

Agile Product Lifecycle Management

Web Services Guide

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Preface

Agile PLM is a comprehensive enterprise PLM solution for managing your product value chain.

Audience

This document is intended for administrators and users of the Agile PLM products.

Documentation Accessibility

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Related Documents

Oracle's Agile PLM documentation set includes Adobe® Acrobat PDF files. The Oracle Technology Network (OTN) Web site <http://www.oracle.com/technetwork/documentation/agile-085940.html> contains the latest versions of the Agile PLM PDF files. You can view or download these manuals from the Web site, or you can ask your Agile administrator if there is an Agile PLM Documentation folder available on your network from which you can access the Agile PLM documentation (PDF) files.

Conventions

The following text conventions are used in this document:

Convention	Meaning
boldface	Boldface type indicates graphical user interface elements associated with an action, or terms defined in text or the glossary.
<i>italic</i>	Italic type indicates book titles, emphasis, or placeholder variables for which you supply particular values.

Convention	Meaning
monospace	Monospace type indicates commands within a paragraph, URLs, code in examples, text that appears on the screen, or text that you enter.

Introduction to Agile PLM Web Services

Web services are technologies for building distributed applications. These services, which can be made available over the Internet, use a standardized XML messaging system and are not tied to specific operating systems or programming languages. Through web services, companies can encapsulate existing business processes, publish them as services, search for and subscribe to other services, and exchange information throughout and beyond the enterprise. Web services are based on universally agreed-upon specifications for structured data exchange, messaging, discovery of services, interface description, and business process design.

A web service makes remote procedure calls across the internet using:

HTTP/HTTPS or other protocols to transport requests and responses.

Simple Object Access Protocol (SOAP) to communicate request and response information.

Oracle's Agile PLM Web Services use industry standard core technologies.

About Service Oriented Architecture (SOA)

Service Oriented Architecture (SOA) is a business-centric IT architecture for building enterprise applications through adaptable and re-usable business processes and services. Each service implements one action such as creating a product record, viewing a BOM table, or updating the Price and Compliance data.

Leading companies are gaining operational efficiencies and business agility through adaptable, re-usable business processes and services built on truly flexible Service-Oriented Architecture (SOA) platforms.

The guiding principles of SOA are:

- Self-contained and loosely-coupled
- Well-defined standards-based interfaces
- Right-sized interfaces
- Location-independent and inter-operable in a standards-based manner
- Implementation agnostic

One SOA implementation is the web services approach where the basic unit of communication is a message, rather than an operation. This is often referred to as "message-oriented" services. Web services make functional building-blocks that are accessible over standard internet protocols and independent of platforms and programming languages. SOA is gaining wide customer adoption because of its reliance on standards-based protocols and enabling rapid development of applications

using web services. SOA and web services are supported by most major software vendors.

Web Services - Benefits

The key benefits provided by web services are:

- Service-Oriented Architecture (SOA) - Unlike packaged products, web services can be delivered as streams of services that allow access from any platform. Components can be isolated; only the business-level services need be exposed.
- Interoperability - Web services ensure complete interoperability between systems.
- Integration - Web services facilitate flexible integration solutions, particularly if you are connecting applications on different platforms or written in different languages.
- Modularity - Web services offer a modular approach to programming. Each business function in an application can be exposed as a separate Web service. Smaller modules reduce errors and result in more reusable components.
- Accessibility - Business services can be completely decentralized. They can be distributed over the internet and accessed by a wide variety of communications devices.
- Efficiency - Web services constructed from applications meant for internal use can be used externally without changing code. Incremental development using web services is relatively simple because web services are declared and implemented in a human readable format.

Core Technologies

Each core technology listed below is explained in detail in the topics that follow.

- Web Services Description Language on page 2
- XML and XML Schema on page 3
- Simple Object Access Protocol on page 3

Web Services Description Language

Web Services Description Language (WSDL) is an XML-based format for describing the interface of a Web service. A WSDL file describes the endpoints, location, protocol binding, operations, parameters, and data types of all aspects of a Web service:

- The WSDL file that describes a Web service has the following characteristics:
 - It is published by the service provider.
 - It is used by the client to format requests and interpret responses.
 - It can be optionally submitted to a registry or service broker to advertise a service.
- Additionally, it also describes:
 - The operations that are provided by a Web service
 - The input and output message structures for each Web service operation
 - The mechanism to contact the Web service.

XML and XML Schema

A WSDL file is published as an XML file. Document/Literal formatting is required as part of the WS-I interoperability standard. This standard sets the basis for modern Web service usage.

- Document - The payload for an operation, however complex, must be defined in a single XML element.
- Literal - The definition of a single XML element must be described by an XML Schema embedded in the WSDL file.

When using Document/Literal formatting, the WSDL file will contain an XML Schema definition that defines all messages and data types that are used for a particular service. The XML Schema offers an automated mechanism for validating the XML documents. The payload itself will consist entirely of XML data structures.

Simple Object Access Protocol

Simple Object Access Protocol (SOAP) is a lightweight protocol intended for exchanging structured information in a decentralized, distributed environment. SOAP uses XML to define an extensible messaging framework.

SOAP messages consist of the following:

- An envelope for wrapping messages, including addressing and security information
- A set of serialized rules for encoding data types in XML
- Conventions for a procedure call and/or response.

Web Services Architecture

You can view Web services architecture in terms of roles and the protocol stack:

- Web services roles:
 - Service provider - This provides the service by implementing it and making it available on the Internet.
 - Service requester - This is the user of the service who accesses the service by opening a network connection and sending an XML request.
 - Service registry - This is a centralized directory of services where developers can publish new services or find existing ones.
- Web services protocol stack:
 - Service transport layer - This layer uses the HTTP protocol to transport messages between applications.
 - XML messaging layer - This layer encodes messages in XML format using SOAP to exchange information between computers. It defines an envelope specification for encapsulated data that is transferred, the data encoding rules, and remote procedure call (RPC) conventions.
 - Service description layer - This layer describes the public interface to a specific Web service using the WSDL protocol. With WSDL, it defines an XML grammar to describe network services. The operations and messages are described abstractly, and then bound to a network protocol and message format. WSDL allows description of endpoints and their messages regardless of what message formats or network protocols are used to communicate.

- Service discovery layer - This layer centralizes services into a common registry using the Universal Description, Discovery, and Integration (UDDI) protocol. UDDI is a platform-independent, XML-based registry for businesses worldwide to list themselves on the Internet.

About Agile PLM Web Services

Implementation of Agile PLM Web Services adheres to the following principles:

- Well defined standards based discoverable Interface
- XML based Web Service Framework - Apache Axis 1.4
- Modularized PLM Schema (XSD) and WSDL for easy maintenance
- Standards-based WSDL to ensure compatibility across various clients (.NET, and Java, and BPEL)
- Batch APIs wherever applicable for better performance
- Web Service versioning for backward compatibility

Agile PLM Web Services exposes all key PLM functionalities in the following services.

- Agile PLM Core Web Services - These services support functionalities provided by PLM solutions such as PC, PQM, PCM, PPM, PG&C. See Core Operations - Agile PLM Web Services on page 135.
- Agile PLM EC Web Services - These services support functionalities provided by Agile PLM's Engineering Services (EC) solution.

Agile PLM Core Web Services

Agile PLM Core Web Services are a set of services for the following PLM functionalities:

- Business Object CRUD (Create, Read, Update, Delete) data services
- Collaboration services
- Meta data Services
- Search Services
- Attachment Services
- Table Services

Agile PLM EC Services

Agile PLM Engineering Collaboration (EC) Services are a set of business services that supplement PLM's Core Web Services for CAD use cases. Customers and partners can build next generation MCAD and ECAD connectors utilizing Agile PLM Web Services and Engineering Collaboration Services.

Some of the benefits are:

- Significantly improves WAN performance for CAD connectors because the bulk of the logic is deployed to the server
- Makes it easier for development partners and customers to implement CAD connectors

- Provides the unique and interface friendly API name field to access PLM metadata.

Agile Recipe & Material Workspace Web Services

The Recipe & Material Workspace module in Agile application caters to the needs product lifecycle management of the pharmaceutical development industry. It is made up of several dimensions such as Recipe (Instructions), Equipment, Material, Analytical (Test and Assays), Environment, Standards and People. These dimensions enable drug manufacturers to conduct the preparation, execution and analysis necessary during the scale-up life cycle of a substance across multiple pilot plants, located in disparate geographic locations. It also helps scale up material production in a systematic and reproducible manner.

The RMW Web Services are a set of business services that supplement Agile PLM's Core Web Services for Pharmaceutical industry use cases. They also offer a set of higher level BPEL orchestration services. Customers and partners can build next generation applications to carry out business object processing, searches and data editing.

Agile PLM Web Service Authentication and Performance

In implementations where scalability is critical, a lightweight context management facility for authentication is available and its use is recommended. With this facility, authentication is managed using a combination of user credentials and a sessionID token:

- When user credentials are presented in the SOAP header of a Web service request, formal authentication is performed prior to the application execution of the Web service operation. If the authentication succeeds, the operation proceeds and a special SessionID token are placed in the SOAP header of the Web service reply.
- Whenever the sessionID is included by the client in subsequent Web service requests, that sessionID will be used to restore cached session information, thus bypassing the substantially more expensive process of re-executing the authentication. Note that, when presented with both the sessionID and a valid set of user credentials, an attempt will be made to use the sessionID before resorting to the user credentials and re-authentication. As expected, the session that is being tracked by the sessionID is subject to expiration and other security checks.

The facility is a distinct alternative to the basic authentication standard described by WS-Security. Using the UserName token as provided in WS-Security, while fully supported as part of Agile PLM's WSI Basic Profile compliance, will not yield the same benefit as using the higher-performance session optimization facility provided by the Agile PLM implementation.

Impact on Existing Agile PLM Extensions and Services

Agile PLM provides tools and process extensions to customize the Agile PLM to meet unique user requirements, provide access to external databases, extend automation capabilities, and develop UI extensions. These tools and services are listed below. Agile PLM Web Services implementation has no impact on these capabilities; they are in addition to the existing services.

- Agile SDK - The SDK is a set of Java APIs that enable building custom applications to access or extend the Agile PLM server functionalities. For information, refer to *Agile PLM SDK Developer Guide*.

- Agile Integration Services (AIS) - AIS is a collection of predefined Web Services in the Agile Integration framework that enable communication between PLM server and disparate database. For information, refer to *Agile PLM AIS Developer Guide*.
- Agile Content Services (ACS) - ACS is a process for transferring data to other Agile PLM solutions or to any other external system. For information, refer to *Agile PLM ACS User Guide*.
- Process Extensions (PX) - PX is a framework for extending the functionalities of the Agile PLM system. The functionality can be server-side extensions such as custom automations, or client-side functionality such as new commands added to the Java/Web Client's Actions or Tools menus. For information, refer to *Agile PLM SDK Developer Guide*.
- Web Service Extensions (WSX) - WSX is a Web service engine that enables communication between Agile PLM and internal and external systems. For information, refer to *Agile PLM SDK Developer Guide*.
- Dashboard Management Extensions (DX) - Similar to PX, DX extends the functionalities of the Agile PLM system. For information, refer to *Agile PLM SDK Developer Guide*.

Casual User Interface Integration Examples

Agile Web Client and Agile Java Client are targeted towards those who use the more complex product lifecycle management features of Agile PLM on a daily basis to perform assigned tasks and duties. There is also another set of users who use the auxiliary capabilities of Agile PLM to perform lightweight tasks such as document management, importing compliance and price data, or approving ECO and Sales RFQ.

The tools of choice for these users are the popular desktop products provided by Microsoft Office or Adobe Acrobat, Mobile devices. They prefer simple user-friendly interfaces, for example:

- Microsoft Word and Acrobat for document management
- Microsoft Excel to import price and compliance data
- Oracle WebCenter and Oracle Application Development Framework (ADF) for simple document management tasks
- Oracle WebCenter and ADF for simple item management tasks
- Mobile devices to access sales RFQ
- Mobile devices to access ECO Approval
- Microsoft Sharepoint for simple document management tasks

User Interface Integration - MS Word

This example demonstrates document management capabilities of PLM's Web Services. Currently, when casual users want to view or update a document in Agile PLM, they do so by logging in to the Web Client to retrieve and view the Word document. The steps are:

1. Log in to PLM Client
2. Search and locate the document
3. Check out the document (in Word)
4. Modify the documents (in Word)

5. Check in the document
6. Log out

Using Agile PLM's Web Services, the casual user directly accesses Agile PLM documents from MS Word. This simple UI encourages and accelerates greater user participation. Agile PLM is transparent to this class of users which eliminates training and exposure in PLM Web Client.

User Interface Integration - MS Excel

This is similar to MS - Word integration. In this case, the casual user is one of your partners and suppliers. Using PLM's Web Services, you can provide a simple UI in Excel template for suppliers and partners. Then when necessary, suppliers import information such as compliance and price data directly into PLM system from Excel. Benefits include greater and more convenient supplier participation in the PLM process with no training in Agile PLM Web Client.

User Interface Integration - Portals and Agile Web Client

Before PLM Web Services, the practice was to create custom Web applications using Agile PLM SDK with various tools and technologies. With Web Services, you can build rich Web applications in Oracle Web Center (and ADF) by taking advantage of Web 2.0 UI and mobile services.

Once you develop the custom UI Web application for casual users, you can also integrate the custom UI with Agile Web Client using Agile PLM's URL Process Extensions (refer to *Agile PLM SDK Developer Guide*) and Smart URL features.

User Interface Integration - Mobile ADF

One of the key demands in Agile PLM installations is mobile access for management and executive personnel. One such example is ECO Approval by the senior or management staff using mobile devices. PLM's Web Services enable developing simple ECO Approval applications for users of mobile devices.

The following illustrations depict a sales RFQ implementation from a sales manager's perspective:

Using the mobile device's browser, the sales manager launches the Mobile application built using Agile Web Services. The first screen is the Search RFQ screen. The second is the RFQ Details screen and the third, the Send RFQ screen.

CAD Integration through EC Services

Customers and partners can build next generation MCAD and ECAD connectors with the aid of Agile PLM Core and Engineering Collaboration Web Services. The benefits are summarized in Agile PLM EC Services on page 4.

Some of the EC services are orchestrated using Business Process Execution Language (BPEL). BPEL, short for Web Services Business Process Execution Language, is an executable language for specifying interactions with web services. Processes in Business Process Execution Language export and import information by using web service interfaces exclusively.

The CAD integration and the role of BPEL server is shown in the following illustration.

Building Casual User Interfaces

The following paragraphs describe the tools and the steps in developing some the UI integration examples in MS Office and Oracle Web Center (and ADF) environments.

Developing User Interfaces for MS Office

Microsoft supports building UI integration interfaces by providing the *Microsoft Office Add-in* (a piece of code) for this purpose. MS Office Add-in supports integration at application level and document level.

To develop the MS Word Add-in with PLM, the following tools and applications are necessary:

- Application software
 - Microsoft Visual Studio 2005/2008
 - Dot NET framework 3.5
 - Agile PLM (v9.3 or above) server
 - Microsoft Word 2003/2007
- Programming languages
 - C#
 - Visual Basic for .NET
 - Microsoft Visual C++/ATL
- Plug-in templates
 - Shared Add-in Extensibility template

Note: The *Shared Add-in Extensibility* templates are used to deploy a single add-in onto multiple Microsoft Office applications (common add-ins across Word, Excel, and other office applications). This Add-in is always installed only at the application-level.

- Office 2003/2007 Add-in template

Steps in developing an MS Office Add-in:

1. Evaluate Add-in type: application level versus document level
2. Evaluate programming language: C#, Visual Basic
3. Create a project in Microsoft Visual Studio 2005/2008
4. Generate the C#/Visual Basic Stubs from Agile WSDL

For information on Stubs, see *Generating and Initializing the Stubs* on page 14.

5. Create Windows Forms
6. Bind data to UI controls
 - Populate documents with data from Agile Web Services
7. Build & test the Add-in
8. Deploy the Add-in
9. Extend Agile 9.3.3 samples to fit your business needs:

- MS Word Document Management - Application Level Add-In
- MS Excel - Import BOM/Price/ Compliance - document Level Add-in

Note: The source code for these two MS Office Add-ins is available for download from Oracle Technology Network (OTN) Web site <http://www.oracle.com/technetwork/documentation/agile-085940.html>. A good source of information for developing an MS Office Add-in is the MSDN forum.

Developing User Interfaces for Oracle WebCenter and ADF

This section provides basic information to develop the following UIs in Oracle Web Center and ADF environments.

- Document Management UI in Oracle WebCenter (and ADF 10g)
- Item Management UI in Oracle WebCenter (and ADF 11g)
- Sales RFQ UI in Mobile device
- ECO Approval UI in Mobile device

You need the following tools and applications to develop the Oracle WebCenter (and ADF) with PLM:

- Software
 - Oracle jDeveloper 10g/11g
 - Agile PLM (v9.3.3 or above) server
- Programming Languages
 - Java

Steps in developing ADF applications

1. Create a Project in jDeveloper
2. Generate the Java Stubs from Agile WSDL
3. Map XML schema to Java Classes
4. Create UI forms
5. Create page flow
6. Bind data to UI controls
7. Build and test the applications
8. Deploy the applications
9. Extend Agile 9.3.3 samples to meet business needs:
 - Document management
 - Item management
 - Sales RFQ

For information on Oracle Web Center, ADF, and jDeveloper, visit Oracle website at: <http://www.oracle.com/technology/products/webcenter/index.html> and <http://www.oracle.com/technology/products/adf/index.html>

Getting Started with Agile Web Services

Before building a Web Services Client, verify if the following are in place:

- Ensure the following jars are present in classpath:
 - axis.jar
 - axis-ant.jar
 - commons-discovery.jar
- Ant libraries are present.
- The Ant build file contains the following:

```
<path id="build.classpath">
  <fileset dir="${axislib.dir}">
    <include name="**/*.jar" />
  </fileset>
</path>
<taskdef resource="axis-tasks.properties">
  <classpath refid="build.classpath"/>
</taskdef>
<target name="wsdl2java-Generate-Client">
  <echo message="Generating all the client side stubs"/>
  <axis-wsdl2java
    all="true"
    output="./src"
    verbose="true"
    url="http://<host>:<port>/core/services/<serviceName>?wsdl">
  </axis-wsdl2java>
</target>
```

Replace the <serviceName> with the name of the Web Service. For example: BusinessObject, Collaboration and so on.

Operational Environment

Development platforms vary in their SOAP implementations. Implementation differences in certain development platforms may prevent access to some or all of the features in the API. If you are using Visual Studio for .NET development, it is recommended that you use Visual Studio 2003 or higher.

Agile PLM Application	Release 9.3.3
Default Web Services Engine	Apache Axis 1.4
Java 2 Platform Standard Edition Development Kit	7.0

Note: Agile API programs connect to the Agile Application Server using non-secure means. Consequently, it is recommended that you run the Agile API programs only from within the corporate firewall. Web service Clients, however, can connect to the server through the corporate firewall using standard HTTP(S) technology.

Standards Compliance

The Agile PLM Web Services are implemented in compliance with the following standards:

Standard	Location
Simple Object Access Protocol (SOAP) 1.1/1.2	http://www.w3.org/TR/2000/NOTE-SOAP-20000508/
Web Service Description Language (WSDL) 1.2	http://www.w3.org/TR/2001/NOTE-wsdl-20010315
WS-I Basic Profile 1.1	http://www.ws-i.org/Profiles/BasicProfile-1.1-2004-08-24.html
XML Schema 1.1	http://www.w3.org/XML/Schema

Web Service Engines

All application server vendors, such as Oracle, BEA, IBM, have built-in web service infrastructure solutions that are integrated with their application servers. For non-web services integrated applications, there are stand-alone products, such as AXIS from Apache, which provide web service infrastructure that can be integrated with different application servers.

The following web service engines are supported:

- Oracle Apps Server web service Infrastructure
- WebLogic web service Infrastructure
- Axis - version 1.4
- Axis2 - version 1.4

Generating and Initializing the Stubs

The stub acts as a gateway for client side objects and all outgoing requests to server side objects that are routed through it. The stub wraps client object functionality and by adding the network logic ensures the reliable communication channel between client and server. The stub can be written up manually or generated automatically depending on the chosen communication protocol.

For Agile web services to function successfully, you first need to create Agile PLM Server Stubs, and initialize the Client side Stubs.

Generating Agile Stubs

To generate stubs, execute the Ant target **wsdl2java-Generate-Client**. All the stubs are created in **src** folder.

Initializing the Client Stubs

In the following sample, the generated stubs are being initialized for Business Object Web Services client. You may also adapt it for other web services.

```
String SERVER_URL = "http://<host>:<port>/core/services/BusinessObject";
String USERNAME = "admin";
String PASSWORD = "agile";
BusinessObjectServiceLocator locator = new BusinessObjectServiceLocator();
BusinessObject_BindingStub businessObjectStub = (BusinessObject_
BindingStub)locator.getBusinessObject(new java.net.URL(SERVER_URL));
((org.apache.axis.client.Stub)businessObjectStub).setUsername(USERNAME);
((org.apache.axis.client.Stub)businessObjectStub).setPassword(PASSWORD);
```

Understanding the MessageElement

- A MessageElement is a part of a Request that specifies attributes of Agile Objects, which can use Agile API Names.
- Most MessageElements are String Type, while some can be Unit of Measure Type or AgileListEntryType.
- A MessageElement can be assigned any Tag Name. When API name is used as Tag Name, you need not pass the 'attributeId'.

```
MessageElement dataCell = new MessageElement(namespaceUri, "Numeric01");
dataCell.setObjectValue(9144.0);
```

- When an API name is not used as Tag Name, the attributeId has to be explicitly passed as an XML attribute having the name 'attributeId'

```
MessageElement dataCell = new MessageElement(namespaceUri, "key");
dataCell.setObjectValue(9144.0);
dataCell.addAttribute(namespaceUri, SchemaConstants.attributeId.getValue(),
"Attribute ID");
```

Obtaining the API Names and Attribute IDs

To obtain API names, open the desired Class in Agile Java Client. All the API names are found either in the General Information page or under the General Information tab.

Special Handling of MessageElements

The MessageElement Types listed below require special handling.

Unit of Measure

The attributes of an Agile object that require 'Unit of Measure' as an input type are updated with the UOM values. These values are denoted by the Unit of Measure object. The corresponding object is **AgileUnitOfMeasureType**.

To do this, you have to send the data as an instance of AgileUnitOfMeasureType. In addition, you need to pass the corresponding Namespace URI as an attribute.

The format is:

```
messageElement.addAttribute(PREFIX, NAMESPACEURI, "type", CLASSNAME);
```

You can choose any meaningful value for PREFIX. The type should be passed as "type".

You are required to send correct values for NAMESPACEURI and CLASSNAME. For example:

```
COMMONNAMESPACEURI =  
"http://xmlns.oracle.com/AgileObjects/Core/Common/V1"
```

```
CLASSNAME = "AgileUnitOfMeasureType"
```

You can define your own namespaceUri or use COMMONNAMESPACEURI.

Example: MessageElement for a UOM

```
AgileUnitOfMeasureType uom = new AgileUnitOfMeasureType();  
uom.setUnitName("Kilogram");  
uom.setUnitValue(1000.0);  
MessageElement dataCell=new MessageElement(namespaceUri, "mass");  
dataCell.addAttribute(XSIPREFIX, COMMONNAMESPACEURI,  
SchemaConstants.type.getValue(), "AgileUnitOfMeasureType");  
dataCell.setObjectValue(uom);  
message[0] = dataCell;
```

Multilist and List

The corresponding object is **AgileListEntryType**. You are required to pass the namespace attribute.

Example: MessageElement for a Multilist

```
AgileListEntryType multilist01 = new AgileListEntryType();  
SelectionType[] multiSelect = new SelectionType[3];  
multiSelect[0] = new SelectionType();  
multiSelect[0].setValue("Canceled");  
multiSelect[1] = new SelectionType();  
multiSelect[1].setValue("Complete");  
multiSelect[2] = new SelectionType();  
multiSelect[2].setValue("Accepted");  
multilist01.setSelection(multiSelect);  
MessageElement dataCell = new MessageElement(namespaceUri, "multilist01");  
dataCell.addAttribute(XSIPREFIX, COMMONNAMESPACEURI,  
SchemaConstants.type.getValue(), "AgileListEntryType");  
dataCell.setObjectValue(multilist01);  
message[1] = dataCell;
```

Example: MessageElement for a List

```
AgileListEntryType list01 = new AgileListEntryType();  
SelectionType[] selection = new SelectionType[1];  
selection[0] = new SelectionType();  
selection[0].setValue("Alternate");  
list01.setSelection(selection);  
MessageElement dataCell = new MessageElement(namespaceUri, "list01");  
dataCell.addAttribute(XSIPREFIX, COMMONNAMESPACEURI,  
SchemaConstants.type.getValue(), "AgileListEntryType");  
dataCell.setObjectValue(list01);  
message[1] = dataCell;
```

List of Objects

In certain cases, Agile SDK expects a list of **IDataObject** to be passed. For such cases, Agile Web Services use **AgileObjectListEntryType**.

```
AgileObjectListEntryType multilist01 = new AgileObjectListEntryType();
ObjectReferentIdType[] obj = new ObjectReferentIdType[1];
obj[0] = new ObjectReferentIdType();
obj[0].setClassIdentifier("8750");
obj[0].setObjectIdentifier("SAP0265");
multilist01.setSelection(obj);
MessageElement dataCell = new MessageElement(namespaceUri, "supplier");
dataCell.addAttribute(XSIPREFIX, COMMONNAMESPACEURI,
SchemaConstants.type.getValue(), "AgileObjectListEntryType");
dataCell.setObjectValue(multilist01);
message[0] = dataCell;
```

Money

The corresponding object is **AgileMoneyType**. You are required to pass the *namespace* attribute.

Example: MessageElement for Money

```
AgileMoneyType money = new AgileMoneyType();
money.setAmount(997777.9);
money.setCurrency("USD");
MessageElement dataCell = new MessageElement(namespaceUri, "money01");
dataCell.setObjectValue(money);
dataCell.addAttribute(XSIPREFIX, COMMONNAMESPACEURI,
SchemaConstants.type.getValue(), "AgileMoneyType");
message[0] = dataCell;
```

Date

Java provides an object either as **Date** or as **Calendar** objects. You are required to pass the *namespace* attribute.

Date is a special case. Even though it is an XSD type, you must pass URI for Date.

Example: MessageElement for Date

```
xsdnamespace = "http://www.w3.org/2001/XMLSchema"
MessageElement dataCell = new MessageElement(namespaceUri, "date01");
dataCell.addAttribute(XSIPREFIX, xsdnamespace, SchemaConstants.type.getValue(),
"dateTime");
dataCell.setObjectValue(new Date());
message[0] = dataCell;
```

User/Supplier/ Customer/Analyst

The corresponding object is **ObjectReferentIdType**. You are required to pass the *namespace* attribute.

Example: MessageElement for a User

```
ObjectReferentIdType user = new ObjectReferentIdType();
user.setObjectIdentifier("EMS1");
user.setClassIdentifier("supplier");
MessageElement dataCell=new MessageElement(namespaceUri, "supplier");
dataCell.addAttribute(XSIPREFIX, COMMONNAMESPACEURI,
```

```
SchemaConstants.type.getValue(), "ObjectReferentIdType");
dataCell.setObjectValue(user);
message[0] = dataCell;
```

Example: MessageElement for a Customer

```
ObjectReferentIdType customer = new ObjectReferentIdType();
customer.setObjectIdentifier("DEMO CUSTOMER 1");
customer.setClassIdentifier("customer");
MessageElement dataCell=new MessageElement(namespaceUri, "customer");
dataCell.addAttribute(XSIPREFIX, COMMONNAMESPACEURI,
SchemaConstants.type.getValue(), "ObjectReferentIdType");
dataCell.setObjectValue(customer);
message[0] = dataCell;
```

Note: You can pass values like String and Numbers as they are.
However, you cannot pass numbers as strings.

Agile Attributes without API Names

The following attributes do not have an API name. You are required to use the Attribute IDs, listed below. These values have been picked from Agile SDK Constants. For more information on this, refer to *Agile SDK Developer Guide*.

Item Constants

TABLE_REDLINEBOM	new Integer(-803);
TABLE_REDLINEMANUFACTURERS	new Integer(-1491);
TABLE_REDLINETITLEBLOCK	new Integer(-801);
TABLE_REDLINEPAGETWO	new Integer(-810);
TABLE_REDLINEPAGETHREE	new Integer(-1501);
FLAG_IS_REDLINE_MODIFIED	new Integer(-101);
FLAG_IS_REDLINE_REMOVED	new Integer(-102);
FLAG_IS_REDLINE_ADDED	new Integer(-103);

User Constants

ATT_LOGIN_PASSWORD	new Integer(-1);
ATT_APPROVAL_PASSWORD	new Integer(-2);
ATT_SUPPLIER	new Integer(-3);
ATT_LOCALE	new Integer(-4);
ATT_TIMEZONE	new Integer(-5);
ATT_DATEFORMAT	new Integer(-6);
ATT_DATETIMEFORMAT	new Integer(-7);

Understanding the Web Services Request-Response

A majority of operations carried out within the system comprises of a single request and response.

To initiate an action, the client application issues a request. The request contains the necessary information to determine which operation is being carried out. The data and format depends on the type of operation being carried out.

The response contains the specific data that was requested. Based on the request that is issued, the system retrieves a response with relevant information.

Response Status Code

The response obtained from every Web service call contains a response statusCode, which indicates the success or failure of a Web service operation. These Status Codes are of four types:

- **SUCCESS**- indicates that all Web services in the batch were executed successfully and that all operations worked as intended.
- **FAILURE** - indicates that all Web services in the batch failed during execution, indicating the intended operations were not performed.
- **WARNING** - indicates that though Web services in the batch were successfully executed, certain warnings were also encountered during the execution. These warnings need to be analyzed by the client to verify that all operations worked as intended.
- **PARTIAL_SUCCESS** - indicates a partial success in the execution of batch Web services - when one or more but not all batch requests have failed. The response status code will display **PARTIAL_SUCCESS** even if a single Web service among a batch of Web services fails.

Exceptions and Warnings

When an operation is not successful, the system will throw an **Exception** or a **Warning**.

- In case of **FAILURE**, an exception is issued, while a warning may or may not be issued.
- In case of **WARNING**, only a warning is issued.

When the status is **WARNING**, the outcome of the operation is unknown. You are manually required to check whether the operation was successful or not.

The response header for Web Services calls consists of a list of exceptions and warnings populated as AgileExceptionListType and AgileWarningListType objects. The application client must check for exceptions and warnings at all times to ensure that the code has performed all operations as intended.

The exception and warning lists contain a reference element 'id' which may be used to identify the corresponding requested in the batch that was the source of the exception(s) or warning(s).

Refer to the schema for dealing with response objects for a particular Web Service.

Example: Getting Exceptions and Warnings

```
if( !approveRObjectResponseType.getStatusCode().toString().equals(
ResponseStatusCode.SUCCESS.getValue() ) ){
AgileExceptionListType[] agileExceptionListType =
```

```
approveRObjResponseType.getExceptions();
    if(agileExceptionListType!=null)
        for(int i=0; i<agileExceptionListType.length; i++){
            AgileExceptionType exceptions[] = agileExceptionListType[i].getException();
            for(int j=0; j<exceptions.length; j++)
                System.out.println("Exception Id:" + exceptions[j].getExceptionId() +
"\nMessage: " +
                exceptions[j].getMessage() );
        }
    AgileWarningListType agileWarningListType[] =
approveRObjResponseType.getWarnings();
    if(agileWarningListType!=null)
        for(int i=0; i<agileWarningListType.length; i++){
            AgileWarningType warnings[] = agileWarningListType[i].getWarning();
            for(int j=0; j<warnings.length; j++)
                System.out.println("Warning Id: " + warnings[j].getWarningId() +
"\nMessage: " +
                warnings[j].getMessage() );
        }
}
```

Working with Warnings

Note: By default, all warnings are enabled.

You can work with warnings in the following ways:

- Use **setWarningResolution** to selectively Enable or Disable a select set of warnings.

```
AgileWarningResolutionType warningRes[] = new AgileWarningResolutionType[1];
```

```
warningRes[0] = new AgileWarningResolutionType();
```

```
warningRes[0].setId(182);
```

```
warningRes[0].setResolution(AgileWarningResolutionConstantsType.DISABLE);
```

```
approveRObjRequestType.setWarningResolution(warningRes);
```

- Use **disableAllWarnings** function to disable ALL the warnings

```
approveRObjRequestType.setDisableAllWarnings();
```

- Enable a select set of warnings and disable the rest with a combination of **disableAllWarnings** and **setWarningResolution**.

```
approveRObjRequestType.setDisableAllWarnings();
```

```
AgileWarningResolutionType warningRes[] = new AgileWarningResolutionType[1];
```

```
warningRes[0] = new AgileWarningResolutionType();
```

```
warningRes[0].setId(182);
```

```
warningRes[0].setResolution(AgileWarningResolutionConstantsType.ENABLE);
```

```
approveRObjRequestType.setWarningResolution(warningRes);
```

Working with Business Objects

This chapter describes how you can work with Agile PLM Business Objects and also provides sample code snippets.

Getting an Object

To get an Agile PLM object, use the getObject operation. This operation lets you specify the objectType and objectNumber parameters.

An objectType is the API name or ID of a Subclass. For example, a 'Part' is an objectType of the Agile Class 'Item'; ECO is an objectType of the Agile Class 'Change'. An objectNumber is number of the Agile Object being retrieved.

The actual information about the object is obtained through the response in the form of AgileObjectType objects.

Use the following syntax to get an object by specifying objectType and objectNumber parameters, as shown in examples.

```
GetObjectRequestType getObjectRequestType = new GetObjectRequestType();
AgileGetObjectRequest agileGetObjectRequest[] = new AgileGetObjectRequest[1];
agileGetObjectRequest[0] = new AgileGetObjectRequest();
agileGetObjectRequest[0].setClassIdentifier("objectType");
agileGetObjectRequest[0].setObjectNumber("objectNumber");
```

Example: Getting an Item

```
GetObjectRequestType getObjectRequestType = new GetObjectRequestType();
AgileGetObjectRequest agileGetObjectRequest[] = new AgileGetObjectRequest[1];
agileGetObjectRequest[0] = new AgileGetObjectRequest();
agileGetObjectRequest[0].setClassIdentifier("Part");
agileGetObjectRequest[0].setObjectNumber("P00001");
```

Example: Getting a Change

```
GetObjectRequestType getObjectRequestType = new GetObjectRequestType();
AgileGetObjectRequest agileGetObjectRequest[] = new AgileGetObjectRequest[1];
agileGetObjectRequest[0] = new AgileGetObjectRequest();
agileGetObjectRequest[0].setClassIdentifier("ECO");
agileGetObjectRequest[0].setObjectNumber("ECO-0001");
```

Note: The getObject operation request for the resource types *User*, *Owner* and *UserGroup* returns a response in integer values. These values are mapped as: 11605 = User, 18044 = Owner, 11885 = User Group.

Special Handling in the getObject Operation

To get certain Agile Objects, the getObject operation requires an additional parameter to be set. This parameter, setOptions(propertyType), accepts a name-value pair - **propertyName** and **propertyValue**.

Example: Getting a Manufacturer Part

```
GetObjectRequestType getObjectRequestType = new GetObjectRequestType();
AgileGetObjectRequest agileGetObjectRequest[] = new AgileGetObjectRequest[1];
agileGetObjectRequest[0] = new AgileGetObjectRequest();
agileGetObjectRequest[0].setClassIdentifier("ManufacturerPart");
agileGetObjectRequest[0].setObjectNumber("manufPartNumber");
PropertyType[] propertyType = new PropertyType[1];
propertyType[0] = new PropertyType();
propertyType[0].setPropertyName( SchemaConstants.manufacturer_name.getValue() );
propertyType[0].setPropertyValue(manufName);
agileGetObjectRequest[0].setOptions(propertyType);
```

Creating an Object

To create a new Agile PLM object, use the createObject operation. This operation requires you to specify the **objectType** parameter, for example, a *Part*.

Example: Creating a Part

```
CreateObjectRequestType createObjectRequestType = new CreateObjectRequestType();
AgileCreateObjectRequest agileCreateObjectRequest[] = new
AgileCreateObjectRequest[1];
agileCreateObjectRequest[0].setClassIdentifier("Document");
AgileRowType row_1 = new AgileRowType();
MessageElement messages_1[] = new MessageElement[2];
String namespaceUri = null;
messages_1[0] = new MessageElement(namespaceUri, "number");
messages_1[0].addTextNode(documentNumber);
messages_1[1] = new MessageElement(namespaceUri, "description");
messages_1[1].addTextNode("Doc Desc");
```

Note: Agile Web services do not support setting the Life Cycle Phase (LCP)/workflow status attribute of an object while you are creating that object because the necessary settings for LCP are not available until the object is created.

Creating a Reference Object

To create a new reference object, use the createReferenceobject operation.

Example: Creating a Reference Object

```
CreateObjectRequestType createObjectRequestType = new CreateObjectRequestType();
AgileCreateObjectRequest agileCreateObjectRequest[] = new
AgileCreateObjectRequest[1];
agileCreateObjectRequest[0] = new AgileCreateObjectRequest();
agileCreateObjectRequest[0].setClassIdentifier(refSubclassName);
AgileRowType row_1 = new AgileRowType();
MessageElement messages_1[] = new MessageElement[3];
String namespaceUri = null;
messages_1[0] = new MessageElement(namespaceUri, "Name");
```

```

messages_1[0].addTextNode( objectNumber );
messages_1[1] = new MessageElement(namespaceUri, "Description");
messages_1[1].addTextNode("Object Desc");
messages_1[2] = new MessageElement(namespaceUri, "referencedObjKey");
messages_1[2].addTextNode(refPubKey);
row_1.set_any(messages_1);
agileCreateObjectRequest[0].setData(row_1);
createObjectRequestType.setRequests(agileCreateObjectRequest);
CreateObjectResponseType createObjectResponseType =
businessObjectStub.createObject(createObjectRequestType);

```

Saving As a New Object

You can save an existing Agile object as a new object by using the `saveAsObject` operation. This operation calls `AgileSaveAsObjectRequestType`, which requires the values of **objectName**, **objectNumber** and **newObjectName**.

You can specify a **newObjectNumber** as a `MessageElement` to generate a number for a new object, as shown in the following syntax.

Example: Saving as a new object

```

SaveAsObjectRequestType saveAsObjectRequestType = new SaveAsObjectRequestType();
AgileSaveAsObjectRequestType agileSaveAsObjectRequestType[] = new
AgileSaveAsObjectRequestType[1];
agileSaveAsObjectRequestType[0].setParentClassIdentifier("objectName");
agileSaveAsObjectRequestType[0].setParentObjectNumber("objectNumber");
agileSaveAsObjectRequestType[0].setNewClassIdentifier("newObjectName");

```

```

AgileRowType row = new AgileRowType();
MessageElement messages[] = new MessageElement[1];
String namespaceUri = null;
messages[0] = new MessageElement(namespaceUri, "TagName");
messages[0].addAttribute(namespaceUri, "attributeId", "Attribute ID");
messages[0].addTextNode(newObjectNumber);
row.set_any(messages);
agileSaveAsObjectRequestType[0].setData(row);

```

You can also use **autoNumberSource** to generate number for a new object, using the following syntax:

```

SaveAsObjectRequestType saveAsObjectRequestType = new SaveAsObjectRequestType();
AgileSaveAsObjectRequestType agileSaveAsObjectRequestType[] = new
AgileSaveAsObjectRequestType[1];
agileSaveAsObjectRequestType[0].setParentClassIdentifier("objectName");
agileSaveAsObjectRequestType[0].setParentObjectNumber("objectNumber");
agileSaveAsObjectRequestType[0].setNewClassIdentifier("newObjectName");
agileSaveAsObjectRequestType[0].setAutoNumberSource("autoNumberSource");

```

See ["Getting the AutoNumbers"](#) on page 3-8, for more details.

Example: Saving a Part as a new part

```

SaveAsObjectRequestType saveAsObjectRequestType = new SaveAsObjectRequestType();
AgileSaveAsObjectRequestType agileSaveAsObjectRequestType[] = new
AgileSaveAsObjectRequestType[1];

```

```
agileSaveAsObjectType[0].setParentClassIdentifier("Part");
agileSaveAsObjectType[0].setParentObjectNumber(partNumber1);
agileSaveAsObjectType[0].setNewClassIdentifier("Part");
```

```
AgileRowType row = new AgileRowType();
MessageElement messages[] = new MessageElement[1];
String namespaceUri = null;
messages[0] = new MessageElement(namespaceUri, "Message_Num");
messages[0].addTextNode(newPartNumber);
row.set_any(messages);
agileSaveAsObjectType[0].setData(row);
```

saveAs reference of the query cannot be in the same folder as the actual query. Multiplequery saveAs references cannot be created for the same query object in the same folder. While the first operation will work fine, the concurrent operations will fail.

Special Handling in the saveAsObject Operation

In case of saving an object as a **Program**, you need to specify the **TemplateType** -*Active*, *Template* or *Proposed*. Optionally, you can also pass additional attributes, such as Scheduled Start Data, Tables to be copied, Apply to children, etc.

Note: The default **TemplateType** of a Program is *Active*.

Example: Saving an object as a program of type template

```
SaveAsObjectType saveAsObjectType = new SaveAsObjectType();
AgileSaveAsObjectType agileSaveAsObjectType[] = new
AgileSaveAsObjectType[1];
agileSaveAsObjectType[0] = new AgileSaveAsObjectType();
agileSaveAsObjectType[0].setParentClassIdentifier("Program");
agileSaveAsObjectType[0].setParentObjectNumber( parentProgramNumber );
agileSaveAsObjectType[0].setNewClassIdentifier("Program");
AgileRowType row = new AgileRowType();
```

```
MessageElement messages[] = new MessageElement[1];
String namespaceUri = null;
messages[0] = new MessageElement(namespaceUri, "name");
messages[0].addTextNode(newProgramNumber);
row.set_any(messages);
agileSaveAsObjectType[0].setData(row);
PropertyType properties[] = new PropertyType[1];
properties[0] = new PropertyType();
properties[0].setPropertyName( SchemaConstants.program_template.getValue() );
properties[0].setPropertyValue("Template");
agileSaveAsObjectType[0].setOptions(properties);
String tables[] = {"PageTwo", "Team"};
```

```
agileSaveAsObjectType[0].setTablesToCopy(tables);
agileSaveAsObjectType[0].setApplyToChildren(true);
```

When you create a program, you can specify that it is a template by setting the value of the Template attribute to "Template". You can do this only when you create a program or when you save it as a new program. Existing programs cannot be changed from the "Active" or "Proposed" state to "Template".

Deleting and Undeleting an Object

The deletion of an object in Agile is of two types - soft delete and hard delete.

With soft delete, which is carried out using the operation deleteObject, the object is marked as 'Deleted'. It is however not removed from the database, so that it can be restored using the operation undeleteObject. A soft-deleted object does not appear in search results, however with the operation isDeletedObject you can find these deleted objects.

With hard delete, the object is removed from the database permanently. These objects do not appear in search queries or pre-defined query results.

Note: To delete and undelete an object, you must have Delete and Undelete privileges, respectively, for the particular object type. However, soft-deleted changes that have items on the Affected Items tab cannot be restored, regardless of the user's privileges.

Not all Agile PLM objects can be deleted. If you attempt to delete these objects, the deleteObject operation throws an exception. Also, if you try to delete an Item that is used on the BOM tab of another item, the Agile PLM server throws an exception.

Some of the objects that cannot be deleted are:

- An item with a pending change
- An item with a revision history
- An item with a canceled change
- A released change
- A manufacturer with one or more manufacturer parts
- A manufacturer part currently used on the Manufacturers tab of another object

Example: Deleting a part

```
DeleteObjectType deleteObjectType = new DeleteObjectType();
AgileDeleteObjectRequest agileDeleteObjectRequest[] = new
AgileDeleteObjectRequest[1];
agileDeleteObjectRequest[0] = new AgileDeleteObjectRequest();
agileDeleteObjectRequest[0].setClassIdentifier("Part");
agileDeleteObjectRequest[0].setObjectNumber(partNumber);
```

Example: Undeleting a part

```
UndeleteObjectType undeleteObjectType = new
UndeleteObjectType();
AgileUndeleteObjectRequest agileUndeleteObjectRequest[] = new
AgileUndeleteObjectRequest[1];
agileUndeleteObjectRequest[0] = new AgileUndeleteObjectRequest();
agileUndeleteObjectRequest[0].setClassIdentifier("Part");
```

```
agileUndeleteObjectRequest[0].setObjectNumber(partNumber);
```

Checking the Delete Status

You can verify whether an Object has been deleted or not by using the `isDeletedObject` operation.

Example: Checking if a part is deleted

```
IsDeletedObjectRequestType isDeletedObjectRequestType = new
IsDeletedObjectRequestType();
AgileIsDeletedObjectRequest agileIsDeletedObjectRequest[] = new
AgileIsDeletedObjectRequest[1];
agileIsDeletedObjectRequest[0] = new AgileIsDeletedObjectRequest();
agileIsDeletedObjectRequest[0].setClassIdentifier("Part");
agileIsDeletedObjectRequest[0].setObjectNumber(partNumber);
```

Deleting a Reference Object

To delete a reference object use the `deleteReferenceobject` operation. This operation lets you specify the `objectType` and `objectNumber` parameters.

Example: Deleting a Reference Object

```
DeleteObjectRequestType deleteObjectRequestType = new DeleteObjectRequestType();
AgileDeleteObjectRequest agileDeleteObjectRequest[] = new
AgileDeleteObjectRequest[1];
agileDeleteObjectRequest[0] = new AgileDeleteObjectRequest();
agileDeleteObjectRequest[0].setClassIdentifier(refSubclassName);
agileDeleteObjectRequest[0].setReferencedObjKey(refObjPubKey); //optional
agileDeleteObjectRequest[0].setObjectNumber(refObjName); //ignored if
refObjPubKey is provided
deleteObjectRequestType.setRequests(agileDeleteObjectRequest);
DeleteObjectResponseType deleteObjectResponseType =
businessObjectStub.deleteObject(deleteObjectRequestType);
```

Updating an Object

You can update any object with the operation `updateObject` by setting the values of the desired attributes.

Example: Updating a Part

```
UpdateObjectRequestType updateObjectRequestType = new UpdateObjectRequestType();
AgileUpdateObjectRequest agileUpdateObjectRequest[] = new
AgileUpdateObjectRequest[1];
agileUpdateObjectRequest[0] = new AgileUpdateObjectRequest();
agileUpdateObjectRequest[0].setClassIdentifier("Part");
agileUpdateObjectRequest[0].setObjectNumber(partNumber);
```

```
AgileRowType rows = new AgileRowType();
```

```
MessageElement messages[] = new MessageElement[1];
```

```
String namespaceUri = null;
```

```
messages[0] = new MessageElement(namespaceUri, "Message_Desc");
```

```
messages[0].addTextNode("Updated value of Doc Description");
```

```
rows.set_any(messages);
agileUpdateObjectRequest[0].setData(rows);
```

Updating a Reference Object

To update a reference object you need to use the `updateReferenceObject` operation. This operation lets you specify the `objectType` and `objectNumber` parameters.

Example: Updating a Reference Object

```
UpdateObjectRequestType updateObjectRequestType = new UpdateObjectRequestType();
AgileUpdateObjectRequest agileUpdateObjectRequest[] = new
AgileUpdateObjectRequest[1];
agileUpdateObjectRequest[0] = new AgileUpdateObjectRequest();
agileUpdateObjectRequest[0].setClassIdentifier(refSubclassName);
agileUpdateObjectRequest[0].setReferencedObjKey(refObjPubKey); //optional
agileUpdateObjectRequest[0].setObjectNumber(refObjName); //ignored if refObjPubKey
is provided
AgileRowType rows = new AgileRowType();
MessageElement messages[] = new MessageElement[4];
String namespaceUri = null;
messages[0] = new MessageElement(namespaceUri, "Message_Name");
messages[0].addAttribute(namespaceUri, "attributeId",
ReferenceObjectConstants.ATT_GENERAL_INFO_NUMBER.toString());
messages[0].addTextNode(newName);
messages[1] = new MessageElement(namespaceUri, "Message_Desc");
messages[1].addAttribute(namespaceUri, "attributeId",
ReferenceObjectConstants.ATT_GENERAL_INFO_DESCRIPTION.toString());
messages[1].addTextNode(newDescription);
messages[2] = new MessageElement(namespaceUri, "Message_Status");
messages[2].addAttribute(namespaceUri, "attributeId",
ReferenceObjectConstants.ATT_GENERAL_INFO_STATUS.toString());
messages[2].addTextNode(newStatus);
messages[3] = new MessageElement(namespaceUri, "Message_URL");
messages[3].addAttribute(namespaceUri, "attributeId",
ReferenceObjectConstants.ATT_GENERAL_INFO_URL.toString());
messages[3].addTextNode(newURL);
rows.set_any(messages);
agileUpdateObjectRequest[0].setData(rows);
updateObjectRequestType.setRequests(agileUpdateObjectRequest);
UpdateObjectResponseType updateObjectResponseType =
businessObjectStub.updateObject(updateObjectRequestType);
```

Getting the Status of an Object

In a workflow or a lifecycle, a routable object passes through various states. Subsequent action on this object requires ascertaining its current state, the states it has already crossed and the states it must go through. This information is obtained using the operation `getStatus`.

The response object will consist of `AgileStatusType` objects for `nextDefaultStatus`, `nextValidStatuses`, `currentStatus`. For complete details, refer Schema Documentation at Oracle eDelivery Site.

Example: Getting the status of an ECO

```
GetStatusRequestType getStatusRequestType = new GetStatusRequestType();
AgileGetStatusRequestType agileGetStatusRequestType[] = new
AgileGetStatusRequestType[1];
```

```
agileGetStatusRequestType[0] = new AgileGetStatusRequestType();
agileGetStatusRequestType[0].setClassIdentifier("ECO");
agileGetStatusRequestType[0].setObjectNumber( changeNumber );
```

Getting the AutoNumbers

An AutoNumber source is a predefined sequence of numbers that automatically assign a number to an object. An Agile PLM class can have one or more AutoNumber sources. These are defined in the Admin node of the Agile Java Client.

To get a 'next in sequence' AutoNumber, specify the `autoNumberSource` and `objectType` attributes in the operation `getAutoNumbers`.

Note: The Manufacturers and Manufacturer Parts classes, and their user-defined subclasses, do not support automatic numbering.

Example: Getting Autonumbers for Part Class

```
GetAutoNumbersRequestType getAutoNumbersRequestType = new
GetAutoNumbersRequestType();
AgileGetAutoNumbersRequestType agileGetAutoNumbersRequestType[] = new
AgileGetAutoNumbersRequestType[2];
agileGetAutoNumbersRequestType[0].setClassIdentifier("Part");
agileGetAutoNumbersRequestType[0].setAutoNumberIdentifier( new
String[] { "PartNumber" } );
agileGetAutoNumbersRequestType[0].setSize(3);

agileGetAutoNumbersRequestType[1].setClassIdentifier("ECO");
agileGetAutoNumbersRequestType[1].setIncludeAllAutoNumberSource(true);
agileGetAutoNumbersRequestType[1].setSize(2);

getAutoNumbersRequestType.setRequests( agileGetAutoNumbersRequestType );
AgileGetSubClassesRequestType agileGetSubClassesRequestType[] = new
AgileGetSubClassesRequestType[1];
```

Getting all the Classes

You can retrieve the classes for each object type with the operation `getAllClasses`. Your program can then provide a method to pick the desired class from the list.

You can specify the `ClassFilterType` as follows:

ClassFilterType.ALL	To retrieve all the classes and their subclasses.
ClassFilterType.TOP	To retrieve all the classes only
ClassFilterType.CONCRETE	To retrieve all the subclasses only

The syntax for this operation is:

```
Syntax GetAllClassesRequestType getAllClassesRequestType = new
GetAllClassesRequestType();
getAllClassesRequestType.setLevel(ClassFilterType.ALL);
```


Getting the Subclasses of a Class

Although you can retrieve all Subclasses by using the operation `getAllClasses` with `ClassFilterType` filter, you may require Subclasses of a particular Class. This is achieved by using the operation `getSubClasses`, in which, you specify the Agile API name of the desired Class.

`ClassType` objects are obtained from the response.

Example: Getting all subclasses of the class 'Changes'

```
GetSubClassesRequestType getSubClassesRequestType = new
GetSubClassesRequestType();
agileGetSubClassesRequestType[0].setClassIdentifier("Changes");
```

Getting Agile Classes

Example: Getting Agile Classes

```
GetAgileClassRequestType getAgileClassRequestType =
new GetAgileClassRequestType();
AgileGetClassRequestType[] agileGetClassRequestTypeArray =
    new AgileGetClassRequestType[1];
agileGetClassRequestTypeArray[0] = new AgileGetClassRequestType();
agileGetClassRequestTypeArray[0].setClassIdentifier("Part"); //API name of the
class
getAgileClassRequestType.setRequests(agileGetClassRequestTypeArray);
```

Subscribing to Agile PLM Objects

Once you load an Agile PLM business object, such as an item or change, you can subscribe to that object. Whenever a triggering event occurs for that object, you will receive a Notification. Subscription events can be a lifecycle change, a change to attachment files, or a change to the value of any cell that is made available for subscription.

You can subscribe to both routable and non-routable objects. The Agile web services provide an interface which enables retrieving and modifying all subscriptions for an object. All objects that a user has subscribed to are listed on the user's Subscription table.

Subscribe Privilege

To subscribe to an object, you must have the Subscribe privilege for that class. Many predefined Agile PLM roles, such as Creator, already have the Subscribe privilege for several object classes. To change your roles and privileges, see the administrator of your Agile PLM system.

Subscription Notifications

Subscription events trigger two types of Agile PLM Notifications:

- **Email** - Email Notifications are sent only if the user's Receive Email Notification preference is set to **Yes**. For information on user and system preferences, refer to *Agile PLM Administrator Guide*.
- **Inbox** - Inbox Notifications occur automatically regardless of user preferences

A user with Administrator privileges can create and configure these Notifications in Java Client which provides two very similar dialogs for this purpose. The reason for the two dialogs is due to the fact that there are two sets of Email and Inbox Notifications:

- Those that the "To" field is grayed out
- Those that the administrator user can select recipients who are notified when the subscription event is triggered.

Getting Subscriptions for an Object

To retrieve the current subscriptions for an object, use `getSubscriptions` method, which returns an array of all subscription objects, both enabled and disabled.

Modifying the Subscriptions of an Object

You can use the Agile web services to modify subscriptions for the current user only. If you change your subscriptions for a particular business object, other users' subscriptions for that object remain unaffected.

The list of subscription events for any object is set at the server and cannot be modified by the Agile web service. However, you can select the fields (attributes) you want subscribed. If you have Administrator privileges, you can also modify classes to define which fields are available for subscription.

To work with a subscription, use the `modifySubscriptions` operation.

Working with Tables

This chapter describes how you work with the Agile PLM Tables and provides sample code snippets.

About Tables

Agile data is contained in tables. In Agile Web Client, these tables are equivalent to the separate tabs in a window, such as the Manufacturer and BOM tabs.

Agile Web services does not support random access of rows to a table. This implies that you cannot retrieve a specific row by index number and update it.

Operations Supported on Tables

Web Services supports table operations for Agile PLM's PC and PQM solutions.

PC

Table Name	Objects	Web Services API
Item Changes Pending Changes	Item	loadTable, isReadOnlyTable
Item Changes Change History	Item	loadTable, isReadOnlyTable
Item BOM	Item	loadTable, copyTable, clearTable, isReadOnlyTable, addRows, removeRows, updateRows
Item Manufacturers	Item	loadTable, copyTable, clearTable, isReadOnlyTable, addRows, removeRows, updateRows
Item Sites	Item	loadTable, copyTable, clearTable, isReadOnlyTable, addRows, removeRows, updateRows
Item Prices	Item	loadTable, isReadOnlyTable
Item Quality	Item	loadTable, isReadOnlyTable
Item Compliance Compositions	Item	loadTable, copyTable, clearTable, isReadOnlyTable, addRows, removeRows, updateRows

Table Name	Objects	Web Services API
Item Compliance Substances	Item	loadTable, copyTable, clearTable, isReadOnlyTable, addRows, removeRows, updateRows
Item Compliance Specifications	Item	loadTable, copyTable, clearTable, isReadOnlyTable, addRows, removeRows, updateRows
Item Relationships	Item	loadTable, copyTable, clearTable, isReadOnlyTable, addRows, removeRows, updateRows
Items Where Used	Item	loadTable, isReadOnlyTable
Changes Affected Items Table	Changes	loadTable, copyTable, clearTable, isReadOnlyTable, addRows, removeRows, updateRows
Changes AI Redline Title Block	Changes	loadTable, copyTable, clearTable, isReadOnlyTable, addRows, removeRows, updateRows
Changes AI Redline BOM	Changes	loadTable, copyTable, clearTable, isReadOnlyTable, addRows, removeRows, updateRows
Changes AI Redline Manufacturers	Changes	loadTable, copyTable, clearTable, isReadOnlyTable, addRows, removeRows, updateRows
Changes AI Redline Attachments	Changes	loadTable, copyTable, clearTable, isReadOnlyTable, addRows, removeRows, updateRows
Changes Relationships	Changes	loadTable, copyTable, clearTable, isReadOnlyTable, addRows, removeRows, updateRows
Mfrs Relationships	Mfrs	loadTable, copyTable, clearTable, isReadOnlyTable, addRows, removeRows, updateRows
Mfrs Where Used	Mfrs	loadTable, isReadOnlyTable
Mfr Parts Prices	Mfrs	loadTable, isReadOnlyTable
Mfr Parts Compliance Compositions	Mfr Parts	loadTable, copyTable, clearTable, isReadOnlyTable, addRows, removeRows, updateRows
Mfr Parts Compliance Substances	Mfr Parts	loadTable, copyTable, clearTable, isReadOnlyTable, addRows, removeRows, updateRows
Mfr Parts Compliance Specifications	Mfr Parts	loadTable, copyTable, clearTable, isReadOnlyTable, addRows, removeRows, updateRows
Mfr Parts Suppliers	Mfr Parts	loadTable, copyTable, clearTable, isReadOnlyTable, addRows, removeRows, updateRows
Mfr Parts Relationships	Mfr Parts	loadTable, copyTable, clearTable, isReadOnlyTable, addRows, removeRows, updateRows
Mfr Parts Where Used	Mfr Parts	loadTable, isReadOnlyTable

Table Name	Objects	Web Services API
Sites Relationships	Sites	loadTable, copyTable, clearTable, isReadonlyTable, addRows, removeRows, updateRows
Sites History	Sites	loadTable, isReadonlyTable

PQM

Table name	Objects	Web Services
PSR Affected Items	PSR	loadTable, copyTable, clearTable, isReadonlyTable, addRows, removeRows, updateRows
PSR Related PSR	PSR	loadTable, copyTable, clearTable, isReadonlyTable, addRows, removeRows, updateRows
PSR Relationships	PSR	loadTable, copyTable, clearTable, isReadonlyTable, addRows, removeRows, updateRows
QCR Affected Items	QCR	loadTable, copyTable, clearTable, isReadonlyTable, addRows, removeRows, updateRows
QCR Relationships	QCR	loadTable, copyTable, clearTable, isReadonlyTable, addRows, removeRows, updateRows

Loading a Table

You can use the operation `loadTable` to load a table from Agile PLM system. This operation takes `tablesIdentifier` parameter along with `classIdentifier` and `objectIdentifier`.

Tables vary for each Agile PLM dataobject. Tables for change objects are different from tables for items. Each table for a particular dataobject is identified by a constant in the constants class or by the API name for that dataobject. Item constants are contained in the `ItemConstants` class, change constants are contained in the `ChangeConstants` class, and so on.

Example: Loading the table of a part

```
RequestTableType table[] = new RequestTableType[1];
table[0] = new RequestTableType();
table[0].setClassIdentifier("Part");
table[0].setObjectNumber( partNumber );
table[0].setTableIdentifier("table01");
loadTableRequestType.setTableRequest( table );
```

Special Handling in the loadTable Operation

Example: Loading a table for an object version

```
table[0] = new RequestTableType();
table[0].setClassIdentifier("FileFolder");
table[0].setObjectNumber( folderNumber );
table[0].setTableIdentifier("Files");
```

```
PropertyType properties[] = new PropertyType[1];
properties[0] = new PropertyType();
properties[0].setPropertyName( SchemaConstants.folderVersion.getValue() );
```

```
properties[0].setPropertyValue( folderVersion );
table[0].setOptions(properties);
loadTableRequestType.setTableRequest(table);
```

Example: Loading a table for an object revision

```
table[0] = new RequestTableType();
table[0].setClassIdentifier( "Part" );
table[0].setObjectNumber( partNumber );
table[0].setTableIdentifier("TitleBlock");
```

```
PropertyType properties[] = new PropertyType[1];
properties[0] = new PropertyType();
properties[0].setPropertyName( SchemaConstants.revision.getValue() );
properties[0].setPropertyValue( partVersion );
table[0].setOptions(properties);
loadTableRequestType.setTableRequest(table);
```

Example: Loading a table for a redline change

```
table[0] = new RequestTableType();
table[0].setClassIdentifier( "Part" );
table[0].setObjectNumber( partNumber );
table[0].setTableIdentifier("TitleBlock");
```

```
PropertyType properties[] = new PropertyType[1];
properties[0] = new PropertyType();
properties[0].setPropertyName(SchemaConstants.redline_change.getValue() );
properties[0].setPropertyValue( changeNumber );
table[0].setOptions(properties);
loadTableRequestType.setTableRequest(table);
```

Example: Loading a table for a site object

```
table[0] = new RequestTableType();
table[0].setClassIdentifier( "Part" );
table[0].setObjectNumber( parentPartNumber );
table[0].setTableIdentifier("BOM" );
```

```
PropertyType properties[] = new PropertyType[1];
properties[0] = new PropertyType();
properties[0].setPropertyName( SchemaConstants.site.getValue() );
properties[0].setPropertyValue( site1 );
table[0].setOptions(properties);
loadTableRequestType.setTableRequest(table);
```

Working with the Readonly Tables

Several Agile PLM tables store history information or data about related objects. These tables are read-only and as such, you cannot modify these tables. When you write code to access a table, use the operation `isReadOnlyTable` to check if the table is read-only.

Retrieving the Metadata of a Table

You may require the metadata information of a table, which is the underlying data that describes a table's properties. This is useful when you need to identify the attributes of a particular table, its ID, or its table name without having to load a dataobject. The metadata is obtained in the form of `AttributeType` objects from the response.

For this, use the operation `getTableMetadata` specifying the `tableIdentifier` and `classIdentifier`.

Example: Retrieving metadata of a table

```
agileGetTableMetadataRequestType[0].setClassIdentifier("Part");
agileGetTableMetadataRequestType[0].setTableIdentifier("table01");
getTableMetadataRequestType.setRequests(agileGetTableMetadataRequestType);
```

Adding Rows to a Table

To create a table row, use the operation `addRows`, which creates a new row and initializes it with the data specified in the **rows** parameter. The **rows** parameter of **addRows** is available to pass the following data:

- a set of attributes and values for the row's cells
- an Agile PLM object (such as an Item) to add to the table

When you add a row to a table, it is not necessarily added at the end of the table.

Note You cannot add an empty row to a table.

Example: Adding rows in a BOM table

With the **addRows** operation, you can add a child element to a Part by adding rows to the BOM table of the parent object.

```
RequestTableType table = new RequestTableType();
table.setClassIdentifier("Part");
table.setObjectNumber(parentPartNumber);
table.setTableIdentifier("BOMtable_API_Name");
AgileRowType[] rows = new AgileRowType[1];
rows[0] = new AgileRowType();
```

```
String namespaceUri = null;
```

```
MessageElement messages[] = new MessageElement[1];
```

```
rows[0].set_any(messages);
```

```
messages[0] = new MessageElement(namespaceUri, "BOM_Child_Number");
```

```
messages[0].addAttribute(namespaceUri, "itemNumber");
```

```
messages[0].addTextNode(BOMchildPartNumber);
```

```
agileAddRowsRequest[0].setRow(rows);
agileAddRowsRequest[0].setObjectInfo(table);
addRowsRequestType.setData(agileAddRowsRequest);
```

Special Handling in the addRows Operation

Note All additional attributes like revision, site etc should be passed as options. Site and Revision should be passed along the individual row.

Adding a Site to the Sites Tab of an Item

```
final String COMMONNAMESPACEURI =
"http://xmlns.oracle.com/AgileObjects/Core/Common/V1";
final String XSIPREFIX = org.apache.axis.Constants.NS_PREFIX_SCHEMA_XSI;
final String TYPE = SchemaConstants.type.getValue();

AgileListEntryType lst03 = new AgileListEntryType();
SelectionType[] multiSelect = new SelectionType[1];
multiSelect[0] = new SelectionType();
multiSelect[0].setValue("Bangalore");
lst03.setSelection(multiSelect);

MessageElement dataCell = new MessageElement(namespaceUri, "siteName");
dataCell.addAttribute(XSIPREFIX, COMMONNAMESPACEURI, TYPE,
"AgileListEntryType");
dataCell.setObjectValue(lst03);
message[0] = dataCell;
row[0].set_any(message);
```

Adding Suppliers to the Suppliers Tab of an Item

You can add suppliers to the Supplier tab of an item using the following two methods:

Method 1

```
final String COMMONNAMESPACEURI =
"http://xmlns.oracle.com/AgileObjects/Core/Common/V1";
final String XSIPREFIX = org.apache.axis.Constants.NS_PREFIX_SCHEMA_XSI;
final String TYPE = SchemaConstants.type.getValue();

ObjectReferentIdType multiSelect = new ObjectReferentIdType();
multiSelect.setClassIdentifier("Broker");
multiSelect.setObjectIdentifier("SAP0265");

MessageElement dataCell = new MessageElement(namespaceUri, "supplier01");
dataCell.addAttribute(XSIPREFIX, COMMONNAMESPACEURI, TYPE,
"ObjectReferentIdType");
dataCell.setObjectValue(multiSelect);
message[0] = dataCell;
row[0].set_any(message);
```

Method 2

```
final String COMMONNAMESPACEURI =
"http://xmlns.oracle.com/AgileObjects/Core/Common/V1";
final String XSIPREFIX = org.apache.axis.Constants.NS_PREFIX_SCHEMA_XSI;
final String TYPE = SchemaConstants.type.getValue();

AgileObjectListEntryType multilist01 = new AgileObjectListEntryType();
ObjectReferentIdType[] obj = new ObjectReferentIdType[1];
obj[0] = new ObjectReferentIdType();
```

```

obj[0].setClassIdentifier("Broker");
obj[0].setObjectIdentifier("SAP0265");
multilist01.setSelection(obj);
MessageElement dataCell = new MessageElement(namespaceUri, "supplier");
dataCell.addAttribute(XSIPREFIX, COMMONNAMESPACEURI, TYPE,
"AgileObjectListEntryType");
dataCell.setObjectValue(multilist01);
message[0] = dataCell;
row[0].set_any(message);

```

Adding Suppliers to a Manufacturer Part

```

final String COMMONNAMESPACEURI =
"http://xmlns.oracle.com/AgileObjects/Core/Common/V1";
final String XSIPREFIX = org.apache.axis.Constants.NS_PREFIX_SCHEMA_XSI;
final String TYPE = SchemaConstants.type.getValue();

RequestTableType objectInfo = new RequestTableType();
objectInfo.setClassIdentifier(subclassId);
objectInfo.setObjectNumber(objectNumber);
objectInfo.setTableIdentifier("tableId");
agileAddRowsRequests[0].setObjectInfo(objectInfo);
PropertyType[] options = new PropertyType[1];
options[0] = new PropertyType();
options[0].setPropertyName(SchemaConstants.manufacturer_name.getValue());
options[0].setPropertyValue("Cisco");
agileAddRowsRequests[0].setOptions(options);
AgileAddRowsRequest[] agileAddRowsRequests = new AgileAddRowsRequest[1];
agileAddRowsRequests[0] = new AgileAddRowsRequest();
AgileRowType[] row = new AgileRowType[1];
row[0] = new AgileRowType();
agileAddRowsRequest.setRow(row);
String namespaceUri = null;
MessageElement[] message = new MessageElement[1];
AgileObjectListEntryType multilist01 = new AgileObjectListEntryType();
ObjectReferentIdType[] obj = new ObjectReferentIdType[1];
obj[0] = new ObjectReferentIdType();
obj[0].setClassIdentifier("Broker");
obj[0].setObjectIdentifier("SAP0265");
multilist01.setSelection(obj);
MessageElement dataCell = new MessageElement(namespaceUri, "supplier");

```

```
dataCell.addAttribute(XSIPPREFIX, COMMONNAMESPACEURI, TYPE,
"AgileObjectListEntryType");
dataCell.setObjectValue(multilist01);
message[0] = dataCell;
row[0].set_any(message);
```

Adding Manufacturer Part to AML of an Item

You can add a Manufacturer Part to the AML of an Item using the following two methods:

Method 1

```
MessageElement[] message = new MessageElement[2];
MessageElement dataCell = new MessageElement(namespaceUri, "mfrPartNumber");
dataCell.setObjectValue("bosco");
message[0] = dataCell;
MessageElement dataCell = new MessageElement(namespaceUri, "mfrName");
dataCell.setObjectValue("cisco");
message[1] = dataCell;
row[0].set_any(message);
```

Method 2

```
MessageElement[] message = new MessageElement[1];
ObjectReferentIdType obj = new ObjectReferentIdType();
obj.setClassIdentifier("ManufacturerPart");
obj.setObjectIdentifier("MfrP_01");
PropertyType[] options = new PropertyType[1];
options[0] = new PropertyType();
options[0].setPropertyName(SchemaConstants.manufacturer_name.getValue());
options[0].setPropertyValue("Manu_4570");
obj.setOptions(options);
MessageElement dataCell = new MessageElement(namespaceUri, "mfrPartNumber");
dataCell.addAttribute(XSIPPREFIX, COMMONNAMESPACEURI, TYPE,
"ObjectReferentIdType");
dataCell.setObjectValue(obj);
message[0] = dataCell;
row[0].set_any(message);
```

Adding Manufacturer Part to the Relationships Tab

```
ObjectReferentIdType obj = new ObjectReferentIdType();
obj.setClassIdentifier("ManufacturerPart");
obj.setObjectIdentifier("m12444");
PropertyType[] options = new PropertyType[1];
options[0] = new PropertyType();
options[0].setPropertyName(SchemaConstants.manufacturer_name.getValue());
options[0].setPropertyValue("Cisco");
obj.setOptions(options);
MessageElement dataCell = new MessageElement(namespaceUri, "name");
dataCell.addAttribute(XSIPPREFIX, COMMONNAMESPACEURI, TYPE,
"ObjectReferentIdType");
dataCell.setObjectValue(obj);
message[0] = dataCell;
row[0].set_any(message);
```

Adding Affected Item to a Change

```

MessageElement dataCell11 = new MessageElement(namespaceUri, "itemNumber");
dataCell11.setObjectValue("P00400");
message[0] = dataCell11;

MessageElement dataCell12 = new MessageElement(namespaceUri, "effectiveDate");
dataCell12.setObjectValue(new Date());
dataCell12.addAttribute(XSIPREFIX, Constants.URI_DEFAULT_SCHEMA_XSD, "type",
"dateTime");
message[1] = dataCell12;

MessageElement dataCell13 = new MessageElement(namespaceUri, "newRev");
dataCell13.setObjectValue("Item_01");
dataCell13.addAttribute(XSIPREFIX, Constants.URI_DEFAULT_SCHEMA_XSD, TYPE,
"string");
message[2] = dataCell13;

row[0].set_any(message);

```

Adding Site Specific Item to the BOM Tab

To add a child object to a specific site, we can utilize either the `setOptions` feature on the table object, or use the `setAdditionalRowInfo` method on the row object. Using `setOptions` on the table object will add all new rows to a particular site. On the other hand, `setAdditionalRowInfo` may be used to specify a site for each individual row, meaning that if several rows are to be added with a web service call, each row may be added to a different site.

Adding site specific item to the BOM tab

In this example, `setAdditionalRowInfo` is used to add a given row to a specific site of a Part using the operation `addRows`.

```

RequestTableType table = new RequestTableType();
table.setClassIdentifier("Part");
table.setObjectNumber( parentPartNumber );
table.setTableIdentifier( "BOM" );
AgileRowType[] rows = new AgileRowType[1];
rows[0] = new AgileRowType();
String namespaceUri = null;
MessageElement messages[] = new MessageElement[1];

rows[0].set_any(messages);

messages[0] = new MessageElement(namespaceUri, "itemNumber");
messages[0].addTextNode( childPartNumber );

AdditionalInfoType additionalInfoType = new AdditionalInfoType();
additionalInfoType.setSite(site1);

rows[0].setAdditionalRowInfo(additionalInfoType);
agileAddRowsRequest[0].setRow(rows);
agileAddRowsRequest[0].setObjectInfo(table);
addRowsRequestType.setData(agileAddRowsRequest);

```

Adding Site Specific AML to the Manufacturers Tab

For adding a Manufacturer to a Part at a specific site, use the `setOptions` feature by providing a name-value pair using which a particular site is identified. Subsequently, the web service adds the manufacturer to the site as specified in the options.

A manufacturer part is specified through a `MessageElement` in the operation `addRows`, the message element cannot be specified in the usual manner. In this case, the message element for the manufacturer part must be of type `ObjectReferentIdType`. Consequently, an object identifier type object is created and appropriate class and object identifier values are set, using the manufacturer part class and its number, respectively.

```
RequestTableType table = new RequestTableType();
table.setClassIdentifier("Part");
table.setObjectNumber( partNumber );
table.setTableIdentifier( "Manufacturers" );
PropertyType[] properties = new PropertyType[1];
properties[0] = new PropertyType();
properties[0].setPropertyName( SchemaConstants.site.getValue() );
properties[0].setPropertyValue( site1 );
table.setOptions(properties);
AgileRowType[] rows = new AgileRowType[1];
rows[0] = new AgileRowType();

String namespaceUri = null;
MessageElement messages[] = new MessageElement[1];
messages[0] = new MessageElement(namespaceUri, "mfrPartNumber");
ObjectReferentIdType objRefId = new ObjectReferentIdType();
objRefId.setClassIdentifier( "ManufacturerPart" );
objRefId.setObjectIdentifier( manufPartNumber );
messages[0].addAttribute(Constants.NS_PREFIX_SCHEMA_XSI, COMMONNAMESPACEURI,
"type", "ObjectReferentIdType");
PropertyType[] properties_manufName = new PropertyType[1];
properties_manufName[0] = new PropertyType();
properties_manufName[0].setPropertyName( SchemaConstants.manufacturer_
name.getValue() );
properties_manufName[0].setPropertyValue( manufName );
objRefId.setOptions(properties_manufName);
messages[0].setObjectValue(objRefId);

rows[0].set_any(messages);
agileAddRowsRequest[0].setRow(rows);
agileAddRowsRequest[0].setObjectInfo(table);
addRowsRequestType.setData(agileAddRowsRequest);
```

Adding Material to Item Table

You are required to add the *Substance* type (or Class) also in the **addRows** operation request. If you do not specify a type, the application assumes you are trying to add an 'object' of type *Substance*. Since the object being added is of the type 'Material', the server will reuse it as *Substance*. Hence, you are required to specify the type of the object you are adding. The valid values are *Substance* and *Substance Group*.

```
public static class AddRowsDataToIPC17521DeclarationItemComposition {
    public static String methodName = "runPositive" ;
    public static String [] paramsOrder = {"classIds", "objectNumbers",
"tableIds", "attrSet" } ;

    public static Integer [] classIds = {2000005975};
```

```

public static String [] objectNumbers = {"IPC17521DEC_ANY"} ;
public static Integer [] tableIds = {2000002780} ;
public static Object [][][] attrsSet = {
    {
        {
            {"substanceName",2000002745,"MATERIAL_ANY","STANDARD"},
            {"itemNumber",2000002974,"TEST_PART_ANY","STANDARD"},
        }
    }
};
}

```

Adding Rows to the Relationship Table of a Reference Object

To add rows to the relationship table of a reference object using the `AddRowsReferenceObject` operation. The request object contains specifications of the class identifier and table identifier attributes.

Example: Adding a reference object to a relationship table

```

AddRowsRequestType addRowsRequestType = new AddRowsRequestType();
AgileAddRowsRequest agileAddRowsRequest[] = new AgileAddRowsRequest[1];
agileAddRowsRequest[0] = new AgileAddRowsRequest();
RequestTableType table = new RequestTableType();
table.setClassIdentifier("Part");
table.setObjectNumber( parentName );
table.setTableIdentifier( ServiceRequestConstants.TABLE_RELATIONSHIPS.toString()
);
AgileRowType[] rows = new AgileRowType[1];
rows[0] = new AgileRowType();
String namespaceUri = "http://xmlns.oracle.com/AgileObjects/Core/Common/V1";
MessageElement messages[] = new MessageElement[1];
rows[0].set_any(messages);
messages[0] = new MessageElement(namespaceUri, "number");
messages[0].addAttribute(Constants.NS_PREFIX_SCHEMA_XSI, namespaceUri, "type",
"ObjectReferentIdType");
ObjectReferentIdType objRefId = new ObjectReferentIdType();
objRefId.setClassIdentifier(refSubclassName);
objRefId.setObjectIdentifier(refObjName);
objRefId.setReferencedObjKey(refObjPubKey);
messages[0].setObjectValue(objRefId);
agileAddRowsRequest[0].setRow(rows);
agileAddRowsRequest[0].setObjectInfo(table);
addRowsRequestType.setData(agileAddRowsRequest);
AddRowsResponseType addRowsResponseType = tableStub.addRows(addRowsRequestType);

```

Updating Rows in a Table

Rows in a table are updated using the operation `updateRows`.

In the following example, the `rowID` is set after performing the operation `loadTable` and getting the `rowID` from the response.

Example: Updating rows in a table row

```

UpdateRowsRequestType updateRowsRequestType = new UpdateRowsRequestType();
AgileUpdateRowsRequest agileUpdateRowsRequest[] = new AgileUpdateRowsRequest[1];
agileUpdateRowsRequest[0] = new AgileUpdateRowsRequest();
RequestTableType table = new RequestTableType();

```

```

table.setClassIdentifier( "ECO" );
table.setObjectNumber( changeNumber );
table.setTableIdentifier( "AffectedItems" );

AgileUpdateRow updateRow[] = new AgileUpdateRow[1];
updateRow[0] = new AgileUpdateRow();
updateRow[0].setRowId(getRowID("ECO", changeNumber, "AffectedItems",
partNumber ) );
AgileRowType row = new AgileRowType();
String namespaceUri = null;
MessageElement messages[] = new MessageElement[1];
Date date = new Date();
date.setTime( date.getTime() );
messages[0] = new MessageElement(namespaceUri, "effectiveDate");
messages[0].addAttribute("date_px", Constants.URI_DEFAULT_SCHEMA_XSD,
"type", "dateTime");
messages[0].setObjectValue(date);
row.set_any(messages);
updateRow[0].setRow(row);
agileUpdateRowsRequest[0].setRow(updateRow);
agileUpdateRowsRequest[0].setObjectInfo(table);
updateRowsRequestType.setData(agileUpdateRowsRequest);

```

Removing Rows from a Table

To remove a row from a table, use the `removeRows` operation, which requires `tableIdentifier`, `rowID`, besides `objectIdentifier`, `objectNumber`, and `objectInfo`.

If a table is read-only, you cannot remove rows from it. To check the read/write status of tables, see [Working with ReadOnly Tables](#) on page 39.

If you are working with a released revision of an item, you cannot remove a row from the item's table until you create a change order for a new revision.

Example: Removing a table row

```

RemoveRowsRequestType removeRowsRequestType = new RemoveRowsRequestType();
AgileRemoveRowsRequest agileRemoveRowsRequest[] = new AgileRemoveRowsRequest[1];
agileRemoveRowsRequest[0] = new AgileRemoveRowsRequest();
RequestTableType table = new RequestTableType();
table.setClassIdentifier("Part");
table.setObjectNumber( parentPartNumber );
table.setTableIdentifier( ItemConstants.TABLE_BOM.toString() );
agileRemoveRowsRequest[0].setObjectInfo(table);
agileRemoveRowsRequest[0].setRowId( new Integer[] {getRowID("Part",
parentPartNumber, "BOM", childPartNumber)} );
removeRowsRequestType.setRows(agileRemoveRowsRequest);

```


Clearing a Table

You can clear the entire table by removing all the rows. This can be done by setting the `tableIdentifier` in the operation `clearTable`.

Example: Clearing a table

```
RequestTableType table1 = new RequestTableType();
table1.setClassIdentifier("Part");
table1.setObjectNumber( partNumber );
table1.setTableIdentifier( "tableAPIName" );
agileClearTableRequestType[0].setAgileTable(table1);
clearTableRequestType.setClearTable(agileClearTableRequestType);
```

Copying Tables

You can copy all the rows of a table in an Agile object to another table by using the operation `copyTable`. This operation requires `classIdentifier`, `objectNumber` and `tableIdentifier`, and setting of the `SourceTable` and `TargetTable` values.

Example: Copying a table

```
agileCopyTableRequestType[0] = new AgileCopyTableRequestType();
RequestTableType table1 = new RequestTableType();
RequestTableType table2 = new RequestTableType();

table1.setClassIdentifier("Part");
table1.setObjectNumber( partNumber1 );
table1.setTableIdentifier("Compositions");
table2.setClassIdentifier("Part");
table2.setObjectNumber( partNumber2 );
table2.setTableIdentifier( "Compositions" );

agileCopyTableRequestType[0].setSourceTable(table1);
agileCopyTableRequestType[0].setTargetTable(table2);
copyTableRequestType.setCopyTable(agileCopyTableRequestType);
```

Redlining a Table

When you issue a change for a released item or a price agreement, the Agile Web Services lets you redline certain tables affected by the change. In the Agile PLM clients, redline tables visually identify values that have been modified from the previous revision. Red underlined text - thus the term "redline", indicates values that have been added, and red strikethrough text indicates values that have been deleted. Those responsible for approving the change can review the redline data.

The Agile PLM system provides the following Redline tables:

- Redline BOM
- Redline Manufacturers (AML)
- Redline Price Lines
- Redline Title Block

Example: Adding a Redlined BOM

```
RequestTableType table = new RequestTableType();
table.setClassIdentifier("Part");
table.setObjectNumber( parentPartNumber );
table.setTableIdentifier( "-803" );
ObjectReferentIdType multiSelect = new ObjectReferentIdType();
multiSelect.setClassIdentifier("Part");
multiSelect.setObjectIdentifier("P00407");
MessageElement dataCell = new MessageElement(namespaceUri, "itemNumber");
dataCell.addAttribute(XSIPREFIX, COMMONNAMESPACEURI, TYPE,
"ObjectReferentIdType");
dataCell.setObjectValue(multiSelect);
message[0] = dataCell;
row[0].set_any(message);
PropertyType[] options = new PropertyType[1];
options[0] = new PropertyType();
options[0].setPropertyName(SchemaConstants.redline_change.getValue());
options[0].setPropertyValue("C00644");
row[0].setOptions(options);
agileAddRowsRequest[0].setObjectInfo(table);
```

Working with File Folders and Attachments

This chapter describes how to work with the Agile PLM File Folders and Attachments, and provides sample code snippets.

Agile File Folders

A File Folder is a business object that specifies one or more files or URLs that are stored in the file PLM server vault. In addition, a file folder has its own set of tables. This means that you can create and load an independent file folder and add one or more files to its Files table. You can also search for a file folder, just as you would search for an Item or Change.

The File Folder Base Class has two Classes and each of these classes have their own respective Subclasses. This section describes File Folder features and components, and provides procedures to add, modify, or remove them.

Managing File Folders

With Agile Web Services you can carry out File Folder related tasks, such as:

- Checking-in and checking-out files associated with the objects in the rows of an Attachments table
- Adding files and URLs to an Attachments table
- Deleting Attachments

This section lists and describes these features, and provides necessary procedures to use the Agile Web Services to perform these tasks.

Note: Additional File Folder attributes are visible for Item Attachments ReadThrough in Web Client (provided they are enabled in the Java Client). Values assigned to these attributes in Web Client are retrieved by Web Services.

Creating a File Folder

You can create a File Folder with the createObject operation, since it is an Agile Object.

Example: Creating a file folder

```
CreateObjectType createObjectType = new CreateObjectType();
AgileCreateObjectRequest agileCreateObjectRequest[] = new
AgileCreateObjectRequest[1];
agileCreateObjectRequest[0] = new AgileCreateObjectRequest();
```

```
agileCreateObjectRequest[0].setClassIdentifier("FileFolder");
AgileRowType row_1 = new AgileRowType();
MessageElement[] messages = new MessageElement[2];
String namespaceUri = null;
messages[0] = new MessageElement(namespaceUri, "number");
messages[0].addTextNode(folderNumber);
messages[1] = new MessageElement(namespaceUri, "description");
messages[1].addTextNode("File Folder Description");
row_1.set_any(messages);
agileCreateObjectRequest[0].setData(row_1);
createObjectRequestType.setRequests(agileCreateObjectRequest);
```

Note: When you add a file or a URL to the row of the Attachments table of a business object, you automatically create a new file folder object that contains the associated file or URL

Example: Creating a Design Object

```
CreateObjectRequestType createObjectRequestType = new CreateObjectRequestType();
AgileCreateObjectRequest agileCreateObjectRequest[] = new
AgileCreateObjectRequest[1];
agileCreateObjectRequest[0] = new AgileCreateObjectRequest();
agileCreateObjectRequest[0].setClassIdentifier("Design");
AgileRowType row_1 = new AgileRowType();
MessageElement[] messages = new MessageElement[2];
String namespaceUri = null;
messages[0] = new MessageElement(namespaceUri, "number");
messages[0].addTextNode(designNumber);
messages[1] = new MessageElement(namespaceUri, "description");
messages[1].addTextNode("Design Desc");
row_1.set_any(messages);
agileCreateObjectRequest[0].setData(row_1);
createObjectRequestType.setRequests(agileCreateObjectRequest);
```

Checking Out a File Folder

Before you can add, delete, or modify the files contained in a file folder, you must check out the file folder. With the appropriate privileges, you can check out a file folder as long as it is not already checked out by another user. Once a file folder is checked out, no one else can check it out or modify it.

