Explains how to integrate Oracle Business Intelligence Enterprise Edition with other systems, using web services and other APIs.
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The Oracle Business Intelligence Foundation Suite is a complete, open, and integrated solution for all enterprise business intelligence needs, including reporting, ad hoc queries, OLAP, dashboards, scorecards, and what-if analysis. The Oracle Business Intelligence Foundation Suite includes Oracle Business Intelligence Enterprise Edition.

Oracle Business Intelligence Enterprise Edition (Oracle BI EE) is a comprehensive set of enterprise business intelligence tools and infrastructure, including a scalable and efficient query and analysis server, an ad-hoc query and analysis tool, interactive dashboards, proactive intelligence and alerts, real-time predictive intelligence, and an enterprise reporting engine.

The components of Oracle BI EE share a common service-oriented architecture, data access services, analytic and calculation infrastructure, metadata management services, semantic business model, security model and user preferences, and administration tools. Oracle BI EE provides scalability and performance with data-source specific optimized request generation, optimized data access, advanced calculation, intelligent caching services, and clustering.

This guide contains information about developing Oracle BI EE-based applications and integrations between Oracle BI EE and other Oracle systems.

**Audience**

This document is intended for application developers, data service providers, and middle tier administrators who want to programatically access and use the Oracle BI EE components and use them to create applications or integrations with other components.

**Documentation Accessibility**

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

**Access to Oracle Support**

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

See the Oracle Business Intelligence documentation library for a list of related Oracle Business Intelligence documents.

In addition:

- Go to the Oracle Learning Library for Oracle Business Intelligence-related online training resources.
- Go to the Product Information Center support note (Article ID 1267009.1) on My Oracle Support at https://support.oracle.com.

System Requirements and Certification

Refer to the system requirements and certification documentation for information about hardware and software requirements, platforms, databases, and other information. Both of these documents are available on Oracle Technology Network (OTN).

The system requirements document covers information such as hardware and software requirements, minimum disk space and memory requirements, and required system libraries, packages, or patches:


The certification document covers supported installation types, platforms, operating systems, databases, JDKs, and third-party products:


Conventions

The following text conventions are used in this document:

<table>
<thead>
<tr>
<th>Convention</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>boldface</strong></td>
<td>Boldface type indicates graphical user interface elements associated with an action, or terms defined in text or the glossary.</td>
</tr>
<tr>
<td><em>italic</em></td>
<td>Italic type indicates book titles, emphasis, or placeholder variables for which you supply particular values.</td>
</tr>
<tr>
<td>monospace</td>
<td>Monospace type indicates commands within a paragraph, URLs, code in examples, text that appears on the screen, or text that you enter.</td>
</tr>
</tbody>
</table>
New Features for Oracle Business Intelligence Integrators

This preface describes new features and upgrade considerations in Oracle Business Intelligence 12c (12.2.1).

This preface contains the following topics:
- "New Features for Oracle BI EE 12c (12.2.1)"

New Features for Oracle BI EE 12c (12.2.1)
This section describes new features for Oracle BI EE 12c (12.2.1). It contains the following topics:
- "New Service"
- "New Structures"
- "New Methods"

New Service
Oracle Business Intelligence 12c (12.2.1) includes the following new service:
- "AnalysisExportViews Service"

New Structures
Oracle Business Intelligence 12c (12.2.1) includes the following new structures:
- "ReportHierarchicalColumn"
- "ReportRegularColumn"
- "Prompt Structures"
- "AnalysisExportExecutionOptions Structure"
- "AnalysisExportResult Structure"
- "ForgetAccount Structure"
- "ForgetAccountResult Structure"
- "ForgetAccountsStatus Structure"
- "RenameAccount Structure"
- "RenameAccountResults Structure"
- "RenameAccountsStatus Structure"
New Methods

Oracle Business Intelligence 12c (12.2.1) includes the following new methods:

- "getReportColumns Method"
- "getPromptedColumns() Method"
- "getReportElements Method"
- "initiateAnalysisExport () Method"
- "completeAnalysisExport () Method"
- "getUserHomeDirPath() Method"
- "forgetAccountsEx() Method"
- "renameAccountsEx() Method"
- "reloadMetadata() Method"
This chapter describes the Oracle Business Intelligence Session-Based Web Services (SOAP) and the Oracle Business Intelligence Web Services for SOA. Describes configuring and securing the web services for SOA, enabling SSL, and invoking web services over HTTPS.

This chapter includes the following sections:

- Overview of the Oracle Business Intelligence Web Services
- What are the Oracle Business Intelligence Session-Based Web Services?
- What are the Oracle Business Intelligence Web Services for SOA?
- Configuring and Securing the Oracle Business Intelligence Web Services for SOA
- Enabling SSL for Web Services Communication
- Invoking Oracle Business Intelligence Web Services Over HTTPS

1.1 Overview of the Oracle Business Intelligence Web Services

Oracle Business Intelligence provides two types of web services: Oracle Business Intelligence Session-Based Web Services and Oracle Business Intelligence Web Services for SOA.

