*](#) on page A-37
- [\*tPQMItemSupplierSearchIdentifier\*](#) on page A-37
- [\*tSourceSystemPQMItemSupplierIdentifier\*](#) on page A-37
- [\*tSCRMEntityCrossRefPQMItemSupplierIdentifier\*](#) on page A-38
- [\*tSCRMEntityNumberPQMItemSupplierIdentifier\*](#) on page A-38
- [\*tPQMItemAffectedItemsResult\*](#) on page A-38
- [\*tPQMAffectedItem\*](#) on page A-38
- [\*tIssueAffectedItem\*](#) on page A-39
- [\*tAffectedItemInput\*](#) on page A-40
- [\*tPQMAffectedItemIdentifier\*](#) on page A-41
- [\*tPQMAffectedItemGSMIdentifier\*](#) on page A-41
- [\*tPQMAffectedItemSourceSystemIdentifier\*](#) on page A-41
- [\*tIssueAffectedItemInput\*](#) on page A-42
- [\*tNCRAffectedItemInput\*](#) on page A-42
- [\*tPQMSearchCriteria\*](#) on page A-44
- [\*tSupplierSearchIdentifier\*](#) on page A-44
- [\*tExternalSupplierSearchIdentifier\*](#) on page A-45
- [\*tSCRMSupplierSearchIdentifier\*](#) on page A-45
- [\*tRelatedPQMItemsWrapper\*](#) on page A-45
- [\*tRelatedPQMItem\*](#) on page A-45
- [\*tRelatedPQMActionItem\*](#) on page A-46
- [\*tRelatedPQMAuditItem\*](#) on page A-46
- [\*tCommonIdentifier\*](#) on page A-46
- [\*tDRLDocumentIdentifier\*](#) on page A-47
- [\*tDRLCatalogIdentifier\*](#) on page A-47
- [\*tAttachmentsWrapper\*](#) on page A-47
- [\*tDRLCatalog\*](#) on page A-48
- [\*tPQMSupportingDocWrapper\*](#) on page A-48
- [\*tRichTextDoc\*](#) on page A-48
- [\*tNewRichTextDoc\*](#) on page A-49
- [\*tURLSource\*](#) on page A-49
- [\*tNewURLSource\*](#) on page A-49
- [\*tDRLDocument\*](#) on page A-50
- [\*tAttachment\*](#) on page A-50

- [\*tSupportingDocAttachment\*](#) on page A-51
- [\*tNewAttachment\*](#) on page A-51
- [\*tNewAttachmentsWrapper\*](#) on page A-52
- [\*tCustomSectionInstance\*](#) on page A-52

## **tSpecIdentifierCriterion**

Abstract object that represents specification identifying information used as input criteria, such as the specification number and issue number or a cross reference (SystemId and Equivalent)

### *Subtypes*

- tSpecificationNumber
- tCrossReference

## **tSpecificationNumber**

Represents a specification's Spec Number and the (optional) Issue Number

### *Supertype*

tSpecIdentifierCriterion

Table A-2: Objects

Name	Type	Description
<b>SpecNumber</b>	string	Specification number; 7 digits
<b>IssueNumber</b>	string	Issue number; optional; 3 digits

## **tCrossReference**

Represents a specification's cross references (SystemId and Equivalent) and is used in input to identify a GSM specification.

### *Supertype*

tSpecIdentifierCriterion

Table A-3: Objects

Name	Type	Description
<b>SystemId</b>	string	ID of a third-party system; 50 characters
<b>EquivalentValue</b>	string	ID of a GSM specification in a third-party system; 50 characters

### Schema Component Representation

```
<xs:complexType name="tCrossReference">
  <xs:complexContent mixed="false">
    <xs:extension base="tns:tSpecIdentifierCriterion">
      <xs:sequence>
        <xs:element name="SystemId" type="xs:string"
nillable="true"/>
        <xs:element name="EquivalentValue"
type="xs:string" nillable="true"/>
        <xs:element name="Extension"
type="q1:tExtension" minOccurs="0" nillable="true"/>
      </xs:sequence>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

### tExtCrossReference

Represents a specification's cross references (SystemId and Equivalent) and is used in output.

### Supertype

tCrossReference

Table A-4: Objects

Name	Type	Description
<b>SystemId</b>	string	ID of a third-party system; 50 characters
<b>EquivalentValue</b>	string	ID of a GSM specification in a third-party system; 50 characters
<b>Description</b>	string	Description of third-party system; 256 characters
<b>Status</b>	string	A valid status defined in system; 40 characters
<b>UOMs</b>	tUOM[]	An array of valid UOMs defined in system

### tSpecificationIdentifier

Represents specification identifying information used as output, includes the specification number and issue number, and a list of cross references (SystemId and Equivalent).

Table A-5: Objects

Name	Type	Description
<b>SpecificationNumber</b>	tSpecificationNumber (See <a href="#">tSpecificationNumber</a> on page A-10)	SpecNumber IssueNumber
<b>CrossReferences</b>	tExtCrossReference[] (See <a href="#">tExtCrossReference</a> on page A-11)	SystemId, EquivalentValue, Status, Description, and UOMs

## tQueryOptions

Represents search criteria options.

Table A-6: Objects

Name	Type	Description
<b>AllowOnlyApprovedSpec</b>	boolean	See <a href="#">Condition C - Allow Only Approved Spec</a> on page A-1
<b>CrossReference</b>	tCrossReference (See <a href="#">tCrossReference</a> on page A-10)	Specification cross reference
<b>DateRange</b>	DateRange (See <a href="#">DateRange</a> on page A-12)	CreatedBetweenDateRange or ModifiedBetweenDateRange
<b>IncludeSpecTemplates (v25 and v30 only)</b>	boolean	Search results include specification templates. (For v24, by default, excludes templates from search results.)
<b>Originators</b>	Originators	List of usernames or user external IDs. These are login names.
<b>SpecName</b>	string	Name of specification
<b>ShortName</b>	string	Short name of specification. Only returned if ShortName is enabled through the core application FeatureConfig.
<b>SpecStatus</b>	string[]	List of specification workflow statuses
<b>SpecTypes</b>	string[]	List of four digit specification type values. See <a href="#">Condition D - Specification Types</a> on page A-2.

## DateRange

Abstract object that represents a date range (Start Date and End Date)

### Subtypes

- ModifiedBetweenDateRange
- CreatedBetweenDateRange

Table A-7: Objects

Name	Type	Description
<b>StartDate</b>	datetime	Start date for search; required
<b>EndDate</b>	datetime	Optional

### Schema Component Representation