The user who checked out a file folder, as well as other users who are change analysts or component engineers, can check it in. If the file folder was checked out to a location on the network, or to a shared drive or directory, anyone who has access to that network location or to that shared directory can check in the file folder.

Use the operation `checkOutFF` for checking out a file folder.

Example: Checking out a file folder

```
CheckOutFFRequestType checkOutFFRequestType = new CheckOutFFRequestType();
AgileCheckOutFFRequest agileCheckOutFFRequest[] = new AgileCheckOutFFRequest[1];
agileCheckOutFFRequest[0] = new AgileCheckOutFFRequest();
agileCheckOutFFRequest[0].setFolderNumber( folderNumber );
checkOutFFRequestType.setRequests(agileCheckOutFFRequest);
```

Setting the Version of File Folder Files

A file folder can have several versions. Specify the file version, while adding a file folder to the Attachment table of another business object. The row on the attachments table is then linked to that version. If you do not specify the file version, Agile Web Services uses the default or latest version.

If the parent object containing the Attachments table is an item, you can incorporate the item to lock the specified versions of its attachments.

Example: Setting the version when adding a row to the attachments table

This is carried out in two stages. First, add a row using the operation `addRows` to add a file folder and then update the table using the operation `updateRows`.

Stage 1 - Adding the file folder to the attachment table of a Part

```
AddRowsRequestType addRowsRequestType = new AddRowsRequestType();
AgileAddRowsRequest agileAddRowsRequest[] = new AgileAddRowsRequest[1];
agileAddRowsRequest[0] = new AgileAddRowsRequest();
RequestTableType table = new RequestTableType();
table.setClassIdentifier("Part");
table.setObjectNumber( parentPartNumber );
table.setTableIdentifier( "Attachments" );
folderNumber = "FOLDER00441";
```

```
AgileRowType[] rows = new AgileRowType[1];
rows[0] = new AgileRowType();
String namespaceUri = null;
String COMMONNAMESPACEURI =
"http://xmlns.oracle.com/AgileObjects/Core/Common/V1";
MessageElement messages[] = new MessageElement[1];
messages[0] = new MessageElement(namespaceUri, "folderNumber");
messages[0].addAttribute(Constants.NS_PREFIX_SCHEMA_XSI,
COMMONNAMESPACEURI, "type", "ObjectReferentIdType");
ObjectReferentIdType objRefId = new ObjectReferentIdType();
objRefId.setClassIdentifier("FileFolder");
objRefId.setObjectIdentifier( folderNumber );
messages[0].setObjectValue(objRefId);
rows[0].set_any(messages);
agileAddRowsRequest[0].setRow(rows);
agileAddRowsRequest[0].setObjectInfo(table);

addRowsRequestType.setData(agileAddRowsRequest);
agileUpdateRowsRequest[0].setObjectInfo(updateTable);
RequestTableType updateTable = new RequestTableType();
updateTable.setClassIdentifier( "Part" );
updateTable.setObjectNumber( parentPartNumber );
updateTable.setTableIdentifier( "Attachments" );
AgileUpdateRow updateRow[] = new AgileUpdateRow[1];
updateRow[0] = new AgileUpdateRow();
updateRow[0].setRowId(RowId);
AgileRowType row = new AgileRowType();
MessageElement messages_2[] = new MessageElement[1];
```

```
messages_2[0] = new MessageElement(namespaceUri, "folderVersion");
messages_2[0].addAttribute(Constants.NS_PREFIX_SCHEMA_XSI, COMMONNAMESPACEURI,
"type", "AgileListEntryType");
AgileListEntryType list = new AgileListEntryType();
```

Stage 2 - Updating the version of this newly created file folder on the attachment table

```
SelectionType[] selection = new SelectionType[1];
selection[0] = new SelectionType();
selection[0].setValue("2");
list.setSelection(selection);
messages_2[0].setObjectValue(list);
row.set_any(messages_2);
updateRow[0].setRow(row);
agileUpdateRowsRequest[0].setRow(updateRow);
updateRowsRequestType.setData(agileUpdateRowsRequest);
```

Canceling a File Folder Checkout

If you check out a file folder and then decide not to modify it, or discard your changes and revert to the original file folder, you can cancel the checkout with the operation `cancelCheckOutFF`. When you cancel a checkout, the file folder is available for other users to checkout.

Note: Only the user who checked out a file folder can cancel the checkout.

Example: Canceling a file folder checkout

```
CancelCheckOutFFRequestType cancelCheckOutFFRequestType = new
CancelCheckOutFFRequestType();
AgileCancelCheckOutFFRequest agileCancelCheckOutFFRequest[] = new
AgileCancelCheckOutFFRequest[1];
agileCancelCheckOutFFRequest[0] = new AgileCancelCheckOutFFRequest();
agileCancelCheckOutFFRequest[0].setFolderNumber( folderNumber );
cancelCheckOutFFRequestType.setRequests(agileCancelCheckOutFFRequest);
```

Checking In a File Folder

After you finish working on the checked out file folder, check it in using the operation `checkInFF`.

When you check in a file folder, it automatically checks in all the (multiple) files that are contained in it, without you having to specifically list each file.

Example: Checking in a file folder

```
CheckInFFRequestType checkInFFRequestType = new CheckInFFRequestType();
AgileCheckInFFRequest agileCheckInFFRequest[] = new AgileCheckInFFRequest[1];
agileCheckInFFRequest[0] = new AgileCheckInFFRequest();
agileCheckInFFRequest[0].setFolderNumber( folderNumber );
checkInFFRequestType.setRequests(agileCheckInFFRequest);
```

Deleting the File Folders

To delete a file folder, use the operation `deleteObject`. You must have the `Delete` privilege for file folders to be able to delete them.

Note: Deleting a file folder does not automatically remove its associated files from the file server. The Agile PLM administrator is responsible for purging deleted files.

To delete a row from the Attachments table of a business object, use the operation `removeRows`.

Removing a row from the Attachments table does not delete the associated file folder. You cannot delete a row from the Attachments table in the following situations:

- The parent object is an Item whose revision is incorporated.
- The selected attachment is currently checked out.

Note: Deleting a file folder does not automatically remove its associated files from the file server. The Agile PLM administrator is responsible for purging the deleted files.

Example: Deleting a file folder

```
DeleteObjectRequestType deleteObjectRequestType = new DeleteObjectRequestType();
AgileDeleteObjectRequest agileDeleteObjectRequest[] = new
AgileDeleteObjectRequest[1];
agileDeleteObjectRequest[0] = new AgileDeleteObjectRequest();
agileDeleteObjectRequest[0].setClassIdentifier("FileFolder");
agileDeleteObjectRequest[0].setObjectNumber(folderNumber);
deleteObjectRequestType.setRequests(agileDeleteObjectRequest);
```

Getting a File from a File Folder

If a file folder is checked out by another user, you can still get a copy of the file folder file(s) and save it to your local machine. You can use the operation `getFileFF`, which returns the file stream associated with a row of the Attachments table. The file stream can be for one file or it can be a zipped file stream for multiple files, depending on how many files the associated file folder has.

If you call this operation from the file folder object, you return the zipped file stream for all files listed on the Files table. Whereas, if you call this operation from a row of the Files table of a file folder, you return a file stream for the specific file associated with that row.

```
GetFileFFRequestType getFileFFRequestType = new GetFileFFRequestType();
AgileGetFileFFRequest agileGetFileFFRequest[] = new AgileGetFileFFRequest[1];
agileGetFileFFRequest[0] = new AgileGetFileFFRequest();
agileGetFileFFRequest[0].setFolderNumber(folderNumber);
AgileFileAttachmentRequestType files[] = new AgileFileAttachmentRequestType[1];
files[0] = new AgileFileAttachmentRequestType();
files[0].setRowId(rowId);
agileGetFileFFRequest[0].setFiles(files);
getFileFFRequestType.setRequests(agileGetFileFFRequest);
```

Example: Getting all the files from a file folder

To get all the file of an Agile File Folder object, set allFiles variable to true.

```
GetFileFFRequestType getFileFFRequestType = new GetFileFFRequestType();
AgileGetFileFFRequest agileGetFileFFRequest[] = new AgileGetFileFFRequest[1];
agileGetFileFFRequest[0] = new AgileGetFileFFRequest();
agileGetFileFFRequest[0].setFolderNumber(folderNumber);
agileGetFileFFRequest[0].setAllFiles(true);
getFileFFRequestType.setRequests(agileGetFileFFRequest);
```

Getting a File from a File Folder using a Download URL

When you have to download extremely large files, you can use the operation getFileFF to generate a **downloadURL** for a file attachment present in an Agile File Folder. The request object contains a boolean to indicate that the download URL needs to be fetched and also the specifications that identify the attachment to be downloaded.

Example: Getting a file using a URL

```
GetFileFFRequestType getFileFFRequestType = new GetFileFFRequestType();
AgileGetFileFFRequest agileGetFileFFRequest[] = new AgileGetFileFFRequest[1];
agileGetFileFFRequest[0] = new AgileGetFileFFRequest();
agileGetFileFFRequest[0].setFolderNumber(folderNumber);
agileGetFileFFRequest[0].setDownloadUrl(true);
AgileFileAttachmentRequestType files[] = new AgileFileAttachmentRequestType[1];
files[0] = new AgileFileAttachmentRequestType();
files[0].setRowId(rowId);
agileGetFileFFRequest[0].setFiles(files);
getFileFFRequestType.setRequests(agileGetFileFFRequest);
```

Getting a File from a Version of File Folder

A file attachment can be downloaded from a particular version of an Agile File Folder Object. The request object contains the specifications that identify the attachment to be downloaded and the version of the folder, an array of bytes is obtained in the response object.

Example: Getting a file from a version of a file folder

```
GetFileFFRequestType getFileFFRequestType = new GetFileFFRequestType();
AgileGetFileFFRequest agileGetFileFFRequest[] = new AgileGetFileFFRequest[1];
agileGetFileFFRequest[0] = new AgileGetFileFFRequest();
agileGetFileFFRequest[0].setFolderNumber(folderNumber);
agileGetFileFFRequest[0].setFolderVersion(folderVersion);
AgileFileAttachmentRequestType files[] = new AgileFileAttachmentRequestType[1];
files[0] = new AgileFileAttachmentRequestType();
files[0].setRowId(rowId);
agileGetFileFFRequest[0].setFiles(files);
getFileFFRequestType.setRequests(agileGetFileFFRequest);
```

Adding Files to a File Folder Object

With the operation addFileFF, you can add files to the 'Files' tab of a File Folder. Before you add the files, the File Folder must be checked out using the operation checkOutFF.

```
checkOutFolder(folderNumber);
agileAddFileFFRequestType[0].setFolderNumber(folderNumber);
```



```

AddFileFFType files[] = new AddFileFFType[1];

files[0] = new AddFileFFType();
files[0].setFileName("Filename.txt");
files[0].setDescription("Description for file");
files[0].setContent( "File Content...file".getBytes() );

agileAddFileFFRequestType[0].setFiles( files );
addFileFFRequestType.setRequest( agileAddFileFFRequestType );

```

Example: Adding a file using its DFM reference

For the files that were already added to DFM, you can add a file to the 'Files' tab of a file folder using a reference obtained from the DFM file server.

```

checkOutFolder( folderNumber );
agileAddFileFFRequestType[0].setFolderNumber( folderNumber );
AddFileReferenceFFType reference[] = new AddFileReferenceFFType[1];

reference[0] = new AddFileReferenceFFType();
reference[0].setFileId( fileId );
reference[0].setFileName("FileThrowReference.txt");
reference[0].setDescription("file added using a reference");
reference[0].setFileSize( new Long(1) );

agileAddFileFFRequestType[0].setFileRefs( reference );
addFileFFRequestType.setRequest( agileAddFileFFRequestType );

```

Example: Adding URLs to a file folder

```

agileAddFileFFRequestType[0].setFolderNumber( folderNumber );
AddUrlFFType urls[] = new AddUrlFFType[1];
urls[0] = new AddUrlFFType();
urls[0].setUrl("http://www.testurl_filefolder.com");
urls[0].setDescription("Test url description");
agileAddFileFFRequestType[0].setUrls(urls);
addFileFFRequestType.setRequest( agileAddFileFFRequestType );

```

Adding Files in a File Folder

The Files table of a file folder lists the files and URLs associated with the object. To edit the table, you must first check out the file folder. You cannot add files or URLs to the Files table or delete them unless the file folder is checked out.

Example: Adding a URL in a file folder

Addition of URL attachments to the 'Files' tab of a file folder object can be carried out by specifying the URL and folder number.

```

checkOutFolder( folderNumber );
agileAddFileFFRequestType[0].setFolderNumber( folderNumber );
AddUrlFFType urls[] = new AddUrlFFType[1];
urls[0] = new AddUrlFFType();
urls[0].setUrl("http://www.testurl_filefolder.com");
urls[0].setDescription("Test url description");
agileAddFileFFRequestType[0].setUrls(urls);
addFileFFRequestType.setRequest( agileAddFileFFRequestType );

```

Managing Attachments

Attachments to objects contain information about the object or a manufacturing process. You can attach files and URLs by referencing them in a File Folder object. The File Folder object holds pertinent content, or Attachments. Most primary Agile API objects, such as Item, Change, Manufacturer, ManufacturerPart, Package, TransferOrder, User, and UserGroup, have an attachments table (or tab in the Java Client) that lists indirect references to the files or URLs that are in separate file folders. Each row in an Attachments table can refer to one file or to all files from a referenced file folder.

Getting Attachments of an Object

A file attachment is retrieved using the operation `getFileAttachment`.

When the required file is present in a single, separate row, it is downloaded from the attachment tab using its **rowId**.

When there are several files in the same row and the desired file is one of them, the **fileId** must also be specified.

Example: Getting a single attachment

```
agileGetFileAttachmentRequest[0].setClassIdentifier("Part");
agileGetFileAttachmentRequest[0].setObjectNumber(partNumber);
agileGetFileAttachmentRequest[0].setAllFiles(false);
AgileFileAttachmentRequestType attachments[] = new
AgileFileAttachmentRequestType[1];
attachments[0] = new AgileFileAttachmentRequestType();
attachments[0].setRowId(rowId);
agileGetFileAttachmentRequest[0].setAttachments(attachments);
getFileAttachmentRequestType.setRequests(agileGetFileAttachmentRequest);
```

Example: Getting all the attachments of an object

To get all the attachments of an object, set **allFiles** to True.

```
agileGetFileAttachmentRequest[0].setClassIdentifier("Part");
agileGetFileAttachmentRequest[0].setObjectNumber(partNumber);
agileGetFileAttachmentRequest[0].setAllFiles(true);
AgileFileAttachmentRequestType attachments[] = new
AgileFileAttachmentRequestType[1];
attachments[0] = new AgileFileAttachmentRequestType();
agileGetFileAttachmentRequest[0].setAttachments(attachments);
getFileAttachmentRequestType.setRequests(agileGetFileAttachmentRequest);
```

Getting a Specific Attachment and a File Folder

When there are several files in the same row and the desired file is one of them, then a file can be downloaded from the attachment tab using its **fileId** along with the **rowId**. Using the **rowId** alone in this case is ineffective since all the files of that row will be obtained. To download only a specific file from such a set of files in a single row, the **fileId** is also needed.

For such cases, first set the **rowId** information, then obtain the **fileId** value and set the same into the 'files' element of the request object.

```
agileGetFileAttachmentRequest[0].setClassIdentifier("Part");
```

```

agileGetFileAttachmentRequest[0].setObjectNumber(partNumber);
agileGetFileAttachmentRequest[0].setAllFiles(false);
AgileFileAttachmentRequestType attachments[] = new
AgileFileAttachmentRequestType[1];
attachments[0] = new AgileFileAttachmentRequestType();
attachments[0].setRowId(rowId);
int fileIds[] = new int[] { fileId1, fileId2 };
attachments[0].setFiles(fileIds);
agileGetFileAttachmentRequest[0].setAttachments(attachments);
GetFileAttachmentRequestType.setRequests(agileGetFileAttachmentRequest);

```

Instead of using the fileId for obtaining a file from a row with multiple files, you can also use the rowId of the files tab in the filefolder object vis-a-vis the desired file.

To download only a specific file from a set of files in a single row in the Attachment tab, first set the rowId information, then obtain the rowId value of the corresponding FileFolder object of the file and set the same into the 'files' element of request object.

```

Removing a table row
agileGetFileAttachmentRequest[0].setClassIdentifier("Part");
agileGetFileAttachmentRequest[0].setObjectNumber(partNumber);
agileGetFileAttachmentRequest[0].setAllFiles(false);
AgileFileAttachmentRequestType attachments[] = new
AgileFileAttachmentRequestType[1];
attachments[0] = new AgileFileAttachmentRequestType();
attachments[0].setRowId(rowId);
int fileIds[] = new int[] { fileFolderRowId1, fileFolderRowId2 };
attachments[0].setFiles(fileIds);
agileGetFileAttachmentRequest[0].setAttachments(attachments);
GetFileAttachmentRequestType.setRequests(agileGetFileAttachmentRequest);

```

Getting a Specific Attachment using a URL

```

GetFileAttachmentRequestType GetFileAttachmentRequestType = new
GetFileAttachmentRequestType();
AgileGetFileAttachmentRequest agileGetFileAttachmentRequest[] = new
AgileGetFileAttachmentRequest[1];
agileGetFileAttachmentRequest[0] = new AgileGetFileAttachmentRequest();
agileGetFileAttachmentRequest[0].setClassIdentifier("Part");
agileGetFileAttachmentRequest[0].setObjectNumber(partNumber);
agileGetFileAttachmentRequest[0].setAllFiles(false);
agileGetFileAttachmentRequest[0].setDownloadUrl(true);
AgileFileAttachmentRequestType attachments[] = new
AgileFileAttachmentRequestType[1];
attachments[0] = new AgileFileAttachmentRequestType();
attachments[0].setRowId(rowId);
agileGetFileAttachmentRequest[0].setAttachments(attachments);
GetFileAttachmentRequestType.setRequests(agileGetFileAttachmentRequest);

```

Adding Attachments to an Object

When you add a file or a URL to the Attachments table of a business object, the server automatically creates a new file folder containing the associated file or URL. The new row on the Attachments table references the new file folder. Use the operation `addFileAttachment` to add a File or a URL.

When you add a URL attachment, the server stores a reference to the Internet location but does not upload a file. Therefore, you cannot download a URL attachment. Agile

Web Services validate URL strings that you attempt to check in as an attachment. If a URL is invalid, the Agile Web Services consider the string a filename instead of a URL.

You cannot add a file or URL to the Attachments table of an item if:

- The current revision has a pending or released MCO.
- The current revision is incorporated.

To add attachments, you have to specify the unique object to whose attachment tab the files will be added. Also, specify its class identifier and object number information.

The exact specification of the attachment to be added is defined as an object of type `AgileAddFileAttachmentRequestType`. This object includes information about the name of the file and its description and content.

Example: Adding an attachment to a Part

You can specify if multiple attachments should add into a single folder or multiple folders by supplying boolean value to **setSingleFolder**.

```
agileAddFileAttachmentRequest[0].setClassIdentifier("Part");
agileAddFileAttachmentRequest[0].setObjectNumber( partNumber );
AgileAddFileAttachmentRequestType attachments[] = new
AgileAddFileAttachmentRequestType[1];
attachments[0] = new AgileAddFileAttachmentRequestType();
attachments[0].setName("Filename.txt");
attachments[0].setDescription("Description for file ");
attachments[0].setContent( "File Content...file".getBytes() );
agileAddFileAttachmentRequest[0].setAttachments(attachments);
agileAddFileAttachmentRequest[0].setSingleFolder(false);
addFileAttachmentRequestType.setRequests(agileAddFileAttachmentRequest);
```

Adding attachments by File Reference

You can add an attachment to an Agile object by using a file reference for a file that has already been added to DFM. This reference is obtained from the DFM file server.

Example: Adding an attachment to a part using its file reference

```
agileAddFileAttachmentRequest[0].setClassIdentifier("Part");
agileAddFileAttachmentRequest[0].setObjectNumber(partNumber);
AgileAddFileAttachmentReferenceRequestType reference[] = new
AgileAddFileAttachmentReferenceRequestType[1];
reference[0] = new AgileAddFileAttachmentReferenceRequestType();
reference[0].setFileId( DFMfileId );
reference[0].setFileName("FileThrowReference.txt");
reference[0].setDescription("File added using a reference");
reference[0].setFileSize( new Long(1) );
agileAddFileAttachmentRequest[0].setAttachmentRefs(reference);
addFileAttachmentRequestType.setRequests(agileAddFileAttachmentRequest);
```

Adding Multiple Attachments into Single Folder

Addition of several file attachments to an Agile object requires explicit specification that all the files added to the Agile object must be added to a single folder. The element 'singleFolder' is used to specify that all the attachments added to the object must be added under a single folder.

Example: Adding multiple attachments into a single folder

```
AddFileAttachmentRequestType addFileAttachmentRequestType = new
```

```

AddFileAttachmentRequestType();
AgileAddFileAttachmentRequest agileAddFileAttachmentRequest[] = new
AgileAddFileAttachmentRequest[1];
agileAddFileAttachmentRequest[0] = new AgileAddFileAttachmentRequest();
agileAddFileAttachmentRequest[0].setClassIdentifier("Part");
agileAddFileAttachmentRequest[0].setObjectNumber(partNumber);
AgileAddFileAttachmentRequestType attachments[] = new
AgileAddFileAttachmentRequestType[2];

for(int i=0; i<attachments.length; i++){
attachments[i] = new AgileAddFileAttachmentRequestType();
attachments[i].setName("Filename" + (i+1) + ".txt");
attachments[i].setDescription("Description for file " + (i+1));
attachments[i].setContent( ("File Content...file" + (i+1) ).getBytes());
}

agileAddFileAttachmentRequest[0].setAttachments(attachments);
agileAddFileAttachmentRequest[0].setSingleFolder(true);
addFileAttachmentRequestType.setRequests(agileAddFileAttachmentRequest);

```

Adding Files using SOAP Attachment

Use SOAP attachments to add very large attachments to an object.

While using SOAP attachments we create a datahandler to specify the file source and add the add the content as a soap attachment to the soap request as shown in the following example. Finally the contentId is set onto AgileAddFileAttachmentRequestType.

```

agileAddFileAttachmentRequest[0].setClassIdentifier("Part");
agileAddFileAttachmentRequest[0].setObjectNumber( partNumber );
AgileAddFileAttachmentRequestType attachments[] = new
AgileAddFileAttachmentRequestType[1];
attachments[0] = new AgileAddFileAttachmentRequestType();
attachments[0].setName("Filename.txt");
attachments[0].setDescription("Description for file ");

DataHandler dh = new DataHandler(new FileDataSource("c:\sample.txt") );
AttachmentPart ap = new AttachmentPart(dh);
agileStub.addAttachment(ap);
attachments[0].setContentId(ap.getContentId());
agileAddFileAttachmentRequest[0].setAttachments(attachments);
agileAddFileAttachmentRequest[0].setSingleFolder(false);
addFileAttachmentRequestType.setRequests(agileAddFileAttachmentRequest);

```

Note: This feature is supported by four operations - addFileFF, addFileAttachment, checkInFF, checkInAttachment.

Checking Out the Attachments

Checking out an Attachment entails obtaining the file information and making changes to the same. The file information is also obtained in the response as an array of bytes. Checking out an attachment for any modifications is carried out with the checkOutAttachment operation.

Example: Checking Out an attachment of a Part

```
agileCheckOutAttachmentRequestType[0].setClassIdentifier("Part");
agileCheckOutAttachmentRequestType[0].setObjectNumber(partNumber);
CheckOutAttachmentType attachments[] = new CheckOutAttachmentType[1];
attachments[0] = new CheckOutAttachmentType();
attachments[0].setRowId(rowId);
agileCheckOutAttachmentRequestType[0].setAttachments(attachments);
checkOutAttachmentRequestType.setRequests(agileCheckOutAttachmentRequestType);
```

Checking Out All the Attachments

You can check out all the attachments of an object by setting the Boolean value of **allFiles** variable.

Example: Checking Out all the attachments of a Part

```
agileCheckOutAttachmentRequestType[0].setClassIdentifier("Part");
agileCheckOutAttachmentRequestType[0].setObjectNumber( partNumber );
agileCheckOutAttachmentRequestType[0].setAllFiles(true);
CheckOutAttachmentType attachments[] = new CheckOutAttachmentType[1];
attachments[0] = new CheckOutAttachmentType();
agileCheckOutAttachmentRequestType[0].setAttachments(attachments);
checkOutAttachmentRequestType.setRequests(agileCheckOutAttachmentRequestType);
```

Checking Out Multiple Attachments from a Folder

When multiple files are associated with a single row, the attachment is identified by using its rowId in conjunction with the rowId of the attachment in the files tab of the file folder object. It requires usage of the rowId of the attachment along with its fileId to distinguish the attachment from all the other attachments in that row.

Example: Checking Out multiple attachments of a Part

```
agileCheckOutAttachmentRequestType[0].setClassIdentifier("Part");
agileCheckOutAttachmentRequestType[0].setObjectNumber( partNumber );
CheckOutAttachmentType attachments[] = new CheckOutAttachmentType[1];
attachments[0] = new CheckOutAttachmentType();
attachments[0].setRowId(rowId);
int fileIds[] = new int[] {fileId};
attachments[0].setFiles(fileIds);
agileCheckOutAttachmentRequestType[0].setAttachments(attachments);
checkOutAttachmentRequestType.setRequests(agileCheckOutAttachmentRequestType);
```

Checking In the Attachments

You can Check-In a file attachment of an Agile object after it has undergone any modifications using the operation `checkInAttachment`. The attachment must be checked out prior to the 'check in' operation.

Example: Checking In an attachment to a Part

```
CheckInAttachmentRequestType checkInAttachmentRequestType = new
CheckInAttachmentRequestType();
AgileCheckInAttachmentRequestType agileCheckInAttachmentRequestType[] = new
AgileCheckInAttachmentRequestType[1];
agileCheckInAttachmentRequestType[0] = new AgileCheckInAttachmentRequestType();
agileCheckInAttachmentRequestType[0].setClassIdentifier("Part");
agileCheckInAttachmentRequestType[0].setObjectNumber(partNumber);
```

```

CheckInAttachmentType attachments[] = new CheckInAttachmentType[1];
attachments[0] = new CheckInAttachmentType();
attachments[0].setFileContent("Modified file information added after the
checkin".getBytes() );
attachments[0].setFileName("Modified_" + fileName);
agileCheckInAttachmentRequestType[0].setAttachments(attachments);
agileCheckInAttachmentRequestType[0].setRowId(rowId);
checkInAttachmentRequestType.setRequest(agileCheckInAttachmentRequestType);

```

Checking In an Attachment with FileId Identification

In the normal course of usage, rowId will prove to be sufficient in identifying the file. However, if the file that has been checked out is part of a row that contains multiple files, then fileId is essential to identify that particular file. For such cases, you have to use its fileId in conjunction with its rowId.

Example: Checking In an attachment using Field ID

```

CheckInAttachmentRequestType checkInAttachmentRequestType = new
CheckInAttachmentRequestType();
AgileCheckInAttachmentRequestType agileCheckInAttachmentRequestType[] = new
AgileCheckInAttachmentRequestType[1];
agileCheckInAttachmentRequestType[0] = new AgileCheckInAttachmentRequestType();
gileCheckInAttachmentRequestType[0].setClassIdentifier("Part");
agileCheckInAttachmentRequestType[0].setObjectNumber(partNumber);
CheckInAttachmentType attachments[] = new CheckInAttachmentType[1];
attachments[0] = new CheckInAttachmentType();
attachments[0].setFileName("Modified_" + fileName[0]);
attachments[0].setFileContent("Modified file information added after the
checkin".getBytes() );
attachments[0].setFileId(fileId);
agileCheckInAttachmentRequestType[0].setAttachments(attachments);
agileCheckInAttachmentRequestType[0].setRowId(rowId);
checkInAttachmentRequestType.setRequest(agileCheckInAttachmentRequestType);

```

Deleting the Attachments

Deleting an attachment is carried out using the operation removeRows.

For examples, see ["Removing Rows from a Table"](#) on page 5-12.

Managing Workflows

This chapter describes how to manage the Agile PLM workflows and provides sample code snippets.

About Agile PLM Workflows

Agile has electronic routing, notification, and signoff capabilities, thus automating the change control process and providing a simplified but powerful workflow mechanism. With these workflow features, you can:

- Route changes automatically to the users who need to approve or observe the change.
- Send email alerts automatically to approvers and observers to notify them that a change has been routed to them.
- Approve or reject changes online.
- Attach comments to changes.

The workflow functionality available to each user for a particular routable object depends on the status of the routable object and the user's privileges. Your Agile API program should take these workflow dynamics into account and, where possible, adjust your program accordingly.

How the Status of a Change Affects Workflow Functionality

The workflow actions available for a pending change are different from those for a released change. To check the status of a change to determine whether it's pending or released, use the operation `getStatus`. This operation returns an object for the workflow status.

Getting the Status of a Workflow

The workflow actions available for a pending change are different from those for a released change. To check the status of a change use the operation `getStatus`. This operation returns **statusName** value for the workflow status, which are Pending, Submitted, or Released.

Example: Getting the status of a Change Object

```
GetStatusRequestType getStatusRequestType = new GetStatusRequestType();
AgileGetStatusRequestType agileGetStatusRequestType[] = new
AgileGetStatusRequestType[1];
agileGetStatusRequestType[0] = new AgileGetStatusRequestType();
agileGetStatusRequestType[0].setClassIdentifier("ECO");
```

```
agileGetStatusRequestType[0].setObjectNumber( changeNumber );
getStatusRequestType.setStatusRequest( agileGetStatusRequestType );
```

Getting the Workflow of a Routable Object

Select a workflow when you create a new change, package, product service request, or quality change order. An object without a workflow assigned is in the Unassigned state and cannot progress through a workflow process. The Agile system defines multiple workflows for each type of routable object.

To get the valid workflows for a routable object, which has not yet been assigned a workflow, use the operation `getWorkFlows`.

Example: Getting a workflow

```
GetWorkflowsRequestType getWorkflowsRequestType = new GetWorkflowsRequestType();
AgileGetWorkflowsRequestType agileGetWorkflowsRequestType[] = new
AgileGetWorkflowsRequestType[1];
agileGetWorkflowsRequestType[0] = new AgileGetWorkflowsRequestType();
agileGetWorkflowsRequestType[0].setClassIdentifier("ECO");
agileGetWorkflowsRequestType[0].setObjectNumber( changeNumber );
getWorkflowsRequestType.setWorkflowRequest( agileGetWorkflowsRequestType );
```

Setting a Workflow

If a change is still in the Pending state, you can deselect a workflow to make the change "unassigned" using the operation `setWorkFlow` and specifying the `setWorkflowIdentifier` parameter.

You can select a different workflow as long as a change is in the Pending status. Once a change moves beyond the Pending status, you cannot change the workflow.

Example: Setting a workflow

```
SetWorkFlowRequestType setWorkFlowRequestType = new SetWorkFlowRequestType();
AgileSetWorkFlowRequestType agileSetWorkFlowRequestType[] = new
AgileSetWorkFlowRequestType[1];
agileSetWorkFlowRequestType[0] = new AgileSetWorkFlowRequestType();
agileSetWorkFlowRequestType[0].setClassIdentifier("ECO");
agileSetWorkFlowRequestType[0].setObjectNumber( changeNumber );
agileSetWorkFlowRequestType[0].setWorkflowIdentifier( workflow );
setWorkFlowRequestType.setSetWorkFlowRequest( agileSetWorkFlowRequestType );
```

Checking User Privileges

Agile privileges determine the types of workflow actions a user can perform on a Change Object. The Agile system administrator assigns roles and privileges to each user. The table below lists privileges needed to perform workflow actions.

Privilege	Related operation
Change Status	changeStatus
Comment	commentRObject
Send	sendObject

To determine at run time whether a user has the appropriate privileges to perform a particular action, use the operation `checkPrivilege`. It yields a boolean value indicating if the user has the specified privilege.

Refer Schema documentation on Oracle eDelivery Site for `AgilePrivilegeType` enumerations.

Example: Checking User privileges

```
AgileUserIdentifierType user = new AgileUserIdentifierType();
user.setUserIdentifier("admin");
agileCheckPrivilegeRequestType[0].setUserIdentification(user);
AgilePrivilegeType privilege = AgilePrivilegeType.value1;
agileCheckPrivilegeRequestType[0].setPrivilege(privilege);
agileCheckPrivilegeRequestType[0].setClassIdentifier("Part");
agileCheckPrivilegeRequestType[0].setObjectNumber( partNumber );
checkPrivilegeRequestType.setRequests(agileCheckPrivilegeRequestType);
```

Adding and Removing Approvers

After a change has been routed and the online approval process has begun, it may be necessary to add or remove people from the list of approvers or observers. To add or remove approvers or observers, a user must have both the Agile Product Change Server license and the Route privilege.

You don't need to load the Workflow table to modify the list of approvers. Once you have a routable object, such as an ECO, you can modify its list of approvers using the operations `addApprovers` and `removeApprovers`. With these operations, you can specify the list of approvers and observers, whether the notification is urgent, and an optional comment. The Agile Web Services provides overloaded operations for adding or removing a user or a user group from the list of approvers.

If any users you select as approvers or observers do not have appropriate privileges to view a change, your program throws an Exception on page 20. To avoid the possible exception, check the privileges (`checkPrivilege`) of each user before adding him to the approvers or observers list.

Example: Adding an Approver or Observer

```
agileAddApproversRequestType[0].setClassIdentifier("ECO");
agileAddApproversRequestType[0].setObjectNumber( changeNumber );
agileAddApproversRequestType[0].setStatusIdentifier("CCB");
```

```
AgileUserUserGroupIdentifierType users[] = new
AgileUserUserGroupIdentifierType[2];
users[0].setClassIdentifier("User");
users[0].setObjectIdentifier(user1);
users[1].setClassIdentifier(User);
users[1].setObjectIdentifier(user2);
agileAddApproversRequestType[0].setApprovers(users);
agileAddApproversRequestType[0].setObservers(null);
agileAddApproversRequestType[0].setUrgent(false);
agileAddApproversRequestType[0].setComment("Comments");
```

```
addApproversRequestType.setAddApproversRequest(agileAddApproversRequestType);
```

Example: Removing an Approver or Observer

```
agileRemoveApproversRequestType[0].setClassIdentifier("ECO");
agileRemoveApproversRequestType[0].setObjectNumber( changeNumber );
agileRemoveApproversRequestType[0].setStatusIdentifier("CCB");

AgileUserUserGroupIdentifierType usergroups[] = new
AgileUserUserGroupIdentifierType[1];
usergroups[0].setClassIdentifier("User");
usergroups[0].setObjectIdentifier( USERNAME );
agileRemoveApproversRequestType[0].setApprovers(usergroups);
agileRemoveApproversRequestType[0].setObservers(null);
agileRemoveApproversRequestType[0].setComment("Comments");
removeApproversRequestType.setRemoveApproversRequest(agileRemoveApproversRequestType);
```

Getting Approvers

Set the **statusIdentifier** in the operation `getApprovers` to obtain the list of approvers.

Example: Getting Approvers for an Object

```
agileGetApproversRequestType[0].setClassIdentifier("ECO");
agileGetApproversRequestType[0].setObjectNumber( changeNumber );
agileGetApproversRequestType[0].setStatusIdentifier( status );
getApproversRequestType.setApproversRequest( agileGetApproversRequestType );
```

Approving a Routable Object

This method informs users the object is approved by the approver, or when the approver is approving the object on behalf of one or more user groups. You can also use this method to specify the **secondSignature**, **escalations**, **transfers**, or **signoffForSelf** parameters as they are set in server's Preferences settings. Use the operation `approveObject`.

Example: Approving a routable object and notifying the Users

```
AgileUserUserGroupIdentifierType notifiers[] = new
AgileUserUserGroupIdentifierType[1];
notifiers[0] = new AgileUserUserGroupIdentifierType();
notifiers[0].setClassIdentifier("User");
notifiers[0].setObjectIdentifier( notifier1 );
AgileApproveRObjectRequestType agileApproveRObjectRequestType[] = new
AgileApproveRObjectRequestType[1];
agileApproveRObjectRequestType[0] = new AgileApproveRObjectRequestType();

agileApproveRObjectRequestType[0].setClassIdentifier("ECO");
agileApproveRObjectRequestType[0].setObjectNumber( changeNumber );
agileApproveRObjectRequestType[0].setPassword( PASSWORD );
agileApproveRObjectRequestType[0].setComment("Comment");
```

```

agileApproveRObjRequestType[0].setSecondSignature(null);
agileApproveRObjRequestType[0].setNotifiers(notifiers);
agileApproveRObjRequestType[0].setEscalations(null);
agileApproveRObjRequestType[0].setTransfers(null);
agileApproveRObjRequestType[0].setApproveForGroup(null);
agileApproveRObjRequestType[0].setSignoffForSelf(true);
approveRObjRequestType.setApproveObject (agileApproveRObjRequestType);
agileRejectRObjRequestType[0].setObjectNumber( changeNumber );

```

Rejecting a Routable Object

This method informs users that the routable object is rejected by the approver, or when the approver is rejecting the object on behalf of one or more user groups. You can also use this method to specify the secondSignature, escalations, transfers, or SignoffForSelf parameters as they are set in server's Preferences settings. Use the operation rejectRObj.

Example: Rejecting a routable object and notifying the Users

```

agileRejectRObjRequestType[0].setClassIdentifier("ECO");
agileRejectRObjRequestType[0].setPassword( PASSWORD );
agileRejectRObjRequestType[0].setComment("Comment");
agileRejectRObjRequestType[0].setSecondSignature(null);

AgileUserUserGroupIdentifierType notifiers[] = new
AgileUserUserGroupIdentifierType[1];
notifiers[0] = new AgileUserUserGroupIdentifierType();
notifiers[0].setClassIdentifier("User");
notifiers[0].setObjectIdentifier( notifier1 );
agileRejectRObjRequestType[0].setNotifiers(notifiers);
agileRejectRObjRequestType[0].setEscalations(null);
agileRejectRObjRequestType[0].setTransfers(null);
agileRejectRObjRequestType[0].setRejectForGroups(null);
agileRejectRObjRequestType[0].setSignoffForSelf(true);
rejectRObjRequestType.setRejectRObj(agileRejectRObjRequestType);

```

Commenting a Change

Use the operation CommentRObj operation to comment a change. Use Boolean variables to denote whether the originators, change analysts and CCB need to be notified.

Example: Commenting a Change

```

agileCommentRObjRequestType[0].setClassIdentifier("ECO");
agileCommentRObjRequestType[0].setObjectNumber( changeNumber );
agileCommentRObjRequestType[0].setComment("Comment");
agileCommentRObjRequestType[0].setNotifyOriginator(true);
agileCommentRObjRequestType[0].setNotifyChangeAnalyst(true);

```

```
agileCommentRObjRequestType[0].setNotifyCCB(false);
AgileUserUserGroupIdentifierType notifyList[] = new
AgileUserUserGroupIdentifierType[1];
notifyList[0] = new AgileUserUserGroupIdentifierType();
notifyList[0].setClassIdentifier("User");
notifyList[0].setObjectIdentifier( USERNAME );
agileCommentRObjRequestType[0].setNotifyList(notifyList);
commentRObjRequestType.setCommentRObjRequest(agileCommentRObjRequestType)
;
```

Auditing a Change

Auditing a routable object, like an ECO, requires specifying the type of routable object in the operation AuditRObj.

Example: Auditing a Change

```
agileAuditRObjRequestType[0].setClassIdentifier("ECO");
agileAuditRObjRequestType[0].setObjectNumber( changeNumber );
agileAuditRObjRequestType[0].setAuditRelease(true);
auditRObjRequestType.setRequest(agileAuditRObjRequestType);
```

Changing the Workflow Status of an Object

Use the operation changeStatus to change the workflow status of an object.

```
agileChangeStatusRequestType[0].setClassIdentifier("ECO");
agileChangeStatusRequestType[0].setObjectNumber( changeNumber );
agileChangeStatusRequestType[0].setNewStatusIdentifier( newStatus );
AgileUserUserGroupIdentifierType users[] = new
AgileUserUserGroupIdentifierType[1];

users[0] = new AgileUserUserGroupIdentifierType();
users[0].setClassIdentifier("User");
users[0].setObjectIdentifier( user1 );

agileChangeStatusRequestType[0].setApprovers(users);
agileChangeStatusRequestType[0].setObservers(null);
agileChangeStatusRequestType[0].setNotifiers(null);
agileChangeStatusRequestType[0].setComment("Comments");
agileChangeStatusRequestType[0].setPassword("password");
agileChangeStatusRequestType[0].setAuditRelease(false);
agileChangeStatusRequestType[0].setUrgent(false);
agileChangeStatusRequestType[0].setNotifyOriginator(true);
agileChangeStatusRequestType[0].setNotifyChangeAnalyst(true);
agileChangeStatusRequestType[0].setNotifyCCB(true);
changeStatusRequestType.setChangeStatusRequest(agileChangeStatusRequestType);
```

Working with Queries

A Query is a feature which helps you search for Agile PLM data. It defines a search similar to the searches in Agile Web Client. The search can have multiple search criteria (similar to the Advanced Search in Agile Web Client), or a simple search that specifies a single criterion.

Creating a Query

To create and execute a query, you must first create a Query object. As with other Agile API objects, you create the object using the `createQuery` operation.

In its simplest form, the parameters that you pass with the `createQuery` operation to create a query are the Query object type and the query class used in the search.

Example: Creating a Query

```
CreateQueryRequestType createQueryRequestType =
new CreateQueryRequestType();
AgileCreateQueryRequestType[] agileCreateQueryRequestType =
    new AgileCreateQueryRequestType[1];
agileCreateQueryRequestType[0] = new AgileCreateQueryRequestType();
QueryObjectIdentifierType queryObjectIdentifierType = new
QueryObjectIdentifierType();
queryObjectIdentifierType.setName("Personal Searches/Submitted Changes");
QueryObjectType queryObjectType = new QueryObjectType();
queryObjectType.setOwner("badriv");
agileCreateQueryRequestType[0].setQueryParams(queryObjectType);
createQueryRequestType.setRequests(agileCreateQueryRequestType);
```

The query class you specify with the `createQuery` operation also includes objects from all of its subclasses. For example, when you search for objects in the Item class, the results include Parts and Documents. When you search for objects in the Change class, the results include objects from all Change subclasses (Deviation, ECO, ECR, MCO, PCO, SCO, and Stop Ship). To search for a specific subclass, you must explicitly specify the class.

Creating a New Query from an Existing Query Object

You can also use the `saveAsQuery` operation to create a new query from an existing query object.

Example: Using `IQuery.saveAs()` to save a query to a folder

```
SaveAsQueryRequestType saveAsQueryRequestType =
new SaveAsQueryRequestType();
AgileSaveAsQueryRequestType[] agileSaveAsQueryRequestType =
```

```
new AgileSaveAsQueryRequestType[1];
agileSaveAsQueryRequestType[0] = new AgileSaveAsQueryRequestType();
QueryObjectIdentifierType queryObjectIdentifierType = new
QueryObjectIdentifierType();
queryObjectIdentifierType.setName("Personal Searches/Submitted Changes");
agileSaveAsQueryRequestType[0].setQueryIdentifier(queryObjectIdentifierType);
agileSaveAsQueryRequestType[0].setNewQueryIdentifier("Personal Searches/My
Submitted Changes");
saveAsQueryRequestType.setRequests(agileSaveAsQueryRequestType);
```

Loading a Query

This is used to load a query.

Example: Loading a query

```
LoadQueryRequestType loadQueryRequestType =
new LoadQueryRequestType();
AgileLoadQueryRequestType[] agileLoadQueryRequestType =
new AgileLoadQueryRequestType[1];
agileLoadQueryRequestType[0] = new AgileLoadQueryRequestType();
QueryObjectIdentifierType queryObjectIdentifierType = new
QueryObjectIdentifierType();
queryObjectIdentifierType.setName("Recycle Bin Searches/Deleted Changes");
agileLoadQueryRequestType[0].setQueryIdentifier(queryObjectIdentifierType);
loadQueryRequestType.setRequests(agileLoadQueryRequestType);
```

Executing a Saved Query

This is used to execute a saved query existing in the system.

Example: Executing an existing Query saved in the Agile system

```
ExecuteSavedQueryRequestType executeSavedQueryRequestType =
new ExecuteSavedQueryRequestType();
AgileExecuteSavedQueryRequestType[] agileExecuteSavedQueryRequestType =
new AgileExecuteSavedQueryRequestType[1];
agileExecuteSavedQueryRequestType[0] = new AgileExecuteSavedQueryRequestType();
QueryObjectIdentifierType queryObjectIdentifierType = new
QueryObjectIdentifierType();
queryObjectIdentifierType.setName("Recycle Bin Searches/Deleted Changes");
agileExecuteSavedQueryRequestType[0].setQueryIdentifier(queryObjectIdentifierType);
;
executeSavedQueryRequestType.setRequests(agileExecuteSavedQueryRequestType);
```

Updating a Saved Query

This is used to update an existing query.

Example: Updating an existing query

```
UpdateQueryRequestType updateQueryRequestType =
new UpdateQueryRequestType();
AgileUpdateQueryRequestType[] agileUpdateQueryRequestType =
new AgileUpdateQueryRequestType[1];
agileUpdateQueryRequestType[0] = new AgileUpdateQueryRequestType();
QueryObjectIdentifierType queryObjectIdentifierType = new
QueryObjectIdentifierType();
```



```

queryObjectIdentifierType.setName("Personal Searches/Submitted Changes");
agileUpdateQueryRequestType[0].setQueryIdentifier(queryObjectIdentifierType);
QueryObjectType queryObjectType = new QueryObjectType();
queryObjectType.setOwner("badriv");
agileUpdateQueryRequestType[0].setNewQueryParams(queryObjectType);
updateQueryRequestType.setRequests(agileUpdateQueryRequestType);

```

Deleting a Query

To delete a query that has been saved, use the `deleteQuery` operation.

Queries which are created but not saved to a folder after the user session is closed are temporary queries. Make sure you delete the temporary queries, especially after you run lengthy sessions.

Example: Deleting a query

```

DeleteQueryRequestType deleteQueryRequestType =
new DeleteQueryRequestType();
AgileDeleteQueryRequestType[] agileDeleteQueryRequestType =
    new AgileDeleteQueryRequestType[1];
agileDeleteQueryRequestType[0] = new AgileDeleteQueryRequestType();
QueryObjectIdentifierType queryObjectIdentifierType = new
QueryObjectIdentifierType();
queryObjectIdentifierType.setName("Personal Searches/MySubmittedChanges");
agileDeleteQueryRequestType[0].setQueryIdentifier(queryObjectIdentifierType);
deleteQueryRequestType.setRequests(agileDeleteQueryRequestType);

```

Working with Searches

This chapter describes how to work with the Agile PLM Searches and provides sample code snippets.

Agile PLM Searches

Agile PLM Searches can have multiple search criteria (like an Advanced Search in the Agile Web Client), or a simple search that specifies a single criterion.

Specifying Search Criteria

You can narrow the number of objects returned from a search by specifying search criteria. If you specify * as the search criteria, the query returns references to all objects in the specified query class. It is a good practice to limit the search criteria as much as possible, as the amount of data returned may be excessively large, resulting in decreased performance.

You can use the `setCriteria(criteria)` method to specify query criteria, which sets the search criteria from a specified String. This String references one or more parameters.

Example: To specify the search criteria

```
advancedSearchRequestType.setClassIdentifier("Part");
advancedSearchRequestType.setCaseSensitive(false);
String criteria = "[Title Block.Number] contains 'P0' && " +
"[Title Block.Description] is not null";
advancedSearchRequestType.setCriteria(criteria);
String attribute1 = "Title Block.Number";
String attribute2 = "Title Block.Description";
String attribute3 = "Title Block.Lifecycle Phase";
advancedSearchRequestType.setResultAttributes(new String[]{attribute1, attribute2,
attribute3} );
advancedSearchRequestType.setDisplayName("Search123");
AdvancedSearchResponseType advancedSearchResponseType =
agileStub.advancedSearch(advancedSearchRequestType);
```

Search Conditions

The Agile Web Services provides a simple yet powerful query language for specifying search criteria. The query language defines the proper syntax for filters, conditions, attribute references, relational operators, logical operators, and other elements.

Search criteria consist of one or more search conditions. Each search condition contains the following elements:

- **Left operand** - The left operand is always an attribute enclosed in brackets, such as [Title Block.Number]. You can specify the attribute as an attribute name (fully qualified name or short name) or attribute ID number. The attribute specifies which characteristic of the object to use in the search.
- **Relational operator** - The relational operator defines the relationship that the attribute has to the specified value, for example, "equal to" or "not equal to."
- **Right operand** - The matching value for the specified attribute in the left operand. The right operand can be a constant expression or a set of constant expressions. A set of constant expressions is needed if the relational operator is "between," "not between," "in," or "not in."

Following is an example of a search condition:

```
[Title Block.Description] == 'Computer'
```

This is another example where the right operand is a set of constant expressions:

```
[Page Two.Numeric01] between ('1000', '2000')
```

Search Operation Keywords

When you specify a search condition, you must use proper keywords to construct the statement. The following keywords are available:

and	does	less	or	to
asc	equal	like	order	union
between	from	minus	phrase	where
by	greater	none	select	with
contain	in	not	start	word
contains	intersect	null	starts	words
desc	is	of	than	NA

These keywords are not localized. You must use English keywords, regardless of locale. You can use the keywords in lower case or upper case. In addition to keywords, you can use Agile PLM variables such as \$USER (for current user) and \$TODAY (for today's date) in Agile Searches.

The "in" operator does not support MultiList in (set) query criteria.

Specifying Search Attributes

Every Agile PLM object that you can search for also has an associated set of attributes, which are inherent characteristics of the object. You can use these attributes as the left operand of a search condition. The right operand of the search condition specifies the attribute's value(s).

A search attribute must be enclosed within brackets, for example, [Title Block.Number]. The brackets are necessary because many attribute names have spaces.

Caution: If search attributes are not enclosed within brackets, it could cause the query to fail.

You can specify a search attribute in the following ways:

Attribute reference	Example
attribute ID number	[1001]
fully-qualified attribute name	[Title Block.Number]
short attribute name	[Number]

Note: Agile recommends referencing attributes by ID number or constants because attribute names can be modified. However, many of the examples in this chapter reference attributes by name simply to make them more readable. If you choose to reference attributes by name, use the fully-qualified attribute name instead of the short name. Short attribute names are not guaranteed to be unique and could therefore cause your query to fail or produce unexpected results.

Note: Specifying the search attributes using Attribute APIName is not supported.

Attribute names, whether you use the long or short form, are case-insensitive. For example, [Title Block.Number] and [TITLE BLOCK.NUMBER] are both allowed. Attribute names are also localized. The names of Agile PLM attributes vary based on the locale of your Agile Application Server. If you are creating a query that is going to be used on servers in different locales, you should reference attributes by ID number (or the equivalent constant) instead of by name.

If the attribute name contains special characters, such as quotes or backslashes, you can type these characters using the backslash (\) as an escape character. For example: to include a quote character in your string, type \'. For a backslash, type two of them together (\\). If the attribute name contains square brackets, enclose the entire name in quotes:

```
[ 'Page Two.Unit of Measure [g or oz]' ]
[Title Block.Effectivity Date] between ('01/01/2001', '01/01/2002')
advancedSearchRequestType.setCriteria("[Title Block.Number] starts with %0 and
[Title Block.Part Category] in %1 and [Title Block.Description] contains %2");
ParamListType[] params = new ParamListType[3];
params[0] = new ParamListType();
params[0].setParameter(new String[]{"P00"});
params[1] = new ParamListType();
params[1].setParameter(new String[]{"Electrical", "Mechanical"});
params[2] = new ParamListType();
params[2].setParameter(new String[]{"Resistor"});
advancedSearchRequestType.setParams(params);
```

There are other, perhaps less intuitive, ways to specify attributes. For example, you could pass in an IAttribute reference using a parameter of the setCriteria() method. In the following example, '%0' references the attribute in the params parameter.

You can also use String concatenation to reference an attribute constant:

```
advancedSearchRequestType.setCriteria("[ " + ItemConstants.ATT_TITLE_BLOCK_
DESCRIPTION + " ] == 'Computer'");
```

Getting the Searchable Attributes

The searchable attributes for a query depend on the specified query class or subclass. However, the searchable attributes for a subclass can differ greatly from searchable attributes for its parent class.

Due to database considerations, not all attributes are searchable. Generally, a few select Page One attribute (namely: Title Page, Cover Page, and General Info attributes) are searchable for each class.

If a tab is not configured in Java Client to be visible, you can still search for an attribute on that tab in Agile Web Services. However, you must search for the Table name that corresponds to the Tab name.

To find the searchable attributes for a query, use the `getSearchableAttributes` operation.

Even though an attribute is not searchable, you can still include it as a column in the query results. For more information, see [Setting Result Attributes for a Query](#).

Using Relational Operators

The table below lists relational operators that are supported by the Agile Web Services search operations.

English operator	Notation	Description
equal to	==	Finds only an exact match with the specified value.
not equal to	!=	Finds any value other than an exact match with the specified value.
greater than	>	Finds any value greater than the specified value.
greater than or equal to	>=	Finds any value greater than or equal to the specified value.
less than	<	Finds any value less than the specified value.
less than or equal to	<=	Finds any value less than or equal to the specified value.
contains, contains all	NA	Finds any value that includes the specified value.
does not contain, does not contain all	NA	Finds any value that does not include the specified value.
contains any	NA	Finds any value that includes the specified value.
does not contain any	NA	Finds any value that does not include the specified value.
contains none of	NA	Finds any value that includes none of the specified values.
does not contain none of	NA	Behaves the same as does not contain any.
starts with	NA	Finds values that begin with characters in the specified value.
does not start with	NA	Finds values that do not begin with characters in the specified value.
is null	NA	Finds objects where the selected attribute contains no value.

English operator	Notation	Description
is not null	NA	Finds objects where the selected attribute contains a value.
like	NA	Performs a wildcard search, finding objects that match a single character or any string.
not like	NA	Performs a wildcard search, finding objects that do not match a single character or any string.
between	NA	Finds objects that fall between the specified values.
not between	NA	Finds objects that do not fall between the specified values.
in	NA	Finds objects that match any of the specified values.
not in	NA	Finds objects that do not match any of the specified values.
contains phrase	NA	Finds objects with files that contain the specified phrase.
contains all words	NA	Finds objects with files that contain all of the specified words.
contains any word	NA	Finds objects with files that contain any of the specified words.
contains none of	NA	Finds objects with files that contain none of the specified words.

Relational operators are not localized. You must use English keywords, regardless of locale. As with other query language keywords, you can use them in lower case or upper case.

Using Unicode Escape Sequences

Agile Web Services Search operations support Unicode escape sequences. The primary usage of Unicode escape sequences in a query string is to search for nonburnable or foreign local character sets. A Unicode character is represented with the Unicode escape sequence `\uxxxx`, where `xxxx` is a sequence of four hexadecimal digits.

For example, to search for an item with Unicode 3458, use the following query:

```
Select * from [Items] where [Description] contains '\u3458'
```

There is another query operation for "contains" usage in the case of MultiList.

Using Between, Not Between, In, and Not In Operators

The 'between', 'not between', 'in', and 'not in' relational operators are not supported directly by Agile PLM Java and Web clients. These relational operators provide a convenient shorthand method for specifying 'equal to', 'not equal to', 'greater than or equal to', or 'less than or equal to' operations with a set of values.

Short form	Equivalent long form
[Number] between ('1','6')	[Number] >= '1' and [Number] <= '6'
[Number] not between ('1','6')	[Number] < '1' and [Number] > '6'

Short form	Equivalent long form
[Number] in ('1','2','3','4','5','6')	[Number] == '1' or [Number] == '2' or [Number] == '3' or [Number] == '4' or [Number] == '5' or [Number] == '6'
[Number] not in ('1','2','3','4','5','6')	[Number] != '1' and [Number] != '2' and [Number] != '3' and [Number] != '4' and [Number] != '5' and [Number] != '6'

As shown in the table, when you use the 'between', 'not between', 'in', and 'not in' relational operators, each value in the set of values must be enclosed in quotes and delimited by commas. Here are more criteria examples that use 'between' and 'in' relational operators:

```
[Title Block.Number] in ('1000-02', '1234-01', '4567-89')
[Page Two.Numeric01] between ('1000', '2000')
```

Note: The relational operators any, all, none of, and not all are not supported in the Web Services.

Using the Nested Criteria to Search for Values in Object Lists

Several lists in Agile PLM contain business objects, such as Agile PLM Users. To search for an object in such a list, you can specify nested query criteria. Nested criteria are enclosed in parentheses and separated from each other by a logical AND (&&) or OR (||) operator. A comma can also be used to separate nested criteria; it's equivalent to a logical OR.

The following criteria finds a user with the first name Christopher OR the last name Nolan.

```
[Page Two.Create User] in ([General Info.First Name] == 'Christopher',
[General Info.Last Name] == 'Nolan')
```

The following criteria finds a user with the first name Christopher AND the last name Nolan.

```
[Page Two.Create User] in ([General Info.First Name] == 'Christopher' &&
[General Info.Last Name] == 'Nolan')
```

The parameter query is not supported in nested queries and multiple values for one placeholder in query parameters must be specified in two dimensional arrays as shown in the example below.

Example: Correct and incorrect parameter query in nested query criteria

- The parameter query specified in the following nested query criteria will fail to execute:

```
[Page Two.User1] in ([General Info.First Name] == %0)
```

- However, when it is explicitly specified as a string value, instead of the placeholder, it will succeed:

```
[Page Two.User1] in ([General Info.First Name] == 'Christopher')
```


Searching for Words or Phrases Contained in Attachments

Two special attributes, [Attachments.File Document Text] and [Files.Document Text], are used to index the content of files stored on the Agile file management server. If you are hosting your database on Oracle, you can take advantage of a feature that lets you search for words or phrases contained in attachments. When you create search criteria that uses either of these attributes, there are four additional relational operators you can use:

- contains phrase
- contains all words
- contains any word
- contains none of

The following table shows several search conditions that search for words or phrases in attachments.

Search Condition	Finds
[Attachments.File Document Text] contains phrase 'adding new materials'	Objects in which any of their attachments contain the phrase "adding new materials."
all [Attachments.File Document Text] contains all words 'adding new materials'	Objects in which all their attachments contain the words "adding," "new," and "materials."
none of [Attachments.File Document Text] contains any word 'containers BOM return output'	Objects in which none of their attachments contain any of the words "containers," "BOM," "return," or "output."
[Attachments.File Document Text] contains none of 'containers BOM output'	Objects in which any of their attachments do not contain the words "containers," "BOM," or "output."

Using Logical Operators

You can use logical operators to combine multiple search conditions into a complex filter. When you have two or more conditions defined in a set of query criteria, the relationship between them is defined as either 'and' or 'or'.

- **and** narrows the search by requiring that both conditions are met. Each item in the results must match both conditions. The 'and' logical operator can also be specified using two ampersands, '&&'.
- **or** broadens the search by including any object that meets either condition. Each item in the results table needs to match only one of the conditions, but may match both. The 'or' logical operator can also be specified using two vertical bars, '||'.

Logical operators are case-insensitive. For example, 'and' or 'AND' are both allowed.

The following query criteria finds parts that have both a part category equal to Electrical and a lifecycle phase equal to Inactive.

```
[Title Block.Part Category] == 'Electrical' and
[Title Block.Lifecycle Phase] == 'Inactive'
```

If you replace the 'and' operator with 'or', the query locates all parts with either a part category of Electrical or a lifecycle phase of Inactive, which could be a large number of parts.

```
[Title Block.Part Category] == 'Electrical' or
[Title Block.Lifecycle Phase] == 'Inactive'
```

The Agile Web Services provides three where-used set operators. For more information, see [Creating a Where-Used Query](#). Logical operators, including the where-used set operators, are not localized. You must use English keywords, regardless of locale.

Using Wildcard Characters with the Like Operator

If you define a search condition using the 'like' operator, you can use two wildcard characters: the asterisk (*) and question mark (?). The asterisk matches any string of any length, so `*at` finds `cat`, `splat`, and `big hat`.

For example, `[Title Block.Description] like 'book*'` returns all objects that contain the word "book," such as `textbook`, `bookstore`, `books`, and so on.

The question mark matches any single character, so `?at` finds `hat`, `cat`, and `fat`, but not `splat`.

For example, `[Title Block.Description] like 'al'` matches any word containing "al" that is preceded by a single letter, such as `tall`, `wall`, `mall`, `calendar`, and so on.

Using Parentheses in Search Criteria

Where-used, set operators have higher priority than **and** and **or** logical operators, as shown by the following table.

Priority	Operator(s)
1	union
	intersection
	minus
2	and
	or

Therefore, search conditions joined by **union**, **intersection**, and **minus** operators are evaluated before conditions joined by **and** or **or**.

If you use where-used set operators ('union', 'intersect', or 'minus') in search criteria, you can use parentheses to change the order that criteria are evaluated. If only 'and' or 'or' logical operators are used in a search criteria, additional parentheses aren't needed because they don't change the result of criteria evaluation.

The following two criteria, although they contain the same search conditions, provide different results because parentheses are placed differently:

```
([Title Block.Part Category] == 'Electrical' and
[Title Block.Description] contains 'Resistor') union
([Title Block.Description] contains '400' and
 [Title Block.Product Line(s)] contains 'Taurus')
[Title Block.Part Category] == 'Electrical' and
([Title Block.Description] contains 'Resistor' union
[Title Block.Description] contains '400') and
 [Title Block.Product Line(s)] contains 'Taurus'
```

Using SQL Syntax to Specify Search Criteria

In addition to its standard query language, the Agile Web Services also supports SQL-like syntax to specify search criteria. If you are familiar with SQL statements, you may find this extended query language more flexible, more powerful and easier to work with. It combines in one operation the specification of the query result attributes, the query class, the search condition, and the sort column(s).

This is a simple example that demonstrates the syntax:

- Query result attributes: `SELECT [Title Block.Number], [Title Block.Description]`
- Query class: `FROM [Items]`
- Search condition: `WHERE [Title Block.Number] starts with 'P'`
- Sort column(s): `ORDER BY 1 asc`

To improve readability, it is recommended that SQL key words such as `SELECT` and `FROM` are entered in capital letters and each part of the statement appears on a separate line. This is merely a convention, not a requirement. SQL key words are not case-sensitive. You can write the entire query string in one line, if you prefer.

The best way to demonstrate the advantages of SQL syntax is to compare the code for a query that uses standard Agile API query syntax for search criteria with one that uses SQL syntax. The following example shows a query created using the standard Agile API query syntax:

Example: Query using standard Agile API query syntax

```
advancedSearchRequestType.setCriteria("[Page Two.Numeric01] between (1000,
2000)");
//Set result attributes
String[] attrs = { "Title Block.Number", "Title Block.Description",
    "Title Block.Lifecycle Phase" };
advancedSearchRequestType.setResultAttributes(attrs);
```

This example shows the same query rewritten in SQL syntax. Although the example does not have fewer lines of code, you may find that it is more readable than Agile API query syntax, particularly if you are familiar with SQL.

Example: Search criteria using SQL syntax

```
String criteria = "SELECT " +
"[Title Block.Number],[Title Block.Description], " +
    "[Title Block.Lifecycle Phase] " +
    "FROM " +
    "[Items] " +
    "WHERE " +
    "[Title Block.Number] between (1000, 2000)";
advancedSearchRequestType.setCriteria(criteria);
```

The following example shows a query written with SQL syntax that specifies the search criteria.

Example: Using SQL syntax to specify query attributes

```
try {
String statement =
    "SELECT " +
    "[Title Block.Number], [Title Block.Description] " +
    "FROM " +
    "[Items] " +
    "WHERE " +
```

```
        "[Title Block.Description] like %0";
    advancedSearchRequestType. setCriteria(statement);
}
```

Note: The FROM part of the search condition specifies the query class. If you use the classIdentifier attribute to also specify a query class, the query class specified in the SQL search condition takes precedence.

Using SQL Wildcards

In Agile Web Services search operation, you can use both the asterisk (*) and question mark (?) as wildcards in a query that uses SQL syntax. The asterisk matches any string and the question mark matches any single character. You can use wildcards in the SELECT statement (the specified query result attributes) and the WHERE statement (the search condition).

For example, "SELECT *" specifies all available query result attributes.

Setting Result Attributes for a Search

When you use the operation advancedSearch, it returns several output fields, which are also called result attributes. By default, there are only a few result attributes for each query class. You can add or remove result attributes using the setResultAttributes().

The following table shows the default query result attributes for each predefined Agile PLM class.

Query class	Default result attributes
Changes	Cover Page.Change Type
Change Orders	Cover Page.Number
ECO	Cover Page.Description
Change Requests	Cover Page.Status
ECR	Cover Page.Workflow
Deviations	
Deviation	
Manufacturer Orders	
MCO	
Price Change Orders	
PCO	
Sites Change Orders	
SCO	
Stop Ships	
Stop Ship	

Query class	Default result attributes
Customers	General Info.Customer Type
Customers	General Info.Customer Number
Customer	General Info.Customer Name
	General Info.Description
	General Info.Lifecycle Phase
Declarations	Cover Page.Name
Homogeneous Material Declarations	Cover Page.Description
Homogeneous Material Declaration	Cover Page.Supplier
IPC 1752-1 Declarations	Cover Page.Status
IPC 1752-1 Declaration	Cover Page.Workflow
IPC 1752-2 Declarations	Cover Page.Compliance Manager
IPC 1752-2 Declaration	Cover Page.Due Date
JGPSSI Declarations	Cover Page.Declaration Type
JGPSSI Declaration	
Part Declarations	
Part Declaration	
Substance Declarations	
Substance Declaration	
Supplier Declarations of Conformance	
Supplier Declaration of Conformance	
Discussions	Cover Page.Subject
Discussions	Cover Page.Status
Discussion	Cover Page.Priority
	Cover Page.Type
File Folders	Title Block.Type
File Folders	Title Block.Number
File Folder	Title Block.Description
	Title Block.Lifecycle Phase
Items	Title Block.Item Type
Parts	Title Block.Number
Part	Title Block.Description
Documentation	Title Block.Lifecycle Phase
Document	Title Block.Rev
Manufacturers	General Info.Name
Manufacturers	General Info.City
Manufacturer	General Info.State
	General Info.Lifecycle Phase
	General Info.URL
Manufacturer Parts	General Info.Manufacturer Part Number
Manufacturer Parts	General Info.Manufacturer Name
Manufacturer Part	General Info.Description
	General Info.Lifecycle Phase

Query class	Default result attributes
Packages	Cover Page.Package Number
Packages	Cover Page.Description
Package	Cover Page.Assembly Number
	Cover Page.Status
	Cover Page.Workflow
Part Groups	General Info.Name
Part Groups	General Info.Description
Commodity	General Info.Lifecycle Phase
Part Family	General Info.Commodity Type
	General Info.Overall Compliance
Prices	General Info.Price Number
Published Prices	General Info.Description
Contracts	General Info.Rev
Published Price	General Info.Price Type
Quote History	General Info.Lifecycle Phase
Quote History	General Info.Program
	General Info.Customer
	General Info.Supplier
Product Service Requests	Cover Page.PSR Type
Non-Conformance Reports	Cover Page.Number
NCR	Cover Page.Description
Problem Reports	Cover Page.Status
Problem Report	Cover Page.Workflow
Programs	General Info.Name
Activities	General Info.Description
Program	General Info.Status
Phase	General Info.Health
Task	General Info.Owner
Gates	General Info.Root Parent
Gate	General Info.Workflow
	General Info.Type
Projects	General Info.Project Type
Sourcing Projects	General Info.Number
Sourcing Project	General Info.Description
	General Info.Manufacturing Site
	General Info.Ship To Location
	General Info.Program
	General Info.Customer
	General Info.Lifecycle Phase

Query class	Default result attributes
Quality Change Requests	Cover Page.QCR Type
Corrective Action/Preventive Action	Cover Page.QCR Number
CAPA	Cover Page.Description
Audits	Cover Page.Status
Audit	Cover Page.Workflow
RFQ Responses	Cover Page.RFQ Number
RFQ Responses	Cover Page.RFQ Description
RFQ Response	Cover Page.Lifecycle Phase
	Cover Page.Requested
	Cover Page.Completed
	Cover Page.Due Date
RFQs	Cover Page.RFQ Number
RFQs	Cover Page.RFQ Description
RFQ	Cover Page.MFG Site
	Cover Page.Ship-To Location
	Cover Page.Program
	Cover Page.Customer
	Cover Page.Lifecycle Phase
	Cover Page.RFQ Type
Sites	General Info.Name
Sites	General Info.Contact
Site	General Info.Phone
Specifications	General Info.Name
Specifications	General Info.Description
Specification	General Info.Lifecycle Phase
	General Info.Jurisdictions
	General Info.Validation Type
	General Info.Specification Type
Substances	General Info.Name
Materials	General Info.Description
Material	General Info.CAS Number
Subparts	General Info.Lifecycle Phase
Subpart	General Info.Substance Type
Substance Groups	
Substance Group	
Substances	
Substance	

Query class	Default result attributes
Suppliers	General Info.Supplier Type
Suppliers	General Info.Number
Component Manufacturer	General Info.Name
Contract Manufacturer	General Info.Description
Distributor	General Info.Status
Manufacturer Rep	
Transfer Orders	Cover Page.Transfer Order Type
Content Transfer Orders	Cover Page.Transfer Order Number
CTO	Cover Page.Description
Automated Transfer Orders	Cover Page.Status
ATO	Cover Page.Workflow

Specifying Result Attributes

If you run a query and find that the resulting table object does not contain the attributes you expected, it is because you did not specify result attributes. The following example shows how to specify the result attributes for a query.

Example: Setting query result attributes

```
String attribute1 = "Title Block.Number";
String attribute2 = "Title Block.Description";
String attribute3 = "Title Block.Lifecycle Phase";
advancedSearchRequestType.setResultAttributes(new String[]{attribute1, attribute2,
attribute3} );
```

The ResultAttributes element takes an array of String where you can array of attribute names (such as {"Title Block.Description", "Title Block.Number"}) or attribute ID constants or attribute API names. The following example shows how to specify result attributes using ID constants.

Example: Setting query result attributes by specifying ID constants

```
private void setQueryResultColumns(IQuery query) throws APIException {
// Put the attribute IDs into an array
String[] attrs = { ItemConstants.ATT_TITLE_BLOCK_NUMBER+"",
ItemConstants.ATT_TITLE_BLOCK_DESCRIPTION+"",
ItemConstants.ATT_TITLE_BLOCK_LIFECYCLE_PHASE+"",
ItemConstants.ATT_PAGE_TWO_TEXT01+"",
ItemConstants.ATT_PAGE_TWO_NUMERIC01+"",
ItemConstants.ATT_PAGE_THREE_TEXT01+""};
// Set the result attributes for the query
advancedSearchRequestType.setResultAttributes(attrs);
}
```

When you use the setResultAttributes() method, make sure you specify valid result attributes. Otherwise, the setResultAttributes() method will fail.

Examples of Searches

The examples below show how to create quick search, advanced search and how to get the searchable attributes.

Quick Search

Operation - quickSearch

```
QuickSearchRequestType quickSearchRequestType = new QuickSearchRequestType();
quickSearchRequestType.setClassIdentifier("Part");
quickSearchRequestType.setKeywords("P0*");
quickSearchRequestType.setSearchFiles(false);
QuickSearchResponseType quickSearchResponseType =
agileStub.quickSearch(quickSearchRequestType);
```

Advanced Search

Operation - advancedSearch

```
AdvancedSearchRequestType advancedSearchRequestType = new
AdvancedSearchRequestType();
advancedSearchRequestType.setClassIdentifier("Part");
advancedSearchRequestType.setCaseSensitive(false);
String criteria = "[Title Block.Number] contains 'P0' && " +
                  "[Title Block.Description] is not null";
advancedSearchRequestType.setCriteria(criteria);
String attribute1 = "Title Block.Number";
String attribute2 = "Title Block.Description";
String attribute3 = "Title Block.Lifecycle Phase";
advancedSearchRequestType.setResultAttributes(new String[]{attribute1, attribute2,
attribute3} );
advancedSearchRequestType.setDisplayName("Search123");
AdvancedSearchResponseType advancedSearchResponseType =
agileStub.advancedSearch(advancedSearchRequestType);
```

Getting the Searchable Attributes

Operation - getSearchableAttributes

```
QueryGetSearchableAttributesRequestType queryGetSearchableAttributesRequestType =
new QueryGetSearchableAttributesRequestType();
queryGetSearchableAttributesRequestType.setClassIdentifier("Part");
QueryGetSearchableAttributesResponseType queryGetSearchableAttributesResponseType
= agileStub.getSearchableAttributes(queryGetSearchableAttributesRequestType);
```

Working with Folders

There are several types of Agile PLM folders with which you can work. Each user's selection of folders may vary. However, every user has a *Home* folder. From each user's Home folder, you can construct various subfolders and browse public and private queries.

Folders are subject to the same transactional model as other Agile API objects. If you do not set a transaction boundary for a folder, it is automatically updated as soon as you add anything to, or remove anything from the folder.

You can work with Folder Web services to deal with the hierarchical structure of a folder by adding and removing children, getting children, and getting the parent folder.

- **Private** - Folders that are accessible only to the user that created them. Users can create or delete their own Private folders.
- **Public** - Folders that are accessible to all Agile PLM users. Only users with the GlobalSearches privilege can create, delete, and modify Public folders.
- **System** - Predefined folders that ship with the Agile PLM system. Most users cannot modify or delete System folders.
- **My Bookmarks (or Favorites)** - A predefined folder containing each user's bookmarks to Agile PLM objects. You cannot delete the My Bookmarks folder.
- **Home** - The predefined Agile PLM home folder. You cannot delete the Home folder.
- **Personal Searches** - The predefined parent folder for each user's personal searches. You cannot delete the Personal Searches folder.
- **Recently Visited** - A predefined folder containing links to recently visited objects. The web service does not populate this folder. It is only populated by client applications. If required, you specify this in your application.

Note: The recently visited folder is only flushed to the database periodically. Therefore, secondary connections like process extensions with portals, or standalone web service based applications will not see the same information that the user's GUI displays.

- **Report** - A folder containing reports. Although you cannot use the Agile API to create, modify, or delete report folders, you can create, modify, or delete them in Agile PLM clients.

Each user's selection of folders may vary. However, every user has a *Home* folder. From each user's Home folder, you can construct various subfolders and browse public and private queries.

Loading a Folder

There are two ways to load a folder:

- Use the `getFolder` operation to specify the full path of a folder.
- Use the `getChildNode` operation to specify the relative path of a subfolder.

Folder and query names are not case-sensitive. Therefore, you can specify a folder path using upper or lower case. For example, to load the Personal Searches folder, you can specify `/Personal Searches` or `/PERSONAL SEARCHES`.

The following example shows how to load a folder by specifying the full path to the folder.

Example: Loading a folder using the `getFolder` operation

```
GetFolderRequestType getFolderRequestType =
    new GetFolderRequestType();
AgileGetFolderRequestType[] agileGetFolderRequestTypeArray =
    new AgileGetFolderRequestType[1];
agileGetFolderRequestTypeArray[0] =
    new AgileGetFolderRequestType();
FolderIdentifierType identifier = new FolderIdentifierType();
identifier.setBaseFolder(3); // Home folder constant is 3. Please refer to the
documentation
                                // for other base folder constants
identifier.setName("Personal Searches"); //relative name of the folder
agileGetFolderRequestTypeArray[0].setFolderIdentifier(identifier);
agileGetFolderRequestTypeArray[0].setRecursive(false); //set to true if you want
to load all child folders recursively
getFolderRequestType.setRequests(agileGetFolderRequestTypeArray);
GetFolderResponseType getFolderResponseType =
    agileFolderStub.getFolder(getFolderRequestType);
```

The following example shows how to load a folder by specifying its path relative to another folder, in this case the user's Home Folder.

Example: Loading a folder using `getChildNode` operation

```
GetChildNodeRequestType getChildNodeRequestType =
    new GetChildNodeRequestType();
AgileGetChildNodeRequestType[] agileGetChildNodeRequestTypeArray =
    new AgileGetChildNodeRequestType[1];
agileGetChildNodeRequestTypeArray[0] =
    new AgileGetChildNodeRequestType();
FolderIdentifierType identifier = new FolderIdentifierType();
identifier.setBaseFolder(3); // Home folder constant is 3.
identifier.setName("Personal Searches/Folder A"); //relative name of the folder A
agileGetChildNodeRequestTypeArray[0].setFolderIdentifier(identifier);
String[] children = new String[2];
children[0] = "Folder 1";
children[1] = "Query 1";
agileGetChildNodeRequestTypeArray[0].setChildren(children);
getChildNodeRequestType.setRequests(agileGetChildNodeRequestTypeArray);
GetChildNodeResponseType getChildNodeResponseType =
    agileFolderStub.getChildNode(getChildNodeRequestType);
```

Creating a Folder

To create a folder, use the **createFolder** operation. When you create a folder, you must specify the folder's name and its parent folder. The following example shows how to create a folder named "MyTemporaryQueries" in the Personal Searches folder.

Example: Creating a new folder

```
CreateFolderRequestType createFolderRequestType =
new CreateFolderRequestType();
AgileCreateFolderRequestType[] agileCreateFolderRequestTypeArray =
    new AgileCreateFolderRequestType[1];
agileCreateFolderRequestTypeArray[0] =
    new AgileCreateFolderRequestType();
FolderIdentifierType identifier = new FolderIdentifierType();
identifier.setBaseFolder(3); // Home folder constant is 3.
identifier.setName("Personal Searches/Folder A"); //relative name of the folder A
agileCreateFolderRequestTypeArray[0].setFolderIdentifier(identifier);
createFolderRequestType.setRequests(agileCreateFolderRequestTypeArray);
```

Working with Folder Elements

An Agile PLM folder can contain file folder objects (subfolders), query objects, and any kind of data object, such as item, manufacturer, etc. Use the **addChildNode** operation to add objects to a folder.

The operation is used to add **childNodes** to a folder identified by its folder identifier. The list of **childNodes** to be added to a folder will be passed as input to the request. The child nodes can be a query object, an **AgileObject** or a subfolder itself.

Adding Folder Elements

The following example shows how to add a child node to a folder.

Example: Adding child nodes to a folder

```
AddChildNodeRequestType addChildNodeRequestType =
new AddChildNodeRequestType();
AgileAddChildNodeRequestType[] agileAddChildNodeRequestTypeArray =
    new AgileAddChildNodeRequestType[1];
agileAddChildNodeRequestTypeArray[0] =
    new AgileAddChildNodeRequestType();
FolderIdentifierType identifier = new FolderIdentifierType();
identifier.setBaseFolder(3); // Home folder constant is 3
identifier.setName("Personal Searches/Folder A"); //relative name of the folder A
agileAddChildNodeRequestTypeArray[0].setFolderIdentifier(identifier);
FolderIdentifierType[] childFolders = new FolderIdentifierType[2];
for(int i=0; i<childFolders.length; i++) {
    childFolders[i] = new FolderIdentifierType();
    childFolders[i].setBaseFolder(3);
    childFolders[i].setName("Personal Searches/Folder "+i);
}
agileAddChildNodeRequestTypeArray[0].setFolders(childFolders);
addChildNodeRequestType.setRequests(agileAddChildNodeRequestTypeArray);
```

Removing Folder Elements

To remove a single folder element, use the **removeChildNode** operation.

Example: Removing child nodes from a folder

```
RemoveChildNodeRequestType removeChildNodeRequestType =
new RemoveChildNodeRequestType();
AgileRemoveChildNodeRequestType[] agileRemoveChildNodeRequestTypeArray =
    new AgileRemoveChildNodeRequestType[1];
agileRemoveChildNodeRequestTypeArray[0] =
    new AgileRemoveChildNodeRequestType();
FolderIdentifierType identifier = new FolderIdentifierType();
identifier.setBaseFolder(3); // Home folder constant is 3.
identifier.setName("Personal Searches/Folder A"); //relative name of the folder A
agileRemoveChildNodeRequestTypeArray[0].setFolderIdentifier(identifier);
String[] children = new String[2];
children[0] = "Folder 1";
children[1] = "Query 1";
agileRemoveChildNodeRequestTypeArray[0].setChildren(children);
removeChildNodeRequestType.setRequests(agileRemoveChildNodeRequestTypeArray);
```

Getting Folder Elements

All objects contained in a folder, including subfolders, can be loaded by name. To retrieve an object from a folder, use the getChildNode operation. Remember, the object type for folder elements can vary. Depending on the object, you could be getting a subfolder, a query, or a dataobject, such as an Item.

Example: Getting a folder element

```
GetChildNodeRequestType getChildNodeRequestType =
new GetChildNodeRequestType();
AgileGetChildNodeRequestType[] agileGetChildNodeRequestTypeArray =
    new AgileGetChildNodeRequestType[1];
agileGetChildNodeRequestTypeArray[0] =
    new AgileGetChildNodeRequestType();
FolderIdentifierType identifier = new FolderIdentifierType();
identifier.setBaseFolder(3); // Home folder constant is 3.
identifier.setName("Personal Searches/Folder A"); //relative name of the folder A
agileGetChildNodeRequestTypeArray[0].setFolderIdentifier(identifier);
String[] children = new String[2];
children[0] = "Folder 1";
children[1] = "Query 1";
agileGetChildNodeRequestTypeArray[0].setChildren(children);
getChildNodeRequestType.setRequests(agileGetChildNodeRequestTypeArray);
```

Deleting a Folder

To delete a folder, use the deleteFolder operation. You can delete folders that are empty and that are not predefined Agile PLM system folders (such as the Global Searches and My Inbox folders).

Note Unlike other data objects, folders are not "soft-deleted" the first time you delete them. When you delete a folder, it is permanently removed from the system.

Example: Deleting a folder

```
DeleteFolderRequestType deleteFolderRequestType =
new DeleteFolderRequestType();
AgileDeleteFolderRequestType[] agileDeleteFolderRequestTypeArray =
    new AgileDeleteFolderRequestType[1];
agileDeleteFolderRequestTypeArray[0] =
```

```

        new AgileDeleteFolderRequestType();
FolderIdentifierType identifier = new FolderIdentifierType();
identifier.setBaseFolder(3); // Home folder constant is 3.
identifier.setName("Personal Searches/Folder A"); //relative name of the folder A
agileDeleteFolderRequestTypeArray[0].setFolderIdentifier(identifier);
deleteFolderRequestType.setRequests(agileDeleteFolderRequestTypeArray);

```

Renaming a Folder

To rename a folder, use `renameFolder` operation.

Example: Renaming a folder

```

FolderRequestType renameFolderRequestType =
new RenameFolderRequestType();
AgileRenameFolderRequestType[] agileRenameFolderRequestTypeArray =
    new AgileRenameFolderRequestType[1];
agileRenameFolderRequestTypeArray[0] =
    new AgileRenameFolderRequestType();
FolderIdentifierType identifier = new FolderIdentifierType();
identifier.setBaseFolder(3); // Home folder constant is 3.
identifier.setName("Personal Searches/Folder A"); //relative name of the folder A
agileRenameFolderRequestTypeArray[0].setFolderIdentifier(identifier);
agileRenameFolderRequestTypeArray[0].setNewName("Folder B");
renameFolderRequestType.setRequests(agileRenameFolderRequestTypeArray);

```

Working with Projects

You can use the project management features of Agile Product Portfolio Management (PPM) to define a project and its associated elements such as activity schedules, deliverables, and discussions. These capabilities enable you to determine the availability of the required resources, assigning resources to tasks, identifying bottlenecks, and responding to over- and under-allocated resource conditions. You can also create and reuse project templates.

The Projects object is used to schedule and execute projects. Each project, in addition to schedule information, contains attachments, discussions and actions items, resources and roles, and history and content of related activities. For management visibility, data is rolled up to higher levels by rules and parent-child relationships.

The Agile Project web service provides support for creating, loading, and working with Projects. It handles the Projects object in its entirety, including programs, phases, tasks, and gates.

Differences in the Behavior of Projects Objects

The project web service helps implement several interface commonly used by other Agile PLM objects and also provides the following functionality that separates Projects objects from other objects.

- The Projects object is a container of other underlying objects, such as Phases, Tasks, and Gates. The underlying objects are related to the parent object, usually the Projects, through the Schedule table.
- Projects have baselines that allow you to track changes in the schedule. Therefore, the project web service provides operations that let you create, get, or remove a baseline.
- Projects can be archived. If you archive the root Projects, the entire Projects tree is soft-deleted from the system.
- Projects can be locked or unlocked.