You can use Oracle Business Intelligence Session-Based Web Service to call Oracle Business Intelligence programmatically to invoke many different business intelligence items. For more detailed information about these types of web services, see "What are the Oracle Business Intelligence Session-Based Web Services?"

The Oracle Business Intelligence Web Services for SOA provide a web service unique to each analysis, condition, or agent saved to the Oracle BI Presentation Catalog. For more detailed information about this types of web service, see "What are the Oracle Business Intelligence Web Services for SOA?"

1.2 What are the Oracle Business Intelligence Session-Based Web Services?

The Oracle Business Intelligence Session-Based Web Services are an application programming interface (API) that implements SOAP. These web services are designed for programmatic use, where you use one web service for invoking many different business intelligence objects. These web services also provide functionality on a wide range of Presentation Services operations.
The Oracle Business Intelligence Session-Based Web Services allow you to perform three types of functions:

- Extract results from Oracle Business Intelligence Presentation Services and deliver them to external applications and web application environments.
- Perform Oracle Business Intelligence Presentation Services management functions.
- Execute Oracle BI EE alerts (known as Intelligent Agents).

Oracle Business Intelligence Session-Based Web Services allow external applications such as J2EE and .NET to use Oracle Business Intelligence as an analytical calculation and data integration engine. It provides a set of Presentation Services that allow external applications to communicate with Oracle Business Intelligence Presentation Services.

Oracle Business Intelligence Session-Based Web Services require a valid Oracle Business Intelligence session ID to be passed as a parameter. This means that the calling application first needs to make a call to get the session before calling the web service. A final call is made to log out.

The formal definition of services and methods in Oracle BI EE web services can be retrieved in WSDL format. You can use a proxy generation tool to create proxy/stub code to access the services. Depending upon the client version you are using, you can access the WSDL document at one of the following Oracle BI EE web services URLs:

http://host:port/analytics-ws/saw.dll/wsdl/v6

http://host:port/analytics-ws/saw.dll/wsdl/v7

### 1.3 What are the Oracle Business Intelligence Web Services for SOA?

The Oracle Business Intelligence Web Services for SOA contains three web services, ExecuteAgent, ExecuteAnalysis, and ExecuteCondition, which are hosted by the middleware J2EE application. These web services enable you to use third-party web services clients (for example, Oracle SOA Suite) to browse for and include business intelligence objects in service oriented architecture components. These web services are used to consume specific values or small sets of values to feed into conditional logic or subsequent steps. This approach allows end users to execute analyses, evaluate conditions, and to invoke Agents in their processes, event routing, and business rules. Note that the Oracle Business Intelligence Web Services for SOA will only return XML strings.

The Oracle Business Intelligence Web Services for SOA support calling agents, analyses, and conditions only. Prompted filters and presentation variables included in the business intelligence objects are supported. Oracle BI EE dynamically creates a dedicated Web Services Description Language (WSDL) document with its own name space for each agent, analysis, and condition that content designers save to the catalog.

The Oracle Business Intelligence Web Services for SOA dynamically provide WSIL documents to allow you to browse for and select agents, analyses, and conditions stored in the catalog. The WSIL lists each available business intelligence object as a WSDL document with a unique name. Since each object has a dedicated WSDL document, the WSDL explicitly lists prompted filters for you to complete. If the your SOA development tool does not support WSIL browsing, you can still access the WSIL from a web browser user interface. You can access the WSIL by accessing the following URL on the Oracle Business Intelligence Presentation Server:

https://host:port/biservices/inspection?wsil
The WSIL is not available until it has been properly configured. For more information about this required configuration, see "Configuring and Securing the Oracle Business Intelligence Web Services for SOA". For specific instructions about adding the wsil.browsing key to the credential store, see "Adding and Maintaining Credentials for Use With the Action Framework".

1.4 Configuring and Securing the Oracle Business Intelligence Web Services for SOA

During installation, each web service (executeAgent, executeAnalysis, and executeCondition) is assigned the "policy:oracle/wss_username_token_service_policy" security policy. This policy requires the calling SOAP message to include a user name and token (password) in the WS-Security header. The user credentials that are passed to web services through the incoming SOAP message can be any valid business intelligence user who has the proper access to the target business intelligence object being invoked. This method of security means that web services can be called in a single step without first retrieving a session ID. Note that if required, you can change the security policy used by the web services to any security policy available in Oracle WebLogic Server.

Whereas invoking web services uses the credentials passed in the calling SOAP message to invoke the target functionality, browsing the web services using the WSIL uses a single user account. It is not currently possible to invoke the browsing mechanism using the credentials of the user performing the browsing using this mechanism.

To enable browsing for web services, you must go to Fusion Middleware Control, access the oracle.bi.enterprise map, which is located on the bifoundation_domain, and manually add the "wsil.browsing" credential to the credential store. This key holds the user ID and password for the valid user defined in the identity store. For example, if you want to browse for target web services as the user "abell," you will add the credentials of "abell" to the wsil.browsing key in the credential store.