```

<xs:complexType name="DateRange">
  <xs:sequence>
    <xs:element name="StartDate" type="xs:dateTime" />
    <xs:element minOccurs="0" name="EndDate" type="xs:dateTime" />
  </xs:sequence>
</xs:complexType>

```

## ModifiedBetweenDateRange

Date range used to evaluate a specification's modified date

### *Supertype*

- DateRange

Table A-8: Objects

Name	Type	Description
<b>StartDate</b>	datetime	Start date for search; required
<b>EndDate</b>	datetime	Optional

## CreatedBetweenDateRange

Date range used to evaluate a specification's created date

### *Supertype*

- DateRange

Table A-9: Objects

Name	Type	Description
<b>StartDate</b>	datetime	Start date for search; required
<b>EndDate</b>	datetime	Optional

## tSpecificationSummaryWrapper

- Wrapper object that contains a tSpecificationSummary.

Table A-10: Objects

Name	Type	Description
<b>SpecSummary</b>	tSpecificationSummary (See <a href="#">tSpecificationSummary</a> on page A-14)	Specification Summary object

## tSpecificationSummary

- Represents common Specification Summary data.

Table A-11: Objects

Name	Type	Description
<b>Name</b>	string	Specification name
<b>ShortName</b>	string	Specification short name; will not be included if feature configuration for short name is disabled
<b>specificationIdentifier</b>	tSpecificationIdentifier (See <a href="#">tSpecificationIdentifier</a> on page A-11)	Spec Number, Issue Number, and list of cross references
<b>SpecType</b>	integer	Specification type (4 digit code)
<b>Status</b>	string	Workflow status
<b>Category</b>	string	Specification taxonomy category
<b>SubCategory</b>	string	Specification taxonomy subcategory
<b>Group</b>	string	Specification taxonomy group
<b>Originator</b>	string	Specification originator's last name and first name
<b>EffectiveDate</b>	datetime	Specification's Effective Date
<b>InactiveDate</b>	datetime	Specification's Inactive Date
<b>Supercedes</b>	string	Specification supercedes value
<b>ReasonForChange</b>	string	Specification Reason for change value
<b>IsTemplate (v25 and v30 only)</b>	boolean	Indicates if the specification is a template

## tCostItem

This represents a cost item displayed in GSM.

Table A-12: Objects

Name	Type	Description
<b>SpecCostCrossReference</b>	tCrossReference (See <a href="#">tCrossReference</a> on page A-10)	Cross reference of the specification to modify
<b>Currency</b>	string	ISO code for the currency to use
<b>CostType</b>	string	
<b>SCRMEntity</b>	tSCRMEntity (See <a href="#">tSCRMEntity</a> on page A-14)	SCRМ Facility to associate the specification cost to; required
<b>Cost</b>	double	The new cost value; required
<b>CostUOM</b>	string	ISO code
<b>EffectiveDate</b>	dateTime	When the value goes into effect; required

## tSCRMEntity

This is an abstract base class for SCRМ items

## tSCRMCompany

This is a tSCRMEntity that identifies an SCRM company

Table A-13: Objects

Name	Type	Description
<b>companyIdentifier</b>	tSCRMEntityIdentifier (See <a href="#">tSCRMEntityIdentifier</a> on page A-15)	Identifies one company

## tSCRMFacility

This is a tSCRMEntity that identifies an SCRM facility

Table A-14: Objects

Name	Type	Description
<b>companyIdentifier</b>	tSCRMEntityIdentifier (See <a href="#">tSCRMEntityIdentifier</a> on page A-15)	Identifies one facility

## tSCRMEntityIdentifier

Abstract object that represents entity identifying information used as input criteria, such as a facility number OR a cross reference (SystemId and Equivalent)

### Subtypes

- tSCRMEntityNumber
- tSCRMEntityCrossRef

## tSCRMEntityNumber

This is a tSCRMEntityIdentifier that identifies an entity number, such as facility number

Table A-15: Objects

Name	Type	Description
<b>EntityNumber</b>	string	Facility profile number

## tSCRMEntityCrossRef

This is a facility's cross references (SystemId and Equivalent) and is used in input to identify a SCRMEntity specification.

### *Supertype*

tSCRMEntityIdentifier

Table A-16: Objects

Name	Type	Description
<b>SystemId</b>	string	ID of a third-party
<b>EquivalentValue</b>	string	ID of an SCRMEntity item in a third-party system

### *Schema Component Representation*

```
<xs:complexType name="tSCRMEntityCrossRef">
  <xs:complexContent mixed="false">
    <xs:extension base="tns:tSCRMEntityIdentifier">
      <xs:sequence>
        <xs:element name="SystemId" type="xs:string"
nillable="true"/>
        <xs:element name="EquivalentValue" type="xs:string"
nillable="true"/>
      </xs:sequence>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

## tExtSCRMEntityCrossRef

This is a facility's cross references (SystemId and Equivalent) and is used in output.

### *Supertype*

tSCRMEntityCross Ref

Table A-17: Objects

Name	Type	Description
<b>SystemId</b>	string	ID of a third-party
<b>EquivalentValue</b>	string	ID of an SCRMEntity item in a third-party system
<b>Status</b>	string	Valid status defined in system; 40 characters

## tSCRMEntityIdentifier

Abstract object that represents entity identifying information used as input criteria, such as a facility number OR a cross reference (SystemId and Equivalent)

*Subtypes*

- tSCRMEntityNumber
- tSCRMEntityCrossRef

**tSCRMEntityNumber**

Represents an entity number, such as a facility or company number

*Supertype*

tSCRMEntityIdentifier

Table A-18: Objects

Name	Type	Description
<b>EntityNumber</b>	string	Facility or company profile number

**tSCRMEntityCrossRef**

Represents a facility's or company's cross references (SystemId and Equivalent)

*Supertype*

tSCRMEntityIdentifier

Table A-19: Objects

Name	Type	Description
<b>SystemId</b>	string	ID of a third-party
<b>EquivalentValue</b>	string	ID of an SCRM item in a third-party system

*Schema Component Representation*

```

<xs:complexType name="tSCRMEntityCrossRef">
  <xs:complexContent mixed="false">
    <xs:extension base="tns:tSCRMEntityIdentifier">
      <xs:sequence>
        <xs:element name="SystemId" type="xs:string"
nillable="true"/>
        <xs:element name="EquivalentValue" type="xs:string"
nillable="true"/>
      </xs:sequence>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>

```

## tFacility

Represents a facility used by output

Table A-20: Objects

Name	Type	Description
<b>SystemId</b>	string	ID of a third-party
<b>EquivalentValue</b>	string	ID of an SCRM item in a third-party system
<b>FacilityInfo</b>	tFacilityInfo	See <a href="#">tFacilityInfo</a> on page A-18
<b>AdministrativeInfo</b>	tSCRMAAdministrativeInfo	See <a href="#">tSCRMAAdministrativeInfo</a> on page A-20
<b>BusinessUnits</b>	tSCRMBusinessUnits[]	See <a href="#">tSCRMBusinessUnits</a> on page A-20
<b>CrossRefs</b>	tExtSCRMEntityCrossRef[]	See <a href="#">tSCRMEntityCrossRef</a> on page A-17
<b>SpecRelatedSourcingApprovals</b>	tSpecRelatedSourcingApprovalInfo []	See <a href="#">tSpecRelatedSourcingApprovalInfo</a> on page A-20
<b>NonSpecRelatedSourcingApprovals</b>	tSCRMSourcingApprovalInfo	See <a href="#">tSCRMSourcingApprovalInfo</a> on page A-20

## tFacilityInfo

Represents general facility Summary data

Table A-21: Objects

Name	Type	Description
<b>Number</b>	string	Facility profile number
<b>Name</b>	string	Facility name
<b>WebSite</b>	string	Facility website
<b>Phone</b>	string	Facility phone
<b>Fax</b>	string	Facility fax
<b>StreetAddress</b>	tSCRMAAddress	Facility street address
<b>PostalAddress</b>	tSCRMAAddress	Facility postal address

## tCompany

Represents a company used by output

Table A-22: Objects

Name	Type	Description
<b>Number</b>	string	Facility profile number
<b>Name</b>	string	Facility name
<b>WebSite</b>	string	Facility website
<b>Phone</b>	string	Facility phone
<b>Fax</b>	string	Facility fax
<b>StreetAddress</b>	tSCRMAAddress	Facility street address

Table A-22: Objects

<b>PostalAddress</b>	tSCRMAddress	Facility postal address
<b>CompanyInfo</b>	tCompanyInfo	See <a href="#">tCompanyInfo</a> on page A-19
<b>AdministrativeInfo</b>	tSCRMAdministrativeInfo	See <a href="#">tSCRMAdministrativeInfo</a> on page A-20
<b>BusinessUnits</b>	tSCRMBusinessUnits[]	See <a href="#">tSCRMBusinessUnits</a> on page A-20
<b>ParentCompanies</b>	tSCRMEntityNumber[]	A collection of parent companies for a company
<b>ChildCompanies</b>	tSCRMEntityNumber[]	A collection of child companies for a company
<b>CrossRefs</b>	tExtSCRMEntityCrossRef[]	A collection of cross references for a company
<b>Facilities</b>	tSCRMEntityNumber[]	A collection of facilities associated with a company

## tCompanyInfo

Represents general company Summary data

Table A-23: Objects

Name	Type	Description
<b>Number</b>	string	Company profile number
<b>Name</b>	string	Company name
<b>WebSite</b>	string	Company website
<b>Phone</b>	string	Company phone
<b>Fax</b>	string	Company fax
<b>StreetAddress</b>	tSCRMAddress	Company street address
<b>PostalAddress</b>	tSCRMAddress	Company postal address