Working with Project Baselines

Projects baselines allow you to compare actual progress with your original plans. When you create a baseline, a snapshot of your Projects' schedule is preserved. The original estimates contained in the baseline are permanent reference points against which you can compare the updated task structure, schedule, and actual dates.

Creating Baselines

You can create baselines only for the root Projects object.

Example: Creating a baseline

```
CreateBaselineRequestType createBaselineRequestType =
new CreateBaselineRequestType();
AgileCreateBaselineRequestType[] agileCreateBaselineRequestType =
    new AgileCreateBaselineRequestType[1];
agileCreateBaselineRequestType[0] = new AgileCreateBaselineRequestType();
agileCreateBaselineRequestType[0].setProjectIdentifier("PGM00014"); //Project
Identifier
agileCreateBaselineRequestType[0].setDescription("My New Baseline"); //Name of the
baseline to be created
createBaselineRequestType.setRequests(agileCreateBaselineRequestType);
```

Getting Baselines

You can save multiple baselines, and retrieve them later for comparison.

Example: Getting Baselines

```
GetBaselinesRequestType getBaselinesRequestType =
new GetBaselinesRequestType();
AgileGetBaselinesRequestType[] agileGetBaselinesRequestType =
    new AgileGetBaselinesRequestType[1];
agileGetBaselinesRequestType[0] = new AgileGetBaselinesRequestType();
agileGetBaselinesRequestType[0].setProjectIdentifier("PGM00014");
getBaselinesRequestType.setRequests(agileGetBaselinesRequestType);
```

Removing Baselines

You can remove the list of baselines associated with the project.

Example: Removing Baselines

```
RemoveBaselineRequestType removeBaselinesRequestType =
new RemoveBaselineRequestType();
AgileRemoveBaselineRequestType[] agileRemoveBaselineRequestType =
    new AgileRemoveBaselineRequestType[1];
agileRemoveBaselineRequestType[0] = new AgileRemoveBaselineRequestType();
agileRemoveBaselineRequestType[0].setProjectIdentifier("PGM00014"); //Project
Identifier
agileRemoveBaselineRequestType[0].setVersion(3); //Baseline version number
removeBaselinesRequestType.setRequests(agileRemoveBaselineRequestType);
```

Once a Projects' schedule is defined, you can reschedule it using the reschedule operation. This operation takes a couple of parameters, the IProgram.RESCHEDULE constant and the new value for that schedule option. Here is the list of IProgram.RESCHEDULE constants you can use:

- STARTDATE - This moves the scheduled start date to the specified date.
- ENDDATE - This moves the scheduled end date to the specified date.
- BACKWARD_DAYS - This moves the schedule backward by the specified number of days.
- FORWARD_DAYS - This moves the schedule forward by the specified number of days.

Example: Rescheduling projects

```

RescheduleRequestType rescheduleRequestType =
new RescheduleRequestType();
AgileRescheduleRequestType[] agileRescheduleRequestType =
    new AgileRescheduleRequestType[1];
agileRescheduleRequestType[0] = new AgileRescheduleRequestType();
agileRescheduleRequestType[0].setProjectIdentifier("PGM00014");
RescheduleType rescheduleType = new RescheduleType();
rescheduleType.setForwardDays(5);
//          rescheduleType.setBackwardDays(5); //Number of days you want to
forward the schedule
//          Calendar startDate = Calendar.getInstance();
//          startDate.setTime(new Date(2011, 01, 01));
//          Calendar endDate = (Calendar)startDate.clone();
//          endDate.add(Calendar.DAY_OF_YEAR, +5);
//          rescheduleType.setStartDate(startDate); //Setting the start date of
the activity
//          rescheduleType.setEndDate(endDate); //Setting the end date of the
activity
agileRescheduleRequestType[0].setRescheduleType(rescheduleType);
rescheduleRequestType.setRequests(agileRescheduleRequestType);

```

Substituting Project Resources

A resource's availability can frequently change due to overloading, reassignments, vacation, and illness. You can substitute an existing resource for another resource. The current resource's role is assigned to the substituted resource, but only for that Projects. To substitute Projects resources, use the `substituteResource` operation.

When you substitute resources, you can specify users as well as user groups. You can also specify whether the resource assignment applies to the Projects' children.

Example: Substituting projects resources

```

SubstituteResourceRequestType substituteResourceRequestType =
new SubstituteResourceRequestType();
AgileSubstituteResourceRequestType[] agileSubstituteResourceRequestType =
    new AgileSubstituteResourceRequestType[1];
agileSubstituteResourceRequestType[0] = new AgileSubstituteResourceRequestType();
agileSubstituteResourceRequestType[0].setProjectIdentifier("PGM00014");
AgileUserUserGroupIdentifierType currentUser = new
AgileUserUserGroupIdentifierType();
currentUser.setClassIdentifier("User");
currentUser.setObjectIdentifier("badriv");
agileSubstituteResourceRequestType[0].setCurrentResource(currentUser); //Currently
allocated resource
AgileUserUserGroupIdentifierType newUser = new AgileUserUserGroupIdentifierType();
newUser.setClassIdentifier("User");
newUser.setObjectIdentifier("yvonsec");
agileSubstituteResourceRequestType[0].setNewResource(newUser); //Resource that
substitutes the current resource
agileSubstituteResourceRequestType[0].setApplyToChildren(true); //the delegated
owner is set for the children as well
substituteResourceRequestType.setRequests(agileSubstituteResourceRequestType);

```

Example: Assigning Users from a Resource Pool

```

AssignUsersFromPoolRequestType assignUsersFromPoolRequestType =
new AssignUsersFromPoolRequestType();

```

```
AgileAssignUsersFromPoolRequestType[] agileAssignUsersFromPoolRequestType =
    new AgileAssignUsersFromPoolRequestType[1];
agileAssignUsersFromPoolRequestType[0] = new
AgileAssignUsersFromPoolRequestType();
agileAssignUsersFromPoolRequestType[0].setProjectIdentifier("PGM00014");
agileAssignUsersFromPoolRequestType[0].setUsergroup("Test"); //Assign userpool
from which you want to assign resources
String[] users = {"brianl"}; //Create an array of users you want to add from the
userpool above. brianl is a part of the userpool "Test"
agileAssignUsersFromPoolRequestType[0].setUsers(users);
assignUsersFromPoolRequestType.setRequests(agileAssignUsersFromPoolRequestType);
```

Delegating Ownership of a Project to Another User

The owner or manager of a Projects object can assign the ownership of the Projects to other users by delegating it. The delegated user receives a request that he can accept or decline. If he accepts, the delegated user becomes owner of the task. A delegated owner is automatically given the Projects Manager role for the delegated Projects object.

To delegate ownership of a Projects, use the `delegateOwnership` operation. When you delegate ownership of a Projects, you automatically update the Delegated Owner field, which is read-only. The `delegateOwnership` operation lets you specify whether delegated ownership also applies to the Projects' children.

Example: Delegating project ownership to another user

```
DelegateOwnershipRequestType delegateOwnershipRequestType =
new DelegateOwnershipRequestType();
AgileDelegateOwnershipRequestType[] agileDelegateOwnershipRequestType =
    new AgileDelegateOwnershipRequestType[1];
agileDelegateOwnershipRequestType[0] = new AgileDelegateOwnershipRequestType();
agileDelegateOwnershipRequestType[0].setProjectIdentifier("PGM00014");
agileDelegateOwnershipRequestType[0].setUserIdentifier("yvonnec"); //loginID of
the user
agileDelegateOwnershipRequestType[0].setApplyToChildren(true); //the delegated
owner is set for the children as well
delegateOwnershipRequestType.setRequests(agileDelegateOwnershipRequestType);
```

Locking and Unlocking Projects

The owner of Projects can lock or unlock the Projects object. You cannot modify the schedule of a Projects object once it is locked. To lock or unlock a Projects object, use the `setLock` operation.

Note: Projects are automatically locked when you use the Gantt Chart or the Microsoft Project integration functionality in Agile Web Client.

Example: Locking a projects object

```
SetLockRequestType setLockRequestType =
new SetLockRequestType();
AgileSetLockRequestType[] agileSetLockRequestType =
    new AgileSetLockRequestType[1];
agileSetLockRequestType[0] = new AgileSetLockRequestType();
```

```
agileSetLockRequestType[0].setProjectIdentifier("PGM00014");
agileSetLockRequestType[0].setLock(true);
setLockRequestType.setRequests(agileSetLockRequestType);
```

Checking Projects Lock Status

```
IsLockedRequestType isLockedRequestType =
    new IsLockedRequestType();
AgileIsLockedRequestType[] agileIsLockedRequestType =
    new AgileIsLockedRequestType[1];
agileIsLockedRequestType[0] = new AgileIsLockedRequestType();
agileIsLockedRequestType[0].setProjectIdentifier("PGM00014");
isLockedRequestType.setRequests(agileIsLockedRequestType);
```

Publishing Documents

During the life of a product, Agile PLM acquires, processes, and maintains an assortment of data related to the product. This data is used in many ways and for different requirements to expedite, manage, and control product development activities.

Agile PLM Document Publishing Web Services enables creating documents based on data maintained by Agile PLM. This PLM data also is used by content developers and authors to prepare documents such as Product Data sheets, Parts List, and Service Manuals.

Agile PLM supports the dynamic publication of these documents with embedded PLM data and triggers configured in PLM's Event Framework. The Dynamic Document Publishing solution can be used in the following instances:

- Create new structured documents (Product Data sheets, Parts List, Service Manual)
- Create documents in the native document publishing tool
- Browse and insert PLM metadata and file contents into documents
- Create formatted reports from PLM objects, search results, and push selected rows to reporting tools (compliance report, pricing model, quality report)
- Push an object ID, selected or all search results to a report for formatting
- Modify the content that is shared by other documents already stored in PLM
- Update documents that reference modified content

Document Publishing Web Services Operations

Agile PLM Web Services exposes the following operations which enables you to create the necessary XML schema and data files.

Loading XML Schema of Objects

This Web Service API returns an XML package that fully describes the attributes of the object. This Web Service is used to create XML schema files that are used by BI Publisher to create the Templates. For example, if you use this Web Service against a subclass like ECO, it will tell BI Publisher all of the possible attributes for ECOs. This is useful to be able to work with all potential attributes for an object when creating a Template.

Example: Loading XML Schema of Objects

```
LoadXMLSchemaRequestType loadXMLSchemaRequestType =
```

```
new LoadXMLSchemaRequestType();
AgileLoadXMLSchemaRequestType[] agileLoadXMLSchemaRequestType =
    new AgileLoadXMLSchemaRequestType[1];
agileLoadXMLSchemaRequestType[0] = new AgileLoadXMLSchemaRequestType();
//set the API Names of the classes for which you want to load the schema
String[] classIds = new String[1];
classIds[0] = "Part";
agileLoadXMLSchemaRequestType[0].setClassIdentifiers(classIds);
loadXMLSchemaRequestType.setRequests(agileLoadXMLSchemaRequestType);
```

Loading XML Data of Objects

This Web Service API returns the actual data that is stored for an object in an XML package. This Web service is used to retrieve the object data that is combined with the Template to create the output file. You can also use the saved output from this Web Service to test a Template in BI Publisher.

Example: Loading XML Data of Objects

```
DocPublishing_BindingStub agileAdminStub = getDocPublishingService();
LoadXMLDataRequestType loadXMLDataRequestType =
    new LoadXMLDataRequestType();
AgileLoadXMLDataRequestType[] agileLoadXMLDataRequestType =
    new AgileLoadXMLDataRequestType[1];
agileLoadXMLDataRequestType[0] = new AgileLoadXMLDataRequestType();
String[] filter = new String[1];
filter[0] = "DefaultPartFilter"; // APIName of the ACS filter
agileLoadXMLDataRequestType[0].setFilterName(filter);
ObjectReferentIdType[] objectRef = new ObjectReferentIdType[1];
objectRef[0] = new ObjectReferentIdType();
objectRef[0].setClassIdentifier("Part"); //APIName of the class
objectRef[0].setObjectIdentifier("P0001"); //Object Name of the class to be loaded
agileLoadXMLDataRequestType[0].setObjectReferent(objectRef);
loadXMLDataRequestType.setRequests(agileLoadXMLDataRequestType);
```

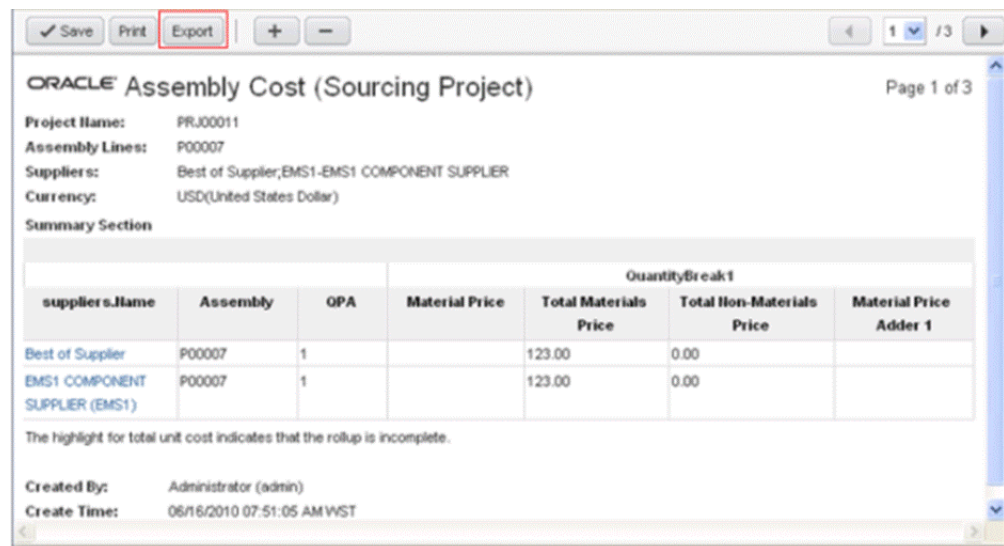

Working with Reports

This chapter describes how to generate Assembly Cost Reports using `loadReportSchema` and `loadReportData` operations.

Generating Assembly Cost Reports for Sourcing Projects

The PLM Web client supports generating the Assembly Cost Report to help understand the total cost of a BOM, including the material and non-material costs. To simplify this operation, the Web client provides a wizard to locate and select the required Sourcing Project, including the necessary parameters. See *Understanding Assembly Cost Report Parameters* for a description of these parameters.

A sample report is shown below. Once the report is prepared, the PLM user can invoke the **Export** command and send the data from the PLM to an external device in a supported format, for example, to an Excel worksheet.



ORACLE Assembly Cost (Sourcing Project) Page 1 of 3

Project Name: PRJ00011
 Assembly Lines: P00007
 Suppliers: Best of Supplier, EMS1-EMS1 COMPONENT SUPPLIER
 Currency: USD (United States Dollar)

Summary Section

suppliers.Name	Assembly	QPA	Material Price	QuantityBreak1		Material Price Adder 1
				Total Materials Price	Total Non-Materials Price	
Best of Supplier	P00007	1		123.00	0.00	
EMS1 COMPONENT SUPPLIER (EMS1)	P00007	1		123.00	0.00	

The highlight for total unit cost indicates that the rollup is incomplete.

Created By: Administrator (admin)
 Create Time: 06/16/2010 07:51:05 AM WST

The Agile Core Web Services supports this feature with `loadReportSchema` and `loadReportData` operations. The following code sample uses the `loadReportSchema` operation to get the report data structure and the `loadReportData` operation to set the report parameters and generate the report.

Example: Loading assembly cost reports schema

```
LoadReportSchemaRequestType loadReportSchemaRequestType = new
LoadReportSchemaRequestType();
AgileLoadReportSchemaRequestType[] agileLoadReportSchemaRequestType = new
AgileLoadReportSchemaRequestType[1];
```

```
agileLoadReportSchemaRequestType[0] = new AgileLoadReportSchemaRequestType();
agileLoadReportSchemaRequestType[0].setReportIdentifier("103"); //Assembly cost
report Identifier
ParameterType[] params = new ParameterType[1];
    params[0] = new ParameterType();
    params[0].setId("objectNumber");
    String[] pcmPrjs = {"PRJ00001"}; //set the PCM project number here
    params[0].setValues(pcmPrjs);
agileLoadReportSchemaRequestType[0].setParams(params);
loadReportSchemaRequestType.setRequests(agileLoadReportSchemaRequestType);
```

Example: Generating Assembly Cost Report

```
LoadReportDataRequestType loadReportDataRequestType = new
LoadReportDataRequestType();
AgileLoadReportDataRequestType[] agileLoadReportDataRequestType =
new AgileLoadReportDataRequestType[1];
agileLoadReportDataRequestType[0] = new AgileLoadReportDataRequestType();
agileLoadReportDataRequestType[0].setReportIdentifier("103"); //Assembly cost
report Identifier
    ParameterType[] params = new ParameterType[3];
    params[0] = new ParameterType();
    params[0].setId("objectNumber");
    String[] pcmPrjs = {"PRJ00001"}; //set the PCM project number here
    params[0].setValues(pcmPrjs);
    params[1] = new ParameterType();
    params[1].setId("items");
    String[] items = {"P00001"}; //set the item present in the above project
    params[1].setValues(items);
    params[2] = new ParameterType();
    params[2].setId("suppliers");
    String[] suppliers = {"EMS1"}; //set the supplier for the item included
above
    params[2].setValues(suppliers);
agileLoadReportDataRequestType[0].setParams(params);
loadReportDataRequestType.setRequests(agileLoadReportDataRequestType);
```

Note: The returned value of the loadReportSchema operation represents the XML schema of the Assembly Cost Report. To get the schema, you must set the value of the report name parameter. To get the report data, or report, you must set the values of the first two parameters.

Understanding Assembly Cost Report Parameters

The Assembly Cost Report parameters supported by loadReportData operation are defined as follows:

- items - The array of top level assembly items: "<itemNumber>::<revNumber>" if there is a revision, and "<itemNumber>" if there are no revisions.
- suppliers - The array of supplier names along with the optional indicators for the "Best of Suppliers": "-101" or the "Best Of Suppliers/Partners".
- pricescenarios - The array of price scenarios names.
- doCostRollup - The flag to run the cost Rollup option for the report.

To generate a report data for all assemblies, all suppliers/partners, or all price scenarios without specifying their names, you must provide the following corresponding parameters:

- `String[] items = new String[1];`
`items[0] = "all";`
- `String[] suppliers = new String[2];`
`suppliers[0] = "-101";`
`suppliers[1] = "all";`
- `String[] priceScenarios = new String[0];`
`priceScenarios[0] = "all";`

Managing Users and User Profiles

Users are data objects that you can create, like items and changes. Consequently, you can work with users directly without traversing the administrative node hierarchy. If you have the proper Agile PLM privileges, you can create, modify, and delete users. For example, you could create a program that periodically synchronizes Agile PLM users with data available from a corporate directory.

Handling User Passwords

User names and passwords are commonly used to authenticate your credentials.

The following code sample uses `ChangeLoginPassword` operation to change login password.

Example: Changing Login Password

```
ChangeLoginPasswordRequestType changeLoginPasswordRequestType =
new ChangeLoginPasswordRequestType();
AgileChangeLoginPasswordRequestType[] agileChangeLoginPasswordRequestTypeArray =
    new AgileChangeLoginPasswordRequestType[1];
agileChangeLoginPasswordRequestTypeArray[0] =
    new AgileChangeLoginPasswordRequestType();
agileChangeLoginPasswordRequestTypeArray[0].setUserIdentifier("admin");
agileChangeLoginPasswordRequestTypeArray[0].setNewPassword("newPassword");
agileChangeLoginPasswordRequestTypeArray[0].setOldPassword("oldPassword");
changeLoginPasswordRequestType.setRequests(agileChangeLoginPasswordRequestTypeArra
y);
```

The following code sample uses `ChangeApprovalPassword` operation to change approval password.

Example: Changing Approval Password

```
ChangeApprovalPasswordRequestType changeApprovalPasswordRequestType =
new ChangeApprovalPasswordRequestType();
AgileChangeApprovalPasswordRequestType[]
agileChangeApprovalPasswordRequestTypeArray =
    new AgileChangeApprovalPasswordRequestType[1];
agileChangeApprovalPasswordRequestTypeArray[0] =
    new AgileChangeApprovalPasswordRequestType();
agileChangeApprovalPasswordRequestTypeArray[0].setUserIdentifier("admin");
agileChangeApprovalPasswordRequestTypeArray[0].setNewPassword("agile1");
agileChangeApprovalPasswordRequestTypeArray[0].setOldPassword("agile");
changeApprovalPasswordRequestType.setRequests(agileChangeApprovalPasswordRequestTy
peArray);
```

Managing Transfer Authorities

You can transfer authority to create records from one user to another.

Agile Core Web Services supports the TransferAuthority operation along with CreateTransferAuthority, GetTransferAuthority and RemoveTransferAuthority operations.

You can use the createTransferAuthority operation to create a transfer record from an Agile user to another.

Example: Creating Transfer Authority

```
CreateTransferAuthorityRequestType createTransferAuthorityRequestType =
new CreateTransferAuthorityRequestType();
AgileCreateTransferAuthorityRequestType[]
agileCreateTransferAuthorityRequestTypeArray =
    new AgileCreateTransferAuthorityRequestType[1];
agileCreateTransferAuthorityRequestTypeArray[0] =
    new AgileCreateTransferAuthorityRequestType();
TransferAuthorityRequestType transferAuthorityRequestType = new
TransferAuthorityRequestType();
transferAuthorityRequestType.setFromUser("badriv"); //loginID of from user
transferAuthorityRequestType.setToUser("yvonnec"); //loginID of to user
Calendar fromDate = Calendar.getInstance();
Calendar toDate = (Calendar) fromDate.clone();
toDate.add(Calendar.DAY_OF_YEAR, + 5);
transferAuthorityRequestType.setFromDate(fromDate);
transferAuthorityRequestType.setToDate(toDate);
transferAuthorityRequestType.setCriteria("AllChanges"); // For an exhaustive
list of various criterion that may be used, refer to the Java Client
//This field has two possible input values corresponding to the types 'AFFECT_
CHANGES_ALL' - 0 or AFFECT_CHANGES_IN_PERIOD -1
transferAuthorityRequestType.setAffectChanges(0);
agileCreateTransferAuthorityRequestTypeArray[0].setTransferAuthorityRecord(transfe
rAuthorityRequestType);
createTransferAuthorityRequestType.setRequests(agileCreateTransferAuthorityRequest
TypeArray);
```

You can use the getTransferAuthority operation to retrieve a transfer authority record from the transfer authority record manager.

Example: Getting Transfer Authority

```
GetTransferAuthorityRequestType getTransferAuthorityRequestType =
new GetTransferAuthorityRequestType();
//set to true if you want to retrieve all records
getTransferAuthorityRequestType.setAll(false);

//to download individual records set the unique transfer record Ids, also set the
boolean flag as false. See below.
//      getTransferAuthorityRequestType.setAll(false);
//      AgileGetTransferAuthorityRequestType[]
agileGetTransferAuthorityRequestTypeArray =
//      new AgileGetTransferAuthorityRequestType[1];
//      agileGetTransferAuthorityRequestTypeArray[0] = new
AgileGetTransferAuthorityRequestType();
//
agileGetTransferAuthorityRequestTypeArray[0].setTransferRecordId("6099367"); //A
unique Id.
//
getTransferAuthorityRequestType.setTransferRecords(agileGetTransferAuthorityReques
```

```
tTypeArray);
```

You can use the `removeTransferAuthority` operation to remove a transfer authority record from the transfer authority record manager.

Example: Removing Transfer Authority

```
RemoveTransferAuthorityRequestType removeTransferAuthorityRequestType =
new RemoveTransferAuthorityRequestType();
AgileRemoveTransferAuthorityRequestType[]
agileRemoveTransferAuthorityRequestTypeArray =
    new AgileRemoveTransferAuthorityRequestType[1];
agileRemoveTransferAuthorityRequestTypeArray[0] = new
AgileRemoveTransferAuthorityRequestType();
agileRemoveTransferAuthorityRequestTypeArray[0].setTransferRecordId("6102717");
//A unique Id.
removeTransferAuthorityRequestType.setRequests(agileRemoveTransferAuthorityRequest
TypeArray);
```

Working with Recipe & Material Workspace

This chapter describes how to work with the web services in the Agile Recipe and Material Workspace (RMW) application and provides sample code snippets.

Performing Searches

RMW searches can be simple or advanced searches, with multiple criteria. RMW search operation lets you perform searches and sorting in one go.

Using Operators

This feature allows the user to provide the operator type along with the criteria. Only operators that are supported by the RMW UI are supported in the enhanced cfmXML.

Operators that are supported by enhanced cfmXML are:

- OP_DEFAULT
- OP_MATCHES
- OP_BETWEEN

The Operators are supported with the following modification to cfmXML

- Optional Values element inside Attribute element. This will contain n number of Values element
- Optional operator attribute in Attribute element with the following possible values

Example: Searching by user using the OP_DEFAULT operator

```
<SearchCriteria id="1">
<SearchName>AdminUser</SearchName>
  <CategoryName>User</CategoryName>
  <CategoryDBName>D_PPL_USER</CategoryDBName>
  <ViewName/>
  <Attribute name="User ID" operator="OP_DEFAULT">
    <Value dataType="Text">Administrator</Value>
    <UnitOfMeasure/>
  </Attribute>
</SearchCriteria>
```

Example: Searching between dates using the OP_BETWEEN operator

```
<SearchCriteria id="1">
<CategoryName>User</CategoryName>
  <CategoryDBName>D_PPL_USER</CategoryDBName>
  <ViewName/>
```

```
<Attribute name="Created Date" operator="OP_BETWEEN">
  <Value dataType="" />
  <Values>
    <Value GMTDateTime="1156863952000"
dataType="Date">08/29/2006</Value>
    <Value GMTDateTime="1156863952000"
dataType="Date">08/29/2006</Value>
  </Values>
  <UnitOfMeasure/>
  <Format>MM/dd/yyyy</Format>
</Attribute>
</SearchCriteria>
```

Searching with Sorting

This feature has an impact on the order of the results that are displayed. The sorting criteria specified in request xml will be considered and displayed accordingly. The user can specify the field name that has to sort on and the order that should be displayed in ascending or descending order.

Sorting using more than one field name is supported; in which case the order value will be considered to resolve the sorting order.

The sorting feature is supported with the following changes to CfmXML:

- Optional SortGroup element containing 'n' number of Attribute elements.
- Optional order attribute in Attribute element which contains the order of sorting. If order is not specified for the attribute then actual order will be considered.
- Optional ascending attribute in Attribute element with yes/no possible values. Default value is yes.

Example: Searching with sorting

```
<SearchCriteria id="1">
  <CategoryName>User</CategoryName>
  <CategoryDBName>D_PPL_USER</CategoryDBName>
  <ViewName/>
  <Attribute name="User ID">
    <Value dataType="" />
    <Values>
      <Value dataType="Text">Administrator</Value>
      <Value dataType="Text">System</Value>
      <Value dataType="Text">boprocqc</Value>
    </Values>
    <UnitOfMeasure/>
  </Attribute>
  <SortGroup>
    <Attribute ascending="yes" name="Is Active" order="1">
      <Value dataType="Text" />
      <UnitOfMeasure/>
    </Attribute>
    <Attribute ascending="no" name="First Name" order="2">
      <Value dataType="Text" />
      <UnitOfMeasure/>
    </Attribute>
  </SortGroup>
</SearchCriteria>
```

Searching with Multiple Criteria Values

This features allows the user to search by providing multiple values for search criteria. This considers as 'In clause' and the results will include all the records which meets the values in the list.

```
<SearchCriteria id="1">
  <CategoryName>User</CategoryName>
  <CategoryDBName>D_PPL_USER</CategoryDBName>
  <ViewName/>
  <Attribute name="Work Phone">
    <Value dataType="" />
    <Values>
      <Value dataType="Phone">14001</Value>
      <Value dataType="Phone">91-5643728990</Value>
      <Value dataType="Phone">91-5643728990</Value>
    </Values>
    <UnitOfMeasure> </UnitOfMeasure>
    <Format>dd-MM-yyyy</Format>
  </Attribute>
  <SortGroup>
    <Attribute ascending="no" name="Work Phone" order="1">
      <Value dataType="Text" />
      <UnitOfMeasure/>
    </Attribute>
  </SortGroup>
</SearchCriteria>
```

Editing User Data

This is a generic edit Web service. Using this, you can perform edit operation on any category by providing the payload value in cfmXML format.

```
<Object operation="D">
  <CategoryName>Application Setup</CategoryName>
  <CategoryDBName>D_INT_APPLICATION_SETUP</CategoryDBName>
  <ViewName>DEFAULT</ViewName>
  <ObjectKey>
    <Attribute name="Application Name">
      <Value dataType="Basic Text">TestApplication</Value>
      <UnitOfMeasure/>
    </Attribute>
  </ObjectKey>
  <ObjectDetail/>
</Object>
```

Input Type

You can specify whether the editing operation is for Insert or Update or Delete. It is specified using <Object operation="I"> or <Object operation="U"> or <Object operation="D">.

Example: Inserting a User data

```
<Payload>
  <Object operation="I">
    <CategoryName>WSEditTest</CategoryName>
    <CategoryDBName>WSEditTest</CategoryDBName>
    <ViewName/>
    <CustomInfo/>
```

```

    <ObjectKey>
      <Attribute name="UserId">
        <Value dataType="Integer">3</Value>
        <UnitOfMeasure/>
      </Attribute>
    </ObjectKey>
    <ObjectDetail>
      <Attribute name="Experience">
        <Value dataType="Integer">3</Value>
        <UnitOfMeasure/>
      </Attribute>
      <Attribute name="Rank">
        <Value dataType="Integer">3</Value>
        <UnitOfMeasure/>
      </Attribute>
    </ObjectDetail>
  </Object>
</Payload>

```

Example: Updating a user data

Note Before invoking the Update Input XML service, you must invoke the insert operation.

```

<Payload>
<Object operation="U">
  <CategoryName>WSEditTest</CategoryName>
  <CategoryDBName>WSEditTest</CategoryDBName>
  <ObjectKey>
    <Attribute name="Experience">
      <Value dataType="Integer">4</Value>
    </Attribute>
  </ObjectKey>
  <ObjectDetail>
    <Attribute name="Rank">
      <Value dataType="Integer">1</Value>
    </Attribute>
  </ObjectDetail>
</Object>
</Payload>

```

Example: Inserting and updating a user data

```

<Payload>
<Object operation="I">
  <CategoryName>Application Setup</CategoryName>
  <CategoryDBName>D_INT_APPLICATION_SETUP</CategoryDBName>
  <ViewName>DEFAULT</ViewName>
  <ObjectKey>
    <Attribute name="Application Name">
      <Value dataType="Basic Text">App Insert Test</Value>
      <UnitOfMeasure/>
    </Attribute>
  </ObjectKey>
  <ObjectDetail>
    <Attribute name="Application User Id">
      <Value dataType="Basic Text">App Insert Test User
Id</Value>
      <UnitOfMeasure/>
    </Attribute>
    <Attribute name="Inbound XSL">

```

```

                                <Value dataType="Basic Text">App Insert Test Inbound
XSL</Value>
                                <UnitOfMeasure/>
                                </Attribute>
                                <Attribute name="Outbound XSL">
                                <Value dataType="Basic Text">App Insert Test Outbound
XSL</Value>
                                <UnitOfMeasure/>
                                </Attribute>
                                </ObjectDetail>
                                </Object>
                                <Object operation="U">
                                <CategoryName>Application Setup</CategoryName>
                                <CategoryDBName>D_INT_APPLICATION_SETUP</CategoryDBName>
                                <ViewName>DEFAULT</ViewName>
                                <ObjectKey>
                                <Attribute name="Application Name">
                                <Value dataType="Basic Text">Test App Name</Value>
                                <UnitOfMeasure/>
                                </Attribute>
                                </ObjectKey>
                                <ObjectDetail>
                                <Attribute name="Application User Id">
                                <Value dataType="Basic Text">Updated User Id</Value>
                                <UnitOfMeasure/>
                                </Attribute>
                                </ObjectDetail>
                                </Object>
                                </Payload>

```

Processing Business Objects

This is a generic web service to process any Business Object (BO), configured in the system, using Web Service. Operations such as Add/Modify/Delete can be performed on Business Object by just invoking this web service with BO details in the form of cfmXML.

BO web service processes multiple BOs. Hence, there is a standard mechanism to report errors and warning, if any during the processing of BOs.

- **Response code: 300** - This response code indicates failure of processBO operation with errors, warnings and validations as part of response message.
- **Response code: 301** - This response code indicates failure of processBO operation and errors, warnings and validations are contained in the response message.
- **Response code: 500** - This response code indicates success of processBO operation.

Example: Inserting a new Application

```

<Payload>
<Object>
    <CategoryName/>
    <CategoryDBName/>
    <ObjectKey/>
    <ObjectDetail/>
</Object>
<ObjectGroup isBO="Yes" name="Application">
    <BOActions>
        <BOAction>New</BOAction>
    </BOActions>
</ObjectGroup>
</Payload>

```

```

    </BOActions>
    <Object name="BORoot">
      <CategoryName>Application Setup</CategoryName>
      <CategoryDBName>D_INT_APPLICATION_SETUP</CategoryDBName>
      <ViewName/>
      <CustomInfo/>
      <ObjectKey>
        <Attribute name="Application Name">
          <Value dataType="Text">JUNIT_BO_WS_Test_Application_
041</Value>
          <UnitOfMeasure/>
        </Attribute>
      </ObjectKey>
      <ObjectDetail>
        <Attribute name="Inbound XSL">
          <Value dataType="Text">inbound</Value>
          <UnitOfMeasure/>
        </Attribute>
        <Attribute name="Outbound XSL">
          <Value dataType="Text">outbound</Value>
          <UnitOfMeasure/>
        </Attribute>
      </ObjectDetail>
    </Object>
  </ObjectGroup>
  <ObjectGroup isBO="Yes" name="Application">
    <BOActions>
      <BOAction>New</BOAction>
    </BOActions>
    <Object name="BORoot">
      <CategoryName>Application Setup</CategoryName>
      <CategoryDBName>D_INT_APPLICATION_SETUP</CategoryDBName>
      <ViewName/>
      <CustomInfo/>
      <ObjectKey>
        <Attribute name="Application Name">
          <Value dataType="Text">JUNIT_BO_WS_Test_Application_
002</Value>
          <UnitOfMeasure/>
        </Attribute>
      </ObjectKey>
      <ObjectDetail>
        <Attribute name="Inbound XSL">
          <Value dataType="Text">inbound</Value>
          <UnitOfMeasure/>
        </Attribute>
        <Attribute name="Outbound XSL">
          <Value dataType="Text">outbound</Value>
          <UnitOfMeasure/>
        </Attribute>
      </ObjectDetail>
    </Object>
  </ObjectGroup>
</Payload>

```

Example: Removing a User

```

<Payload>
  <Object>
    <CategoryName/>
    <CategoryDBName/>

```

```

        <ObjectKey/>
        <ObjectDetail/>
    </Object>
    <ObjectGroup isBO="Yes" name="User">
        <BOActions>
            <BOAction>Remove</BOAction>
        </BOActions>
        <Object name="BORoot">
            <CategoryName>User</CategoryName>
            <CategoryDBName>D_PPL_USER</CategoryDBName>
            <ViewName>DEFAULT</ViewName>
            <ObjectKey>
                <ObjectID>785538</ObjectID>
                <Attribute name="User ID">
                    <Value dataType="Basic Text">Administrator_
Test01</Value>
                    <UnitOfMeasure/>
                </Attribute>
            </ObjectKey>
            <ObjectDetail/>
        </Object>
    </ObjectGroup>
</Payload>

```

Using the cfmXML Schema

cfmXML is a proprietary XML standard developed for integrating web services in the Agile RMW application. It is used for communication within the RMW system, and between RMW and other applications.

Details of tags used in cfmXML are explained below with the help of few sample messages.

Sample cfmXML message 1

```

<?xml version="2.0" encoding="UTF-8"?>
<cfmXML>

```

<LoginInfo>

```

<UserName>String</UserName>
<Password>String</Password>
    <Database>String</Database>
    <AppUserName>String</AppUserName>
    <AppPassword>String</AppPassword>
</LoginInfo>

```

<SessionInfo logout="true">

```

<UserName>String</UserName>
<SessionID>String</SessionID>
</SessionInfo>

```

<PageInfo>

```

<PageName>String</PageName>
<ReturnURL>
    <URL>String</URL>
</ReturnURL>

```

```
</PageInfo>
```

<Response>

```
<ResponseCode>String</ResponseCode>
<ResponseMessage>String</ResponseMessage>
  <SessionID>String</SessionID>
  <RedirectURL>String</RedirectURL>
</Response>
<SearchCriteria/>
<SearchInfo/>
<Payload/>
<AdditionalInfo/>
</cfmXML>
```

LoginInfo

This contains user authentication information. User ID and Password are used for authenticating the user.

cfmXML tag	Outbound Message	Inbound Message
<UserName>	User ID of the current user logged in to the RMW system.	User ID of the user-sending message. Value must be specified. Used to login the specified user in the RMW database.
<Password>	The RMW database login password for the current user.	The value is specified for login purpose. If the value is not specified, it returns error.
<Database>	Name of the database to connect the external application. This will usually be blank for an outgoing message.	Name of the database to which the RMW need to connect to in order to serve the request.
<AppUserName>	Name of user in application setup table for a particular application	Name of user in application setup table for a particular application
<AppPassword>	Password of user in application setup table for a particular application	Password of user in application setup table for a particular application

SessionInfo

This contains session ID of a successfully created session. Once a user is authenticated, session info can be used for subsequent calls to connect to an earlier created session.

cfmXML tag	Outbound Message	Inbound Message
<SessionInfo logout>	It contains the current RMW session information. This will be useful if the invoked Web service needs to connect back to the RMW application to get some more data.	It denotes the session ID of the previous RMW session to be reused. If the specified session ID has expired, a new session is created for the user. Attribute logout contains information on whether to continue the session or end the session. If it is True, end the session or else continue the session.

<UserName>	User ID of the current logged in user.	It is the user login ID for the session to be reused.
<SessionID>	Session ID of the current user.	Contains session ID for the session to be reused.

PageInfo

This contains the information about the page to integrate with for UI integration.

cfmXML tag	Outbound Message	Inbound Message
<PageName>	Not Used	Contains name of the page, which needs to be launched when control is transferred to the RMW application.
<URL>	This is the return URL picked up from the Application Setup class for the application to which punch-out is being done. If there is no value specified in the Setup class, URL of the current RMW page is sent as the return URL	If Return URL is present, cfmXML payload is sent to the Return URL and user is redirected to the ReturnURL.

Response

This is the response code and message for the requested operation.

cfmXML tag	Outbound Message	Inbound Message
<ResponseCode>	Contains the Response code generated by the external application.	Contains the Response code generated by the RMW System. 500 for success and 300 for error.
<ResponseMessage>	Contains the response message.	Contains the response message for the corresponding code.
<SessionID>	Contains session ID for the session in use.	Contains session ID for the RMW System session that was created or re-used for the request.
<RedirectURL>	Contains the external application URL to which the RMW System user should be redirected to for the UI integration.	Contains the RMW System URL to which user should be redirected to for UI integration.

Sample cfmXML message 2

```
<?xml version="2.0" encoding="UTF-8"?>
<cfmXML>
  <LoginInfo/>
  <SessionInfo/>
  <PageInfo/>
  <ScreenContext/>
  <Response/>
  <SearchCriteria isPrimary="yes" id="0" execute="yes">
    <CategoryName>String</CategoryName>
    <CategoryDBName>String</CategoryDBName>
    <ViewName>String</ViewName>
    <Attribute name="String">
      <Value dataType="String" asEnteredValue="String">String</Value>
      <UnitOfMeasure>String</UnitOfMeasure>
    </Attribute>
  </SearchCriteria>
</cfmXML>
```

```

</Attribute>
<Relationship type="inbound" refid="String" name="String" resolve="yes">
  <CategoryName>String</CategoryName>
  <CategoryDBName>String</CategoryDBName>
  <ObjectKey>
    <ObjectID>String</ObjectID>
    <Attribute name="String">
      <Value dataType="String" asEnteredValue="String">String</Value>
      <UnitOfMeasure>String</UnitOfMeasure>
    </Attribute>
  <Relationship type="inbound" refid="String" name="String" resolve="yes">
    <CategoryName>String</CategoryName>
    <CategoryDBName>String</CategoryDBName>
    <ObjectKey>
      <ObjectID>String</ObjectID>
      <Attribute name="String">
        <Value dataType="String" asEnteredValue="String">String</Value>
        <UnitOfMeasure>String</UnitOfMeasure>
      </Attribute>
    </ObjectKey>
  </Relationship>
</ObjectKey>
</Relationship>
</SearchCriteria>
<SearchInfo>
  <SearchCriteria/>
  <SearchCriteria/>
</SearchInfo>
<Payload/>
<AdditionalInfo/>
</cfmXML>

```

SearchCriteria

It contains the search criteria to be executed in the RMW System and result set to be returned to the caller. The search criteria contain attribute names and values to be used as search parameters, category to be searched upon, and the view to be used for search and results.

cfmXML tag	Outbound Message	Inbound Message
<SearchCriteria execute>	Not Used	This contains the search criteria to perform the search. The execute attribute contains the information on whether to execute the search criteria and show the result. If value is "yes", the search is executed.
<CategoryName>	Not Used	Contains the name of the category for performing search.
<CategoryDBName>	Not Used	Contains the database name of the category for performing search.
<ViewName>	Not Used	Contains the name of the view for performing search.
<Attribute>	Not Used	Attribute (explained below) represents one attribute to search upon with search value. Search criteria may have multiple attributes each containing a search value.

cfmXML tag	Outbound Message	Inbound Message
<Relationship type refid name resolve>	Not Used	<p>It contains reference to another object and associated search values to be searched upon in the database.</p> <p>Type indicates if the relationship is inbound or outbound.</p> <p>Name specifies the name for the relationship as defined in the system.</p> <p>RefID and resolve are used for internal use cases by the RMW System.</p>

Attribute

It is used to specify an object attribute. Usually, it represents value of a cell in the database.

cfmXML tag	Outbound Message	Inbound Message
<Attribute name>	Contains the information about the attribute. Name attribute contains the name of the attribute.	Contains the information about the attribute. Name attribute contains the name of the attribute.
<Value dataType asEnteredValue>	<p>Contains the value of the attribute. Attribute dataType contains the data type of attribute.</p> <p>For example. String, Number and so on.</p> <p>Value can have following syntax</p> <p><<Value>>- For single value</p> <p><<Value>> to <<Value>> à upper and lower bounds</p> <p>to <<Value>> à upper bound</p> <p><<Value >> to à lower bound</p>	<p>Contains the value of the attribute (as stored in the system). Attribute dataType contains the data type of attribute.</p> <p>For example. String, Number and so on. asEnteredValue contains the value for the attribute as was entered by the user, if applicable.</p> <p>Value can have following syntax</p> <p><<Value>> - For single value</p> <p><<Value>> to <<Value>> - upper and lower bounds</p> <p>to <<Value>> - upper bound</p> <p><<Value >> to lower bound</p>
<UnitOfMeasure>	Contains the value for unit of measure for the attribute value.	Contains the value for unit of measure for the attribute value.
<Format>	<p>Contains format of Date</p> <p>It can have following values</p> <p>dd/mm/yyyy, dd/mm/yyyy</p> <p>hh:mm:ss</p>	<p>Contains format of Date</p> <p>It can have following values</p> <p>dd/mm/yyyy, dd/mm/yyyy</p> <p>hh:mm:ss</p>

Relationship

Contains information about other objects related to the object being defined in the message.

cfmXML tag	Outbound Message	Inbound Message
<CategoryName>	Contains the category name of the related category.	Contains the category name of the related category.
<CategoryDBName>	Contains the database name of the category name of the related category.	Contains the database name of the category name of the related category.

<ObjectKey>	If the relationship is a PK, it contains the primary keys data from the related category. If the relationship is not a PK, ObjectKey is not needed.	If the relationship is a PK, it contains the primary keys data from the related category. If the relationship is not a PK, ObjectKey is not needed. Details of Object Key are explained in the next section.
-------------	---	--

ObjectKey

Contains information about other objects related to the object being defined in the message.

cfmXML tag	Outbound Message	Inbound Message
<ObjectID>	Contains the unique ID in the system for this object. This is internal ID in the RMW System.	Contains the unique ID in the system for this object. This is internal ID in the RMW System.
<Attribute>	This can be zero or many. All these attributes indicate the primary keys of the object.	This can be one or many. All these attributes indicate the primary keys of the object.
<Relationship>	These are references to other objects which are part of the primary keys of the object. This can be zero or many. Relationships can be nested.	These are references to other objects which are part of the primary keys of the object. This can be zero or many. Relationships can be nested.

SearchInfo

It contains one more <SearchCriteria>. It is used to indicate multiple search criteria.

The RMW system will execute all the search criteria and combine all the results into one response message. The primary use case for *SearchInfo* lies with the export feature of RMW.

Sample cfmXML message 3

```
<?xml version="1.0" encoding="UTF-8"?>
<cfmXML>
  <LoginInfo/>
  <SessionInfo/>
  <PageInfo/>
  <ScreenContext/>
  <Response/>
  <SearchCriteria/>
  <SearchInfo/>
  <Payload>
    <Object name="name">
      <CategoryDBName>String</CategoryDBName>
      <ViewName>String</ViewName>
      <ObjectKey/>
      <ObjectDetail>
        <Attribute/>
        <Relationship/>
      </ObjectDetail>
      <Document type="attachment" fileName="String"
mimeType="String">String</Document>
      <OldValues>
        <ObjectKey/>
      </OldValues>
    </Object>
  </Payload>
</cfmXML>
```

```

        <ObjectDetail/>
    </OldValues>
    <AdditionalInfo>
        <Attribute/>
        <Attribute/>
    </AdditionalInfo>
</Object>
<ObjectGroup name="name">
    <Object/>
</ObjectGroup>
</Payload>
<AdditionalInfo>
<AdditionalInfo>
</cfmXML>

```

Payload

Payloads contain data records. An object in a payload represents a single data record. Each object contains a key section for primary keys of the objects and detail section to store non-primary keys of the object. Objects also contain relationship information about the related objects.

cfmXML tag	Outbound Message	Inbound Message
<Object>	Represents one object in the payload. There could be one or more objects in a payload.	Represents one object in the payload. There could be one or more objects in a payload.
<ObjectGroup>	Object Group contains one or more objects. This is similar to payload with the difference that object groups cannot be nested. Each ObjectGroup represents objects which are part of single transactions. This is currently used for export and import feature of the RMW System.	Object Group contains one or more objects. This is similar to payload with the difference that object groups cannot be nested. Each ObjectGroup represents objects which are part of single transactions. This is currently used for export and import feature of the RMW System.

Object

Contains information related to single data object. Attribute operation contains information on what type operation to be performed on this object.

Operation attributes may have the following values:

I - for Insert operation.

U - for Update operation.

D - for Delete operation.

cfmXML tag	Outbound Message	Inbound Message
<CategoryName>	Contains the category name of this object.	Contains the category name of this object.
<CategoryDBName>	Contains the category database name of this object.	Contains the category database name of this object.
<ViewName>	Contains the view name of this object.	Contains the view name of this object.

<ObjectKey>	This contains the information on object's primary keys	This contains the information on object's primary keys
<ObjectDetail>	This contains the information on object's non primary keys. It can contain zero or more attributes as well as relationships.	This contains the information on object's non primary keys. It can contain zero or more attributes as well as relationships.
<Document>	Contains text or binary document information related to this object. There could be zero or more of such documents. XML parser ignores the content of this tag.	Contains text or binary document information related to this object. There could be zero or more of such documents. XML parser ignores the content of this tag.
<OldValue>	This is used when there is a change in the values of the object. It stores all the values before the change is/was applied to the object. It consists of object keys and details. It is currently used internally by the RMW System.	This is used when there is a change in the values of the object. It stores all the values before the change is/was applied to the object. It consists of object keys and details. It is currently used internally by the RMW System.

AdditionalInfo

This contains information, which cannot be represented as part of any object. These are message and object level tags. Any number of Attribute tags can be specified under AdditionalInfo. These may constitute the information that is needed for the message receiving application, for any special processing.

This section can be used extensively for various general use cases.

Core Operations - Agile PLM Web Services

This section describes the Agile PLM Core Web Services Operations. Download Agile Web Services Schema Documents from the Oracle Software Delivery Cloud Web Site (edelivery.oracle.com) for details of all operations.

16.1 Admin and Metadata Web Services

This topic describes the admin and metadata Web Services.

16.1.1 getAllClasses

Service

To retrieve all Agile classes from Agile PLM system.

Usage

Specifies class filtering details in the request object. A list of Agile classes retrieved as per the filter is obtained in the response.

Sample Code

SOAP

```
==== Request ====
<?xml version="1.0" encoding="UTF-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
    xmlns:xsd="http://www.w3.org/2001/XMLSchema"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
      <getAllClasses
        xmlns="http://xmlns.oracle.com/AgileObjects/Core/AdminMetadata/V1">
        <request xmlns="">
          <level>ALL</level>
        </request>
      </getAllClasses>
    </soapenv:Body>
  </soapenv:Envelope>
==== Response ====
<?xml version="1.0" encoding="utf-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
    xmlns:xsd="http://www.w3.org/2001/XMLSchema"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
      <getAllClassesResponse
        xmlns="http://xmlns.oracle.com/AgileObjects/Core/AdminMetadata/V1">
        <response xmlns="">
```

```
<messageId xsi:nil="true"/>
<messageName xsi:nil="true"/>
<statusCode>SUCCESS</statusCode>
<class>
  <nodeId>931</nodeId>
  <apiName>ChangesBaseClass</apiName>
  typeCLASS</type>
  <displayName>Changes</displayName>
  <abstractClass>true</abstractClass>
  <subClass>
    <nodeId>1450</nodeId>
    <apiName>ManufacturerOrdersClass</apiName>
    typeSUBCLASS</type>
    <displayName>Manufacturer Orders</displayName>
  </subClass>
  <subClass>
    <nodeId>6000</nodeId>
    <apiName>ChangeOrdersClass</apiName>
    typeSUBCLASS</type>
    <displayName>Change Orders</displayName>
  </subClass>
</class>
... <!-- additional classes -->
</response>
</getAllClassesResponse>
</soapenv:Body>
</soapenv:Envelope>
```

See also `getSubClasses`

16.1.2 getSubClasses

Service

To retrieve all Agile subclasses for a given base class from the Agile PLM system.

Usage

The request object contains relevant details for the same. A list of Agile subclasses are obtained in the response.

Sample Code SOAP

```
==== Request ====
<?xml version="1.0" encoding="UTF-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
    xmlns:xsd="http://www.w3.org/2001/XMLSchema"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
      <getSubClasses
        xmlns="http://xmlns.oracle.com/AgileObjects/Core/AdminMetadata/V1">
        <request xmlns="">
          <subClassesRequest>
            <classIdentifier>Changes</classIdentifier>
          </subClassesRequest>
          <subClassesRequest>
            <classIdentifier>Items</classIdentifier>
          </subClassesRequest>
        </request>
      </getSubClasses>
    </soapenv:Body>
  </soapenv:Envelope>
```



```

==== Response ====
<?xml version="1.0" encoding="utf-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
    xmlns:xsd="http://www.w3.org/2001/XMLSchema"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
      <getSubClassesResponse
        xmlns="http://xmlns.oracle.com/AgileObjects/Core/AdminMetadata/V1">
        <response xmlns="">
          <messageId xsi:nil="true"/>
          <messageName xsi:nil="true"/>
          <statusCode>SUCCESS</statusCode>
          <subClassesResponse>
            <classIdentifier>Changes</classIdentifier>
            <classes>
              <nodeId>1450</nodeId>
              <apiName>ManufacturerOrdersClass</apiName>
              <type>SUBCLASS</type>
              <displayName>Manufacturer Orders</displayName>
              <abstractClass>true</abstractClass>
              <superClass>
                <nodeId>931</nodeId>
                <apiName>ChangesBaseClass</apiName>
                <type>CLASS</type>
                <displayName>Changes</displayName>
              </superClass>
            </classes>
            <classes>
              <nodeId>6000</nodeId>
              <apiName>ChangeOrdersClass</apiName>
              <type>SUBCLASS</type>
              <displayName>Change Orders</displayName>
              <abstractClass>true</abstractClass>
              <superClass>
                <nodeId>931</nodeId>
                <apiName>ChangesBaseClass</apiName>
                <type>CLASS</type>
                <displayName>Changes</displayName>
              </superClass>
            </classes>
          </subClassesResponse>
        </response>
      </getSubClassesResponse>
    </soapenv:Body>
  </soapenv:Envelope>

```

See also `getAllClasses`

16.1.3 getNode

Service

To retrieve Agile nodes for a given node identifier.

Usage

The request object contains relevant details for the same. The queried node is obtained in the response.

Sample Code SOAP

```
==== Request ====
```

```
<?xml version="1.0" encoding="UTF-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
        <getNode
xmlns="http://xmlns.oracle.com/AgileObjects/Core/AdminMetadata/V1">
            <request xmlns="">
                <nodeRequest>
                    <nodeIdentifier>5009</nodeIdentifier>
                    <recursive>true</recursive>
                </nodeRequest>
            </request>
        </getNode>
    </soapenv:Body>
</soapenv:Envelope>
==== Response ====
<?xml version="1.0" encoding="utf-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
        <getNodeResponse
xmlns="http://xmlns.oracle.com/AgileObjects/Core/AdminMetadata/V1">
            <response xmlns="">
                <messageId xsi:nil="true"/>
                <messageName xsi:nil="true"/>
                <statusCode>SUCCESS</statusCode>
                <nodeResponse>
                    <node>
                        <nodeId>5009</nodeId>
                        <apiName>AutoNumbers</apiName>
                        <typeNODE</type>
                        <displayName>AutoNumbers</displayName>
                        <childNodes>
                            <nodeId>990</nodeId>
                            <apiName>ECONumber</apiName>
                            <typeNODE</type>
                            <displayName>ECO Number</displayName>
                            <Properties>
                                <propertyId>30</propertyId>
                                <apiName>Name</apiName>
                                <displayName>Name</displayName>
                                <readOnly>false</readOnly>
                                <Name xsi:type="xs:string"
                                    xmlns:xs="http://www.w3.org/2001/XMLSchema">ECO
Number</Name>
                            </Properties>
                            <Properties>
                                <propertyId>38</propertyId>
                                <apiName>Description</apiName>
                                <displayName>Description</displayName>
                                <readOnly>false</readOnly>
                                <Description xsi:type="xs:string"
                                    xmlns:xs="http://www.w3.org/2001/XMLSchema">ECO Number</Description>
                            </Properties>
                        </childNodes>
                    </node>
                </nodeResponse>
            </response>
```

```

        </getNodeResponse>
    </soapenv:Body>
</soapenv:Envelope>

```

See also `getAttributes`, `getTableMetadata`, `getLists`

16.1.4 getLists

Service

To retrieve Agile Lists for a given List Identifier.

Usage

The request object contains relevant details for the same. The retrieved lists are obtained in the response.

Sample Code SOAP

```

==== Request ====
<?xml version="1.0" encoding="UTF-8"?>
    <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
        <soapenv:Body>
            <getLists
xmlns="http://xmlns.oracle.com/AgileObjects/Core/AdminMetadata/V1">
                <request xmlns="">
                    <listsRequest>
                        <listIdentifier>PartCategory</listIdentifier>
                    </listsRequest>
                </request>
            </getLists>
        </soapenv:Body>
    </soapenv:Envelope>
==== Response ====
<?xml version="1.0" encoding="utf-8"?>
    <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
        <soapenv:Body>
            <getListsResponse
xmlns="http://xmlns.oracle.com/AgileObjects/Core/AdminMetadata/V1">
                <response xmlns="">
                    <messageId xsi:nil="true"/>
                    <messageName xsi:nil="true"/>
                    <statusCode>SUCCESS</statusCode>
                    <listsResponse>
                        <list>
                            <id>311</id>
                            <apiName>PartCategory</apiName>
                            <displayName>Part Category</displayName>
                            <type>SIMPLELIST</type>
                            <value xsi:nil="true"/>
                        </list>
                        <entry>
                            <id>2</id>
                            <apiName>ELECTRICAL</apiName>
                            <type>SIMPLELIST</type>
                            <value>Electrical</value>
                        </entry>
                        <entry>
                            <id>1</id>

```

```
        <apiName>MECHANICAL</apiName>
        typeSIMPLELIST</type>
        <value>Mechanical</value>
    </entry>
</list>
<listIdentifier>311</listIdentifier>
</listsResponse>
</response>
</getListsResponse>
</soapenv:Body>
</soapenv:Envelope>
```

See also `getNode`, `getTableMetadata`, `getAttributes`

16.1.5 getAttributes

Service

To retrieve Agile attributes for a particular Class and Attribute Identifier.

Usage

The request object contains relevant details for the same. The retrieved list attributes are obtained in the response.

Sample Code SOAP

```
==== Request ====
<?xml version="1.0" encoding="UTF-8"?>
    <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
        <soapenv:Body>
            <getAttributes
xmlns="http://xmlns.oracle.com/AgileObjects/Core/AdminMetadata/V1">
                <request xmlns="">
                    <attributesRequests>
                        <classIdentifier>Specification</classIdentifier>
                        <attributeIdentifier>description</attributeIdentifier>
                    </attributesRequests>
                </request>
            </getAttributes>
        </soapenv:Body>
    </soapenv:Envelope>
==== Response ====
<?xml version="1.0" encoding="utf-8"?>
    <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
        <soapenv:Body>
            <getAttributesResponse
xmlns="http://xmlns.oracle.com/AgileObjects/Core/AdminMetadata/V1">
                <response xmlns="">
                    <messageId xsi:nil="true"/>
                    <messageName xsi:nil="true"/>
                    <statusCode>SUCCESS</statusCode>
                    <attributesResponses>
                        <attributes>
                            <nodeId>2000001968</nodeId>
                            <apiName>description</apiName>
                            typeATTRIBUTE</type>
                            <displayName>Description</displayName>
                        </attributes>
                    </attributesResponses>
                </response>
            </getAttributesResponse>
        </soapenv:Body>
    </soapenv:Envelope>
```

```

        <dataType>2</dataType>
        <searchable>true</searchable>
        <visible>true</visible>
        <required>false</required>
        <maxLength>100</maxLength>
        <properties>
            <propertyId>1</propertyId>
            <apiName>AttType</apiName>
            <displayName>AttType</displayName>
            <readOnly>false</readOnly>
            <AttType xsi:type="xs:string"

xmlns:xs="http://www.w3.org/2001/XMLSchema"></AttType>
        </properties>
        <properties>
            <propertyId>3</propertyId>
            <apiName>Max System Length</apiName>
            <displayName>Max System Length</displayName>
            <readOnly>true</readOnly>
            <MaxSystemLength xsi:type="xs:string"

xmlns:xs="http://www.w3.org/2001/XMLSchema">500</MaxSystemLength>
        </properties>
        <relationalOperators>EQ</relationalOperators>
        <relationalOperators>NEQ</relationalOperators>
        <relationalOperators>ISNULL</relationalOperators>
        <relationalOperators>ISNOTNULL</relationalOperators>
        <relationalOperators>LIKE</relationalOperators>
        <relationalOperators>NOTLIKE</relationalOperators>
        <relationalOperators>STARTSWITH</relationalOperators>
        <relationalOperators>NOTSTARTSWITH</relationalOperators>
        <relationalOperators>CONTAINS</relationalOperators>
        <relationalOperators>NOTCONTAINS</relationalOperators>
    </attributes>
    <classIdentifier>Specification</classIdentifier>
</attributesResponses>
</response>
</getAttributesResponse>
</soapenv:Body>
</soapenv:Envelope>

```

See also `getLists`, `getNode`, `getTableMetadata`

16.1.6 getTableMetadata

Service

To retrieve the metadata information of an Agile table in the PLM system.

Usage

The request object contains `classIdentifier` and `tableIdentifier`. The request is also to return the metadata for all classes needed for EC in one call (Design, Documents, Parts and Changes) as well as localized field names. The table metadata information retrieved is obtained through the response.

Sample Code SOAP

```

==== Request ====
<?xml version="1.0" encoding="UTF-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"

```

```
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
  <soapenv:Body>
    <getTableMetadata
xmlns="http://xmlns.oracle.com/AgileObjects/Core/AdminMetadata/V1">
      <request xmlns="">
        <requests>
          <classIdentifier>Part</classIdentifier>
          <tableIdentifier>807</tableIdentifier>
        </requests>
        <requests>
          <classIdentifier>ECO</classIdentifier>
          <tableIdentifier>808</tableIdentifier>
        </requests>
      </request>
    </getTableMetadata>
  </soapenv:Body>
</soapenv:Envelope>
==== Response ====
<?xml version="1.0" encoding="utf-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
      <getTableMetadataResponse
xmlns="http://xmlns.oracle.com/AgileObjects/Core/AdminMetadata/V1">
        <response xmlns="">
          <messageId xsi:nil="true"/>
          <messageName xsi:nil="true"/>
          <statusCode>SUCCESS</statusCode>
          <responses>
            <attributes>
              <nodeId>3669</nodeId>
              <apiName>list19</apiName>
              <type>ATTRIBUTE</type>
              <displayName>List19</displayName>
              <dataType>4</dataType>
              <possibleValues>
                <id xsi:nil="true"/>
                <apiName>list19</apiName>
                <displayName>List19</displayName>
                <type>SIMPLELIST</type>
                <value xsi:nil="true"/>
              </possibleValues>
              <searchable>true</searchable>
              <visible>false</visible>
              <required>false</required>
              <maxLength>2147483647</maxLength>
              <properties>
                <propertyId>1</propertyId>
                <apiName>AttType</apiName>
                <displayName>AttType</displayName>
                <readOnly>false</readOnly>
                <AttType xsi:type="xs:string"
xmlns:xs="http://www.w3.org/2001/XMLSchema"></AttType>
              </properties>
              <properties>
                <propertyId>5</propertyId>
                <apiName>DefaultValue</apiName>
                <displayName>DefaultValue</displayName>
```

```

        <readOnly>false</readOnly>
        <DefaultValue xsi:type="common:AgileListEntryType"

xmlns:common="http://xmlns.oracle.com/AgileObjects/Core/Common/V1"/>
    </properties>
</responses>
</response>
</getTableMetadataResponse>
</soapenv:Body>
</soapenv:Envelope>

```

See also `getAttributes`

16.1.7 getAutoNumbers

Service To retrieve a suitable AutoNumber for an Agile object.

Usage The request object contains the Class and AutoNumber identifiers of the object. The AutoNumber for the object fetched by the Web Service is obtained through the response.

Sample Code SOAP

```

==== Request ====
<?xml version="1.0" encoding="UTF-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
      <getAutoNumbers
xmlns="http://xmlns.oracle.com/AgileObjects/Core/AdminMetadata/V1">
        <request xmlns="">
          <requests>
            <classIdentifier>Part</classIdentifier>
            <includeAllAutoNumberSource>true</includeAllAutoNumberSource>
            <size>3</size>
          </requests>
          <requests>
            <classIdentifier>ECO</classIdentifier>
            <includeAllAutoNumberSource>true</includeAllAutoNumberSource>
            <size>2</size>
          </requests>
        </request>
      </getAutoNumbers>
    </soapenv:Body>
  </soapenv:Envelope>
==== Response ====
<?xml version="1.0" encoding="utf-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
      <getAutoNumbersResponse
xmlns="http://xmlns.oracle.com/AgileObjects/Core/AdminMetadata/V1">
        <response xmlns="">
          <messageId xsi:nil="true"/>
          <messageName xsi:nil="true"/>
          <statusCode>SUCCESS</statusCode>
          <autoNumberResponses>
            <classIdentifier>Part</classIdentifier>
            <autoNumbers>

```

```
        <nodeId>12416</nodeId>
        <apiName>PartNumber</apiName>
        typeAUTONUMBER</type>
        <displayName>Part Number</displayName>
        <autoNumber>P00580</autoNumber>
        <autoNumber>P00581</autoNumber>
        <autoNumber>P00582</autoNumber>
    </autoNumbers>
</autoNumberResponses>
<autoNumberResponses>
    <classIdentifier>ECO</classIdentifier>
    <autoNumbers>
        <nodeId>990</nodeId>
        <apiName>ECONumber</apiName>
        typeAUTONUMBER</type>
        <displayName>ECO Number</displayName>
        <autoNumber>C00186</autoNumber>
        <autoNumber>C00187</autoNumber>
    </autoNumbers>
</autoNumberResponses>
</response>
</getAutoNumbersResponse>
</soapenv:Body>
</soapenv:Envelope>
```

See also `getAllClasses`, `getSubClasses`

16.1.8 getUsers

Service

To retrieve the information of Agile PLM Users.

Usage

Obtains a list of users through the response object of the Web Service. The request object does not contain any element while the response consists of `AgileUserType` objects, which contain message elements carrying information pertaining to an Agile user.

Sample Code SOAP

```
==== Request ====
<?xml version="1.0" encoding="UTF-8"?>
    <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
        xmlns:xsd="http://www.w3.org/2001/XMLSchema"
        xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
        <soapenv:Body>
            <getUsers
                xmlns="http://xmlns.oracle.com/AgileObjects/Core/AdminMetadata/V1">
                <request xmlns="" />
            </getUsers>
        </soapenv:Body>
    </soapenv:Envelope>
==== Response ====
<?xml version="1.0" encoding="utf-8"?>
    <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
        xmlns:xsd="http://www.w3.org/2001/XMLSchema"
        xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
        <soapenv:Body>
            <getUsersResponse
```



```

xmlns="http://xmlns.oracle.com/AgileObjects/Core/AdminMetadata/V1">
  <response xmlns="">
    <messageId xsi:nil="true"/>
    <messageName xsi:nil="true"/>
    <statusCode>SUCCESS</statusCode>
    <users>
      <objectIdentifier>
        <classId>11610</classId>
        <className>User</className>
        <classDisplayName>User</classDisplayName>
        <objectId>704</objectId>
        <objectName>admin</objectName>
      </objectIdentifier>
      <userID xsi:type="xs:string"
xmlns:xs="http://www.w3.org/2001/XMLSchema" attributeId="11617"
readOnly="False">admin</userID>
        <status xsi:type="common:AgileListEntryType"
xmlns:common="http://xmlns.oracle.com/AgileObjects/Core/Common/V1"
attributeId="12643" readOnly="True">
          <selection>
            <id>1</id>
            <apiName>ACTIVE</apiName>
            <value>Active</value>
          </selection>
        </status>
        <firstName xsi:type="xs:string"
xmlns:xs="http://www.w3.org/2001/XMLSchema" attributeId="11614"
readOnly="False">admin</firstName>
        <lastName xsi:type="xs:string"
xmlns:xs="http://www.w3.org/2001/XMLSchema" attributeId="11616"
readOnly="False">Administrator</lastName>
        <title xsi:type="xs:string"
xmlns:xs="http://www.w3.org/2001/XMLSchema" attributeId="12235"
readOnly="False"></title>
        <address xsi:type="xs:string"
xmlns:xs="http://www.w3.org/2001/XMLSchema" attributeId="11625"
readOnly="False"></address>
        <geography xsi:type="common:AgileListEntryType"
xmlns:common="http://xmlns.oracle.com/AgileObjects/Core/Common/V1"
attributeId="8840" readOnly="False"/>
        <city xsi:type="xs:string"
xmlns:xs="http://www.w3.org/2001/XMLSchema" attributeId="11626"
readOnly="False"></city>
        <postalZipCode xsi:type="xs:string"
xmlns:xs="http://www.w3.org/2001/XMLSchema" attributeId="11629"
readOnly="False"></postalZipCode>
        <businessPhone xsi:type="xs:string"
xmlns:xs="http://www.w3.org/2001/XMLSchema" attributeId="11619"
readOnly="False"></businessPhone>
        <homePhone xsi:type="xs:string"
xmlns:xs="http://www.w3.org/2001/XMLSchema" attributeId="11620"
readOnly="False"></homePhone>
        <mobilePhone xsi:type="xs:string"
xmlns:xs="http://www.w3.org/2001/XMLSchema" attributeId="11621"
readOnly="False"></mobilePhone>
        <fax xsi:type="xs:string"
xmlns:xs="http://www.w3.org/2001/XMLSchema" attributeId="11622"
readOnly="False"></fax>
        <pager xsi:type="xs:string"
xmlns:xs="http://www.w3.org/2001/XMLSchema" attributeId="11623"

```

```
readOnly="False"></pager>
    <email xsi:type="xs:string"
xmlns:xs="http://www.w3.org/2001/XMLSchema" attributeId="11624"
readOnly="False">admin@admin.com</email>
    <secondaryEmail xsi:type="xs:string"
xmlns:xs="http://www.w3.org/2001/XMLSchema" attributeId="12350"
readOnly="False"></secondaryEmail>
    <profile xsi:type="xs:string"
xmlns:xs="http://www.w3.org/2001/XMLSchema" attributeId="8815"
readOnly="True"></profile>
    <roleS xsi:type="common:AgileListEntryType"
xmlns:common="http://xmlns.oracle.com/AgileObjects/Core/Common/V1"
attributeId="11640" readOnly="False">
    </users>
</getUsersResponse>
</soapenv:Body>
</soapenv:Envelope>
```

See also `getUserGroups`

16.1.9 `getUserGroups`

Service

To retrieve the information of Users Groups in Agile PLM.

Usage

Obtains a list of user groups obtained through the response object of the Web Service. The request does not contain any element while the response consists of `AgileUserGroupType` objects, which carry message elements that contain information pertaining to an Agile user group.

Sample Code

SOAP

```
==== Request ====
<?xml version="1.0" encoding="UTF-8"?>
    <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
        <getUserGroups
xmlns="http://xmlns.oracle.com/AgileObjects/Core/AdminMetadata/V1">
            <request xmlns="" />
        </getUserGroups>
    </soapenv:Body>
</soapenv:Envelope>
==== Response ====
<?xml version="1.0" encoding="utf-8"?>
    <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
        <getUserGroupsResponse
xmlns="http://xmlns.oracle.com/AgileObjects/Core/AdminMetadata/V1">
            <response xmlns="">
                <messageId xsi:nil="true"/>
                <messageName xsi:nil="true"/>
                <statusCode>SUCCESS</statusCode>
            </response>
```

```

        </getUserGroupsResponse>
    </soapenv:Body>
</soapenv:Envelope>

```

See also `getUsers`

16.1.10 convertCurrency

Service

To convert a certain denomination and amount of money to a desired currency.

Usage

Converts a currency from one type to another given a certain date. The money is expressed as an object of type `AgileMoneyType`. The converted currency is obtained through the response object.

Sample Code

SOAP

```

==== Request ====
<?xml version="1.0" encoding="UTF-8"?>
    <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
        <soapenv:Body>
            <convertCurrency
xmlns="http://xmlns.oracle.com/AgileObjects/Core/AdminMetadata/V1">
                <request xmlns="">
                    <requests>
                        <money>
                            <amount>100.0</amount>
                            <currency>INR</currency>
                        </money>
                        <toCurrency>GBP</toCurrency>
                        <date>2009-05-05T13:37:35.555Z</date>
                    </requests>
                </request>
            </convertCurrency>
        </soapenv:Body>
    </soapenv:Envelope>
==== Response ====
<?xml version="1.0" encoding="utf-8"?>
    <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
        <soapenv:Body>
            <convertCurrencyResponse
xmlns="http://xmlns.oracle.com/AgileObjects/Core/AdminMetadata/V1">
                <response xmlns="">
                    <messageId xsi:nil="true"/>
                    <messageName xsi:nil="true"/>
                    <statusCode>SUCCESS</statusCode>
                    <responses>
                        <money>
                            <amount>1.4843087362171332</amount>
                            <currency>GBP</currency>
                        </money>
                        <date>2009-05-05T13:37:35.555Z</date>
                    </responses>
                </response>
            </convertCurrencyResponse>
        </soapenv:Body>
    </soapenv:Envelope>

```

```
        </response>
      </convertCurrencyResponse>
    </soapenv:Body>
  </soapenv:Envelope>
```

16.1.11 changeLoginPassword

Service

To change the login password for an Agile user.

Usage

User identifier and new password information is supplied in the request. The details of the users whose passwords are to be changed, and the new passwords are specified in an array of requests. If the current user's password is to be reset then the old password must also be specified.

Sample Code

SOAP

```
==== Request ====
<?xml version="1.0" encoding="UTF-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
    xmlns:xsd="http://www.w3.org/2001/XMLSchema"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
      <changeLoginPassword
        xmlns="http://xmlns.oracle.com/AgileObjects/Core/AdminMetadata/V1">
        <request xmlns="">
          <requests>
            <userIdentifier>yvonnec</userIdentifier>
            <oldPassword>agile1</oldPassword>
            <newPassword>agile</newPassword>
          </requests>
        </request>
      </changeLoginPassword>
    </soapenv:Body>
  </soapenv:Envelope>
==== Response ====
<?xml version="1.0" encoding="utf-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
    xmlns:xsd="http://www.w3.org/2001/XMLSchema"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
      <changeLoginPasswordResponse
        xmlns="http://xmlns.oracle.com/AgileObjects/Core/AdminMetadata/V1">
        <response xmlns="">
          <messageId xsi:nil="true"/>
          <messageName xsi:nil="true"/>
          <statusCode>SUCCESS</statusCode>
        </response>
      </changeLoginPasswordResponse>
    </soapenv:Body>
  </soapenv:Envelope>
```

16.1.12 changeApprovalPassword

Service

To change the approval password for an Agile user.

Usage

User identifier and new password information is supplied in the request. The details of the users whose approval password is to be changed, along with their old and new passwords are specified in an array of requests. If the current user's approval password is to be reset then the old approval password must also be specified.

Sample Code

SOAP

```
==== Request ====
<?xml version="1.0" encoding="UTF-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
    xmlns:xsd="http://www.w3.org/2001/XMLSchema"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
      <changeApprovalPassword
        xmlns="http://xmlns.oracle.com/AgileObjects/Core/AdminMetadata/V1">
        <request xmlns="">
          <requests>
            <userIdentifier>approval1</userIdentifier>
            <oldPassword>agile1</oldPassword>
            <newPassword>agile2</newPassword>
          </requests>
        </request>
      </changeApprovalPassword>
    </soapenv:Body>
  </soapenv:Envelope>
==== Response ====
<?xml version="1.0" encoding="utf-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
    xmlns:xsd="http://www.w3.org/2001/XMLSchema"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
      <changeApprovalPasswordResponse
        xmlns="http://xmlns.oracle.com/AgileObjects/Core/AdminMetadata/V1">
        <response xmlns="">
          <messageId xsi:nil="true"/>
          <messageName xsi:nil="true"/>
          <statusCode>SUCCESS</statusCode>
        </response>
      </changeApprovalPasswordResponse>
    </soapenv:Body>
  </soapenv:Envelope>
```

16.1.13 createTransferAuthority

Service

To create a transfer authority record from an Agile user to another.

Usage

The request contains information about the user from whom the authority is transferred and the user to whom the authority will be granted, the dates from and up to which the transfer is effective and the criteria identifying the authority to be transferred.

Sample Code

SOAP

```
==== Request ====
<?xml version="1.0" encoding="UTF-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
    xmlns:xsd="http://www.w3.org/2001/XMLSchema"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
      <createTransferAuthority
        xmlns="http://xmlns.oracle.com/AgileObjects/Core/AdminMetadata/V1">
        <request xmlns="">
          <requests>
            <transferAuthorityRecord>
              <fromUser>yvonnec</fromUser>
              <toUser>admin</toUser>
              <fromDate>2010-08-24T13:26:40.654Z</fromDate>
              <toDate>2010-09-23T13:26:40.654Z</toDate>
              <criteria>AllChanges</criteria>
              <affectChanges>1</affectChanges>
            </transferAuthorityRecord>
          </requests>
        </request>
      </createTransferAuthority>
    </soapenv:Body>
  </soapenv:Envelope>
==== Response ====
<?xml version="1.0" encoding="utf-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
    xmlns:xsd="http://www.w3.org/2001/XMLSchema"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
      <createTransferAuthorityResponse
        xmlns="http://xmlns.oracle.com/AgileObjects/Core/AdminMetadata/V1">
        <response xmlns="">
          <messageId xsi:nil="true"/>
          <messageName xsi:nil="true"/>
          <statusCode>SUCCESS</statusCode>
        </response>
      </createTransferAuthorityResponse>
    </soapenv:Body>
  </soapenv:Envelope>
```

16.1.14 getTransferAuthority

Service

To retrieve a transfer authority record from the transfer authority record manager.

Usage

A criteria identifying the authority to be retrieved is specified in the request. The request object does not contain any input element. All the transfer authority records found in the transfer authority manager are retrieved.

Sample Code

SOAP

```
==== Request ====
<?xml version="1.0" encoding="UTF-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
```

```

xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
  <soapenv:Body>
    <getTransferAuthority
xmlns="http://xmlns.oracle.com/AgileObjects/Core/AdminMetadata/V1">
      <request xmlns="">
        <all>true</all>
      </request>
    </getTransferAuthority>
  </soapenv:Body>
</soapenv:Envelope>
==== Response ====
<?xml version="1.0" encoding="utf-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
      <getTransferAuthorityResponse
xmlns="http://xmlns.oracle.com/AgileObjects/Core/AdminMetadata/V1">
        <response xmlns="">
          <messageId xsi:nil="true"/>
          <messageName xsi:nil="true"/>
          <statusCode>SUCCESS</statusCode>
          <transferAuthorityRecords>
            <transferRecordId>6099243</transferRecordId>
            <creator>admin</creator>
            <fromUser>yvonnec</fromUser>
            <toUser>admin</toUser>
            <fromDate>2010-06-01T11:45:49.000Z</fromDate>
            <toDate>2010-07-01T11:45:48.000Z</toDate>
            <criteria>AllChanges</criteria>
            <affectedChanges>1</affectedChanges>
            <lastChangeUser>admin</lastChangeUser>
          </transferAuthorityRecords>
          <transferAuthorityRecords>
            <transferRecordId>6099242</transferRecordId>
            <creator>admin</creator>
            <fromUser>yvonnec</fromUser>
            <toUser>admin</toUser>
            <fromDate>2010-06-01T11:38:13.000Z</fromDate>
            <toDate>2010-07-01T11:38:08.000Z</toDate>
            <criteria>AllChanges</criteria>
            <affectedChanges>1</affectedChanges>
            <lastChangeUser>admin</lastChangeUser>
          </transferAuthorityRecords>
        </response>
      </getTransferAuthorityResponse>
    </soapenv:Body>
  </soapenv:Envelope>

```

16.1.15 modifyTransferAuthority

Service

To retrieve the transfer authority record from the transfer authority record manager..

Usage

A criteria identifying the authority to be retrieved is specified in the request. The request object does not contain any input element. All the transfer authority records found in the transfer authority manager are retrieved.

Sample Code

SOAP

```
==== Request ====
<?xml version="1.0" encoding="UTF-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
    xmlns:xsd="http://www.w3.org/2001/XMLSchema"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
      <ModifyTransferAuthority
        xmlns="http://xmlns.oracle.com/AgileObjects/Core/AdminMetadata/V1">
        <request xmlns="">
          <requests>
            <transferAuthorityID>6103630</transferAuthorityID>
            <transferAuthorityRecord>
              <fromUser>yvonnec</fromUser>
              <toUser>admin</toUser>
              <fromDate>2012-05-11T18:30:00.000Z</fromDate>
              <toDate>2012-06-10T18:30:00.000Z</toDate>
              <criteria>AllChanges</criteria>
              <affectChanges>0</affectChanges>
            </transferAuthorityRecord>
          </requests>
        </request>
      </ModifyTransferAuthority>
    </soapenv:Body>
  </soapenv:Envelope>
==== Response ====
<?xml version="1.0" encoding="utf-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
    xmlns:xsd="http://www.w3.org/2001/XMLSchema"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
      <ModifyTransferAuthorityResponse
        xmlns="http://xmlns.oracle.com/AgileObjects/Core/AdminMetadata/V1">
        <response xmlns="">
          <messageId xsi:nil="true"/>
          <messageName xsi:nil="true"/>
          <statusCode>SUCCESS</statusCode>
        </response>
      </ModifyTransferAuthorityResponse>
    </soapenv:Body>
  </soapenv:Envelope>
```

16.1.16 removeTransferAuthority

Service

To remove a transfer authority record from the transfer authority record manager.

Usage

A criteria identifying the authority to be retrieved is specified in the request. It contains an array of requests to support batch operations. The transfer authorities that are to be removed are specified in these requests.

Sample Code SOAP

```

==== Request ====
<?xml version="1.0" encoding="UTF-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
    xmlns:xsd="http://www.w3.org/2001/XMLSchema"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
      <removeTransferAuthority
        xmlns="http://xmlns.oracle.com/AgileObjects/Core/AdminMetadata/V1">
        <request xmlns="">
          <requests>
            <transferRecordId>6099247</transferRecordId>
          </requests>
        </request>
      </removeTransferAuthority>
    </soapenv:Body>
  </soapenv:Envelope>
==== Response ====
<?xml version="1.0" encoding="utf-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
    xmlns:xsd="http://www.w3.org/2001/XMLSchema"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
      <removeTransferAuthorityResponse
        xmlns="http://xmlns.oracle.com/AgileObjects/Core/AdminMetadata/V1">
        <response xmlns="">
          <messageId xsi:nil="true"/>
          <messageName xsi:nil="true"/>
          <statusCode>SUCCESS</statusCode>
        </response>
      </removeTransferAuthorityResponse>
    </soapenv:Body>
  </soapenv:Envelope>

```

16.1.17 getAgileClass**Service**

To retrieve Agile classes from the PLM system.

Usage

Details of the subclasses to be retrieved are specified in these requests. It contains an array of requests named AgileGetClassRequestType to support the batch operations. A ClassType with the details of the Agile class is obtained in the response.

Sample Code SOAP

```

==== Request ====
<?xml version="1.0" encoding="UTF-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
    xmlns:xsd="http://www.w3.org/2001/XMLSchema"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
      <getAgileClass
        xmlns="http://xmlns.oracle.com/AgileObjects/Core/AdminMetadata/V1">
        <request xmlns="">
          <requests>
            <classIdentifier>PartsClass</classIdentifier>
          </requests>
        </request>
      </getAgileClass>
    </soapenv:Body>
  </soapenv:Envelope>

```

```
        </request>
      </getAgileClass>
    </soapenv:Body>
  </soapenv:Envelope>
==== Response ====
<?xml version="1.0" encoding="utf-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
      <getAgileClassResponse
xmlns="http://xmlns.oracle.com/AgileObjects/Core/AdminMetadata/V1">
        <response xmlns="">
          <messageId xsi:nil="true"/>
          <messageName xsi:nil="true"/>
          <statusCode>SUCCESS</statusCode>
          <responses>
            <agileClass>
              <nodeId>10141</nodeId>
              <apiName>Part</apiName>
              <typeSUBCLASS</type>
              <displayName>Part</displayName>
              <abstractClass>false</abstractClass>
              <superClass>
                <nodeId>10000</nodeId>
                <apiName>PartsClass</apiName>
                <typeCLASS</type>
                <displayName>Parts</displayName>
              </superClass>
            </agileClass>
          </responses>
        </response>
      </getAgileClassResponse>
    </soapenv:Body>
  </soapenv:Envelope>
```

16.2 Attachment Web Services

This section describes the web services operations available for Attachment Web Services.

16.2.1 getFileAttachment

Service

To retrieve a specific file from the Attachments Tab of a particular Agile object.

Usage

The request object contains the specifications that identify the attachment to be downloaded. An array of bytes is obtained in the response object, which also provides comprehensive information about the file retrieved.

Sample Code SOAP

```
==== Request ====
<?xml version="1.0" encoding="UTF-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
```

```

        <soapenv:Body>
          <getFileAttachment
xmlns="http://xmlns.oracle.com/AgileObjects/Core/Attachment/V1">
            <request xmlns="">
              <requests>
                <classIdentifier>Part</classIdentifier>
                <objectNumber>P00734</objectNumber>
                <allFiles>false</allFiles>
                <downloadUrl>true</downloadUrl>
                <attachments>
                  <rowId>6112830</rowId>
                </attachments>
              </requests>
            </request>
          </getFileAttachment>
        </soapenv:Body>
      </soapenv:Envelope>
    ==== Response ====
    <?xml version="1.0" encoding="utf-8"?>
      <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
        <soapenv:Body>
          <getFileAttachmentResponse
xmlns="http://xmlns.oracle.com/AgileObjects/Core/Attachment/V1">
            <response xmlns="">
              <messageId xsi:nil="true"/>
              <messageName xsi:nil="true"/>
              <statusCode>SUCCESS</statusCode>
              <responses>
                <classIdentifier>Part</classIdentifier>
                <objectNumber>P00734</objectNumber>
                <attachment>
                  <rowId>6112830</rowId>
                  <fileId>6112635</fileId>
                  <name>P00734_file123.txt</name>
                  <description>Description for file 1</description>
                  <fileType>txt</fileType>
                  <fileSize>19</fileSize>

                  <fileDownloadURL>http://DTP-VSREEDHA-WF:8877/webfs/DownloadServlet?token=D6A8C1A41
AA40B5AE29A2CFD33D0BEE143E7ABBBBC0024567A16EBD62A195193C8FE6B3FBCC3131B58BC18A77441
2F759D648C6D0EC5D579A9E0B660217EA744A24220B54E0583A1C569F6E9722B6&vault=&fileID=3DB9227A1EFF6DC2EB</fileDownloadURL>
                </attachment>
              </responses>
            </response>
          </getFileAttachmentResponse>
        </soapenv:Body>
      </soapenv:Envelope>

```

See also loadTable, getRowId Method on page 409, getFileId Method on page 411

16.2.2 addFileAttachment

Service

To add a new file to the Attachment Tab of an Agile Object.