In practice, a special user should be created in the identity store specifically for browsing the catalog for use with this functionality. This user should not have any business intelligence objects in their personal folder (my folders), as other users will not be able to invoke this functionality.

For more information about setting up users and credentials, see Oracle Fusion Middleware Security Guide for Oracle Business Intelligence Enterprise Edition.

1.5 Enabling SSL for Web Services Communication

Oracle recommends that you enable HTTPS on the Managed Server that hosts the Analytics and BI middleware J2EE applications. Un-encrypted credentials that are passed to the target web service may be intercepted, and using SSL is a way to mitigate this risk. After you set up SSL, see "Invoking Oracle Business Intelligence Web Services Over HTTPS" for information about certificates.

1.6 Invoking Oracle Business Intelligence Web Services Over HTTPS

To invoke Oracle Business Intelligence Web Services when using HTTPS, the client calling the web service on the server (for example, Oracle BPEL calling Oracle Business Intelligence Web Services for SOA) needs to trust the server certificate. The server may have an authentic certificate provided by a well-known certificate authority, in which case the client may trust the server certificate without further configuration. However,
by default, this is not the case, and the root certificate used by the WebLogic Managed
Servers that are hosting the web services should be imported into the appropriate
keystore of the web services client that is calling these web services.

Oracle recommends that in a production environment you use a certificate signed by a
well-know certificate authority.

Use the following procedure to confirm the location of the root certificate of the
Managed Servers that the web services client needs to trust.

To confirm the location of the root certificate:

1. Open the WebLogic console in a browser. By default, the location of the WebLogic
   console is:

   http://host:7001/console

2. From the Oracle WebLogic Server Administration Console, select the SSL tab and
go to the Identity area. By default, the Certificate location is from the Demo
Identity Keystore. If this is the case, navigate to the Keystores tab and review the
location of the Demo Identity Keystore.

   Note that the Demo Identity Keystore’s default location is:

   MW_HOME/wlserver_10.3_server/lib/DemoIdentity.jks

3. Use the Oracle Keytool utility to view and export the root certificate.
This chapter describes the structures used by the Oracle Business Intelligence Session-Based Web Services.

This document uses JavaScript-like syntax to describe structures. The exact syntax and implementation depends on the SOAP code generation tool and the target language used by your application development environment.

This chapter contains the following sections:

- AccessControlToken Structure
- Account Structure
- ACL Structure
- Action Structure
- ActionLinks Structure
- AnalysisExportExecutionOptions Structure
- AnalysisExportResult Structure
- ArrayofGUIDS Structure
- AssessmentResult Structure
- AuthResult Structure
- CatalogItemsFilter Structure
- CatalogObject Structure
- CausalLinkage Structure
- DimensionContext Structure
- ErrorInfo Structure
- FavoriteItem Structure
- ForgetAccount Structure
- ForgetAccountResult Structure
- ForgetAccountsStatus Structure
- GetSubItemsParams Structure
- ItemInfo Structure
- Job Structure
- JobFilter Structure
- JobInstance Structure
- JobInstanceFilter Structure
- JobInstanceStatus Enumeration
- JobReferenceAndInstanceReferences Structure
- KPIColumnName Enumeration
- KPIDimensionPinning Structure
- KPIRequest Structure
- KPIResultColumn Structure
- MRUItem Structure
- NameValuePair Structure
- NodeInfo Structure
- PathMap Structure
- ParameterDocument Structure
- ParameterValue Structure
- Prompt Structures
- Privilege Structure
- PurgeJobInstancesFilter Structure
- QueryResults Structure
- RenameAccount Structure
- RenameAccountResults Structure
- RenameAccountsStatus Structure
- ReportADFParameters Structure
- ReportHTMLOptions Structure
- ReportParams Structure
- ReportHierarchicalColumn
- ReportRegularColumn
- ReportRef Structure
- SAColumn Structure
- SASubjectArea Structure
- SATable Structure
- SAWLocale Structure
- SAWSessionParameters Structure
- SegmentationOptions Structure
- SessionEnvironment Structure
- StartPageParams Structure
- TreeFlags Enumeration
■ TreeNodePath Structure
■ UpdateACLParams Structure
■ UpdateCatalogItemACLParams Structure
■ ValidActionLinks Structure
■ Variable Structure
■ XMLQueryExecutionOptions Structure

2.1 AccessControlToken Structure

Use this structure to describe permissions granted to a specific account in the access control list. This structure is used in the “SecurityService Service”.

Table 2–1 lists the fields in this structure.