## tSCRMAddress

Represents an address

Table A-24: Objects

Name	Type	Description
<b>Street1</b>	string	Street address or a postal address
<b>Street2</b>	string	Street address or a postal address
<b>City</b>	string	City of a street address or a postal address
<b>State</b>	string	State or province of a street address or a postal address
<b>PostalCode</b>	string	Postal code of a street address or a postal address
<b>Country</b>	string	Country of a street address or a postal address

**tSCRMAdministrativeInfo**

Represents entity administrative information

Table A-25: Objects

Name	Type	Description
<b>specialAttributes</b>	string[]	Special attributes for a facility or company
<b>specialNotes</b>	string	Special notes for a facility or company

**tSCRMBusinessUnits**

Represents business units associated with an entity

Table A-26: Objects

Name	Type	Description
<b>Names</b>	string[]	Business unit names
<b>Status</b>	string	Status for business units

**tSpecRelatedSourcingApprovalInfo**

Represents specification-related sourcing approval information for a facility

Table A-27: Objects

Name	Type	Description
<b>Number</b>	string	Sourcing approval number
<b>PKID</b>	string	Sourcing approval PKID
<b>SpecNumber</b>	string	Related specification number

**tSRMSSourcingApprovalInfo**

Represents non-specification related sourcing approval information for a facility

Table A-28: Objects

Name	Type	Description
<b>Number</b>	string	Sourcing approval number
<b>PKID</b>	string	Sourcing approval PKID

## tCustomLookup

This describes one custom lookup option used by qualitative lookup extended attributes

Table A-29: Objects

Name	Type	Description
<b>Category</b>	string	Each extended attribute displays one category of options. This is the name of one category. The name does not have to already exist.
<b>Value</b>	string	The text displayed for this custom lookup option
<b>ExternalId</b>	string	A key for this option from a third-party system
<b>Sequence</b>	integer	The user interface displays options by sequence number. Lower numbers display before higher ones.
<b>Status</b>	integer	See <a href="#">Status Codes</a> on page A-6

## tNutrientDataWrapper

This describes the nutrient items for one specification

Table A-30: Objects

Name	Type	Description
<b>specificationIdentifier</b>	tSpecificationIdentifier (See <a href="#">tSpecificationIdentifier</a> on page A-11)	Specification number, issue number, and list of cross references
<b>SpecType</b>	integer	A specification type code. See <a href="#">Condition D - Specification Types</a> on page A-2.
<b>NutrientItems</b>	tNutrientItem[] (See <a href="#">tNutrientItem</a> on page A-21)	Nutrient items for the specification

## tNutrientItem

This describes one nutrient item for one specification

Table A-31: Objects

Name	Type	Description
<b>InfoodsCode</b>	string	INFOODS tag name for the type of nutrient
<b>ValuePer100Gms</b>	double	The amount of the nutrient per 100g of the item
<b>UOM</b>	tUOM	ISO code, ID, and abbreviated name for the unit for ValuePer100Gms
<b>Source</b>	string	Source description
<b>Comments</b>	string	Additional notes

## tActivityInfo

Represents activity information used as output

Table A-32: Objects

Name	Type	Description
<b>ActivitySummary</b>	tActivitySummary	Activity summary
<b>PrimaryActionItemInfo</b>	tPrimaryActionItemInfo	Activity primary action item
<b>RelatedItemInfos</b>	tRelatedItemInfo[]	An array of activity related items

## tActivitySummary

Represents an activity summary information

Table A-33: Objects

Name	Type	Description
<b>Title</b>	string	Activity title
<b>Number</b>	tSpecificationNumber	Activity number
<b>Type</b>	tIDName	Activity type
<b>Originator</b>	string	Activity originator
<b>Status</b>	string	Activity status
<b>SpecialNotes</b>	string	Special notes
<b>SpecReaderNotificationFlag</b>	boolean	Notify specification reader of this activity
<b>EffectiveDate</b>	DateTime	Effective date
<b>InactiveDate</b>	DateTime	Inactive date
<b>LastEditDate</b>	DateTime	Last edit date

## tPrimaryActionItemInfo

Represents an activity primary action item

Table A-34: Objects

Name	Type	Description
<b>ItemName</b>	string	Primary action item name
<b>ItemNumber</b>	tSpecificationNumber	Primary action item number
<b>ItemStatusDependentFlag</b>	boolean	Specification status is dependent on the status of this activity.

**tRelatedItemInfo**

Represents an activity related item

Table A-35: Objects

Name	Type	Description
<b>Type</b>	tIDName	Related item type
<b>Name</b>	string	Related item name
<b>Number</b>	tSpecificationNumber	Related item number
<b>Status</b>	string	Related item status
<b>Comments</b>	string	Related item comments

**tIDName**

Represents a combination of ID and Name (value).

Table A-36: Objects

Name	Type	Description
<b>ID</b>	string	ID part of a list item
<b>Name</b>	string	Name/Value part of a list item

**tCustomSectionMetaDataInputCriteria**

Abstract object that represents custom section identifying information used as input criteria, such as the custom section id OR custom section number

*Subtypes*

- tCustomSectionID
- tCustomSectionNumber

**tCustomSectionID**

Represents an entity ID, such as custom section ID

*Supertype*

tCustomSectionMetaDataInputCriteria

Table A-37: Objects

Name	Type	Description
<b>customSectionID</b>	string	Custom section profile ID

## tCustomSectionNumber

Represents an entity number, such as custom section number

### *Supertype*

tCustomSectionMetaDataInputCriteria

Table A-38: Objects

Name	Type	Description
<b>customSectionNumber</b>	string	Custom section profile number

## tCustomSection

Represents a custom section used by output

Table A-39: Objects

Name	Type	Description
<b>Number</b>	string	Custom section number
<b>ID</b>	string	Custom section ID
<b>DynamicTags</b>	string[]	Custom section dynamic tags
<b>HideHeader</b>	boolean	Custom section Hide Header
<b>customSectionRows</b>	tCustomSectionRow[]	See <a href="#">tCustomSectionRow</a> on page A-24
<b>customSectionColumns</b>	tCustomSectionColumn[]	See <a href="#">tCustomSectionColumn</a> on page A-24

## tCustomSectionRow

Represents general custom section row summary data

Table A-40: Objects

Name	Type	Description
<b>Sequence</b>	int	Custom section row sequence
<b>ID</b>	string	Custom section row ID
<b>DynamicTags</b>	string[]	Custom section row dynamic tags

## tCustomSectionColumn

Represents general custom section column summary data

Table A-41: Objects

Name	Type	Description
<b>Sequence</b>	int	Custom section column sequence
<b>ID</b>	string	Custom section column ID
<b>Width</b>	int	Custom section column width
<b>PrintWidth</b>	double	Custom section column print width
<b>DynamicTags</b>	string[]	Custom section column dynamic tags

## tExtendedAttribute

Represents an extended attribute used by output

Table A-42: Objects

Name	Type	Description
<b>ID</b>	string	Extended attribute ID
<b>DynamicTags</b>	string[]	Extended attribute dynamic tags

## tSpecIngredientStatementInfo

Represents specification material statement information used as output

Table A-43: Objects

Name	Type	Description
<b>SpecificationIdentifier</b>	tSpecificationIdentifier (See <a href="#">tSpecificationIdentifier</a> on page A-11)	A specification identifier
<b>IngredientStatement</b>	string	A material statement for the specification
<b>CombinedStatement</b>	string	A combined statement for the specification

## tEQNumber

Represents an entity ID, such as custom section ID or extended attribute ID

Table A-44: Objects

Name	Type	Description
<b>EQNumber</b>	string	EQ number

## tEQExtendedAttribute

Represents an eQ extended attribute used by output

Table A-45: Objects

Name	Type	Description
<b>eqNumber</b>	tEQNumber	EQ number
<b>extension</b>	tExtension	See <a href="#">tExtension</a> on page A-26

## tExtension

Represents general eQ extended attribute summary data

Table A-46: Objects

Name	Type	Description
<b>Any</b>	XmlElement	See <i>Extended Attribute Types Schema</i> on page A-26
<b>MustUnderstand</b>	int	
<b>MustUnderstandSpecified</b>	boolean	