Usage

This is facilitated by specifying relevant details of the new file through the request object.

Sample Code

SOAP

```
==== Request ====
<?xml version="1.0" encoding="UTF-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
    xmlns:xsd="http://www.w3.org/2001/XMLSchema"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
      <addFileAttachment
        xmlns="http://xmlns.oracle.com/AgileObjects/Core/Attachment/V1">
        <request xmlns="">
          <requests>
            <classIdentifier>Part</classIdentifier>
            <objectNumber>P00720</objectNumber>
            <singleFolder>false</singleFolder>
            <attachments>
              <name>Filename.txt</name>
              <description>Description for file </description>
              <content>RmlsZSBDb250ZW50Li4uZmlsZQ==</content>
            </attachments>
          </requests>
        </request>
      </addFileAttachment>
    </soapenv:Body>
  </soapenv:Envelope>
==== Response ====
<?xml version="1.0" encoding="utf-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
    xmlns:xsd="http://www.w3.org/2001/XMLSchema"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
      <addFileAttachmentResponse
        xmlns="http://xmlns.oracle.com/AgileObjects/Core/Attachment/V1">
        <response xmlns="">
          <messageId xsi:nil="true"/>
          <messageName xsi:nil="true"/>
          <statusCode>SUCCESS</statusCode>
          <responses>
            <classIdentifier>Part</classIdentifier>
            <objectNumber>P00720</objectNumber>
          </responses>
        </response>
      </addFileAttachmentResponse>
    </soapenv:Body>
  </soapenv:Envelope>
```

See also AddFileSOAPAttachment Method on page 407

16.2.3 checkOutAttachment

Service

To check out a specific file from the Attachment Tab of an Agile object and to retrieve its contents.

Usage

The request object specifies the object and file to be retrieved while the desired content is received through the response object.

Sample Code

SOAP

```

==== Request ====
<?xml version="1.0" encoding="UTF-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
    xmlns:xsd="http://www.w3.org/2001/XMLSchema"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
      <checkoutAttachment
        xmlns="http://xmlns.oracle.com/AgileObjects/Core/Attachment/V1">
        <request xmlns="">
          <requests>
            <classIdentifier>Part</classIdentifier>
            <objectNumber>P00726</objectNumber>
            <attachments>
              <rowId>6112534</rowId>
            </attachments>
          </requests>
        </request>
      </checkoutAttachment>
    </soapenv:Body>
  </soapenv:Envelope>
==== Response ====
<?xml version="1.0" encoding="utf-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
    xmlns:xsd="http://www.w3.org/2001/XMLSchema"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
      <checkoutAttachmentResponse
        xmlns="http://xmlns.oracle.com/AgileObjects/Core/Attachment/V1">
        <response xmlns="">
          <messageId xsi:nil="true"/>
          <messageName xsi:nil="true"/>
          <statusCode>SUCCESS</statusCode>
          <responses>
            <classIdentifier>Part</classIdentifier>
            <objectNumber>P00726</objectNumber>
            <files>
              <rowId>6112534</rowId>
              <fileId>6112352</fileId>
              <fileType>txt</fileType>
              <fileSize>19</fileSize>
              <name>null_File123.txt</name>
              <description>Description for file 1</description>
              <content>RmlsZSBDb250ZW50Li4uZmlsZQ==</content>
            </files>
          </responses>
        </response>
      </checkoutAttachmentResponse>
    </soapenv:Body>
  </soapenv:Envelope>

```

See also loadTable, checkInAttachment, getFileId Method on page 411, getRowId Method on page 409,

16.2.4 checkInAttachment

Service

To check-in an attachment that was previously checked out.

Usage

This attachment could be modified after checking out and needs to be checked in back to the Agile system. Details of the modified file and its content, and the parent object, are specified in the request object. It is to be noted that the file name of the file being checked in must have the same extension as that of the file that was checked out.

Sample Code SOAP

```
==== Request ====
<?xml version="1.0" encoding="UTF-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
      <checkInAttachment
xmlns="http://xmlns.oracle.com/AgileObjects/Core/Attachment/V1">
        <request xmlns="">
          <request>
            <classIdentifier>Part</classIdentifier>
            <objectNumber>P00724</objectNumber>
            <rowId>6112462</rowId>
            <attachments>
              <fileName>Modified_P00724_File123.txt</fileName>

<fileContent>TW9kaWZpZWQgZmlsZSBpbmZvcmlhdGlvbiBhZGRlZCBhZnRlciB0aGUgY2hlY2tpbg==<
/fileContent>

            </attachments>
          </request>
        </request>
      </checkInAttachment>
    </soapenv:Body>
  </soapenv:Envelope>
==== Response ====
<?xml version="1.0" encoding="utf-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
      <checkInAttachmentResponse
xmlns="http://xmlns.oracle.com/AgileObjects/Core/Attachment/V1">
        <response xmlns="">
          <messageId xsi:nil="true"/>
          <messageName xsi:nil="true"/>
          <statusCode>SUCCESS</statusCode>
        </response>
      </checkInAttachmentResponse>
    </soapenv:Body>
  </soapenv:Envelope>
```

See also checkOutAttachment, getFileId Method on page 411, getRowId Method on page 409

16.2.5 getFileFF

Service

To retrieve a list of files from a specific Agile file folder object.

Usage

The request object contains the specifications that identify the file to be downloaded. An array of bytes is obtained in the response object, which also provides comprehensive information about the files retrieved, including content, file type, size, and row identifiers.

Sample Code

SOAP

```

==== Request ====
<?xml version="1.0" encoding="UTF-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
    xmlns:xsd="http://www.w3.org/2001/XMLSchema"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
      <getFileFF
        xmlns="http://xmlns.oracle.com/AgileObjects/Core/Attachment/V1">
        <request xmlns="">
          <requests>
            <folderNumber>FOLDER00232</folderNumber>
            <folderVersion xsi:nil="true"/>
            <files>
              <rowId>6112773</rowId>
            </files>
          </requests>
        </request>
      </getFileFF>
    </soapenv:Body>
  </soapenv:Envelope>
==== Response ====
<?xml version="1.0" encoding="utf-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
    xmlns:xsd="http://www.w3.org/2001/XMLSchema"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
      <getFileFFResponse
        xmlns="http://xmlns.oracle.com/AgileObjects/Core/Attachment/V1">
        <response xmlns="">
          <messageId xsi:nil="true"/>
          <messageName xsi:nil="true"/>
          <statusCode>SUCCESS</statusCode>
          <responses>
            <folderNumber>FOLDER00232</folderNumber>
            <folderVersion xsi:nil="true"/>
            <files>
              <rowId>6112773</rowId>
              <fileId>6112630</fileId>
              <name>FOLDER00232_File123.txt</name>
              <description>Description for file 1</description>
              <fileType>txt</fileType>
              <fileSize>19</fileSize>
              <content>RmlsZSBDb250ZW50Li4uZmlsZQ==</content>
            </files>
          </responses>
        </response>
      </getFileFFResponse>
    </soapenv:Body>
  </soapenv:Envelope>

```

See also loadTable, getRowId Method on page 409

16.2.6 addFileFF

Service

To add a new file to the Files Tab of an Agile File Folder object.

Usage

The request object specifies details of the file folder that was previously checked out to facilitate the add file process. Before adding a new file to a folder, the folder object must be checked out prior to any file operation.

Sample Code

SOAP

```
==== Request ====
<?xml version="1.0" encoding="UTF-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
      <addFileFF
xmlns="http://xmlns.oracle.com/AgileObjects/Core/Attachment/V1">
        <request xmlns="">
          <request>
            <folderNumber>FOLDER00220</folderNumber>
            <files>
              <fileName>File_FOLDER00220.txt</fileName>
              <fileContent>RmlsZSBDb250ZW50Li4uZmlsZQ==</fileContent>
              <description>Description for file 1</description>
            </files>
          </request>
        </request>
      </addFileFF>
    </soapenv:Body>
  </soapenv:Envelope>
==== Response ====
<?xml version="1.0" encoding="utf-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
      <addFileFFResponse
xmlns="http://xmlns.oracle.com/AgileObjects/Core/Attachment/V1">
        <response xmlns="">
          <messageId xsi:nil="true"/>
          <messageName xsi:nil="true"/>
          <statusCode>SUCCESS</statusCode>
        </response>
      </addFileFFResponse>
    </soapenv:Body>
  </soapenv:Envelope>
```

16.2.7 checkOutFF

Service

To check-out an Agile File Folder object.

Usage

The request object specifies the file folder that has to be checked out. Subsequent operations such as adding a file to this file folder and then checking in the folder back are possible after this step. Before adding a new file to a folder, the folder object must be checked out prior to any file operation. The checkout Web Service is used to achieve this.

Sample Code

SOAP

```
==== Request ====
<?xml version="1.0" encoding="UTF-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
    xmlns:xsd="http://www.w3.org/2001/XMLSchema"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
      <checkOutFF
        xmlns="http://xmlns.oracle.com/AgileObjects/Core/Attachment/V1">
        <request xmlns="">
          <requests>
            <folderNumber>FOLDER00214</folderNumber>
          </requests>
        </request>
      </checkOutFF>
    </soapenv:Body>
  </soapenv:Envelope>
==== Response ====
<?xml version="1.0" encoding="utf-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
    xmlns:xsd="http://www.w3.org/2001/XMLSchema"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
      <checkOutFFResponse
        xmlns="http://xmlns.oracle.com/AgileObjects/Core/Attachment/V1">
        <response xmlns="">
          <messageId xsi:nil="true"/>
          <messageName xsi:nil="true"/>
          <statusCode>SUCCESS</statusCode>
          <responses>
            <folderNumber>FOLDER00214</folderNumber>
          </responses>
        </response>
      </checkOutFFResponse>
    </soapenv:Body>
  </soapenv:Envelope>
```

See also `getRowId` Method on page 409, `loadTable`

16.2.8 checkInFF

Service

To check-in an Agile File Folder Object.

Usage

The request object specifies the file folder that has already been checked out and needs to be checked in by the Web Service operation.

Sample Code SOAP

```
==== Request ====
<?xml version="1.0" encoding="UTF-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
    xmlns:xsd="http://www.w3.org/2001/XMLSchema"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
      <checkInFF
        xmlns="http://xmlns.oracle.com/AgileObjects/Core/Attachment/V1">
        <request xmlns="">
          <requests>
            <folderNumber>FOLDER00220</folderNumber>
          </requests>
        </request>
      </checkInFF>
    </soapenv:Body>
  </soapenv:Envelope>
==== Response ====
<?xml version="1.0" encoding="utf-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
    xmlns:xsd="http://www.w3.org/2001/XMLSchema"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
      <checkInFFResponse
        xmlns="http://xmlns.oracle.com/AgileObjects/Core/Attachment/V1">
        <response xmlns="">
          <messageId xsi:nil="true"/>
          <messageName xsi:nil="true"/>
          <statusCode>SUCCESS</statusCode>
          <responses>
            <folderNumber>FOLDER00220</folderNumber>
          </responses>
        </response>
      </checkInFFResponse>
    </soapenv:Body>
  </soapenv:Envelope>
```

See also `getRowId` Method on page 409, `checkOutFF`

16.2.9 cancelCheckOutFF

Service

To cancel the 'checked-out' status of an Agile File Folder object that was earlier checked out using the checkout operation.

Usage

The request object specifies the file folder for which the 'checked-out' status has to be annulled.

Sample Code

SOAP

```
==== Request ====
<?xml version="1.0" encoding="UTF-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
    xmlns:xsd="http://www.w3.org/2001/XMLSchema"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
```

```

        <cancelCheckOutFF
xmlns="http://xmlns.oracle.com/AgileObjects/Core/Attachment/V1">
    <request xmlns="">
        <requests>
            <folderNumber>FOLDER00217</folderNumber>
        </requests>
    </request>
</cancelCheckOutFF>
</soapenv:Body>
</soapenv:Envelope>
==== Response ====
<?xml version="1.0" encoding="utf-8"?>
    <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
        <soapenv:Body>
            <cancelCheckOutFFResponse
xmlns="http://xmlns.oracle.com/AgileObjects/Core/Attachment/V1">
                <response xmlns="">
                    <messageId xsi:nil="true"/>
                    <messageName xsi:nil="true"/>
                    <statusCode>SUCCESS</statusCode>
                    <responses>
                        <folderNumber>FOLDER00217</folderNumber>
                    </responses>
                </response>
            </cancelCheckOutFFResponse>
        </soapenv:Body>
    </soapenv:Envelope>

```

See also checkOutFF

16.3 Core Web Services Operations

This chapter describes the elements of Agile CNM Business Objects Web Services, and provides sample code snippets.

For related information on working with CNM Objects, refer to *Agile PLM Customer Needs Management User and Administration Guide*.

16.3.1 createObject

Service

To create a specific object in Agile PLM system.

Usage

The object specifications are detailed in the request object where the class type, unique object number and other primary data may be configured, apart from more specific options for the created object.

Sample Code SOAP

```

==== Request ====
<?xml version="1.0" encoding="UTF-8"?>
    <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
        <soapenv:Body>
            <createObject

```

```
xmlns="http://xmlns.oracle.com/AgileObjects/Core/Business/V1">
  <request xmlns="">
    <requests>
      <classIdentifier>Part</classIdentifier>
      <data rowId="0">
        <number>P00585</number>
        <description>Object Desc</description>
      </data>
    </requests>
  </request>
</createObject>
</soapenv:Body>
</soapenv:Envelope>
==== Response ====
<?xml version="1.0" encoding="utf-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
      <createObjectResponse
xmlns="http://xmlns.oracle.com/AgileObjects/Core/Business/V1">
        <response xmlns="">
          <messageId xsi:nil="true"/>
          <messageName xsi:nil="true"/>
          <statusCode>SUCCESS</statusCode>
          <responses>
            <agileObject>
              <objectIdentifier>
                <classId>10141</classId>
                <className>Part</className>
                <classDisplayName>Part</classDisplayName>
                <objectId>6110466</objectId>
                <objectName>P00585</objectName>
              </objectIdentifier>
              <number xsi:type="xs:string"
xmlns:xs="http://www.w3.org/2001/XMLSchema" attributeId="1001"
readOnly="False">P00585</number>
              <itemType xsi:type="common:AgileListEntryType"
xmlns:common="http://xmlns.oracle.com/AgileObjects/Core/Common/V1"
attributeId="1081" readOnly="False">
                <selection>
                  <id>10141</id>
                  <apiName>PART</apiName>
                  <value>Part</value>
                </selection>
              </itemType>
              <lifecyclePhase xsi:type="common:AgileListEntryType"
xmlns:common="http://xmlns.oracle.com/AgileObjects/Core/Common/V1"
attributeId="1084" readOnly="True">
                <selection>
                  <id>976</id>
                  <apiName>PRELIMINARY</apiName>
                  <value>Preliminary</value>
                </selection>
              </lifecyclePhase>
              <description xsi:type="xs:string"
xmlns:xs="http://www.w3.org/2001/XMLSchema" attributeId="1002"
readOnly="False">Object Desc</description>
              <itemCategory xsi:type="common:AgileListEntryType"
xmlns:common="http://xmlns.oracle.com/AgileObjects/Core/Common/V1"
```

```

attributeId="1082" readOnly="False"/>
    <size xsi:type="common:AgileListEntryType"
xmlns:common="http://xmlns.oracle.com/AgileObjects/Core/Common/V1"
attributeId="1068" readOnly="False"/>
    <productLineS xsi:type="common:AgileListEntryType"
xmlns:common="http://xmlns.oracle.com/AgileObjects/Core/Common/V1"
attributeId="1004" readOnly="False"/>
    <rev xsi:type="common:AgileListEntryType"
xmlns:common="http://xmlns.oracle.com/AgileObjects/Core/Common/V1"
attributeId="1014" readOnly="False">
        <selection>
            <id>0</id>
            <apiName>Rev</apiName>
            <value>Introductory</value>
        </selection>
    </rev>
    <revIncorpDate xsi:type="xs:date"
xmlns:xs="http://www.w3.org/2001/XMLSchema" attributeId="1017" readOnly="True"/>
    <revReleaseDate xsi:type="xs:date"
xmlns:xs="http://www.w3.org/2001/XMLSchema" attributeId="1016" readOnly="True"/>
    <effectivityDate xsi:type="xs:date"
xmlns:xs="http://www.w3.org/2001/XMLSchema" attributeId="12089" readOnly="True"/>
    <shippableItem xsi:type="common:AgileListEntryType"
xmlns:common="http://xmlns.oracle.com/AgileObjects/Core/Common/V1"
attributeId="2000002781" readOnly="False">
        <selection>
            <id>0</id>
            <apiName>NO</apiName>
            <value>No</value>
        </selection>
    </shippableItem>
    <excludeFromRollup xsi:type="common:AgileListEntryType"
xmlns:common="http://xmlns.oracle.com/AgileObjects/Core/Common/V1"
attributeId="2000002859" readOnly="False">
        <selection>
            <id>0</id>
            <apiName>NO</apiName>
            <value>No</value>
        </selection>
    </excludeFromRollup>
    <complianceCalculatedDate xsi:type="xs:date"
xmlns:xs="http://www.w3.org/2001/XMLSchema" attributeId="2000004143"
readOnly="True"/>
    <partFamily xsi:type="common:AgileListEntryType"
xmlns:common="http://xmlns.oracle.com/AgileObjects/Core/Common/V1"
attributeId="2000004416" readOnly="False"/>
    <mass xsi:type="common:AgileUnitOfMeasureType"
xmlns:common="http://xmlns.oracle.com/AgileObjects/Core/Common/V1"
attributeId="2000004612" readOnly="False"/>
    <overallCompliance xsi:type="common:AgileListEntryType"
xmlns:common="http://xmlns.oracle.com/AgileObjects/Core/Common/V1"
attributeId="2000004891" readOnly="True"/>
    <itemGroupS xsi:type="common:AgileListEntryType"
xmlns:common="http://xmlns.oracle.com/AgileObjects/Core/Common/V1"
attributeId="2000008520" readOnly="True"/>
    <thumbnail xsi:type="common:AgileListEntryType"
xmlns:common="http://xmlns.oracle.com/AgileObjects/Core/Common/V1"
attributeId="2000008549" readOnly="True"/>
</agileObject>
</responses>

```

```
        </response>
      </createObjectResponse>
    </soapenv:Body>
  </soapenv:Envelope>
```

See also `getAutoNumbers`, `getAttributes`, `getAllClasses`, `getSubClasses`

16.3.2 getObject

Service

To retrieve a specific Agile object from the Agile PLM system.

Usage

The specifications of the object to be retrieved are detailed in the request object where the class type, unique object number and relevant data may be specified. Comprehensive information about the object is retrieved in the response object after successful execution of the Web Service call.

Sample Code

SOAP

```
==== Request ====
<?xml version="1.0" encoding="UTF-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
    xmlns:xsd="http://www.w3.org/2001/XMLSchema"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
      <getObject xmlns="http://xmlns.oracle.com/AgileObjects/Core/Business/V1">
        <request xmlns="">
          <requests>
            <classIdentifier>ManufacturerPart</classIdentifier>
            <objectNumber>MANUF_PART1241535324230</objectNumber>
            <tableRequests>
              <tableIdentifier>807</tableIdentifier>
              <loadCellMetaData>>false</loadCellMetaData>
            </tableRequests>
            <options>
              <propertyName>manufacturer_name</propertyName>
              <propertyValue>MANUF1241535323652</propertyValue>
            </options>
          </requests>
        </request>
      </getObject>
    </soapenv:Body>
  </soapenv:Envelope>
==== Response ====
<?xml version="1.0" encoding="utf-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
    xmlns:xsd="http://www.w3.org/2001/XMLSchema"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
      <getObjectResponse
        xmlns="http://xmlns.oracle.com/AgileObjects/Core/Business/V1">
        <response xmlns="">
          <messageId xsi:nil="true"/>
          <messageName xsi:nil="true"/>
          <statusCode>SUCCESS</statusCode>
          <responses>
            <agileObject>
```

```

<objectIdentifier>
  <classId>1488</classId>
  <className>ManufacturerPart</className>
  <classDisplayName>Manufacturer Part</classDisplayName>
  <objectId>6110515</objectId>
  <objectName>MANUF_PART1241535324230</objectName>
</objectIdentifier>
<table>
  <tableIdentifier>
    <classId>1488</classId>
    <className>ManufacturerPart</className>
    <objectId>6110515</objectId>
    <objectName>MANUF_PART1241535324230</objectName>
    <tableId>807</tableId>
    <tableName>Attachments</tableName>
    <tableDisplayName>Attachments</tableDisplayName>
  </tableIdentifier>
</table>
  <manufacturerPartNumber xsi:type="xs:string"
xmlns:xs="http://www.w3.org/2001/XMLSchema" attributeId="1648">MANUF_
PART1241535324230</manufacturerPartNumber>
  <manufacturerName xsi:type="xs:string"
xmlns:xs="http://www.w3.org/2001/XMLSchema"
attributeId="1647">MANUF1241535323652</manufacturerName>
  <description xsi:type="xs:string"
xmlns:xs="http://www.w3.org/2001/XMLSchema"
attributeId="3566">Description</description>
  <lifecyclePhase xsi:type="common:AgileListEntryType"
xmlns:common="http://xmlns.oracle.com/AgileObjects/Core/Common/V1"
attributeId="1649">
    <selection>
      <id>1517</id>
      <apiName>ACTIVE</apiName>
      <value>Active</value>
    </selection>
  </lifecyclePhase>
  <mfrPartType xsi:type="common:AgileListEntryType"
xmlns:common="http://xmlns.oracle.com/AgileObjects/Core/Common/V1"
attributeId="2543">
    <selection>
      <id>1488</id>
      <apiName>MANUFACTURER_PART</apiName>
      <value>Manufacturer Part</value>
    </selection>
  </mfrPartType>
  <partFamily xsi:type="common:AgileListEntryType"
xmlns:common="http://xmlns.oracle.com/AgileObjects/Core/Common/V1"
attributeId="2000004417"/>
  <mass xsi:type="common:AgileUnitOfMeasureType"
xmlns:common="http://xmlns.oracle.com/AgileObjects/Core/Common/V1"
attributeId="2000004613"/>
  <complianceCalculatedDate xsi:type="xs:date"
xmlns:xs="http://www.w3.org/2001/XMLSchema" attributeId="2000004735"/>
  <overallCompliance xsi:type="common:AgileListEntryType"
xmlns:common="http://xmlns.oracle.com/AgileObjects/Core/Common/V1"
attributeId="2000005405"/>
  <thumbnail xsi:type="common:AgileListEntryType"
xmlns:common="http://xmlns.oracle.com/AgileObjects/Core/Common/V1"
attributeId="2000008559"/>
  <itemGroupS xsi:type="common:AgileListEntryType"

```

```
xmlns:common="http://xmlns.oracle.com/AgileObjects/Core/Common/V1"
attributeId="2000008566"/>
    </agileObject>
  </responses>
</response>
</getObjectResponse>
</soapenv:Body>
</soapenv:Envelope>
```

See also `quickSearch`, `advancedSearch`, `createObject`

16.3.3 updateObject

Service

To update a specific object in the Agile PLM system.

Usage

The revised object specifications are detailed in the request object where data specific to an Agile object may be expressed.

Sample Code

SOAP

```
==== Request ====
<?xml version="1.0" encoding="UTF-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
    xmlns:xsd="http://www.w3.org/2001/XMLSchema"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
      <updateObject
        xmlns="http://xmlns.oracle.com/AgileObjects/Core/Business/V1">
        <request xmlns="">
          <requests>
            <classIdentifier>ManufacturerPart</classIdentifier>
            <objectNumber>MANUF_PART1241535380057</objectNumber>
            <data rowId="0">
              <Message_Desc attributeId="3566">Updated value of Manuf part
Description</Message_Desc>
            </data>
            <options>
              <propertyName>manufacturer_name</propertyName>
              <propertyValue>MANUF1241535379620</propertyValue>
            </options>
          </requests>
        </request>
      </updateObject>
    </soapenv:Body>
  </soapenv:Envelope>
==== Response ====
<?xml version="1.0" encoding="utf-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
    xmlns:xsd="http://www.w3.org/2001/XMLSchema"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
      <updateObjectResponse
        xmlns="http://xmlns.oracle.com/AgileObjects/Core/Business/V1">
        <response xmlns="">
          <messageId xsi:nil="true"/>
          <messageName xsi:nil="true"/>
        </response>
      </updateObjectResponse>
    </soapenv:Body>
  </soapenv:Envelope>
```



```

        <statusCode>SUCCESS</statusCode>
    </response>
</updateObjectResponse>
</soapenv:Body>
</soapenv:Envelope>

```

See also `getAttributes`

16.3.4 deleteObject

Service

To delete a specific object in the Agile PLM system.

Usage

The specifications of the object to be deleted are given in the request object.

Sample Code

SOAP

```

==== Request ====
<?xml version="1.0" encoding="UTF-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
    xmlns:xsd="http://www.w3.org/2001/XMLSchema"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
      <deleteObject
        xmlns="http://xmlns.oracle.com/AgileObjects/Core/Business/V1">
        <request xmlns="">
          <requests>
            <classIdentifier>Part</classIdentifier>
            <objectNumber>P00589</objectNumber>
          </requests>
        </request>
      </deleteObject>
    </soapenv:Body>
  </soapenv:Envelope>
==== Response ====
<?xml version="1.0" encoding="utf-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
    xmlns:xsd="http://www.w3.org/2001/XMLSchema"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
      <deleteObjectResponse
        xmlns="http://xmlns.oracle.com/AgileObjects/Core/Business/V1">
        <response xmlns="">
          <messageId xsi:nil="true"/>
          <messageName xsi:nil="true"/>
          <statusCode>SUCCESS</statusCode>
          <responses>
            <isDeleted>true</isDeleted>
          </responses>
        </response>
      </deleteObjectResponse>
    </soapenv:Body>
  </soapenv:Envelope>

```

See also `quickSearch`, `advancedSearch`

16.3.5 undeleteObject

Service

To revoke the 'deleted' status of a specific object that was previously deleted from the Agile PLM system.

Usage

The specifications of the object to be undeleted are given in the request object.

Sample Code

SOAP

```
==== Request ====
<?xml version="1.0" encoding="UTF-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
        <undeleteObject
xmlns="http://xmlns.oracle.com/AgileObjects/Core/Business/V1">
            <request xmlns="">
                <requests>
                    <classIdentifier>Part</classIdentifier>
                    <objectNumber>P00600</objectNumber>
                </requests>
            </request>
        </undeleteObject>
    </soapenv:Body>
</soapenv:Envelope>
==== Response ====
<?xml version="1.0" encoding="utf-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
        <undeleteObjectResponse
xmlns="http://xmlns.oracle.com/AgileObjects/Core/Business/V1">
            <response xmlns="">
                <messageId xsi:nil="true"/>
                <messageName xsi:nil="true"/>
                <statusCode>SUCCESS</statusCode>
                <responses/>
            </response>
        </undeleteObjectResponse>
    </soapenv:Body>
</soapenv:Envelope>
```

See also `advancedSearch`, `quickSearch`, `deleteObject`

16.3.6 isDeletedObject

Service

To check whether a specific Agile object in the Agile PLM system is deleted or not.

Usage

The object specifications are detailed in the request object where the class type, unique object number may be specified. From the response object, it is possible to ascertain whether the Agile object queried for still exists in the Agile PLM or if it was deleted.

Sample Code

SOAP

```

==== Request ====
<?xml version="1.0" encoding="UTF-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
        <isDeletedObject
xmlns="http://xmlns.oracle.com/AgileObjects/Core/Business/V1">
            <request xmlns="">
                <requests>
                    <classIdentifier>Part</classIdentifier>
                    <objectNumber>P00593</objectNumber>
                </requests>
            </request>
        </isDeletedObject>
    </soapenv:Body>
</soapenv:Envelope>
==== Response ====
<?xml version="1.0" encoding="utf-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
        <isDeletedObjectResponse
xmlns="http://xmlns.oracle.com/AgileObjects/Core/Business/V1">
            <response xmlns="">
                <messageId xsi:nil="true"/>
                <messageName xsi:nil="true"/>
                <statusCode>SUCCESS</statusCode>
                <responses>
                    <isDeleted>false</isDeleted>
                </responses>
            </response>
        </isDeletedObjectResponse>
    </soapenv:Body>
</soapenv:Envelope>

```

See also [advancedSearch](#), [quickSearch](#), [deleteObject](#)

16.3.7 sendObject

Service

To send a specific Agile object to the Agile PLM system.

Note: To send the objects through Web Services or web user interface, you must first enable the notification feature. In Java client, under Admin > Server settings > Database, set the **Notification Enabled** to **Yes**.

Usage

The object specifications of the object to be sent are detailed in the request object.

Sample Code

SOAP

```
==== Request ====
<?xml version="1.0" encoding="UTF-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
    xmlns:xsd="http://www.w3.org/2001/XMLSchema"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
      <sendObject
        xmlns="http://xmlns.oracle.com/AgileObjects/Core/Business/V1">
        <request xmlns="">
          <requests>
            <classIdentifier>Part</classIdentifier>
            <objectNumber>P00599</objectNumber>
            <sendTo>
              <classIdentifier>User</classIdentifier>
              <objectIdentifier>User1241535366448</objectIdentifier>
            </sendTo>
            <comments>Test comments</comments>
          </requests>
        </request>
      </sendObject>
    </soapenv:Body>
  </soapenv:Envelope>
==== Response ====
<?xml version="1.0" encoding="utf-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
    xmlns:xsd="http://www.w3.org/2001/XMLSchema"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
      <sendObjectResponse
        xmlns="http://xmlns.oracle.com/AgileObjects/Core/Business/V1">
        <response xmlns="">
          <messageId xsi:nil="true"/>
          <messageName xsi:nil="true"/>
          <statusCode>SUCCESS</statusCode>
          <responses/>
        </response>
      </sendObjectResponse>
    </soapenv:Body>
  </soapenv:Envelope>
```

See also `getUsers`

16.3.8 saveAsObject

Service

To save a specific Agile object as a new object in the Agile PLM system.

Usage

The object specifications are detailed in the request object where the class type, unique object number and other primary data may be specified. The response object contains information identifying the object that was saved.

Sample Code

SOAP

```
==== Request ====
<?xml version="1.0" encoding="UTF-8"?>
```

```

    <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
        <saveAsObject
xmlns="http://xmlns.oracle.com/AgileObjects/Core/Business/V1">
            <request xmlns="">
                <saveAsObjectRequest>
                    <parentClassIdentifier>Part</parentClassIdentifier>
                    <parentObjectNumber>P00594</parentObjectNumber>
                    <newClassIdentifier>Part</newClassIdentifier>
                    <data rowId="0">
                        <Message_Num attributeId="1001">P00596</Message_Num>
                    </data>
                </saveAsObjectRequest>
                <saveAsObjectRequest>
                    <parentClassIdentifier>Part</parentClassIdentifier>
                    <parentObjectNumber>P00595</parentObjectNumber>
                    <newClassIdentifier>Part</newClassIdentifier>
                    <autoNumberSource>Part Number</autoNumberSource>
                </saveAsObjectRequest>
            </request>
        </saveAsObject>
    </soapenv:Body>
</soapenv:Envelope>
==== Response ====
<?xml version="1.0" encoding="utf-8"?>
    <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
        <soapenv:Body>
            <saveAsObjectResponse
xmlns="http://xmlns.oracle.com/AgileObjects/Core/Business/V1">
                <response xmlns="">
                    <messageId xsi:nil="true"/>
                    <messageName xsi:nil="true"/>
                    <statusCode>SUCCESS</statusCode>
                    <saveAsObjectResponse>
                        <classIdentifier>Part</classIdentifier>
                        <objectId>6110572</objectId>
                        <objectNumber>P00596</objectNumber>
                    </saveAsObjectResponse>
                    <saveAsObjectResponse>
                        <classIdentifier>Part</classIdentifier>
                        <objectId>6110579</objectId>
                        <objectNumber>P00598</objectNumber>
                    </saveAsObjectResponse>
                </response>
            </saveAsObjectResponse>
        </soapenv:Body>
    </soapenv:Envelope>

```

See also `getAutoNumbers`, `getAttributes`

16.3.9 checkPrivilege

Service

To check whether a specific Agile user holds the privileges to perform a specific action in the Agile PLM system.

Usage

The user and privilege specifications are detailed in the request object. The request object confirms whether or not the specified agile user has the privilege to perform the Web Service operation.

Sample Code

SOAP

```
==== Request ====
<?xml version="1.0" encoding="UTF-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
        <checkPrivilege
xmlns="http://xmlns.oracle.com/AgileObjects/Core/Business/V1">
            <request xmlns="">
                <requests>
                    <userIdentification>
                        <userIdentifier>admin</userIdentifier>
                    </userIdentification>
                    <privilege>1</privilege>
                    <classIdentifier>Part</classIdentifier>
                    <objectNumber>P00585</objectNumber>
                </requests>
            </request>
        </checkPrivilege>
    </soapenv:Body>
</soapenv:Envelope>
==== Response ====
<?xml version="1.0" encoding="utf-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
        <checkPrivilegeResponse
xmlns="http://xmlns.oracle.com/AgileObjects/Core/Business/V1">
            <response xmlns="">
                <messageId xsi:nil="true"/>
                <messageName xsi:nil="true"/>
                <statusCode>SUCCESS</statusCode>
                <responses>
                    <userIdentification>
                        <userIdentifier>admin</userIdentifier>
                    </userIdentification>
                    <privilege>
                        <privilege>1</privilege>
                        <checkPrivilege>true</checkPrivilege>
                        <classIdentifier>Part</classIdentifier>
                        <objectNumber>P00585</objectNumber>
                    </privilege>
                </responses>
            </response>
        </checkPrivilegeResponse>
    </soapenv:Body>
</soapenv:Envelope>
```

See also getUsers, copyTable

16.3.10 getSubscriptions

Service

To retrieve the subscriptions for a specific data object in the Agile PLM system.

Usage

The data object specifications are detailed in the request object. The response object contains the details of the subscriptions.

Sample Code

SOAP

```

==== Request ====
<?xml version="1.0" encoding="UTF-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
    xmlns:xsd="http://www.w3.org/2001/XMLSchema"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
      <getSubscriptions
        xmlns="http://xmlns.oracle.com/AgileObjects/Core/Business/V1">
        <request xmlns="">
          <requests>
            <classIdentifier>Part</classIdentifier>
            <objectNumber>TEST_PART5554188</objectNumber>
          </requests>
          <requests>
            <classIdentifier>ECO</classIdentifier>
            <objectNumber>TEST_ECO3514179</objectNumber>
          </requests>
        </request>
      </getSubscriptions>
    </soapenv:Body>
  </soapenv:Envelope>
==== Response ====
<?xml version="1.0" encoding="utf-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
    xmlns:xsd="http://www.w3.org/2001/XMLSchema"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
      <getSubscriptionsResponse
        xmlns="http://xmlns.oracle.com/AgileObjects/Core/Business/V1">
        <response xmlns="">
          <messageId xsi:nil="true"/>
          <messageName xsi:nil="true"/>
          <statusCode>SUCCESS</statusCode>
          <responses>
            <objectReferent>
              <classIdentifier>Part</classIdentifier>
              <objectIdentifier>TEST_PART7510476</objectIdentifier>
              <version>0</version>
            </objectReferent>
            <subscriptions>
              <id>1</id>
              <name>Lifecycle Phase Change</name>
              <enable>false</enable>
            </subscriptions>
            <subscriptions>
              <id>2</id>
              <name>Field Change</name>
              <enable>false</enable>
            </subscriptions>
          </responses>
        </response>
      </getSubscriptionsResponse>
    </soapenv:Body>
  </soapenv:Envelope>

```

```
        </subscriptions>
        <subscriptions>
          <id>13</id>
          <name>Rev Change</name>
          <enable>false</enable>
        </subscriptions>
        <subscriptions>
          <id>3</id>
          <name>Add File</name>
          <enable>false</enable>
        </subscriptions>
        <subscriptions>
          <id>4</id>
          <name>Delete File</name>
          <enable>false</enable>
        </subscriptions>
        <subscriptions>
          <id>5</id>
          <name>Checkin File</name>
          <enable>false</enable>
        </subscriptions>
        <subscriptions>
          <id>6</id>
          <name>Checkout File</name>
          <enable>false</enable>
        </subscriptions>
        <subscriptions>
          <id>7</id>
          <name>Cancel Checkout File</name>
          <enable>false</enable>
        </subscriptions>
      </responses>
    </response>
  </getSubscriptionsResponse>
</soapenv:Body>
</soapenv:Envelope>
```

16.3.11 modifySubscriptions

Service

To retrieve the subscriptions for a specific data object in the Agile PLM system.

Usage

Details data object and subscription specifications in the request object. The response object will contain the details of the subscriptions.

Sample Code

SOAP

```
==== Request ====
<?xml version="1.0" encoding="UTF-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
    xmlns:xsd="http://www.w3.org/2001/XMLSchema"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
      <modifySubscriptions
        xmlns="http://xmlns.oracle.com/AgileObjects/Core/Business/V1">
        <request xmlns="">
```



```

        <requests>
            <classIdentifier>Part</classIdentifier>
            <objectNumber>TEST_PART6194052</objectNumber>
            <subscriptions>
                <id>2</id>
                <name>Field Change</name>
                <enable>false</enable>
            </subscriptions>
            <applyToChildren>false</applyToChildren>
        </requests>
    </request>
</modifySubscriptions>
</soapenv:Body>
</soapenv:Envelope>
==== Response ====
<?xml version="1.0" encoding="utf-8"?>
    <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
        <soapenv:Body>
            <modifySubscriptionsResponse
xmlns="http://xmlns.oracle.com/AgileObjects/Core/Business/V1">
                <response xmlns="">
                    <messageId xsi:nil="true"/>
                    <messageName xsi:nil="true"/>
                    <statusCode>SUCCESS</statusCode>
                    <responses>
                        <subscriptions>
                            <id>1</id>
                            <name>Lifecycle Phase Change</name>
                            <enable>false</enable>
                        </subscriptions>
                        <subscriptions>
                            <id>2</id>
                            <name>Field Change</name>
                            <enable>true</enable>
                        </subscriptions>
                        <subscriptions>
                            <id>13</id>
                            <name>Rev Change</name>
                            <enable>false</enable>
                        </subscriptions>
                        <subscriptions>
                            <id>3</id>
                            <name>Add File</name>
                            <enable>false</enable>
                        </subscriptions>
                        <subscriptions>
                            <id>4</id>
                            <name>Delete File</name>
                            <enable>false</enable>
                        </subscriptions>
                        <subscriptions>
                            <id>5</id>
                            <name>Checkin File</name>
                            <enable>false</enable>
                        </subscriptions>
                        <subscriptions>
                            <id>6</id>
                            <name>Checkout File</name>

```

```
        <enable>false</enable>
      </subscriptions>
    </subscriptions>
    <id>7</id>
    <name>Cancel Checkout File</name>
    <enable>false</enable>
  </subscriptions>
</responses>
</response>
</modifySubscriptionsResponse>
</soapenv:Body>
</soapenv:Envelope>
```

16.3.12 createReferenceObject

Service

To create an Agile Reference object by using API names to detail the mandatory specifications.

Usage

The request object specifies the attributes using the appropriate API names to create new objects using the operation createObject.

Sample Code

SOAP

```
==== Request ====
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:v1="http://xmlns.oracle.com/AgileObjects/Core/Business/V1">
  <soapenv:Header/>
  <soapenv:Body>
    <v1:createObject>
      <request>
        <requests>
          <classIdentifier>RefObjectClassName</classIdentifier>
          <data rowId="0">
            <Name>RefObj001</Name>
            <Description>Reference Object RefObj001</Description>
            <referencedObjKey>0001|12345</referencedObjKey>
          </data>
        </requests>
      </request>
    </v1:createObject>
  </soapenv:Body>
</soapenv:Envelope>
==== Response ====
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
  <soapenv:Body>
    <createObjectResponse
xmlns="http://xmlns.oracle.com/AgileObjects/Core/Business/V1">
      <response xmlns="">
        <messageId xsi:nil="true"/>
        <messageName xsi:nil="true"/>
        <statusCode>SUCCESS</statusCode>
      </responses>
      <agileObject>
```

```

        <objectIdentifier>
          <classId>2623238</classId>
          <className>RefObjectClassName</className>
          <classDisplayName>RefObjectClassName</classDisplayName>
          <objectId>6206023</objectId>
          <objectName>RefObj001</objectName>
          <version>0</version>
        </objectIdentifier>
      </agileObject>
    </responses>
  </response>
</createObjectResponse>
</soapenv:Body>
</soapenv:Envelope>

```

16.3.13 getReferenceObject

Service

To retrieve details of the specific Agile Reference Object from the Agile PLM system.

Usage

The specifications of the Reference object to be retrieved are detailed in the request object. You can specify the class type, unique object number and relevant data. Comprehensive information about the object is retrieved in the response object after successful execution of the Web Service call.

Sample Code

SOAP

```

==== Request ====
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:v1="http://xmlns.oracle.com/AgileObjects/Core/Business/V1">
  <soapenv:Header/>
  <soapenv:Body>
    <v1:getObject>
      <request>
        <requests>
          <classIdentifier>RefObjectClassName</classIdentifier>
          <objectNumber>RefObj001</objectNumber>
          <!--Optional-->
          <referencedObjKey>0001|12345</referencedObjKey>
        </requests>
      </request>
    </v1:getObject>
  </soapenv:Body>
</soapenv:Envelope>
==== Response ====
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
  <soapenv:Body>
    <getObjectResponse
xmlns="http://xmlns.oracle.com/AgileObjects/Core/Business/V1">
      <response xmlns="">
        <messageId xsi:nil="true"/>
        <messageName xsi:nil="true"/>
        <statusCode>SUCCESS</statusCode>
        <responses>

```

```
        <agileObject>
          <objectIdentifier>
            <classId>2623238</classId>
            <className>RefObjectClassName</className>
            <classDisplayName>RefObjectClassName</classDisplayName>
            <objectId>6206023</objectId>
            <objectName>RefObj001</objectName>
            <version>0</version>
          </objectIdentifier>
        </agileObject>
      </responses>
    </response>
  </getObjectResponse>
</soapenv:Body>
</soapenv:Envelope>
```

16.3.14 deleteReferenceObject

Service

To delete the reference object.

Usage

The specifications of the object to be deleted are given in the request object.

Sample Code

SOAP

```
==== Request ====
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:v1="http://xmlns.oracle.com/AgileObjects/Core/Business/V1">
  <soapenv:Header/>
  <soapenv:Body>
    <v1:deleteObject>
      <request>
        <requests>
          <classIdentifier>RefObjectClassName</classIdentifier>
          <objectNumber>RefObj01</objectNumber>
          <!--Optional-->
          <referencedObjKey>0001|12345</referencedObjKey>
        </requests>
      </request>
    </v1:deleteObject>
  </soapenv:Body>
</soapenv:Envelope>
==== Response ====
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
  <soapenv:Body>
    <deleteObjectResponse
xmlns="http://xmlns.oracle.com/AgileObjects/Core/Business/V1">
      <response xmlns="">
        <messageId xsi:nil="true"/>
        <messageName xsi:nil="true"/>
        <statusCode>SUCCESS</statusCode>
        <responses>
          <isDeleted>true</isDeleted>
        </responses>
      </response>
    </deleteObjectResponse>
  </soapenv:Body>
</soapenv:Envelope>
```

```

        </response>
    </deleteObjectResponse>
</soapenv:Body>
</soapenv:Envelope>

```

16.3.15 updateReferenceObject

Service

To update the details of the reference object using the updateObject operation.

Usage

Updates the particulars of an Agile object. The request object contains specifications identifying the object which needs to be updated.

Sample Code

SOAP

```

==== Request ====
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:v1="http://xmlns.oracle.com/AgileObjects/Core/Business/V1">
  <soapenv:Header/>
  <soapenv:Body>
    <v1:updateObject>
      <request>
        <requests>
          <classIdentifier>RefObjectClassName</classIdentifier>
          <objectNumber>RefObj001</objectNumber>
          <!--Optional-->
          <referencedObjKey>0001|12345</referencedObjKey>
          <data rowId="0">

            <URL>/Agile/PLMServlet?fromPCClient=true&module=ItemHandler&requestUrl=mod
            ule%3DItemHandler%26opcode%3DdisplayObject%26classid%3D10000%26objid%3D501781%26ta
            bid%3D0%26</URL>

            <Description>Updated Reference Object
RefObj01</Description>

            <CurrentStatus>Evaluated</CurrentStatus>
          </data>
        </requests>
      </request>
    </v1:updateObject>
  </soapenv:Body>
</soapenv:Envelope>
==== Response ====
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
  <soapenv:Body>
    <updateObjectResponse
xmlns="http://xmlns.oracle.com/AgileObjects/Core/Business/V1">
      <response xmlns="">
        <messageId xsi:nil="true"/>
        <messageName xsi:nil="true"/>
        <statusCode>SUCCESS</statusCode>
      </response>
    </updateObjectResponse>
  </soapenv:Body>
</soapenv:Envelope>

```

16.4 Collaboration Web Services

This section describes the web services operations available for Collaboration Web Services.

16.4.1 getWorkflows

Service

To retrieve the valid workflows of an Agile routable object.

Usage

When you create a new change, package, product service request, or quality change order, you must select a workflow. Otherwise, the object remains in an unassigned state and cannot progress through a workflow process.

Agile system can have multiple workflows defined for each type of routable object. To retrieve the valid workflows for an object, use getWorkflows service.

Sample Code

SOAP

```
==== Request ====
<?xml version="1.0" encoding="UTF-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
      <getWorkflows
xmlns="http://xmlns.oracle.com/AgileObjects/Core/Collaboration/V1">
        <request xmlns="">
          <workflowRequest>
            <classIdentifier>ECO</classIdentifier>
            <objectNumber>C00034</objectNumber>
          </workflowRequest>
        </request>
      </getWorkflows>
    </soapenv:Body>
  </soapenv:Envelope>
==== Response ====
<?xml version="1.0" encoding="utf-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
      <getWorkflowsResponse
xmlns="http://xmlns.oracle.com/AgileObjects/Core/Collaboration/V1">
        <response xmlns="">
          <messageId xsi:nil="true"/>
          <messageName xsi:nil="true"/>
          <statusCode>SUCCESS</statusCode>
          <workflowResponse>
            <identifier>
              <classId>6141</classId>
              <className>ECO</className>
              <classDisplayName>ECO</classDisplayName>
              <objectId>6128130</objectId>
            </identifier>
          </workflowResponse>
        </response>
      </getWorkflowsResponse>
    </soapenv:Body>
  </soapenv:Envelope>
```

```

        <objectName>C00034</objectName>
      </identifier>
    <workflow>
      <workflowId>3752</workflowId>
      <workflowName>DefaultChangeOrders</workflowName>
      <workflowDisplayName>Default Change
Orders</workflowDisplayName>
    </workflow>
  </workflowResponse>
</response>
</getWorkFlowsResponse>
</soapenv:Body>
</soapenv:Envelope>

```

See also `setWorkFlow`

16.4.2 getStatus

Service

To get the current and the next workflow status of an routable object.

Usage

To determine the status of a change - pending or released. The `getStatus` service returns a Status object.

Workflow functionalities that are made available to users for a particular routable object, depend on the status of the routable object and the users' privileges. The workflow actions available for a pending change are different from those for a released change.

Sample Code

SOAP

```

==== Request ====
<?xml version="1.0" encoding="UTF-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
      <getStatus
xmlns="http://xmlns.oracle.com/AgileObjects/Core/Collaboration/V1">
        <request xmlns="">
          <statusRequest>
            <classIdentifier>ECO</classIdentifier>
            <objectNumber>C00034</objectNumber>
          </statusRequest>
        </request>
      </getStatus>
    </soapenv:Body>
  </soapenv:Envelope>
==== Response ====
<?xml version="1.0" encoding="utf-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
      <getStatusResponse
xmlns="http://xmlns.oracle.com/AgileObjects/Core/Collaboration/V1">
        <response xmlns="">

```

```
<messageId xsi:nil="true"/>
<messageName xsi:nil="true"/>
<statusCode>SUCCESS</statusCode>
<statusResponse>
  <identifier>
    <classId>6141</classId>
    <className>ECO</className>
    <classDisplayName>ECO</classDisplayName>
    <objectId>6128130</objectId>
    <objectName>C00034</objectName>
  </identifier>
  <currentStatus>
    <statusId>3753</statusId>
    <statusName>Pending</statusName>
    <statusDisplayName>Pending</statusDisplayName>
  </currentStatus>
  <nextDefaultStatus>
    <statusId>3766</statusId>
    <statusName>Submitted</statusName>
    <statusDisplayName>Submitted</statusDisplayName>
  </nextDefaultStatus>
  <nextStatus>
    <statusId>3766</statusId>
    <statusName>Submitted</statusName>
    <statusDisplayName>Submitted</statusDisplayName>
  </nextStatus>
</statusResponse>
</response>
</getStatusResponse>
</soapenv:Body>
</soapenv:Envelope>
```

16.4.3 auditRObjct

Service

To audit a routable object.

Usage

Audit a change to determine if any required entry cells are incomplete or if the change violates any Agile Smart Rules., at any point in the lifecycle of a Change.

Sample Code

SOAP

```
==== Request ====
<?xml version="1.0" encoding="UTF-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
    xmlns:xsd="http://www.w3.org/2001/XMLSchema"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
      <auditRObjct
        xmlns="http://xmlns.oracle.com/AgileObjects/Core/Collaboration/V1">
        <request xmlns="">
          <request>
            <classIdentifier>ECO</classIdentifier>
            <objectNumber>C00035</objectNumber>
            <auditRelease>true</auditRelease>
          </request>
```



```

        </request>
    </auditRObject>
</soapenv:Body>
</soapenv:Envelope>
==== Response ====
<?xml version="1.0" encoding="utf-8"?>
    <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
        <soapenv:Body>
            <auditRObjectResponse
xmlns="http://xmlns.oracle.com/AgileObjects/Core/Collaboration/V1">
                <responses xmlns="">
                    <messageId xsi:nil="true"/>
                    <messageName xsi:nil="true"/>
                    <statusCode>SUCCESS</statusCode>
                    <response>
                        <identifier>
                            <classId>6141</classId>
                            <className>ECO</className>
                            <classDisplayName>ECO</classDisplayName>
                            <objectId>6128165</objectId>
                            <objectName>C00035</objectName>
                        </identifier>
                        <error>
                            <exceptionId>60086</exceptionId>
                            <message>The following required fields are missing : C00035:
Affected Items.New Rev: P00336</message>
                        </error>
                    </response>
                </responses>
            </auditRObjectResponse>
        </soapenv:Body>
    </soapenv:Envelope>

```

See also [changeStatus](#)

16.4.4 getApprovers

Service

To get a list of approvers or observers for Agile's routable objects.

Usage

When a routable object is released in a workflow, it is either sent to a user for approval or for notification. A list of users is required to be selected and added for the workflow to begin. This list is obtained from Agile system by sending a `getApprovers` request.

Sample Code

SOAP

```

==== Request ====
<?xml version="1.0" encoding="UTF-8"?>
    <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
        <soapenv:Body>
            <getApprovers
xmlns="http://xmlns.oracle.com/AgileObjects/Core/Collaboration/V1">
                <request xmlns="">

```

```
        <approversRequest>
          <classIdentifier>ECO</classIdentifier>
          <objectNumber>C00038</objectNumber>
          <statusIdentifier>CCB</statusIdentifier>
        </approversRequest>
      </request>
    </getApprovers>
  </soapenv:Body>
</soapenv:Envelope>
==== Response ====
<?xml version="1.0" encoding="utf-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
    xmlns:xsd="http://www.w3.org/2001/XMLSchema"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
      <getApproversResponse
        xmlns="http://xmlns.oracle.com/AgileObjects/Core/Collaboration/V1">
        <response xmlns="">
          <messageId xsi:nil="true"/>
          <messageName xsi:nil="true"/>
          <statusCode>SUCCESS</statusCode>
          <approversResponse>
            <identifier>
              <classId>6141</classId>
              <className>ECO</className>
              <classDisplayName>ECO</classDisplayName>
              <objectId>6128265</objectId>
              <objectName>C00038</objectName>
            </identifier>
          </approversResponse>
        </response>
      </getApproversResponse>
    </soapenv:Body>
  </soapenv:Envelope>
```

See also `getStatus`

16.4.5 `changeStatus`

Service

A general purpose service for changing the status of an Agile object (a new attribute: acknowledged).

Usage

Submits, releases, or cancels a change.

Sample Code

SOAP

```
==== Request ====
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
  xmlns:v1="http://xmlns.oracle.com/AgileObjects/Core/Collaboration/V1">
  <soapenv:Header/>
  <soapenv:Body>
    <v1:changeStatus>
      <request>
        <changeStatusRequest>
          <classIdentifier>ECO</classIdentifier>
          <objectNumber>C00133</objectNumber>
```

```

        <newStatusIdentifier>CCB</newStatusIdentifier>
        <approvers>
            <classIdentifier>User</classIdentifier>
            <objectIdentifier>admin</objectIdentifier>
            <jobFunction>Developer</jobFunction>
        </approvers>
        <observers>
            <classIdentifier>User</classIdentifier>
            <objectIdentifier>albertl</objectIdentifier>
        </observers>
        <acknowledgers>
            <classIdentifier>User</classIdentifier>
            <objectIdentifier>cn_user</objectIdentifier>
            <jobFunction>QA</jobFunction>
        </acknowledgers>
    </changeStatusRequest>
</request>
</v1:changeStatus>
</soapenv:Body>
</soapenv:Envelope>
==== Response ====
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
        <changeStatusResponse
xmlns="http://xmlns.oracle.com/AgileObjects/Core/Collaboration/V1">
            <response xmlns="">
                <messageId xsi:nil="true"/>
                <messageName xsi:nil="true"/>
                <statusCode>SUCCESS</statusCode>
            </response>
        </changeStatusResponse>
    </soapenv:Body>
</soapenv:Envelope>

```

See also `auditRObjct`

16.4.6 approveObject

Service

To see the approval results for an object.

Usage

Informs the users whether the object has been approved by the approver, or, when an approver is approving the object on behalf of one or more user groups. After a change is routed to group of approvers, the online approval process begins. Users listed in the Workflow table for a change can approve or reject the change.

Usage

When you approve a change, the Agile system records the approval in the Workflow table. When all approvers have approved the change, the system sends an email notification to the change analyst or component engineer indicating that the change is ready to be released.

Sample Code

SOAP

```
==== Request ====
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:v1="http://xmlns.oracle.com/AgileObjects/Core/Collaboration/V1">
  <soapenv:Header/>
  <soapenv:Body>
    <v1:approveRObj>
      <request>
        <approveRObj>
          <classIdentifier>ECO</classIdentifier>
          <objectNumber>C00514</objectNumber>
          <password>agile</password>
          <comment>approval for C00514</comment>
          <approveForGroup>
            <classIdentifier>User</classIdentifier>
            <objectIdentifier>admin</objectIdentifier>
          </approveForGroup>
        </approveRObj>
        <notifyOriginator>true</notifyOriginator>
        <notifyCCB>false</notifyCCB>
        <notifyChangeAnalyst>true</notifyChangeAnalyst>
        <urgent>false</urgent>
      </request>
    </v1:approveRObj>
  </soapenv:Body>
</soapenv:Envelope>
==== Response ====
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
  <soapenv:Body>
    <approveRObjResponse
xmlns="http://xmlns.oracle.com/AgileObjects/Core/Collaboration/V1">
      <response xmlns="">
        <messageId xsi:nil="true"/>
        <messageName xsi:nil="true"/>
        <statusCode>SUCCESS</statusCode>
      </response>
    </approveRObjResponse>
  </soapenv:Body>
</soapenv:Envelope>
```

See also `getStatus`, `getApprovers`

16.4.7 rejectObject

Service

To reject a routable object.

Usage

Informs users that the routable object is rejected by an approver, or when an approver has rejected the object on behalf of one or more user groups. After a change is routed to group of approvers, the online approval process begins. Users listed in the Workflow table for a change can approve or reject the change.

When you approve a change, the Agile system records the approval in the Workflow table. When all approvers have approved the change, the system sends an email notification to the change analyst or component engineer indicating that the change is ready to be released.

Sample Code

SOAP

```

==== Request ====
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:v1="http://xmlns.oracle.com/AgileObjects/Core/Collaboration/V1">
  <soapenv:Header/>
  <soapenv:Body>
    <v1:rejectRObject>
      <request>
        <rejectRObject>
          <classIdentifier>ECO</classIdentifier>
          <objectNumber>C00514</objectNumber>
          <password>agile</password>
          <comment>rejected C00514</comment>
          <secondSignature>admin</secondSignature>
          <rejectForGroups>
            <classIdentifier>User</classIdentifier>
            <objectIdentifier>admin</objectIdentifier>
            <jobFunction>Developer</jobFunction>
          </rejectForGroups>
        </rejectRObject>
      </request>
    </v1:rejectRObject>
  </soapenv:Body>
</soapenv:Envelope>
==== Response ====
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
  <soapenv:Body>
    <rejectRObjectResponse
xmlns="http://xmlns.oracle.com/AgileObjects/Core/Collaboration/V1">
      <response xmlns="">
        <messageId xsi:nil="true"/>
        <messageName xsi:nil="true"/>
        <statusCode>SUCCESS</statusCode>
      </response>
    </rejectRObjectResponse>
  </soapenv:Body>
</soapenv:Envelope>

```

See also `getApprovers`, `getStatus`, `auditRObject`, `approveRObject`

16.4.8 setWorkflow

Service

To set the workflow of an object.

Usage

As long as a change is in the Pending status, you have option to set a different workflow. Once a change moves beyond Pending status, you cannot change the workflow. If a routable object has not been assigned a workflow yet, you can use the `setWorkflow` method to set the workflow.

Sample Code

SOAP

```
==== Request ====
<?xml version="1.0" encoding="UTF-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
        <setWorkflow
xmlns="http://xmlns.oracle.com/AgileObjects/Core/Collaboration/V1">
            <request xmlns="">
                <setWorkflowRequest>
                    <classIdentifier>ECO</classIdentifier>
                    <objectNumber>C00033</objectNumber>
                    <workflowIdentifier>3752</workflowIdentifier>
                </setWorkflowRequest>
            </request>
        </setWorkflow>
    </soapenv:Body>
</soapenv:Envelope>
==== Response ====
<?xml version="1.0" encoding="utf-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
        <setWorkflowResponse
xmlns="http://xmlns.oracle.com/AgileObjects/Core/Collaboration/V1">
            <response xmlns="">
                <messageId xsi:nil="true"/>
                <messageName xsi:nil="true"/>
                <statusCode>SUCCESS</statusCode>
            </response>
        </setWorkflowResponse>
    </soapenv:Body>
</soapenv:Envelope>
```

See also `getWorkFlows`

16.4.9 addApprovers

Service

To add a list of Approvers or Observers to a routable object.

`addApprovers` is used for adding a set of approvers for a given status in Agile PLM. Details of status and list of approvers can be specified in the request object. Success of the operation can be verified using the status code in the response object.

Usage

When a change is routed and the online approval process has begun, it may be necessary to add or remove people from the list of approvers or observers. When you use `addApprovers` services, you specify the lists of approvers and observers, whether the notification is urgent, and an optional comment.

Sample Code

SOAP

```
==== Request ====
```

```

<?xml version="1.0" encoding="UTF-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
    xmlns:xsd="http://www.w3.org/2001/XMLSchema"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
      <addApprovers
        xmlns="http://xmlns.oracle.com/AgileObjects/Core/Collaboration/V1">
        <request xmlns="">
          <addApproversRequest>
            <classIdentifier>ECO</classIdentifier>
            <objectNumber>C00074</objectNumber>
            <statusIdentifier>CCB</statusIdentifier>
            <approvers>
              <classIdentifier>11610</classIdentifier>
              <objectIdentifier>User11239100555679</objectIdentifier>
            </approvers>
            <approvers>
              <classIdentifier>11610</classIdentifier>
              <objectIdentifier>User21239100555679</objectIdentifier>
            </approvers>
            <urgent>>false</urgent>
            <comment>Comments</comment>
          </addApproversRequest>
        </request>
      </addApprovers>
    </soapenv:Body>
  </soapenv:Envelope>
==== Response ====
<?xml version="1.0" encoding="utf-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
    xmlns:xsd="http://www.w3.org/2001/XMLSchema"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
      <addApproversResponse
        xmlns="http://xmlns.oracle.com/AgileObjects/Core/Collaboration/V1">
        <response xmlns="">
          <messageId xsi:nil="true"/>
          <messageName xsi:nil="true"/>
          <statusCode>SUCCESS</statusCode>
        </response>
      </addApproversResponse>
    </soapenv:Body>
  </soapenv:Envelope>

```

See also `getWorkFlows`, `getStatus`

16.4.10 removeApprovers

Service

Removes the approvers or observers added to a routable object.

Usage

After you route a change and the online approval process has begun, it may be necessary to remove people from the list of approvers or observers. When you use `removeApprovers` services, you specify the lists of approvers and observers, whether the notification is urgent, and add an optional comment.

Sample Code

SOAP

```
==== Request ====
<?xml version="1.0" encoding="UTF-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
    xmlns:xsd="http://www.w3.org/2001/XMLSchema"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
      <removeApprovers
        xmlns="http://xmlns.oracle.com/AgileObjects/Core/Collaboration/V1">
        <request xmlns="">
          <removeApproversRequest>
            <classIdentifier>ECO</classIdentifier>
            <objectNumber>C00042</objectNumber>
            <statusIdentifier>CCB</statusIdentifier>
            <approvers>
              <classIdentifier>11610</classIdentifier>
              <objectIdentifier>admin</objectIdentifier>
            </approvers>
            <comment>Comments</comment>
          </removeApproversRequest>
        </request>
      </removeApprovers>
    </soapenv:Body>
  </soapenv:Envelope>
==== Response ====
<?xml version="1.0" encoding="utf-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
    xmlns:xsd="http://www.w3.org/2001/XMLSchema"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
      <removeApproversResponse
        xmlns="http://xmlns.oracle.com/AgileObjects/Core/Collaboration/V1">
        <response xmlns="">
          <messageId xsi:nil="true"/>
          <messageName xsi:nil="true"/>
          <statusCode>SUCCESS</statusCode>
        </response>
      </removeApproversResponse>
    </soapenv:Body>
  </soapenv:Envelope>
```

See also `getApprovers`, `addApprovers`

16.4.11 commentRObjct

Service

To comment on a routable object.

Usage

When you comment on a change, you send a comment to other CCB reviewers during the online approval process. In addition, you can specify whether to notify the originator, the change analyst, and the change control board.

Sample Code

SOAP

```
==== Request ====
<?xml version="1.0" encoding="UTF-8"?>
```



```

    <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
    <commentRObject
xmlns="http://xmlns.oracle.com/AgileObjects/Core/Collaboration/V1">
    <request xmlns="">
    <commentRObjectRequest>
    <classIdentifier>ECO</classIdentifier>
    <objectNumber>C00037</objectNumber>
    <comment>Comment</comment>
    <notifyOriginator>true</notifyOriginator>
    <notifyChangeAnalyst>true</notifyChangeAnalyst>
    <notifyCCB>true</notifyCCB>
    <notifyList>
    <classIdentifier>11610</classIdentifier>
    <objectIdentifier>admin</objectIdentifier>
    </notifyList>
    </commentRObjectRequest>
    </request>
    </commentRObject>
    </soapenv:Body>
    </soapenv:Envelope>
==== Response ====
<?xml version="1.0" encoding="utf-8"?>
    <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
    <commentRObjectResponse
xmlns="http://xmlns.oracle.com/AgileObjects/Core/Collaboration/V1">
    <response xmlns="">
    <messageId xsi:nil="true"/>
    <messageName xsi:nil="true"/>
    <statusCode>SUCCESS</statusCode>
    </response>
    </commentRObjectResponse>
    </soapenv:Body>
    </soapenv:Envelope>

```

16.4.12 getReviewers

Service

To retrieve list of reviewers (approvers, observers, acknowledgers) from a routable object only from signoff table for a given workflow status in the Agile system.

Usage

Contains the specifications that identify a change and status while the response object retrieves all the approvers queried for. An array of requests of type AgileGetReviewersRequestType. This includes details about the object for whose workflow the reviewers are to be retrieved. You can verify the success of the operation using the status code in the response object.

Sample Code

SOAP

```

==== Request ====
<?xml version="1.0" encoding="UTF-8"?>

```

```
<soapenv:Envelope
  xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
  xmlns:xsd="http://www.w3.org/2001/XMLSchema"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
  <soapenv:Body>
    <getReviewers

xmlns="http://xmlns.oracle.com/AgileObjects/Core/Collaboration/V1">
      <request xmlns="">
        <disableAllWarnings>true</disableAllWarnings>
        <reviewersRequest>
          <classIdentifier>ECO</classIdentifier>
          <objectNumber>C00517</objectNumber>
          <statusIdentifier>CCB</statusIdentifier>
        </reviewersRequest>
      </request>
    </getReviewers>
  </soapenv:Body>
</soapenv:Envelope>
==== Response ====
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
  xmlns:xsd="http://www.w3.org/2001/XMLSchema"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
  <soapenv:Body>
    <getReviewersResponse
xmlns="http://xmlns.oracle.com/AgileObjects/Core/Collaboration/V1">
      <response xmlns="">
        <messageId xsi:nil="true"/>
        <messageName xsi:nil="true"/>
        <statusCode>SUCCESS</statusCode>
        <reviewersResponse>
          <identifier>
            <classId>6141</classId>
            <className>ECO</className>
            <classDisplayName>ECO</classDisplayName>
            <objectId>6133992</objectId>
            <objectName>C00517</objectName>
          </identifier>
          <approvers>

<classIdentifier>com.agile.api.pc.admin.user.User</classIdentifier>
          <objectIdentifier>admin</objectIdentifier>
          <jobFunction/>
        </approvers>
        <approvers>

<classIdentifier>com.agile.api.pc.admin.user.User</classIdentifier>
          <objectIdentifier>admin</objectIdentifier>
          <jobFunction>Developer</jobFunction>
        </approvers>
        <observers>
```

See also `getAllReviewers`

16.4.13 acknowledgeRObjct

Service

To acknowledge a change in Agile PLM.

Usage

Used when an Acknowledger added to a change, acknowledges that particular change. You can verify the success of the operation using the status code in the response object.

Sample Code

SOAP

```
==== Request ====
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:v1="http://xmlns.oracle.com/AgileObjects/Core/Collaboration/V1">
  <soapenv:Header/>
  <soapenv:Body>
    <v1:acknowledgeRObject>
      <request>
        <acknowledgeRObject>
          <classIdentifier>ECO</classIdentifier>
          <objectNumber>C00515</objectNumber>
          <password>agile</password>
          <comment>acknowledge C00515</comment>
          <secondSignature>admin</secondSignature>
          <acknowledgeForGroups>
            <classIdentifier>User</classIdentifier>
            <objectIdentifier>admin</objectIdentifier>
          </acknowledgeForGroups>
          <urgent>false</urgent>
        </acknowledgeRObject>
      </request>
    </v1:acknowledgeRObject>
  </soapenv:Body>
</soapenv:Envelope>
==== Response ====
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
  <soapenv:Body>
    <acknowledgeRObjectResponse
xmlns="http://xmlns.oracle.com/AgileObjects/Core/Collaboration/V1">
      <response xmlns="">
        <messageId xsi:nil="true"/>
        <messageName xsi:nil="true"/>
        <statusCode>SUCCESS</statusCode>
      </response>
    </acknowledgeRObjectResponse>
  </soapenv:Body>
</soapenv:Envelope>
See also
```

commentRObject

16.4.14 getAllReviewers

Service

To retrieve all the reviewers (approvers, observers, acknowledgers) for a particular change from a routable object signoff table and its workflow criteria for a given workflow status from both Web and Java client in the Agile system.

Usage

Contains the specifications that identifies a change and status while the response object will retrieve all the reviewers queried for. You can verify the success of the operation using the status code in the response object.

Sample Code

SOAP

```
==== Request ====
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:v1="http://xmlns.oracle.com/AgileObjects/Core/Collaboration/V1">
  <soapenv:Header/>
  <soapenv:Body>
    <v1:getAllReviewers>
      <request>
        <reviewersRequest>
          <classIdentifier>ECO</classIdentifier>
          <objectNumber>C00515</objectNumber>
          <statusIdentifier>CCB</statusIdentifier>
        </reviewersRequest>
      </request>
    </v1:getAllReviewers>
  </soapenv:Body>
</soapenv:Envelope>
==== Response ====
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
  <soapenv:Body>
    <getAllReviewersResponse
xmlns="http://xmlns.oracle.com/AgileObjects/Core/Collaboration/V1">
      <response xmlns="">
        <messageId xsi:nil="true"/>
        <messageName xsi:nil="true"/>
        <statusCode>SUCCESS</statusCode>
        <reviewersResponse>
          <identifier>
            <classId>6141</classId>
            <className>ECO</className>
            <classDisplayName>ECO</classDisplayName>
            <objectId>6133766</objectId>
            <objectName>C00515</objectName>
          </identifier>
          <approvers>

            <classIdentifier>com.agile.api.pc.admin.user.User</classIdentifier>
            <objectIdentifier>avnet</objectIdentifier>
            <jobFunction/>
          </approvers>
          <observers>

            <classIdentifier>com.agile.api.pc.admin.user.User</classIdentifier>
            <objectIdentifier>veenas</objectIdentifier>
            <jobFunction/>
          </observers>
          <acknowledgers>

            <classIdentifier>com.agile.api.pc.admin.user.User</classIdentifier>
            <objectIdentifier>robertb</objectIdentifier>
            <jobFunction/>
          </acknowledgers>
        </reviewersResponse>
      </response>
    </getAllReviewersResponse>
  </soapenv:Body>
</soapenv:Envelope>
```

```

        </reviewersResponse>
    </response>
</getAllReviewersResponse>
</soapenv:Body>
</soapenv:Envelope>
See also

```

getReviewers

16.4.15 addReviewers

Service

To add reviewers (approvers, observers, acknowledgers) to a routable object in Agile PLM.

Usage

Specifies the details of the status and lists of reviewers in the request object. You can verify the success of the operation using the status code in the response object.

Sample Code

SOAP

```

==== Request ====
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:v1="http://xmlns.oracle.com/AgileObjects/Core/Collaboration/V1">
    <soapenv:Header/>
    <soapenv:Body>
        <v1:addReviewers>
            <request>
                <addReviewersRequest>
                    <classIdentifier>ECO</classIdentifier>
                    <objectNumber>C00517</objectNumber>
                    <statusIdentifier>CCB</statusIdentifier>
                    <approvers>
                        <classIdentifier>User</classIdentifier>
                        <objectIdentifier>admin</objectIdentifier>
                        <jobFunction>Developer</jobFunction>
                    </approvers>
                    <observers>
                        <classIdentifier>User</classIdentifier>
                        <objectIdentifier>albert1</objectIdentifier>
                        <jobFunction>QA</jobFunction>
                    </observers>
                    <acknowledgers>
                        <classIdentifier>User</classIdentifier>
                    </acknowledgers>
                    <urgent>false</urgent>
                </addReviewersRequest>
            </request>
        </v1:addReviewers>
    </soapenv:Body>
</soapenv:Envelope>
==== Response ====
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
        <addReviewersResponse
xmlns="http://xmlns.oracle.com/AgileObjects/Core/Collaboration/V1">

```

```
<response xmlns="">
  <messageId xsi:nil="true"/>
  <messageName xsi:nil="true"/>
  <statusCode>SUCCESS</statusCode>
</response>
</addReviewersResponse>
</soapenv:Body>
</soapenv:Envelope>
```

getReviewers, getAllreviewers

16.4.16 removeReviewers

Service

To remove reviewers (approvers, observers, acknowledgers) from a routable object in Agile PLM.

Usage

Specifies the details of the status and lists of reviewers in the request object. You can verify the success of the operation using the status code in the response object.

Sample Code

SOAP

==== Request ====

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
  xmlns:v1="http://xmlns.oracle.com/AgileObjects/Core/Collaboration/V1">
  <soapenv:Header/>
  <soapenv:Body>
    <v1:removeReviewers>
      <request>
        <removeReviewersRequest>
          <classIdentifier>ECO</classIdentifier>
          <objectNumber>C00005</objectNumber>
          <statusIdentifier>CCB</statusIdentifier>
          <approvers>
            <classIdentifier>User</classIdentifier>
            <objectIdentifier>admin</objectIdentifier>
            <jobFunction>Developer</jobFunction>
          </approvers>
          <observers>
            <classIdentifier>User</classIdentifier>
            <objectIdentifier>cn_user</objectIdentifier>
          </observers>
          <acknowledgers>
            <classIdentifier>User</classIdentifier>
            <objectIdentifier>albert1</objectIdentifier>
            <jobFunction>QA</jobFunction>
          </acknowledgers>
        </removeReviewersRequest>
      </request>
    </v1:removeReviewers>
  </soapenv:Body>
</soapenv:Envelope>
==== Response ====
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
  xmlns:xsd="http://www.w3.org/2001/XMLSchema"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
  <soapenv:Body>
```

```

        <removeReviewersResponse
xmlns="http://xmlns.oracle.com/AgileObjects/Core/Collaboration/V1">
    <response xmlns="">
        <messageId xsi:nil="true"/>
        <messageName xsi:nil="true"/>
        <statusCode>SUCCESS</statusCode>
    </response>
</removeReviewersResponse>
</soapenv:Body>
</soapenv:Envelope>
See also

addReviewers

```

16.5 Doc Publishing Web Services

This section describes the web services operations available for Doc Publishing Web Services.

16.5.1 loadXMLSchema

Service

To return an XML package that fully describes the attributes of the object.

Usage

Creates XML schema files that will be used by BI Publisher to create the templates

Sample Code

SOAP

```

==== Request ====
<?xml version="1.0" encoding="UTF-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
        <loadXMLSchema
xmlns="http://xmlns.oracle.com/AgileObjects/Core/DocPublishing/V1">
            <request xmlns="">
                <requests>
                    <classIdentifiers>Part</classIdentifiers>
                </requests>
            </request>
        </loadXMLSchema>
    </soapenv:Body>
</soapenv:Envelope>
==== Response ====
<?xml version="1.0" encoding="utf-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
        <loadXMLSchemaResponse
xmlns="http://xmlns.oracle.com/AgileObjects/Core/DocPublishing/V1">
            <response xmlns="">
                <messageId xsi:nil="true"/>
                <messageName xsi:nil="true"/>
                <statusCode>SUCCESS</statusCode>
            </response>
        </loadXMLSchemaResponse>
    </soapenv:Body>
</soapenv:Envelope>

```

```
<responses>

<url>http://LAP-MKAGARWA-WF:8888/webfs/DownloadServlet?token=CCB1322A8018407FB0DDF
2C10F49C3C8D5B5F4C1725C94DA0259E3874D2D58B65F1740E2C4EFD98A13313C899D2BB3602D50307
62A88DB4AE9CDB5FD010C43E2CFCC938C6C4B6B284806A58489D&vault=&fileID=61C735
C6EBB8BDEE33</url>
</responses>
</response>
</loadXMLSchemaResponse>
</soapenv:Body>
</soapenv:Envelope>
```

16.5.2 loadXMLData

Service

To return the actual data that is stored for an object in an XML package.

Usage

Retrieves the object data that is combined with the template to create the output file. You can also use the saved output from this Web Service to test a template in BI Publisher.

Sample Code

SOAP

```
==== Request ====
<?xml version="1.0" encoding="UTF-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
      <loadXMLData
xmlns="http://xmlns.oracle.com/AgileObjects/Core/DocPublishing/V1">
        <request xmlns="">
          <requests>
            <objectReferent>
              <classIdentifier>Part</classIdentifier>
              <objectIdentifier>P0001</objectIdentifier>
            </objectReferent>
            <filterName>DefaultPartFilter</filterName>
          </requests>
        </request>
      </loadXMLData>
    </soapenv:Body>

==== Response ====
<?xml version="1.0" encoding="utf-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
      <loadXMLDataResponse
xmlns="http://xmlns.oracle.com/AgileObjects/Core/DocPublishing/V1">
        <response xmlns="">
          <messageId xsi:nil="true"/>
          <messageName xsi:nil="true"/>
          <statusCode>SUCCESS</statusCode>
        </response>
      </loadXMLDataResponse>
    </soapenv:Body>
  </soapenv:Envelope>
```



```

<url>http://LAP-MKAGARWA-WF:8888/webfs/DownloadServlet?token=753F08D64B2FF2ED9C525
7A3D8EB08E12E9B669C2C2D1D3AEFF9A733768634801513492E9A08E12EF38BCAAC38644A34EB546F4
272CB08C561D9197D66B9B6DB6B1F0127EB65E7167CEECECF385710&vault=&fileID=22C1D1
CB8BA62AFDB7</url>
    </responses>
  </response>
</loadXMLDataResponse>
</soapenv:Body>
</soapenv:Envelope>

```

16.6 Folder Web Services

This section describes the web services operations available for Folder Web Services.

16.6.1 getFolder

Service

To load folders.

Usage

Retrieves the user's specific folders, such as Home Folder, Recent Visits, Favorites etc. The operation can be used by the UI clients to provide folder browsing capability. You can also get the logged-in user's folders.

Sample Code

SOAP

```

==== Request ====
<?xml version="1.0" encoding="UTF-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
    xmlns:xsd="http://www.w3.org/2001/XMLSchema"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
      <getFolder xmlns="http://xmlns.oracle.com/AgileObjects/Core/Folder/V1">
        <request xmlns="">
          <requests>
            <folderIdentifier>
              <baseFolder>3</baseFolder>
              <name>Personal Searches/TestFOLDERA3765379</name>
            </folderIdentifier>
            <recursive>true</recursive>
          </requests>
        </request>
      </getFolder>
    </soapenv:Body>
  </soapenv:Envelope>
==== Response ====
<?xml version="1.0" encoding="utf-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
    xmlns:xsd="http://www.w3.org/2001/XMLSchema"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
      <getFolderResponse
        xmlns="http://xmlns.oracle.com/AgileObjects/Core/Folder/V1">
        <response xmlns="">
          <messageId xsi:nil="true"/>

```

```
<messageName xsi:nil="true"/>
<statusCode>SUCCESS</statusCode>
<responses>
  <folder>
    <identifier>
      <baseFolder>3</baseFolder>
      <name>Personal Searches/TestFOLDERA3765379</name>
      <version>1</version>
    </identifier>
    <folderType>0</folderType>
    <owner>admin</owner>
  </folder>
</responses>
</response>
</getFolderResponse>
</soapenv:Body>
</soapenv:Envelope>
```

16.6.2 createFolder

Service

To create folders.

Usage

Creates personal folders and child folders. Also provides ability to set the access rights from default private to public.

Sample Code

SOAP

```
==== Request ====
<?xml version="1.0" encoding="UTF-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
    xmlns:xsd="http://www.w3.org/2001/XMLSchema"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
      <createFolder
        xmlns="http://xmlns.oracle.com/AgileObjects/Core/Folder/V1">
        <request xmlns="">
          <requests>
            <folderIdentifier>
              <baseFolder>3</baseFolder>
              <name>Personal Searches/TestFOLDERA4472326</name>
            </folderIdentifier>
          </requests>
        </request>
      </createFolder>
    </soapenv:Body>
  </soapenv:Envelope>
==== Response ====
<?xml version="1.0" encoding="utf-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
    xmlns:xsd="http://www.w3.org/2001/XMLSchema"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
      <createFolderResponse
        xmlns="http://xmlns.oracle.com/AgileObjects/Core/Folder/V1">
        <response xmlns="">
```

```

<messageId xsi:nil="true"/>
<messageName xsi:nil="true"/>
<statusCode>SUCCESS</statusCode>
<responses>
  <folder>
    <identifier>
      <baseFolder>3</baseFolder>
      <name>Personal Searches/TestFOLDERA4472326</name>
      <version>1</version>
    </identifier>
    <folderType>0</folderType>
    <owner>admin</owner>
  </folder>
</responses>
</response>
</createFolderResponse>
</soapenv:Body>
</soapenv:Envelope>

```

renameFolder

Service

To rename a folder.

Usage

Passes the value of original folder name and the new name for it.

Sample Code

SOAP

```

==== Request ====
<?xml version="1.0" encoding="UTF-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
    xmlns:xsd="http://www.w3.org/2001/XMLSchema"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
      <renameFolder
        xmlns="http://xmlns.oracle.com/AgileObjects/Core/Folder/V1">
        <request xmlns="">
          <requests>
            <folderIdentifier>
              <baseFolder>3</baseFolder>
              <name>Personal Searches/TESTFOLDER1517677</name>
            </folderIdentifier>
            <newName>newTestFOLDER8320018</newName>
          </requests>
        </request>
      </renameFolder>
    </soapenv:Body>
  </soapenv:Envelope>
==== Response ====
<?xml version="1.0" encoding="utf-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
    xmlns:xsd="http://www.w3.org/2001/XMLSchema"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
      <renameFolderResponse
        xmlns="http://xmlns.oracle.com/AgileObjects/Core/Folder/V1">
        <response xmlns="">
          <messageId xsi:nil="true"/>

```

```
<messageName xsi:nil="true"/>
<statusCode>SUCCESS</statusCode>
<responses>
  <folder>
    <identifier>
      <baseFolder>3</baseFolder>
      <name>Personal Searches/newTestFOLDER8320018</name>
      <version>2</version>
    </identifier>
    <folderType>0</folderType>
    <owner>admin</owner>
  </folder>
</responses>
</response>
</renameFolderResponse>
</soapenv:Body>
</soapenv:Envelope>
```

16.6.3 deleteFolder

Service

To delete a folder.

Usage

Given the folder identifier, deletes that folder.

Sample Code

SOAP

```
==== Request ====
<?xml version="1.0" encoding="UTF-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
    xmlns:xsd="http://www.w3.org/2001/XMLSchema"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
      <deleteFolder
        xmlns="http://xmlns.oracle.com/AgileObjects/Core/Folder/V1">
        <request xmlns="">
          <requests>
            <folderIdentifier>
              <baseFolder>3</baseFolder>
              <name>Personal Searches/TestFOLDERA3765379</name>
            </folderIdentifier>
            <recursive>false</recursive>
          </requests>
        </request>
      </deleteFolder>
    </soapenv:Body>
  </soapenv:Envelope>
==== Response ====
<?xml version="1.0" encoding="utf-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
    xmlns:xsd="http://www.w3.org/2001/XMLSchema"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
      <deleteFolderResponse
        xmlns="http://xmlns.oracle.com/AgileObjects/Core/Folder/V1">
        <response xmlns="">
```

```

        <messageId xsi:nil="true"/>
        <messageName xsi:nil="true"/>
        <statusCode>SUCCESS</statusCode>
    </response>
</deleteFolderResponse>
</soapenv:Body>
</soapenv:Envelope>

```

16.6.4 addChildNode

Service

To add child Nodes to a folder.

Usage

List of child Nodes to be added to a folder are passed as input to the request. The child nodes can be a query object, an AgileObject or a subfolder itself.

Sample Code

SOAP

```

==== Request ====
<?xml version="1.0" encoding="UTF-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
    xmlns:xsd="http://www.w3.org/2001/XMLSchema"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
      <addChildNode
        xmlns="http://xmlns.oracle.com/AgileObjects/Core/Folder/V1">
        <request xmlns="">
          <requests>
            <folderIdentifier>
              <baseFolder>26</baseFolder>
              <name>TEST_ITEMS</name>
            </folderIdentifier>
            <agileObjects>
              <classIdentifier>Part</classIdentifier>
              <objectIdentifier>TEST_PART16202692</objectIdentifier>
            </agileObjects>
          </requests>
        </request>
      </addChildNode>
    </soapenv:Body>
  </soapenv:Envelope>
==== Response ====
<?xml version="1.0" encoding="utf-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
    xmlns:xsd="http://www.w3.org/2001/XMLSchema"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
      <addChildNodeResponse
        xmlns="http://xmlns.oracle.com/AgileObjects/Core/Folder/V1">
        <response xmlns="">
          <messageId xsi:nil="true"/>
          <messageName xsi:nil="true"/>
          <statusCode>SUCCESS</statusCode>
        </response>
      </addChildNodeResponse>
    </soapenv:Body>
  </soapenv:Envelope>

```

```
</soapenv:Envelope>
```

16.6.5 getChildNode

Service

To get child Nodes of a folder.

Usage

List of child nodes to be returned for a folder is passed as input to the request. The returned childNode can be a query object, an AgileObject or a subfolder itself.

Sample Code

SOAP