<table>
<thead>
<tr>
<th>Fields</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Account</td>
<td>Specifies a reference to the Account structure.</td>
</tr>
<tr>
<td>int permissionMask</td>
<td>Specifies a combination of the following flags:</td>
</tr>
<tr>
<td></td>
<td>1 = Permission to read item content</td>
</tr>
<tr>
<td></td>
<td>2 = Permission to traverse directory</td>
</tr>
<tr>
<td></td>
<td>4 = Permission to change item content</td>
</tr>
<tr>
<td></td>
<td>8 = Permission to delete an item</td>
</tr>
<tr>
<td></td>
<td>16 = Permission to assign permissions to other accounts</td>
</tr>
<tr>
<td></td>
<td>32 = Permission to take ownership of the item</td>
</tr>
<tr>
<td></td>
<td>2048 = Permission to run an Oracle BI Publisher report live</td>
</tr>
<tr>
<td></td>
<td>4096 = Permission to schedule an Oracle BI Publisher report</td>
</tr>
<tr>
<td></td>
<td>8192 = Permission to view output from an Oracle BI Publisher report</td>
</tr>
<tr>
<td></td>
<td>65535 = Permission to grant full control of the item.</td>
</tr>
</tbody>
</table>

2.2 Account Structure

Use this structure to hold user names or group names. It has a flag to indicate whether the name is a user or a group. This structure is used in the “SecurityService Service”.

Table 2–2 lists the fields in this structure.

<table>
<thead>
<tr>
<th>Fields</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>String accountName</td>
<td>Specifies an account name or group name.</td>
</tr>
</tbody>
</table>
2.3 ACL Structure

Use this structure to hold the access control list (ACL). This structure is used in the "SecurityService Service".

Table 2-3 list the fields in this structure.

<table>
<thead>
<tr>
<th>Fields</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>AccessControlToken[] accessControlTokens</td>
<td>Specifies the full list of permissions. For more information, see Section 2.1, &quot;AccessControlToken Structure&quot;.</td>
</tr>
<tr>
<td>String dummy</td>
<td>For internal purposes.</td>
</tr>
</tbody>
</table>
2.4 Action Structure

Use this structure to hold information about the action attached to the scorecard. This structure is used in the "ActionLinks Structure".

Table 2–4 lists the fields in this structure.

<table>
<thead>
<tr>
<th>Fields</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>String Path</td>
<td>Specifies the catalog path to the BI content that is the target of the Action (only appears when ActionLink is not a &quot;BI Content&quot; type).</td>
</tr>
<tr>
<td>String ActionName</td>
<td>Specifies the catalog object name of the action.</td>
</tr>
<tr>
<td>String ClassName</td>
<td>Specifies the java class to be called by an EJB Action.</td>
</tr>
<tr>
<td>String ClassPath</td>
<td>Specifies the Java path containing the jar.</td>
</tr>
<tr>
<td>String AddnClassPath</td>
<td>Specifies additional class path if the jar is not in the specified path.</td>
</tr>
<tr>
<td>ParameterDocument[] ActionParameters</td>
<td>Specifies an array of ParameterDocument objects. A ParameterDocument is a JavaScript object defining a single action parameter. For more information, see Section 2.36, &quot;ParameterDocument Structure&quot;.</td>
</tr>
<tr>
<td>String ActionType</td>
<td>Specifies the type of action (not all action types are available, for example, depending on system setup, privileges): WebServiceActionType, JavaActionType, OldJavaActionType, URLActionType, InvokeURLActionType, ScriptActionType, ServerScriptActionType, NavToBIActionType, NavToEBSActionType, NavToEPMActionType, WorkflowActionType, NavToCRMActionType, ADFContextEventActionType</td>
</tr>
<tr>
<td>String WebServerRegistry</td>
<td>Specifies the individual web service details that the action will invoke.</td>
</tr>
<tr>
<td>String WebService</td>
<td>Specifies the individual web service details that the action will invoke.</td>
</tr>
<tr>
<td>String WebOperation</td>
<td>Specifies the individual web service details that the action will invoke.</td>
</tr>
</tbody>
</table>

2.5 ActionLinks Structure

Use this structure to reference valid action links. This structure is used in the "ValidActionLinks Structure".

Table 2–5 lists the fields in this structure.
2.6 AnalysisExportExecutionOptions Structure

Use this structure to specify the execution options when exporting an analysis. This structure is used in the "AnalysisExportViews Service."

Table 2–6 lists the fields in this structure.

<table>
<thead>
<tr>
<th>Fields</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>boolean async</td>
<td>If set to TRUE, then asynchronous analysis export is enabled. If set to FALSE, asynchronous analysis export is disabled.</td>
</tr>
<tr>
<td>boolean useMtom</td>
<td>If set to TRUE, then MTOM is used to encode the content returned by the SOAP message.</td>
</tr>
<tr>
<td>boolean refresh</td>
<td>If set to TRUE, then the server re-submits the query to refresh the data. If set to FALSE, then the Oracle Business Intelligence Server uses data in the cache.</td>
</tr>
</tbody>
</table>

2.7 AnalysisExportResult Structure

Use this structure to specify the execution options when exporting the result. This structure is used in the "AnalysisExportViews Service."

Table 2–7 lists the fields in this structure.