### Extended Attribute Types Schema

Please see the Extended Attribute type schema document, *ExtendedAttributeTypes.xsd*, located in the Web\Integration\Contracts\Prodika\Schema folder for details

## tEQComplianceInfo

Represents an EQ compliance data

Table A-47: Objects

Name	Type	Description
<b>eqIdentifier</b>	tEQIdentifier	EQ Number and type
<b>ComplianceWith</b>	tComplianceItem	Compliance name and external ID
<b>AllergensContained</b>	tComplianceItemContained	Compliance name and Measurement and Source
<b>AdditivesContained</b>	tComplianceItemContained	Compliance name and Measurement and Source
<b>IntolerancesContained</b>	tComplianceItemContained	Compliance name and Measurement and Source
<b>AllergensNotContained</b>	tComplianceItem	Compliance name and external ID
<b>AdditivesNotContained</b>	tComplianceItem	Compliance name and external ID
<b>IntoleranceNotContained</b>	tComplianceItem	Compliance name and external ID
<b>AllergensPossiblyContained</b>	tComplianceItemContained	Compliance name and Measurement and Source
<b>AdditivesPossiblyContained</b>	tComplianceItemContained	Compliance name and Measurement and Source
<b>IntolerancesPossiblyContained</b>	tComplianceItemContained	Compliance name and Measurement and Source
<b>AllergensFreeText</b>	String	Allergens free text
<b>IntolerancesFreeText</b>	String	Intolerance free text
<b>AdditivesFreeText</b>	String	Additives free text

**tEQIdentifier**

Represents EQ number and type information used by output

Table A-48: Objects

Name	Type	Description
<b>EQNumber</b>	string	EQ number
<b>ModelTypeID</b>	string	EQ type

**tComplianceItem**

Represents EQ compliance name information used by output

Table A-49: Objects

Name	Type	Description
<b>Name</b>	string	Compliance with value
<b>ExternalID</b>	string	External ID

**tComplianceItemContained**

Represents EQ compliance items information used by output

Table A-50: Objects

Name	Type	Description
<b>ComplianceItem</b>	tComplianceItem	Allergen or Intolerance or Additive value
<b>MaxPer100Grams</b>	tMeasurement	Allergen or Intolerance or Additive measurement
<b>Source</b>	string	Allergen or Intolerance or Additive Source

**tEQSummary**

Represents EQ summary data

Table A-51: Objects

Name	Type	Description
<b>EQNumber</b>	string	EQ number
<b>EQLabel</b>	string	EQ label
<b>EQType</b>	string	EQ type
<b>Status</b>	string	EQ status
<b>DateSent</b>	DateTime	EQ send data to supplier
<b>DueDate</b>	DateTime	EQ due date
<b>DateReceived</b>	DateTime	EQ receive data from supplier
<b>IsSupplierInitiated</b>	boolean	Is or not supplier initiated
<b>IsImported</b>	boolean	Is or not imported to GSM
<b>Comments</b>	string	EQ comments
<b>PrimaryOwner</b>	String	EQ primary owner

Table A-51: Objects

<b>AdditionalAdmins</b>	String	EQ additional administrators
<b>SupplierContactInfo</b>	tSupplierContactInfo	Supplier contact information
<b>CompanyContactInfo</b>	tCompanyContactInfo	Supplier contact information
<b>MaterialName</b>	string	Imported specification value

## tSupplierContactInfo

Represents EQ supplier contact information used by output

Table A-52: Objects

Name	Type	Description
<b>ContactName</b>	string	Contact name
<b>CompanyName</b>	string	Company name
<b>ProdikaSCRMNo</b>	string	Prodika SCRM#
<b>EmailAddress</b>	string	Email address

## tCompanyContactInfo

Represents EQ supplier company contact information used by output

Table A-53: Objects

Name	Type	Description
<b>ContactName</b>	string	Supplier contact name
<b>CompanyName</b>	string	Supplier company name

## tEQIdentifier

Represent EQ number and type information used by output

Table A-54: Objects

Name	Type	Description
<b>EQNumber</b>	string	EQ number
<b>ModelTypeID</b>	string	EQ type

## tNutrientInfo

Represent an EQ nutrient data

Table A-55: Objects

Name	Type	Description
<b>EQIdentifier</b>	tEQIdentifier	EQ number and type
<b>NutrientItems</b>	tNutrientItem[]	EQ nutrient details

## tEQCriteriaItem

Represents an EQ criteria item data

Table A-56: Objects

Name	Type	Description
<b>EQIdentifier</b>	tEQIdentifier	EQ number and type

## tLegacySystem

Represents a syndicate target system

Table A-57: Objects

Name	Description
<b>externallyManaged</b>	Identifies whether this cross reference value is managed externally.
<b>referenceNumber</b>	Identifies the reference number of the TIP item in the syndicate target system.
<b>systemName</b>	Identifies the syndicate target system code in Agile PLM for Process.

## tPQMItemIdentifier

Represents PQM item identifying information used as output; includes the PQM number and a list of cross references (SystemId and Equivalent).

Table A-58: Objects

Name	Type	Description
<b>ItemNumber</b>	string	PQM item number
<b>ItemPKID</b>	string	PQM item pkid
<b>CrossReferences</b>	tExtCrossReference	PQM item cross references
<b>Title</b>	string	PQM item title
<b>WorkflowStatus</b>	string	PQM item workflow status description
<b>PqmType</b>	string	Indicate the PQM item type (issue/ action/audit)
<b>PqmSubType</b>	PQMItemType	PQM item sub type

## tExtCrossReference

Represents a PQM item's cross references (SystemId and Equivalent, Status) in output and also in the input of Adding PQM Cross Reference.

### Supertype

- tCrossReference

Table A-59: Objects

Name	Type	Description
<b>SystemId</b>	string	ID of a third-party system; 50 characters
<b>EquivalentValue</b>	string	ID of a PQM item in a third-party system; 50 characters
<b>Status</b>	string	The status of the item
<b>ExtManaged</b>	boolean	Indicates whether it is managed by external system

## tPQMItemType

Represents a PQM item's sub type.

Table A-60: Objects

Name	Type	Description
<b>Name</b>	string	Sub type name
<b>Abbreviation</b>	string	ID of a PQM item in a third-party system; 50 characters
<b>SystemType</b>	tCommonLookup	See tCommonLookup, below

## tCommonLookup

Contains 2 fields (Name and Optional Value)

Table A-61: Objects

Name	Type	Description
<b>Name</b>	string	
<b>OptionalValue</b>	string	

## tPqmCommonSummary

Represents PQM item summary information which existed in all 3 types (issue, action, audit).

Table A-62: Objects

Name	Type	Description
<b>PQMItemIdentifier</b>	tPQMItemIdentifier	PQM item identifier
<b>Description</b>	string	PQM item description
<b>Originator</b>	string	PQM item originator
<b>ProcessTemplate</b>	string	PQM item workflow template
<b>ProductLines</b>	tCommonLookup[]	PQM item product lines

Table A-62: Objects

<b>Customers</b>	tCommonLookup[]	PQM item customers
<b>IsTemplate</b>	bool	True if it is a PQM item template
<b>CreatedDate</b>	DateTime	PQM item CreatedDate
<b>CompletedDate</b>	DateTime	PQM item CompletedDate
<b>ReleasedDate</b>	DateTime	PQM item ReleasedDate
<b>SubmittedDate</b>	DateTime	PQM item SubmittedDate

### tPqmlIssueSpecificSummary

Represents PQM item summary information which only existed in a PQM issue.

Table A-63: Objects

Name	Type	Description
<b>OccurrenceDate</b>	DateTime	PQM item OccurrenceDate
<b>ExpectedResolutionDate</b>	DateTime	PQM item ExpectedResolutionDate
<b>Severity</b>	tCommonLookup	PQM item Severity
<b>Resolution</b>	tCommonLookup	PQM item Resolution

### tPqmActionSpecificSummary

Represents PQM item summary information which only existed in a PQM action.

Table A-64: Objects

Name	Type	Description
<b>PreventativeAction</b>	string	PQM item PreventativeAction
<b>RootCauseAnalysis</b>	string	PQM item RootCauseAnalysis
<b>AssociatedProject</b>	tPQMAssociatedProject	PQM item AssociatedProject
<b>Resolution</b>	tCommonLookup	PQM item Resolution

### tPqmAuditSpecificSummary

Represents PQM item summary information which only existed in a PAM audit.