```
==== Request ====
<?xml version="1.0" encoding="UTF-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
    xmlns:xsd="http://www.w3.org/2001/XMLSchema"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
      <getChildNode
        xmlns="http://xmlns.oracle.com/AgileObjects/Core/Folder/V1">
        <request xmlns="">
          <requests>
            <folderIdentifier>
              <baseFolder>26</baseFolder>
              <name>TESTFOLDERA5703774</name>
            </folderIdentifier>
            <children>TESTFOLDERB8643248</children>
            <allChildren>false</allChildren>
          </requests>
        </request>
      </getChildNode>
    </soapenv:Body>
  </soapenv:Envelope>
==== Response ====
<?xml version="1.0" encoding="utf-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
    xmlns:xsd="http://www.w3.org/2001/XMLSchema"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
      <getChildNodeResponse
        xmlns="http://xmlns.oracle.com/AgileObjects/Core/Folder/V1">
        <response xmlns="">
          <messageId xsi:nil="true"/>
          <messageName xsi:nil="true"/>
          <statusCode>SUCCESS</statusCode>
          <responses>
            <folderIdentifier>
              <baseFolder>26</baseFolder>
              <name>TESTFOLDERA5703774</name>
              <version>3</version>
            </folderIdentifier>
            <folders>
              <baseFolder>26</baseFolder>
              <name>TESTFOLDERA5703774/TESTFOLDERB8643248</name>
              <version>4</version>
            </folders>
          </responses>
        </response>
      </getChildNodeResponse>
    </soapenv:Body>
  </soapenv:Envelope>
```

```

        </responses>
      </response>
    </getChildNodeResponse>
  </soapenv:Body>
</soapenv:Envelope>

```

16.6.6 removeChildNode

Service

To remove child Nodes from a folder.

Usage

List of child nodes to be removed is passed as input to the request. You can also choose to remove all child nodes of a folder by setting a flag present on the request Object. The child node can be a query object, an AgileObject or a subfolder itself.

Sample Code

SOAP

```

==== Request ====
<?xml version="1.0" encoding="UTF-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
    xmlns:xsd="http://www.w3.org/2001/XMLSchema"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
      <removeChildNode
        xmlns="http://xmlns.oracle.com/AgileObjects/Core/Folder/V1">
        <request xmlns="">
          <requests>
            <folderIdentifier>
              <baseFolder>26</baseFolder>
              <name>TESTFOLDERA1611270</name>
            </folderIdentifier>
            <children>TESTFOLDERB5695801</children>
            <allChildren>false</allChildren>
          </requests>
        </request>
      </removeChildNode>
    </soapenv:Body>
  </soapenv:Envelope>
==== Response ====
<?xml version="1.0" encoding="utf-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
    xmlns:xsd="http://www.w3.org/2001/XMLSchema"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
      <removeChildNodeResponse
        xmlns="http://xmlns.oracle.com/AgileObjects/Core/Folder/V1">
        <response xmlns="">
          <messageId xsi:nil="true"/>
          <messageName xsi:nil="true"/>
          <statusCode>SUCCESS</statusCode>
        </response>
      </removeChildNodeResponse>
    </soapenv:Body>
  </soapenv:Envelope>

```

16.7 PC Web Services

This section describes the web services operations available for PC Web Services.

16.7.1 setIncorporate

Service

To set the status of an Agile object as 'incorporated' or 'unincorporated'.

Usage

The request object is formed based on the class and object identifiers of the object and the status of incorporation. You can verify the success of the operation using the status code in the response object.

Sample Code

SOAP

```
==== Request ====
<?xml version="1.0" encoding="UTF-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
        <setIncorporate xmlns="http://xmlns.oracle.com/AgileObjects/Core/Pc/V1">
            <request xmlns="">
                <requests>
                    <classIdentifier>Part</classIdentifier>
                    <objectNumber>P00735</objectNumber>
                    <incorporate>true</incorporate>
                </requests>
            </request>
        </setIncorporate>
    </soapenv:Body>
</soapenv:Envelope>
==== Response ====
<?xml version="1.0" encoding="utf-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
        <setIncorporateResponse
xmlns="http://xmlns.oracle.com/AgileObjects/Core/Pc/V1">
            <response xmlns="">
                <messageId xsi:nil="true"/>
                <messageName xsi:nil="true"/>
                <statusCode>SUCCESS</statusCode>
                <responses>
                    <isIncorporated>true</isIncorporated>
                </responses>
            </response>
        </setIncorporateResponse>
    </soapenv:Body>
</soapenv:Envelope>
```

16.7.2 getRevisions

Service

To retrieve the revisions of an Agile object given the details of the object and relevant options.

Usage

The request object is formed based this information and revisions of the object are obtained through the response object. You can verify the success of the operation using the status code in the response object.

Sample Code

SOAP

```

==== Request ====
<?xml version="1.0" encoding="UTF-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
    xmlns:xsd="http://www.w3.org/2001/XMLSchema"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
      <getRevisions xmlns="http://xmlns.oracle.com/AgileObjects/Core/Pc/V1">
        <request xmlns="">
          <requests>
            <classIdentifier>Part</classIdentifier>
            <objectNumber>1000-02</objectNumber>
            <allRevisions>false</allRevisions>
          </requests>
          <requests>
            <classIdentifier>Part</classIdentifier>
            <objectNumber>1000-02</objectNumber>
            <allRevisions>true</allRevisions>
          </requests>
        </request>
      </getRevisions>
    </soapenv:Body>
  </soapenv:Envelope>
==== Response ====
<?xml version="1.0" encoding="utf-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
    xmlns:xsd="http://www.w3.org/2001/XMLSchema"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
      <getRevisionsResponse
        xmlns="http://xmlns.oracle.com/AgileObjects/Core/Pc/V1">
        <response xmlns="">
          <messageId xsi:nil="true"/>
          <messageName xsi:nil="true"/>
          <statusCode>SUCCESS</statusCode>
          <responses>
            <currentRev>C</currentRev>
          </responses>
          <responses>
            <currentRev>C</currentRev>
            <revisions>
              <changeIdentifier>
                <classId>6141</classId>
                <className>ECO</className>
                <classDisplayName>ECO</classDisplayName>
                <objectId>45</objectId>
                <objectName>25000</objectName>
              </changeIdentifier>
              <revision>(D)</revision>
            </revisions>
          </responses>
        </response>
      </getRevisionsResponse>
    </soapenv:Body>
  </soapenv:Envelope>

```

```
<revisions>
  <changeIdentifier>
    <classId>6141</classId>
    <className>ECO</className>
    <classDisplayName>ECO</classDisplayName>
    <objectId>44</objectId>
    <objectName>24433</objectName>
  </changeIdentifier>
  <revision>C</revision>
</revisions>
<revisions>
  <changeIdentifier>
    <classId>6141</classId>
    <className>ECO</className>
    <classDisplayName>ECO</classDisplayName>
    <objectId>43</objectId>
    <objectName>24020</objectName>
  </changeIdentifier>
  <revision>B</revision>
</revisions>
<revisions>
  <changeIdentifier>
    <classId>6141</classId>
    <className>ECO</className>
    <classDisplayName>ECO</classDisplayName>
    <objectId>41</objectId>
    <objectName>23450</objectName>
  </changeIdentifier>
  <revision>A</revision>
</revisions>
<revisions>
  <changeIdentifier xsi:nil="true"/>
  <revision>Introductory</revision>
</revisions>
</responses>
</response>
</getRevisionsResponse>
</soapenv:Body>
</soapenv:Envelope>
```

See also getObject, loadTable

16.7.3 undoRedline

Service

To revert a redlined entity in Agile PLM by issuing an undo operation on the redline.

Usage

Relevant details are used to form the request object. Success of the operation may be verified using the status code in the response object.

Sample Code

SOAP

```
==== Request ====
<?xml version="1.0" encoding="UTF-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
    xmlns:xsd="http://www.w3.org/2001/XMLSchema"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
```

```

    <soapenv:Body>
    <undoRedline xmlns="http://xmlns.oracle.com/AgileObjects/Core/Pc/V1">
      <request xmlns="">
        <requests>
          <classIdentifier>Part</classIdentifier>
          <objectNumber>P1242809159264</objectNumber>
          <redlineTable>TABLE_REDLINEBOM</redlineTable>
          <rowId>6201465</rowId>
          <options>
            <propertyName>revision</propertyName>
            <propertyValue>B</propertyValue>
          </options>
        </requests>
      </request>
    </undoRedline>
  </soapenv:Body>
</soapenv:Envelope>
==== Response ====
<?xml version="1.0" encoding="utf-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
      <undoRedlineResponse
xmlns="http://xmlns.oracle.com/AgileObjects/Core/Pc/V1">
        <response xmlns="">
          <messageId xsi:nil="true"/>
          <messageName xsi:nil="true"/>
          <statusCode>SUCCESS</statusCode>
          <responses/>
        </response>
      </undoRedlineResponse>
    </soapenv:Body>
  </soapenv:Envelope>

```

See also loadTable, getRowId Method on page 409

isRedlineModified

Service

To determine whether a particular redlined entity in Agile PLM has been modified or not.

Usage

Relevant details are used to form the request object. The response object includes information that will denote whether the specified red line was modified.

Sample Code

SOAP

```

==== Request ====
<?xml version="1.0" encoding="UTF-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
      <isRedlineModified
xmlns="http://xmlns.oracle.com/AgileObjects/Core/Pc/V1">
        <request xmlns="">
          <requests>

```

```
<classIdentifier>Part</classIdentifier>
<objectNumber>P1242818906603</objectNumber>
<redlineTable>TABLE_REDLINEBOM</redlineTable>
<rowId>6201729</rowId>
<options>
  <propertyName>revision</propertyName>
  <propertyValue>B</propertyValue>
</options>
</requests>
<requests>
  <classIdentifier>Part</classIdentifier>
  <objectNumber>P1242818906603</objectNumber>
  <redlineTable>TABLE_REDLINEBOM</redlineTable>
  <rowId>6201734</rowId>
  <options>
    <propertyName>revision</propertyName>
    <propertyValue>B</propertyValue>
  </options>
</requests>
</request>
</isRedlineModified>
</soapenv:Body>
</soapenv:Envelope>
==== Response ====
<?xml version="1.0" encoding="utf-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
      <isRedlineModifiedResponse
xmlns="http://xmlns.oracle.com/AgileObjects/Core/Pc/V1">
        <response xmlns="">
          <messageId xsi:nil="true"/>
          <messageName xsi:nil="true"/>
          <statusCode>SUCCESS</statusCode>
          <responses>
            <isRedlineModified>true</isRedlineModified>
          </responses>
          <responses>
            <isRedlineModified>false</isRedlineModified>
          </responses>
        </response>
      </isRedlineModifiedResponse>
    </soapenv:Body>
  </soapenv:Envelope>
```

See also loadTable, getRowId Method on page 409

16.7.4 isIncorporated

Service

To determine whether a particular data object entity in Agile PLM has been Incorporated.

Usage

Details of the object whose 'Is Incorporated' status is to be retrieved are specified in an array of requests. The response object includes information that will denote whether the specified data object has been Incorporated or not.

Sample Code**SOAP**

```

==== Request ====
<?xml version="1.0" encoding="UTF-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
      <isIncorporated xmlns="http://xmlns.oracle.com/AgileObjects/Core/Pc/V1">
        <request xmlns="">
          <disableAllWarnings>true</disableAllWarnings>
          <requests>
            <classIdentifier>10141</classIdentifier>
            <objectNumber>TEST_PART5780230</objectNumber>
          </requests>
        </request>
      </isIncorporated>
    </soapenv:Body>
  </soapenv:Envelope>
==== Response ====
<?xml version="1.0" encoding="utf-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
      <isIncorporatedResponse
xmlns="http://xmlns.oracle.com/AgileObjects/Core/Pc/V1">
        <response xmlns="">
          <messageId xsi:nil="true"/>
          <messageName xsi:nil="true"/>
          <statusCode>SUCCESS</statusCode>
          <responses>
            <isIncorporated>false</isIncorporated>
          </responses>
        </response>
      </isIncorporatedResponse>
    </soapenv:Body>
  </soapenv:Envelope>

```

16.8 Project Web Services

This section describes the web services operations available for Project Web Services.

16.8.1 createBaseline

Service

To create a new Project baseline.

Usage

Contains information about the Project Object and the name by which the new baseline needs to be created. You can save multiple baselines, and retrieve them later for comparison. Creates a baseline (snapshot) for the program object. The baseline name is sent as an input to the request. Baselines can be created only for the root program object.

Sample Code

SOAP

```
<?xml version="1.0" encoding="UTF-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
        <createBaseline
xmlns="http://xmlns.oracle.com/AgileObjects/Core/Project/V1">
            <request xmlns="">
                <requests>
                    <projectIdentifier>PGM00007</projectIdentifier>
                    <description>TEST_BASELINE</description>
                    <kickoffBaseline>true</kickoffBaseline>
                </requests>
            </request>
        </createBaseline>
    </soapenv:Body>
</soapenv:Envelope>
<?xml version="1.0" encoding="utf-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
        <createBaselineResponse
xmlns="http://xmlns.oracle.com/AgileObjects/Core/Project/V1">
            <response xmlns="">
                <messageId xsi:nil="true"/>
                <messageName xsi:nil="true"/>
                <statusCode>SUCCESS</statusCode>
                <responses>
                    <version>2</version>
                    <project>
                        <classIdentifier>Program</classIdentifier>
                        <objectIdentifier>PGM00007</objectIdentifier>
                        <version>0</version>
                    </project>
                </responses>
            </response>
        </createBaselineResponse>
    </soapenv:Body>
</soapenv:Envelope>
```

16.8.2 removeBaseline

Service

To remove the list of all baselines associated with a program object.

Usage

Contains the ClassIdentifier and the ObjectIdentifier of the Program Object on which the baselines are being removed. Also contains the name of the baselines being removed.

Sample Code

SOAP

```
<?xml version="1.0" encoding="UTF-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
```

```

xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
  <soapenv:Body>
    <removeBaseline
xmlns="http://xmlns.oracle.com/AgileObjects/Core/Project/V1">
      <request xmlns="">
        <requests>
          <projectIdentifier>PGM00011</projectIdentifier>
          <version>1</version>
        </requests>
      </request>
    </removeBaseline>
  </soapenv:Body>
</soapenv:Envelope>
<?xml version="1.0" encoding="utf-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
      <removeBaselineResponse
xmlns="http://xmlns.oracle.com/AgileObjects/Core/Project/V1">
        <response xmlns="">
          <messageId xsi:nil="true"/>
          <messageName xsi:nil="true"/>
          <statusCode>SUCCESS</statusCode>
          <responses>
            <project>
              <classIdentifier>Program</classIdentifier>
              <objectIdentifier>PGM00011</objectIdentifier>
              <version>0</version>
            </project>
          </responses>
        </response>
      </removeBaselineResponse>
    </soapenv:Body>
  </soapenv:Envelope>

```

16.8.3 getBaselines

Service

To retrieve the list of all baselines associated with a program object.

Usage

The getBaselines operation selects a Project baseline. Request object contains the ClassIdentifier and the ObjectIdentifier of the Program Object for which the baselines are being loaded.

Sample Code

SOAP

```

==== Request ====
<?xml version="1.0" encoding="UTF-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
      <getBaselines
xmlns="http://xmlns.oracle.com/AgileObjects/Core/Project/V1">

```

```
<request xmlns="">
  <requests>
    <projectIdentifier>PGM00009</projectIdentifier>
  </requests>
</request>
</getBaselines>
</soapenv:Body>
</soapenv:Envelope>
==== Response ====
<?xml version="1.0" encoding="utf-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
    xmlns:xsd="http://www.w3.org/2001/XMLSchema"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
      <getBaselinesResponse
        xmlns="http://xmlns.oracle.com/AgileObjects/Core/Project/V1">
        <response xmlns="">
          <messageId xsi:nil="true"/>
          <messageName xsi:nil="true"/>
          <statusCode>SUCCESS</statusCode>
          <responses>
            <baselines>
              <version>1</version>
              <description>TEST_BASELINE</description>
              <milestone xsi:nil="true"/>
              <kickoffBaseline>false</kickoffBaseline>
              <planOfRecord>true</planOfRecord>
              <createDate>2010-05-21T08:48:52.000Z</createDate>
            </baselines>
            <baselines>
              <version>2</version>
              <description>TEST_BASELINE2</description>
              <milestone xsi:nil="true"/>
              <kickoffBaseline>false</kickoffBaseline>
              <planOfRecord>false</planOfRecord>
              <createDate>2010-05-21T08:48:52.000Z</createDate>
            </baselines>
            <project>
              <classIdentifier>Program</classIdentifier>
              <objectIdentifier>PGM00009</objectIdentifier>
              <version>0</version>
            </project>
          </responses>
        </response>
      </getBaselinesResponse>
    </soapenv:Body>
  </soapenv:Envelope>
```

16.8.4 delegateOwnership

Service

To let the owner or program manager of a program object to assign the ownership of the program to other users by delegating it.

Usage

The delegated user receives a request which may be accepted or rejected. If the delegation is accepted, the delegated user becomes the owner of the task. A delegated

owner is automatically given the Program Manager role for the delegated program object.

The web service request specifies the user to whom the ownership must be delegated and whether the act of delegation also applies to the program's children.

Sample Code

SOAP

```
<?xml version="1.0" encoding="UTF-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
        <delegateOwnership
xmlns="http://xmlns.oracle.com/AgileObjects/Core/Project/V1">
            <request xmlns="">
                <requests>
                    <projectIdentifier>PGM00008</projectIdentifier>
                    <userIdentifier>yvonnec</userIdentifier>
                    <applyToChildren>true</applyToChildren>
                </requests>
            </request>
        </delegateOwnership>
    </soapenv:Body>
</soapenv:Envelope>
<?xml version="1.0" encoding="utf-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
        <delegateOwnershipResponse
xmlns="http://xmlns.oracle.com/AgileObjects/Core/Project/V1">
            <response xmlns="">
                <messageId xsi:nil="true"/>
                <messageName xsi:nil="true"/>
                <statusCode>SUCCESS</statusCode>
                <responses>
                    <project>
                        <classIdentifier>Program</classIdentifier>
                        <objectIdentifier>PGM00008</objectIdentifier>
                        <version>2</version>
                    </project>
                </responses>
            </response>
        </delegateOwnershipResponse>
    </soapenv:Body>
</soapenv:Envelope>
```

16.8.5 substituteResource

Service

To enable the substitution of one resource, a user or a user group, with another.

Usage

For a given program, the current resource's role may be assigned to the substituted resource. When resources are to be substituted, users as well as user groups may be

used. The request will also specify whether the substitution of resources is propagated to the the program's children.

Sample Code

SOAP

```
<?xml version="1.0" encoding="UTF-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
        <substituteResource
xmlns="http://xmlns.oracle.com/AgileObjects/Core/Project/V1">
            <request xmlns="">
                <requests>
                    <projectIdentifier>PGM00014</projectIdentifier>
                    <currentResource>
                        <classIdentifier>11610</classIdentifier>
                        <objectIdentifier>badriv</objectIdentifier>
                    </currentResource>
                    <newResource>
                        <classIdentifier>11610</classIdentifier>
                        <objectIdentifier>yvonnec</objectIdentifier>
                    </newResource>
                    <applyToChildren>true</applyToChildren>
                </requests>
            </request>
        </substituteResource>
    </soapenv:Body>
</soapenv:Envelope>
<?xml version="1.0" encoding="utf-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
        <substituteResourceResponse
xmlns="http://xmlns.oracle.com/AgileObjects/Core/Project/V1">
            <response xmlns="">
                <messageId xsi:nil="true"/>
                <messageName xsi:nil="true"/>
                <statusCode>SUCCESS</statusCode>
                <responses>
                    <project>
                        <classIdentifier>Program</classIdentifier>
                        <objectIdentifier>PGM00014</objectIdentifier>
                        <version>6</version>
                    </project>
                </responses>
            </response>
        </substituteResourceResponse>
    </soapenv:Body>
</soapenv:Envelope>
```

16.8.6 isLocked

Service

To check the locked status of a program object.

Usage

The operation determines whether a Program object in Agile is locked. The request object should have the ClassIdentifier and the ObjectIdentifier of the Program Object that is being checked.

Sample Code

SOAP

```
<?xml version="1.0" encoding="UTF-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
    xmlns:xsd="http://www.w3.org/2001/XMLSchema"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
      <isLocked xmlns="http://xmlns.oracle.com/AgileObjects/Core/Project/V1">
        <request xmlns="">
          <requests>
            <projectIdentifier>PGM00010</projectIdentifier>
          </requests>
        </request>
      </isLocked>
    </soapenv:Body>
  </soapenv:Envelope>
<?xml version="1.0" encoding="utf-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
    xmlns:xsd="http://www.w3.org/2001/XMLSchema"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
      <isLockedResponse
        xmlns="http://xmlns.oracle.com/AgileObjects/Core/Project/V1">
        <response xmlns="">
          <messageId xsi:nil="true"/>
          <messageName xsi:nil="true"/>
          <statusCode>SUCCESS</statusCode>
          <responses>
            <isLocked>false</isLocked>
            <project>
              <classIdentifier>Program</classIdentifier>
              <objectIdentifier>PGM00010</objectIdentifier>
              <version>0</version>
            </project>
          </responses>
        </response>
      </isLockedResponse>
    </soapenv:Body>
  </soapenv:Envelope>
```

16.8.7 setLock

Service

To lock or unlock a program object.

Usage

The request object should have the ClassIdentifier and the ObjectIdentifier of the Program Object that is being locked..

Sample Code

SOAP

```
<?xml version="1.0" encoding="UTF-8"?>
```

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
  <soapenv:Body>
    <setLock xmlns="http://xmlns.oracle.com/AgileObjects/Core/Project/V1">
      <request xmlns="">
        <requests>
          <projectIdentifier>PGM00013</projectIdentifier>
          <lock>false</lock>
        </requests>
      </request>
    </setLock>
  </soapenv:Body>
</soapenv:Envelope>
<?xml version="1.0" encoding="utf-8"?>
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
  <soapenv:Body>
    <setLockResponse
xmlns="http://xmlns.oracle.com/AgileObjects/Core/Project/V1">
      <response xmlns="">
        <messageId xsi:nil="true"/>
        <messageName xsi:nil="true"/>
        <statusCode>SUCCESS</statusCode>
        <responses>
          <project>
            <classIdentifier>Program</classIdentifier>
            <objectIdentifier>PGM00013</objectIdentifier>
            <version>0</version>
          </project>
        </responses>
      </response>
    </setLockResponse>
  </soapenv:Body>
</soapenv:Envelope>
```

16.8.8 reschedule

Service

To reschedule a Program object.

Usage

Once a program's schedule has been defined, use this operation to reschedule it. The operation will enable the client to change the startdate and endDate, and move the program backward or forward.

Sample Code

SOAP

```
<?xml version="1.0" encoding="UTF-8"?>
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
  <soapenv:Body>
    <reschedule xmlns="http://xmlns.oracle.com/AgileObjects/Core/Project/V1">
      <request xmlns="">
        <requests>
```

```

        <projectIdentifier>PGM00012</projectIdentifier>
        <rescheduleType>
            <startDate>2009-08-14T18:30:00.000Z</startDate>
        </rescheduleType>
    </requests>
</request>
</reschedule>
</soapenv:Body>
</soapenv:Envelope>
<?xml version="1.0" encoding="utf-8"?>
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
        <rescheduleResponse
xmlns="http://xmlns.oracle.com/AgileObjects/Core/Project/V1">
            <response xmlns="">
                <messageId xsi:nil="true"/>
                <messageName xsi:nil="true"/>
                <statusCode>SUCCESS</statusCode>
                <responses>
                    <project>
                        <classIdentifier>Program</classIdentifier>
                        <objectIdentifier>PGM00012</objectIdentifier>
                        <version>2</version>
                    </project>
                </responses>
            </response>
        </rescheduleResponse>
    </soapenv:Body>
</soapenv:Envelope>

```

16.8.9 assignUsersFromPool

Service

To assign Users from a resource pool.

Usage

In Agile Web Client, when you add a resource pool to the Team table, you can replace the pool with one or more resources contained within it. That is, instead of assigning the entire resource pool, you can assign select users from the pool. The operation reproduces this functionality. The operation makes detailed resource assignments by selecting a specific user from a group used as team member.

Sample Code

SOAP

```

<?xml version="1.0" encoding="UTF-8"?>
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
        <assignUsersFromPool
xmlns="http://xmlns.oracle.com/AgileObjects/Core/Project/V1">
            <request xmlns="">
                <requests>
                    <projectIdentifier>PGM00006</projectIdentifier>
                    <users>demo1</users>
                </requests>
            </request>
        </assignUsersFromPool>
    </soapenv:Body>
</soapenv:Envelope>

```

```
        <usergroup>TEST_USER_GROUP_NAME747945</usergroup>
      </requests>
    </request>
  </assignUsersFromPool>
</soapenv:Body>
</soapenv:Envelope>
<?xml version="1.0" encoding="utf-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
      <assignUsersFromPoolResponse
xmlns="http://xmlns.oracle.com/AgileObjects/Core/Project/V1">
        <response xmlns="">
          <messageId xsi:nil="true"/>
          <messageName xsi:nil="true"/>
          <statusCode>SUCCESS</statusCode>
          <responses>
            <project>
              <classIdentifier>Program</classIdentifier>
              <objectIdentifier>PGM00006</objectIdentifier>
              <version>4</version>
            </project>
          </responses>
        </response>
      </assignUsersFromPoolResponse>
    </soapenv:Body>
  </soapenv:Envelope>
```

16.9 Reports Web Services

This section describes the web services operations available for Reports Web Services.

16.9.1 loadReportSchema

Service

To load reports.

Usage

Loads report schemas. Success of the operation is verified by using the status code in the response object.

Sample Code

SOAP

```
==== Request ====
<?xml version="1.0" encoding="UTF-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
      <loadReportSchema
xmlns="http://xmlns.oracle.com/AgileObjects/Core/Report/V1">
        <request xmlns="">
          <requests>
            <reportIdentifier>Project Assembly Cost
Report</reportIdentifier>
```

```

        <params>
          <id>objectNumber</id>
          <values>PRJ00001</values>
        </params>
      </requests>
    </request>
  </loadReportSchema>
</soapenv:Body>
</soapenv:Envelope>
==== Response ====
<?xml version="1.0" encoding="utf-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
    xmlns:xsd="http://www.w3.org/2001/XMLSchema"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
      <loadReportSchemaResponse
        xmlns="http://xmlns.oracle.com/AgileObjects/Core/Report/V1">
        <response xmlns="">
          <messageId xsi:nil="true"/>
          <messageName xsi:nil="true"/>
          <statusCode>SUCCESS</statusCode>
          <responses>
            <reportIdentifier>103</reportIdentifier>

            <url>http://MMUTHUSW-IDC:8888/webfs/DownloadServlet?token=A58AB33627AC4B6033077D4A
63FF204E335E3378E522491A3CF50275A8D78F029DC2D464BB66C560E5F726C6E2044EE9C28BE814D8
2089565C9A16DEDAD793C6F80275F5D17673C20369CEA74EDF&vault=&fileID=C861DB6AF
ABCEB27FD</url>

          </responses>
        </response>
      </loadReportSchemaResponse>
    </soapenv:Body>
  </soapenv:Envelope>

```

16.9.2 loadReportData

Service

To load data of a report.

Usage

Loads data of a report. Success of the operation is verified by using the status code in the response object.

Sample Code

SOAP

```

==== Request ====
<?xml version="1.0" encoding="UTF-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
    xmlns:xsd="http://www.w3.org/2001/XMLSchema"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
      <loadReportData
        xmlns="http://xmlns.oracle.com/AgileObjects/Core/Report/V1">
        <request xmlns="">
          <requests>
            <reportIdentifier>Project Assembly Cost
Report</reportIdentifier>

```

```
<params>
  <id>objectNumber</id>
  <values>PRJ00001</values>
</params>
<params>
  <id>items</id>
  <values>CAP500-PS</values>
  <values>CAP450-PS</values>
</params>
<params>
  <id>suppliers</id>
  <values>EMS1 COMPONENT SUPPLIER</values>
  <values>EMS2 COMPONENT MFR</values>
</params>
<params>
  <id>pricepoints</id>
  <values>04/01/2004 To 06/30/2004 QuantityBreak1</values>
  <values>07/01/2003 To 09/29/2003 QuantityBreak1</values>
  <values>09/30/2003 To 12/29/2003 QuantityBreak1</values>
  <values>12/30/2003 To 03/31/2004 QuantityBreak1</values>
</params>
<params>
  <id>doCostRollup</id>
  <values>>false</values>
</params>
</requests>
</request>
</loadReportData>
</soapenv:Body>
</soapenv:Envelope>
==== Response ====
```

16.10 Search Web Services

This section describes the web services operations available for Search Web Services.

16.10.1 quickSearch

Service

To retrieve a list of all Agile objects whose specifications match the search criteria specified in the request object.

Usage

Object name, number (ID), or description may be used to form the criteria. The response object contains a collection of which of Agile objects, which were successfully queried for. Success of the operation is verified by using the status code in the response object.

Sample Code

SOAP

```
==== Request ====
<?xml version="1.0" encoding="UTF-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
    xmlns:xsd="http://www.w3.org/2001/XMLSchema"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
```



```

    <quickSearch xmlns="http://xmlns.oracle.com/AgileObjects/Core/Search/V1">
      <request xmlns="">
        <classIdentifier>Part</classIdentifier>
        <keywords>P0*</keywords>
        <searchFiles>>false</searchFiles>
      </request>
    </quickSearch>
  </soapenv:Body>
</soapenv:Envelope>
==== Response ====
<?xml version="1.0" encoding="utf-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
      <quickSearchResponse
xmlns="http://xmlns.oracle.com/AgileObjects/Core/Search/V1">
        <response xmlns="">
          <messageId xsi:nil="true"/>
          <messageName xsi:nil="true"/>
          <statusCode>SUCCESS</statusCode>
          <table>
            <tableIdentifier>
              <objectId>0</objectId>
              <tableId>-102</tableId>
              <tableName xsi:nil="true"/>
            </tableIdentifier>
            <row rowId="13">
              <objectReferentId>
                <classId>10141</classId>
                <className>Part</className>
                <objectId>6098830</objectId>
                <objectName xsi:nil="true"/>
              </objectReferentId>
              <ItemType xsi:type="xs:string"
xmlns:xs="http://www.w3.org/2001/XMLSchema" attributeId="1">Part</ItemType>
              <Number xsi:type="xs:string"
xmlns:xs="http://www.w3.org/2001/XMLSchema" attributeId="2">P00003</Number>
              <Description xsi:type="xs:string"
xmlns:xs="http://www.w3.org/2001/XMLSchema" attributeId="3"></Description>
              <LifecyclePhase xsi:type="xs:string"
xmlns:xs="http://www.w3.org/2001/XMLSchema"
attributeId="4">Preliminary</LifecyclePhase>
              <Rev xsi:type="xs:string"
xmlns:xs="http://www.w3.org/2001/XMLSchema" attributeId="5"></Rev>
            </row>
            <row rowId="14">
              <objectReferentId>
                <classId>10141</classId>
                <className>Part</className>
                <objectId>6098836</objectId>
                <objectName xsi:nil="true"/>
              </objectReferentId>
              <ItemType xsi:type="xs:string"
xmlns:xs="http://www.w3.org/2001/XMLSchema" attributeId="1">Part</ItemType>
              <Number xsi:type="xs:string"
xmlns:xs="http://www.w3.org/2001/XMLSchema" attributeId="2">P00005</Number>
              <Description xsi:type="xs:string"
xmlns:xs="http://www.w3.org/2001/XMLSchema" attributeId="3"></Description>
              <LifecyclePhase xsi:type="xs:string"

```

```
xmlns:xs="http://www.w3.org/2001/XMLSchema"
attributeId="4">Preliminary</LifecyclePhase>
      <Rev xsi:type="xs:string"
xmlns:xs="http://www.w3.org/2001/XMLSchema" attributeId="5"></Rev>
    </row>
  </table>
</response>
</quickSearchResponse>
```

See also `getSearchableAttributes`, `advancedSearch`

16.10.2 advancedSearch

Service

To retrieve a list of all Agile objects whose specifications match the advanced search criteria specified in the request object.

Usage

Advanced search provides options for forming complex search criteria. The response object contains a collection of which of Agile objects which were successfully queried for. Success of the operation is verified using the status code in the response object.

Sample Code

SOAP

```
==== Request ====
<?xml version="1.0" encoding="UTF-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
      <advancedSearch
xmlns="http://xmlns.oracle.com/AgileObjects/Core/Search/V1">
        <request xmlns="">
          <classIdentifier>Part</classIdentifier>
          <criteria>[Title Block.Number] contains 'P0' &amp;&amp; [Title
Block.Description] is not null</criteria>
          <caseSensitive>>false</caseSensitive>
          <displayName>Search123</displayName>
          <resultAttributes>Title Block.Number</resultAttributes>
          <resultAttributes>Title Block.Description</resultAttributes>
          <resultAttributes>Title Block.Lifecycle Phase</resultAttributes>
        </request>
      </advancedSearch>
    </soapenv:Body>
  </soapenv:Envelope>
==== Response ====
<?xml version="1.0" encoding="utf-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
      <advancedSearchResponse
xmlns="http://xmlns.oracle.com/AgileObjects/Core/Search/V1">
        <response xmlns="">
          <messageId xsi:nil="true"/>
          <messageName xsi:nil="true"/>
          <statusCode>SUCCESS</statusCode>
        </table>
```

```

<tableIdentifier>
  <objectId>6112848</objectId>
  <objectName>Search123</objectName>
  <tableId>-102</tableId>
  <tableName xsi:nil="true" />
</tableIdentifier>
<row rowId="1">
  <objectReferentId>
    <classId>10141</classId>
    <className>Part</className>
    <objectId>6098826</objectId>
    <objectName xsi:nil="true" />
  </objectReferentId>
  <number xsi:type="xs:string"
xmlns:xs="http://www.w3.org/2001/XMLSchema" attributeId="1001">P00001</number>
  <description xsi:type="xs:string"
xmlns:xs="http://www.w3.org/2001/XMLSchema" attributeId="1002">Gimme all yer
money, AAAARRRRR ye land-lover!!</description>
  <lifecyclePhase xsi:type="common:AgileListEntryType"
xmlns:common="http://xmlns.oracle.com/AgileObjects/Core/Common/V1"
attributeId="1084">
    <selection>
      <id>976</id>
      <apiName>PRELIMINARY</apiName>
      <value>Preliminary</value>
    </selection>
  </lifecyclePhase>
</row>
</table>
</response>
</advancedSearchResponse>

```

See also `getAllClasses`, `getSearchableAttributes`

16.10.3 advancedSearchReferenceObject

Service

To execute an advanced search for Reference Object.

Usage

Specifies necessary fields and contains specifications of the class identifier for the advanced search. The response object obtains the results.

Sample Code

SOAP

```

==== Request ====
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:v1="http://xmlns.oracle.com/AgileObjects/Core/Search/V1">
  <soapenv:Header/>
  <soapenv:Body>
    <v1:advancedSearch>
      <request>
        <classIdentifier>RefObjectClassName</classIdentifier>
        <criteria>[Title Block.Name/Number/Desc] contains '250'</criteria>
      </request>
    </v1:advancedSearch>
  </soapenv:Body>
</soapenv:Envelope>

```

```
==== Response ====
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
  <soapenv:Body>
    <advancedSearchResponse
xmlns="http://xmlns.oracle.com/AgileObjects/Core/Search/V1">
      <response xmlns="">
        <messageId xsi:nil="true"/>
        <messageName xsi:nil="true"/>
        <statusCode>SUCCESS</statusCode>
        <table>
          <tableIdentifier>
            <objectId>6206062</objectId>
            <tableId>-102</tableId>
            <tableName xsi:nil="true"/>
          </tableIdentifier>
          <row rowId="0">
            <objectReferentId>
              <classId>2623238</classId>
              <className>RefObjectClassName</className>
              <objectId>-1</objectId>
              <objectName xsi:nil="true"/>
            </objectReferentId>
            <Name xsi:type="xs:string" attributeId="2000017548"
xmlns:xs="http://www.w3.org/2001/XMLSchema">250-0400</Name>
            <Description xsi:type="xs:string" attributeId="2000017549"
xmlns:xs="http://www.w3.org/2001/XMLSchema">INTEL PENTIUM II PROCESSOR
400MHZ</Description>
            <CurrentStatus xsi:type="xs:string" attributeId="2000017550"
xmlns:xs="http://www.w3.org/2001/XMLSchema">Preliminary</CurrentStatus>
            <PublicKey xsi:type="xs:string"
xmlns:xs="http://www.w3.org/2001/XMLSchema">500464|10141</PublicKey>
            <URL xsi:type="xs:string"
xmlns:xs="http://www.w3.org/2001/XMLSchema">/Agile/PLMServlet?fromPCClient=true&
p;module=ItemHandler&requestUrl=module%3DItemHandler%26opcode%3DdisplayObject%
26classid%3D10000%26objid%3D500464%26tabid%3D0%26</URL>
          </row>
          <row rowId="1">
            <objectReferentId>
              <classId>2623238</classId>
              <className>RefObjectClassName</className>
              <objectId>-1</objectId>
              <objectName xsi:nil="true"/>
            </objectReferentId>
            <Name xsi:type="xs:string" attributeId="2000017548"
xmlns:xs="http://www.w3.org/2001/XMLSchema">250-0450-01</Name>
            <Description xsi:type="xs:string" attributeId="2000017549"
xmlns:xs="http://www.w3.org/2001/XMLSchema">INTEL PENTIUM II PROCESSOR
450MHZ</Description>
            <CurrentStatus xsi:type="xs:string" attributeId="2000017550"
xmlns:xs="http://www.w3.org/2001/XMLSchema">Preliminary</CurrentStatus>
            <PublicKey xsi:type="xs:string"
xmlns:xs="http://www.w3.org/2001/XMLSchema">501690|10141</PublicKey>
            <URL xsi:type="xs:string"
xmlns:xs="http://www.w3.org/2001/XMLSchema">/Agile/PLMServlet?fromPCClient=true&
p;module=ItemHandler&requestUrl=module%3DItemHandler%26opcode%3DdisplayObject%
26classid%3D10000%26objid%3D501690%26tabid%3D0%26</URL>
          </row>
          <row rowId="2">
```

```

        <objectReferentId>
            <classId>2623238</classId>
            <className>RefObjectClassName</className>
            <objectId>-1</objectId>
            <objectName xsi:nil="true" />
        </objectReferentId>
        <Name xsi:type="xs:string" attributeId="2000017548"
xmlns:xs="http://www.w3.org/2001/XMLSchema">250-0500-01</Name>
        <Description xsi:type="xs:string" attributeId="2000017549"
xmlns:xs="http://www.w3.org/2001/XMLSchema">INTEL PENTIUM II PROCESSOR
500MHZ</Description>
        <CurrentStatus xsi:type="xs:string" attributeId="2000017550"
xmlns:xs="http://www.w3.org/2001/XMLSchema">Preliminary</CurrentStatus>
        <PublicKey xsi:type="xs:string"
xmlns:xs="http://www.w3.org/2001/XMLSchema">501781|10141</PublicKey>
        <URL xsi:type="xs:string"
xmlns:xs="http://www.w3.org/2001/XMLSchema">/Agile/PLMServlet?fromPCClient=true&am
p;module=ItemHandler&requestUrl=module%3DItemHandler%26opcode%3DdisplayObject%
26classid%3D10000%26objid%3D501781%26tabid%3D0%26</URL>
    </row>
</table>
</response>
</advancedSearchResponse>
</soapenv:Body>
</soapenv:Envelope>

```

advancedSearch

16.10.4 getSearchableAttributes

Service

To retrieve a list of all searchable attributes on a baseclass, class or a subclass.

Usage

The request object is formed using relevant details. Contains the attributes that were queried for. You can verify the success of the operation using the status code in the response object.

Sample Code

SOAP

```

==== Request ====
<?xml version="1.0" encoding="UTF-8"?>
    <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
        <soapenv:Body>
            <getSearchableAttributes
xmlns="http://xmlns.oracle.com/AgileObjects/Core/Search/V1">
                <request xmlns="">
                    <classIdentifier>Part</classIdentifier>
                </request>
            </getSearchableAttributes>
        </soapenv:Body>
    </soapenv:Envelope>
==== Response ====
<?xml version="1.0" encoding="utf-8"?>
    <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"

```

```
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
  <soapenv:Body>
    <getSearchableAttributesResponse
xmlns="http://xmlns.oracle.com/AgileObjects/Core/Search/V1">
      <response xmlns="">
        <messageId xsi:nil="true"/>
        <messageName xsi:nil="true"/>
        <statusCode>SUCCESS</statusCode>
        <attributes>
          <nodeId>2000004143</nodeId>
          <apiName>complianceCalculatedDate</apiName>
          typeATTRIBUTE</type>
          <displayName>Compliance Calculated Date</displayName>
          <dataType>3</dataType>
          <searchable>true</searchable>
          <visible>true</visible>
          <required>false</required>
          <maxLength>2147483647</maxLength>
          <properties>
            <propertyId>1</propertyId>
            <apiName>AttType</apiName>
            <displayName>AttType</displayName>
            <readOnly>false</readOnly>
            <AttType xsi:type="xs:string"
xmlns:xs="http://www.w3.org/2001/XMLSchema"></AttType>
          </properties>
          <properties>
            <propertyId>9</propertyId>
            <apiName>Visible</apiName>
            <displayName>Visible</displayName>
            <readOnly>true</readOnly>
            <Visible xsi:type="common:AgileListEntryType"
xmlns:common="http://xmlns.oracle.com/AgileObjects/Core/Common/V1">
              <selection>
                <id>1</id>
                <apiName>YES</apiName>
                <value>Yes</value>
              </selection>
            </Visible>
          </properties>
        </attributes>
      </response>
    </getSearchableAttributesResponse>
```

See also `getAttributes`

16.10.5 getSearchableClasses

Service

To retrieve a list of searchable base classes, classes and sub-classes.

Usage

Allows the user to retrieve the list of Searchable BaseClasses/ Classes/ SubClasses for which the user has privilege. The request object takes `classIdentifier` as input. If the `classIdentifier` is not set then the response will contain the list of all searchable BaseClasses else the response will return the list of all subclasses of that `classIdentifier`.

Sample Code

SOAP

```

==== Request ====
<?xml version="1.0" encoding="UTF-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
      <getSearchableClasses
xmlns="http://xmlns.oracle.com/AgileObjects/Core/Search/V1">
        <request xmlns="">
          <disableAllWarnings>true</disableAllWarnings>
          <onlyBaseClasses>false</onlyBaseClasses>
          <classIdentifier>ChangesBaseClass</classIdentifier>
        </request>
      </getSearchableClasses>
    </soapenv:Body>
  </soapenv:Envelope>
==== Response ====
<?xml version="1.0" encoding="utf-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
      <getSearchableClassesResponse
xmlns="http://xmlns.oracle.com/AgileObjects/Core/Search/V1">
        <response xmlns="">
          <messageId xsi:nil="true"/>
          <messageName xsi:nil="true"/>
          <statusCode>SUCCESS</statusCode>
          <classes>
            <nodeId>6000</nodeId>
            <apiName>ChangeOrdersClass</apiName>
            <typeCLASS</type>
            <displayName>Change Orders</displayName>
            <abstractClass>true</abstractClass>
          </classes>
          <classes>
            <nodeId>1450</nodeId>
            <apiName>ManufacturerOrdersClass</apiName>
            <typeCLASS</type>
            <displayName>Manufacturer Orders</displayName>
            <abstractClass>true</abstractClass>
          </classes>
          <classes>
            <nodeId>11000</nodeId>
            <apiName>StopShipsClass</apiName>
            <typeCLASS</type>
            <displayName>Stop Ships</displayName>
            <abstractClass>true</abstractClass>
          </classes>
        </response>
      </getSearchableClassesResponse>
    </soapenv:Body>
  </soapenv:Envelope>

```

quickSearch

16.11 Query Web Services

This section describes the web services operations available for Query Web Services.

16.11.1 createQuery

Service

To create a search query and save the query into a folder.

Usage

Creates a query given the criteria and folder path where it is to be saved. The response object contains the QueryObjectType objects. You can verify the success of the operation using the status code in the response object.

Sample Code

SOAP

```
==== Request ====
<?xml version="1.0" encoding="UTF-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
      <createQuery xmlns="http://xmlns.oracle.com/AgileObjects/Core/Search/V1">
        <request xmlns="">
          <disableAllWarnings>true</disableAllWarnings>
          <requests>
            <queryParams>
              <queryIdentifier>
                <name>Personal Searches/AdvancedSearch6524265</name>
              </queryIdentifier>
              <searchClassIdentifier>ECO</searchClassIdentifier>
              <criteria>[1049] in ('Other')</criteria>
              <visibility>PUBLIC</visibility>
              <searchType>0</searchType>
              <caseSensitive>>false</caseSensitive>
            </queryParams>
          </requests>
        </request>
      </createQuery>
    </soapenv:Body>
  </soapenv:Envelope>
==== Response ====
<?xml version="1.0" encoding="utf-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
      <createQueryResponse
xmlns="http://xmlns.oracle.com/AgileObjects/Core/Search/V1">
        <response xmlns="">
          <messageId xsi:nil="true"/>
          <messageName xsi:nil="true"/>
          <statusCode>SUCCESS</statusCode>
          <responses>
            <query>
              <queryIdentifier>
                <name>Personal Searches/AdvancedSearch6504413</name>
                <id>6100910</id>
              </queryIdentifier>
            </query>
          </responses>
        </response>
      </createQueryResponse>
    </soapenv:Body>
  </soapenv:Envelope>
```



```

        <version>1</version>
      </queryIdentifier>
      <searchClassIdentifier>PartsClass</searchClassIdentifier>
      <criteria>[1001] contains 'TE'</criteria>
      <visibility>PRIVATE</visibility>
      <searchType>0</searchType>
      <caseSensitive>>false</caseSensitive>
      <resultAttributes>number</resultAttributes>
      <resultAttributes>description</resultAttributes>
      <resultAttributes>lifecyclePhase</resultAttributes>
      <resultAttributes>rev</resultAttributes>
      <resultAttributes>overallCompliance</resultAttributes>
      <resultAttributes>itemType</resultAttributes>
      <owner>admin</owner>
    </query>
  </responses>
</response>
</createQueryResponse>
</soapenv:Body>
</soapenv:Envelope>

```

16.11.2 loadQuery

Service

Allows the user to load a query object given a query Identifier. The identifier can be the full Query Path which includes the queryName appended to the parentFolder path.

Usage

Loads the query given the query id or query name (full name with folder path + name). The response object contains the QueryObjectType objects. You can verify the success of the operation using the status code in the response object.

Sample Code

SOAP

```

==== Request ====
<?xml version="1.0" encoding="UTF-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
    xmlns:xsd="http://www.w3.org/2001/XMLSchema"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
      <loadQuery xmlns="http://xmlns.oracle.com/AgileObjects/Core/Search/V1">
        <request xmlns="">
          <disableAllWarnings>true</disableAllWarnings>
          <requests>
            <queryIdentifier>
              <name>Personal Searches/AdvancedSearch4940265</name>
            </queryIdentifier>
          </requests>
        </request>
      </loadQuery>
    </soapenv:Body>
  </soapenv:Envelope>
==== Response ====
<?xml version="1.0" encoding="utf-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
    xmlns:xsd="http://www.w3.org/2001/XMLSchema"

```

```
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
  <soapenv:Body>
    <loadQueryResponse
xmlns="http://xmlns.oracle.com/AgileObjects/Core/Search/V1">
      <response xmlns="">
        <messageId xsi:nil="true"/>
        <messageName xsi:nil="true"/>
        <statusCode>SUCCESS</statusCode>
        <responses>
          <query>
            <queryIdentifier>
              <name>Personal Searches/AdvancedSearch4940265</name>
              <id>6101016</id>
              <version>1</version>
            </queryIdentifier>
            <searchClassIdentifier>PartsClass</searchClassIdentifier>
            <criteria>[1001] contains 'TE'</criteria>
            <visibility>PRIVATE</visibility>
            <searchType>0</searchType>
            <caseSensitive>false</caseSensitive>
            <resultAttributes>number</resultAttributes>
            <resultAttributes>description</resultAttributes>
            <resultAttributes>lifecyclePhase</resultAttributes>
            <resultAttributes>rev</resultAttributes>
            <resultAttributes>overallCompliance</resultAttributes>
            <resultAttributes>itemType</resultAttributes>
            <owner>admin</owner>
          </query>
        </responses>
      </response>
    </loadQueryResponse>
  </soapenv:Body>
</soapenv:Envelope>
```

16.11.3 executeSavedQuery

Service

To execute a query that is already created and saved in the Agile system.

Usage

Executes a query given the query id or query name (full name with folder path + name). The response object contains the AgileTableType objects. You can verify the success of the operation using the status code in the response object.

Sample Code

SOAP

```
==== Request ====
<?xml version="1.0" encoding="UTF-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
      <executeSavedQuery
xmlns="http://xmlns.oracle.com/AgileObjects/Core/Search/V1">
        <request xmlns="">
          <disableAllWarnings>true</disableAllWarnings>
        </requests>
```

```

        <queryIdentifier>
          <name>Personal Searches/AdvancedSearch8976589</name>
        </queryIdentifier>
        <params>
          <parameter>Electrical</parameter>
        </params>
      </requests>
    </request>
  </executeSavedQuery>
</soapenv:Body>
</soapenv:Envelope>
==== Response ====
<?xml version="1.0" encoding="utf-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
    xmlns:xsd="http://www.w3.org/2001/XMLSchema"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
      <executeSavedQueryResponse
        xmlns="http://xmlns.oracle.com/AgileObjects/Core/Search/V1">
        <response xmlns="">
          <messageId xsi:nil="true"/>
          <messageName xsi:nil="true"/>
          <statusCode>SUCCESS</statusCode>
          <responses>
            <results>
              <tableIdentifier>
                <objectId>6100916</objectId>
                <tableId>-102</tableId>
                <tableName xsi:nil="true"/>
              </tableIdentifier>
            </results>
          </responses>
        </response>
      </executeSavedQueryResponse>
    </soapenv:Body>
  </soapenv:Envelope>

```

16.11.4 saveAsQuery

Service

To save an existing query object as a new query object in the Agile system.

Usage

Saves a query given the query id or query name (full name with folder path + name) to new folder or with a new name and provides a mechanism by which the query can be saved into a particular folder. The response will return the new Query Object back to the client. The response object contains the QueryObjectType objects. Success of the operation may be verified using the status code in the response object. .

Sample Code

SOAP

```

==== Request ====
<?xml version="1.0" encoding="UTF-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
    xmlns:xsd="http://www.w3.org/2001/XMLSchema"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>

```

```
<saveAsQuery xmlns="http://xmlns.oracle.com/AgileObjects/Core/Search/V1">
  <request xmlns="">
    <disableAllWarnings>true</disableAllWarnings>
    <requests>
      <queryIdentifier>
        <name>Global Searches/QUERY_A6120956</name>
      </queryIdentifier>
      <newQueryIdentifier>/Global Searches/QUERY_
B3978010</newQueryIdentifier>
      <shortcut>>false</shortcut>
    </requests>
  </request>
</saveAsQuery>
</soapenv:Body>
</soapenv:Envelope>
==== Response ====
<?xml version="1.0" encoding="utf-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
      <saveAsQueryResponse
xmlns="http://xmlns.oracle.com/AgileObjects/Core/Search/V1">
        <response xmlns="">
          <messageId xsi:nil="true"/>
          <messageName xsi:nil="true"/>
          <statusCode>SUCCESS</statusCode>
          <responses>
            <query>
              <queryIdentifier>
                <name>/Global Searches/QUERY_B3978010</name>
                <id>6101121</id>
                <version>1</version>
              </queryIdentifier>
              <searchClassIdentifier>PartsClass</searchClassIdentifier>
              <criteria>[1001] contains 'TE'</criteria>
              <visibility>PRIVATE</visibility>
              <searchType>0</searchType>
              <caseSensitive>>false</caseSensitive>
              <resultAttributes>number</resultAttributes>
              <resultAttributes>description</resultAttributes>
              <resultAttributes>lifecyclePhase</resultAttributes>
              <resultAttributes>rev</resultAttributes>
              <resultAttributes>overallCompliance</resultAttributes>
              <resultAttributes>itemType</resultAttributes>
              <owner>admin</owner>
            </query>
          </responses>
        </response>
      </saveAsQueryResponse>
    </soapenv:Body>
  </soapenv:Envelope>
```

16.11.5 updateQuery

Service To update an existing query object in the Agile system.

Usage Updates the query given the query id or query name (full name with folder path + name) with new criteria. The response object contains the QueryObjectType

objects. Success of the operation may be verified using the status code in the response object. .

Sample Code SOAP

```

==== Request ====
<?xml version="1.0" encoding="UTF-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
    xmlns:xsd="http://www.w3.org/2001/XMLSchema"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
      <updateQuery xmlns="http://xmlns.oracle.com/AgileObjects/Core/Search/V1">
        <request xmlns="">
          <disableAllWarnings>true</disableAllWarnings>
          <requests>
            <queryIdentifier>
              <name>Personal Searches/AdvancedSearchNEW1912299</name>
            </queryIdentifier>
            <newQueryParams>
              <queryIdentifier>
                <name>AdvancedSearchNEW1912298</name>
              </queryIdentifier>
              <searchClassIdentifier>ECO</searchClassIdentifier>
              <criteria>[1049] contains ('Other')</criteria>
              <searchType>0</searchType>
              <caseSensitive>>false</caseSensitive>
            </newQueryParams>
          </requests>
        </request>
      </updateQuery>
    </soapenv:Body>
  </soapenv:Envelope>
==== Response ====
<?xml version="1.0" encoding="utf-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
    xmlns:xsd="http://www.w3.org/2001/XMLSchema"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
      <updateQueryResponse
        xmlns="http://xmlns.oracle.com/AgileObjects/Core/Search/V1">
        <response xmlns="">
          <messageId xsi:nil="true"/>
          <messageName xsi:nil="true"/>
          <statusCode>SUCCESS</statusCode>
          <responses>
            <query>
              <queryIdentifier>
                <name>/Global Searches/Query_A4678815</name>
                <id>6101124</id>
                <version>6</version>
              </queryIdentifier>
              <searchClassIdentifier>PartsClass</searchClassIdentifier>
              <criteria>[1001] contains 'XYZ'</criteria>
              <visibility>PRIVATE</visibility>
              <searchType>0</searchType>
              <caseSensitive>>false</caseSensitive>
              <resultAttributes>number</resultAttributes>
              <resultAttributes>description</resultAttributes>
              <resultAttributes>lifecyclePhase</resultAttributes>
              <resultAttributes>rev</resultAttributes>
              <resultAttributes>overallCompliance</resultAttributes>
            </query>
          </responses>
        </response>
      </updateQueryResponse>
    </soapenv:Body>
  </soapenv:Envelope>

```

```
        <resultAttributes>itemType</resultAttributes>
        <owner>admin</owner>
    </query>
</responses>
</response>
```

16.11.6 deleteQuery

Service

To delete an existing query object from the Agile system.

Usage

Deletes the query given the query id or query name (full name with folder path + name). Success of the operation may be verified using the status code in the response object.

Sample Code

SOAP

```
==== Request ====
<?xml version="1.0" encoding="UTF-8"?>
    <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
        xmlns:xsd="http://www.w3.org/2001/XMLSchema"
        xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
        <soapenv:Body>
            <deleteQuery xmlns="http://xmlns.oracle.com/AgileObjects/Core/Search/V1">
                <request xmlns="">
                    <disableAllWarnings>true</disableAllWarnings>
                    <requests>
                        <queryIdentifier>
                            <name>Personal Searches/AdvancedSearch969239</name>
                        </queryIdentifier>
                    </requests>
                </request>
            </deleteQuery>
        </soapenv:Body>
    </soapenv:Envelope>
==== Response ====
<?xml version="1.0" encoding="utf-8"?>
    <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
        xmlns:xsd="http://www.w3.org/2001/XMLSchema"
        xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
        <soapenv:Body>
            <deleteQueryResponse
                xmlns="http://xmlns.oracle.com/AgileObjects/Core/Search/V1">
                <response xmlns="">
                    <messageId xsi:nil="true"/>
                    <messageName xsi:nil="true"/>
                    <statusCode>SUCCESS</statusCode>
                    <responses/>
                </response>
            </deleteQueryResponse>
        </soapenv:Body>
    </soapenv:Envelope>
```

16.12 Tables Web Services

This section describes the web services operations available for Tables Web Services.

16.12.1 isReadOnlyTable

Service

To query a specific Agile Table object and determine if the table status is 'read-only'.

Usage

Contains class identifier, object id and table identifier that identify the table. The response object returns true or false for read-only status of the table, besides the table name and table display name.

Sample Code

SOAP

```
==== Request ====
<?xml version="1.0" encoding="UTF-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
    xmlns:xsd="http://www.w3.org/2001/XMLSchema"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
      <isReadOnlyTable
        xmlns="http://xmlns.oracle.com/AgileObjects/Core/Table/V1">
        <request xmlns="">
          <isReadOnlyTable>
            <agileTable>
              <classIdentifier>Part</classIdentifier>
              <objectNumber>P00711</objectNumber>
              <tableIdentifier>807</tableIdentifier>
            </agileTable>
          </isReadOnlyTable>
          <isReadOnlyTable>
            <agileTable>
              <classIdentifier>ECO</classIdentifier>
              <objectNumber>C00217</objectNumber>
              <tableIdentifier>809</tableIdentifier>
            </agileTable>
          </isReadOnlyTable>
        </request>
      </isReadOnlyTable>
    </soapenv:Body>
  </soapenv:Envelope>
==== Response ====
<?xml version="1.0" encoding="utf-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
    xmlns:xsd="http://www.w3.org/2001/XMLSchema"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
      <isReadOnlyTableResponse
        xmlns="http://xmlns.oracle.com/AgileObjects/Core/Table/V1">
        <response xmlns="">
          <messageId xsi:nil="true"/>
          <messageName xsi:nil="true"/>
          <statusCode>SUCCESS</statusCode>
          <isTableReadOnly>
            <agileTable>
              <classId>10141</classId>
```

```
        <className>Part</className>
        <objectId>6112208</objectId>
        <objectName>P00711</objectName>
        <tableId>807</tableId>
        <tableName>Attachments</tableName>
        <tableDisplayName>Attachments</tableDisplayName>
    </agileTable>
    <isReadOnlyTable>false</isReadOnlyTable>
</isTableReadOnly>
<isTableReadOnly>
    <agileTable>
        <classId>6141</classId>
        <className>ECO</className>
        <objectId>6112212</objectId>
        <objectName>C00217</objectName>
        <tableId>809</tableId>
        <tableName>AffectedItems</tableName>
        <tableDisplayName>Affected Items</tableDisplayName>
    </agileTable>
    <isReadOnlyTable>false</isReadOnlyTable>
</isTableReadOnly>
</response>
</isReadOnlyTableResponse>
</soapenv:Body>
</soapenv:Envelope>
```

16.12.2 clearTable

Service

To purge the contents of an Agile Table object by removing all its rows.

Usage

Contains class identifier and table identifier. Success of the operation may be verified using the status code in the response object.

Sample Code

SOAP

```
==== Request ====
<?xml version="1.0" encoding="UTF-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
    xmlns:xsd="http://www.w3.org/2001/XMLSchema"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
      <clearTable xmlns="http://xmlns.oracle.com/AgileObjects/Core/Table/V1">
        <request xmlns="">
          <clearTable>
            <agileTable>
              <classIdentifier>Part</classIdentifier>
              <objectNumber>P00707</objectNumber>
              <tableIdentifier>807</tableIdentifier>
            </agileTable>
          </clearTable>
          <clearTable>
            <agileTable>
              <classIdentifier>ECO</classIdentifier>
              <objectNumber>C00216</objectNumber>
              <tableIdentifier>809</tableIdentifier>
```



```

        </agileTable>
    </clearTable>
</request>
</clearTable>
</soapenv:Body>
</soapenv:Envelope>
==== Response ====
<?xml version="1.0" encoding="utf-8"?>
    <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
        <soapenv:Body>
            <clearTableResponse
xmlns="http://xmlns.oracle.com/AgileObjects/Core/Table/V1">
                <response xmlns="">
                    <messageId xsi:nil="true"/>
                    <messageName xsi:nil="true"/>
                    <statusCode>SUCCESS</statusCode>
                </response>
            </clearTableResponse>
        </soapenv:Body>
    </soapenv:Envelope>

```

See also loadTable

16.12.3 copyTable

Service

To copy the contents of an Agile Table object from one table to another.

Usage

Contains relevant information that identifies the tables. Success of the operation may be verified using the status code in the response object.

Sample Code

SOAP

```

==== Request ====
<?xml version="1.0" encoding="UTF-8"?>
    <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
        <soapenv:Body>
            <copyTable xmlns="http://xmlns.oracle.com/AgileObjects/Core/Table/V1">
                <request xmlns="">
                    <copyTable>
                        <sourceTable>
                            <classIdentifier>Part</classIdentifier>
                            <objectNumber>P00709</objectNumber>
                            <tableIdentifier>2000001404</tableIdentifier>
                        </sourceTable>
                        <targetTable>
                            <classIdentifier>Part</classIdentifier>
                            <objectNumber>P00710</objectNumber>
                            <tableIdentifier>2000001404</tableIdentifier>
                        </targetTable>
                    </copyTable>
                </request>
            </copyTable>
        </soapenv:Body>
    </soapenv:Envelope>

```

```
        </soapenv:Body>
    </soapenv:Envelope>
==== Response ====
<?xml version="1.0" encoding="utf-8"?>
    <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
        <soapenv:Body>
            <copyTableResponse
xmlns="http://xmlns.oracle.com/AgileObjects/Core/Table/V1">
                <response xmlns="">
                    <messageId xsi:nil="true"/>
                    <messageName xsi:nil="true"/>
                    <statusCode>SUCCESS</statusCode>
                </response>
            </copyTableResponse>
        </soapenv:Body>
    </soapenv:Envelope>
```

See also `loadTable`, `clearTable`

16.12.4 addRows

Service

To add rows in an Agile Table object

Usage

Uses details of the new row and the table. The request object is built using `rowId` and `objectInfo`. Success of the operation is verified using the status code in the response object.

Sample Code

SOAP

```
==== Request ====
<?xml version="1.0" encoding="UTF-8"?>
    <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
        <soapenv:Body>
            <addRows xmlns="http://xmlns.oracle.com/AgileObjects/Core/Table/V1">
                <request xmlns="">
                    <data>
                        <objectInfo>
                            <classIdentifier>ECO</classIdentifier>
                            <objectNumber>C00218</objectNumber>
                            <tableIdentifier>809</tableIdentifier>
                        </objectInfo>
                        <row rowId="0">
                            <key1054 attributeId="1054">P00713</key1054>
                        </row>
                    </data>
                </request>
            </addRows>
        </soapenv:Body>
    </soapenv:Envelope>
==== Response ====
<?xml version="1.0" encoding="utf-8"?>
    <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
```

```

xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
  <soapenv:Body>
    <addRowsResponse
xmlns="http://xmlns.oracle.com/AgileObjects/Core/Table/V1">
      <response xmlns="">
        <messageId xsi:nil="true"/>
        <messageName xsi:nil="true"/>
        <statusCode>SUCCESS</statusCode>
      </response>
    </addRowsResponse>
  </soapenv:Body>
</soapenv:Envelope>

```

See also `getTableMetadata`, `isReadOnlyTable`

16.12.5 updateRows

Service

To update an existing row in an Agile Table object.

Usage

Uses details of the modified row and the table. The request object is built using `objectInfo` and `rowId` attributes. Success of the operation may be verified using the status code in the response object.

Sample Code

SOAP

```

==== Request ====
<?xml version="1.0" encoding="UTF-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
      <updateRows xmlns="http://xmlns.oracle.com/AgileObjects/Core/Table/V1">
        <request xmlns="">
          <data>
            <objectInfo>
              <classIdentifier>ECO</classIdentifier>
              <objectNumber>C00218</objectNumber>
              <tableIdentifier>809</tableIdentifier>
            </objectInfo>
            <row>
              <rowId>6112255</rowId>
              <row rowId="0">
                <modified_element attributeId="newRev">2</modified_
element>
              </row>
            </row>
          </data>
        </request>
      </updateRows>
    </soapenv:Body>
  </soapenv:Envelope>
==== Response ====
<?xml version="1.0" encoding="utf-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"

```

```
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
  <soapenv:Body>
    <updateRowsResponse
xmlns="http://xmlns.oracle.com/AgileObjects/Core/Table/V1">
      <response xmlns="">
        <messageId xsi:nil="true"/>
        <messageName xsi:nil="true"/>
        <statusCode>SUCCESS</statusCode>
      </response>
    </updateRowsResponse>
  </soapenv:Body>
</soapenv:Envelope>
```

See also `getTableMetadata`, `isReadOnlyTable`, `loadTable`, `getRowId` Method on page 409

16.12.6 removeRows

Service

To remove an existing row belonging to an Agile Table object.

Usage

Includes details of the row to be removed and the table identifier. Success of the operation may be verified using the status code in the response object.

Sample Code

SOAP

```
==== Request ====
<?xml version="1.0" encoding="UTF-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
      <removeRows xmlns="http://xmlns.oracle.com/AgileObjects/Core/Table/V1">
        <request xmlns="">
          <rows>
            <objectInfo>
              <classIdentifier>Part</classIdentifier>
              <objectNumber>P00717</objectNumber>
              <tableIdentifier>803</tableIdentifier>
            </objectInfo>
            <rowId>6112309</rowId>
          </rows>
        </request>
      </removeRows>
    </soapenv:Body>
  </soapenv:Envelope>
==== Response ====
<?xml version="1.0" encoding="utf-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
      <removeRowsResponse
xmlns="http://xmlns.oracle.com/AgileObjects/Core/Table/V1">
        <response xmlns="">
          <messageId xsi:nil="true"/>
          <messageName xsi:nil="true"/>
```

```

        <statusCode>SUCCESS</statusCode>
    </response>
</removeRowsResponse>
</soapenv:Body>
</soapenv:Envelope>

```

See also `isReadOnlyTable`, `loadTable`, `getRowId` Method on page 409

16.12.7 loadTable

Service

To load the content of an existing Agile Table object.

Usage

Contains identifier of the table to be retrieved and the information to be obtained from it. Success of the operation may be verified using the status code in the response object.

Sample Code

SOAP

```

==== Request ====
<?xml version="1.0" encoding="UTF-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
    xmlns:xsd="http://www.w3.org/2001/XMLSchema"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
      <loadTable xmlns="http://xmlns.oracle.com/AgileObjects/Core/Table/V1">
        <request xmlns="">
          <tableRequest>
            <classIdentifier>ECO</classIdentifier>
            <objectNumber>C00220</objectNumber>
            <tableIdentifier>809</tableIdentifier>
          </tableRequest>
        </request>
      </loadTable>
    </soapenv:Body>
  </soapenv:Envelope>
==== Response ====
<?xml version="1.0" encoding="utf-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
    xmlns:xsd="http://www.w3.org/2001/XMLSchema"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
      <loadTableResponse
        xmlns="http://xmlns.oracle.com/AgileObjects/Core/Table/V1">
        <response xmlns="">
          <messageId xsi:nil="true"/>
          <messageName xsi:nil="true"/>
          <statusCode>SUCCESS</statusCode>
          <tableContents>
            <tableIdentifier>
              <classId>6141</classId>
              <className>ECO</className>
              <objectId>6112315</objectId>
              <objectName>C00220</objectName>
              <tableId>809</tableId>
              <tableName>AffectedItems</tableName>
              <tableDisplayName>Affected Items</tableDisplayName>
            </tableIdentifier>
          </tableContents>
        </response>
      </loadTableResponse>
    </soapenv:Body>
  </soapenv:Envelope>

```

```
        </tableIdentifier>
        <row rowId="6112318">
          <objectReferentId>
            <classId>10141</classId>
            <className>Part</className>
            <objectId>6112311</objectId>
            <objectName>P00719</objectName>
          </objectReferentId>
          <hasBeenRedlinedImage xsi:type="xs:string"
xmlns:xs="http://www.w3.org/2001/XMLSchema" attributeId="6350"
readOnly="True">false</hasBeenRedlinedImage>
          <itemNumber xsi:type="xs:string"
xmlns:xs="http://www.w3.org/2001/XMLSchema" attributeId="1054"
readOnly="False">P00719</itemNumber>
          <attachmentsImage xsi:type="xs:string"
xmlns:xs="http://www.w3.org/2001/XMLSchema" attributeId="12623"
readOnly="True">false</attachmentsImage>
        </row>
      </tableContents>
    </response>
  </loadTableResponse>
</soapenv:Body>
</soapenv:Envelope>
```

16.12.8 isFlagSet

Service

To ascertain the status of a predetermined flag on a particular row of a Agile table.

Usage

These flags are specific to the table to which the row belongs. For instance, an attachment table may contain a flag 'hasAttachments' denoting whether or not the table has attachments present in it. To identify the row, object information identifying the table must be coupled with a unique rowId that identifies the row itself. The table may be identified with identifier keys of class, object name and table identifier. The request must also specify the flag pertaining to the current table, for which the row is being queried. Based on this request a boolean value will be obtained in the response with which the nature of the flag status for the current row may be determined.

Sample Code

SOAP

```
==== Request ====
<?xml version="1.0" encoding="UTF-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
      <isFlagSet xmlns="http://xmlns.oracle.com/AgileObjects/Core/Table/V1">
        <request xmlns="">
          <disableAllWarnings>true</disableAllWarnings>
          <requests>
            <objectInfo>
              <classIdentifier>Part</classIdentifier>
              <objectNumber>TEST_PARENT7958046</objectNumber>
              <tableIdentifier>-803</tableIdentifier>
              <options>
                <propertyName>redline_change</propertyName>
              </options>
            </objectInfo>
          </requests>
        </request>
      </isFlagSet>
    </soapenv:Body>
  </soapenv:Envelope>
```

```

        <propertyValue>TEST_EC08990047</propertyValue>
        </options>
        </objectInfo>
        <rowId>6104164</rowId>
        <flagIdentifier>-103</flagIdentifier>
    </requests>
</request>
</isFlagSet>
</soapenv:Body>
</soapenv:Envelope>
==== Response ====
<?xml version="1.0" encoding="utf-8"?>
    <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
        <soapenv:Body>
            <isFlagSetResponse
xmlns="http://xmlns.oracle.com/AgileObjects/Core/Table/V1">
                <response xmlns="">
                    <messageId xsi:nil="true"/>
                    <messageName xsi:nil="true"/>
                    <statusCode>SUCCESS</statusCode>
                    <responses>
                        <isFlagSet>true</isFlagSet>
                    </responses>
                </response>
            </isFlagSetResponse>
        </soapenv:Body>
    </soapenv:Envelope>

```

16.12.9 addrowstoReferenceObject

Service

To add rows to a table of an Agile Reference Object using the addRows operation.

Usage

Contains the content of the row to be added to the table in the form of message elements.

Sample Code

SOAP

```

==== Request ====
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:v1="http://xmlns.oracle.com/AgileObjects/Core/Business/V1">
    <soapenv:Header/>
    <soapenv:Body>
        <v1:createObject>
            <request>
                <requests>
                    <classIdentifier>RefObjectClassName</classIdentifier>
                    <data rowId="0">
                        <Name>RefObj001</Name>
                        <Description>Reference Object RefObj001</Description>
                        <referencedObjKey>0001|12345</referencedObjKey>
                    </data>
                </requests>
            </request>
        </v1:createObject>
    </soapenv:Body>
</soapenv:Envelope>

```

```
        </request>
      </v1:createObject>
    </soapenv:Body>
  </soapenv:Envelope>
==== Response ====
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
  <soapenv:Body>
    <createObjectResponse
xmlns="http://xmlns.oracle.com/AgileObjects/Core/Business/V1">
      <response xmlns="">
        <messageId xsi:nil="true" />
        <messageName xsi:nil="true" />
        <statusCode>SUCCESS</statusCode>
        <responses>
          <agileObject>
            <objectIdentifier>
              <classId>2623238</classId>
              <className>RefObjectClassName</className>
              <classDisplayName>RefObjectClassName</classDisplayName>
              <objectId>6206023</objectId>
              <objectName>RefObj001</objectName>
              <version>0</version>
            </objectIdentifier>
          </agileObject>
        </responses>
      </response>
    </createObjectResponse>
  </soapenv:Body>
</soapenv:Envelope>
```

16.12.10 getNotifications

Service

Gets all notification for the current User.

Usage

Retrieves all the notifications pertaining to the current Agile user. The response will return a set of notifications for the user with information describing the subject, the sender and the date when the notification was received.

Sample Code

SOAP

```
==== Request ====
<?xml version="1.0" encoding="UTF-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
      <getNotifications
xmlns="http://xmlns.oracle.com/AgileObjects/Core/UserProfile/V1">
        <request xmlns="" />
      </getNotifications>
    </soapenv:Body>
  </soapenv:Envelope>
==== Response ====
```



```

HTTP/1.1 200 OK
Date: Wed, 02 Jun 2010 12:08:37 GMT
Server: Oracle Containers for J2EE
Set-Cookie:
JSESSIONID=156e314ab84bdf970e0466b030e455cad5188d6ed8ccc6db6d3647470b646d94;
path=/core
Cache-Control: private
Connection: close
Content-Type: text/xml; charset=utf-8

<?xml version="1.0" encoding="utf-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
    xmlns:xsd="http://www.w3.org/2001/XMLSchema"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
      <getNotificationsResponse
        xmlns="http://xmlns.oracle.com/AgileObjects/Core/UserProfile/V1">
        <response xmlns="">
          <messageId xsi:nil="true"/>
          <messageName xsi:nil="true"/>
          <statusCode>SUCCESS</statusCode>
          <table>
            <tableIdentifier xsi:nil="true"/>
            <row rowId="6000045">
              <Type xsi:type="common:AgileListEntryType"
                xmlns:common="http://xmlns.oracle.com/AgileObjects/Core/Common/V1">
                <selection>
                  <id>1</id>
                  <apiName></apiName>
                  <value>Request</value>
                </selection>
                </Type>
                <Subject xsi:type="xs:string"
                  xmlns:xs="http://www.w3.org/2001/XMLSchema">Project Activity Assignment: PGM_
NAME8203143 with %Allocation: 100.0.</Subject>
                <NotificationType xsi:type="xs:string"
                  xmlns:xs="http://www.w3.org/2001/XMLSchema">Activities - Assignment of an Activity
to a Resource</NotificationType>
                <Regarding xsi:type="common:AgileObjectType"
                  xmlns:common="http://xmlns.oracle.com/AgileObjects/Core/Common/V1">
                  <classId>18027</classId>
                  <className>Program</className>
                  <classDisplayName>Program</classDisplayName>
                  <objectId>143</objectId>
                  <objectName>PGM_NAME8203143</objectName>
                  <version>2</version>
                </Regarding>
                <SentBy xsi:type="common:AgileObjectType"
                  xmlns:common="http://xmlns.oracle.com/AgileObjects/Core/Common/V1">
                  <classId>11610</classId>
                  <className>User</className>
                  <classDisplayName>User</classDisplayName>
                  <objectId>704</objectId>
                  <objectName>admin</objectName>
                  <version>1</version>
                </SentBy>
                <Body xsi:type="xs:string"
                  xmlns:xs="http://www.w3.org/2001/XMLSchema">
                  Activity PGM_NAME8203143 has
                  been assigned to you by Administrator (admin).      The scheduled dates of the
assigned activity are:      Scheduled Start:      11/30/2010 08:00:00 AM

```

```

Scheduled End:          11/30/2010 05:00:00 PM                      Please
access your Agile Inbox to accept or decline assignment to this activity:
http://MMUTHUSW-IDC:8888/web/PLMServlet?action=OpenEmailObject&classid=18022&am
p;objid=143 </Body>
    <Received xsi:type="xs:date"
xmlns:xs="http://www.w3.org/2001/XMLSchema">2010-06-02T12:06:36.000Z</Received>
    </row>
    <row rowId="6000044">
        <Type xsi:type="common:AgileListEntryType"
xmlns:common="http://xmlns.oracle.com/AgileObjects/Core/Common/V1">
            <selection>
                <id>0</id>
                <apiName></apiName>
                <value>Notification</value>
            </selection>
        </Type>
        <Subject xsi:type="xs:string"
xmlns:xs="http://www.w3.org/2001/XMLSchema">Project Activity Assignment: PGM_
NAME8203143 with %Allocation: 100.0.</Subject>
        <NotificationType xsi:type="xs:string"
xmlns:xs="http://www.w3.org/2001/XMLSchema">Activities - Notification for Activity
Assignment to a Resource</NotificationType>
        <Regarding xsi:type="common:AgileObjectType"
xmlns:common="http://xmlns.oracle.com/AgileObjects/Core/Common/V1">
            <classId>18027</classId>
            <className>Program</className>
            <classDisplayName>Program</classDisplayName>
            <objectId>143</objectId>
            <objectName>PGM_NAME8203143</objectName>
            <version>2</version>
        </Regarding>
        <SentBy xsi:type="common:AgileObjectType"
xmlns:common="http://xmlns.oracle.com/AgileObjects/Core/Common/V1">
            <classId>11610</classId>
            <className>User</className>
            <classDisplayName>User</classDisplayName>
            <objectId>704</objectId>
            <objectName>admin</objectName>
            <version>1</version>
        </SentBy>
        <Body xsi:type="xs:string"
xmlns:xs="http://www.w3.org/2001/XMLSchema">          Activity PGM_NAME8203143 has
been assigned to you by Administrator (admin).          Please access your My
Assignments to accept or decline assignment to this activity:
http://MMUTHUSW-IDC:8888/web/PLMServlet?action=OpenEmailObject&classid=18022&a
mp;objid=143 </Body>
    <Received xsi:type="xs:date"
xmlns:xs="http://www.w3.org/2001/XMLSchema">2010-06-02T12:06:36.000Z</Received>
    </row>
    <row rowId="6000037">
        <Type xsi:type="common:AgileListEntryType"
xmlns:common="http://xmlns.oracle.com/AgileObjects/Core/Common/V1">
            <selection>
                <id>1</id>
                <apiName></apiName>
                <value>Request</value>
            </selection>
        </Type>
        <Subject xsi:type="xs:string"
xmlns:xs="http://www.w3.org/2001/XMLSchema">Project Activity Assignment: PGM_

```

```

NAME9699280 with %Allocation: 100.0.</Subject>
    <NotificationType xsi:type="xs:string"
xmlns:xs="http://www.w3.org/2001/XMLSchema">Activities - Assignment of an Activity
to a Resource</NotificationType>
    <Regarding xsi:type="common:AgileObjectType"
xmlns:common="http://xmlns.oracle.com/AgileObjects/Core/Common/V1">
    <classId>18027</classId>
    <className>Program</className>
    <classDisplayName>Program</classDisplayName>
    <objectId>136</objectId>
    <objectName>PGM_NAME9699280</objectName>
    <version>2</version>
    </Regarding>
    <SentBy xsi:type="common:AgileObjectType"
xmlns:common="http://xmlns.oracle.com/AgileObjects/Core/Common/V1">
    <classId>11610</classId>
    <className>User</className>
    <classDisplayName>User</classDisplayName>
    <objectId>704</objectId>
    <objectName>admin</objectName>
    <version>1</version>
    </SentBy>
    <Body xsi:type="xs:string"
xmlns:xs="http://www.w3.org/2001/XMLSchema">
        Activity PGM_NAME9699280 has
        been assigned to you by Administrator (admin). The scheduled dates of the
        assigned activity are: Scheduled Start: 11/30/2010 08:00:00 AM
        Scheduled End: 11/30/2010 05:00:00 PM Please
        access your Agile Inbox to accept or decline assignment to this activity:
        http://MMUTHUSW-IDC:8888/web/PLMServlet?action=OpenEmailObject&mp;classid=18022&
        mp;objid=136 </Body>
    <Received xsi:type="xs:date"
xmlns:xs="http://www.w3.org/2001/XMLSchema">2010-06-02T11:40:47.000Z</Received>
    </row>
    <row rowId="6000038">
    <Type xsi:type="common:AgileListEntryType"
xmlns:common="http://xmlns.oracle.com/AgileObjects/Core/Common/V1">
    <selection>
    <id>0</id>
    <apiName></apiName>
    <value>Notification</value>
    </selection>
    </Type>
    <Subject xsi:type="xs:string"
xmlns:xs="http://www.w3.org/2001/XMLSchema">Project Activity Assignment: PGM_
NAME9699280 with %Allocation: 100.0.</Subject>
    <NotificationType xsi:type="xs:string"
xmlns:xs="http://www.w3.org/2001/XMLSchema">Activities - Notification for Activity
Assignment to a Resource</NotificationType>
    <Regarding xsi:type="common:AgileObjectType"
xmlns:common="http://xmlns.oracle.com/AgileObjects/Core/Common/V1">
    <classId>18027</classId>
    <className>Program</className>
    <classDisplayName>Program</classDisplayName>
    <objectId>136</objectId>
    <objectName>PGM_NAME9699280</objectName>
    <version>2</version>
    </Regarding>
    <SentBy xsi:type="common:AgileObjectType"
xmlns:common="http://xmlns.oracle.com/AgileObjects/Core/Common/V1">
    <classId>11610</classId>

```

```

        <className>User</className>
        <classDisplayName>User</classDisplayName>
        <objectId>704</objectId>
        <objectName>admin</objectName>
        <version>1</version>
    </SentBy>
    <Body xsi:type="xs:string"
xmlns:xs="http://www.w3.org/2001/XMLSchema">        Activity PGM_NAME9699280 has
been assigned to you by Administrator (admin).        Please access your My
Assignments to accept or decline assignment to this activity:
http://MMUTHUSW-IDC:8888/web/PLMServlet?action=OpenEmailObject&amp;classid=18022&a
mp;objid=136 </Body>
    <Received xsi:type="xs:date"
xmlns:xs="http://www.w3.org/2001/XMLSchema">2010-06-02T11:40:47.000Z</Received>
</row>
<row rowId="6000035">
    <Type xsi:type="common:AgileListEntryType"
xmlns:common="http://xmlns.oracle.com/AgileObjects/Core/Common/V1">
        <selection>
            <id>0</id>
            <apiName></apiName>
            <value>Notification</value>
        </selection>
    </Type>
    <Subject xsi:type="xs:string"
xmlns:xs="http://www.w3.org/2001/XMLSchema">Project Activity Assignment: PGM_
NAME3078104 with %Allocation: 100.0.</Subject>
    <NotificationType xsi:type="xs:string"
xmlns:xs="http://www.w3.org/2001/XMLSchema">Activities - Notification for Activity
Assignment to a Resource</NotificationType>
    <Regarding xsi:type="common:AgileObjectType"
xmlns:common="http://xmlns.oracle.com/AgileObjects/Core/Common/V1">
        <classId>18027</classId>
        <className>Program</className>
        <classDisplayName>Program</classDisplayName>
        <objectId>133</objectId>
        <objectName>PGM_NAME3078104</objectName>
        <version>2</version>
    </Regarding>
    <SentBy xsi:type="common:AgileObjectType"
xmlns:common="http://xmlns.oracle.com/AgileObjects/Core/Common/V1">
        <classId>11610</classId>
        <className>User</className>
        <classDisplayName>User</classDisplayName>
        <objectId>704</objectId>
        <objectName>admin</objectName>
        <version>1</version>
    </SentBy>
    <Body xsi:type="xs:string"
xmlns:xs="http://www.w3.org/2001/XMLSchema">
        Activity PGM_NAME3078104 has been assigned to you by Administrator
(admin).

        Please access your My Assignments to accept or decline assignment to
this activity:
http://MMUTHUSW-IDC:8888/web/PLMServlet?action=OpenEmailObject&amp;classid=18022&a
mp;objid=133
    </Body>
    <Received xsi:type="xs:date"
xmlns:xs="http://www.w3.org/2001/XMLSchema">2010-06-02T11:37:33.000Z</Received>
</row>

```

```

<row rowId="6000034">
  <Type xsi:type="common:AgileListEntryType"
xmlns:common="http://xmlns.oracle.com/AgileObjects/Core/Common/V1">
    <selection>
      <id>1</id>
      <apiName></apiName>
      <value>Request</value>
    </selection>
  </Type>
  <Subject xsi:type="xs:string"
xmlns:xs="http://www.w3.org/2001/XMLSchema">Project Activity Assignment: PGM_
NAME3078104 with %Allocation: 100.0.</Subject>
  <NotificationType xsi:type="xs:string"
xmlns:xs="http://www.w3.org/2001/XMLSchema">Activities - Assignment of an Activity
to a Resource</NotificationType>
  <Regarding xsi:type="common:AgileObjectType"
xmlns:common="http://xmlns.oracle.com/AgileObjects/Core/Common/V1">
    <classId>18027</classId>
    <className>Program</className>
    <classDisplayName>Program</classDisplayName>
    <objectId>133</objectId>
    <objectName>PGM_NAME3078104</objectName>
    <version>2</version>
  </Regarding>
  <SentBy xsi:type="common:AgileObjectType"
xmlns:common="http://xmlns.oracle.com/AgileObjects/Core/Common/V1">
    <classId>11610</classId>
    <className>User</className>
    <classDisplayName>User</classDisplayName>
    <objectId>704</objectId>
    <objectName>admin</objectName>
    <version>1</version>
  </SentBy>
  <Body xsi:type="xs:string"
xmlns:xs="http://www.w3.org/2001/XMLSchema">
    Activity PGM_NAME3078104 has
    been assigned to you by Administrator (admin). The scheduled dates of the
    assigned activity are: Scheduled Start: 11/30/2010 08:00:00 AM
    Scheduled End: 11/30/2010 05:00:00 PM Please
    access your Agile Inbox to accept or decline assignment to this activity:
    http://MMUTHUSW-IDC:8888/web/PLMServlet?action=OpenEmailObject&amp;classid=18022&a
    mp;objid=133 </Body>
  <Received xsi:type="xs:date"
xmlns:xs="http://www.w3.org/2001/XMLSchema">2010-06-02T11:37:33.000Z</Received>
</row>
<row rowId="6000031">
  <Type xsi:type="common:AgileListEntryType"
xmlns:common="http://xmlns.oracle.com/AgileObjects/Core/Common/V1">
    <selection>
      <id>0</id>
      <apiName></apiName>
      <value>Notification</value>
    </selection>
  </Type>
  <Subject xsi:type="xs:string"
xmlns:xs="http://www.w3.org/2001/XMLSchema">Project Activity Assignment: PGM_
NAME5181671 with %Allocation: 100.0.</Subject>
  <NotificationType xsi:type="xs:string"
xmlns:xs="http://www.w3.org/2001/XMLSchema">Activities - Notification for Activity
Assignment to a Resource</NotificationType>
  <Regarding xsi:type="common:AgileObjectType"