<table>
<thead>
<tr>
<th>Fields</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>String mimeType</td>
<td>Specifies mime type of view data returned.</td>
</tr>
<tr>
<td>String queryID</td>
<td>Specifies query ID of the request. You use this as a parameter in completeAnalysisExport method. For more information, see &quot;initiateAnalysisExport () Method.&quot;</td>
</tr>
</tbody>
</table>
| completeAnalysisExport | Specifies the status of the download request. The values are:  
|                     | ■ String InProgress - Specifies that download is in progress                                         |
|                     | ■ String Error - Specifies that download request resulted in Error.                                  |
|                     | ■ String Done - Specifies that download is done.                                                      |
2.8 ArrayofGUIDS Structure

Use this structure to specify a list of GUIDs representing a saved result set. This structure is used in the "SecurityService Service".

Table 2–8 lists the field in this structure.

**Table 2–8  ArrayofGUIDS Structure Fields**

<table>
<thead>
<tr>
<th>Fields</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>String[] guid</td>
<td>Specifies a list of GUIDs representing the saved result set.</td>
</tr>
</tbody>
</table>

2.9 AssessmentResult Structure

Use this structure to contain a single assessment for a particular QDR for a node in a strategy tree. This structure is used in the "ScorecardAssessmentService Service".

Table 2–9 lists the fields in this structure.

**Table 2–9  AssessmentResult Structure Fields**

<table>
<thead>
<tr>
<th>Fields</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>String ScorecardPath</td>
<td>Specifies the Presentation Services catalog path to the folder containing the scorecard that was assessed.</td>
</tr>
<tr>
<td>Variable[] Variables</td>
<td>Specifies an array of Variable objects defining the QDR for which the assessment result is applicable. For more information, see Section 2–92, &quot;Variable Structure Fields&quot;.</td>
</tr>
<tr>
<td>String GUID</td>
<td>Specifies the GUID identifying the node of the strategy tree for which this assessment result is for.</td>
</tr>
<tr>
<td>Enumeration Assessment</td>
<td>Specifies the status ID for the node or QDR.</td>
</tr>
<tr>
<td>Number Assessment</td>
<td>Specifies the normalized assessment result for the strategy node. A number between 0 and 100. The number is not only an integer and so can include decimal places.</td>
</tr>
<tr>
<td>String ObjectContext</td>
<td>Specifies the object context representing the instance of the strategy node.</td>
</tr>
<tr>
<td>Boolean IsAnnotated</td>
<td>Specifies the value of a flag indicating if the node is annotated (true) or not (false).</td>
</tr>
<tr>
<td>KPIResultColumn[] KPIResultColumns</td>
<td>Specifies an array of KPIResultColumn objects defining the KPI results, if the node is a KPI node. For more information, see Section 2.31, &quot;KPIResultColumn Structure&quot;.</td>
</tr>
<tr>
<td>Boolean IsOverridden</td>
<td>Specifies whether the node is overridden (true) or not (false).</td>
</tr>
<tr>
<td>ValidActionLink[] ValidActionLinks</td>
<td>Specifies an array of link elements defining the actions links for the current evaluated status. For more information, see Section 2.63, &quot;ValidActionLinks Structure&quot;.</td>
</tr>
</tbody>
</table>

2.10 AuthResult Structure

Use this structure to specify authorization details during an authentication. This structure is used in the "SecurityService Service" (in the "impersonateex() Method" and "logonex() Method").

Table 2–10 lists the fields in this structure.
2.11 CatalogItemsFilter Structure

Use this structure to filter catalog items and changes based on the path and timestamp.

Table 2–11 lists the fields in this structure.

<table>
<thead>
<tr>
<th>Fields</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>String[] items</td>
<td>Specifies the list of folders and their descendants to include in the filter. If this value is null, then all nodes in the catalog are included.</td>
</tr>
<tr>
<td>Calendar from</td>
<td>Specifies the time period on which to filter. Only items and changes with timestamps within that period satisfy the filter. Either or both of those fields could be null, in which case corresponding bound is considered not set.</td>
</tr>
<tr>
<td>Calendar to</td>
<td>Specifies the time period on which to filter. Only items and changes with timestamps within that period satisfy the filter (from &lt;= timestamp &lt;= to). Either or both of those fields could be null, in which case the corresponding bound is considered not set.</td>
</tr>
</tbody>
</table>

2.12 CatalogObject Structure

Use this structure to retrieve or specify all information for a particular catalog object in a single method. This structure is used in the "WebCatalogService Service".

Table 2–12 lists the fields in this structure.

<table>
<thead>
<tr>
<th>Fields</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>String catalogObject</td>
<td>Specifies an XML representation of the object.</td>
</tr>
<tr>
<td>catalogObjectBytes</td>
<td>Specifies the returned content of the catalog object as string or bytes. What you specify in this field is determined by the readObjects method.</td>
</tr>
<tr>
<td>ItemInfo itemInfo</td>
<td>Specifies catalog information about the object, supplied in the ItemInfo common structure. For information about the ItemInfo structure, see Section 2.21, &quot;ItemInfo Structure&quot;.</td>
</tr>
<tr>
<td>ErrorInfo errorInfo</td>
<td>Specifies the level of error information to be supplied as specified by the ErrorDetails argument in the readObjects method.</td>
</tr>
</tbody>
</table>

2.13 CausalLinkage Structure

Use this structure to describe a single causal linkage. This structure is used in the "ScorecardMetadataService Service".
Table 2–13 lists the fields in this structure.