Table A-65: Objects

Name	Type	Description
<b>PlannedAuditDate</b>	DateTime	PQM item PlannedAuditDate
<b>ActualAuditDate</b>	DateTime	PQM item ActualAuditDate
<b>AuditResult</b>	tCommonLookup	PQM item AuditResult

**tPQMAssociatedProject**

Represents an Associated Project of a PQM action.

Table A-66: Objects

Name	Type	Description
<b>ProjectNumber</b>	string	Associated Project Number
<b>ProjectName</b>	string	Associated Project Name
<b>ProjectOwner</b>	string	Associated Project Owner

**tBasePQMItemSearchIdentifier**

An input in a PQM web service used to identify a PQM item.

Table A-67: Objects

Name	Type	Description
<b>ItemNumber</b>	integer	PQM item number
<b>ItemPKID</b>	string	PQM item pkid
<b>ProjectOwner</b>	tCrossReference	Associated Project Owner

**tCrossReference**

Represents a PQM's cross references (SystemId and Equivalent,) in input.

*Supertype*

- tCrossReference

Table A-68: Objects

Name	Type	Description
<b>SystemId</b>	string	ID of a third-party system; 50 characters
<b>EquivalentValue</b>	string	ID of a PQM item in a third-party system; 50 characters

**tPQMItemSearchIdentifier**

An input in a PQM web service to identify a PQM item.

*Supertype*

- tBasePQMItemSearchIdentifier

Table A-69: Objects

Name	Type	Description
<b>SystemId</b>	string	ID of a third-party system; 50 characters

Table A-69: Objects

<b>EquivalentValue</b>	string	ID of a PQM item in a third-party system; 50 characters
<b>Status</b>	string	The status of the item
<b>ExtManaged</b>	boolean	Indicated whether it is managed by an external system
<b>ItemType</b>	string	Only 4 values allowed: ISSUE, ACTION, AUDIT, ALL

## tIssueDetails

Contains all the issue summary details information used for create/update issue summary.

Table A-70: Objects

Name	Type	Description
<b>IssueTitle</b>	string	PQM item title max 256 characters; required
<b>IssueDescription</b>	string	PQM item description max 4000 characters
<b>IssueType</b>	string	Name of Issue type defined in admin; required
<b>WorkflowTemplateName</b>	string	A value in the system; required
<b>WorkflowStepBehaviorID</b>	int	A value in the system; required Use this value and WorkflowTemplateName to retrieve the workflow status. If multiple values are returned, report error.
<b>Originator</b>	tOriginatorIdentifier	User login name or external ID, defined in admin 1 of the 2 (user login name and external id) is required and only one is allowed
<b>OccurenceDate</b>	DateTime	
<b>ExpectedResolutionDate</b>	DateTime	
<b>Severity</b>	string	Severity name An Active value defined in Admin>>PQM>>Severity
<b>Resolution</b>	string	Resolution name An Active value defined in Admin>>PQM>> Resolution
<b>ProductLines</b>	String[]	Product Line Names An Active value defined in Admin>>PQM>> ProductLines
<b>Customers</b>	String[]	Customers names An Active value defined in Admin>>PQM>> Customers

Table A-70: Objects

<b>CreateDate</b>	DateTime	Optional, If provided, should override after save.
<b>CompleteDate</b>	DateTime	Optional, If provided, should override after save.
<b>ReleasedDate</b>	DateTime	Optional, If provided, should override after save.
<b>SubmittedDate</b>	DateTime	Optional, If provided, should override after save.

## tActionDetails

Contains all the action summary details information used for create/update action summary.

Table A-71: Objects

Name	Type	Description
<b>ProblemStatement</b>	string	PQM item title max 256 required
<b>ActionDescription</b>	string	PQM item description max 4000 characters
<b>ActionType</b>	string	Name of Issue type defined in admin; required
<b>WorkflowTemplateName</b>	string	A value in the system; required
<b>WorkflowStepBehaviorID</b>	int	A value in the system; required Use this value and WorkflowTemplateName to retrieve the workflow status. If multiple values are returned, report error.
<b>Originator</b>	tOriginatorIdentifier	User login name or external ID, defined in admin 1 of the 2 (user login name and external id) is required and only one is allowed
<b>ProductLines</b>	String[]	Product Line Names An Active value defined in Admin>>PQM>> ProductLines
<b>Customers</b>	String[]	Customer names An Active value defined in Admin>>PQM>> Customers
<b>PreventativeAction</b>	string	Preventative action description Max: 4000 characters
<b>RootCauseAnalysis</b>	string	Root Cause Analysis Description Max: 4000 characters

Table A-71: Objects

<b>AssociatedNPDProject</b>	tAssociatedNPDProject	Used to identifier the associated NPD project
<b>CreateDate</b>	DateTime	Optional, If provided, should override after save.
<b>CompleteDate</b>	DateTime	Optional, If provided, should override after save.
<b>ReleasedDate</b>	DateTime	Optional, If provided, should override after save.
<b>SubmittedDate</b>	DateTime	Optional, If provided, should override after save.

**tAssociatedNPDProject**

Used to identifier the Associated NPD project.

Table A-72: Objects

Name	Type	Description
<b>ItemInternalID</b>	string	NPD project internal ID
<b>NPDProjectNum</b>	string	NPD project number
<b>ItemExternalID</b>	string	NPD project external ID
<b>SourceSystemID</b>	string	“NPD” if it is from v6.1.1 or any other external system ID

**tAuditDetails**

Contains all the audit summary details information used for create/update audit summary.

Table A-73: Objects

Name	Type	Description
<b>AuditTitle</b>	string	PQM item title max 256 required
<b>AuditDescription</b>	string	PQM item description max 4000 characters
<b>AuditType</b>	string	Name of Issue type defined in admin; required
<b>WorkflowTemplateName</b>	string	A value in the system; required
<b>WorkflowStepBehaviorID</b>	int	A value in the system; required Use this value and WorkflowTemplateName to retrieve the workflow status. If multiple values are returned, report error.

Table A-73: Objects

<b>Originator</b>	tOriginatorIdentifier	User login name or external ID, defined in admin 1 of the 2 (user login name and external id) is required and only one is allowed
<b>PlannedAuditDate</b>	DateTime	Valid date
<b>ProductLines</b>	String[]	Product Line Names An Active value defined in Admin>>PQM>> ProductLines
<b>Customers</b>	String[]	Customer names An Active value defined in Admin>>PQM>> Customers
<b>AuditResult</b>	string	Audit Result Description An Active value defined in Admin>>PQM>> Audit Result
<b>CreateDate</b>	DateTime	Optional, If provided, should override after save.
<b>CompleteDate</b>	DateTime	Optional, If provided, should override after save.
<b>ReleasedDate</b>	DateTime	Optional, If provided, should override after save.
<b>SubmittedDate</b>	DateTime	Optional, If provided, should override after save.

**tPQMItemSupplierIdentifier**

Output of get Supplier API, contains a tPQMItemIdentifier and an array of tPQMItemSupplier[].

Table A-74: Objects

Name	Type	Description
<b>PQMItemIdentifier</b>	tPQMItemIdentifier	See <a href="#">tPQMItemIdentifier</a> on page A-29
<b>PQMItemSuppliers</b>	tPQMItemSupplier[]	An array of PQM Item Supplier Object which belongs to the PQM item

## tPQMItemSupplier

Represents a PQM supplier info, as an output.

Table A-75: Objects

Name	Type	Description
<b>SourceSystemIdentifier</b>	tSourceSystemIdentifier	See <a href="#">tSourceSystemIdentifier</a> on page A-37
<b>CompanyDescription</b>	string	PQM supplier company description
<b>FacilityDescription</b>	string	PQM supplier facility description

## tSourceSystemIdentifier

Represents a PQM supplier info, as an output.