```

```

xmlns:common="http://xmlns.oracle.com/AgileObjects/Core/Common/V1">
    <classId>18027</classId>
    <className>Program</className>
    <classDisplayName>Program</classDisplayName>
    <objectId>130</objectId>
    <objectName>PGM_NAME5181671</objectName>
    <version>2</version>
</Regarding>
<SentBy xsi:type="common:AgileObjectType"
xmlns:common="http://xmlns.oracle.com/AgileObjects/Core/Common/V1">
    <classId>11610</classId>
    <className>User</className>
    <classDisplayName>User</classDisplayName>
    <objectId>704</objectId>
    <objectName>admin</objectName>
    <version>1</version>
</SentBy>
<Body xsi:type="xs:string"
xmlns:xs="http://www.w3.org/2001/XMLSchema">
    Activity PGM_NAME5181671 has
    been assigned to you by Administrator (admin). Please access your My
    Assignments to accept or decline assignment to this activity:
    http://MMUTHUSW-IDC:8888/web/PLMServlet?action=OpenEmailObject&classid=18022&a
    mp;objid=130 </Body>
    <Received xsi:type="xs:date"
xmlns:xs="http://www.w3.org/2001/XMLSchema">2010-06-02T11:33:59.000Z</Received>
</row>
<row rowId="6000030">
    <Type xsi:type="common:AgileListEntryType"
xmlns:common="http://xmlns.oracle.com/AgileObjects/Core/Common/V1">
        <selection>
            <id>1</id>
            <apiName></apiName>
            <value>Request</value>
        </selection>
    </Type>
    <Subject xsi:type="xs:string"
xmlns:xs="http://www.w3.org/2001/XMLSchema">Project Activity Assignment: PGM_
NAME5181671 with %Allocation: 100.0.</Subject>
    <NotificationType xsi:type="xs:string"
xmlns:xs="http://www.w3.org/2001/XMLSchema">Activities - Assignment of an Activity
to a Resource</NotificationType>
    <Regarding xsi:type="common:AgileObjectType"
xmlns:common="http://xmlns.oracle.com/AgileObjects/Core/Common/V1">
        <classId>18027</classId>
        <className>Program</className>
        <classDisplayName>Program</classDisplayName>
        <objectId>130</objectId>
        <objectName>PGM_NAME5181671</objectName>
        <version>2</version>
    </Regarding>
    <SentBy xsi:type="common:AgileObjectType"
xmlns:common="http://xmlns.oracle.com/AgileObjects/Core/Common/V1">
        <classId>11610</classId>
        <className>User</className>
        <classDisplayName>User</classDisplayName>
        <objectId>704</objectId>
        <objectName>admin</objectName>
        <version>1</version>
    </SentBy>
    <Body xsi:type="xs:string"

```

```

xmlns:xs="http://www.w3.org/2001/XMLSchema">
Activity PGM_NAME5181671 has
been assigned to you by Administrator (admin).
The scheduled dates of the
assigned activity are:
Scheduled Start: 11/30/2010 08:00:00 AM
Scheduled End: 11/30/2010 05:00:00 PM
Please
access your Agile Inbox to accept or decline assignment to this activity:
http://MMUTHUSW-IDC:8888/web/PLMServlet?action=OpenEmailObject&mp;classid=18022&amp;mp;objid=130
</Body>
<Received xsi:type="xs:date"
xmlns:xs="http://www.w3.org/2001/XMLSchema">2010-06-02T11:33:59.000Z</Received>
</row>
<row rowId="6000029">
<Type xsi:type="common:AgileListEntryType"
xmlns:common="http://xmlns.oracle.com/AgileObjects/Core/Common/V1">
<selection>
<id>1</id>
<apiName></apiName>
<value>Request</value>
</selection>
</Type>
<Subject xsi:type="xs:string"
xmlns:xs="http://www.w3.org/2001/XMLSchema">Project Activity Assignment: PGM_
NAME9450886 with %Allocation: 100.0.</Subject>
<NotificationType xsi:type="xs:string"
xmlns:xs="http://www.w3.org/2001/XMLSchema">Activities - Assignment of an Activity
to a Resource</NotificationType>
<Regarding xsi:type="common:AgileObjectType"
xmlns:common="http://xmlns.oracle.com/AgileObjects/Core/Common/V1">
<classId>18027</classId>
<className>Program</className>
<classDisplayName>Program</classDisplayName>
<objectId>127</objectId>
<objectName>PGM_NAME9450886</objectName>
<version>2</version>
</Regarding>
<SentBy xsi:type="common:AgileObjectType"
xmlns:common="http://xmlns.oracle.com/AgileObjects/Core/Common/V1">
<classId>11610</classId>
<className>User</className>
<classDisplayName>User</classDisplayName>
<objectId>704</objectId>
<objectName>admin</objectName>
<version>1</version>
</SentBy>
<Body xsi:type="xs:string"
xmlns:xs="http://www.w3.org/2001/XMLSchema">
Activity PGM_NAME9450886 has
been assigned to you by Administrator (admin).
The scheduled dates of the
assigned activity are:
Scheduled Start: 11/30/2010 08:00:00 AM
Scheduled End: 11/30/2010 05:00:00 PM
Please
access your Agile Inbox to accept or decline assignment to this activity:
http://MMUTHUSW-IDC:8888/web/PLMServlet?action=OpenEmailObject&mp;classid=18022&amp;mp;objid=127
</Body>
<Received xsi:type="xs:date"
xmlns:xs="http://www.w3.org/2001/XMLSchema">2010-06-02T11:26:34.000Z</Received>
</row>
<row rowId="6000028">
<Type xsi:type="common:AgileListEntryType"
xmlns:common="http://xmlns.oracle.com/AgileObjects/Core/Common/V1">
<selection>
<id>0</id>
<apiName></apiName>

```

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        <value>Notification</value>
    </selection>
</Type>
    <Subject xsi:type="xs:string"
xmlns:xs="http://www.w3.org/2001/XMLSchema">Project Activity Assignment: PGM_
NAME9450886 with %Allocation: 100.0.</Subject>
    <NotificationType xsi:type="xs:string"
xmlns:xs="http://www.w3.org/2001/XMLSchema">Activities - Notification for Activity
Assignment to a Resource</NotificationType>
    <Regarding xsi:type="common:AgileObjectType"
xmlns:common="http://xmlns.oracle.com/AgileObjects/Core/Common/V1">
        <classId>18027</classId>
        <className>Program</className>
        <classDisplayName>Program</classDisplayName>
        <objectId>127</objectId>
        <objectName>PGM_NAME9450886</objectName>
        <version>2</version>
    </Regarding>
    <SentBy xsi:type="common:AgileObjectType"
xmlns:common="http://xmlns.oracle.com/AgileObjects/Core/Common/V1">
        <classId>11610</classId>
        <className>User</className>
        <classDisplayName>User</classDisplayName>
        <objectId>704</objectId>
        <objectName>admin</objectName>
        <version>1</version>
    </SentBy>
    <Body xsi:type="xs:string"
xmlns:xs="http://www.w3.org/2001/XMLSchema">        Activity PGM_NAME9450886 has
been assigned to you by Administrator (admin).        Please access your My
Assignments to accept or decline assignment to this activity:
http://MMUTHUSW-IDC:8888/web/PLMServlet?action=OpenEmailObject&classid=18022&a
mp;objid=127 </Body>
    <Received xsi:type="xs:date"
xmlns:xs="http://www.w3.org/2001/XMLSchema">2010-06-02T11:26:34.000Z</Received>
</row>
    <row rowId="6000024">
        <Type xsi:type="common:AgileListEntryType"
xmlns:common="http://xmlns.oracle.com/AgileObjects/Core/Common/V1">
            <selection>
                <id>0</id>
                <apiName></apiName>
                <value>Notification</value>
            </selection>
        </Type>
        <Subject xsi:type="xs:string"
xmlns:xs="http://www.w3.org/2001/XMLSchema">Project Activity Assignment: PGM_
NAME2882289 with %Allocation: 100.0.</Subject>
        <NotificationType xsi:type="xs:string"
xmlns:xs="http://www.w3.org/2001/XMLSchema">Activities - Notification for Activity
Assignment to a Resource</NotificationType>
        <Regarding xsi:type="common:AgileObjectType"
xmlns:common="http://xmlns.oracle.com/AgileObjects/Core/Common/V1">
            <classId>18027</classId>
            <className>Program</className>
            <classDisplayName>Program</classDisplayName>
            <objectId>124</objectId>
            <objectName>PGM_NAME2882289</objectName>
            <version>2</version>
        </Regarding>

```



```

        <SentBy xsi:type="common:AgileObjectType"
xmlns:common="http://xmlns.oracle.com/AgileObjects/Core/Common/V1">
        <classId>11610</classId>
        <className>User</className>
        <classDisplayName>User</classDisplayName>
        <objectId>704</objectId>
        <objectName>admin</objectName>
        <version>1</version>
    </SentBy>
    <Body xsi:type="xs:string"
xmlns:xs="http://www.w3.org/2001/XMLSchema">        Activity PGM_NAME2882289 has
        been assigned to you by Administrator (admin).        Please access your My
        Assignments to accept or decline assignment to this activity:
        http://MMUTHUSW-IDC:8888/web/PLMServlet?action=OpenEmailObject&classid=18022&a
        mp;objid=124 </Body>
        <Received xsi:type="xs:date"
xmlns:xs="http://www.w3.org/2001/XMLSchema">2010-06-02T11:23:02.000Z</Received>
    </row>
    <row rowId="6000026">
        <Type xsi:type="common:AgileListEntryType"
xmlns:common="http://xmlns.oracle.com/AgileObjects/Core/Common/V1">
        <selection>
            <id>1</id>
            <apiName></apiName>
            <value>Request</value>
        </selection>
        </Type>
        <Subject xsi:type="xs:string"
xmlns:xs="http://www.w3.org/2001/XMLSchema">Project Activity Assignment: PGM_
        NAME2882289 with %Allocation: 100.0.</Subject>
        <NotificationType xsi:type="xs:string"
xmlns:xs="http://www.w3.org/2001/XMLSchema">Activities - Assignment of an Activity
        to a Resource</NotificationType>
        <Regarding xsi:type="common:AgileObjectType"
xmlns:common="http://xmlns.oracle.com/AgileObjects/Core/Common/V1">
        <classId>18027</classId>
        <className>Program</className>
        <classDisplayName>Program</classDisplayName>
        <objectId>124</objectId>
        <objectName>PGM_NAME2882289</objectName>
        <version>2</version>
    </Regarding>
    <SentBy xsi:type="common:AgileObjectType"
xmlns:common="http://xmlns.oracle.com/AgileObjects/Core/Common/V1">
        <classId>11610</classId>
        <className>User</className>
        <classDisplayName>User</classDisplayName>
        <objectId>704</objectId>
        <objectName>admin</objectName>
        <version>1</version>
    </SentBy>
    <Body xsi:type="xs:string"
xmlns:xs="http://www.w3.org/2001/XMLSchema">        Activity PGM_NAME2882289 has
        been assigned to you by Administrator (admin).        The scheduled dates of the
        assigned activity are:        Scheduled Start:        11/30/2010 08:00:00 AM
        Scheduled End:        11/30/2010 05:00:00 PM        Please
        access your Agile Inbox to accept or decline assignment to this activity:
        http://MMUTHUSW-IDC:8888/web/PLMServlet?action=OpenEmailObject&classid=18022&a
        mp;objid=124 </Body>
        <Received xsi:type="xs:date"

```

```

xmlns:xs="http://www.w3.org/2001/XMLSchema">2010-06-02T11:23:02.000Z</Received>
    </row>
    <row rowId="6000021">
        <Type xsi:type="common:AgileListEntryType"
xmlns:common="http://xmlns.oracle.com/AgileObjects/Core/Common/V1">
            <selection>
                <id>1</id>
                <apiName></apiName>
                <value>Request</value>
            </selection>
        </Type>
        <Subject xsi:type="xs:string"
xmlns:xs="http://www.w3.org/2001/XMLSchema">Project Activity Assignment: PGM_
NAME6328082 with %Allocation: 100.0.</Subject>
        <NotificationType xsi:type="xs:string"
xmlns:xs="http://www.w3.org/2001/XMLSchema">Activities - Assignment of an Activity
to a Resource</NotificationType>
        <Regarding xsi:type="common:AgileObjectType"
xmlns:common="http://xmlns.oracle.com/AgileObjects/Core/Common/V1">
            <classId>18027</classId>
            <className>Program</className>
            <classDisplayName>Program</classDisplayName>
            <objectId>121</objectId>
            <objectName>PGM_NAME6328082</objectName>
            <version>2</version>
        </Regarding>
        <SentBy xsi:type="common:AgileObjectType"
xmlns:common="http://xmlns.oracle.com/AgileObjects/Core/Common/V1">
            <classId>11610</classId>
            <className>User</className>
            <classDisplayName>User</classDisplayName>
            <objectId>704</objectId>
            <objectName>admin</objectName>
            <version>1</version>
        </SentBy>
        <Body xsi:type="xs:string"
xmlns:xs="http://www.w3.org/2001/XMLSchema">
Activity PGM_NAME6328082 has
been assigned to you by Administrator (admin). The scheduled dates of the
assigned activity are: Scheduled Start: 11/30/2010 08:00:00 AM
Scheduled End: 11/30/2010 05:00:00 PM Please
access your Agile Inbox to accept or decline assignment to this activity:
http://MMUTHUSW-IDC:8888/web/PLMServlet?action=OpenEmailObject&amp;classid=18022&a
mp;objid=121 </Body>
        <Received xsi:type="xs:date"
xmlns:xs="http://www.w3.org/2001/XMLSchema">2010-06-02T11:21:49.000Z</Received>
    </row>
    <row rowId="6000022">
        <Type xsi:type="common:AgileListEntryType"
xmlns:common="http://xmlns.oracle.com/AgileObjects/Core/Common/V1">
            <selection>
                <id>0</id>
                <apiName></apiName>
                <value>Notification</value>
            </selection>
        </Type>
        <Subject xsi:type="xs:string"
xmlns:xs="http://www.w3.org/2001/XMLSchema">Project Activity Assignment: PGM_
NAME6328082 with %Allocation: 100.0.</Subject>
        <NotificationType xsi:type="xs:string"
xmlns:xs="http://www.w3.org/2001/XMLSchema">Activities - Notification for Activity

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```

Assignment to a Resource</NotificationType>
    <Regarding xsi:type="common:AgileObjectType"
xmlns:common="http://xmlns.oracle.com/AgileObjects/Core/Common/V1">
        <classId>18027</classId>
        <className>Program</className>
        <classDisplayName>Program</classDisplayName>
        <objectId>121</objectId>
        <objectName>PGM_NAME6328082</objectName>
        <version>2</version>
    </Regarding>
    <SentBy xsi:type="common:AgileObjectType"
xmlns:common="http://xmlns.oracle.com/AgileObjects/Core/Common/V1">
        <classId>11610</classId>
        <className>User</className>
        <classDisplayName>User</classDisplayName>
        <objectId>704</objectId>
        <objectName>admin</objectName>
        <version>1</version>
    </SentBy>
    <Body xsi:type="xs:string"
xmlns:xs="http://www.w3.org/2001/XMLSchema">
        Activity PGM_NAME6328082 has
        been assigned to you by Administrator (admin). Please access your My
        Assignments to accept or decline assignment to this activity:
        http://MMUTHUSW-IDC:8888/web/PLMServlet?action=OpenEmailObject&classid=18022&a
        mp;objid=121 </Body>
    <Received xsi:type="xs:date"
xmlns:xs="http://www.w3.org/2001/XMLSchema">2010-06-02T11:21:49.000Z</Received>
</row>
</table>
</response>
</getNotificationsResponse>
</soapenv:Body>
</soapenv:Envelope>

```

16.12.11 deleteNotifications

Service

Deletes notifications for the current User.

Usage

Deletes the specified notifications from a set of notifications populated in the notifications tab for the current user. The request also identifies the notification to be removed and the response ascertains the status of the operation.

Sample Code

SOAP

```

==== Request ====
<?xml version="1.0" encoding="UTF-8"?>
    <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
        <soapenv:Body>
            <deleteNotifications
xmlns="http://xmlns.oracle.com/AgileObjects/Core/UserProfile/V1">
                <request xmlns="">
                    <rowId>6000045</rowId>
                    <rowId>6000044</rowId>

```

```
        </request>
      </deleteNotifications>
    </soapenv:Body>
  </soapenv:Envelope>
==== Response ====
<?xml version="1.0" encoding="utf-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
      <deleteNotificationsResponse
xmlns="http://xmlns.oracle.com/AgileObjects/Core/UserProfile/V1">
        <response xmlns="">
          <messageId xsi:nil="true"/>
          <messageName xsi:nil="true"/>
          <statusCode>SUCCESS</statusCode>
        </response>
      </deleteNotificationsResponse>
    </soapenv:Body>
  </soapenv:Envelope>
```

16.12.12 getMyWorkFlowRoutings

Service

Gets the workflow routings objects for the current User.

Usage

Retrieves all the workflow routings applicable for the current user as per the set of workflows pending the user's action in the workflow routings tab. The response will return a set of workflow routings for the user with information describing each workflow routing.

Sample Code

SOAP

```
==== Request ====
<?xml version="1.0" encoding="UTF-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
      <getMyWorkFlowRoutings
xmlns="http://xmlns.oracle.com/AgileObjects/Core/UserProfile/V1">
        <request xmlns="">
          <workflowDateFilter>30</workflowDateFilter>
        </request>
      </getMyWorkFlowRoutings>
    </soapenv:Body>
  </soapenv:Envelope>
==== Response ====
<?xml version="1.0" encoding="utf-8"?>
  <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
      <getMyWorkFlowRoutingsResponse
xmlns="http://xmlns.oracle.com/AgileObjects/Core/UserProfile/V1">
        <response xmlns="">
```

```

<messageId xsi:nil="true"/>
<messageName xsi:nil="true"/>
<statusCode>SUCCESS</statusCode>
<table>
  <tableIdentifier>
    <objectId>309</objectId>
    <tableId>-102</tableId>
    <tableName xsi:nil="true"/>
  </tableIdentifier>
  <row rowId="0">
    <objectReferentId>
      <classId>16437</classId>
      <className>SourcingProject</className>
      <objectId>100001</objectId>
      <objectName xsi:nil="true"/>
    </objectReferentId>
    <Number xsi:type="xs:string"
xmlns:xs="http://www.w3.org/2001/XMLSchema" attributeId="2">DELL_101</Number>
    <Description xsi:type="xs:string"
xmlns:xs="http://www.w3.org/2001/XMLSchema" attributeId="3">DELL PROJECT
101</Description>
    <Status xsi:type="xs:string"
xmlns:xs="http://www.w3.org/2001/XMLSchema" attributeId="4">Open</Status>
    <Action xsi:type="xs:string"
xmlns:xs="http://www.w3.org/2001/XMLSchema" attributeId="6">Assigned to
Me</Action>
    <Workflow xsi:type="xs:string"
xmlns:xs="http://www.w3.org/2001/XMLSchema" attributeId="7"></Workflow>
  </row>
  <row rowId="1">
    <objectReferentId>
      <classId>16437</classId>
      <className>SourcingProject</className>
      <objectId>100007</objectId>
      <objectName xsi:nil="true"/>
    </objectReferentId>
    <Number xsi:type="xs:string"
xmlns:xs="http://www.w3.org/2001/XMLSchema" attributeId="2">DELL_107</Number>
    <Description xsi:type="xs:string"
xmlns:xs="http://www.w3.org/2001/XMLSchema" attributeId="3">DELL PROJECT
107</Description>
    <Status xsi:type="xs:string"
xmlns:xs="http://www.w3.org/2001/XMLSchema" attributeId="4">Open</Status>
    <Action xsi:type="xs:string"
xmlns:xs="http://www.w3.org/2001/XMLSchema" attributeId="6">Assigned to
Me</Action>
    <Workflow xsi:type="xs:string"
xmlns:xs="http://www.w3.org/2001/XMLSchema" attributeId="7"></Workflow>
  </row>
  <row rowId="2">
    <objectReferentId>
      <classId>16437</classId>
      <className>SourcingProject</className>
      <objectId>100008</objectId>
      <objectName xsi:nil="true"/>
    </objectReferentId>
    <Number xsi:type="xs:string"
xmlns:xs="http://www.w3.org/2001/XMLSchema" attributeId="2">DELL_108</Number>
    <Description xsi:type="xs:string"
xmlns:xs="http://www.w3.org/2001/XMLSchema" attributeId="3">DELL PROJECT

```

```
108</Description>
    <Status xsi:type="xs:string"
xmlns:xs="http://www.w3.org/2001/XMLSchema" attributeId="4">Open</Status>
    <Action xsi:type="xs:string"
xmlns:xs="http://www.w3.org/2001/XMLSchema" attributeId="6">Assigned to
Me</Action>
    <Workflow xsi:type="xs:string"
xmlns:xs="http://www.w3.org/2001/XMLSchema" attributeId="7"></Workflow>
</row>
<row rowId="3">
    <objectReferentId>
        <classId>16437</classId>
        <className>SourcingProject</className>
        <objectId>100009</objectId>
        <objectName xsi:nil="true"/>
    </objectReferentId>
    <Number xsi:type="xs:string"
xmlns:xs="http://www.w3.org/2001/XMLSchema" attributeId="2">DELL_109</Number>
    <Description xsi:type="xs:string"
xmlns:xs="http://www.w3.org/2001/XMLSchema" attributeId="3">DELL PROJECT
109</Description>
    <Status xsi:type="xs:string"
xmlns:xs="http://www.w3.org/2001/XMLSchema" attributeId="4">Open</Status>
    <Action xsi:type="xs:string"
xmlns:xs="http://www.w3.org/2001/XMLSchema" attributeId="6">Assigned to
Me</Action>
    <Workflow xsi:type="xs:string"
xmlns:xs="http://www.w3.org/2001/XMLSchema" attributeId="7"></Workflow>
</row>
<row rowId="4">
    <objectReferentId>
        <classId>16437</classId>
        <className>SourcingProject</className>
        <objectId>108000</objectId>
        <objectName xsi:nil="true"/>
    </objectReferentId>
    <Number xsi:type="xs:string"
xmlns:xs="http://www.w3.org/2001/XMLSchema" attributeId="2">PRJSeedData1</Number>
    <Description xsi:type="xs:string"
xmlns:xs="http://www.w3.org/2001/XMLSchema" attributeId="3">seed
date</Description>
    <Status xsi:type="xs:string"
xmlns:xs="http://www.w3.org/2001/XMLSchema" attributeId="4">Open</Status>
    <Action xsi:type="xs:string"
xmlns:xs="http://www.w3.org/2001/XMLSchema" attributeId="6">Assigned to
Me</Action>
    <Workflow xsi:type="xs:string"
xmlns:xs="http://www.w3.org/2001/XMLSchema" attributeId="7"></Workflow>
</row>
<row rowId="5">
    <objectReferentId>
        <classId>16445</classId>
        <className>RFQ</className>
        <objectId>10001</objectId>
        <objectName xsi:nil="true"/>
    </objectReferentId>
    <Number xsi:type="xs:string"
xmlns:xs="http://www.w3.org/2001/XMLSchema"
attributeId="2">RFQ-PRJSeedData1</Number>
    <Description xsi:type="xs:string"
```

```
xmlns:xs="http://www.w3.org/2001/XMLSchema" attributeId="3">test for
RFQ</Description>
    <Status xsi:type="xs:string"
xmlns:xs="http://www.w3.org/2001/XMLSchema" attributeId="4">Draft</Status>
    <Action xsi:type="xs:string"
xmlns:xs="http://www.w3.org/2001/XMLSchema" attributeId="6">Assigned to
Me</Action>
    <Workflow xsi:type="xs:string"
xmlns:xs="http://www.w3.org/2001/XMLSchema" attributeId="7"></Workflow>
    </row>
</table>
</response>
</getMyWorkFlowRoutingsResponse>
</soapenv:Body>
</soapenv:Envelope>
```

Operations - EC Web Services

Agile PLM Engineering Collaboration (EC) Services are a set of business services that supplement PLM's Core Web Services for CAD use cases. Customers and partners can build next generation MCAD and ECAD connectors utilizing Agile PLM Web Services and Engineering Collaboration Services.

Some of the benefits are:

- Significantly improves WAN performance for CAD connectors because the bulk of the logic is deployed to the server
- Makes it easier for development partners and customers to implement CAD connectors
- Provides the unique and interface friendly API name field to access PLM metadata.

The Core service covers most of the basic services, which can also be used in the EC services context. Services that are EC specific are described in the following sections in detail. The EC Services are designed as document/wrapped style and use consistent request-response types which in turn use the types defined in the Core services data model or extend the one from the Core service data model.

addBookmark

Service

Adds a bookmark for one or multiple objects to a bookmark folder in Agile PLM. If the folder name is omitted in the request, the My Bookmarks folder is used. If a folder is specified, it needs to be the name of an existing sub folder of My Bookmarks.

Usage

Returns an AddBookmarkResponseType containing the status of the operation.

Syntax

```
AddBookmarkRequestType request = new AddBookmarkRequestType();  
AddBookmarkResponseType response = service.addBookmark(request);
```

Sample Code

SOAP

```
<?xml version="1.0" encoding="UTF-8"?>  
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"  
  xmlns:xsd="http://www.w3.org/2001/XMLSchema"  
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">  
  <soapenv:Body>
```

```
<addBookmark xmlns="http://xmlns.oracle.com/AgileObjects/ECS/V1">
  <request xmlns="">
    <generalParameters>
      <id xsi:nil="true"/>
      <property>
        <propertyName>folder-name</propertyName>
        <propertyValue>Test</propertyValue>
      </property>
    </generalParameters>
    <requests>
      <classId>1488</classId>
      <objectNumber>TEST_MFR_PART4751636</objectNumber>
      <inputParameters>
        <id>CommonProperties</id>
        <property>
          <propertyName>manufacturer_
name</propertyName>
          <propertyValue>ECS</propertyValue>
        </property>
      </inputParameters>
    </requests>
  </request>
</addBookmark>
</soapenv:Body>
</soapenv:Envelope>
<?xml version="1.0" encoding="utf-8"?>
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
  <soapenv:Body>
    <addBookmarkResponse
xmlns="http://xmlns.oracle.com/AgileObjects/ECS/V1">
      <response xmlns="">
        <messageId xsi:nil="true"/>
        <messageName xsi:nil="true"/>
        <statusCode>SUCCESS</statusCode>
      </response>
    </addBookmarkResponse>
  </soapenv:Body>
</soapenv:Envelope>
```

Note: Name of the folder to which you add the bookmark (optional).
If not set, the main folder is the default folder.

createUpdateObjects

Service

To publish a complete CAD Model structure to the Agile PLM system. Creates and updates Design objects and structures, parts and part BOMs, and trigger thumbnail generation for structures (if enabled). It is a bulk service that combines the below mentioned services into a single service. Pure metadata update for design, Item and Change limited to Title block, Page 1 to 3 and the Relationship tab. Check-out for the Design object is optional. Structure update and optional metadata update on Design structure, Design files tab, and Design relationships tab. Needs to support options for check-in (yes/no) and check-out (keep checked-in, increment, cancel check-out). Item publish with option to publish the structure or files or both to the item BOM. The

request contains objects of all types at the requests level. You need to create References (structure or part relations) by having the object's ObjectIdentifierType referenced on the corresponding table row entry. The request must contain all attributes and tables (including their attributes) that need to be created or updated. It may require excluding certain attributes or tables from a previous response of another call (a previous retrieveDesignStructure) to ensure that it contains only required data.

The service supports two steps of a CAD save process. Creates objects (both Designs and optionally Parts) including the Design structure and the Part BOM. If the parameter 'publish-only' is not set to true. Updates the Files tab with uploaded File IDs, creates the thumbnails (by setting the "thumbnail" parameter to true) and publishes the Design's files to the Part attachments (by setting the "PublishAttachments" parameter).

The service also supports the "Modify Item Attachments" call, which allows modifying the attachments of an Item only. The top level object must be an Item (or a subclass of Item) and have Design object references in the attachment table. The service collects the files from the Design object and updates the Item's attachment tab accordingly.

Usage

Returns an array of AgileCreateUpdateObjectsResponse in the response object.

Syntax

```
CreateUpdateObjectsRequestType request = new CreateUpdateObjectsRequestType();
CreateUpdateObjectsResponseType response = service.createUpdateObjects(request);
```

Sample Code

SOAP

```
<?xml version="1.0" encoding="UTF-8" ?>
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
  <soapenv:Body>
    <createUpdateObjects xmlns="http://xmlns.oracle.com/AgileObjects/ECS/V1">
      <request xmlns="">
        <generalParameters>
          <id xsi:nil="true" />
          <property>
            <propertyName>strings-only</propertyName>
            <propertyValue>true</propertyValue>
          </property>
        </generalParameters>
        </request>
      </createUpdateObjects>
    </soapenv:Body>
  </soapenv:Envelope>
</xml>
```

//continued for similar properties

```
</generalParameters>
<requests>
  <agileObject>
    <objectId>
      <classId xsi:nil="true" />
      <className>Part</className>
      <objectId xsi:nil="true" />
      <objectName>P02681</objectName>
    </objectId>
    <table>
      <tableId>
        <objectName>P02681</objectName>
        <tableId>804</tableId>
        <tableName>PendingChanges</tableName>
      </tableId>
    </table>
  </agileObject>
</requests>
```

```
</table>
<attribute id="1001">
  <String>
    <value>P02681</value>
  </String>
</attribute>
<options>
  <propertyName>save_option</propertyName>
  <propertyValue>checkin</propertyValue>
</options>
</agileObject>
// continued for similar agileObjects
</requests>
//continued for similar requests
<filters>
  <apiName>ChangesClass</apiName>
  typeCLASS</type>
  <attribute>1047</attribute>
  <attribute>1052</attribute>
  <attribute>3742</attribute>
</filters>
//continued for similar filters
</request>
</createUpdateObjects>
</soapenv:Body>
</soapenv:Envelope>
----response-----
<?xml version="1.0" encoding="utf-8" ?>
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
  <soapenv:Body>
    <createUpdateObjectsResponse
xmlns="http://xmlns.oracle.com/AgileObjects/ECS/V1">
      <response xmlns="">
        <messageId xsi:nil="true" />
        <messageName xsi:nil="true" />
        <statusCode>SUCCESS</statusCode>
        <sessionParameters>
          <id>VersionProperties</id>
          <property>
            <propertyName>ECS</propertyName>
            <propertyValue>9.3.2</propertyValue>
          </property>
          <property>
            <propertyName>Build</propertyName>
            <propertyValue>Build 09</propertyValue>
          </property>
        </sessionParameters>
        <responses>
          <agileObject>
            <objectId>
              <classId>10141</classId>
              <className>Part</className>
              <classDisplayName>Part</classDisplayName>
              <objectId>6895441</objectId>
              <objectName>P02681</objectName>
              <objectVersion>Introductory</objectVersion>
              <version>4</version>
              <superClassId>10000</superClassId>
```

```

        </objectId>
    <table>
        <tableId>
            <classId>10141</classId>
            <className>Part</className>
            <objectId>6895441</objectId>
            <objectName>P02681</objectName>
            <tableId>804</tableId>
            <tableName>PendingChanges</tableName>
            <tableDisplayName>Pending Changes</tableDisplayName>
        </tableId>
    </table>
    <attribute apiName="number" id="1001" type="xsd:string">
        <String>
            <value>P02681</value>
        </String>
    </attribute>
    //continued for similar attributes
    <options>
        <propertyName>save_option</propertyName>
        <propertyValue>checkin</propertyValue>
    </options>
    </agileObject>
</responses>
</response>
</createUpdateObjectsResponse>
</soapenv:Body>
</soapenv:Envelope>

```

Table A-1 *createUpdateObjects items*

Name	Description
RevisionSequence	Sequence for revisions (optional). A to Z by default.
VersionsSeparator	Separator for versions (optional). ' ' space character by default.
Initial Version	Initial version (optional). '1' by default.
InitialDesignRevision	Initial Design revision (optional). '-' by default.
InitialPublishRevision	Initial version for Publish (optional). Empty by default.
PublishAttachmentType	Attachment type for Publish that goes into the Attachment Type list field of an Item (optional). Any value from the AttachType list. Empty by default.
PublishAttachments	Attachments to publish (optional). List of attachments are 'any', 'all'. Any by default.
ClusteredObjects	Flag to force objects updated on all cluster nodes (optional). False by default.
DesignRevisionLogic	Design revision logic (optional). Options are any combination of 'editable', 'noparantheses', 'publish, or 'increment'. Empty by default.
InitialVersionCheckin	Flag to check-in on initial version (optional). True by default.

Table A–1 (Cont.) createUpdateObjects items

PublishIntroductory	Flag to publish to introductory item status (optional). True by default.
PublishPartSite	Site to publish (optional). None by default.
SetLifecyclePhase	Flag to set the lifecycle phase to true or false (optional). False by default.

Table A–2 Common Properties

Name	Description
structure	Flag to create/update the structure of the Design. False by default. This option requires other Design object references in the structure table.
files	Flag to update the file references.
item	Flag to create or update items. Options are 'create', 'update'; 'link'. Update by default.
check-in	Flag to check-in the objects after processing.
publish	Flag for publish type. 'None', 'attachment', 'born', 'born_and_attachment'. None by default. None indicates it is disabled.
publish_only	Flag to publish only. False by default. It does not update any attributes. Switches off the 'structure' and 'files' flags.
thumbnail	Flag to generate thumbnails after structure is complete. False by default.
string_only	Flag to return string values or actual data types. False by default.
skip_empty	Flag to omit empty values in the response to reduce the payload. False by default.
attach-drawings	Flag to control how a CAD drawing's files get attached to an Item. 'None', 'Model', 'Self'. 'None' does not attach the files to any Item. 'Model' attaches the files to the associated model's Item. 'Self' attaches the files to the drawing's Item (For this option, you need to create an Item for the drawing).
publish-drawings	Flag to control the publish logic for the Item BOM. 'None' references the drawing allowthrough the model's Item on the BOM. 'Relate' lays the drawing's item on the relationship tab of the model's Item. 'Child' positions the drawing's Item below the model's Item in the BOM. If the parameter 'attach-drawings' is set to 'model', the value of the parameter 'publish-drawings' must be 'none'. Since the drawings' files are attached to the model's Item, linking the drawing's Item may not be useful.

Table A–2 (Cont.) Common Properties

Name	Description
auto-checkout	Flag to allow or disallow an automatic check-out of Design object. True by default. Its default value is 'true', except when the general parameter 'publish_only' is set to 'true'. In addition, if the parameter is missing from the request, it checks for the value of the parameter 'structure'. If this value is 'true', 'auto-checkout' is set to 'false', and to 'true' otherwise.

Table A–3 Common Properties continued

Name	Description
save_option	Flag to find the save mode to use. Options are 'save', 'increment', 'checkin'. Save by default. This is a mandatory Design object parameter.
numbersource	Uses the autonumber source while creating the object (optional).
delete_structureentries	Flag to delete structure entries which are not part of the request (optional). Options are true or false. True by default. The structure entries are filtered by the CAX-IDENT column. Entries other than CAX* are never deleted. Deletes CAX* entries only if the flag is set to true. This is a table parameter for the Design Structure, Design Relationships and Item BOM/RedlineBOM table. If flag is true the call assumes a complete target structure is given.

Table A–4 ECRowType Options

Name	Description
FileSelection	String to filter the selection for file attachments (optional). Empty by default.

generateThumbnails

Service

To trigger the generation of thumbnail images for Design assemblies when the check-in process is complete. The PLM system triggers the generation of thumbnail images automatically when the Design objects are checked-in. But the thumbnail generation for assemblies requires a manual trigger to reflect all components.

Usage

The request must contain at least one Agile Object to represent the Design for which the thumbnail generation should be triggered. All the data to identify the Design object must be present in the ObjectIdentifier, including class-id, subclass, number and version.

Syntax

```
GenerateThumbnailsRequestType request = new GenerateThumbnailsRequestType();
GenerateThumbnailsResponseType generateThumbnailsResponseType =
service.generateThumbnails(request);
```

Sample Code

SOAP

```
<?xml version="1.0" encoding="UTF-8"?>
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
  <soapenv:Body>
    <generateThumbnails
xmlns="http://xmlns.oracle.com/AgileObjects/ECS/V1">
      <request xmlns="">
        <requests>
          <classId>2000008310</classId>
          <objectNumber>TEST_DESIGN9498672</objectNumber>
          <objectVersion>0</objectVersion>
        </requests>
      </request>
    </generateThumbnails>
  </soapenv:Body>
</soapenv:Envelope>
<?xml version="1.0" encoding="utf-8"?>
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
  <soapenv:Body>
    <generateThumbnailsResponse
xmlns="http://xmlns.oracle.com/AgileObjects/ECS/V1">
      <response xmlns="">
        <messageId xsi:nil="true"/>
        <messageName xsi:nil="true"/>
        <statusCode>SUCCESS</statusCode>
      </response>
    </generateThumbnailsResponse>
  </soapenv:Body>
</soapenv:Envelope>
```

getFilteredObject

Service

To retrieve a specific Agile object in the Agile PLM system. It could be filtered by class level attributes and table level attributes. If no filter is specified in the request, all attributes for the class and/or the specified tables are returned.

Usage

Returns an array of AgileBusinessObjectType of type Part in the response object.

Syntax

```
GetFilteredObjectRequestType request = new GetFilteredObjectRequestType();
GetFilteredObjectResponseType response = service.getFilteredObject(request);
```

Sample Code

SOAP


```

<?xml version="1.0" encoding="UTF-8"?>
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
  <soapenv:Body>
    <getFilteredObject xmlns="http://xmlns.oracle.com/AgileObjects/ECS/V1">
      <request xmlns="">
        <generalParameters>
          <id xsi:nil="true"/>
          <property>
            <propertyName>strings-only</propertyName>
            <propertyValue>>false</propertyValue>
          </property>
        </generalParameters>
        <requests>
          <classId>2000008297</classId>
          <objectNumber>TEST_DESIGN9498672</objectNumber>
          <objectVersion>0</objectVersion>
          <table>
            <tableIdentifier>6150</tableIdentifier>
            <loadCellMetaData xsi:nil="true"/>
          </table>
        </requests>
        <filters>
          <id>2000008297</id>
          <type>CLASS</type>
          <attribute>1302</attribute>
          <attribute>1420</attribute>
          <attribute>2002</attribute>
          <attribute>2007</attribute>
          <attribute>2009</attribute>
          <attribute>2017</attribute>
          <attribute>2090</attribute>
          <attribute>6173</attribute>
          <attribute>6174</attribute>
          <attribute>6177</attribute>
          <attribute>6178</attribute>
          <attribute>6180</attribute>
          <attribute>6184</attribute>
          <attribute>6388</attribute>
          <attribute>6389</attribute>
          <attribute>6390</attribute>
          <attribute>7951</attribute>
          <attribute>2000008685</attribute>
          <attribute>2000008717</attribute>
        </filters>
        <filters>
          <id>10000</id>
          <type>CLASS</type>
          <attribute>1001</attribute>
          <attribute>1002</attribute>
          <attribute>1014</attribute>
          <attribute>1420</attribute>
          <attribute>1084</attribute>
          <attribute>12468</attribute>
        </filters>
        <filters>
          <id>931</id>
          <type>CLASS</type>
          <attribute>1047</attribute>
        </filters>
      </request>
    </getFilteredObject>
  </soapenv:Body>
</soapenv:Envelope>

```

```

        <attribute>1052</attribute>
        <attribute>3742</attribute>
    </filters>
    <filters>
        <id>6150</id>
        typeTABLE</type>
        <attribute>-1</attribute>
        <attribute>6303</attribute>
        <attribute>6148</attribute>
    </filters>
    <filters>
        <id>2000007761</id>
        typeTABLE</type>
        <attribute>2000007767</attribute>
        <attribute>2000007768</attribute>
        <attribute>2000007904</attribute>
        <attribute>5846</attribute>
        <attribute>5847</attribute>
        <attribute>2000008523</attribute>
        <attribute>2000007770</attribute>
    </filters>
    <filters>
        <id>2000008318</id>
        typeTABLE</type>
        <attribute>2000008320</attribute>
        <attribute>2000008321</attribute>
        <attribute>2000008325</attribute>
        <attribute>2000008323</attribute>
        <attribute>2000008377</attribute>
        <attribute>2000008324</attribute>
    </filters>
    <filters>
        <id>804</id>
        typeTABLE</type>
        <attribute>1026</attribute>
        <attribute>1149</attribute>
        <attribute>1028</attribute>
    </filters>
    </request>
</getFilteredObject>
</soapenv:Body>
</soapenv:Envelope>
<?xml version="1.0" encoding="utf-8"?>
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
        <getFilteredObjectResponse
xmlns="http://xmlns.oracle.com/AgileObjects/ECS/V1">
            <response xmlns="">
                <messageId xsi:nil="true"/>
                <messageName xsi:nil="true"/>
                <statusCode>SUCCESS</statusCode>
                <responses>
                    <agileObject>
                        <objectId>
                            <classId>2000008310</classId>
                            <className>Design</className>

<classDisplayName>Design</classDisplayName>

```

```

        <objectId>6519149</objectId>
        <objectName>TEST_
DESIGN9498672</objectName>

        <objectVersion>1</objectVersion>
        <version>2</version>
        <superClassId>2000008297</superClassId>
    </objectId>
    <table>
        <tableId>
            <classId>2000008310</classId>
            <className>Design</className>
            <objectId>6519149</objectId>
            <objectName>TEST_
DESIGN9498672</objectName>

            <tableId>6150</tableId>
            <tableName>Files</tableName>

<tableDisplayName>Files</tableDisplayName>
        </tableId>
    </table>
    <attribute apiName="number" id="6173"
type="xsd:string">
        <String>
            <value>TEST_DESIGN9498672</value>
        </String>
    </attribute>
    <attribute apiName="description" id="6174"
type="xsd:string">
        <String>
            <value/>
        </String>
    </attribute>
    <attribute apiName="lifecyclePhase" id="6390"
type="ns1:AgileListEntryType"
xmlns:ns1="http://xmlns.oracle.com/AgileObjects/Core/Common/V1">
        <SingleList>
            <value>
                <selection>
                    <id>6382</id>

<apiName>DESIGN</apiName>
                    <value>Design</value>
                </selection>
            </value>
        </SingleList>
    </attribute>
    <attribute apiName="version" id="7951"
type="xsd:integer">
        <Integer>
            <value>1</value>
        </Integer>
    </attribute>
    <attribute apiName="revision" id="2000008685"
type="xsd:string">
        <String>
            <value/>
        </String>
    </attribute>
    <attribute apiName="checkoutStatus" id="6389"
type="ns2:AgileListEntryType"

```

```

xmlns:ns2="http://xmlns.oracle.com/AgileObjects/Core/Common/V1">
    <SingleList>
        <value>
            <selection>
                <id>0</id>
                <apiName>CHECKED_
OUT</apiName>
            </selection>
            <value>Checked
Out</value>
        </value>
    </SingleList>
</attribute>
<attribute apiName="checkoutUser" id="6180"
type="ns3:AgileListEntryType"
xmlns:ns3="http://xmlns.oracle.com/AgileObjects/Core/Common/V1">
    <SingleList>
        <value>
            <selection>
                <id>6013686</id>
                <apiName>
xsi:nil="true"/>
            </selection>
            <value>CAD One
(cad1)</value>
        </value>
    </SingleList>
</attribute>
<attribute apiName="checkoutDate" id="6184"
type="xsd:date">
    <Date>
<value>2012-10-10T20:28:30.000Z</value>
    </Date>
</attribute>
<attribute apiName="createDate" id="6177"
type="xsd:date">
    <Date>
<value>2012-10-10T20:28:28.000Z</value>
    </Date>
</attribute>
<attribute apiName="lastModifiedDate" id="6178"
type="xsd:date">
    <Date>
<value>2012-10-10T20:28:59.000Z</value>
    </Date>
</attribute>
<attribute apiName="checkinUser"
id="2000008717" type="ns4:AgileListEntryType"
xmlns:ns4="http://xmlns.oracle.com/AgileObjects/Core/Common/V1">
    <SingleList>
        <value/>
    </SingleList>
</attribute>
<attribute apiName="checkinDate" id="6388"
type="xsd:date">
    <Date>

```

```

<value>2012-10-10T20:28:30.000Z</value>
    </Date>
  </attribute>
  <attribute apiName="text01" id="2007"
type="xsd:string">
    <String>
      <value/>
    </String>
  </attribute>
  <attribute apiName="multiText10" id="2017"
type="xsd:string">
    <String>
      <value/>
    </String>
  </attribute>
  <attribute apiName="text03" id="2009"
type="xsd:string">
    <String>
      <value/>
    </String>
  </attribute>
  <attribute apiName="createUser" id="1420"
type="ns5:AgileListEntryType"
xmlns:ns5="http://xmlns.oracle.com/AgileObjects/Core/Common/V1">
    <SingleList>
      <value>
        <selection>
          <id>6013686</id>
          <apiName
xsi:nil="true"/>
            <value>CAD One
(cad1)</value>
        </selection>
      </value>
    </SingleList>
  </attribute>
  <attribute apiName="text12" id="1302"
type="xsd:string">
    <String>
      <value/>
    </String>
  </attribute>
  <attribute apiName="multiList01" id="2090"
type="ns6:AgileMultiListEntryType"
xmlns:ns6="http://xmlns.oracle.com/AgileObjects/Core/Common/V1">
    <MultiList>
      <value>
        <selection>
          <id>2605304</id>
          <apiName>INTERNAL</apiName>
            <value>INTERNAL</value>
        </selection>
      </value>
    </MultiList>
  </attribute>
</agileObject>
</responses>
</response>
</getFilteredObjectResponse>

```

```
</soapenv:Body>
</soapenv:Envelope>
```

getListValues

Service

To return all types of lists (object lists, dynamic list, and static lists) as well as localized list values. Applying a search filter limits the number of returns. The service searches the super class if no values are found in the given class.

Usage

Returns an array of `AgileGetListValuesResponseType` in the response object.

Syntax `GetListValuesRequestType request = new GetListValuesRequestType();`
`GetListValuesResponseType response = service.getListValues(request);`

Sample Code

SOAP

```
?xml version="1.0" encoding="UTF-8"?>
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
  <soapenv:Body>
    <getListValues xmlns="http://xmlns.oracle.com/AgileObjects/ECS/V1">
      <request xmlns="">
        <requests>
          <classId>2000008310</classId>
          <attributeId>1539</attributeId>
        </requests>
        <requests>
          <classId>2000008310</classId>
          <attributeId>1420</attributeId>
        </requests>
      </request>
    </getListValues>
  </soapenv:Body>
</soapenv:Envelope>
<?xml version="1.0" encoding="utf-8"?>
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
  <soapenv:Body>
    <getListValuesResponse
xmlns="http://xmlns.oracle.com/AgileObjects/ECS/V1">
      <response xmlns="">
        <messageId xsi:nil="true"/>
        <messageName xsi:nil="true"/>
        <statusCode>SUCCESS</statusCode>
        <responses>
          <classId>2000008310</classId>
          <attributeId>1539</attributeId>
          <attributeApiName>CADMaterial</attributeApiName>
          <values>
            <id xsi:nil="true"/>
            <property>
              <propertyValue>ALUMINUM</propertyValue>
            </property>
          </values>
        </responses>
      </response>
    </getListValuesResponse>
  </soapenv:Body>
</soapenv:Envelope>
```

```

        <property>
            <propertyValue>BRASS</propertyValue>
        </property>
        <property>
            <propertyValue>CAST IRON</propertyValue>
        </property>
        <property>
            <propertyValue>COMPOSITE</propertyValue>
        </property>
        <property>
            <propertyValue>GLASS</propertyValue>
        </property>
        <property>
            <propertyValue>PLASTIC</propertyValue>
        </property>
        <property>
            <propertyValue>RUBBER</propertyValue>
        </property>
        <property>
            <propertyValue>SEE PARTS</propertyValue>
        </property>
        <property>
            <propertyValue>SILICON</propertyValue>
        </property>
        <property>
            <propertyValue>STEEL</propertyValue>
        </property>
    </values>
</responses>
<responses>
    <classId>2000008310</classId>
    <attributeId>1420</attributeId>
    <attributeApiName>createUser</attributeApiName>
    <values>
        <id xsi:nil="true"/>
        <property>
            <propertyValue>class: 11605
subclass:11610 id:704 version:-456</propertyValue>
        </property>
        <property>
            <propertyValue>class: 11605
subclass:11610 id:6072986 version:-456</propertyValue>
        </property>
        <property>
            <propertyValue>class: 11605
subclass:11610 id:6086790 version:-456</propertyValue>
        </property>
        <property>
            <propertyValue>class: 11605
subclass:11610 id:6054784 version:-456</propertyValue>
        </property>
        <property>
            <propertyValue>class: 11605
subclass:11610 id:6054847 version:-456</propertyValue>
        </property>
        <property>
            <propertyValue>class: 11605
subclass:11610 id:6071278 version:-456</propertyValue>
        </property>
    </values>

```

```

                                <propertyValue>class: 11605
subclass:11610 id:6054615 version:-456</propertyValue>
                                </property>
                                <property>
                                    <propertyValue>class: 11605
subclass:11610 id:6141383 version:-456</propertyValue>
                                    </property>
                                    <property>
                                        <propertyValue>class: 11605
subclass:11610 id:6141102 version:-456</propertyValue>
                                        </property>
                                        <property>
                                            <propertyValue>class: 11605
subclass:11610 id:6141149 version:-456</propertyValue>
                                            </property>
                                            <property>
                                                <propertyValue>class: 11605
subclass:11610 id:6141248 version:-456</propertyValue>
                                                </property>
                                                <property>
                                                    <propertyValue>class: 11605
subclass:11610 id:6141218 version:-456</propertyValue>
                                                    </property>
                                                    <property>
                                                        <propertyValue>class: 11605
subclass:11610 id:6054805 version:-456</propertyValue>
                                                        </property>
                                                        <property>
                                                            <propertyValue>class: 11605
subclass:11610 id:6054590 version:-456</propertyValue>
                                                            </property>
                                                            <property>
                                                                <propertyValue>class: 11605
subclass:11610 id:6389782 version:-456</propertyValue>
                                                                </property>
                                                                <property>
                                                                    <propertyValue>class: 11605
subclass:11610 id:6131711 version:-456</propertyValue>
                                                                    </property>
                                                                    <property>
                                                                        <propertyValue>class: 11605
subclass:11610 id:6013686 version:-456</propertyValue>
                                                                        </property>
                                                                        <property>
                                                                            <propertyValue>class: 11605
subclass:11610 id:6212345 version:-456</propertyValue>
                                                                            </property>
                                                                            <property>
                                                                                <propertyValue>class: 11605
subclass:11610 id:6024525 version:-456</propertyValue>
                                                                                </property>
                                                                                <property>
                                                                                    <propertyValue>class: 11605
subclass:11610 id:6013713 version:-456</propertyValue>
                                                                                    </property>
                                                                                    <property>
                                                                                        <propertyValue>class: 11605
subclass:11610 id:6033872 version:-456</propertyValue>
                                                                                        </property>
                                                                                        <property>

```



```

        <propertyValue>class: 11605
subclass:11610 id:6000021 version:-456</propertyValue>
    </property>
    <property>
        <propertyValue>class: 11605
subclass:11610 id:6029252 version:-456</propertyValue>
    </property>
    <property>
        <propertyValue>class: 11605
subclass:11610 id:6032262 version:-456</propertyValue>
    </property>
    <property>
        <propertyValue>class: 11605
subclass:11610 id:6029262 version:-456</propertyValue>
    </property>
    <property>
        <propertyValue>class: 11605
subclass:11610 id:6013770 version:-456</propertyValue>
    </property>
    <property>
        <propertyValue>class: 11605
subclass:11610 id:6024316 version:-456</propertyValue>
    </property>
    <property>
        <propertyValue>class: 11605
subclass:11610 id:6071074 version:-456</propertyValue>
    </property>
    <property>
        <propertyValue>class: 11605
subclass:11610 id:6054868 version:-456</propertyValue>
    </property>
    <property>
        <propertyValue>class: 11605
subclass:11610 id:6073045 version:-456</propertyValue>
    </property>
    <property>
        <propertyValue>class: 11605
subclass:11610 id:6071455 version:-456</propertyValue>
    </property>
    <property>
        <propertyValue>class: 11605
subclass:11610 id:6033832 version:-456</propertyValue>
    </property>
    <property>
        <propertyValue>class: 11605
subclass:11610 id:6070987 version:-456</propertyValue>
    </property>
    <property>
        <propertyValue>class: 11605
subclass:11610 id:6071514 version:-456</propertyValue>
    </property>
    <property>
        <propertyValue>class: 11605
subclass:11610 id:6033854 version:-456</propertyValue>
    </property>
    <property>
        <propertyValue>class: 11605
subclass:11610 id:6074149 version:-456</propertyValue>
    </property>
    <property>

```

```

                                <propertyValue>class: 11605
subclass:11610 id:6054727 version:-456</propertyValue>
                                </property>
                                <property>
                                    <propertyValue>class: 11605
subclass:11610 id:6054657 version:-456</propertyValue>
                                    </property>
                                    <property>
                                        <propertyValue>class: 11605
subclass:11610 id:6177850 version:-456</propertyValue>
                                        </property>
                                        <property>
                                            <propertyValue>class: 11605
subclass:11610 id:6072488 version:-456</propertyValue>
                                            </property>
                                            <property>
                                                <propertyValue>class: 11605
subclass:11610 id:6054678 version:-456</propertyValue>
                                                </property>
                                                <property>
                                                    <propertyValue>class: 11605
subclass:11610 id:6070868 version:-456</propertyValue>
                                                    </property>
                                                    <property>
                                                        <propertyValue>class: 11605
subclass:11610 id:6069364 version:-456</propertyValue>
                                                        </property>
                                                        <property>
                                                            <propertyValue>class: 11605
subclass:11610 id:6177816 version:-456</propertyValue>
                                                            </property>
                                                            <property>
                                                                <propertyValue>class: 11605
subclass:11610 id:6054699 version:-456</propertyValue>
                                                                </property>
                                                                <property>
                                                                    <propertyValue>class: 11605
subclass:11610 id:6054889 version:-456</propertyValue>
                                                                    </property>
                                                                    <property>
                                                                        <propertyValue>class: 11605
subclass:11610 id:6071598 version:-456</propertyValue>
                                                                        </property>
                                                                        <property>
                                                                            <propertyValue>class: 11605
subclass:11610 id:6028732 version:-456</propertyValue>
                                                                            </property>
                                                                            <property>
                                                                                <propertyValue>class: 11605
subclass:11610 id:6013722 version:-456</propertyValue>
                                                                                </property>
                                                                                <property>
                                                                                    <propertyValue>class: 11605
subclass:11610 id:6072927 version:-456</propertyValue>
                                                                                    </property>
                                                                                    <property>
                                                                                        <propertyValue>class: 11605
subclass:11610 id:6086942 version:-456</propertyValue>
                                                                                        </property>
                                                                                        <property>

```

```

        <propertyValue>class: 11605
subclass:11610 id:6111896 version:-456</propertyValue>
    </property>
    <property>
        <propertyValue>class: 11605
subclass:11610 id:6024325 version:-456</propertyValue>
    </property>
    <property>
        <propertyValue>class: 11605
subclass:11610 id:6024391 version:-456</propertyValue>
    </property>
    <property>
        <propertyValue>class: 11605
subclass:11610 id:6054763 version:-456</propertyValue>
    </property>
    <property>
        <propertyValue>class: 11605
subclass:11610 id:6072868 version:-456</propertyValue>
    </property>
    <property>
        <propertyValue>class: 11605
subclass:11610 id:6024533 version:-456</propertyValue>
    </property>
    <property>
        <propertyValue>class: 11605
subclass:11610 id:6024605 version:-456</propertyValue>
    </property>
    <property>
        <propertyValue>class: 11605
subclass:11610 id:6071669 version:-456</propertyValue>
    </property>
    <property>
        <propertyValue>class: 11605
subclass:11610 id:6023622 version:-456</propertyValue>
    </property>
    <property>
        <propertyValue>class: 11605
subclass:11610 id:6024453 version:-456</propertyValue>
    </property>
    <property>
        <propertyValue>class: 11605
subclass:11610 id:6024667 version:-456</propertyValue>
    </property>
    <property>
        <propertyValue>class: 11605
subclass:11610 id:6024738 version:-456</propertyValue>
    </property>
    <property>
        <propertyValue>class: 11605
subclass:11610 id:6054636 version:-456</propertyValue>
    </property>
    <property>
        <propertyValue>class: 11605
subclass:11610 id:6054826 version:-456</propertyValue>
    </property>
    <property>
        <propertyValue>class: 11605
subclass:11610 id:6054742 version:-456</propertyValue>
    </property>
    <property>

```

```

                                <propertyValue>class: 11605
subclass:11610 id:6019622 version:-456</propertyValue>
                                </property>
                                <property>
                                    <propertyValue>class: 11605
subclass:11610 id:6013756 version:-456</propertyValue>
                                    </property>
                                    <property>
                                        <propertyValue>class: 11605
subclass:11610 id:6036159 version:-456</propertyValue>
                                        </property>
                                        <property>
                                            <propertyValue>class: 11605
subclass:11610 id:6029243 version:-456</propertyValue>
                                            </property>
                                            <property>
                                                <propertyValue>class: 11605
subclass:11610 id:6071736 version:-456</propertyValue>
                                                </property>
                                                <property>
                                                    <propertyValue>class: 11605
subclass:11610 id:6072807 version:-456</propertyValue>
                                                    </property>
                                                    </values>
                                                </responses>
                                            </response>
                                        </getListValuesResponse>
                                    </soapenv:Body>
                                </soapenv:Envelope>
```

Note: Separator = Separator for cascading lists (optional). '|' by default.

getSubclasses

Service

To retrieve all Agile sub classes for a given base class in Agile PLM. The request object specifies the details of lists to be retrieved. If the corresponding flag is set to true in the request, all available autonumber sources for the classId's are returned.

Usage

Returns an array of AgileGetSubclassesResponseType in the response object.

Syntax

```
GetSubclassesRequestType request = new GetSubclassesRequestType();
GetSubclassesResponseType response = service.getSubclasses(request);
```

Sample Code

SOAP

```
<?xml version="1.0" encoding="UTF-8"?>
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
  <soapenv:Body>
    <getSubclasses xmlns="http://xmlns.oracle.com/AgileObjects/ECS/V1">
```

```

        <request xmlns="">
            <requests>
                <classId>DesignsClass</classId>

<includeAllAutoNumberSource>true</includeAllAutoNumberSource>
            </requests>
            <requests>
                <classId>PartsClass</classId>

<includeAllAutoNumberSource>true</includeAllAutoNumberSource>
            </requests>
            <requests>
                <classId>ChangeOrdersClass</classId>

<includeAllAutoNumberSource>true</includeAllAutoNumberSource>
            </requests>
        </request>
    </getSubclasses>
</soapenv:Body>
</soapenv:Envelope>
<?xml version="1.0" encoding="utf-8"?>
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
        <getSubclassesResponse
xmlns="http://xmlns.oracle.com/AgileObjects/ECS/V1">
            <response xmlns="">
                <messageId xsi:nil="true"/>
                <messageName xsi:nil="true"/>
                <statusCode>SUCCESS</statusCode>
                <responses>
                    <classId>2000008297</classId>
                    <classes>
                        <nodeId>2000008310</nodeId>
                        <apiName>Design</apiName>
                        <type>SUBCLASS</type>
                        <displayName>Design</displayName>
                        <abstractClass>false</abstractClass>
                        <autoNumbers>
                            <nodeId>12416</nodeId>
                            <apiName>PartNumber</apiName>
                            <type>AUTONUMBER</type>
                            <displayName>Part Number</displayName>
                        </autoNumbers>
                        <autoNumbers>
                            <nodeId>2469120</nodeId>
                            <apiName>Node_2469120</apiName>
                            <type>AUTONUMBER</type>
                            <displayName>100 - Standard
Part</displayName>
                        </autoNumbers>
                        <autoNumbers>
                            <nodeId>2469121</nodeId>
                            <apiName>Node_2469121</apiName>
                            <type>AUTONUMBER</type>
                            <displayName>200 - Plastic
Part</displayName>
                        </autoNumbers>
                    </autoNumbers>
                </responses>
            </response>
        </getSubclassesResponse>
    </soapenv:Body>
</soapenv:Envelope>

```

```

                <nodeId>2469122</nodeId>
                <apiName>Node_2469122</apiName>
                typeAUTONUMBER</type>
                <displayName>300 - Sheetmetal
Part</displayName>

            </autoNumbers>
            <autoNumbers>
                <nodeId>2000008780</nodeId>
                <apiName>DesignsNumber</apiName>
                typeAUTONUMBER</type>
                <displayName>Designs Number</displayName>
            </autoNumbers>
            <autoNumbers>
                <nodeId>2469124</nodeId>
                <apiName>Node_2469124</apiName>
                typeAUTONUMBER</type>
                <displayName>500 - Casted
Part</displayName>

            </autoNumbers>
            <autoNumbers>
                <nodeId>2469125</nodeId>
                <apiName>Node_2469125</apiName>
                typeAUTONUMBER</type>
                <displayName>800 - Electrical
Part</displayName>

            </autoNumbers>
            <autoNumbers>
                <nodeId>2469126</nodeId>
                <apiName>Node_2469126</apiName>
                typeAUTONUMBER</type>
                <displayName>900 - Tooling
Part</displayName>

            </autoNumbers>
            <autoNumbers>
                <nodeId>2469123</nodeId>
                <apiName>Node_2469123</apiName>
                typeAUTONUMBER</type>
                <displayName>400 -
Wire/Cable</displayName>

            </autoNumbers>
        </classes>
        <superClass>
            <nodeId>2000008297</nodeId>
            <apiName>DesignsClass</apiName>
            typeCLASS</type>
            <displayName>Designs</displayName>
        </superClass>
    </responses>
    <responses>
        <classId>10000</classId>
        <classes>
            <nodeId>2498255</nodeId>
            <apiName>AssembledDie</apiName>
            typeSUBCLASS</type>
            <displayName>Assembled Die</displayName>
            <abstractClass>false</abstractClass>
            <autoNumbers>
                <nodeId>2498253</nodeId>
                <apiName>GenericPartNumber</apiName>
                typeAUTONUMBER</type>

```

```

Number</displayName>
    <displayName>Generic Part
    </autoNumbers>
</classes>
<classes>
    <nodeId>2491982</nodeId>
    <apiName>Assembly</apiName>
    typeSUBCLASS</type>
    <displayName>Assembly</displayName>
    <abstractClass>false</abstractClass>
    <autoNumbers>
        <nodeId>2498287</nodeId>
        <apiName>AssemblyNumber</apiName>
        typeAUTONUMBER</type>
        <displayName>Assembly
Number</displayName>
    </autoNumbers>
</classes>
<classes>
    <nodeId>2499477</nodeId>
    <apiName>Bag</apiName>
    typeSUBCLASS</type>
    <displayName>Bag</displayName>
    <abstractClass>false</abstractClass>
    <autoNumbers>
        <nodeId>2499433</nodeId>
        <apiName>Bag</apiName>
        typeAUTONUMBER</type>
        <displayName>Bag</displayName>
    </autoNumbers>
</classes>
<classes>
    <nodeId>2498289</nodeId>
    <apiName>BareboardPCB</apiName>
    typeSUBCLASS</type>
    <displayName>Bareboard PCB</displayName>
    <abstractClass>false</abstractClass>
    <autoNumbers>
        <nodeId>12416</nodeId>
        <apiName>PartNumber</apiName>
        typeAUTONUMBER</type>
        <displayName>Part Number</displayName>
    </autoNumbers>
</classes>
<classes>
    <nodeId>2493329</nodeId>
    <apiName>BulkheadAdapter</apiName>
    typeSUBCLASS</type>
    <displayName>Bulkhead Adapter</displayName>
    <abstractClass>false</abstractClass>
    <autoNumbers>
        <nodeId>2493327</nodeId>
        <apiName>BulkheadAdapterNumber</apiName>
        typeAUTONUMBER</type>
        <displayName>Bulkhead Adapter
Number</displayName>
    </autoNumbers>
</classes>
<classes>
    <nodeId>2484759</nodeId>

```

```

    <apiName>Capacitor</apiName>
    typeSUBCLASS</type>
    <displayName>Capacitor</displayName>
    <abstractClass>false</abstractClass>
    <autoNumbers>
      <nodeId>2497700</nodeId>
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```

        <displayName>REV</displayName>
        <abstractClass>false</abstractClass>
        <autoNumbers>
            <nodeId>2469127</nodeId>
            <apiName>DRONumber</apiName>
            typeAUTONUMBER</type>
            <displayName>DRO Number</displayName>
        </autoNumbers>
    </classes>
    <superClass>
        <nodeId>6000</nodeId>
        <apiName>ChangeOrdersClass</apiName>
        typeCLASS</type>
        <displayName>Change Orders</displayName>
    </superClass>
</responses>
</response>
</getSubclassesResponse>
</soapenv:Body>
</soapenv:Envelope>

```

getUserPreferredLanguage

Service

To retrieve the setting for the preferred language of the current user.

Usage

The request must not contain any AgileObject. It must contain an empty element of type GetUserPreferredLanguageRequest. The service returns the preferred language in the response.

Syntax

```

GetUserPreferredLanguageRequestType request = new
GetUserPreferredLanguageRequestType(); GetUserPreferredLanguageResponseType
response = service.getUserPreferredLanguage(request);

```

1. Create the request object GetUserPreferredLanguageRequestType for the getUserPreferredLanguage operation.
2. Create an empty element of type GetUserPreferredLanguageRequest and set it to the request type created above.
3. Call the WebService and get the preferred language setting from the response.

Sample Code

SOAP

```

<?xml version="1.0" encoding="UTF-8"?>
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
        <getUserPreferredLanguage
xmlns="http://xmlns.oracle.com/AgileObjects/ECS/V1">
            <request xmlns="">
                <requests/>
            </request>
        </getUserPreferredLanguage>
    </soapenv:Body>
</soapenv:Envelope>

```

```
        </soapenv:Body>
    </soapenv:Envelope>
    <?xml version="1.0" encoding="utf-8"?>
    <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
    xmlns:xsd="http://www.w3.org/2001/XMLSchema"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
        <soapenv:Body>
            <getUserPreferredLanguageResponse
    xmlns="http://xmlns.oracle.com/AgileObjects/ECS/V1">
                <ressponse xmlns="">
                    <messageId xsi:nil="true"/>
                    <messageName xsi:nil="true"/>
                    <statusCode>SUCCESS</statusCode>
                    <responses>
                        <language>en</language>
                        <country/>
                    </responses>
                </ressponse>
            </getUserPreferredLanguageResponse>
        </soapenv:Body>
    </soapenv:Envelope>
```

removeBookmark

Service

To remove a bookmark for one or multiple objects from a bookmark folder in Agile PLM. If the folder name is omitted in the request, the My Bookmarks folder is used. If a folder is specified, it needs to be an existing sub folder of My Bookmarks.

Usage

Returns an AddBookmarkResponseType containing the status of the operation.

Syntax

```
RemoveBookmarkRequestType request = new RemoveBookmarkRequestType();
RemoveBookmarkResponseType response = service.removeBookmark(request);
```

Sample Code

SOAP

```
<?xml version="1.0" encoding="UTF-8"?>
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body>
        <removeBookmark xmlns="http://xmlns.oracle.com/AgileObjects/ECS/V1">
            <request xmlns="">
                <generalParameters>
                    <id xsi:nil="true"/>
                    <property>
                        <propertyName>folder-name</propertyName>
                        <propertyValue>Test</propertyValue>
                    </property>
                </generalParameters>
                <requests>
                    <classId>1488</classId>
                    <objectNumber>TEST_MFR_PART4751636</objectNumber>
                    <inputParameters>
```

```

<id>CommonProperties</id>
<property>
  <propertyName>manufacturer_
name</propertyName>
  <propertyValue>ECS</propertyValue>
</property>
</inputParameters>
</requests>
</request>
</removeBookmark>
</soapenv:Body>
</soapenv:Envelope>
<?xml version="1.0" encoding="utf-8"?>
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
  <soapenv:Body>
    <removeBookmarkResponse
xmlns="http://xmlns.oracle.com/AgileObjects/ECS/V1">
      <response xmlns="">
        <messageId xsi:nil="true"/>
        <messageName xsi:nil="true"/>
        <statusCode>SUCCESS</statusCode>
      </response>
    </removeBookmarkResponse>
  </soapenv:Body>
</soapenv:Envelope>

```

Note: folder-name = Name of the folder from which you remove bookmark (optional). If not set, main folder is default.

removesPartAssignment

Service

To remove a part assignment from a Design or another part.

Usage

Returns an array of AgileBusinessObjectType of type Part in the response object.

Syntax

```

RemovePartAssignmentRequestType request = new
RemovePartAssignmentRequestType(); RemovePartAssignmentResponseType
response = service.removePartAssignment(request);

```

Sample Code SOAP

```

<?xml version="1.0" encoding="UTF-8"?>
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
  <soapenv:Body>
    <removePartAssignment
xmlns="http://xmlns.oracle.com/AgileObjects/ECS/V1">
      <request xmlns="">
        <requests>
          <classId>Design</classId>
          <objectNumber>100-00335.ASM</objectNumber>

```

```

        <objectVersion>1</objectVersion>
      </requests>
    </request>
  </removePartAssignment>
</soapenv:Body>
</soapenv:Envelope>
?xml version="1.0" encoding="utf-8"?>
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
  <soapenv:Body>
    <removePartAssignmentResponse
xmlns="http://xmlns.oracle.com/AgileObjects/ECS/V1">
      <response xmlns="">
        <messageId xsi:nil="true"/>
        <messageName xsi:nil="true"/>
        <statusCode>SUCCESS</statusCode>
        <responses>
          <agileObject>
            <objectId>
              <classId>2000008310</classId>
              <className>Design</className>

<classDisplayName>Design</classDisplayName>
              <objectId>6358582</objectId>
              <objectName>100-00335.ASM</objectName>
              <objectVersion>1</objectVersion>
              <version>16</version>
              <superClassId>2000008297</superClassId>
            </objectId>
            <table>
              <tableId>
                <classId>2000008310</classId>
                <className>Design</className>
                <objectId>6358582</objectId>

<objectName>100-00335.ASM</objectName>
                <tableId>2000007761</tableId>

<tableName>Relationships</tableName>

<tableDisplayName>Relationships</tableDisplayName>
              </tableId>
            </table>
            <attribute apiName="number" id="6173"
type="xsd:string">
              <String>
                <value>100-00335.ASM</value>
              </String>
            </attribute>
            <attribute apiName="type" id="6175"
type="ns1:AgileListEntryType"
xmlns:ns1="http://xmlns.oracle.com/AgileObjects/Core/Common/V1">
              <SingleList>
                <value>
                  <selection>
                    <id>2000008310</id>

<apiName>Design</apiName>
                    <value>Design</value>

```



```

                                </selection>
                                </value>
                                </SingleList>
                                </attribute>
                                <attribute apiName="description" id="6174"
type="xsd:string">
                                <String>
                                    <value>ASM0001-ASM</value>
                                </String>
                                </attribute>
                                <attribute apiName="componentType"
id="2000008317" type="ns2:AgileListEntryType"
xmlns:ns2="http://xmlns.oracle.com/AgileObjects/Core/Common/V1">
                                <SingleList>
                                    <value/>
                                </SingleList>
                                </attribute>
                                <attribute apiName="lifecyclePhase" id="6390"
type="ns3:AgileListEntryType"
xmlns:ns3="http://xmlns.oracle.com/AgileObjects/Core/Common/V1">
                                <SingleList>
                                    <value/>
                                </SingleList>
                                </attribute>
                                <attribute apiName="label" id="2000008316"
type="xsd:string">
                                <String>
                                    <value/>
                                </String>
                                </attribute>
                                <attribute apiName="version" id="7951"
type="xsd:integer">
                                <Integer>
                                    <value>1</value>
                                </Integer>
                                </attribute>
                                <attribute apiName="revision" id="2000008685"
type="xsd:string">
                                <String>
                                    <value/>
                                </String>
                                </attribute>
                                <attribute apiName="revisionDate"
id="2000008686" type="xsd:date">
                                <Date>
                                    <value xsi:nil="true"/>
                                </Date>
                                </attribute>
                                <attribute apiName="checkoutStatus" id="6389"
type="ns4:AgileListEntryType"
xmlns:ns4="http://xmlns.oracle.com/AgileObjects/Core/Common/V1">
                                <SingleList>
                                    <value>
                                        <selection>
                                            <id>0</id>
                                            <apiName>CHECKED_
OUT</apiName>
                                            <value>Checked
Out</value>
                                        </selection>

```

```

        </value>
      </SingleList>
    </attribute>
    <attribute apiName="checkoutUser" id="6180"
type="ns5:AgileListEntryType"
xmlns:ns5="http://xmlns.oracle.com/AgileObjects/Core/Common/V1">
      <SingleList>
        <value>
          <selection>
            <id>6013686</id>
            <apiName
xsi:nil="true"/>
            <value>CAD One
(cad1)</value>
          </selection>
        </value>
      </SingleList>
    </attribute>
    <attribute apiName="checkoutDate" id="6184"
type="xsd:date">
      <Date>
<value>2010-09-24T08:30:26.000Z</value>
      </Date>
    </attribute>
    <attribute apiName="checkoutLocation" id="6183"
type="xsd:string">
      <String>
        <value/>
      </String>
    </attribute>
    <attribute apiName="createDate" id="6177"
type="xsd:date">
      <Date>
<value>2010-09-24T08:12:12.000Z</value>
      </Date>
    </attribute>
    <attribute apiName="lastModifiedDate" id="6178"
type="xsd:date">
      <Date>
<value>2012-02-22T10:35:10.000Z</value>
      </Date>
    </attribute>
    <attribute apiName="checkinUser"
id="2000008717" type="ns6:AgileListEntryType"
xmlns:ns6="http://xmlns.oracle.com/AgileObjects/Core/Common/V1">
      <SingleList>
        <value>
          <selection>
            <id>6013686</id>
            <apiName
xsi:nil="true"/>
            <value>CAD One
(cad1)</value>
          </selection>
        </value>
      </SingleList>
    </attribute>

```

```

                                <attribute apiName="checkinDate" id="6388"
type="xsd:date">
                                <Date>
<value>2010-09-24T08:14:05.000Z</value>
                                </Date>
                                </attribute>
                                <attribute apiName="thumbnail" id="2000008554"
type="ns7:AgileListEntryType"
xmlns:ns7="http://xmlns.oracle.com/AgileObjects/Core/Common/V1">
                                <SingleList>
                                    <value/>
                                </SingleList>
                                </attribute>
                                <attribute apiName="approvalStatus"
id="2000009374" type="ns8:AgileListEntryType"
xmlns:ns8="http://xmlns.oracle.com/AgileObjects/Core/Common/V1">
                                <SingleList>
                                    <value/>
                                </SingleList>
                                </attribute>
                                <attribute apiName="itemChangeStatus"
id="2000009487" type="xsd:string">
                                <String>
                                    <value/>
                                </String>
                                </attribute>
                                <attribute apiName="heading01" id="12257"
type="xsd:string">
                                <String>
                                    <value/>
                                </String>
                                </attribute>
                                <attribute apiName="text01" id="2007"
type="xsd:string">
                                <String>
                                    <value>Pro/E Wildfire 3.0</value>
                                </String>
                                </attribute>
                                <attribute apiName="multiText10" id="2017"
type="xsd:string">
                                <String>
                                    <value>100-00335.ASM</value>
                                </String>
                                </attribute>
                                <attribute apiName="text03" id="2009"
type="xsd:string">
                                <String>
                                    <value>ASM</value>
                                </String>
                                </attribute>
                                <attribute apiName="text04" id="2010"
type="xsd:string">
                                <String>
                                    <value/>
                                </String>
                                </attribute>
                                <attribute apiName="createUser" id="1420"
type="ns9:AgileListEntryType"
xmlns:ns9="http://xmlns.oracle.com/AgileObjects/Core/Common/V1">

```

```

                                <SingleList>
                                    <value>
                                        <selection>
                                            <id>6013686</id>
                                            <apiName
xsi:nil="true"/>
                                                <value>CAD One
                                </selection>
                                    </value>
                                </SingleList>
                            </attribute>
                            <attribute apiName="list01" id="2020"
type="ns10:AgileListEntryType"
xmlns:ns10="http://xmlns.oracle.com/AgileObjects/Core/Common/V1">
                                <SingleList>
                                    <value/>
                                </SingleList>
                            </attribute>
                            <attribute apiName="text10" id="2016"
type="xsd:string">
                                <String>
                                    <value/>
                                </String>
                            </attribute>
                            <attribute apiName="text12" id="1302"
type="xsd:string">
                                <String>
                                    <value>100-00335</value>
                                </String>
                            </attribute>
                            <attribute apiName="text19" id="1309"
type="xsd:string">
                                <String>
                                    <value/>
                                </String>
                            </attribute>
                            <attribute apiName="heading06" id="12263"
type="xsd:string">
                                <String>
                                    <value/>
                                </String>
                            </attribute>
                            <attribute apiName="text15" id="1305"
type="xsd:string">
                                <String>
                                    <value/>
                                </String>
                            </attribute>
                            <attribute apiName="list03" id="2022"
type="ns11:AgileListEntryType"
xmlns:ns11="http://xmlns.oracle.com/AgileObjects/Core/Common/V1">
                                <SingleList>
                                    <value/>
                                </SingleList>
                            </attribute>
                            <attribute apiName="list04" id="2023"
type="ns12:AgileListEntryType"
xmlns:ns12="http://xmlns.oracle.com/AgileObjects/Core/Common/V1">
                                <SingleList>

```

	<value/> </SingleList> </attribute> <attribute apiName="text14" id="1304"
type="xsd:string">	<String> <value/> </String> </attribute> <attribute apiName="heading05" id="12262"
type="xsd:string">	<String> <value/> </String> </attribute> <attribute apiName="multiText32" id="1332"
type="xsd:string">	<String> <value/> </String> </attribute> <attribute apiName="multiText33" id="1333"
type="xsd:string">	<String> <value/> </String> </attribute> <attribute apiName="text06" id="2012"
type="xsd:string">	<String> <value/> </String> </attribute> <attribute apiName="multiText34" id="1334"
type="xsd:string">	<String> <value/> </String> </attribute> <attribute apiName="multiText35" id="1335"
type="xsd:string">	<String> <value/> </String> </attribute> <attribute apiName="text09" id="2015"
type="xsd:string">	<String> <value/> </String> </attribute> <attribute apiName="heading02" id="12258"
type="xsd:string">	<String> <value/> </String> </attribute> <attribute apiName="text13" id="1303"
	<String>

```

                                <value/>
                            </String>
                        </attribute>
                        <attribute apiName="heading03" id="12259"
type="xsd:string">
                            <String>
                                <value/>
                            </String>
                        </attribute>
                        <attribute apiName="multiList01" id="2090"
type="ns13:AgileMultiListEntryType"
xmlns:ns13="http://xmlns.oracle.com/AgileObjects/Core/Common/V1">
                            <MultiList>
                                <value>
                                    <selection>
                                        <id>2605304</id>
                                    </selection>
                                </value>
                            </MultiList>
                        </attribute>
                        <apiName>INTERNAL</apiName>
                                <value>INTERNAL</value>
                            </selection>
                        </value>
                    </MultiList>
                </attribute>
                <attribute apiName="multiList02" id="2091"
type="ns14:AgileMultiListEntryType"
xmlns:ns14="http://xmlns.oracle.com/AgileObjects/Core/Common/V1">
                    <MultiList>
                        <value/>
                    </MultiList>
                </attribute>
                <attribute apiName="multiList03" id="2092"
type="ns15:AgileMultiListEntryType"
xmlns:ns15="http://xmlns.oracle.com/AgileObjects/Core/Common/V1">
                    <MultiList>
                        <value/>
                    </MultiList>
                </attribute>
                <attribute apiName="notes" id="1080"
type="xsd:string">
                    <String>
                        <value/>
                    </String>
                </attribute>
                <attribute apiName="text05" id="2011"
type="xsd:string">
                    <String>
                        <value/>
                    </String>
                </attribute>
                <attribute apiName="money01" id="8155"
type="ns16:AgileMoneyType"
xmlns:ns16="http://xmlns.oracle.com/AgileObjects/Core/Common/V1">
                    <Money>
                        <value xsi:nil="true"/>
                    </Money>
                </attribute>
                <attribute apiName="numeric01" id="12468"
type="xsd:double">
                    <Number>
                        <value xsi:nil="true"/>
                    </Number>
                </attribute>
            </element>
        </complexType>
    </schema>

```

```

        </Number>
      </attribute>
      <attribute apiName="multiList04"
id="2000008063" type="ns17:AgileMultiListEntryType"
xmlns:ns17="http://xmlns.oracle.com/AgileObjects/Core/Common/V1">
        <MultiList>
          <value/>
        </MultiList>
      </attribute>
      <attribute apiName="heading01" id="12458"
type="xsd:string">
        <String>
          <value/>
        </String>
      </attribute>
      <attribute apiName="list02" id="1540"
type="ns18:AgileListEntryType"
xmlns:ns18="http://xmlns.oracle.com/AgileObjects/Core/Common/V1">
        <SingleList>
          <value/>
        </SingleList>
      </attribute>
      <attribute apiName="list01" id="1539"
type="ns19:AgileListEntryType"
xmlns:ns19="http://xmlns.oracle.com/AgileObjects/Core/Common/V1">
        <SingleList>
          <value/>
        </SingleList>
      </attribute>
      <attribute apiName="text01" id="1575"
type="xsd:string">
        <String>
          <value/>
        </String>
      </attribute>
      <attribute apiName="multiList01" id="1564"
type="ns20:AgileMultiListEntryType"
xmlns:ns20="http://xmlns.oracle.com/AgileObjects/Core/Common/V1">
        <MultiList>
          <value/>
        </MultiList>
      </attribute>
      <attribute apiName="multiList02" id="1565"
type="ns21:AgileMultiListEntryType"
xmlns:ns21="http://xmlns.oracle.com/AgileObjects/Core/Common/V1">
        <MultiList>
          <value/>
        </MultiList>
      </attribute>
      <attribute apiName="number_Turns" id="2499904"
type="xsd:double">
        <Number>
          <value xsi:nil="true"/>
        </Number>
      </attribute>
      <attribute apiName="developer" id="2499905"
type="xsd:string">
        <String>
          <value/>
        </String>

```

```
        </attribute>
      </agileObject>
    </responses>
  </response>
</removePartAssignmentResponse>
</soapenv:Body>
</soapenv:Envelope>
```

retrieveDesignStructure

Service

Returns a Design structure with CAD assemblies and parts supporting 4 structure resolution options (latest, as saved, released, published). You can also configure it to return CAD drawings (linked through WhereUsed tab), and external references and forms (linked through Relationships tab). The service is also capable of returning chunked responses to maintain a balance between the client server and server memory load and network payload. By default, it returns all tables and attributes. Specifying corresponding attribute filters, limits the return of only required tables and attributes. See `getFilteredObject` on page 305. The object in the request needs to be of type `Design` class or any subclass of it. The chosen structure resolution option affects the versions of the objects under the top level object (the one passed in the request), but not the top level object's version. The top level object's version is always the one that is passed in the request. If no `objectVersion` is set in the request, the latest version/revision of the object is used. All other objects linked through the relationship tab are determined based on the structure resolution option.

Service

The 'latest' option returns the latest version of all Design objects in the structure. If the Design is checked-out, the service returns the latest non-pending version. But, if the user retrieving the structure and the check-out user are the same, it returns the pending version.

The 'as saved' option returns the version of all Design objects as linked in the structure. If the Design is checked-out, the service returns the latest non-pending version. But, if the user retrieving the structure and the check-out user are the same, it returns the pending version.

The 'released' option returns the latest version of all checked-in Design objects and does not consider checked-out versions from the same user.

The 'published' option returns the latest version of all Design objects published to an item. The revision field on the Design object determines the revision of the linked item. Design objects with empty revision fields are not considered as the latest published version.

Usage

Returns an `AgileBusinessObjectType` for Design in the response object.

Syntax

```
AgileECResponseExtType retrieveDesignStructureResponseType =
agileStub.retrieveDesignStructure(retrieveDesignStructureRequestType)
```

Sample Code

SOAP