**Table 2–13  CausalLinkage Structure Fields**

<table>
<thead>
<tr>
<th>Fields</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>String ID</td>
<td>Specifies the GUID of this causal linkage.</td>
</tr>
<tr>
<td>String causeNodeId</td>
<td>Specifies the GUID of the strategy or initiative node at the cause</td>
</tr>
<tr>
<td>String effectNodeId</td>
<td>end of the link.</td>
</tr>
<tr>
<td>String Strength</td>
<td>Specifies the strength of the relationship. Defined using one of the</td>
</tr>
<tr>
<td>String Interaction</td>
<td>Section 2.13.1, &quot;Strength Enumeration&quot;.</td>
</tr>
<tr>
<td>String Operation</td>
<td>Specifies what you want to do with the specified CausalLinkage.</td>
</tr>
<tr>
<td></td>
<td>Can be one of the values ADD, UPDATE or DELETE.</td>
</tr>
</tbody>
</table>

2.13.1 Strength Enumeration

This enumeration describes values of the various supported link strengths. This enumeration is used in the "CausalLinkage Structure".

Table 2–14 lists the values in this enumeration.

**Table 2–14  Strength Enumeration Values**

<table>
<thead>
<tr>
<th>Values</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>String STRONG</td>
<td>Used to identify strong relationships.</td>
</tr>
<tr>
<td>String MIDDLE</td>
<td>Used to identify normal relationships.</td>
</tr>
<tr>
<td>String WEAK</td>
<td>Used to identify weak relationships.</td>
</tr>
</tbody>
</table>

2.13.2 Interaction Enumeration

This enumeration describes values of the various supported link strengths. This enumeration is used in the "CausalLinkage Structure".

Table 2–15 lists the values in this enumeration.

**Table 2–15  Interaction Enumeration Values**

<table>
<thead>
<tr>
<th>Values</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>String POSITIVE</td>
<td>Used to identify directly proportional relationships.</td>
</tr>
<tr>
<td>String NEGATIVE</td>
<td>Used to identify inversely proportional relationships.</td>
</tr>
</tbody>
</table>

2.13.3 Operation Enumeration

This enumeration describes values of the operation. This enumeration is used in the "CausalLinkage Structure".

Table 2–16 lists the values in this enumeration.

**Table 2–16  Operation Enumeration Values**

<table>
<thead>
<tr>
<th>Values</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>String ADD</td>
<td>Used to identify the operation to apply.</td>
</tr>
</tbody>
</table>
2.14 DimensionContext Structure

Use this structure to retrieve dimensions. This structure is used in the “ValidActionLinks Structure”.

Table 2–17 lists the fields in this structure.

<table>
<thead>
<tr>
<th>Fields</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>String name</td>
<td>Specifies the name of a dimension.</td>
</tr>
<tr>
<td>String value</td>
<td>Specifies the value(s) that the dimension has been pinned to.</td>
</tr>
</tbody>
</table>

2.15 ErrorInfo Structure

Use this structure to retrieve error information during Presentation Catalog Service method invocations. This structure is used in the "WebCatalogService Service".

Table 2–18 lists the fields in this structure.

<table>
<thead>
<tr>
<th>Fields</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>String code</td>
<td>Specifies the error code to display.</td>
</tr>
<tr>
<td>String context</td>
<td>Specifies the service and method in which the error occurred.</td>
</tr>
<tr>
<td>String details</td>
<td>Specifies detailed information about the error.</td>
</tr>
<tr>
<td>String message</td>
<td>Specifies a human-readable description of the error.</td>
</tr>
</tbody>
</table>

2.16 FavoriteItem Structure

Use this structure to retrieve favorite item information during Presentation Catalog Service method invocations. This structure is used in the "UserPersonalizationService Service".

Table 2–20 lists the fields in this structure.

<table>
<thead>
<tr>
<th>Fields</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>String name</td>
<td>Specifies the favorite or category name.</td>
</tr>
<tr>
<td>String path</td>
<td>Specifies the path of catalog object in case of favorite item or category path in favorite manager in case category object.</td>
</tr>
<tr>
<td>UnsignedShort type</td>
<td>Specifies the type stored in FavoriteItem object:</td>
</tr>
<tr>
<td></td>
<td>FavoriteItem = 0</td>
</tr>
<tr>
<td></td>
<td>Category Object = 1</td>
</tr>
</tbody>
</table>
2.17 ForgetAccount Structure

Use this structure to hold the name and type of an account that will be removed from the catalog. This structure is used in the "SecurityService Service".

Table 2–20 lists the fields in this structure.

<table>
<thead>
<tr>
<th>Fields</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>String accountName</td>
<td>Specifies account name.</td>
</tr>
<tr>
<td>int accountType</td>
<td>Specifies the account type.</td>
</tr>
</tbody>
</table>

2.18 ForgetAccountResult Structure

Use this structure to hold the status of the delete accounts operation for each account. This structure is used in the "SecurityService Service".