Table A-76: Objects

Name	Type	Description
<b>ItemInternalID</b>	string	An item's (could be GSM specification or SCRM company/facility) internal ID
<b>ItemExternalID</b>	string	A item's external ID
<b>ItemType</b>	string	A item's item type
<b>SourceSystemID</b>	string	The source system ID; if from SCRM, the value should be "SCRM"

## tPQMItemSupplierSearchIdentifier

Abstract object that represents PQM supplier identifying information used as input criteria, such as the SCRM entity number or a cross reference (System ID and Equivalent) or source system information.

### Subtypes

- tSourceSystemPQMItemSupplierIdentifier
- tSCRMEntityCrossRefPQMItemSupplierIdentifier
- tSCRMEntityNumberPQMItemSupplierIdentifier

## tSourceSystemPQMItemSupplierIdentifier

Represents a PQM supplier's source system information.

### Supertype

- tPQMItemSupplierSearchIdentifier

Table A-77: Objects

Name	Type	Description
<b>SourceSystemIdentifier</b>	tSourceSystemIdentifier	Source system identifier

**tSCRMEntityCrossRefPQMItemSupplierIdentifier**

Represents a PQM supplier using company/facility cross reference.

*Supertype*

- tPQMItemSupplierSearchIdentifier

Table A-78: Objects

Name	Type	Description
<b>ScrmEntityCrossRef</b>	tSCRMEntityCrossRef	Company/facility cross reference

**tSCRMEntityNumberPQMItemSupplierIdentifier**

Represents a PQM supplier using company/facility entity number.

*Supertype*

- tPQMItemSupplierSearchIdentifier

Table A-79: Objects

Name	Type	Description
<b>ScrmEntityNumber</b>	tSCRMEntityNumber	Entity number

**tPQMItemAffectedItemsResult**

Output of get Affected Items API, contains a tPQMItemIdentifier and an array of tPQMAffectedItem [].

Table A-80: Objects

Name	Type	Description
<b>PQMItemIdentifier</b>	tPQMItemIdentifier	See <a href="#">tPQMItemIdentifier</a> on page A-29
<b>AffectedItems</b>	tPQMAffectedItem []	An array of PQM Item affected items Object which belongs to the PQM item

**tPQMAffectedItem**

Represents a PQM affected item info, as an output.

*Subtypes*

- tIssueAffectedItem

Table A-81: Objects

Name	Type	Description
<b>SourceSystemID</b>	string	PQM affected item source system Id. If it is a GSM specification, should be 'GSM'
<b>RevisionFoundItemNumber</b>	string	Item Number of the affected item found
<b>RevisionFoundItemRevision</b>	string	Item revision of the affected item found

Table A-81: Objects

<b>RevisionFixedItemNumber</b>	string	Item Number of the affected item fixed
<b>RevisionFixedItemRevision</b>	string	Item revision of the affected item fixed
<b>RevisionFoundItemInternalID</b>	string	Item internal ID of the affected item found
<b>RevisionFoundItemExternalID</b>	string	Item external ID of the affected item found
<b>RevisionFixedItemInternalID</b>	string	Item internal ID of the affected item fixed
<b>RevisionFixedItemExternalID</b>	string	Item external ID of the affected item fixed
<b>ItemType</b>	string	Item type of the affected item
<b>RevisionFoundComment</b>	string	Comments

## tIssueAffectedItem

Represents a PQM issue affected item info, as an output.

### Supertype

- tPQMAffectedItem

Table A-82: Objects

Name	Type	Description
<b>SourceSystemID</b>	string	PQM affected item source system ID. If it is a GSM specification, should be 'GSM'
<b>RevisionFoundItemNumber</b>	string	Item Number of the affected item found
<b>RevisionFoundItemRevision</b>	string	Item revision of the affected item found
<b>RevisionFixedItemNumber</b>	string	Item Number of the affected item fixed
<b>RevisionFixedItemRevision</b>	string	Item revision of the affected item fixed
<b>RevisionFoundItemInternalID</b>	string	Item internal ID of the affected item found
<b>RevisionFoundItemExternalID</b>	string	Item external ID of the affected item found
<b>RevisionFixedItemInternalID</b>	string	Item internal ID of the affected item fixed
<b>RevisionFixedItemExternalID</b>	string	Item external ID of the affected item fixed
<b>ItemType</b>	string	Item type of the affected item
<b>RevisionFoundComment</b>	string	Comments
<b>FailureType</b>	tCommonLookup	Failure type of the affected item
<b>AdditionalDisplayIdentifier</b>	string	AdditionalDisplayIdentifier of the affected item
<b>SiteAffected</b>	tPQMItemSupplier	Site Affected of the affected item

Table A-82: Objects

<b>QuantityAffected</b>	tMeasurement	Quantity Affected of the affected item
<b>ConformanceItemDescription</b>	string	Conformance Item Description of the affected item
<b>ConformanceItemID</b>	string	Conformance Item ID of the affected item
<b>ConformanceItemDescriptionExtended</b>	string	Conformance Item Description Extended of the affected item
<b>QtySuspected</b>	tMeasurement	Qty Suspected of the affected item
<b>SerialLotNum</b>	string	Serial Lot Num of the affected item
<b>QtyChecked</b>	tMeasurement	QtyChecked of the affected item
<b>ContainmentActions</b>	string	Containment Actions of the affected item
<b>RMA Num</b>	string	RMA Num of the affected item
<b>ConformingMaterialDate</b>	DateTime	Conforming Material Date of the affected item

## tAffectedItemInput

Represents an affected item; used in Add Affected Item as a input.

### Supertypes

- tIssueAffectedItemInput
- tNCRAffectedItemInput

Table A-83: Objects

Name	Type	Description
<b>AffectedItemIdentifier</b>	tPQMAffectedItemIdentifier	<p>Affected item identifier</p> <p>Could be 2 sub types:</p> <ul style="list-style-type: none"> <li>• tPQMAffectedItemSourceSystemId entifier is major used to identify affected items from third party system.</li> </ul> <p>It is strongly recommended to use tPQMAffectedItemGSMIdentifier if the affected item is GSM Spec, incorrect use of tPQMAffectedItemSourceSystemId entifier may lead to UI crash if using default config in v6.1.1.</p> <ul style="list-style-type: none"> <li>• tPQMAffectedItemGSMIdentifier is used to identify the affected item using GSM Spec Identifier Criterion</li> </ul>
<b>RevisionFoundComment</b>	string	Comments of the affected item

**tPQMAffectedItemIdentifier**

Affected item identifier, as a input.

*Subtypes*

- tPQMAffectedItemGSMIdentifier
- tPQMAffectedItemSourceSystemIdentifier

**tPQMAffectedItemGSMIdentifier**

tPQMAffectedItemGSMIdentifier is used to identify the affected item using GSM Spec Identifier Criterion.

*Supertype*

- tPQMAffectedItemIdentifier

Table A-84: Objects

Name	Type	Description
<b>AffectedGSMSpecFound</b>	tSpecIdentifierCriterion	Identify the Affected GSM spec found
<b>AffectedGSMSpecFixed</b>	tSpecIdentifierCriterion	Identify the Affected GSM spec fixed

**tPQMAffectedItemSourceSystemIdentifier**

tPQMAffectedItemSourceSystemIdentifier is used to identify affected items from third party systems.

*It is strongly recommended that you use tPQMAffectedItemGSMIdentifier if the affected item is GSM Spec. Incorrect use of tPQMAffectedItemSourceSystemIdentifier may lead to a UI crash if using default configuration in version 6.1.1.*

*Supertype*

- tPQMAffectedItemIdentifier

Table A-85: Objects

Name	Type	Description
<b>SourceSystemID</b>	string	SourceSystemID of the affected item
<b>RevisionFoundItemNumber</b>	string	ItemNumber of the affected item found
<b>RevisionFoundItemRevision</b>	string	Revision of the affected item found
<b>RevisionFixedItemNumber</b>	string	ItemNumber of the affected item fixed
<b>RevisionFixedItemRevision</b>	string	Revision of the affected item fixed
<b>RevisionFoundItemInternalID</b>	string	ItemInternalID of the affected item found

Table A-85: Objects

<b>RevisionFoundItemExternalID</b>	string	ExternalID of the affected item found
<b>RevisionFixedItemInternalID</b>	string	ItemInternalID of the affected item fixed
<b>RevisionFixedItemExternalID</b>	string	ExternalID of the affected item fixed
<b>ItemType</b>	string	ItemType of the affected item

## tIssueAffectedItemInput

Issue Affected item input, as an input.