```
<?xml version="1.0" encoding="utf-8"?>
```



```

<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
  <soapenv:Body>
    <retrieveDesignStructureResponse
xmlns="http://xmlns.oracle.com/AgileObjects/ECS/V1">
      <response xmlns="">
        <messageId xsi:nil="true"/>
        <messageName xsi:nil="true"/>
        <statusCode>SUCCESS</statusCode>
        <sessionParameters>
          <id>VersionProperties</id>
          <property>
            <propertyName>ECS</propertyName>
            <propertyValue>9.3.2</propertyValue>
          </property>
          <property>
            <propertyName>Build</propertyName>
            <propertyValue>Build 00</propertyValue>
          </property>
        </sessionParameters>
        <responses>
          <agileObject>
            <objectId>
              <classId>2000008310</classId>
              <className>Design</className>

<classDisplayName>Design</classDisplayName>
              <objectId>6895791</objectId>
              <objectName>100-01137.SLDASM</objectName>
              <objectVersion>1</objectVersion>
              <version>29</version>
              <superClassId>2000008297</superClassId>
            </objectId>
            <table>
              <tableId>
                <classId>2000008310</classId>
                <className>Design</className>
                <objectId>6895791</objectId>

<objectName>100-01137.SLDASM</objectName>
                <tableId>6150</tableId>
                <tableName>Files</tableName>

<tableDisplayName>Files</tableDisplayName>
              </tableId>
              <row rowId="6896005">
                <objectReferentId>
                  <classId>2000008310</classId>
                  <className>Design</className>

<classDisplayName>Design</classDisplayName>
                  <objectId>6895791</objectId>

<objectName>100-01137.SLDASM</objectName>

<objectVersion>1</objectVersion>
                  <version>29</version>

<superClassId>2000008297</superClassId>
                </objectReferentId>
              </row>
            </table>
          </agileObject>
        </responses>
      </response>
    </retrieveDesignStructureResponse>
  </soapenv:Body>
</soapenv:Envelope>

```

```

id="6303" type="xsd:string">
    </objectReferentId>
    <attribute apiName="fileName"
        <String>
            </String>
        </attribute>
    <attribute apiName="fileCategory"
        <String>
            <value>Source</value>
        </String>
    </attribute>
    <attribute apiName="fileSize"
        <String>
            <value>989696.0</value>
        </String>
    </attribute>
    <attribute apiName="fileid" id="-1"
        <String>
            <value>6895926</value>
        </String>
    </attribute>
</row>
</table>
<table>
    <tableId>
        <classId>2000008310</classId>
        <className>Design</className>
        <objectId>6895791</objectId>
    </tableId>
    <objectName>100-01137.SLDASM</objectName>
    <tableId>2000008318</tableId>
    <tableName>Structure</tableName>
    <tableDisplayName>Structure</tableDisplayName>
    </tableId>
    <row rowId="6895995">
        <objectReferentId>
            <classId>2000008310</classId>
            <className>Design</className>
        </objectReferentId>
        <classDisplayName>Design</classDisplayName>
        <objectId>6895445</objectId>
    </row>
    <objectName>100-01133.SLDPRT</objectName>
    <objectVersion>1</objectVersion>
    <version>19</version>
    <superClassId>2000008297</superClassId>
    </objectReferentId>
    <attribute apiName="number"
        <String>
            </String>
        </attribute>
    <id="2000008320" type="xsd:string">

```

```

<value>100-01133.SLDPRT</value>
    </String>
  </attribute>
  <attribute apiName="description"
    id="2000008321" type="xsd:string">
    <String>
      <value>TEST
    PART</value>
    </String>
  </attribute>
  <attribute apiName="quantity"
    id="2000008325" type="xsd:double">
    <String>
      <value>0.0</value>
    </String>
  </attribute>
  <attribute apiName="version"
    id="2000008323" type="xsd:integer">
    <String>
      <value>1</value>
    </String>
  </attribute>
  <attribute apiName="identifier"
    id="2000008377" type="xsd:string">
    <String>
      <value>CAX-SW</value>
    </String>
  </attribute>
  <attribute apiName="findNum"
    id="2000008324" type="xsd:double">
    <String>
      <value>0.0</value>
    </String>
  </attribute>
</row>
</table>
<table>
  <tableId>
    <classId>2000008310</classId>
    <className>Design</className>
    <objectId>6895791</objectId>

    <objectName>100-01137.SLDASM</objectName>
    <tableId>2000007761</tableId>

    <tableName>Relationships</tableName>

    <tableDisplayName>Relationships</tableDisplayName>
    </tableId>
  </table>
  <attribute apiName="number" id="6173"
    type="xsd:string">
    <String>
      <value>100-01137.SLDASM</value>
    </String>
  </attribute>
  <attribute apiName="type" id="6175"
    type="ns2:AgileListEntryType"
    xmlns:ns2="http://xmlns.oracle.com/AgileObjects/Core/Common/V1">
    <String>

```

```

        <value>Design</value>
      </String>
    </attribute>
    <attribute apiName="description" id="6174"
type="xsd:string">
      <String>
        <value>TEST ASSEMBLY</value>
      </String>
    </attribute>
    <attribute apiName="lifecyclePhase" id="6390"
type="ns3:AgileListEntryType"
xmlns:ns3="http://xmlns.oracle.com/AgileObjects/Core/Common/V1">
      <String>
        <value>In Work</value>
      </String>
    </attribute>
    <attribute apiName="version" id="7951"
type="xsd:integer">
      <String>
        <value>1</value>
      </String>
    </attribute>
    <attribute apiName="revision" id="2000008685"
type="xsd:string">
      <String>
        <value>Introductory.1</value>
      </String>
    </attribute>
    <attribute apiName="checkoutStatus" id="6389"
type="ns4:AgileListEntryType"
xmlns:ns4="http://xmlns.oracle.com/AgileObjects/Core/Common/V1">
      <String>
        <value>Checked In</value>
      </String>
    </attribute>
    <attribute apiName="checkoutUser" id="6180"
type="ns5:AgileListEntryType"
xmlns:ns5="http://xmlns.oracle.com/AgileObjects/Core/Common/V1">
      <String>
        <value/>
      </String>
    </attribute>
    <attribute apiName="checkoutDate" id="6184"
type="xsd:date">
      <String>
        <value xsi:nil="true"/>
      </String>
    </attribute>
    <attribute apiName="createDate" id="6177"
type="xsd:date">
      <String>
        <value>2012-11-20T21:46:47Z</value>
      </String>
    </attribute>
    <attribute apiName="lastModifiedDate" id="6178"
type="xsd:date">
      <String>
        <value>2012-11-20T21:50:21Z</value>
      </String>
    </attribute>

```

```

        <attribute apiName="checkinUser"
id="2000008717" type="ns6:AgileListEntryType"
xmlns:ns6="http://xmlns.oracle.com/AgileObjects/Core/Common/V1">
        <String>
            <value>CAD One (cad1)</value>
        </String>
    </attribute>
    <attribute apiName="checkinDate" id="6388"
type="xsd:date">
        <String>
            <value>2012-11-20T21:50:17Z</value>
        </String>
    </attribute>
    <attribute apiName="text12" id="1302"
type="xsd:string">
        <String>
            <value/>
        </String>
    </attribute>
    <attribute apiName="text01" id="2007"
type="xsd:string">
        <String>
            <value>SW2011</value>
        </String>
    </attribute>
    <attribute apiName="multiText10" id="2017"
type="xsd:string">
        <String>
            <value>160045.SLDASM</value>
        </String>
    </attribute>
    <attribute apiName="text03" id="2009"
type="xsd:string">
        <String>
            <value>SLDASM</value>
        </String>
    </attribute>
    <attribute apiName="createUser" id="1420"
type="ns7:AgileListEntryType"
xmlns:ns7="http://xmlns.oracle.com/AgileObjects/Core/Common/V1">
        <String>
            <value>CAD One (cad1)</value>
        </String>
    </attribute>
    <attribute apiName="numeric01" id="12468"
type="xsd:double">
        <String>
            <value xsi:nil="true"/>
        </String>
    </attribute>
    <attribute apiName="multiText32" id="1332"
type="xsd:string">
        <String>
            <value>GENERIC</value>
        </String>
    </attribute>
    <attribute apiName="text06" id="2012"
type="xsd:string">
        <String>
            <value>GENERIC</value>

```

```

        </String>
      </attribute>
      <attribute apiName="multiList01" id="2090"
type="ns8:AgileMultiListEntryType"
xmlns:ns8="http://xmlns.oracle.com/AgileObjects/Core/Common/V1">
        <String>
          <value>INTERNAL</value>
        </String>
      </attribute>
    </options>

    <propertyName>latest-version</propertyName>
      <propertyValue>1</propertyValue>
    </options>
  </options>
  <propertyName>resolution</propertyName>
    <propertyValue>true</propertyValue>
  </options>
</agileObject>
<outputParameters xsi:nil="true"/>
</responses>
</response>
</retrieveDesignStructureResponse>
</soapenv:Body>
</soapenv:Envelope>

```

Table A-5 Code options

Name	Description
skip_p2_p3_attributes	Flag to skip page two and page three attributes. False by default.
resolution	Structure resolution. Options are 'latest', 'released', 'published', 'as-saved'. Latest by default.
structure	Flag to include structure. True by default. If set to 'false', returns no children of the Design object; returns only the attributes of the top level Design object. If set to "true", returns all Designs having a value starting with "CAX-" in the CAD Ident field.
drawings	Flag to include drawings. False by default. This option runs through the Where Used tab to check for all drawings.
items	Flag to include items/parts. False by default. If set to 'true', returns all Design objects linked to the items.
external-refs	Flag to include external references. False by default. If set to 'true', returns all external references (special CAD objects) linked through the relationship tab and have the parent Design object's number in the Ident field.
structure-depth	Depth for structure resolution. '-1' indicating all by default.
retrieve-initial-version-1	Flag to retrieve initial version 1. True by default.

Table A–5 (Cont.) Code options

merge_latest_checkedin	Flag to merge latest check-in. True by default.
strings-only	Flag to return string values or actual data types. False by default.
skip-empty	Flag to omit empty values in the response to reduce the payload. False by default.

Operations - RMW Web Services

This section describes the core operations of Recipe and Material Workspace web services.

You can test these web services directly from the RMW application UI by using the XML message samples provided for each operation in the subsequent chapters.

To test a web service from RMW application UI:

1. Select Tools and Settings > Integration > Test > Test a Service.
2. In the Web Service: Test page, select the RMW Application.
3. Select the desired Web Service.
4. Select the desired Operation. The Operation drop-down list is automatically populated with the operations corresponding to the web Service you selected.
5. Enter, or copy-paste the XML Request message in the Input XML text box. You can copy the XML request messages from the sample codes provided in the subsequent chapters of this section.
6. Alternately, if you have your own XML message file stored in your system, you can upload it to the RMW application by clicking Browse against the Test XML File Name field. You can view the uploaded XML message file details by clicking View Test XML from File.
7. Click Submit XML. The system displays the result of the operation and returns the Response XML message in the Returned Results text box.
8. Click OK to finish.

CFMBOWWebServices

This section describes the web services operations available for CFMBOW Web Services.

processBO

Service

Main web services operations of a business object.

Usage

Operations such as Add, Modify and Delete can be performed on a business object by invoking this web service by providing the BO details in the form of cfmXML.

Sample Code

SOAP

```

===== Request =====
<?xml version="1.0" encoding="UTF-8"?>
<cfmXML>
  <LoginInfo>
    <UserName>admin</UserName>
    <Password>ANrE.7E.CNYiKbvzxDrqFJGtUJ.0lk</Password>
  </LoginInfo>
  <Payload>
    <Object>
      <CategoryName/>
      <CategoryDBName/>
      <ObjectKey/>
      <ObjectDetail/>
    </Object>
    <ObjectGroup isBO="Yes" name="Application">
      <BOActions>
        <BOAction>New</BOAction>
      </BOActions>
      <Object name="BORoot">
        <CategoryName>Application Setup</CategoryName>
        <CategoryDBName>D_INT_APPLICATION_SETUP</CategoryDBName>
        <ViewName/>
        <CustomInfo/>
        <ObjectKey>
          <Attribute name="Application Name">
            <Value dataType="Text">JUNIT_BO_WS_Test_
Application_041</Value>
            <UnitOfMeasure/>
          </Attribute>
        </ObjectKey>
        <ObjectDetail>
          <Attribute name="Inbound XSL">
            <Value dataType="Text">inbound</Value>
            <UnitOfMeasure/>
          </Attribute>
          <Attribute name="Outbound XSL">
            <Value dataType="Text">outbound</Value>
            <UnitOfMeasure/>
          </Attribute>
        </ObjectDetail>
      </Object>
    </ObjectGroup>
    <ObjectGroup isBO="Yes" name="Application">
      <BOActions>
        <BOAction>New</BOAction>
      </BOActions>
      <Object name="BORoot">
        <CategoryName>Application Setup</CategoryName>
        <CategoryDBName>D_INT_APPLICATION_SETUP</CategoryDBName>
        <ViewName/>
        <CustomInfo/>
        <ObjectKey>
          <Attribute name="Application Name">
            <Value dataType="Text">JUNIT_BO_WS_Test_
Application_002</Value>
            <UnitOfMeasure/>
          </Attribute>
        </ObjectKey>
        <ObjectDetail>

```

```

        <Attribute name="Inbound XSL">
            <Value dataType="Text">inbound</Value>
            <UnitOfMeasure/>
        </Attribute>
        <Attribute name="Outbound XSL">
            <Value dataType="Text">outbound</Value>
            <UnitOfMeasure/>
        </Attribute>
    </ObjectDetail>
</Object>
</ObjectGroup>
</Payload>
</cfmXML>
===== Response =====
<?xml version="1.0" encoding="UTF-8"?>
<cfmXML>
    <Response>
        <ResponseCode>500</ResponseCode>
        <ResponseMessage>Web service invoked successfully.</ResponseMessage>
        <SessionID>2809802994352564306</SessionID>
    </Response>
    <Payload>
        <ObjectGroup isBO="yes" name="Application">
            <Object name="BORoot" operation="I">
                <CategoryName>Application Setup</CategoryName>
                <CategoryDBName>D_INT_APPLICATION_SETUP</CategoryDBName>
                <ViewName>DEFAULT</ViewName>
                <ObjectKey>
                    <ObjectID>100012548</ObjectID>
                    <Attribute name="Application Name">
                        <Value dataType="Basic Text">Test2</Value>
                        <UnitOfMeasure></UnitOfMeasure>
                    </Attribute>
                </ObjectKey>
                <ObjectDetail>
                    <Attribute name="Internal Id">
                        <Value dataType="Integer">100012548</Value>
                        <UnitOfMeasure></UnitOfMeasure>
                    </Attribute>
                    <Attribute name="LeafCategory Id">
                        <Value dataType="Foreign Key">@</Value>
                        <UnitOfMeasure></UnitOfMeasure>
                    </Attribute>
                    <Attribute name="Application User Id">
                        <Value dataType="Basic Text">@</Value>
                        <UnitOfMeasure></UnitOfMeasure>
                    </Attribute>
                    <Attribute name="Application User Password">
                        <Value dataType="Password">@</Value>
                        <UnitOfMeasure></UnitOfMeasure>
                    </Attribute>
                    <Attribute name="Inbound XSL">
                        <Value dataType="Basic Text">inbound</Value>
                        <UnitOfMeasure></UnitOfMeasure>
                    </Attribute>
                    <Attribute name="Outbound XSL">
                        <Value dataType="Basic Text">outbound</Value>
                        <UnitOfMeasure></UnitOfMeasure>
                    </Attribute>
                    <Attribute name="Max Payload objects">

```

```
        <Value dataType="Integer">@</Value>
        <UnitOfMeasure></UnitOfMeasure>
    </Attribute>
    <Attribute name="is UI App">
        <Value dataType="Basic Text">@</Value>
        <UnitOfMeasure></UnitOfMeasure>
    </Attribute>
    <Attribute name="Is UI Application">
        <Value dataType="Boolean">>false</Value>
        <UnitOfMeasure></UnitOfMeasure>
    </Attribute>
    <Attribute name="Login Type">
        <Value dataType="Basic Text">Logged in User</Value>
        <UnitOfMeasure></UnitOfMeasure>
    </Attribute>
    <Attribute name="Record Exists">
        <Value dataType="Boolean">@</Value>
        <UnitOfMeasure></UnitOfMeasure>
    </Attribute>
    <Attribute name="NoteCount">
        <Value dataType="Integer">0</Value>
        <UnitOfMeasure></UnitOfMeasure>
        <Format groupSeparator=",">#,###</Format>
    </Attribute>
    <Attribute name="AttachmentCount">
        <Value dataType="Integer">0</Value>
        <UnitOfMeasure></UnitOfMeasure>
        <Format groupSeparator=",">#,###</Format>
    </Attribute>
    <Attribute name="Is Object Locked">
        <Value dataType="Boolean">>false</Value>
        <UnitOfMeasure></UnitOfMeasure>
    </Attribute>
    <Attribute name="Modified User">
        <Value dataType="Foreign Key">@</Value>
        <UnitOfMeasure></UnitOfMeasure>
    </Attribute>
    <Attribute name="Modified Date">
        <Value dataType="DateTime"></Value>
        <UnitOfMeasure></UnitOfMeasure>
        <Format>MM/dd/yyyy hh:mm:ss a z</Format>
    </Attribute>
    <Attribute name="Created User">
        <Value dataType="Foreign Key">785544</Value>
        <UnitOfMeasure></UnitOfMeasure>
    </Attribute>
    <Attribute name="Created Date">
        <Value GMTDateTime="1297832685853"
dataType="DateTime">02/16/2011 05:04:45 AM GMT</Value>
        <UnitOfMeasure></UnitOfMeasure>
        <Format>MM/dd/yyyy hh:mm:ss a z</Format>
    </Attribute>
</ObjectDetail>
</Object>
</ObjectGroup>
<ObjectGroup isBO="yes" name="Application">
    <Object name="BORoot" operation="I">
        <CategoryName>Application Setup</CategoryName>
        <CategoryDBName>D_INT_APPLICATION_SETUP</CategoryDBName>
        <ViewName>DEFAULT</ViewName>
```

```

<ObjectKey>
  <ObjectID>100012549</ObjectID>
  <Attribute name="Application Name">
    <Value dataType="Basic Text">JUNIT_BO_WS_Test_Application_
002</Value>
    <UnitOfMeasure></UnitOfMeasure>
  </Attribute>
</ObjectKey>
<ObjectDetail>
  <Attribute name="Internal Id">
    <Value dataType="Integer">100012549</Value>
    <UnitOfMeasure></UnitOfMeasure>
  </Attribute>
  <Attribute name="LeafCategory Id">
    <Value dataType="Foreign Key">@</Value>
    <UnitOfMeasure></UnitOfMeasure>
  </Attribute>
  <Attribute name="Application User Id">
    <Value dataType="Basic Text">@</Value>
    <UnitOfMeasure></UnitOfMeasure>
  </Attribute>
  <Attribute name="Application User Password">
    <Value dataType="Password">@</Value>
    <UnitOfMeasure></UnitOfMeasure>
  </Attribute>
  <Attribute name="Inbound XSL">
    <Value dataType="Basic Text">inbound</Value>
    <UnitOfMeasure></UnitOfMeasure>
  </Attribute>
  <Attribute name="Outbound XSL">
    <Value dataType="Basic Text">outbound</Value>
    <UnitOfMeasure></UnitOfMeasure>
  </Attribute>
  <Attribute name="Max Payload objects">
    <Value dataType="Integer">@</Value>
    <UnitOfMeasure></UnitOfMeasure>
  </Attribute>
  <Attribute name="is UI App">
    <Value dataType="Basic Text">@</Value>
    <UnitOfMeasure></UnitOfMeasure>
  </Attribute>
  <Attribute name="Is UI Application">
    <Value dataType="Boolean">>false</Value>
    <UnitOfMeasure></UnitOfMeasure>
  </Attribute>
  <Attribute name="Login Type">
    <Value dataType="Basic Text">Logged in User</Value>
    <UnitOfMeasure></UnitOfMeasure>
  </Attribute>
  <Attribute name="Record Exists">
    <Value dataType="Boolean">@</Value>
    <UnitOfMeasure></UnitOfMeasure>
  </Attribute>
  <Attribute name="NoteCount">
    <Value dataType="Integer">0</Value>
    <UnitOfMeasure></UnitOfMeasure>
    <Format groupSeparator=",">#,>>></Format>
  </Attribute>
  <Attribute name="AttachmentCount">
    <Value dataType="Integer">0</Value>

```

```
        <UnitOfMeasure></UnitOfMeasure>
        <Format groupSeparator=",">#,</Format>
    </Attribute>
    <Attribute name="Is Object Locked">
        <Value dataType="Boolean">false</Value>
        <UnitOfMeasure></UnitOfMeasure>
    </Attribute>
    <Attribute name="Modified User">
        <Value dataType="Foreign Key">@</Value>
        <UnitOfMeasure></UnitOfMeasure>
    </Attribute>
    <Attribute name="Modified Date">
        <Value dataType="DateTime"></Value>
        <UnitOfMeasure></UnitOfMeasure>
        <Format>MM/dd/yyyy hh:mm:ss a z</Format>
    </Attribute>
    <Attribute name="Created User">
        <Value dataType="Foreign Key">785544</Value>
        <UnitOfMeasure></UnitOfMeasure>
    </Attribute>
    <Attribute name="Created Date">
        <Value GMTDateTime="1297832685884"
dataType="DateTime">02/16/2011 05:04:45 AM GMT</Value>
        <UnitOfMeasure></UnitOfMeasure>
        <Format>MM/dd/yyyy hh:mm:ss a z</Format>
    </Attribute>
    </ObjectDetail>
</Object>
</ObjectGroup>
</Payload>
</cfmXML>
```

CFMCampaignService

This section describes the web services operations available for CFMCampaign Web Services.

changeLifeCyclePhase

Service

To change the lifecycle phase of a business object, such as campaign.

Usage

Changes the lifecycle phase of a business object. A business object, such as campaign, can be in the Draft, In-Progress, Approved, etc. phase of its lifecycle.

Sample Code

SOAP

```
===== Request =====
<?xml version="1.0" encoding="UTF-8"?>
<cfmXML>
    <LoginInfo>
        <UserName>admin</UserName>
        <Password>DNrE.7E.CNYiBbvzxDrqIJGtUF.0lk</Password>
    </LoginInfo>
    <Payload>
```

```

<Object>
  <CategoryName>Campaign</CategoryName>
  <CategoryDBName>A_PRC_CAMPAIGN</CategoryDBName>
  <ViewName>Basic</ViewName>
  <ObjectKey>
    <Attribute name="Campaign ID">
      <Value dataType="Auto Sequence">CMP_2151</Value>
      <UnitOfMeasure/>
    </Attribute>
  </ObjectKey>
  <ObjectDetail>
    <Attribute name="Name">
      <Value dataType="Basic Text">Campaign_Test_3</Value>
      <UnitOfMeasure/>
    </Attribute>
    <Attribute name="Operating Mode">
      <Value dataType="Basic Text">GMP</Value>
      <UnitOfMeasure/>
    </Attribute>
  </ObjectDetail>
</Object>
</Payload>
<AdditionalInfo name = "Life Cycle Phase Info">
  <Attribute name="Life Cycle Phase">
    <Value dataType="Basic Text">Approved</Value>
  </Attribute>
</AdditionalInfo>
<AdditionalInfo name = "Conclusions">
  <Attribute name="Observation">
    <Value dataType="Basic Text">When the experiment was conducted,
the output material PH was observed to be very high</Value>
  </Attribute>
  <Attribute name="Hypothesis">
    <Value dataType="Basic Text">PH is related to acidity of
materials</Value>
  </Attribute>
  <Attribute name="Rationale">
    <Value dataType="Basic Text">When the experiment started, it was
logical to assume that the material PH will be high due to high usage of
acids</Value>
  </Attribute>
  <Attribute name="Conclusion">
    <Value dataType="Basic Text">As expected usage of acidic
materials result in high PH for output materials</Value>
  </Attribute>
</AdditionalInfo>
</cfmXML>
===== Response =====
<?xml version="1.0" encoding="UTF-8"?>
<cfmXML>
  <Response>
    <ResponseCode>500</ResponseCode>
    <ResponseMessage>SUCCESS</ResponseMessage>
    <SessionID>217137109390457585</SessionID>
  </Response>
</Payload>
  <Object operation="U">
    <CategoryName>Campaign</CategoryName>
    <CategoryDBName>A_PRC_CAMPAIGN</CategoryDBName>
    <ViewName>DEFAULT</ViewName>

```

```

<ObjectKey>
  <ObjectID>100001292</ObjectID>
  <Attribute name="Campaign ID">
    <Value dataType="Auto Sequence">CMP_1802</Value>
    <UnitOfMeasure></UnitOfMeasure>
  </Attribute>
</ObjectKey>
<ObjectDetail>
  <Attribute name="Campaign Name">
    <Value dataType="Basic Text">ss_CMP1</Value>
    <UnitOfMeasure></UnitOfMeasure>
  </Attribute>
  <Attribute name="Description">
    <Value dataType="Basic Text">@</Value>
    <UnitOfMeasure></UnitOfMeasure>
  </Attribute>
  <Attribute name="Planned Quantity">
    <Value dataType="Float">@</Value>
    <UnitOfMeasure>kg</UnitOfMeasure>
  </Attribute>
  <Attribute name="Internal Id">
    <Value dataType="Integer">100001292</Value>
    <UnitOfMeasure></UnitOfMeasure>
  </Attribute>
  <Attribute name="Campaign Type">
    <Value dataType="Basic Text">@</Value>
    <UnitOfMeasure></UnitOfMeasure>
  </Attribute>
  <Attribute name="Requested Delivery Date">
    <Value GMTDateTime="1297987200000" dataType="Date">02/18/2011
12:00:00 AM GMT</Value>
    <UnitOfMeasure></UnitOfMeasure>
    <Format>MM/dd/yyyy hh:mm:ss a z</Format>
  </Attribute>
  <Attribute name="Planned Completion Date">
    <Value GMTDateTime="1298851200000" dataType="Date">02/28/2011
12:00:00 AM GMT</Value>
    <UnitOfMeasure></UnitOfMeasure>
    <Format>MM/dd/yyyy hh:mm:ss a z</Format>
  </Attribute>
  <Attribute name="Operating Mode">
    <Value dataType="Basic Text">GMP</Value>
    <UnitOfMeasure></UnitOfMeasure>
  </Attribute>
  <Attribute name="Stage of Work">
    <Value dataType="Basic Text">Phase 1</Value>
    <UnitOfMeasure></UnitOfMeasure>
  </Attribute>
  <Attribute name="Enter ERS Data">
    <Value dataType="Basic Text">At Process Step Level</Value>
    <UnitOfMeasure></UnitOfMeasure>
  </Attribute>
  <Attribute name="Record Exists">
    <Value dataType="Boolean">true</Value>
    <UnitOfMeasure></UnitOfMeasure>
  </Attribute>
  <Attribute name="NoteCount">
    <Value dataType="Integer">0</Value>
    <UnitOfMeasure></UnitOfMeasure>
    <Format groupSeparator=",">#,###</Format>

```



```

</Attribute>
<Attribute name="AttachmentCount">
  <Value dataType="Integer">0</Value>
  <UnitOfMeasure></UnitOfMeasure>
  <Format groupSeparator=",">#,###</Format>
</Attribute>
<Attribute name="Is Object Locked">
  <Value dataType="Boolean">>false</Value>
  <UnitOfMeasure></UnitOfMeasure>
</Attribute>
<Attribute name="Modified User">
  <Value dataType="Foreign Key">785544</Value>
  <UnitOfMeasure></UnitOfMeasure>
</Attribute>
<Attribute name="Modified Date">
  <Value GMTDateTime="1298017638368"
dataType="DateTime">02/18/2011 08:27:18 AM GMT</Value>
  <UnitOfMeasure></UnitOfMeasure>
  <Format>MM/dd/yyyy hh:mm:ss a z</Format>
</Attribute>
<Attribute name="Created Date">
  <Value GMTDateTime="1298017268000"
dataType="DateTime">02/18/2011 08:21:08 AM GMT</Value>
  <UnitOfMeasure></UnitOfMeasure>
  <Format>MM/dd/yyyy hh:mm:ss a z</Format>
</Attribute>
<Relationship name="BO Status">
  <CategoryName>BO Status</CategoryName>
  <CategoryDBName>D_BO_STATUS</CategoryDBName>
  <ObjectKey>
    <ObjectID>1440261</ObjectID>
    <Attribute name="Status ID">
      <Value dataType="Basic Text">SUBMITTEDCAMPAIGN</Value>
      <UnitOfMeasure></UnitOfMeasure>
    </Attribute>
  </ObjectKey>
</Relationship>
<Relationship name="LeafCategory Id">
  <CategoryName>Category</CategoryName>
  <CategoryDBName>M_MET_CATEGORY</CategoryDBName>
  <ObjectKey>
    <ObjectID>789984</ObjectID>
    <Attribute name="Name">
      <Value dataType="Basic Text">Campaign</Value>
      <UnitOfMeasure></UnitOfMeasure>
    </Attribute>
  <Relationship name="Parent Category">
    <CategoryName>Category</CategoryName>
    <CategoryDBName>M_MET_CATEGORY</CategoryDBName>
    <ObjectKey>
      <ObjectID>788911</ObjectID>
      <Attribute name="Name">
        <Value dataType="Basic Text">Process
Folder</Value>
        <UnitOfMeasure></UnitOfMeasure>
      </Attribute>
    <Relationship name="Parent Category">
      <CategoryName>Category</CategoryName>
      <CategoryDBName>M_MET_
CATEGORY</CategoryDBName>

```

```

        <ObjectKey>
          <ObjectID>101</ObjectID>
          <Attribute name="Name">
            <Value dataType="Basic
Text">Base</Value>

            <UnitOfMeasure></UnitOfMeasure>
          </Attribute>
          <Attribute name="Parent Category">
            <Value dataType="Foreign
Key">@</Value>

            <UnitOfMeasure></UnitOfMeasure>
          </Attribute>
        </ObjectKey>
      </Relationship>
    </ObjectKey>
  </Relationship>
</ObjectKey>
</Relationship>
<Relationship name="Project Target Molecule">
  <CategoryName>Project Target Molecule Link</CategoryName>
  <CategoryDBName>A_PRC_PROJ_TARGET_MOLECULE_LK</CategoryDBName>
  <ObjectKey>
    <ObjectID>100000325</ObjectID>
    <Relationship name="Target Molecule">
      <CategoryName>Target Molecule</CategoryName>
      <CategoryDBName>A_PRC_TARGET_MOLECULE</CategoryDBName>
      <ObjectKey>
        <ObjectID>100000323</ObjectID>
        <Attribute name="Target Molecule ID">
          <Value dataType="Basic Text">PD1</Value>
          <UnitOfMeasure></UnitOfMeasure>
        </Attribute>
      </ObjectKey>
    </Relationship>
    <Relationship name="Project">
      <CategoryName>Project</CategoryName>
      <CategoryDBName>A_PRC_PROJECT</CategoryDBName>
      <ObjectKey>
        <ObjectID>100000324</ObjectID>
        <Attribute name="Project ID">
          <Value dataType="Basic Text">PJ1</Value>
          <UnitOfMeasure></UnitOfMeasure>
        </Attribute>
      </ObjectKey>
    </Relationship>
  </ObjectKey>
</Relationship>
<Relationship name="Target Material">
  <CategoryName>Material</CategoryName>
  <CategoryDBName>A_MAT_MATERIAL</CategoryDBName>
  <ObjectKey>
    <Attribute name="Item Id">
      <Value dataType="Auto Sequence">@</Value>
      <UnitOfMeasure></UnitOfMeasure>
    </Attribute>
  </ObjectKey>
</Relationship>
<Relationship name="Campaign Site">
  <CategoryName>Site</CategoryName>
  <CategoryDBName>D_ORG_SITE</CategoryDBName>

```

```

        <ObjectKey>
          <ObjectID>785297</ObjectID>
          <Attribute name="Site ID">
            <Value dataType="Basic Text">Global</Value>
            <UnitOfMeasure></UnitOfMeasure>
          </Attribute>
        </ObjectKey>
      </Relationship>
    <Relationship name="Process Route">
      <CategoryName>Process Route</CategoryName>
      <CategoryDBName>A_PRC_PROCESS_ROUTE</CategoryDBName>
      <ObjectKey>
        <Attribute name="Process Route Name">
          <Value dataType="Basic Text">@</Value>
          <UnitOfMeasure></UnitOfMeasure>
        </Attribute>
      </ObjectKey>
    </Relationship>
    <Relationship name="Initiating Order">
      <CategoryName>Order</CategoryName>
      <CategoryDBName>A_MAT_ORDER</CategoryDBName>
      <ObjectKey>
        <Attribute name="Order ID">
          <Value dataType="Auto Sequence">@</Value>
          <UnitOfMeasure></UnitOfMeasure>
        </Attribute>
      </ObjectKey>
    </Relationship>
    <Relationship name="Current Workflow">
      <CategoryName>Workflow process table</CategoryName>
      <CategoryDBName>D_WF_PROCESS</CategoryDBName>
      <ObjectKey>
        <Attribute name="Request ID">
          <Value dataType="Auto Sequence">@</Value>
          <UnitOfMeasure></UnitOfMeasure>
        </Attribute>
      </ObjectKey>
    </Relationship>
    <Relationship name="Created User">
      <CategoryName>User</CategoryName>
      <CategoryDBName>D_PPL_USER</CategoryDBName>
      <ObjectKey>
        <ObjectID>785544</ObjectID>
        <Attribute name="User ID">
          <Value dataType="Basic Text">admin</Value>
          <UnitOfMeasure></UnitOfMeasure>
        </Attribute>
      </ObjectKey>
    </Relationship>
  </ObjectDetail>
</Object>
</Payload>
</cfmXML>

```

getReservedInventory

Service

To get the details of the reserved inventory.

Usage

Gets the details of the inventory reserved for a particular campaign.

Sample Code

XML Message

```
===== Request =====
<?xml version="1.0" encoding="UTF-8"?>

<!-- New document created with EditiX at Fri Dec 17 20:27:30 IST 2010 -->
<cfmXML>
  <LoginInfo>
    <UserName>admin</UserName>
    <Password>DNrE.7E.CNYiBbvzxDrqIJGtUF.Olk</Password>
  </LoginInfo>
  <Payload>
    <Object>
      <CategoryName>Campaign</CategoryName>
      <CategoryDBName>A_PRC_CAMPAIGN</CategoryDBName>
      <ViewName>Basic</ViewName>
      <ObjectKey>
        <Attribute name="Campaign ID">
          <Value dataType="Auto Sequence">CMP_1851</Value>
          <UnitOfMeasure/>
        </Attribute>
      </ObjectKey>
      <ObjectDetail>
        <Attribute name="Name">
          <Value dataType="Basic Text">CMP_15_2</Value>
          <UnitOfMeasure/>
        </Attribute>
        <Attribute name="Lifecycle Phase">
          <Value dataType="Basic Text">Draft</Value>
          <UnitOfMeasure/>
        </Attribute>
        <Attribute name="Operating Mode">
          <Value dataType="Basic Text">Clinical Supply</Value>
          <UnitOfMeasure/>
        </Attribute>
      </ObjectDetail>
    </Object>
  </Payload>
</cfmXML>

===== Response =====
<?xml version="1.0" encoding="UTF-8"?>
<cfmXML>
  <Response>
    <ResponseCode>500</ResponseCode>
    <ResponseMessage>SUCCESS</ResponseMessage>
    <SessionID>6575523990185833865</SessionID>
  </Response>
  <Payload>
    <Object>
      <CategoryName>Container</CategoryName>
      <CategoryDBName>A_MAT_CONTAINER</CategoryDBName>
      <ViewName>PLMWSCampaignView</ViewName>
      <ObjectKey>
        <ObjectID>100000397</ObjectID>
      </ObjectKey>
      <ObjectDetail>
```

```

<Attribute name="NoteCount">
  <Value dataType="Integer">0</Value>
  <UnitOfMeasure></UnitOfMeasure>
  <Format groupSeparator=", ">#,###</Format>
</Attribute>
<Attribute name="AttachmentCount">
  <Value dataType="Integer">0</Value>
  <UnitOfMeasure></UnitOfMeasure>
  <Format groupSeparator=", ">#,###</Format>
</Attribute>
<Attribute name="BO Status">
  <Value dataType="Foreign Key">862024</Value>
  <UnitOfMeasure></UnitOfMeasure>
</Attribute>
<Attribute name="Inventory ID">
  <Value dataType="Auto Sequence">CTR_101</Value>
  <UnitOfMeasure></UnitOfMeasure>
</Attribute>
<Attribute name="Record Exists">
  <Value dataType="Boolean">true</Value>
  <UnitOfMeasure></UnitOfMeasure>
</Attribute>
<Attribute name="Quantity on Hand">
  <Value dataType="Float">0.05</Value>
  <UnitOfMeasure>kg</UnitOfMeasure>
  <Format decimalSeparator="."
groupSeparator=", ">#,###.##</Format>
</Attribute>
<Attribute name="PF Re-evaluation Date">
  <Value dataType="Date"></Value>
  <UnitOfMeasure></UnitOfMeasure>
  <Format>dd-MMM-yyyy HH:mm:ss z</Format>
</Attribute>
<Attribute name="Container Status">
  <Value dataType="Basic Text">To Be Evaluated</Value>
  <UnitOfMeasure></UnitOfMeasure>
</Attribute>
<Attribute name="Re-evaluation Date">
  <Value dataType="Date"></Value>
  <UnitOfMeasure></UnitOfMeasure>
  <Format>dd-MMM-yyyy HH:mm:ss z</Format>
</Attribute>
<Attribute name="Expiration Date">
  <Value dataType="Date"></Value>
  <UnitOfMeasure></UnitOfMeasure>
  <Format>dd-MMM-yyyy HH:mm:ss z</Format>
</Attribute>
<Attribute name="Material Name">
  <Value dataType="Basic Text">RawMat1-gram</Value>
  <UnitOfMeasure></UnitOfMeasure>
</Attribute>
<Attribute name="Item Id">
  <Value dataType="Auto Sequence">MAT_000901</Value>
  <UnitOfMeasure></UnitOfMeasure>
</Attribute>
<Attribute name="Container Location">
  <Value dataType="Basic Text">L1</Value>
  <UnitOfMeasure></UnitOfMeasure>
</Attribute>
</ObjectDetail>

```

```

</Object>
<Object>
  <CategoryName>Container</CategoryName>
  <CategoryDBName>A_MAT_CONTAINER</CategoryDBName>
  <ViewName>PLMWSCampaignView</ViewName>
  <ObjectKey>
    <ObjectID>100000462</ObjectID>
  </ObjectKey>
  <ObjectDetail>
    <Attribute name="NoteCount">
      <Value dataType="Integer">0</Value>
      <UnitOfMeasure></UnitOfMeasure>
      <Format groupSeparator=",">#,###</Format>
    </Attribute>
    <Attribute name="AttachmentCount">
      <Value dataType="Integer">0</Value>
      <UnitOfMeasure></UnitOfMeasure>
      <Format groupSeparator=",">#,###</Format>
    </Attribute>
    <Attribute name="BO Status">
      <Value dataType="Foreign Key">862024</Value>
      <UnitOfMeasure></UnitOfMeasure>
    </Attribute>
    <Attribute name="Inventory ID">
      <Value dataType="Auto Sequence">CTR_121</Value>
      <UnitOfMeasure></UnitOfMeasure>
    </Attribute>
    <Attribute name="Record Exists">
      <Value dataType="Boolean">true</Value>
      <UnitOfMeasure></UnitOfMeasure>
    </Attribute>
    <Attribute name="Quantity on Hand">
      <Value dataType="Float">0.25</Value>
      <UnitOfMeasure>kg</UnitOfMeasure>
      <Format decimalSeparator="."
groupSeparator=",">#,###.##</Format>
    </Attribute>
    <Attribute name="PF Re-evaluation Date">
      <Value dataType="Date"></Value>
      <UnitOfMeasure></UnitOfMeasure>
      <Format>dd-MMM-yyyy HH:mm:ss z</Format>
    </Attribute>
    <Attribute name="Container Status">
      <Value dataType="Basic Text">To Be Evaluated</Value>
      <UnitOfMeasure></UnitOfMeasure>
    </Attribute>
    <Attribute name="Re-evaluation Date">
      <Value dataType="Date"></Value>
      <UnitOfMeasure></UnitOfMeasure>
      <Format>dd-MMM-yyyy HH:mm:ss z</Format>
    </Attribute>
    <Attribute name="Expiration Date">
      <Value dataType="Date"></Value>
      <UnitOfMeasure></UnitOfMeasure>
      <Format>dd-MMM-yyyy HH:mm:ss z</Format>
    </Attribute>
    <Attribute name="Material Name">
      <Value dataType="Basic Text">FP1-Tablet</Value>
      <UnitOfMeasure></UnitOfMeasure>
    </Attribute>
  </ObjectDetail>
</Object>

```

```

        <Attribute name="Item Id">
            <Value dataType="Auto Sequence">MAT_000906</Value>
            <UnitOfMeasure></UnitOfMeasure>
        </Attribute>
        <Attribute name="Container Location">
            <Value dataType="Basic Text">L1</Value>
            <UnitOfMeasure></UnitOfMeasure>
        </Attribute>
    </ObjectDetail>
</Object>
<Object>
    <CategoryName>Container</CategoryName>
    <CategoryDBName>A_MAT_CONTAINER</CategoryDBName>
    <ViewName>PLMWSCampaignView</ViewName>
    <ObjectKey>
        <ObjectID>100003044</ObjectID>
    </ObjectKey>
    <ObjectDetail>
        <Attribute name="NoteCount">
            <Value dataType="Integer">0</Value>
            <UnitOfMeasure></UnitOfMeasure>
            <Format groupSeparator=",">#,###</Format>
        </Attribute>
        <Attribute name="AttachmentCount">
            <Value dataType="Integer">0</Value>
            <UnitOfMeasure></UnitOfMeasure>
            <Format groupSeparator=",">#,###</Format>
        </Attribute>
        <Attribute name="BO Status">
            <Value dataType="Foreign Key">862027</Value>
            <UnitOfMeasure></UnitOfMeasure>
        </Attribute>
        <Attribute name="Inventory ID">
            <Value dataType="Auto Sequence">CTR_151</Value>
            <UnitOfMeasure></UnitOfMeasure>
        </Attribute>
        <Attribute name="Record Exists">
            <Value dataType="Boolean">true</Value>
            <UnitOfMeasure></UnitOfMeasure>
        </Attribute>
        <Attribute name="Quantity on Hand">
            <Value dataType="Float">485</Value>
            <UnitOfMeasure>kg</UnitOfMeasure>
            <Format decimalSeparator="."
groupSeparator=",">#,###.##</Format>
        </Attribute>
        <Attribute name="PF Re-evaluation Date">
            <Value dataType="Date"></Value>
            <UnitOfMeasure></UnitOfMeasure>
            <Format>dd-MMM-yyyy HH:mm:ss z</Format>
        </Attribute>
        <Attribute name="Container Status">
            <Value dataType="Basic Text">Evaluated</Value>
            <UnitOfMeasure></UnitOfMeasure>
        </Attribute>
        <Attribute name="Re-evaluation Date">
            <Value dataType="Date"></Value>
            <UnitOfMeasure></UnitOfMeasure>
            <Format>dd-MMM-yyyy HH:mm:ss z</Format>
        </Attribute>
    </ObjectDetail>
</Object>

```

```

        <Attribute name="Expiration Date">
            <Value dataType="Date"></Value>
            <UnitOfMeasure></UnitOfMeasure>
            <Format>dd-MMM-yyyy HH:mm:ss z</Format>
        </Attribute>
        <Attribute name="Material Name">
            <Value dataType="Basic Text">SAMT1</Value>
            <UnitOfMeasure></UnitOfMeasure>
        </Attribute>
        <Attribute name="Item Id">
            <Value dataType="Auto Sequence">MAT_000951</Value>
            <UnitOfMeasure></UnitOfMeasure>
        </Attribute>
        <Attribute name="Container Location">
            <Value dataType="Basic Text">L1</Value>
            <UnitOfMeasure></UnitOfMeasure>
        </Attribute>
    </ObjectDetail>
</Object>
<Object>
    <CategoryName>Container</CategoryName>
    <CategoryDBName>A_MAT_CONTAINER</CategoryDBName>
    <ViewName>PLMWSCampaignView</ViewName>
    <ObjectKey>
        <ObjectID>100003048</ObjectID>
    </ObjectKey>
    <ObjectDetail>
        <Attribute name="NoteCount">
            <Value dataType="Integer">0</Value>
            <UnitOfMeasure></UnitOfMeasure>
            <Format groupSeparator=",">#,###</Format>
        </Attribute>
        <Attribute name="AttachmentCount">
            <Value dataType="Integer">0</Value>
            <UnitOfMeasure></UnitOfMeasure>
            <Format groupSeparator=",">#,###</Format>
        </Attribute>
        <Attribute name="BO Status">
            <Value dataType="Foreign Key">862024</Value>
            <UnitOfMeasure></UnitOfMeasure>
        </Attribute>
        <Attribute name="Inventory ID">
            <Value dataType="Auto Sequence">CTR_152</Value>
            <UnitOfMeasure></UnitOfMeasure>
        </Attribute>
        <Attribute name="Record Exists">
            <Value dataType="Boolean">true</Value>
            <UnitOfMeasure></UnitOfMeasure>
        </Attribute>
        <Attribute name="Quantity on Hand">
            <Value dataType="Float">487</Value>
            <UnitOfMeasure>kg</UnitOfMeasure>
            <Format decimalSeparator="."
groupSeparator=",">#,###.##</Format>
        </Attribute>
        <Attribute name="PF Re-evaluation Date">
            <Value dataType="Date"></Value>
            <UnitOfMeasure></UnitOfMeasure>
            <Format>dd-MMM-yyyy HH:mm:ss z</Format>
        </Attribute>
    </ObjectDetail>
</Object>

```



```

    <Attribute name="Container Status">
      <Value dataType="Basic Text">To Be Evaluated</Value>
      <UnitOfMeasure></UnitOfMeasure>
    </Attribute>
    <Attribute name="Re-evaluation Date">
      <Value dataType="Date"></Value>
      <UnitOfMeasure></UnitOfMeasure>
      <Format>dd-MMM-yyyy HH:mm:ss z</Format>
    </Attribute>
    <Attribute name="Expiration Date">
      <Value dataType="Date"></Value>
      <UnitOfMeasure></UnitOfMeasure>
      <Format>dd-MMM-yyyy HH:mm:ss z</Format>
    </Attribute>
    <Attribute name="Material Name">
      <Value dataType="Basic Text">SAMT1</Value>
      <UnitOfMeasure></UnitOfMeasure>
    </Attribute>
    <Attribute name="Item Id">
      <Value dataType="Auto Sequence">MAT_000951</Value>
      <UnitOfMeasure></UnitOfMeasure>
    </Attribute>
    <Attribute name="Container Location">
      <Value dataType="Basic Text">california</Value>
      <UnitOfMeasure></UnitOfMeasure>
    </Attribute>
  </ObjectDetail>
</Object>
<Object>
  <CategoryName>Container</CategoryName>
  <CategoryDBName>A_MAT_CONTAINER</CategoryDBName>
  <ViewName>PLMWSCampaignView</ViewName>
  <ObjectKey>
    <ObjectID>100003843</ObjectID>
  </ObjectKey>
  <ObjectDetail>
    <Attribute name="NoteCount">
      <Value dataType="Integer">0</Value>
      <UnitOfMeasure></UnitOfMeasure>
      <Format groupSeparator=",">#,###</Format>
    </Attribute>
    <Attribute name="AttachmentCount">
      <Value dataType="Integer">0</Value>
      <UnitOfMeasure></UnitOfMeasure>
      <Format groupSeparator=",">#,###</Format>
    </Attribute>
    <Attribute name="BO Status">
      <Value dataType="Foreign Key">862027</Value>
      <UnitOfMeasure></UnitOfMeasure>
    </Attribute>
    <Attribute name="Inventory ID">
      <Value dataType="Auto Sequence">CTR_153</Value>
      <UnitOfMeasure></UnitOfMeasure>
    </Attribute>
    <Attribute name="Record Exists">
      <Value dataType="Boolean">true</Value>
      <UnitOfMeasure></UnitOfMeasure>
    </Attribute>
    <Attribute name="Quantity on Hand">
      <Value dataType="Float">0.7</Value>

```

```

        <UnitOfMeasure>kg</UnitOfMeasure>
        <Format decimalSeparator="."
groupSeparator=",">#,###.##</Format>
    </Attribute>
    <Attribute name="PF Re-evaluation Date">
        <Value dataType="Date"></Value>
        <UnitOfMeasure></UnitOfMeasure>
        <Format>dd-MMM-yyyy HH:mm:ss z</Format>
    </Attribute>
    <Attribute name="Container Status">
        <Value dataType="Basic Text">Evaluated</Value>
        <UnitOfMeasure></UnitOfMeasure>
    </Attribute>
    <Attribute name="Re-evaluation Date">
        <Value dataType="Date"></Value>
        <UnitOfMeasure></UnitOfMeasure>
        <Format>dd-MMM-yyyy HH:mm:ss z</Format>
    </Attribute>
    <Attribute name="Expiration Date">
        <Value dataType="Date"></Value>
        <UnitOfMeasure></UnitOfMeasure>
        <Format>dd-MMM-yyyy HH:mm:ss z</Format>
    </Attribute>
    <Attribute name="Material Name">
        <Value dataType="Basic Text">SAMT1</Value>
        <UnitOfMeasure></UnitOfMeasure>
    </Attribute>
    <Attribute name="Item Id">
        <Value dataType="Auto Sequence">MAT_000951</Value>
        <UnitOfMeasure></UnitOfMeasure>
    </Attribute>
    <Attribute name="Container Location">
        <Value dataType="Basic Text">california</Value>
        <UnitOfMeasure></UnitOfMeasure>
    </Attribute>
</ObjectDetail>
</Object>
</Payload>
</cfmXML>
```

getReservedEquipment

Service

To get a reserved equipment.

Usage

Gets the details of the Equipment reserved for a particular campaign, which is identified by its campaign ID.

Sample Code

SOAP

```

===== Request =====
<?xml version="1.0" encoding="UTF-8"?>

<cfmXML>
    <LoginInfo>
        <UserName>admin</UserName>
```

```

        <Password>DNrE.7E.CNYiBbvzxDrqIJGtUF.Olk</Password>
    </LoginInfo>
    <Payload>
        <Object>
            <CategoryName>Campaign</CategoryName>
            <CategoryDBName>A_PRC_CAMPAIGN</CategoryDBName>
            <ViewName>Basic</ViewName>
            <ObjectKey>
                <Attribute name="Campaign ID">
                    <Value dataType="Auto Sequence">CMP_1801</Value>
                    <UnitOfMeasure/>
                </Attribute>
            </ObjectKey>
            <ObjectDetail>
                <Attribute name="Name">
                    <Value dataType="Basic Text">CMP1</Value>
                    <UnitOfMeasure/>
                </Attribute>
                <Attribute name="Lifecycle Phase">
                    <Value dataType="Basic Text">Approved</Value>
                    <UnitOfMeasure/>
                </Attribute>
                <Attribute name="Operating Mode">
                    <Value dataType="Basic Text">Clinical Supply</Value>
                    <UnitOfMeasure/>
                </Attribute>
            </ObjectDetail>
        </Object>
    </Payload>
</cfmXML>
===== Response =====
<?xml version="1.0" encoding="UTF-8"?>
<cfmXML>
    <Response>
        <ResponseCode>500</ResponseCode>
        <ResponseMessage>SUCCESS</ResponseMessage>
        <SessionID>7603998986618373360</SessionID>
    </Response>
    <Payload>
        <Object>
            <CategoryName>Equipment</CategoryName>
            <CategoryDBName>A_EQP_EQUIPMENT</CategoryDBName>
            <ViewName>PLMWSCampaignView</ViewName>
            <ObjectKey>
                <ObjectID>1692016</ObjectID>
                <Attribute name="Equipment ID">
                    <Value dataType="Auto Sequence">EQP_000051</Value>
                    <UnitOfMeasure></UnitOfMeasure>
                </Attribute>
            </ObjectKey>
            <ObjectDetail>
                <Attribute name="Equipment Name">
                    <Value dataType="Basic Text">ss_Eqp1</Value>
                    <UnitOfMeasure></UnitOfMeasure>
                </Attribute>
                <Attribute name="Equipment Type">
                    <Value dataType="Basic Text">Portable</Value>
                    <UnitOfMeasure></UnitOfMeasure>
                </Attribute>
                <Attribute name="Intended Use">

```

```
        <Value dataType="Basic Text">GMP</Value>
        <UnitOfMeasure></UnitOfMeasure>
    </Attribute>
    <Attribute name="Manufacturer Model Number">
        <Value dataType="Basic Text">@</Value>
        <UnitOfMeasure></UnitOfMeasure>
    </Attribute>
    <Attribute name="Equipment Qualification Status">
        <Value dataType="Basic Text">Qualified</Value>
        <UnitOfMeasure></UnitOfMeasure>
    </Attribute>
    <Attribute name="Equipment Status">
        <Value dataType="Basic Text">Clean</Value>
        <UnitOfMeasure></UnitOfMeasure>
    </Attribute>
    <Attribute name="Manufacturer">
        <Value dataType="Basic Text">@</Value>
        <UnitOfMeasure></UnitOfMeasure>
    </Attribute>
</ObjectDetail>
</Object>
</Payload>
</cfmXML>
```

CFMEditWebService

This section describes the web services operations available for CFMEdit Web Services.

edit

Service

To perform edit operations, such as Insert, Delete, Update.

Usage

Performs edit operations on any category by providing the payload value in cfmXML format. For example, you can update a User ID or delete a user role, etc. The edit operation identifiers for editing with Insert, Delete and Update are I, D and U, respectively.

Sample Code

SOAP

```
==== Request ====
<?xml version="1.0" encoding="UTF-8"?>
<cfmXML>
    <LoginInfo>
        <UserName>admin</UserName>
        <Password>ANrE.7E.CNYiKbvzxDrqFJGtUJ.Olk</Password>
    </LoginInfo>
    <Payload>
        <Object operation="I">
            <CategoryName>Application Setup</CategoryName>
            <CategoryDBName>D_INT_APPLICATION_SETUP</CategoryDBName>
            <ViewName>DEFAULT</ViewName>
            <ObjectKey>
                <Attribute name="Application Name">
                    <Value dataType="Basic Text">Test App Name</Value>
                </Attribute>
            </ObjectKey>
        </Object>
    </Payload>
</cfmXML>
```

```

        <UnitOfMeasure/>
      </Attribute>
    </ObjectKey>
    <ObjectDetail>
      <Attribute name="Application User Id">
        <Value dataType="Basic Text">Test App User Id</Value>
        <UnitOfMeasure/>
      </Attribute>
      <Attribute name="Inbound XSL">
        <Value dataType="Basic Text">Test Inbound XSL</Value>
        <UnitOfMeasure/>
      </Attribute>
      <Attribute name="Outbound XSL">
        <Value dataType="Basic Text">Test Outbound
XSL</Value>
        <UnitOfMeasure/>
      </Attribute>
    </ObjectDetail>
  </Object>
</Payload>
</cfmXML>
==== Response ====
<?xml version="1.0" encoding="UTF-8"?>
<cfmXML>
  <Response>
    <ResponseCode>500</ResponseCode>
    <ResponseMessage>Edit operation completed
successfully.</ResponseMessage>
    <SessionID>8360097756062912387</SessionID>
  </Response>
  <Payload>
    <Object operation="I">
      <CategoryName>Application Setup</CategoryName>
      <CategoryDBName>D_INT_APPLICATION_SETUP</CategoryDBName>
      <ViewName>DEFAULT</ViewName>
      <ObjectKey>
        <Attribute name="Application Name">
          <Value dataType="Basic Text">Test App Name</Value>
          <UnitOfMeasure/>
        </Attribute>
      </ObjectKey>
      <ObjectDetail>
        <Attribute name="NoteCount">
          <Value dataType="Integer">0</Value>
          <UnitOfMeasure/>
        </Attribute>
        <Attribute name="AttachmentCount">
          <Value dataType="Integer">0</Value>
          <UnitOfMeasure/>
        </Attribute>
        <Attribute name="Internal Id">
          <Value dataType="Integer">873627</Value>
          <UnitOfMeasure/>
        </Attribute>
        <Attribute name="LeafCategory Id">
          <Value dataType="Foreign Key">@</Value>
          <UnitOfMeasure/>
        </Attribute>
        <Attribute name="Application User Id">
          <Value dataType="Basic Text">Test App User Id</Value>

```

```

        <UnitOfMeasure/>
    </Attribute>
    <Attribute name="Application User Password">
        <Value dataType="Password">@</Value>
        <UnitOfMeasure/>
    </Attribute>
    <Attribute name="Inbound XSL">
        <Value dataType="Basic Text">Test Inbound XSL</Value>
        <UnitOfMeasure/>
    </Attribute>
    <Attribute name="Outbound XSL">
        <Value dataType="Basic Text">Test Outbound
XSL</Value>
        <UnitOfMeasure/>
    </Attribute>
    <Attribute name="Max Payload objects">
        <Value dataType="Integer">@</Value>
        <UnitOfMeasure/>
    </Attribute>
    <Attribute name="Created Date">
        <Value GMTDateTime="1165838083000"
dataType="DateTime">11/12/2006 17:24:43 IST</Value>
        <UnitOfMeasure/>
        <Format>dd/MM/yyyy HH:mm:ss z</Format>
    </Attribute>
    <Attribute name="Modified Date">
        <Value GMTDateTime="1165838083000"
dataType="DateTime">11/12/2006 17:24:43 IST</Value>
        <UnitOfMeasure/>
        <Format>dd/MM/yyyy HH:mm:ss z</Format>
    </Attribute>
    <Relationship name="Created User">
        <CategoryName>User</CategoryName>
        <CategoryDBName>D_PPL_USER</CategoryDBName>
        <ObjectKey>
            <ObjectID>785544</ObjectID>
            <Attribute name="User ID">
                <Value dataType="Basic
Text">admin</Value>
                <UnitOfMeasure/>
            </Attribute>
        </ObjectKey>
    </Relationship>
    <Relationship name="Modified User">
        <CategoryName>User</CategoryName>
        <CategoryDBName>D_PPL_USER</CategoryDBName>
        <ObjectKey>
            <ObjectID>785544</ObjectID>
            <Attribute name="User ID">
                <Value dataType="Basic
Text">admin</Value>
                <UnitOfMeasure/>
            </Attribute>
        </ObjectKey>
    </Relationship>
</ObjectDetail>
</Object>
</Payload>
</cfmXML>

```

CFMExternalAttachmentWebService

This section describes the web services operations available for CFMExternalAttachment Web Services.

addAttachment

Service

To attach external documents to a business object in the RMW application.

Usage

Gets details of external attribute, attachment and the web service to be invoked for viewing this attachment. This operation adds details of the attachment to the RMW database.

Sample Code

SOAP

```

===== Request =====
<?xml version="1.0" encoding="UTF-8"?>
<cfmXML>
  <LoginInfo>
    <UserName>admin</UserName>
    <Password>ANrE.7E.CNYiKbvzxDrqFJGtUJ.Olk</Password>
  </LoginInfo>
  <AdditionalInfo name="External Attribute">
    <Attribute name="filename">
      <!-- <Value dataType="STRING">C:\test.txt</Value> -->
      <!-- <Value dataType="STRING">D:\Integration_
docs\hierarchical-data-database.pdf</Value> -->
      <Value dataType="STRING">D:\Integration_
docs\PrintLabelUnitTestCases.doc</Value>
      <UnitOfMeasure/>
    </Attribute>
    <Attribute name="Quantity">
      <Value dataType="Float">12.34</Value>
      <UnitOfMeasure>KG</UnitOfMeasure>
    </Attribute>
  </AdditionalInfo>
  <AdditionalInfo name="External Attachment">
    <Attribute name="Name">
      <Value dataType="STRING">TestAttach1</Value>
      <UnitOfMeasure/>
    </Attribute>
    <Attribute name="Description">
      <Value dataType="STRING">Attachment</Value>
      <UnitOfMeasure/>
    </Attribute>
    <Attribute name="External">
      <Value dataType="STRING">true</Value>
      <UnitOfMeasure/>
    </Attribute>
    <Attribute name="Base Id">
      <Value dataType="STRING">1201399</Value>
      <UnitOfMeasure/>
    </Attribute>
    <Attribute name="Mime Type">
      <!-- <Value dataType="STRING">text/plain</Value> -->
      <!-- <Value dataType="STRING">application/pdf</Value> -->

```

```
        <Value dataType="STRING">application/msword</Value>
        <UnitOfMeasure/>
    </Attribute>
    <Attribute name="Size">
        <Value dataType="STRING">4KB</Value>
        <UnitOfMeasure/>
    </Attribute>
</AdditionalInfo>
<AdditionalInfo name="WS Info">
    <Attribute name="Service Name">
        <Value dataType="STRING">CFMTestWebService</Value>
        <UnitOfMeasure/>
    </Attribute>
    <Attribute name="Target Name Space">
        <Value dataType="STRING">http://sums.cfm.com</Value>
        <UnitOfMeasure/>
    </Attribute>
    <Attribute name="Operation Name">
        <Value dataType="STRING">getExternalAttachment</Value>
        <UnitOfMeasure/>
    </Attribute>
</AdditionalInfo>
</cfmXML>
===== Response =====
<?xml version="1.0" encoding="UTF-8"?>
<cfmXML>
    <Response>
        <ResponseCode>500</ResponseCode>
        <ResponseMessage>Successful</ResponseMessage>
        <SessionID>2822333705233277242</SessionID>
    </Response>
</cfmXML>
```

editAttachment

Service To edit an attachment, such as file object or a URL.

Usage Edits the attachment that was added to a business object using the editAttachment operation.

Sample Code SOAP

```
===== Request =====
<?xml version="1.0" encoding="UTF-8"?>
<cfmXML>
    <LoginInfo>
        <UserName>admin</UserName>
        <Password>DNrE.7E.CNYiBbvzxDrqIJGtUF.Olk</Password>
    </LoginInfo>
    <AdditionalInfo name="External Attribute"/>
    <AdditionalInfo name="External Attachment">
        <Attribute name="Name">
            <Value dataType="STRING">100001470XMLMessage</Value>
            <UnitOfMeasure/>
        </Attribute>
        <Attribute name="Base Id">
            <Value dataType="STRING">100001470</Value>
            <UnitOfMeasure/>
        </Attribute>
        <Attribute name="External">
```



```

        <Value dataType="STRING">true</Value>
        <UnitOfMeasure/>
    </Attribute>
    <Attribute name="Description">
        <Value dataType="STRING">Editing attachment</Value>
        <UnitOfMeasure/>
    </Attribute>
    <Attribute name="URL">
        <Value dataType="STRING">ftp://aaa.bbb.com/test.txt</Value>
        <UnitOfMeasure/>
    </Attribute>
</AdditionalInfo>
<AdditionalInfo name="WS Info">
    <Attribute name="Service Name">
        <Value dataType="STRING">CFMTestWebService</Value>
        <UnitOfMeasure/>
    </Attribute>
    <Attribute name="Target Name Space">
        <Value dataType="STRING">http://sums.cfm.com</Value>
        <UnitOfMeasure/>
    </Attribute>
    <Attribute name="Operation Name">
        <Value dataType="STRING">editAttachment</Value>
        <UnitOfMeasure/>
    </Attribute>
</AdditionalInfo>
</cfmXML>
===== Response =====
<?xml version="1.0" encoding="UTF-8"?>
<cfmXML>
    <Response>
        <ResponseCode>500</ResponseCode>
        <ResponseMessage>Successful</ResponseMessage>
        <SessionID>8706610111172128477</SessionID>
    </Response>
</cfmXML>

```

removeAttachment

Service

To remove an external attachment from a business object.

Usage

Removes the attachment that was added to a business object using the removeAttachment operation.

Sample Code

SOAP

```

===== Request =====
<?xml version="1.0" encoding="UTF-8"?>
<cfmXML>
    <LoginInfo>
        <UserName>admin</UserName>
        <Password>ANrE.7E.CNYiKbvzxDrqFJGtUJ.Olk</Password>
    </LoginInfo>
    <AdditionalInfo name="External Attribute"/>
    <AdditionalInfo name="External Attachment">

```

```
<Attribute name="Name">
  <Value dataType="STRING">TestAttach10002</Value>
  <UnitOfMeasure/>
</Attribute>
<Attribute name="Base Id">
  <Value dataType="STRING">1166717</Value>
  <UnitOfMeasure/>
</Attribute>
</AdditionalInfo>
<AdditionalInfo name="WS Info">
  <Attribute name="Service Name">
    <Value dataType="STRING">CFMExternalAttachmentService</Value>
    <UnitOfMeasure/>
  </Attribute>
  <Attribute name="Target Name Space">
    <Value dataType="STRING">http://sums.cfm.com</Value>
    <UnitOfMeasure/>
  </Attribute>
  <Attribute name="Operation Name">
    <Value dataType="STRING">removeAttachment</Value>
    <UnitOfMeasure/>
  </Attribute>
</AdditionalInfo>
</cfmXML>
===== Response =====
<?xml version="1.0" encoding="UTF-8"?>
<cfmXML>
  <Response>
    <ResponseCode>500</ResponseCode>
    <ResponseMessage>Successful</ResponseMessage>
    <SessionID>4164248487688236598</SessionID>
  </Response>
</cfmXML>
```

CFMInventoryService

This section describes the web services operations available for CFMInventory Web Services.

changestatus

Service

To change the status of Lots and Containers.

Usage

Reflects the status change in the RMW application, when the status of a Lot/Container is changed in a third party application (one of the usages for this operation is when Lot/Container is moved out of Quarantine state). Apart from the application identifier and the database identifier, it also accepts an input XML which contains the Lot/Container Identifier(s). The Input XML contains a flag to indicate whether the status of Lot(s) or Container(s) has changed. The input XML also contains an Inventory Status (against invStatus attribute tag) which is set on the Inventory object for executing the Inventory Change Status.

Sample Code

SOAP

```

==== Change status of containers ====
<?xml version="1.0" encoding="UTF-8"?>
<cfmXML>
  <LoginInfo>
    <UserName>admin</UserName>
    <Password>ANrE.7E.CNYiKbvzxDrqFJGtUJ.Olk</Password>
  </LoginInfo>
  <SessionInfo logout="false">
    <UserName>admin</UserName>
    <SessionID/>
  </SessionInfo>
  <Payload>
    <Object>
      <CategoryName>Container</CategoryName>
      <CategoryDBName>A_MAT_CONTAINER</CategoryDBName>
      <ViewName>DEFAULT</ViewName>
      <ObjectKey>
        <Attribute name="Inventory ID">
          <Value dataType="AutoSequence">CTR_157</Value>
          <UnitOfMeasure/>
        </Attribute>
      </ObjectKey>
      <ObjectDetail>
      </ObjectDetail>
    </Object>
  </Payload>
  <AdditionalInfo name="invType">
    <Attribute name="invType">
      <Value dataType="String">CONTAINER</Value>
      <UnitOfMeasure/>
    </Attribute>
    <Attribute name="invStatus">
      <Value dataType="String">Evaluated</Value>
      <UnitOfMeasure/>
    </Attribute>
  </AdditionalInfo>
</cfmXML>
==== Change status of Lots ====
<?xml version="1.0" encoding="UTF-8"?>
<cfmXML>
  <LoginInfo>
    <UserName>admin</UserName>
    <Password>ANrE.7E.CNYiKbvzxDrqFJGtUJ.Olk</Password>
  </LoginInfo>
  <SessionInfo logout="false">
    <UserName>admin</UserName>
    <SessionID/>
  </SessionInfo>
  <Payload>
    <Object>
      <CategoryName>Lot</CategoryName>
      <CategoryDBName>A_MAT_LOT</CategoryDBName>
      <ViewName>DEFAULT</ViewName>
      <ObjectKey>
        <Attribute name="Inventory ID">
          <Value dataType="AutoSequence">A9-Mat1_1</Value>
          <UnitOfMeasure/>
        </Attribute>
      </ObjectKey>
      <ObjectDetail>

```

```
        </ObjectDetail>
    </Object>
</Payload>
<AdditionalInfo name="invType">
    <Attribute name="invType">
        <Value dataType="String">LOT</Value>
        <UnitOfMeasure/>
    </Attribute>
    <Attribute name="invStatus">
        <Value dataType="String">Evaluated</Value>
        <UnitOfMeasure/>
    </Attribute>
</AdditionalInfo>
</cfmXML>
```

CFMSampleService

This section describes the web services operations available for CFMSample Web Services.

addResults

Service

To record the results of tests carried out on material samples.

Usage

Records the test results of material samples that were taken from various lots and containers before they can be made available for regular use in the material inventory. The sampling is against a particular work order or a project or a campaign. The values of necessary test parameters are passed, besides the test outcome, whether the test passed or failed.

Sample Code

SOAP

```
<?xml version="1.0" encoding="UTF-8"?>
<cfmXML>
    <Response>
        <ResponseCode>500</ResponseCode>
        <ResponseMessage>SUCCESS</ResponseMessage>
        <SessionID>2125153109709357720</SessionID>
    </Response>
    <Payload>
        <Object operation="U">
            <CategoryName>Work Order</CategoryName>
            <CategoryDBName>A_PRC_WORK_ORDER</CategoryDBName>
            <ViewName>DEFAULT</ViewName>
            <ObjectKey>
                <ObjectID>100011402</ObjectID>
                <Attribute name="Work Order ID">
                    <Value dataType="Auto Sequence">WR117</Value>
                    <UnitOfMeasure></UnitOfMeasure>
                </Attribute>
            </ObjectKey>
            <ObjectDetail>
                <Attribute name="Close Out Comment">
                    <Value dataType="Basic Text">@</Value>
                </Attribute>
            </ObjectDetail>
        </Object>
    </Payload>
</cfmXML>
```

```

        <UnitOfMeasure></UnitOfMeasure>
    </Attribute>
    <Attribute name="Internal Id">
        <Value dataType="Integer">100011402</Value>
        <UnitOfMeasure></UnitOfMeasure>
    </Attribute>
    <Attribute name="Actual Start Date">
        <Value dataType="Date"></Value>
        <UnitOfMeasure></UnitOfMeasure>
        <Format>MM/dd/yyyy hh:mm:ss a z</Format>
    </Attribute>
    <Attribute name="Actual End Date">
        <Value dataType="Date"></Value>
        <UnitOfMeasure></UnitOfMeasure>
        <Format>MM/dd/yyyy hh:mm:ss a z</Format>
    </Attribute>
    <Attribute name="Production Status">
        <Value dataType="Basic Text">@</Value>
        <UnitOfMeasure></UnitOfMeasure>
    </Attribute>
    <Attribute name="Target Material Was Produced">
        <Value dataType="Boolean">@</Value>
        <UnitOfMeasure></UnitOfMeasure>
    </Attribute>
    <Attribute name="Record Exists">
        <Value dataType="Boolean">true</Value>
        <UnitOfMeasure></UnitOfMeasure>
    </Attribute>
    <Attribute name="NoteCount">
        <Value dataType="Integer">0</Value>
        <UnitOfMeasure></UnitOfMeasure>
        <Format groupSeparator=",">#,###</Format>
    </Attribute>
    <Attribute name="AttachmentCount">
        <Value dataType="Integer">0</Value>
        <UnitOfMeasure></UnitOfMeasure>
        <Format groupSeparator=",">#,###</Format>
    </Attribute>
    <Attribute name="Is Object Locked">
        <Value dataType="Boolean">false</Value>
        <UnitOfMeasure></UnitOfMeasure>
    </Attribute>
    <Attribute name="Modified Date">
        <Value dataType="DateTime"></Value>
        <UnitOfMeasure></UnitOfMeasure>
        <Format>MM/dd/yyyy hh:mm:ss a z</Format>
    </Attribute>
    <Attribute name="Created Date">
        <Value GMTDateTime="1297777888000"
dataType="DateTime">02/15/2011 01:51:28 PM GMT</Value>
        <UnitOfMeasure></UnitOfMeasure>
        <Format>MM/dd/yyyy hh:mm:ss a z</Format>
    </Attribute>
    <Relationship name="BO Status">
        <CategoryName>BO Status</CategoryName>
        <CategoryDBName>D_BO_STATUS</CategoryDBName>
        <ObjectKey>
            <ObjectID>1460913</ObjectID>
            <Attribute name="Status ID">
                <Value dataType="Basic Text">WOINPROGRESS</Value>

```

```

        <UnitOfMeasure></UnitOfMeasure>
      </Attribute>
    </ObjectKey>
  </Relationship>
  <Relationship name="LeafCategory Id">
    <CategoryName>Category</CategoryName>
    <CategoryDBName>M_MET_CATEGORY</CategoryDBName>
    <ObjectKey>
      <ObjectID>1433136</ObjectID>
      <Attribute name="Name">
        <Value dataType="Basic Text">Work Order</Value>
        <UnitOfMeasure></UnitOfMeasure>
      </Attribute>
      <Relationship name="Parent Category">
        <CategoryName>Category</CategoryName>
        <CategoryDBName>M_MET_CATEGORY</CategoryDBName>
        <ObjectKey>
          <ObjectID>788911</ObjectID>
          <Attribute name="Name">
            <Value dataType="Basic Text">Process
Folder</Value>
            <UnitOfMeasure></UnitOfMeasure>
          </Attribute>
          <Relationship name="Parent Category">
            <CategoryName>Category</CategoryName>
            <CategoryDBName>M_MET_
CATEGORY</CategoryDBName>
            <ObjectKey>
              <ObjectID>101</ObjectID>
              <Attribute name="Name">
                <Value dataType="Basic
Text">Base</Value>
                <UnitOfMeasure></UnitOfMeasure>
              </Attribute>
              <Attribute name="Parent Category">
                <Value dataType="Foreign
Key">@</Value>
                <UnitOfMeasure></UnitOfMeasure>
              </Attribute>
            </ObjectKey>
          </Relationship>
        </ObjectKey>
      </Relationship>
    </ObjectKey>
  </Relationship>
  <Relationship name="Control Recipe">
    <CategoryName>Control Recipe</CategoryName>
    <CategoryDBName>A_PRC_CONTROL_RECIPE</CategoryDBName>
    <ObjectKey>
      <ObjectID>100011360</ObjectID>
      <Attribute name="Control Recipe ID">
        <Value dataType="Auto Sequence">CR368</Value>
        <UnitOfMeasure></UnitOfMeasure>
      </Attribute>
    </ObjectKey>
  </Relationship>
  <Relationship name="Recipe Instance">
    <CategoryName>Recipe Instance</CategoryName>
    <CategoryDBName>A_RECIPE_INSTANCE</CategoryDBName>
    <ObjectKey>

```

```

        <ObjectID>100011394</ObjectID>
        <Attribute name="ID">
            <Value dataType="Auto Sequence">142</Value>
            <UnitOfMeasure></UnitOfMeasure>
        </Attribute>
    </ObjectKey>
</Relationship>
<Relationship name="submission">
    <CategoryName>Submission</CategoryName>
    <CategoryDBName>A_ANA_SUBMISSION</CategoryDBName>
    <ObjectKey>
        <Attribute name="Submission ID">
            <Value dataType="Auto Sequence">@</Value>
            <UnitOfMeasure></UnitOfMeasure>
        </Attribute>
    </ObjectKey>
</Relationship>
<Relationship name="Current Workflow">
    <CategoryName>Workflow process table</CategoryName>
    <CategoryDBName>D_WF_PROCESS</CategoryDBName>
    <ObjectKey>
        <Attribute name="Request ID">
            <Value dataType="Auto Sequence">@</Value>
            <UnitOfMeasure></UnitOfMeasure>
        </Attribute>
    </ObjectKey>
</Relationship>
<Relationship name="Modified User">
    <CategoryName>User</CategoryName>
    <CategoryDBName>D_PPL_USER</CategoryDBName>
    <ObjectKey>
        <Attribute name="User ID">
            <Value dataType="Basic Text">@</Value>
            <UnitOfMeasure></UnitOfMeasure>
        </Attribute>
    </ObjectKey>
</Relationship>
<Relationship name="Created User">
    <CategoryName>User</CategoryName>
    <CategoryDBName>D_PPL_USER</CategoryDBName>
    <ObjectKey>
        <ObjectID>785544</ObjectID>
        <Attribute name="User ID">
            <Value dataType="Basic Text">admin</Value>
            <UnitOfMeasure></UnitOfMeasure>
        </Attribute>
    </ObjectKey>
</Relationship>
</ObjectDetail>
</Object>
</Payload>
</cfmXML>

```

getSamples

Service

To get the details of test samples.

Usage

Obtains the data of samples taken from various lots and containers for testing against the prescriptions provided in a campaign or work request.

Sample Code

SOAP

```
===== Request =====
<?xml version="1.0" encoding="UTF-8"?>
<cfmXML>
  <LoginInfo>
    <UserName>admin</UserName>
    <Password>DNrE.7E.CNYiBbvzxDrqIJGtUF.0lk</Password>
  </LoginInfo>
  <Payload>
    <Object>
      <CategoryName>Sample</CategoryName>
      <CategoryDBName>A_ANA_SAMPLE</CategoryDBName>
      <ViewName>Basic</ViewName>
      <ObjectKey>
        <Attribute name="Sample ID">
          <Value dataType="Auto Sequence">SAM_01</Value>
        </Attribute>
      </ObjectKey>
      <ObjectDetail/>
    </Object>
  </Payload>
</cfmXML>
```

CFMSearchWebService

This section describes the web services operations available for CFMSearch Web Services.

search

Service

To search the record of business objects and workflows in RMW.

Usage

Performs search operations across any attributes, such as Date type, Date and Time type, Number type and Text type, by providing the search criteria in cfmXML format. The search operation can be used with various conditions, such as searching between data and time, search by a particular user name, search using multiple values or performing search to get sorted data, etc.

Sample Code

SOAP

```
==== Request ====
<?xml version="1.0" encoding="UTF-8"?>
<cfmXML>
  <LoginInfo>
    <UserName>admin</UserName>
    <Password>ANrE.7E.CNYiKbvzxDrqFJGtUJ.0lk</Password>
  </LoginInfo>
```



```

<SessionInfo logout="true">
  <UserName>admin</UserName>
  <SessionID/>
</SessionInfo>
<SearchCriteria id="1">
  <CategoryName>User</CategoryName>
  <CategoryDBName>D_PPL_USER</CategoryDBName>
  <ViewName/>
  <Attribute name="User ID">
    <Value dataType="Text">Administrator</Value>
    <UnitOfMeasure/>
  </Attribute>
</SearchCriteria>
</cfmXML>
==== Response ====
<?xml version="1.0" encoding="UTF-8"?>
<cfmXML>
  <Response>
    <ResponseCode>500</ResponseCode>
    <ResponseMessage>Search Successfully</ResponseMessage>
    <SessionID>7676009502140705176</SessionID>
  </Response>
  <Payload>
    <Object>
      <CategoryName>User</CategoryName>
      <CategoryDBName>D_PPL_USER</CategoryDBName>
      <ViewName>DEFAULT</ViewName>
      <ObjectKey>
        <Attribute name="User ID">
          <Value dataType="Text">admin</Value>
          <UnitOfMeasure/>
        </Attribute>
      </ObjectKey>
      <ObjectDetail>
        <Attribute name="Internal Id">
          <Value dataType="Number">2701</Value>
          <UnitOfMeasure/>
        </Attribute>
        <Attribute name="Effective Start Date">
          <Value dataType="DateTime">09/25/2005 10:54:44
PM</Value>
          <UnitOfMeasure/>
        </Attribute>
        <Attribute name="Effective End Date">
          <Value dataType="DateTime"/>
          <UnitOfMeasure/>
        </Attribute>
        <Attribute name="Is Active">
          <Value dataType="Boolean">true</Value>
          <UnitOfMeasure/>
        </Attribute>
        <Attribute name="Modified Date">
          <Value dataType="DateTime">09/27/2005 04:05:20
PM</Value>
          <UnitOfMeasure/>
        </Attribute>
        <Relationship name="Created User">
          <CategoryName>User</CategoryName>
          <CategoryDBName>D_PPL_USER</CategoryDBName>
          <ObjectKey>

```

```

        <Attribute name="User ID">
            <Value dataType="Text">admin</Value>
            <UnitOfMeasure/>
        </Attribute>
    </ObjectKey>
</Relationship>
<Relationship name="Modified User">
    <CategoryName>User</CategoryName>
    <CategoryDBName>D_PPL_USER</CategoryDBName>
    <ObjectKey>
        <Attribute name="User ID">
            <Value
dataType="Text">application</Value>
            <UnitOfMeasure/>
        </Attribute>
    </ObjectKey>
</Relationship>
</ObjectDetail>
</Object>
</Payload>
</cfmXML>
```

CFMWorkflowService

This section describes the web services operations available for CFMWorkflow Web Services.

takeActionOnState

Service

To take action on the current state of a workflow.

Usage

Takes action on Lifecycle Phases (the 'state') of a business object in the RMW application. For example, to change the state of a Recipe from Draft state to Approved state through the workflow.

Sample Code

SOAP

```
===== Request =====
<?xml version="1.0" encoding="UTF-8"?>
<cfmXML>
    <LoginInfo>
        <UserName>admin</UserName>
        <Password>DNrE.7E.CNYiBbvzxDrqIJGtUF.Olk</Password>
        <Database>Production</Database>
    </LoginInfo>
    <AdditionalInfo>
        <Attribute name="TaskID">
            <Value dataType="String">100015733</Value>
            <UnitOfMeasure></UnitOfMeasure>
        </Attribute>
        <Attribute name="ActionTaken">
            <Value dataType="String">Submit</Value>
            <UnitOfMeasure></UnitOfMeasure>
        </Attribute>
```

```

        </AdditionalInfo>
    </cfmXML>
    ===== Response =====
    <?xml version="1.0" encoding="UTF-8"?>
    <cfmXML>
        <Response>
            <ResponseCode>500</ResponseCode>
            <ResponseMessage>Submit</ResponseMessage>
            <SessionID>571476224170330403</SessionID>
        </Response>
    </cfmXML>

```

CFMWorkrequestService

This section describes the web services operations available for CFMWorkrequest Web Services.

create

Service

To create a work request.

Usage

Creates a work request from an approved control recipe by providing the process step name, campaign ID, etc.

Sample Code

SOAP

```

===== Request =====
<?xml version="1.0" encoding="UTF-8"?>
<cfmXML>
    <LoginInfo>
        <UserName>admin</UserName>
        <Password>DNrE.7E.CNYiBbvzxDrqIJGtUF.Olk</Password>
    </LoginInfo>
    <Payload>
        <Object>
            <CategoryName>Campaign</CategoryName>
            <CategoryDBName>A_PRC_CAMPAIGN</CategoryDBName>
            <ViewName>Basic</ViewName>
            <ObjectKey>
                <Attribute name="Campaign ID">
                    <Value dataType="Auto Sequence">CMP_1852</Value>
                    <UnitOfMeasure/>
                </Attribute>
            </ObjectKey>
            <ObjectDetail>
                <Attribute name="Name">
                    <Value dataType="Basic Text">ss_CMP1</Value>
                    <UnitOfMeasure/>
                </Attribute>
                <Attribute name="Lifecycle Phase">
                    <Value dataType="Basic Text">Approved</Value>
                    <UnitOfMeasure/>
                </Attribute>
                <Attribute name="Operating Mode">

```

```

        <Value dataType="Basic Text">Clinical Supply</Value>
        <UnitOfMeasure/>
    </Attribute>
</ObjectDetail>
</Object>
<Object>
    <CategoryName>Process Step</CategoryName>
    <CategoryDBName>A_PRC_PROCESS_STEP</CategoryDBName>
    <ViewName>Basic</ViewName>
    <ObjectKey>
        <Attribute name="Process Step Name">
            <Value dataType="Auto Sequence">A9-RECIPE1</Value>
            <UnitOfMeasure/>
        </Attribute>
    </ObjectKey>
    <ObjectDetail>
        </ObjectDetail>
    </Object>
</Payload>
</cfmXML>
===== Response =====
<?xml version="1.0" encoding="UTF-8"?>
<cfmXML>
    <Response>
        <ResponseCode>500</ResponseCode>
        <ResponseMessage>SUCCESS</ResponseMessage>
        <SessionID>4936852052922987715</SessionID>
    </Response>
    <Payload>
        <Object>
            <CategoryName>Work Order</CategoryName>
            <CategoryDBName>A_PRC_WORK_ORDER</CategoryDBName>
            <ViewName>DEFAULT</ViewName>
            <ObjectKey>
                <ObjectID>100010651</ObjectID>
                <Attribute name="Work Order ID">
                    <Value dataType="Auto Sequence">WR113</Value>
                    <UnitOfMeasure></UnitOfMeasure>
                </Attribute>
            </ObjectKey>
            <ObjectDetail>
                <Attribute name="Close Out Comment">
                    <Value dataType="Basic Text">@</Value>
                    <UnitOfMeasure></UnitOfMeasure>
                </Attribute>
                <Attribute name="BO Status">
                    <Value dataType="Foreign Key">1460913</Value>
                    <UnitOfMeasure></UnitOfMeasure>
                </Attribute>
                <Attribute name="Internal Id">
                    <Value dataType="Integer">100010651</Value>
                    <UnitOfMeasure></UnitOfMeasure>
                </Attribute>
                <Attribute name="LeafCategory Id">
                    <Value dataType="Foreign Key">1433136</Value>
                    <UnitOfMeasure></UnitOfMeasure>
                </Attribute>
                <Attribute name="Control Recipe">
                    <Value dataType="Foreign Key">100010615</Value>
                    <UnitOfMeasure></UnitOfMeasure>
                </Attribute>
            </ObjectDetail>
        </Object>
    </Payload>
</cfmXML>

```