Table 2–21 lists the fields in this structure.

<table>
<thead>
<tr>
<th>Fields</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>String accountName</td>
<td>Specifies the name of the account.</td>
</tr>
<tr>
<td>int accountType</td>
<td>Specifies the type of the account</td>
</tr>
<tr>
<td>int Status</td>
<td>Specifies the status of the overall delete accounts operation. The status values are:</td>
</tr>
<tr>
<td></td>
<td>0- Success</td>
</tr>
<tr>
<td></td>
<td>1- Error</td>
</tr>
</tbody>
</table>

2.19 ForgetAccountsStatus Structure

Use this structure to hold the overall status of the delete accounts operation. This structure is used in the "SecurityService Service".

Table 2–22 lists the fields in this structure.
2.20 GetSubItemsParams Structure

Use this structure to contain optional parameters used in a getSubItems method. This structure is used in the "WebCatalogService Service".

Table 2–23 lists the fields in this structure.

### Table 2–23 GetSubItemsParams Structure Fields

<table>
<thead>
<tr>
<th>Fields</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>GetSubItemsFilter filter</td>
<td>For internal use only.</td>
</tr>
<tr>
<td>boolean includeACL</td>
<td>If set to TRUE, then ACL information is included in the resulting ItemInfo structures.</td>
</tr>
</tbody>
</table>
| int withPermission              | Specifies that you want to filter the resulting items collection by access level. The only items included in the result are those for which the following expression is true:  

   \[(\text{itemPermission} \& \text{withPermissionMask}) = (\text{withPermission} \& \text{withPermissionMask})\]

   where \(\text{itemPermission}\) is a combination of permission flags for the current catalog item. |
| int withAttributesMask          | Specifies that you want to filter the resulting items collection by attribute flags. The only items included in the result are those for which the following expression is true:  

   \[(\text{itemAttributes} \& \text{withAttributesMask}) = (\text{withAttributes} \& \text{withAttributesMask})\]

   Where \(\text{itemAttributes}\) is a combination of attribute flags for the current catalog item. |

2.21 ItemInfo Structure

Use this structure to contain catalog information about an object. This structure is used in the "WebCatalogService Service" and "ScorecardMetadataService Service".

Table 2–24 lists the fields in this structure.

### Table 2–24 ItemInfo Structure Fields

<table>
<thead>
<tr>
<th>Fields</th>
<th>Description</th>
</tr>
</thead>
</table>
| String path | Specifies the path to the object in the catalog. For example,  

   /users/jchan/analyses/,
2.22 Job Structure

Use this structure to contain information about jobs. This structure is used in the "SchedulerService Service".

Table 2–25 lists the fields in this structure.

For more information, see "Oracle BI Scheduler Job Manager Menus" in Oracle Fusion Middleware Scheduling Jobs Guide for Oracle Business Intelligence Enterprise Edition.

Some Job properties are optional, and may not be present if not relevant to the Job (for example, depending on the Job Trigger type).

Table 2–25  Job Structure Fields

<table>
<thead>
<tr>
<th>Fields</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Job Reference</td>
<td>A unique reference for the job associated with an instance.</td>
</tr>
<tr>
<td>Name</td>
<td>A short descriptive name for the job.</td>
</tr>
<tr>
<td>Description</td>
<td>The text description of the job that describes its actions to end users.</td>
</tr>
<tr>
<td>User ID (author ID)</td>
<td>The user ID that created the job.</td>
</tr>
<tr>
<td>Script Type</td>
<td>The type of script used to run the job (VBScript, JScript, Java, or NQCmd).</td>
</tr>
</tbody>
</table>
2.23 JobFilter Structure

Use this structure to filter job lists. This structure is used in the "SchedulerService Service".

Table 2–26 lists the fields in this structure.

<table>
<thead>
<tr>
<th>Fields</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>List of User IDs (Authors)</td>
<td>(Optional) If no User IDs are specified then all JobReferences are returned.</td>
</tr>
</tbody>
</table>

2.24 JobInstance Structure

Use this structure to contain information about a job instance corresponding to a running, completed, or cancelled job. This structure is used in the "SchedulerService Service".
Table 2–27 lists the fields in this structure.

For more information, see "Oracle BI Scheduler Job Manager Menus" in Oracle Fusion Middleware Scheduling Jobs Guide for Oracle Business Intelligence Enterprise Edition.