### Supertype

- tAffectedItemInput

### Subtypes

- tNCRAffectedItemInput

Table A-86: Objects

Name	Type	Description
<b>AffectedItemIdentifier</b>	tPQMAffectedItemIdentifier	Affected item identifier Could be 2 sub types: <ul style="list-style-type: none"> <li>• tPQMAffectedItemSourceSystemId entifier is major used to identify affected items from third party system.</li> </ul> It is strongly recommended to use tPQMAffectedItemGSMIdentifier if the affected item is GSM Spec, incorrect use of tPQMAffectedItemSourceSystemId entifier may lead to UI crash if using default config in v6.1.1. <ul style="list-style-type: none"> <li>• tPQMAffectedItemGSMIdentifier is used to identify the affected item using GSM Spec Identifier Criterion</li> </ul>
<b>RevisionFoundComment</b>	string	Comments of the affected item
<b>FailureType</b>	string	FailureType of the issue affected item
<b>QuantityAffected</b>	tMeasurement	QuantityAffected of the issue affected item
<b>SiteAffected</b>	tPQMItemSupplierSearch Identifier	SiteAffected of the issue affected item

## tNCRAffectedItemInput

NCR Issue Affected item input, as an input.

*Supertype*

- tAffectedItemInput
- tIssueAffectedItemInput

Table A-87: Objects

Name	Type	Description
<b>AffectedItemIdentifier</b>	tPQMAffectedItemIdentifier	Affected item identifier Could be 2 sub types: <ul style="list-style-type: none"> <li>• tPQMAffectedItemSourceSystemIdentifier is major used to identify affected items from third party system.</li> </ul> It is strongly recommended to use tPQMAffectedItemGSMIdentifier if the affected item is GSM Spec, incorrect use of tPQMAffectedItemSourceSystemIdentifier may lead to UI crash if using default config in v6.1.1. <ul style="list-style-type: none"> <li>• tPQMAffectedItemGSMIdentifier is used to identify the affected item using GSM Spec Identifier Criterion</li> </ul>
<b>RevisionFoundComment</b>	string	Comments of the affected item
<b>FailureType</b>	string	FailureType of the issue affected item
<b>QuantityAffected</b>	tMeasurement	QuantityAffected of the issue affected item
<b>SiteAffected</b>	tPQMItemSupplierSearchIdentifier	SiteAffected of the issue affected item
<b>ConformanceItemIdentifier</b>	tConformanceItemIdentifier	ConformanceItemIdentifier of the NCR issue affected item
<b>QtySuspected</b>	tMeasurement	QtySuspected of the NCR issue affected item
<b>SerialLotNum</b>	string	SerialLotNum of the NCR issue affected item
<b>QtyChecked</b>	tMeasurement	QtyChecked of the NCR issue affected item
<b>ContainmentAction</b>	string	ContainmentActions of the NCR issue affected item
<b>RMA Num</b>	string	RMA Num of the NCR issue affected item
<b>ConformingMaterialDate</b>	DateTime	ConformingMaterialDate of the NCR issue affected item

## tPQMSearchCriteria

Represents the search criteria of PQM items.

Table A-88: Objects

Name	Type	Description
<b>IncludePQMActions</b>	bool	Include PQM actions or not
<b>ActionTypes</b>	string[]	Should be valid action type names defined in ADMN>>PQM>>Action Type
<b>IncludePQMAudits</b>	bool	Include PQM audits or not
<b>AuditTypes</b>	string[]	Should be valid audit type names defined in ADMN>>PQM>>Audit Type
<b>IncludePQMIssues</b>	bool	Include PQM issues or not
<b>IssueTypes</b>	string[]	Should be valid issue type names defined in ADMN>>PQM>>Issue Type
<b>Title</b>	string	PQM item title
<b>Description</b>	string	The whole or part of PQM item description
<b>ProductLines</b>	string[]	Should be valid product line names defined in Admin>>PQM>>Product Lines
<b>Customers</b>	string[]	Should be valid customer names defined in ADMN>>PQM>>Customers
<b>Originators</b>	tUser[]	Array of originators
<b>Owners</b>	tUser[]	Array of owners
<b>IssueSeverity</b>	string	Should be a valid severity value for issue items
<b>Suppliers</b>	tSupplierSearchIdentifier[]	Array of supplier search identifiers
<b>Status</b>	string[]	PQM workflow status names
<b>RestrictToStatusWithIDs</b>	int[]	Array of workflow tag behavior IDs

## tSupplierSearchIdentifier

Represents the supplier identifying information used as input. A supplier could be either an external supplier (represented by tExternalSupplierSearchIdentifier) or a SCRM supplier (represented by tSCRMSupplierSearchIdentifier).

Table A-89: Objects

Name	Type	Description
<b>ExternalSearchIdentifier</b>	tExternalSupplierSearchIdentifier	Identifies a supplier from external system
<b>SCRMSearchIdentifier</b>	tSCRMSupplierSearchIdentifier	Identifies a supplier from SCRM

## tExternalSupplierSearchIdentifier

Represents the identifying information of supplier from external system.

Table A-90: Objects

Name	Type	Description
<b>InternalItemID</b>	string	Internal ID defined for the supplier
<b>ExternalItemID</b>	string	ID of the supplier in the source system
<b>SourceSystemID</b>	string	ID of the source system
<b>ItemType</b>	string	Item type of the supplier

## tSCRMSupplierSearchIdentifier

Represents the identifying information of supplier from SCRM. The supplier could be a company or a facility.

Table A-91: Objects

Name	Type	Description
<b>SCRMEntityPKID</b>	string	PKID of SCRM company or facility
<b>SCRMEntityNum</b>	tSCRMEntityNumber	Number of SCRM company or facility
<b>SCRMEntityCrossRef</b>	tSCRMEntityCrossRef	Including system ID and equivalent value

## tRelatedPQMItemsWrapper

Represents the information about the related items of PQM item used as output.

Table A-92: Objects

Name	Type	Description
<b>PQMItemIdentifier</b>	tPQMItemIdentifier	Identifier of PQM item
<b>RelatedIssues</b>	tRelatedPQMIssueItem[]	Array of one or more relates issue items
<b>RelatedActions</b>	tRelatedPQMActionItem[]	Array of one or more related action items
<b>RelatedAudits</b>	tRelatedPQMAuditItem[]	Array of one or more related audit items

## tRelatedPQMItem

Represents a related PQM item.

### Subtypes

- tRelatedPQMIssueItem
- tRelatedPQMActionItem

- tRelatedPQMAuditItem

Table A-93: Objects

Name	Type	Description
<b>PQMItemIdentifier</b>	tPQMItemIdentifier	Identifier of PQM item
<b>ExtendedDescription</b>	string	This is the value retrieved from the PQMRelatedItemFormatPlugin

## tRelatedPQMActionItem

Represents a related PQM action item.

### Supertype

tRelatedPQMItem

Table A-94: Objects

Name	Type	Description
<b>PQMItemIdentifier</b>	tPQMItemIdentifier	Inherited
<b>ExtendedDescription</b>	string	Inherited
<b>Relationship</b>	string	The relationship of PQM items, could be Child or Parent

## tRelatedPQMAuditItem

Represents a related PQM audit item.

### Supertype

tRelatedPQMItem

Table A-95: Objects

Name	Type	Description
<b>PQMItemIdentifier</b>	tPQMItemIdentifier	Inherited
<b>ExtendedDescription</b>	string	Inherited
<b>PlannedAuditDate</b>	DateTime	The planned audit date

## tCommonIdentifier

Represents the common identifying information of supporting document item.

### Subtypes

- tDRLDocumentIdentifier
- tDRLCatalogIdentifier

Table A-96: Objects

Name	Type	Description
<b>PKID</b>	string	The PKID of supporting document item
<b>Title</b>	string	The title of supporting document item

## tDRLDocumentIdentifier

Represents the identifying information of DRL document.