```

</Attribute>
<Attribute name="Actual Start Date">
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  <UnitOfMeasure></UnitOfMeasure>
  <Format>MM/dd/yyyy hh:mm:ss a z</Format>
</Attribute>
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  <UnitOfMeasure></UnitOfMeasure>
  <Format>MM/dd/yyyy hh:mm:ss a z</Format>
</Attribute>
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  <Value dataType="Basic Text">@</Value>
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</Attribute>
<Attribute name="Target Material Was Produced">
  <Value dataType="Boolean">@</Value>
  <UnitOfMeasure></UnitOfMeasure>
</Attribute>
<Attribute name="submission">
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</Attribute>
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  <UnitOfMeasure></UnitOfMeasure>
</Attribute>
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  <Format groupSeparator=",">#,###</Format>
</Attribute>
<Attribute name="AttachmentCount">
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  <UnitOfMeasure></UnitOfMeasure>
  <Format groupSeparator=",">#,###</Format>
</Attribute>
<Attribute name="Is Object Locked">
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  <UnitOfMeasure></UnitOfMeasure>
</Attribute>
<Attribute name="Current Workflow">
  <Value dataType="Foreign Key">@</Value>
  <UnitOfMeasure></UnitOfMeasure>
</Attribute>
<Attribute name="Modified User">
  <Value dataType="Foreign Key">@</Value>
  <UnitOfMeasure></UnitOfMeasure>
</Attribute>
<Attribute name="Modified Date">
  <Value dataType="DateTime"></Value>
  <UnitOfMeasure></UnitOfMeasure>
  <Format>MM/dd/yyyy hh:mm:ss a z</Format>
</Attribute>
<Attribute name="Created User">
  <Value dataType="Foreign Key">785544</Value>
  <UnitOfMeasure></UnitOfMeasure>
</Attribute>
<Attribute name="Created Date">
  <Value GMTDateTime="1297772513000"

```

```

dataType="DateTime">02/15/2011 12:21:53 PM GMT</Value>
  <UnitOfMeasure></UnitOfMeasure>
  <Format>MM/dd/yyyy hh:mm:ss a z</Format>
</Attribute>
<Relationship name="Recipe Instance">
  <CategoryName>Recipe Instance</CategoryName>
  <CategoryDBName>A_RECIPE_INSTANCE</CategoryDBName>
  <ObjectKey>
    <ObjectID>100010640</ObjectID>
    <Attribute name="ID">
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      <UnitOfMeasure></UnitOfMeasure>
    </Attribute>
  </ObjectKey>
  <ObjectDetail>
    <Attribute name="Recipe Type">
      <Value dataType="Basic Text">Processing</Value>
      <UnitOfMeasure></UnitOfMeasure>
    </Attribute>
    <Attribute name="Regulatory Designation">
      <Value dataType="Basic Text">N/A</Value>
      <UnitOfMeasure></UnitOfMeasure>
    </Attribute>
    <Attribute name="Sub Type">
      <Value dataType="Basic Text">@</Value>
      <UnitOfMeasure></UnitOfMeasure>
    </Attribute>
    <Attribute name="Operating Mode">
      <Value dataType="Basic Text">N/A</Value>
      <UnitOfMeasure></UnitOfMeasure>
    </Attribute>
    <Attribute name="Description">
      <Value dataType="Basic Text">A9-RECIPE1</Value>
      <UnitOfMeasure></UnitOfMeasure>
    </Attribute>
    <Attribute name="Comments">
      <Value dataType="Basic Text">A9-RECIPE1</Value>
      <UnitOfMeasure></UnitOfMeasure>
    </Attribute>
    <Relationship name="Recipe Derived From">
      <CategoryName>Recipe</CategoryName>
      <CategoryDBName>A_RECIPE_TEMPLATE</CategoryDBName>
      <ObjectKey>
        <ObjectID>100010525</ObjectID>
        <Attribute name="Name">
          <Value dataType="Basic
Text">A9-RECIPE1</Value>
          <UnitOfMeasure></UnitOfMeasure>
        </Attribute>
        <Attribute name="Version Number">
          <Value dataType="Basic Text">2.0</Value>
          <UnitOfMeasure></UnitOfMeasure>
        </Attribute>
      </ObjectKey>
    </Relationship>
    <Relationship name="Target Material">
      <CategoryName>Chemical</CategoryName>
      <CategoryDBName>A_MAT_CHEMICAL</CategoryDBName>
      <ObjectKey>
        <ObjectID>100000531</ObjectID>

```

```

                                <Attribute name="Item Id">
                                    <Value dataType="Auto Sequence">MAT_
000909</Value>
                                </Attribute>
                                <UnitOfMeasure></UnitOfMeasure>
                                </ObjectKey>
                            </Relationship>
                            <Relationship name="Top Recipe Element">
                                <CategoryName>Recipe Element Instance</CategoryName>
                                <CategoryDBName>A_RECIPE_ELEMENT_
INSTANCE</CategoryDBName>
                                <ObjectKey>
                                    <ObjectID>100010616</ObjectID>
                                    <Attribute name="ID">
                                        <Value dataType="Auto Sequence">918</Value>
                                        <UnitOfMeasure></UnitOfMeasure>
                                    </Attribute>
                                </ObjectKey>
                            </Relationship>
                            <Relationship name="Derived From">
                                <CategoryName>Recipe Instance</CategoryName>
                                <CategoryDBName>A_RECIPE_INSTANCE</CategoryDBName>
                                <ObjectKey>
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                                    </Attribute>
                                </ObjectKey>
                                <ObjectDetail>
                                    <Attribute name="Recipe Type">
                                        <Value dataType="Basic
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                                        <UnitOfMeasure></UnitOfMeasure>
                                    </Attribute>
                                    <Attribute name="Regulatory Designation">
                                        <Value dataType="Basic Text">N/A</Value>
                                        <UnitOfMeasure></UnitOfMeasure>
                                    </Attribute>
                                    <Attribute name="Sub Type">
                                        <Value dataType="Basic Text">@</Value>
                                        <UnitOfMeasure></UnitOfMeasure>
                                    </Attribute>
                                    <Attribute name="Operating Mode">
                                        <Value dataType="Basic Text">N/A</Value>
                                        <UnitOfMeasure></UnitOfMeasure>
                                    </Attribute>
                                    <Attribute name="Description">
                                        <Value dataType="Basic
Text">A9-RECIPE1</Value>
                                        <UnitOfMeasure></UnitOfMeasure>
                                    </Attribute>
                                    <Attribute name="Comments">
                                        <Value dataType="Basic
Text">A9-RECIPE1</Value>
                                        <UnitOfMeasure></UnitOfMeasure>
                                    </Attribute>
                                </ObjectDetail>
                            </Relationship>
                            <Relationship name="Recipe Derived From">
                                <CategoryName>Recipe</CategoryName>
                                <CategoryDBName>A_RECIPE_

```

TEMPLATE</CategoryDBName>	<ObjectKey> <ObjectID>100010525</ObjectID> <Attribute name="Name"> <Value dataType="Basic"
Text ">A9-RECIPE1</Value>	<UnitOfMeasure></UnitOfMeasure> </Attribute> <Attribute name="Version Number"> <Value dataType="Basic"
Text ">2.0</Value>	<UnitOfMeasure></UnitOfMeasure> </Attribute> </ObjectKey> </Relationship> <Relationship name="Target Material"> <CategoryName>Chemical</CategoryName> <CategoryDBName>A_MAT_
CHEMICAL</CategoryDBName>	<ObjectKey> <ObjectID>100000531</ObjectID> <Attribute name="Item Id"> <Value dataType="Auto Sequence">MAT_
000909</Value>	<UnitOfMeasure></UnitOfMeasure> </Attribute> </ObjectKey> </Relationship> <Relationship name="Top Recipe Element"> <CategoryName>Recipe Element
Instance</CategoryName>	<CategoryDBName>A_RECIPE_ELEMENT_
INSTANCE</CategoryDBName>	<ObjectKey> <ObjectID>100010580</ObjectID> <Attribute name="ID"> <Value dataType="Auto"
Sequence">917</Value>	<UnitOfMeasure></UnitOfMeasure> </Attribute> </ObjectKey> </Relationship> <Relationship name="Derived From"> <CategoryName>Recipe Instance</CategoryName> <CategoryDBName>A_RECIPE_
INSTANCE</CategoryDBName>	<ObjectKey> <ObjectID>100010568</ObjectID> <Attribute name="ID"> <Value dataType="Auto"
Sequence">130</Value>	<UnitOfMeasure></UnitOfMeasure> </Attribute> </ObjectKey> <ObjectDetail> <Attribute name="Recipe Type"> <Value dataType="Basic"
Text ">Processing</Value>	<UnitOfMeasure></UnitOfMeasure> </Attribute>

Text ">N/A</Value>"

Text">N/A</Value>

Text ">A9-RECIPE1</Value>"

Text ">A9-RECIPE1</Value>

Key">@</Value>

TEMPLATE</CategoryDBName>

Text">A9-RECIPE1</Value>

<UnitOfMeasure></UnitOfMeasure>

Text">2.0</Value>

<UnitOfMeasure></UnitOfMeasure>

CHEMICAL</CategoryDBName>

Sequence">MAT 000909</Value>

<UnitOfMeasure></UnitOfMeasure>

```
<Attribute name="Regulatory Designation">
  <Value dataType="Basic
```

```
<UnitOfMeasure></UnitOfMeasure>
</Attribute>
```

```
<Attribute name="Sub Type">
  <Value dataType="Basic Text">@</Value>
  <UnitOfMeasure></UnitOfMeasure>
```

```
<Attribute name="Operating Mode">
  <Value dataType="Basic
```

```
<UnitOfMeasure></UnitOfMeasure>
</Attribute>
```

```
<Attribute name="Description">
  <Value dataType="Basic
```

```
<UnitOfMeasure></UnitOfMeasure>
</Attribute>
```

```
<Attribute name="Comments">
  <Value dataType="Basic
```

```
<UnitOfMeasure></UnitOfMeasure>
</Attribute>
```

```
<Attribute name="Derived From">
  <Value dataType="Foreign
```

```
<UnitOfMeasure></UnitOfMeasure>
</Attribute>
```

```
<Relationship name="Recipe Derived From">
  <CategoryName>Recipe</CategoryName>
  <CategoryDBName>A_RECIPE_
```

```
<ObjectKey>
  <ObjectID>100010525</ObjectID>
  <Attribute name="Name">
    <Value dataType="Basic
```

```
</Attribute>
<Attribute name="Version Number">
  <Value dataType="Basic
```

```
</Attribute>
</ObjectKey>
```

```
</Relationship>
<Relationship name="Target Material">
  <CategoryName>Chemical</CategoryName>
  <CategoryDBName>A_MAT_
```

```
<ObjectKey>
  <ObjectID>100000531</ObjectID>
  <Attribute name="Item Id">
    <Value dataType="Auto
```

```

        </Attribute>
      </ObjectKey>
    </Relationship>
    <Relationship name="Top Recipe Element">
      <CategoryName>Recipe Element

Instance</CategoryName>

      <CategoryDBName>A_RECIPE_ELEMENT_

INSTANCE</CategoryDBName>

      <ObjectKey>
        <ObjectID>100010544</ObjectID>
        <Attribute name="ID">
          <Value dataType="Auto

Sequence">916</Value>

        </Attribute>
      </ObjectKey>
    </Relationship>
  </ObjectDetail>
</Relationship>
</ObjectDetail>
</Relationship>
</ObjectDetail>
</Relationship>
</ObjectDetail>
</Object>
</Payload>
</cfmXML>

```

closeOut

Service

To close a work request.

Usage

Closes a work request after the production is completed. The request message carries the details of campaign, including its findings as prescribed in the control recipe.

Sample Code

SOAP

```

<?xml version="1.0" encoding="UTF-8"?>
<cfmXML>
  <LoginInfo>
    <UserName>admin</UserName>
    <Password>DNrE.7E.CNYiBbvzxDrqIJGtUF.Olk</Password>
  </LoginInfo>
  <Payload>
    <Object>
      <CategoryName>Work Order</CategoryName>
      <CategoryDBName>A_PRC_WORK_ORDER</CategoryDBName>
      <ViewName>Default</ViewName>
      <ObjectKey>
        <Attribute name="Work Request ID">
          <Value dataType="Auto Sequence">WR263</Value>
          <UnitOfMeasure/>
        </Attribute>
      </ObjectKey>
    </Object>
  </Payload>
</cfmXML>

```

```

        <ObjectDetail>
            <Attribute name="Lifecycle Phase">
                <Value dataType="Basic Text">In Progress</Value>
                <UnitOfMeasure/>
            </Attribute>
            <Attribute name="Campaign">
                <Value dataType="Auto Sequence">CMP_2151</Value>
                <UnitOfMeasure/>
            </Attribute>
            <Attribute name="Control Recipe">
                <Value dataType="Auto Sequence">CR201</Value>
                <UnitOfMeasure/>
            </Attribute>
        </ObjectDetail>
    </Object>
</Payload>
<AdditionalInfo name="Close Out Info">
    <Attribute name="Production Status">
        <Value dataType="Basic Text">Finished</Value>
    </Attribute>
    <Attribute name="Actual Start Date">
        <Value GMTDateTime="1283270700000"
dataType="DateTime">31-Aug-2010 09:05:00 PDT</Value>
        <UnitOfMeasure/>
        <Format>dd-MMM-yyyy HH:mm:ss z</Format>
    </Attribute>
    <Attribute name="Actual End Date">
        <Value GMTDateTime="1284825900000"
dataType="DateTime">18-Sep-2010 09:05:00 PDT</Value>
        <UnitOfMeasure/>
        <Format>dd-MMM-yyyy HH:mm:ss z</Format>
    </Attribute>
    <Attribute name="Target Material Was Produced">
        <Value dataType="Basic Text">Yes</Value>
    </Attribute>
    <Attribute name="Amount Produced">
        <Value dataType="Float">500.0</Value>
        <UnitOfMeasure>kg</UnitOfMeasure>
        <Format decimalSeparator="."
groupSeparator=",">#,###.##</Format>
    </Attribute>
    <Attribute name="Storage Site">
        <Value dataType="Basic Text">SC-Plant</Value>
    </Attribute>
    <Attribute name="Storage Location">
        <Value dataType="Basic Text">CA-CRT</Value>
    </Attribute>
</AdditionalInfo>
<AdditionalInfo name = "Conclusions">
    <Attribute name="Observation">
        <Value dataType="Basic Text">When the experiment was conducted,
the output material PH was observed to be very high</Value>
    </Attribute>
    <Attribute name="Hypothesis">
        <Value dataType="Basic Text">PH is related to acidity of
materials</Value>
    </Attribute>
    <Attribute name="Rationale">
        <Value dataType="Basic Text">When the experiment started, it was
logical to assume that the material PH will be high due to high usage of

```

```
acids</Value>
    </Attribute>
    <Attribute name="Conclusion">
        <Value dataType="Basic Text">As expected usage of acidic
materials result in high PH for output materials</Value>
    </Attribute>
</AdditionalInfo>
</cfmXML>
```

updateEquipmentActivity

Service

To update the status of the equipment activity.

Usage

This service is used to record the activities performed on an equipment used for a particular campaign. The details, such as its lifecycle phase and the campaign ID are passed in the request message in a Work Request.

Sample Code

SOAP

```
===== Request =====
<?xml version="1.0" encoding="utf-8"?>

<cfmXML>
    <LoginInfo>
        <UserName>admin</UserName>
        <Password>DNrE.7E.CNYiBbvzxDrqIJGtUF.Olk</Password>
    </LoginInfo>
    <Payload>
        <Object>
            <CategoryName>Work Order</CategoryName>
            <CategoryDBName>A_PRC_WORK_ORDER</CategoryDBName>
            <ViewName>Basic</ViewName>
            <ObjectKey>
                <Attribute name="Work Request ID">
                    <Value dataType="Auto Sequence">WR113</Value>
                    <UnitOfMeasure/>
                </Attribute>
            </ObjectKey>
            <ObjectDetail>
                <Attribute name="Lifecycle Phase">
                    <Value dataType="Basic Text">In Progress</Value>
                    <UnitOfMeasure/>
                </Attribute>
                <Attribute name="Project">
                    <Value dataType="Basic Text">@</Value>
                    <UnitOfMeasure/>
                </Attribute>
                <Attribute name="Campaign">
                    <Value dataType="Auto Sequence">CMP_1852</Value>
                    <UnitOfMeasure/>
                </Attribute>
            </ObjectDetail>
        </Object>
    </Payload>
    <AdditionalInfo name="Equipment Activity Info">
```

```

    <Attribute name="Equipment ID">
      <Value dataType="Auto Sequence">EQP_000001</Value>
      <UnitOfMeasure/>
    </Attribute>
    <Attribute name="Performed By">
      <Value dataType="Basic Text">admin</Value>
      <UnitOfMeasure/>
    </Attribute>
    <Attribute name="Activity Comment">
      <Value dataType="Basic Text">Equipment EQP_000208 was used for
ELN Experiment E1</Value>
      <UnitOfMeasure/>
    </Attribute>
    <Attribute name="Start Date">
      <Value GMTDateTime="1263830700000"
dataType="DateTime">01-Jun-2010 09:05:00 PDT</Value>
      <UnitOfMeasure/>
      <Format>dd-MMM-yyyy HH:mm:ss z</Format>
    </Attribute>
    <Attribute name="End Date">
      <Value GMTDateTime="1265040300000"
dataType="DateTime">30-Jun-2010 09:05:00 PDT</Value>
      <UnitOfMeasure/>
      <Format>dd-MMM-yyyy HH:mm:ss z</Format>
    </Attribute>
    <Attribute name="Status After Activity">
      <Value dataType="Basic Text">Available</Value>
    </Attribute>
  </AdditionalInfo>
  <AdditionalInfo name="Equipment Activity Info">
    <Attribute name="Equipment ID">
      <Value dataType="Auto Sequence">EQP_000205</Value>
      <UnitOfMeasure/>
    </Attribute>
    <Attribute name="Performed By">
      <Value dataType="Basic Text">jperry</Value>
      <UnitOfMeasure/>
    </Attribute>
    <Attribute name="Activity Comment">
      <Value dataType="Basic Text">Equipment EQP_000205 was used for
ELN Experiment E1</Value>
      <UnitOfMeasure/>
    </Attribute>
    <Attribute name="Start Date">
      <Value GMTDateTime="1266509100000"
dataType="DateTime">01-Jun-2010 09:05:00 PDT</Value>
      <UnitOfMeasure/>
      <Format>dd-MMM-yyyy HH:mm:ss z</Format>
    </Attribute>
    <Attribute name="End Date">
      <Value GMTDateTime="1267459500000"
dataType="DateTime">30-Jun-2010 09:05:00 PDT</Value>
      <UnitOfMeasure/>
      <Format>dd-MMM-yyyy HH:mm:ss z</Format>
    </Attribute>
    <Attribute name="Status After Activity">
      <Value dataType="Basic Text">Available</Value>
    </Attribute>
  </AdditionalInfo>
</cfmXML>

```

```
===== Response =====
<?xml version="1.0" encoding="UTF-8"?>
<cfmXML>
  <Response>
    <ResponseCode>500</ResponseCode>
    <ResponseMessage>SUCCESS</ResponseMessage>
    <SessionID>469956714600840532</SessionID>
  </Response>
  <Payload>
    <Object operation="I">
      <CategoryName>Equipment Process Activity</CategoryName>
      <CategoryDBName>A_EQP_PROCESS_ACTIVITY</CategoryDBName>
      <ViewName>DEFAULT</ViewName>
      <ObjectKey>
        <ObjectID>100010796</ObjectID>
        <Attribute name="Activity ID">
          <Value dataType="Auto Sequence">ACT_000006</Value>
          <UnitOfMeasure></UnitOfMeasure>
        </Attribute>
      </ObjectKey>
      <ObjectDetail>
        <Attribute name="Internal Id">
          <Value dataType="Integer">100010796</Value>
          <UnitOfMeasure></UnitOfMeasure>
        </Attribute>
        <Attribute name="LeafCategory Id">
          <Value dataType="Foreign Key">@</Value>
          <UnitOfMeasure></UnitOfMeasure>
        </Attribute>
        <Attribute name="Compound Number">
          <Value dataType="Basic Text">@</Value>
          <UnitOfMeasure></UnitOfMeasure>
        </Attribute>
        <Attribute name="Lot Number">
          <Value dataType="Basic Text">@</Value>
          <UnitOfMeasure></UnitOfMeasure>
        </Attribute>
        <Attribute name="Batch Record">
          <Value dataType="Foreign Key">@</Value>
          <UnitOfMeasure></UnitOfMeasure>
        </Attribute>
        <Attribute name="External Lot Number">
          <Value dataType="Basic Text">@</Value>
          <UnitOfMeasure></UnitOfMeasure>
        </Attribute>
        <Attribute name="Record Exists">
          <Value dataType="Boolean">@</Value>
          <UnitOfMeasure></UnitOfMeasure>
        </Attribute>
        <Attribute name="NoteCount">
          <Value dataType="Integer">0</Value>
          <UnitOfMeasure></UnitOfMeasure>
          <Format groupSeparator=",">#,###</Format>
        </Attribute>
        <Attribute name="AttachmentCount">
          <Value dataType="Integer">0</Value>
          <UnitOfMeasure></UnitOfMeasure>
          <Format groupSeparator=",">#,###</Format>
        </Attribute>
        <Attribute name="Checked By">
```

```

        <Value dataType="Foreign Key">@</Value>
        <UnitOfMeasure></UnitOfMeasure>
    </Attribute>
    <Attribute name="Activity Comment">
        <Value dataType="Basic Text">Equipment EQP_000208 was used for
ELN Experiment E1</Value>
        <UnitOfMeasure></UnitOfMeasure>
    </Attribute>
    <Attribute name="End Date">
        <Value GMTDateTime="1265040300000"
dataType="DateTime">02/01/2010 04:05:00 PM GMT</Value>
        <UnitOfMeasure></UnitOfMeasure>
        <Format>MM/dd/yyyy hh:mm:ss a z</Format>
    </Attribute>
    <Attribute name="Start Date">
        <Value GMTDateTime="1263830700000"
dataType="DateTime">01/18/2010 04:05:00 PM GMT</Value>
        <UnitOfMeasure></UnitOfMeasure>
        <Format>MM/dd/yyyy hh:mm:ss a z</Format>
    </Attribute>
    <Attribute name="Activity Status">
        <Value dataType="Basic Text">In Progress</Value>
        <UnitOfMeasure></UnitOfMeasure>
    </Attribute>
    <Attribute name="Activity Sub Type">
        <Value dataType="Basic Text">External</Value>
        <UnitOfMeasure></UnitOfMeasure>
    </Attribute>
    <Attribute name="Activity Type">
        <Value dataType="Basic Text">Processing</Value>
        <UnitOfMeasure></UnitOfMeasure>
    </Attribute>
    <Attribute name="Activity Site">
        <Value dataType="Foreign Key">785297</Value>
        <UnitOfMeasure></UnitOfMeasure>
    </Attribute>
    <Attribute name="Is Object Locked">
        <Value dataType="Boolean">>false</Value>
        <UnitOfMeasure></UnitOfMeasure>
    </Attribute>
    <Attribute name="Work Order">
        <Value dataType="Foreign Key">100010651</Value>
        <UnitOfMeasure></UnitOfMeasure>
    </Attribute>
    <Attribute name="Modified User">
        <Value dataType="Foreign Key">@</Value>
        <UnitOfMeasure></UnitOfMeasure>
    </Attribute>
    <Attribute name="Modified Date">
        <Value dataType="DateTime"></Value>
        <UnitOfMeasure></UnitOfMeasure>
        <Format>MM/dd/yyyy hh:mm:ss a z</Format>
    </Attribute>
    <Attribute name="Created User">
        <Value dataType="Foreign Key">785544</Value>
        <UnitOfMeasure></UnitOfMeasure>
    </Attribute>
    <Attribute name="Created Date">
        <Value GMTDateTime="1297773986323"
dataType="DateTime">02/15/2011 12:46:26 PM GMT</Value>

```

```

        <UnitOfMeasure></UnitOfMeasure>
        <Format>MM/dd/yyyy hh:mm:ss a z</Format>
    </Attribute>
    <Relationship name="Material">
        <CategoryName>Chemical</CategoryName>
        <CategoryDBName>A_MAT_CHEMICAL</CategoryDBName>
        <ObjectKey>
            <ObjectID>100000531</ObjectID>
            <Attribute name="Item Id">
                <Value dataType="Auto Sequence">MAT_000909</Value>
                <UnitOfMeasure></UnitOfMeasure>
            </Attribute>
        </ObjectKey>
    </Relationship>
    <Relationship name="Performed By">
        <CategoryName>User</CategoryName>
        <CategoryDBName>D_PPL_USER</CategoryDBName>
        <ObjectKey>
            <ObjectID>785544</ObjectID>
            <Attribute name="User ID">
                <Value dataType="Basic Text">admin</Value>
                <UnitOfMeasure></UnitOfMeasure>
            </Attribute>
        </ObjectKey>
    </Relationship>
</ObjectDetail>
</Object>
</Payload>
</cfmXML>

```

updateInventoryConsumption

Service

To update the inventory consumption.

Usage

Updates the records of an inventory about its consumption under a particular campaign. The details such as campaign ID, quantity consumed, the ID of lots and containers are passed. This operation is used for updating both the input and output inventories. The request message samples provided below are for both types of inventories.

Sample Code

SOAP

```

===== Update Inventory =====
<?xml version="1.0" encoding="UTF-8"?>
<cfmXML>
    <LoginInfo>
        <UserName>admin</UserName>
        <Password>DNrE.7E.CNYiBbvzxDrqIJGtUF.Olk</Password>
    </LoginInfo>
    <Payload>
        <Object>
            <CategoryName>Work Order</CategoryName>
            <CategoryDBName>A_PRC_WORK_ORDER</CategoryDBName>
            <ViewName>Basic</ViewName>
            <ObjectKey>

```



```

        <ObjectID>1689431</ObjectID>
        <Attribute name="Work Request ID">
            <Value dataType="Auto Sequence">WR501</Value>
            <UnitOfMeasure/>
        </Attribute>
    </ObjectKey>
    <ObjectDetail>
        <Attribute name="Lifecycle Phase">
            <Value dataType="Basic Text">In Progress</Value>
            <UnitOfMeasure/>
        </Attribute>
        <Attribute name="Project">
            <Value dataType="Basic Text">@</Value>
            <UnitOfMeasure/>
        </Attribute>
        <Attribute name="Campaign">
            <Value dataType="Auto Sequence">CMP_1901</Value>
            <UnitOfMeasure/>
        </Attribute>
        <Attribute name="Process Step">
            <Value dataType="Basic Text">Default Recipe</Value>
            <UnitOfMeasure/>
        </Attribute>
        <Attribute name="Control Recipe">
            <Value dataType="Auto Sequence">CR10</Value>
            <UnitOfMeasure/>
        </Attribute>
    </ObjectDetail>
</Object>
</Payload>
<AdditionalInfo name="Inventory Consume Info">
    <Attribute name="Container ID">
        <Value dataType="Auto Sequence">INV_407</Value>
    </Attribute>
    <Attribute name="Quantity Consumed">
        <Value dataType="Float">1.0</Value>
        <UnitOfMeasure>kg</UnitOfMeasure>
    </Attribute>
    <Attribute name="Consumed By">
        <Value dataType="Basic Text">jperry</Value>
        <UnitOfMeasure/>
    </Attribute>
    <Attribute name="Consume Comment">
        <Value dataType="Basic Text">Container INV_407 was used for ELN
Experiment E1</Value>
        <UnitOfMeasure/>
    </Attribute>
    <Attribute name="Consumed Date">
        <Value GMTDateTime="1275408300000"
dataType="DateTime">01-Jun-2010 09:05:00 PDT</Value>
        <UnitOfMeasure/>
        <Format>dd-MMM-yyyy HH:mm:ss z</Format>
    </Attribute>
</AdditionalInfo>
<AdditionalInfo name="Inventory Consume Info">
    <Attribute name="Container ID">
        <Value dataType="Auto Sequence">INV_256</Value>
    </Attribute>
    <Attribute name="Quantity Consumed">
        <Value dataType="Float">1.0</Value>

```

```

        <UnitOfMeasure>kg</UnitOfMeasure>
    </Attribute>
    <Attribute name="Consumed By">
        <Value dataType="Basic Text">jperry</Value>
        <UnitOfMeasure/>
    </Attribute>
    <Attribute name="Consume Comment">
        <Value dataType="Basic Text">Container INV_256 was used for ELN
Experiment E1</Value>
        <UnitOfMeasure/>
    </Attribute>
    <Attribute name="Consumed Date">
        <Value GMTDateTime="1275408300000"
dataType="DateTime">01-Jun-2010 09:05:00 PDT</Value>
        <UnitOfMeasure/>
        <Format>dd-MMM-yyyy HH:mm:ss z</Format>
    </Attribute>
</AdditionalInfo>
</cfmXML>
===== Update Output Inventory =====
<?xml version="1.0" encoding="UTF-8"?>
<cfmXML>
    <LoginInfo>
        <UserName>admin</UserName>
        <Password>DNrE.7E.CNYiBbvzxDrqIJGtUF.Olk</Password>
    </LoginInfo>
    <Payload>
        <Object>
            <CategoryName>Work Order</CategoryName>
            <CategoryDBName>A_PRC_WORK_ORDER</CategoryDBName>
            <ViewName>Basic</ViewName>
            <ObjectKey>
                <ObjectID>1689431</ObjectID>
                <Attribute name="Work Request ID">
                    <Value dataType="Auto Sequence">WR2</Value>
                    <UnitOfMeasure/>
                </Attribute>
            </ObjectKey>
            <ObjectDetail>
                <Attribute name="Lifecycle Phase">
                    <Value dataType="Basic Text">In Progress</Value>
                    <UnitOfMeasure/>
                </Attribute>
                <Attribute name="Project">
                    <Value dataType="Basic Text">@</Value>
                    <UnitOfMeasure/>
                </Attribute>
                <Attribute name="Campaign">
                    <Value dataType="Auto Sequence">CMP_1901</Value>
                    <UnitOfMeasure/>
                </Attribute>
                <Attribute name="Process Step">
                    <Value dataType="Basic Text">Default Recipe</Value>
                    <UnitOfMeasure/>
                </Attribute>
                <Attribute name="Control Recipe">
                    <Value dataType="Auto Sequence">CR10</Value>
                    <UnitOfMeasure/>
                </Attribute>
            </ObjectDetail>
        </Object>
    </Payload>
</cfmXML>

```

```

        </Object>
    </Payload>
    <AdditionalInfo name="Consumed-Container">
        <Attribute name="Container ID">
            <Value dataType="Auto Sequence">INV_407</Value>
        </Attribute>
        <Attribute name="Quantity Consumed">
            <Value>240.0</Value>
            <UnitOfMeasure>kg</UnitOfMeasure>
        </Attribute>
    </AdditionalInfo>
    <AdditionalInfo name="Consumed-Container">
        <Attribute name="Container ID">
            <Value dataType="Auto Sequence">INV_359</Value>
        </Attribute>
        <Attribute name="Quantity Consumed">
            <Value>260.0</Value>
            <UnitOfMeasure>kg</UnitOfMeasure>
        </Attribute>
    </AdditionalInfo>
</cfmXML>

```

updateResourceInformation

Service

To update the information of resources used for a campaign.

Usage

Updates the details of equipment and material, both input and output, used in a Recipe Action under a particular campaign.

Sample Code

SOAP

```

===== Request =====
<?xml version="1.0" encoding="UTF-8"?>
<cfmXML>
    <LoginInfo>
        <UserName>admin</UserName>
        <Password>DNrE.7E.CNYiBbvzxDrqIJGtUF.Olk</Password>
    </LoginInfo>
    <Payload>
        <Object>
            <CategoryName>Work Order</CategoryName>
            <CategoryDBName>A_PRC_WORK_ORDER</CategoryDBName>
            <ViewName>Basic</ViewName>
            <ObjectKey>
                <Attribute name="Work Request ID">
                    <Value dataType="Auto Sequence">WR113</Value>
                    <UnitOfMeasure/>
                </Attribute>
            </ObjectKey>
            <ObjectDetail>
                <Attribute name="Lifecycle Phase">
                    <Value dataType="Basic Text">In Progress</Value>
                    <UnitOfMeasure/>
                </Attribute>
                <Attribute name="Project">

```

```

        <Value dataType="Basic Text">@</Value>
        <UnitOfMeasure/>
    </Attribute>
    <Attribute name="Campaign">
        <Value dataType="Auto Sequence">CMP_1852</Value>
        <UnitOfMeasure/>
    </Attribute>
</ObjectDetail>
</Object>
</Payload>
<AdditionalInfo name="Update Recipe Action">
    <Attribute name="Recipe Action Name">
        <Value dataType="Basic Text">A9-RAT</Value>
    </Attribute>
    <Attribute name="Hierarchy Number">
        <Value dataType="Basic Text">1.1</Value>
    </Attribute>
    <Attribute name="Equipment">
        <Value dataType="Auto Sequence">EQP_000001</Value>
    </Attribute>
    <Attribute name="Output Material">
        <Value dataType="Auto Sequence">MAT_000907</Value>
    </Attribute>
<Attribute name="Input Inventory - Container">
    <Value dataType="Auto Sequence">CTR_230</Value>
</Attribute>
</AdditionalInfo>
</cfmXML>
===== Response =====
<?xml version="1.0" encoding="UTF-8"?>
<cfmXML>
    <Response>
        <ResponseCode>500</ResponseCode>
        <ResponseMessage>SUCCESS</ResponseMessage>
        <SessionID>5063419517600776200</SessionID>
    </Response>
    <Payload>
        <Object operation="U">
            <CategoryName>Work Order</CategoryName>
            <CategoryDBName>A_PRC_WORK_ORDER</CategoryDBName>
            <ViewName>DEFAULT</ViewName>
            <ObjectKey>
                <ObjectID>100010651</ObjectID>
                <Attribute name="Work Order ID">
                    <Value dataType="Auto Sequence">WR113</Value>
                    <UnitOfMeasure></UnitOfMeasure>
                </Attribute>
            </ObjectKey>
            <ObjectDetail>
                <Attribute name="Close Out Comment">
                    <Value dataType="Basic Text">@</Value>
                    <UnitOfMeasure></UnitOfMeasure>
                </Attribute>
                <Attribute name="Internal Id">
                    <Value dataType="Integer">100010651</Value>
                    <UnitOfMeasure></UnitOfMeasure>
                </Attribute>
                <Attribute name="Actual Start Date">
                    <Value dataType="Date"></Value>
                    <UnitOfMeasure></UnitOfMeasure>
                </Attribute>
            </ObjectDetail>
        </Object>
    </Payload>
</cfmXML>

```

```

        <Format>MM/dd/yyyy hh:mm:ss a z</Format>
    </Attribute>
    <Attribute name="Actual End Date">
        <Value dataType="Date"></Value>
        <UnitOfMeasure></UnitOfMeasure>
        <Format>MM/dd/yyyy hh:mm:ss a z</Format>
    </Attribute>
    <Attribute name="Production Status">
        <Value dataType="Basic Text">@</Value>
        <UnitOfMeasure></UnitOfMeasure>
    </Attribute>
    <Attribute name="Target Material Was Produced">
        <Value dataType="Boolean">@</Value>
        <UnitOfMeasure></UnitOfMeasure>
    </Attribute>
    <Attribute name="Record Exists">
        <Value dataType="Boolean">true</Value>
        <UnitOfMeasure></UnitOfMeasure>
    </Attribute>
    <Attribute name="NoteCount">
        <Value dataType="Integer">0</Value>
        <UnitOfMeasure></UnitOfMeasure>
        <Format groupSeparator=",">#,###</Format>
    </Attribute>
    <Attribute name="AttachmentCount">
        <Value dataType="Integer">0</Value>
        <UnitOfMeasure></UnitOfMeasure>
        <Format groupSeparator=",">#,###</Format>
    </Attribute>
    <Attribute name="Is Object Locked">
        <Value dataType="Boolean">>false</Value>
        <UnitOfMeasure></UnitOfMeasure>
    </Attribute>
    <Attribute name="Modified Date">
        <Value dataType="DateTime"></Value>
        <UnitOfMeasure></UnitOfMeasure>
        <Format>MM/dd/yyyy hh:mm:ss a z</Format>
    </Attribute>
    <Attribute name="Created Date">
        <Value GMTDateTime="1297772513000"
dataType="DateTime">02/15/2011 12:21:53 PM GMT</Value>
        <UnitOfMeasure></UnitOfMeasure>
        <Format>MM/dd/yyyy hh:mm:ss a z</Format>
    </Attribute>
    <Relationship name="BO Status">
        <CategoryName>BO Status</CategoryName>
        <CategoryDBName>D_BO_STATUS</CategoryDBName>
        <ObjectKey>
            <ObjectID>1460913</ObjectID>
            <Attribute name="Status ID">
                <Value dataType="Basic Text">WOINPROGRESS</Value>
                <UnitOfMeasure></UnitOfMeasure>
            </Attribute>
        </ObjectKey>
    </Relationship>
    <Relationship name="LeafCategory Id">
        <CategoryName>Category</CategoryName>
        <CategoryDBName>M_MET_CATEGORY</CategoryDBName>
        <ObjectKey>
            <ObjectID>1433136</ObjectID>

```

```

        <Attribute name="Name">
            <Value dataType="Basic Text">Work Order</Value>
            <UnitOfMeasure></UnitOfMeasure>
        </Attribute>
        <Relationship name="Parent Category">
            <CategoryName>Category</CategoryName>
            <CategoryDBName>M_MET_CATEGORY</CategoryDBName>
            <ObjectKey>
                <ObjectID>788911</ObjectID>
                <Attribute name="Name">
                    <Value dataType="Basic Text">Process
Folder</Value>
                    <UnitOfMeasure></UnitOfMeasure>
                </Attribute>
                <Relationship name="Parent Category">
                    <CategoryName>Category</CategoryName>
                    <CategoryDBName>M_MET_
CATEGORY</CategoryDBName>
                    <ObjectKey>
                        <ObjectID>101</ObjectID>
                        <Attribute name="Name">
                            <Value dataType="Basic
Text">Base</Value>
                            <UnitOfMeasure></UnitOfMeasure>
                        </Attribute>
                        <Attribute name="Parent Category">
                            <Value dataType="Foreign
Key">@</Value>
                            <UnitOfMeasure></UnitOfMeasure>
                        </Attribute>
                    </ObjectKey>
                </Relationship>
            </ObjectKey>
        </Relationship>
        <Relationship name="Control Recipe">
            <CategoryName>Control Recipe</CategoryName>
            <CategoryDBName>A_PRC_CONTROL_RECIPE</CategoryDBName>
            <ObjectKey>
                <ObjectID>100010615</ObjectID>
                <Attribute name="Control Recipe ID">
                    <Value dataType="Auto Sequence">CR364</Value>
                    <UnitOfMeasure></UnitOfMeasure>
                </Attribute>
            </ObjectKey>
        </Relationship>
        <Relationship name="Recipe Instance">
            <CategoryName>Recipe Instance</CategoryName>
            <CategoryDBName>A_RECIPE_INSTANCE</CategoryDBName>
            <ObjectKey>
                <ObjectID>100010640</ObjectID>
                <Attribute name="ID">
                    <Value dataType="Auto Sequence">132</Value>
                    <UnitOfMeasure></UnitOfMeasure>
                </Attribute>
            </ObjectKey>
        </Relationship>
        <Relationship name="submission">
            <CategoryName>Submission</CategoryName>

```

```

        <CategoryDBName>A_ANA_SUBMISSION</CategoryDBName>
        <ObjectKey>
            <Attribute name="Submission ID">
                <Value dataType="Auto Sequence">@</Value>
                <UnitOfMeasure></UnitOfMeasure>
            </Attribute>
        </ObjectKey>
    </Relationship>
    <Relationship name="Current Workflow">
        <CategoryName>Workflow process table</CategoryName>
        <CategoryDBName>D_WF_PROCESS</CategoryDBName>
        <ObjectKey>
            <Attribute name="Request ID">
                <Value dataType="Auto Sequence">@</Value>
                <UnitOfMeasure></UnitOfMeasure>
            </Attribute>
        </ObjectKey>
    </Relationship>
    <Relationship name="Modified User">
        <CategoryName>User</CategoryName>
        <CategoryDBName>D_PPL_USER</CategoryDBName>
        <ObjectKey>
            <Attribute name="User ID">
                <Value dataType="Basic Text">@</Value>
                <UnitOfMeasure></UnitOfMeasure>
            </Attribute>
        </ObjectKey>
    </Relationship>
    <Relationship name="Created User">
        <CategoryName>User</CategoryName>
        <CategoryDBName>D_PPL_USER</CategoryDBName>
        <ObjectKey>
            <ObjectID>785544</ObjectID>
            <Attribute name="User ID">
                <Value dataType="Basic Text">admin</Value>
                <UnitOfMeasure></UnitOfMeasure>
            </Attribute>
        </ObjectKey>
    </Relationship>
</ObjectDetail>
</Object>
</Payload>
</cfmXML>

```

getWorkRequestRecipe

Service

To obtain the details of the work request for a control recipe.

Usage

Gets the details of a specified work request. The request message includes the attributes for the work order ID, control recipe ID, project name, process step, etc. The response message delivers all the attributes of the work request, such as actual start and end dates, production status, any attachments, workflow status, etc.

Sample Code

SOAP

```

===== Request =====
<?xml version="1.0" encoding="UTF-8"?>
<cfmXML>
  <LoginInfo>
    <UserName>admin</UserName>
    <Password>DNrE.7E.CNYiBbvzxDrqIJGtUF.0lk</Password>
  </LoginInfo>
  <Payload>
    <Object>
      <CategoryName>Work Order</CategoryName>
      <CategoryDBName>A_PRC_WORK_ORDER</CategoryDBName>
      <ViewName>Basic</ViewName>
      <ObjectKey>
        <ObjectID>1689431</ObjectID>
        <Attribute name="Work Request ID">
          <Value dataType="Auto Sequence">WR113</Value>
          <UnitOfMeasure/>
        </Attribute>
      </ObjectKey>
      <ObjectDetail>
        <Attribute name="Lifecycle Phase">
          <Value dataType="Basic Text">In Progress</Value>
          <UnitOfMeasure/>
        </Attribute>
        <Attribute name="Project">
          <Value dataType="Basic Text">@</Value>
          <UnitOfMeasure/>
        </Attribute>
        <Attribute name="Campaign">
          <Value dataType="Auto Sequence">CMP_1852</Value>
          <UnitOfMeasure/>
        </Attribute>
        <Attribute name="Process Step">
          <Value dataType="Basic Text">A9-RECIPE1</Value>
          <UnitOfMeasure/>
        </Attribute>
        <Attribute name="Control Recipe">
          <Value dataType="Auto Sequence">CR364</Value>
          <UnitOfMeasure/>
        </Attribute>
      </ObjectDetail>
    </Object>
  </Payload>
</cfmXML>
===== Response =====
<?xml version="1.0" encoding="UTF-8"?>
<cfmXML>
  <Response>
    <ResponseCode>500</ResponseCode>
    <ResponseMessage>SUCCESS</ResponseMessage>
    <SessionID>9151021237468690122</SessionID>
  </Response>
  <Payload>
    <Object>
      <CategoryName>Work Order</CategoryName>
      <CategoryDBName>A_PRC_WORK_ORDER</CategoryDBName>
      <ViewName>DEFAULT</ViewName>
      <ObjectKey>
        <ObjectID>100010651</ObjectID>
        <Attribute name="Work Order ID">

```



```

        <Value dataType="Auto Sequence">WR113</Value>
        <UnitOfMeasure></UnitOfMeasure>
    </Attribute>
</ObjectKey>
<ObjectDetail>
    <Attribute name="Close Out Comment">
        <Value dataType="Basic Text">@</Value>
        <UnitOfMeasure></UnitOfMeasure>
    </Attribute>
    <Attribute name="BO Status">
        <Value dataType="Foreign Key">1460913</Value>
        <UnitOfMeasure></UnitOfMeasure>
    </Attribute>
    <Attribute name="Internal Id">
        <Value dataType="Integer">100010651</Value>
        <UnitOfMeasure></UnitOfMeasure>
    </Attribute>
    <Attribute name="LeafCategory Id">
        <Value dataType="Foreign Key">1433136</Value>
        <UnitOfMeasure></UnitOfMeasure>
    </Attribute>
    <Attribute name="Control Recipe">
        <Value dataType="Foreign Key">100010615</Value>
        <UnitOfMeasure></UnitOfMeasure>
    </Attribute>
    <Attribute name="Recipe Instance">
        <Value dataType="Foreign Key">100010640</Value>
        <UnitOfMeasure></UnitOfMeasure>
    </Attribute>
    <Attribute name="Actual Start Date">
        <Value dataType="Date"></Value>
        <UnitOfMeasure></UnitOfMeasure>
        <Format>MM/dd/yyyy hh:mm:ss a z</Format>
    </Attribute>
    <Attribute name="Actual End Date">
        <Value dataType="Date"></Value>
        <UnitOfMeasure></UnitOfMeasure>
        <Format>MM/dd/yyyy hh:mm:ss a z</Format>
    </Attribute>
    <Attribute name="Production Status">
        <Value dataType="Basic Text">@</Value>
        <UnitOfMeasure></UnitOfMeasure>
    </Attribute>
    <Attribute name="Target Material Was Produced">
        <Value dataType="Boolean">@</Value>
        <UnitOfMeasure></UnitOfMeasure>
    </Attribute>
    <Attribute name="submission">
        <Value dataType="Foreign Key">@</Value>
        <UnitOfMeasure></UnitOfMeasure>
    </Attribute>
    <Attribute name="Record Exists">
        <Value dataType="Boolean">true</Value>
        <UnitOfMeasure></UnitOfMeasure>
    </Attribute>
    <Attribute name="NoteCount">
        <Value dataType="Integer">0</Value>
        <UnitOfMeasure></UnitOfMeasure>
        <Format groupSeparator=",">#,###</Format>
    </Attribute>

```

```

        <Attribute name="AttachmentCount">
            <Value dataType="Integer">0</Value>
            <UnitOfMeasure></UnitOfMeasure>
            <Format groupSeparator=",">#,###</Format>
        </Attribute>
        <Attribute name="Is Object Locked">
            <Value dataType="Boolean">>false</Value>
            <UnitOfMeasure></UnitOfMeasure>
        </Attribute>
        <Attribute name="Current Workflow">
            <Value dataType="Foreign Key">@</Value>
            <UnitOfMeasure></UnitOfMeasure>
        </Attribute>
        <Attribute name="Modified User">
            <Value dataType="Foreign Key">@</Value>
            <UnitOfMeasure></UnitOfMeasure>
        </Attribute>
        <Attribute name="Modified Date">
            <Value dataType="DateTime"></Value>
            <UnitOfMeasure></UnitOfMeasure>
            <Format>MM/dd/yyyy hh:mm:ss a z</Format>
        </Attribute>
        <Attribute name="Created User">
            <Value dataType="Foreign Key">785544</Value>
            <UnitOfMeasure></UnitOfMeasure>
        </Attribute>
        <Attribute name="Created Date">
            <Value GMTDateTime="1297772513000"
dataType="DateTime">02/15/2011 12:21:53 PM GMT</Value>
            <UnitOfMeasure></UnitOfMeasure>
            <Format>MM/dd/yyyy hh:mm:ss a z</Format>
        </Attribute>
    </ObjectDetail>
</Object>
<Object>

<CategoryName>com.cfm.pcm.ifc.persistence.data.CFMDocument</CategoryName>

<CategoryDBName>com.cfm.pcm.ifc.persistence.data.CFMDocument</CategoryDBName>
    <ViewName>com.cfm.pcm.ifc.persistence.data.CFMDocument</ViewName>
    <ObjectKey/>
    <ObjectDetail/>
    <Document mimeType="text/plain" type="attachment">&lt;?xml
version="1.0" encoding="UTF-8">&gt;
        </Document>
    </Object>

</Payload>
</cfmXML>

```

updateWorkRequestRecipe

Service

To update the work request details for a control recipe.

Usage

Updates the attributes, such as actual start and end dates of execution of the control recipe, the production status, etc., including the name of the user who modifies the work request for the given control recipe.

Sample Code

SOAP

```

===== Request =====
<?xml version="1.0" encoding="UTF-8"?>
<cfmXML>
  <LoginInfo>
    <UserName>admin</UserName>
    <Password>DNrE.7E.CNYiBbvzxDrqIJGtUF.0lk</Password>
  </LoginInfo>
  <Payload>
    <Object>
      <CategoryName>Work Order</CategoryName>
      <CategoryDBName>A_PRC_WORK_ORDER</CategoryDBName>
      <ViewName>DEFAULT</ViewName>
      <ObjectKey>
        <ObjectID>1687687</ObjectID>
        <Attribute name="Work Order ID">
          <Value dataType="Auto Sequence">WR113</Value>
          <UnitOfMeasure></UnitOfMeasure>
        </Attribute>
      </ObjectKey>
      <ObjectDetail>
        <Attribute name="Close Out Comment">
          <Value dataType="Basic Text">@</Value>
          <UnitOfMeasure></UnitOfMeasure>
        </Attribute>
        <Attribute name="BO Status">
          <Value dataType="Foreign Key">1460913</Value>
          <UnitOfMeasure></UnitOfMeasure>
        </Attribute>
        <Attribute name="Internal Id">
          <Value dataType="Integer">1687687</Value>
          <UnitOfMeasure></UnitOfMeasure>
        </Attribute>
        <Attribute name="LeafCategory Id">
          <Value dataType="Foreign Key">1433136</Value>
          <UnitOfMeasure></UnitOfMeasure>
        </Attribute>
        <Attribute name="Control Recipe">
          <Value dataType="Foreign Key">1687658</Value>
          <UnitOfMeasure></UnitOfMeasure>
        </Attribute>
        <Attribute name="Recipe Instance">
          <Value dataType="Foreign Key">1687678</Value>
          <UnitOfMeasure></UnitOfMeasure>
        </Attribute>
        <Attribute name="Actual Start Date">
          <Value dataType="Date"></Value>
          <UnitOfMeasure></UnitOfMeasure>
          <Format>dd-MMM-yyyy HH:mm:ss z</Format>
        </Attribute>
        <Attribute name="Actual End Date">
          <Value dataType="Date"></Value>
          <UnitOfMeasure></UnitOfMeasure>
          <Format>dd-MMM-yyyy HH:mm:ss z</Format>
        </Attribute>
        <Attribute name="Production Status">
          <Value dataType="Basic Text">@</Value>
          <UnitOfMeasure></UnitOfMeasure>
        </Attribute>
      </ObjectDetail>
    </Object>
  </Payload>
</cfmXML>

```

```

</Attribute>
<Attribute name="Target Material Was Produced">
  <Value dataType="Boolean">@</Value>
  <UnitOfMeasure></UnitOfMeasure>
</Attribute>
<Attribute name="submission">
  <Value dataType="Foreign Key">@</Value>
  <UnitOfMeasure></UnitOfMeasure>
</Attribute>
<Attribute name="Record Exists">
  <Value dataType="Boolean">true</Value>
  <UnitOfMeasure></UnitOfMeasure>
</Attribute>
<Attribute name="NoteCount">
  <Value dataType="Integer">0</Value>
  <UnitOfMeasure></UnitOfMeasure>
  <Format groupSeparator=",">#,###</Format>
</Attribute>
<Attribute name="AttachmentCount">
  <Value dataType="Integer">0</Value>
  <UnitOfMeasure></UnitOfMeasure>
  <Format groupSeparator=",">#,###</Format>
</Attribute>
<Attribute name="Is Object Locked">
  <Value dataType="Boolean">false</Value>
  <UnitOfMeasure></UnitOfMeasure>
</Attribute>
<Attribute name="Current Workflow">
  <Value dataType="Foreign Key">@</Value>
  <UnitOfMeasure></UnitOfMeasure>
</Attribute>
<Attribute name="Modified User">
  <Value dataType="Foreign Key">@</Value>
  <UnitOfMeasure></UnitOfMeasure>
</Attribute>
<Attribute name="Modified Date">
  <Value dataType="DateTime"></Value>
  <UnitOfMeasure></UnitOfMeasure>
  <Format>dd-MMM-yyyy HH:mm:ss z</Format>
</Attribute>
<Attribute name="Created User">
  <Value dataType="Foreign Key">785544</Value>
  <UnitOfMeasure></UnitOfMeasure>
</Attribute>
<Attribute name="Created Date">
  <Value GMTDateTime="1289335545000"
dataType="DateTime">09-Nov-2010 15:45:45 EST</Value>
  <UnitOfMeasure></UnitOfMeasure>
  <Format>dd-MMM-yyyy HH:mm:ss z</Format>
</Attribute>
</ObjectDetail>
</Object>
<Object>

<CategoryName>com.cfm.pcm.ifc.persistence.data.CFMDocument</CategoryName>

<CategoryDBName>com.cfm.pcm.ifc.persistence.data.CFMDocument</CategoryDBName>
<ViewName>com.cfm.pcm.ifc.persistence.data.CFMDocument</ViewName>
<ObjectKey/>
<ObjectDetail/>

```

```

        <Document type="attachment">&lt;?xml version="1.0"
encoding="UTF-8"?&gt;

    </Document>
    </Object>
  </Payload>
</cfmXML>

```

recordParameterResults

Service

To record the results of parameters of a recipe action.

Usage

Adds the results of the parameters defined in a recipe action to the RMW application. These results are the actual values of the parameters recorded during the execution of the work request. The request message includes the parameter names and their recorded values.

Sample Code

SOAP

```

===== Request =====
<?xml version="1.0" encoding="UTF-8"?>
<cfmXML>
  <LoginInfo>
    <UserName>admin</UserName>
    <Password>DNrE.7E.CNYiBbvzxDrqIJGtUF.0lk</Password>
  </LoginInfo>
  <Payload>
    <Object>
      <CategoryName>Work Order</CategoryName>
      <CategoryDBName>A_PRC_WORK_ORDER</CategoryDBName>
      <ViewName>Basic</ViewName>
      <ObjectKey>
        <Attribute name="Work Request ID">
          <Value dataType="Auto Sequence">WR117</Value>
          <UnitOfMeasure/>
        </Attribute>
      </ObjectKey>
      <ObjectDetail>
        <Attribute name="Lifecycle Phase">
          <Value dataType="Basic Text">In Progress</Value>
          <UnitOfMeasure/>
        </Attribute>
        <Attribute name="Project">
          <Value dataType="Basic Text">@</Value>
          <UnitOfMeasure/>
        </Attribute>
        <Attribute name="Campaign">
          <Value dataType="Auto Sequence">CMP_1852</Value>
          <UnitOfMeasure/>
        </Attribute>
      </ObjectDetail>
    </Object>
  </Payload>
<AdditionalInfo name="Parameter Results Info">

```

```

        <Attribute name="Recipe Action Name">
            <Value dataType="Basic Text">SP_RAT1</Value>
        </Attribute>
        <Attribute name="Hierarchy Number">
            <Value dataType="Basic Text">1.1</Value>
        </Attribute>
        <Attribute name="Parameter Name">
            <Value dataType="Basic Text">PT01</Value>
        </Attribute>
        <Attribute name="Recorded Value">
            <Value dataType="Text">25</Value>
            <UnitOfMeasure/>
        </Attribute>
        <Attribute name="Recorded At">
            <Value dataType="Text">Global</Value>
            <UnitOfMeasure/>
        </Attribute>
        <Attribute name="Recorded By">
            <Value dataType="Basic Text">admin</Value>
            <UnitOfMeasure/>
        </Attribute>
        <Attribute name="Recorded On">
            <Value GMTDateTime="1275408300000"
dataType="DateTime">01-Jun-2010 09:05:00 PDT</Value>
            <UnitOfMeasure/>
            <Format>dd-MMM-yyyy HH:mm:ss z</Format>
        </Attribute>
        <Attribute name="Outcome">
            <Value dataType="Basic Text">Pass</Value>
            <UnitOfMeasure/>
        </Attribute>
        <Attribute name="Notebook Reference">
            <Value dataType="Basic Text">ELN1010</Value>
            <UnitOfMeasure/>
        </Attribute>
        <Attribute name="Comment">
            <Value dataType="Basic Text">This was a test result</Value>
            <UnitOfMeasure/>
        </Attribute>
    </AdditionalInfo>
</cfmXML>
===== Response =====
<?xml version="1.0" encoding="UTF-8"?>
<cfmXML>
    <Response>
        <ResponseCode>500</ResponseCode>
        <ResponseMessage>SUCCESS</ResponseMessage>
        <SessionID>2125153109709357720</SessionID>
    </Response>
    <Payload>
        <Object operation="U">
            <CategoryName>Work Order</CategoryName>
            <CategoryDBName>A_PRC_WORK_ORDER</CategoryDBName>
            <ViewName>DEFAULT</ViewName>
            <ObjectKey>
                <ObjectID>100011402</ObjectID>
                <Attribute name="Work Order ID">
                    <Value dataType="Auto Sequence">WR117</Value>
                    <UnitOfMeasure></UnitOfMeasure>
                </Attribute>
            </ObjectKey>
        </Object>
    </Payload>
</cfmXML>

```

```

</ObjectKey>
<ObjectDetail>
  <Attribute name="Close Out Comment">
    <Value dataType="Basic Text">@</Value>
    <UnitOfMeasure></UnitOfMeasure>
  </Attribute>
  <Attribute name="Internal Id">
    <Value dataType="Integer">100011402</Value>
    <UnitOfMeasure></UnitOfMeasure>
  </Attribute>
  <Attribute name="Actual Start Date">
    <Value dataType="Date"></Value>
    <UnitOfMeasure></UnitOfMeasure>
    <Format>MM/dd/yyyy hh:mm:ss a z</Format>
  </Attribute>
  <Attribute name="Actual End Date">
    <Value dataType="Date"></Value>
    <UnitOfMeasure></UnitOfMeasure>
    <Format>MM/dd/yyyy hh:mm:ss a z</Format>
  </Attribute>
  <Attribute name="Production Status">
    <Value dataType="Basic Text">@</Value>
    <UnitOfMeasure></UnitOfMeasure>
  </Attribute>
  <Attribute name="Target Material Was Produced">
    <Value dataType="Boolean">@</Value>
    <UnitOfMeasure></UnitOfMeasure>
  </Attribute>
  <Attribute name="Record Exists">
    <Value dataType="Boolean">true</Value>
    <UnitOfMeasure></UnitOfMeasure>
  </Attribute>
  <Attribute name="NoteCount">
    <Value dataType="Integer">0</Value>
    <UnitOfMeasure></UnitOfMeasure>
    <Format groupSeparator=",">#,###</Format>
  </Attribute>
  <Attribute name="AttachmentCount">
    <Value dataType="Integer">0</Value>
    <UnitOfMeasure></UnitOfMeasure>
    <Format groupSeparator=",">#,###</Format>
  </Attribute>
  <Attribute name="Is Object Locked">
    <Value dataType="Boolean">false</Value>
    <UnitOfMeasure></UnitOfMeasure>
  </Attribute>
  <Attribute name="Modified Date">
    <Value dataType="DateTime"></Value>
    <UnitOfMeasure></UnitOfMeasure>
    <Format>MM/dd/yyyy hh:mm:ss a z</Format>
  </Attribute>
  <Attribute name="Created Date">
    <Value GMTDateTime="1297777888000"
dataType="DateTime">02/15/2011 01:51:28 PM GMT</Value>
    <UnitOfMeasure></UnitOfMeasure>
    <Format>MM/dd/yyyy hh:mm:ss a z</Format>
  </Attribute>
  <Relationship name="BO Status">
    <CategoryName>BO Status</CategoryName>
    <CategoryDBName>D_BO_STATUS</CategoryDBName>

```

```

        <ObjectKey>
          <ObjectID>1460913</ObjectID>
          <Attribute name="Status ID">
            <Value dataType="Basic Text">WOINPROGRESS</Value>
            <UnitOfMeasure></UnitOfMeasure>
          </Attribute>
        </ObjectKey>
      </Relationship>
    <Relationship name="LeafCategory Id">
      <CategoryName>Category</CategoryName>
      <CategoryDBName>M_MET_CATEGORY</CategoryDBName>
      <ObjectKey>
        <ObjectID>1433136</ObjectID>
        <Attribute name="Name">
          <Value dataType="Basic Text">Work Order</Value>
          <UnitOfMeasure></UnitOfMeasure>
        </Attribute>
        <Relationship name="Parent Category">
          <CategoryName>Category</CategoryName>
          <CategoryDBName>M_MET_CATEGORY</CategoryDBName>
          <ObjectKey>
            <ObjectID>788911</ObjectID>
            <Attribute name="Name">
              <Value dataType="Basic Text">Process
Folder</Value>
              <UnitOfMeasure></UnitOfMeasure>
            </Attribute>
            <Relationship name="Parent Category">
              <CategoryName>Category</CategoryName>
              <CategoryDBName>M_MET_
CATEGORY</CategoryDBName>
              <ObjectKey>
                <ObjectID>101</ObjectID>
                <Attribute name="Name">
                  <Value dataType="Basic
Text">Base</Value>
                  <UnitOfMeasure></UnitOfMeasure>
                </Attribute>
                <Attribute name="Parent Category">
                  <Value dataType="Foreign
Key">@</Value>
                  <UnitOfMeasure></UnitOfMeasure>
                </Attribute>
              </ObjectKey>
            </Relationship>
          </ObjectKey>
        </Relationship>
      </ObjectKey>
    </Relationship>
  <Relationship name="Control Recipe">
    <CategoryName>Control Recipe</CategoryName>
    <CategoryDBName>A_PRC_CONTROL_RECIPE</CategoryDBName>
    <ObjectKey>
      <ObjectID>100011360</ObjectID>
      <Attribute name="Control Recipe ID">
        <Value dataType="Auto Sequence">CR368</Value>
        <UnitOfMeasure></UnitOfMeasure>
      </Attribute>
    </ObjectKey>
  </Relationship>

```



```

<Relationship name="Recipe Instance">
  <CategoryName>Recipe Instance</CategoryName>
  <CategoryDBName>A_RECIPE_INSTANCE</CategoryDBName>
  <ObjectKey>
    <ObjectID>100011394</ObjectID>
    <Attribute name="ID">
      <Value dataType="Auto Sequence">142</Value>
      <UnitOfMeasure></UnitOfMeasure>
    </Attribute>
  </ObjectKey>
</Relationship>
<Relationship name="submission">
  <CategoryName>Submission</CategoryName>
  <CategoryDBName>A_ANA_SUBMISSION</CategoryDBName>
  <ObjectKey>
    <Attribute name="Submission ID">
      <Value dataType="Auto Sequence">@</Value>
      <UnitOfMeasure></UnitOfMeasure>
    </Attribute>
  </ObjectKey>
</Relationship>
<Relationship name="Current Workflow">
  <CategoryName>Workflow process table</CategoryName>
  <CategoryDBName>D_WF_PROCESS</CategoryDBName>
  <ObjectKey>
    <Attribute name="Request ID">
      <Value dataType="Auto Sequence">@</Value>
      <UnitOfMeasure></UnitOfMeasure>
    </Attribute>
  </ObjectKey>
</Relationship>
<Relationship name="Modified User">
  <CategoryName>User</CategoryName>
  <CategoryDBName>D_PPL_USER</CategoryDBName>
  <ObjectKey>
    <Attribute name="User ID">
      <Value dataType="Basic Text">@</Value>
      <UnitOfMeasure></UnitOfMeasure>
    </Attribute>
  </ObjectKey>
</Relationship>
<Relationship name="Created User">
  <CategoryName>User</CategoryName>
  <CategoryDBName>D_PPL_USER</CategoryDBName>
  <ObjectKey>
    <ObjectID>785544</ObjectID>
    <Attribute name="User ID">
      <Value dataType="Basic Text">admin</Value>
      <UnitOfMeasure></UnitOfMeasure>
    </Attribute>
  </ObjectKey>
</Relationship>
</ObjectDetail>
</Object>
</Payload>
</cfmXML>

```

Working with Java Sample Code

This section describes helper methods and other aspects useful for developing the web services.

The Java Sample Codes covered in this book, and those available for download from eDelivery.oracle.com site, demonstrate various usage characteristics of Agile 933 Web Services.

Apart from outlining the basic cases for each Web Service, they also elaborate upon more specific cases that involve usage of options or mandatory message elements.

Download these Sample Codes in 'src' directory. They are categorized into different packages based on the type of Web Service, which are AdminMetaData, Attachment, Business, Collaboration, PC, Search and Table.

Batch files for building and running samples independent of a java IDE are also provided.

Building Stubs and Compiling the Samples

A batch file **build.bat** has been provided, which is located in the main directory JavaWeb Servicesamples. This batch file uses **ant** tasks to generate stubs for Agile Web Services and compiles the java sample files after generation of these stubs.

Along with build.bat, you will find a file custom.properties file that specifies the basic configuration properties, such as the Agile server URL, username, password of your user and also the URL of DFM. Unless this property file is edited to reflect the values appropriate for your Agile environment, you will not be able to generate stubs or run the samples.

After ensuring that 'custom.properties' has been modified appropriately, run the batch file 'build.bat'. Running the same through a command prompt may help in identifying error statements (if any) that are echoed onto the console. If the message 'BUILD SUCCESSFUL' displays on the console then the build process was completed without any errors. However, if the message 'BUILD FAILED' is observed on the console, your 'custom.properties' configuration may be incorrect and you need to verify the same.

The stubs and the compiled samples are added to the folder build/built/*.jar as two jar files 'ws_samples.jar' and 'ws_stubs.jar' which are used later while running the sample.

Executing the Samples using ant Task

After building the stubs and compiling the sample files by following the steps outlined in Building Stubs and Compiling the Samples on page 406, any sample file can be

readily executed using the batch file run.bat and specifying the fully qualified class name as an argument.

Browse the source directory 'JavaWeb Servicesamples/src' to find the package structure of the sample that you are looking for.

For example, to run the sample 'CreateObjectAPIName' that creates an object using API names, the following command must be executed through command prompt:

```
run business.create.CreateObjectAPIName
```

Similarly, to run a sample from another sample package, say AddRowsSiteSpecific of the table Web Service, use the command:

```
run table.addrows.AddRowsSiteSpecific
```

If no argument is passed to run.bat, then all the available samples will be executed sequentially.

Note: While running samples using this ant task, the Agile server URL, username and password properties are retrieved from the same 'custom.properties' file that was used for building stubs.

Executing the Samples using a Java IDE

To run the sample files from a Java IDE, such as JDeveloper or Eclipse, create a new project or workspace in your IDE (as applicable to your IDE) and in your project properties modify / add project source paths to include the 'JavaWeb Servicesamples/src' directory where the sample source code is located.

You will also need to update your project library or classpath information to include all the necessary classes of Axis and other Agile jar files which have been used in the course of sample development.

Ensure that you have added all the jar files under the folders 'JavaWeb Servicesamples/build/axis' and 'JavaWeb Servicesamples/build/lib' to your library / classpath.

Any sample file can now be executed by browsing through the package structure, and running the desired sample.

Note The static variables relating to Agile server url, username and password in each java sample must be modified, if you choose to run the sample through an IDE.

Understanding the Code

Each java sample file contains header documentation at the class level explaining the functionality or usage scenario that the sample demonstrates. A set of static variables relating to server url, username, password and variables specific to that sample, like partNumber or folderName or nextStatus, are declared here.

If the sample is executed using the ant task (via run.bat), then the server configuration related static variables are overridden by the method checkArguments(String[] args()), which obtains arguments from the ant task and reinitializes server URL username, password and DFM URL variables.

In the case of a sample executed through a Java IDE, the server configuration variables must be modified manually to reflect the server settings of your Agile server.

With the exception of adminMetaData services, all samples provided here use the method `prepareData()` to prepare all the data prerequisites necessary to create a scenario using which a particular Web Service may be demonstrated meaningfully.

For example, if the sample demonstrates usage of the operation `loadTable` to load a table from a particular version of an Agile object, `prepareData()` will do the following:

1. Create a part object
2. Add a change, modify the part
3. Provide a new version number
4. Release the change.

After the data has been prepared, the operation `loadTable` is now used with the option 'version' to demonstrate the retrieval of a table from a particular version of an Agile object.

If you intend to use your own data or scenario to execute a Web Service sample, comment out the '`prepareData();`' statement in the main method of that sample. After this, edit the static variables at the top of the code and specify your own data.

All the operations performed in data preparation are also achieved using Agile 93 Web Services. To gain a broader understanding of how Web Services are used in conjunction to orchestrate a larger task, examine the file `DataPrepare.java` in the package `src/run/DataPrepare.java`

The sample files are documented with comments at each stage and evince several usage characteristics of these Web Services while illustrating how basic requests are formed and how the responses obtained are used.

AddFileSOAPAttachment Method

This sample method demonstrates addition of a file attachment to the Attachment Tab of an Agile object using SOAP.

Example: Adding a file attachment to the Attachment tab of an Agile object using SOAP

Basic Steps

- Create the request object `AddFileAttachmentRequestType` for the `addFileAttachment` operation.
- Create an array of requests of type `AgileAddFileAttachmentRequestType`. Batch operations may be performed by populating as many request objects as required to add several files to different objects with one single operation.
- For each batched request, specify the unique object to whose attachment tab the files are to be added. Supply class identifier and object number information for the same.
- The exact specification of the attachment to be added is defined as an object of type `AgileAddFileAttachmentRequestType`. This object includes information about the name of the file and its description and content.
- While using SOAP attachments, create a datahandler to specify the file source and add the content as a soap attachment to the soap request. Finally set the `contentId` onto `AgileAddFileAttachmentRequestType`.

- The request objects are set and the Agile Stub is used to make the addFileAttachment Web Service call. The status code obtained from the response object is printed to verify the success of the addFileAttachment operation.
- If the Web Service call was successful, then state the same.
- If the status code is not 'SUCCESS', then populate the list of exceptions returned by the Web Service.

Sample Code

SOAP

```
try {
    setupServerLogin();

    AddFileAttachmentRequestType addFileAttachmentRequestType =
        new AddFileAttachmentRequestType();
    AgileAddFileAttachmentRequest agileAddFileAttachmentRequest[] =
        new AgileAddFileAttachmentRequest[1];
    agileAddFileAttachmentRequest[0] =
        new AgileAddFileAttachmentRequest();
    agileAddFileAttachmentRequest[0].setClassIdentifier("Part");
    agileAddFileAttachmentRequest[0].setObjectNumber(partNumber);
    System.out.println("Adding a SOAP attachment to the part '" +
        partNumber + "'...");
    AgileAddFileAttachmentRequestType attachments[] = new
    AgileAddFileAttachmentRequestType[1];
    attachments[0] =
        new AgileAddFileAttachmentRequestType();
    attachments[0].setName("Filename.txt");
    attachments[0].setDescription("Description for file ");

    String filename = "sample123456.txt";
    BufferedWriter out =
        new BufferedWriter(new FileWriter(filename));
    out.write("Test file");
    out.close();

    DataHandler dh =
        new DataHandler(new FileDataSource(filename));
    AttachmentPart ap = new AttachmentPart(dh);
    agileStub.addAttachment(ap);
    attachments[0].setContentId(ap.getContentId());

    agileAddFileAttachmentRequest[0].setAttachments(attachments);
    agileAddFileAttachmentRequest[0].setSingleFolder(false);

    addFileAttachmentRequestType.setRequests(agileAddFileAttachmentRequest);
    AddFileAttachmentResponseType addFileAttachmentResponseType =
        agileStub.addFileAttachment(addFileAttachmentRequestType);
    System.out.println("\nSTATUS CODE: " +
        addFileAttachmentResponseType.getStatusCode());
    if
    (!addFileAttachmentResponseType.getStatusCode().toString().equals(ResponseStatusCo
    de.SUCCESS.getValue())) {
        AgileExceptionListType[] agileExceptionListType =
            addFileAttachmentResponseType.getExceptions();
        if (agileExceptionListType != null)
            for (int i = 0;
                i < agileExceptionListType.length;
                i++) {
```

```

        AgileExceptionType exceptions[] =
            agileExceptionListType[i].getException();
        for (int j = 0;
            j < exceptions.length; j++)
            System.out.println("Exception Id: " +
                               exceptions[j].getExceptionId() +
                               "\nMessage: " +
                               exceptions[j].getMessage());
    }

    AgileWarningListType agileWarningListType[] =
        addFileAttachmentResponseType.getWarnings();
    if (agileWarningListType != null)
        for (int i = 0;
            i < agileWarningListType.length;
            i++) {
            AgileWarningType warnings[] =
                agileWarningListType[i].getWarning();
            for (int j = 0;
                j < warnings.length; j++)
                System.out.println("Warning Id: " +
                                   warnings[j].getWarningId() +
                                   "\nMessage: " +
                                   warnings[j].getMessage());
        }
    } else {
        AgileAddFileAttachmentResponse responses[] =
            addFileAttachmentResponseType.getResponses();
        if (responses != null)
            for (int i = 0; i < responses.length;
                i++) {
                System.out.println("The specified SOAP attachment was successfully
added to the Attachment tab");
                System.out.println("of the object: " +
                                   responses[i].getObjectNumber());
            }
    }
}
}

```

Helper Methods

The `getRowID` and `getFileId` are custom helper methods. These are not Agile Web Services operations.

getRowId Method

Service

This topic describes how you can obtain the `rowId` for a row on an Agile table

Usage

Several table and attachment operations require the `rowId` as input for executing a Web Service. In such cases, the `loadTable` operation is used to load the table that contains the required row and then iterated through the results till the row is found.

To find a particular row in a table, a keyword may be used to search and identify the row. In this example, the filename is used as the key to identify a row.

Search all the rows available in the attachment table and compare all message elements with tag names 'filename' with the filename specified by the client, looking for a match. Once a match is found, the rowId information is derived from the row and returned.

Compare all 'filename' message elements, searching for a match with the filename specified by the user. If a match is found, return either the fileId or rowId based on the requirement.

Note: getValueFromSelection is a method written in this sample that handles all message elements of type AgileListEntryType. Since 'filename' is a message element of AgileListEntryType, the values are elicited by this method.

Usage

Handle all AgileListEntryType message elements, cycle through the selection element, obtain the actual selection value and the selection Id and add it to a HashMap. Here the selection value denotes the filename while the selection Id denotes the fileId.

In the case of Filefolders the message element for file name is not an AgileListEntryType. The value may be obtained directly.

Basic Steps

To get a Row ID:

1. Create the request object LoadTableRequestType for the loadTable operation.
2. For each request, specify the table to which the row belongs.
3. Tables in Agile Web Services are defined as RequestTableType objects. A specific table may be identified by specifying the class identifier and table identifier attributes.
4. The request objects are set and the agile Stub is used to make the loadTable Web Service call. The status code obtained from the response object is printed to verify the success of the loadTable operation.
5. If the status code indicates 'SUCCESS', use the table results to find the required row. Once the row is found, its rowId is returned. If the status code indicates that the Web Service call was not successful, populate a list of exceptions.
6. Search for the required row by using the filename to look for a match and return the rowId.

Sample Code getRowId

```
public static int getRowId(String filename, String classIdentifier, String
objectNumber, String tableId){
    try{
        setupServerLogin_LoadTable();
        LoadTableRequestType loadTableRequestType = new LoadTableRequestType();

        RequestTableType table[] = new RequestTableType[1];
        table[0] = new RequestTableType();
        table[0].setClassIdentifier(classIdentifier);
        table[0].setObjectNumber(objectNumber);
        table[0].setTableIdentifier( tableId );

        loadTableRequestType.setTableRequest(table);
        LoadTableResponseType loadTableResponseType = agileStub_
```



```

Table.loadTable(loadTableRequestType);
System.out.println("Obtaining row Id / fileId information....");
System.out.println("STATUS CODE: " + loadTableResponseType.getStatusCode() );

    if( loadTableResponseType.getStatusCode().toString().equals(
ResponseStatusCode.SUCCESS.getValue() ) ){
        AgileTableType[] tables = loadTableResponseType.getTableContents();
        return findRowId(tables, filename);
    }
    else{
        System.out.println("<Failed to load table information>");
        AgileExceptionListType[] agileExceptionListType =
loadTableResponseType.getExceptions();
        if(agileExceptionListType!=null)
            for(int i=0; i<agileExceptionListType.length; i++){
                AgileExceptionType exceptions[] =
agileExceptionListType[i].getException();
                for(int j=0; j<exceptions.length; j++)
                    System.out.println(exceptions[j].getMessage() );
            }

        AgileWarningListType agileWarningListType[] =
loadTableResponseType.getWarnings();
        if(agileWarningListType!=null)
            for( int i=0; i<agileWarningListType.length; i++){
                AgileWarningType warnings[] = agileWarningListType[i].getWarning();
                for(int j=0; j<warnings.length; j++)
                    System.out.println("Warning Id: " + warnings[j].getWarningId() +
"\nMessage: " + warnings[j].getMessage() );
            }
    }
}
catch (Exception ex) {
    ex.printStackTrace();
}
return -1;
}

public static int findRowId(AgileTableType[] tables, String filename){
if(tables!=null)
    for(int i=0; i<tables.length; i++){
        AgileRowType[] rows = tables[i].getRow();
        if(rows!=null)
            for(int j=0; j<rows.length; j++){
                MessageElement[] messages = rows[j].get_any();
                for(int m=0; m<messages.length; m++){

                    if(
messages[m].getName().toString().equalsIgnoreCase("filename") ){
                        HashMap fileValues[] =
getValuesFromSelection(messages[m]); for(HashMap fileValue:fileValues)
                            if( fileValue.get("filename").equals(filename) ){
                                System.out.println("Row Id successfully
retrieved.");

                                return rows[j].getRowId();
                            }
                    }
                }
            }
    }
}

```

```
    }
    return 0;
}

public static HashMap[] getValuesFromSelection(MessageElement element){
    HashMap fileValues[] = null;
    if(element.getType().getLocalPart().equals("AgileListEntryType")){

        AgileListEntryType list = (AgileListEntryType) element.getObjectValue();
        SelectionType selection[] = list.getSelection();
        fileValues = new HashMap [selection.length];
        for(int i=0; i<selection.length; i++){
            fileValues[i] = new HashMap();
            fileValues[i].put("filename", selection[i].getValue() );
            fileValues[i].put("fileid", selection[i].getId() );
        }
    }
    else{
        fileValues = new HashMap [1];
        fileValues[0] = new HashMap();
        fileValues[0].put("filename", element.getFirstChild().getNodeValue() );
        fileValues[0].put("fileId", null );
    }
    return fileValues;
}
```

getFileId Method

Service

This topic describes how you can obtain the FileId for a Row on an Agile Table.

Usage

Several attachment operations require the fileId as input for executing. For example, if a particular attachment row has several files associated with it, the fileId is necessary to differentiate between each file available on that row.

In such cases, you first use the loadTable Web Service to load the table that contains the required row, iterate through the results till the row is found. To find a particular row in a table, use a keyword and identify the row

In this example, the filename is used as the key to identify a row. Once the filename message element is obtained as an AgileListEntry Type element, the 'id' value of the SelectionType element may be returned. This 'id' tag corresponds to the fileId of that file attachment.

Search all the rows available in the attachment table and compare all message elements with tag names 'filename' with the filename specified by the client, looking for a match. Once a match is found, fileId information is derived from the filename selection elements, whose 'id' corresponds to the fileId.

Compare all 'filename' message elements, searching for a match with the filename specified by the user. If a match is found, return either fileId.

Note: If both rowId and fileId values are necessary, then a similar approach may be used to obtain both the rowId and fileId for a particular file attachment from an attachment row

Note: `getValueFromSelection` is a method written in this sample that handles all message elements of type `AgileListEntryType`. Since 'filename' is a message element of `AgileListEntryType`, the values are elicited by this method.

Usage

Handle all `AgileListEntryType` message elements, cycle through the selection element, obtain the actual selection value and the selection ID and add it to a `HashMap`. Here the selection value denotes the filename while the selection ID denotes the fileId.

In the case of Filefolders the message element for file name is not an `AgileListEntryType`. The value may be obtained directly.

Basic Steps

To get a File ID:

1. Create the request object `LoadTableRequestType` for the `loadTable` operation.
2. For each request, specify the table to which the row belongs. Tables in Agile Web Services are defined as `RequestTableType` objects. A specific table may be identified by specifying the class identifier and table identifier attributes.
3. The request objects are set and the agile Stub is used to make the `loadTable` Web Service call. The status code obtained from the response object is printed to verify the success of the `loadTable` operation.
4. If the status code indicates 'SUCCESS', search and retrieve the fileId.
5. Search for the necessary fileId by using the filename to look for a match and return either of the two, as per the requirement specified in the input parameter 'methodType'.
6. If the status code indicates that the Web Service call was not successful, populate a list of exceptions.

Sample Code `getFileId`

```
public static int getFileId(String filename, String clazz, String objectNumber,
String tableId){
    try{
        setupServerLogin_LoadTable();
        LoadTableRequestType loadTableRequestType = new LoadTableRequestType();
        RequestTableType table[] = new RequestTableType[1];
        table[0] = new RequestTableType();
        table[0].setClassIdentifier(clazz);
        table[0].setObjectNumber(objectNumber);
        table[0].setTableIdentifier( tableId );

        loadTableRequestType.setTableRequest(table);
        LoadTableResponseType loadTableResponseType = agileStub_
        Table.loadTable(loadTableRequestType);
        System.out.println("Obtaining row Id / fileId information....");
        System.out.println("STATUS CODE: " + loadTableResponseType.getStatusCode() );

        if( loadTableResponseType.getStatusCode().toString().equals(
        ResponseStatusCode.SUCCESS.getValue() ) ){
            AgileTableType[] tables = loadTableResponseType.getTableContents();
            return findFileId(tables, filename);
        }
    }
}
```

```

        else{
            System.out.println("<Failed to load table information>");
            AgileExceptionListType[] agileExceptionListType =
loadTableResponseType.getExceptions();
            if(agileExceptionListType!=null)
                for(int i=0; i<agileExceptionListType.length; i++){
                    AgileExceptionType exceptions[] =
agileExceptionListType[i].getException();
                    for(int j=0; j<exceptions.length; j++){
                        System.out.println(exceptions[j].getMessage() );
                    }

                    AgileWarningListType agileWarningListType[] =
loadTableResponseType.getWarnings();
                    if(agileWarningListType!=null)
                        for( int i=0; i<agileWarningListType.length; i++){
                            AgileWarningType warnings[] = agileWarningListType[i].getWarning();
                            for(int j=0; j<warnings.length; j++){
                                System.out.println("Warning Id: " + warnings[j].getWarningId() +
"\nMessage: " + warnings[j].getMessage() );
                            }
                        }
                } catch (Exception ex) {
                    ex.printStackTrace();
                }
            return -1;
        }

public static int findFileId(AgileTableType[] tables, String filename){
    if(tables!=null)
        for(int i=0; i<tables.length; i++){
            AgileRowType[] rows = tables[i].getRow();
            if(rows!=null)
                for(int j=0; j<rows.length; j++){
                    MessageElement[] messages = rows[j].get_any();
                    for(int m=0; m<messages.length; m++){

                        if(
messages[m].getName().toString().equalsIgnoreCase("filename") ){
                            HashMap fileValues[] =
getValuesFromSelection(messages[m]);
                            for(HashMap fileValue:fileValues)
                                if( fileValue.get("filename").equals(filename) ){
                                    System.out.println("File Id successfully
retrieved.");
                                    return (Integer) fileValue.get("fileid");
                                }
                            }
                        }
                    }
                }
            return 0;
        }

public static HashMap[] getValuesFromSelection(MessageElement element){
    HashMap fileValues[] = null;
    if(element.getType().getLocalPart().equals("AgileListEntryType")){

```

```

        AgileListEntryType list = (AgileListEntryType) element.getObjectValue();
        SelectionType selection[] = list.getSelection();
        fileValues = new HashMap [selection.length];
        for(int i=0; i<selection.length; i++){
            fileValues[i] = new HashMap();
            fileValues[i].put("filename", selection[i].getValue() );
            fileValues[i].put("fileid", selection[i].getId() );
        }
    }
    else{
        fileValues = new HashMap [1];
        fileValues[0] = new HashMap();
        fileValues[0].put("filename", element.getFirstChild().getNodeValue() );
        fileValues[0].put("fileId", null );
    }
    return fileValues;
}

```

Troubleshooting

Issue #7639814: API names are not available for a huge set of lists.

Resolution: GetLists Admin service is supported only for Admin Lists which can be found in **JavaClient>Admin>Lists**. Some class specific lists are not exposed in Admin Lists.

To get values for these Lists, use GetAttributes Admin service, which will return AttributeType. This, in turn, has availableValues as AdminListType. This list values can be used for updateObject or createObject.

Issue #8253064: Group sign-off option cannot be set from Web Services.

Resolution: Group sign-off is not supported in the current release.

Issue #9308516: *undoRedline* operation error message does not convey the wrong "option name" given.

Resolution: If you do not use option "redline_change", or if it is wrongly entered as "redline_chg", the correct revision of the item will not be loaded. Only the latest released revision will be loaded. In that revision of the item BOM table, the given row id is invalid and hence the invalid rowId exception is thrown. The behavior seems acceptable.