### *Supertype*

- tCommonIdentifier

Table A-97: Objects

Name	Type	Description
<b>PKID</b>	string	Inherited
<b>Title</b>	string	Inherited
<b>DocumentID</b>	tSpecificationNumber	The document ID of DRL document, including the SpecNumber and IssueNumber

## tDRLCatalogIdentifier

Represents the identifying information of DRL catalog.

### *Supertype*

tCommonIdentifier

Table A-98: Objects

Name	Type	Description
<b>PKID</b>	string	Inherited
<b>Title</b>	string	Inherited
<b>ExternalID</b>	string	The external ID of DRL catalog

## tAttachmentsWrapper

Represents the information of an attachment procedure used as output.

Table A-99: Objects

Name	Type	Description
<b>Identifier</b>	tCommonIdentifier	Identifier of attachment procedure
<b>CreationDate</b>	DateTime	Creation date of attachment procedure
<b>SecurityClassification</b>	string	Security classification name of attachment procedure
<b>Attachments</b>	tCommonIdentifier[]	Identifiers of the attachments in the procedure

## tDRLCatalog

Represents the information of DRL catalog used as output.

Table A-100: Objects

Name	Type	Description
<b>CatalogIdentifier</b>	tDRLCatalogIdentifier	Identifier of DRL catalog
<b>DRLDocuments</b>	tDRLDocumentIdentifier []	Identifiers of DRL documents in the catalog

## tPQMSupportingDocWrapper

Represents the supporting documents of a PQM item used as output.

Table A-101: Objects

Name	Type	Description
<b>PQMItemIdentifier</b>	tPQMItemIdentifier	Identifier of PQM item
<b>SupportingDocuments</b>	tAttachmentsWrapper[]	Attachment procedures added to the PQM item
<b>RichTextIdentifiers</b>	tCommonIdentifier[]	Identifiers of rich text supporting documents added to the PQM item
<b>URLSourceIdentifiers</b>	tCommonIdentifier[]	Identifiers of URL supporting documents added to the PQM item
<b>DRLDocumentIdentifiers</b>	tDRLDocumentIdentifier []	Identifiers of DRL documents added to the PQM item
<b>DRLCatalogs</b>	tDRLCatalog[]	DRL catalogs added to the PQM item

## tRichTextDoc

Represents a rich text supporting document used as output.

Table A-102: Objects

Name	Type	Description
<b>Identifier</b>	tCommonIdentifier	Identifier of the rich text supporting document
<b>CreationDate</b>	DateTime	Creation date of the rich text supporting document
<b>Content</b>	string	The HTML data of the rich text supporting

## tNewRichTextDoc

Represents a new rich text supporting document used as input.

Table A-103: Objects

Name	Type	Description
<b>Title</b>	string	Title of the rich text supporting document, required
<b>Content</b>	string	HTML data of the rich text supporting document
<b>KeyWords</b>	string	Keywords of the rich text supporting document

## tURLSource

Represents a URL supporting document used as output.

Table A-104: Objects

Name	Type	Description
<b>Identifier</b>	tCommonIdentifier	Identifier of the URL supporting document
<b>EffectiveDate</b>	DateTime	URL supporting document effective date
<b>InactiveDate</b>	DateTime	URL supporting document inactive date
<b>UploadDate</b>	DateTime	URL supporting document upload date
<b>URLPath</b>	string	URL path value of the supporting document
<b>PubToSupplierPortal</b>	boolean	This supporting document is published to Supplier Portal or not
<b>IsProprietary</b>	boolean	This supporting document is proprietary or not
<b>ExpireDateNotify</b>	boolean	Send notification before the expire date or not
<b>ExpireDateNotifyNumDays</b>	int	Specify the number of days in advance the expire notification will be sent

## tNewURLSource

Represents a new URL supporting document used as input.

Table A-105: Objects

Name	Type	Description
<b>Title</b>	string	URL supporting document title, required
<b>EffectiveDate</b>	DateTime	URL supporting document effective date
<b>InactiveDate</b>	DateTime	URL supporting document inactive date, no earlier than the effective date

Table A-105: Objects

<b>URLPath</b>	string	URL path value, required
<b>PubToSupplierPortal</b>	boolean	This supporting document is published to Supplier Portal or not
<b>IsProprietary</b>	boolean	This supporting document is proprietary or not
<b>ExpireDateNotify</b>	boolean	Send notification before the expire date or not
<b>ExpireDateNotifyNumDays</b>	int	Specify the number of days in advance the expire notification will be sent

## tDRLDocument

Represents a DRL document used as output.

Table A-106: Objects

Name	Type	Description
<b>DocumentIdentifier</b>	tDRLDocumentIdentifier	DRL document identifier
<b>Description</b>	string	DRL document description
<b>Classifications</b>	string[]	Classifications of the DRL document
<b>Version</b>	string	DRL document version
<b>Originator</b>	tUser	Originator of the DRL document
<b>DocumentDate</b>	DateTime	DRL document creation date
<b>ExpirationDate</b>	DateTime	DRL document expiration date
<b>PubToSupplierPortal</b>	boolean	This supporting document is published to Supplier Portal or not
<b>ExpireDateNotify</b>	boolean	Send notification before the expire date or not
<b>ExpireDateNotifyNumDays</b>	int	Specify the number of days in advance the expire notification will be sent
<b>Attachments</b>	tCommonIdentifier[]	Attachment identifiers of the DRL document

## tAttachment

Represents an attachment document.

### Subtype

tSupportingDocAttachment

Table A-107: Objects

Name	Type	Description
<b>Identifier</b>	tCommonIdentifier	Attachment identifier

Table A-107: Objects

<b>FileName</b>	string	File name of the attachment
<b>FileSize</b>	long	File size of the attachment
<b>Path</b>	string	File path of the attachment
<b>BlobStream</b>	Byte[]	Content data of the attachment

## tSupportingDocAttachment

Represents an attachment document of procedure.

### Supertype

tAttachment

Table A-108: Objects

Name	Type	Description
<b>Identifier</b>	tCommonIdentifier	Inherited
<b>FileName</b>	string	Inherited
<b>FileSize</b>	long	Inherited
<b>Path</b>	string	Inherited
<b>BlobStream</b>	Byte[]	Inherited
<b>FileType</b>	string	File type of the attachment
<b>Owner</b>	tUser	Owner of the attachment
<b>EffectiveDate</b>	DateTime	Attachment effective date
<b>InactiveDate</b>	DateTime	Attachment inactive date
<b>UploadDate</b>	DateTime	Attachment upload date
<b>PubToSupplierPortal</b>	boolean	This attachment is published to Supplier Portal or not
<b>IsProprietary</b>	boolean	This attachment is proprietary or not
<b>ExpireDateNotify</b>	boolean	Send notification before the expire date or not
<b>ExpireDateNotifyNumDays</b>	int	Specify the number of days in advance the expire notification will be sent

## tNewAttachment

Represents a new attachment document as input.

Table A-109: Objects

Name	Type	Description
<b>Title</b>	string	Attachment title, required
<b>FileName</b>	string	File name of the attachment, required
<b>FileType</b>	string	File type of the attachment, required
<b>Owner</b>	tUser	Attachment owner
<b>EffectiveDate</b>	DateTime	Attachment effective date
<b>InactiveDate</b>	DateTime	Attachment inactive date

Table A-109: Objects

<b>IsProprietary</b>	boolean	This supporting document is proprietary or not
<b>PubToSupplierPortal</b>	boolean	This DRL document is published to supplier portal or not
<b>ExpireDateNotify</b>	boolean	Send notification before the expire date or not
<b>ExpireDateNotifyNumDays</b>	int	Specify the number of days in advance the expire notification will be sent
<b>BlobStream</b>	Byte[]	Content data of the attachment, required

### tNewAttachmentsWrapper

Represents a new attachment procedure used as input.

Table A-110: Objects

Name	Type	Description
<b>SecurityClassification</b>	EnumSecurityClassifications	Security classification of attachment procedure
<b>NewAttachments</b>	tNewAttachment[]	Array of one or more new attachment documents

### tCustomSectionInstance

Represents an instance of custom section.

Table A-111: Objects

Name	Type	Description
<b>CustomSectionNumber</b>	string	Custom section number
<b>Content</b>	tExtension	The xml data represents the custom section instance