Table 2–27  JobInstance Structure Fields

<table>
<thead>
<tr>
<th>Fields</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Job Reference</td>
<td>A unique reference for the job associated with the job instance.</td>
</tr>
<tr>
<td>Job Instance Reference</td>
<td>A unique reference for the job instance.</td>
</tr>
<tr>
<td>Job Instance Status</td>
<td>The current status of the job instance. Valid values are:</td>
</tr>
<tr>
<td></td>
<td>■ Completed</td>
</tr>
<tr>
<td></td>
<td>■ Running</td>
</tr>
<tr>
<td></td>
<td>■ Failed</td>
</tr>
<tr>
<td></td>
<td>■ Cancelled</td>
</tr>
<tr>
<td></td>
<td>■ TimedOut</td>
</tr>
<tr>
<td></td>
<td>■ Warning</td>
</tr>
<tr>
<td>Begin Date Time</td>
<td>The day and time that the scheduler initiated the job instance.</td>
</tr>
<tr>
<td>End Date Time</td>
<td>The day and time that the job scheduler completed the job instance.</td>
</tr>
<tr>
<td>Successful Deliveries</td>
<td>The number of successful deliveries for this job instance.</td>
</tr>
<tr>
<td>Error Message</td>
<td>The error message, warning, or general message about the job instance execution.</td>
</tr>
</tbody>
</table>

2.25 JobInstanceFilter Structure

Use this structure to filter job instance lists. This structure is used in the "SchedulerService Service".

Table 2–28 lists the fields in this structure.

Table 2–28  JobInstanceFilter Structure Fields

<table>
<thead>
<tr>
<th>Fields</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>List of JobReference (Authors)</td>
<td>(Mandatory) If no Job References are specified then all JobReferences are returned.</td>
</tr>
<tr>
<td>Job Instance Status</td>
<td>(Optional) The current status of the Job instance. Valid values are:</td>
</tr>
<tr>
<td></td>
<td>■ Completed</td>
</tr>
<tr>
<td></td>
<td>■ Running</td>
</tr>
<tr>
<td></td>
<td>■ Failed</td>
</tr>
<tr>
<td></td>
<td>■ Cancelled</td>
</tr>
<tr>
<td></td>
<td>■ TimedOut</td>
</tr>
<tr>
<td></td>
<td>■ Warning</td>
</tr>
</tbody>
</table>

2.26 JobInstanceStatus Enumeration

Use this enumeration to define job instance state. This enumeration is used in the "SchedulerService Service".

Table 2–29 lists the values in this enumeration.
2.27 JobReferenceAndInstanceReferences Structure

Use this structure to group a job and its associated instances. This is important when a list of job references are specified as the selection criteria for job instance listing. This structure is used in the “SchedulerService Service”.

Table 2–30 lists the fields in this structure.

For more information, see "Oracle BI Scheduler Job Manager Menus" in Oracle Fusion Middleware Scheduling Jobs Guide for Oracle Business Intelligence Enterprise Edition.

<table>
<thead>
<tr>
<th>Fields</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Job Reference</td>
<td>(Mandatory) A unique reference for the job associated with an instance.</td>
</tr>
<tr>
<td>List of Job Instance References</td>
<td>(Mandatory) A list of job instances.</td>
</tr>
</tbody>
</table>

2.28 KPIColumnName Enumeration

This enumeration specifies a list of valid values for the KPIColumnName field. This enumeration is used in the "KPIAssessmentService Service" and is used by the "KPIResultColumn Structure".

Table 2–31 lists the values in this enumeration.

<table>
<thead>
<tr>
<th>Values</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>String NAME</td>
<td>The column name.</td>
</tr>
<tr>
<td>String STATUS</td>
<td>The status column name.</td>
</tr>
<tr>
<td>String ACTUAL_VALUE</td>
<td>The actual values column name.</td>
</tr>
<tr>
<td>String TARGET_VALUE</td>
<td>The target value column name.</td>
</tr>
<tr>
<td>String VARIANCE</td>
<td>The variance column name.</td>
</tr>
<tr>
<td>String VARIANCE_PERCENT</td>
<td>The variance percent column name.</td>
</tr>
<tr>
<td>String CHANGE</td>
<td>The change column name.</td>
</tr>
<tr>
<td>String CHANGE_PERCENT</td>
<td>The change percent column name.</td>
</tr>
<tr>
<td>String TREND</td>
<td>The trend column name.</td>
</tr>
</tbody>
</table>
2.29 KPIDimensionPinning Structure

Use this structure to contain the metadata for an individual dimension pinning used when defining the QDR for a KPI when requesting assessments. This structure is used in the “KPIRequest Structure”.

Table 2–32 lists the fields in this structure.

**Table 2–32  KPIDimensionPinning Structure Fields**

<table>
<thead>
<tr>
<th>Fields</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>String DimensionID</td>
<td>Specifies the ID of the dimension that you want to pin to a specific value (or values).</td>
</tr>
<tr>
<td>String Value</td>
<td>Specifies the value that you want to pin the specified dimension to.</td>
</tr>
<tr>
<td>String VariableType</td>
<td>Specifies the type of variable containing the value you want to use to pin the specified dimension.</td>
</tr>
<tr>
<td>String VariableName</td>
<td>(Optional) Specifies the name of the variable containing the value you want to use to pin the specified dimension (may be left null if VariableType is NONE).</td>
</tr>
<tr>
<td>String LevelID</td>
<td>(Optional) Specifies the ID of the dimension level the specified value belongs to (may be left null if the dimension is not a Level or Value Hierarchy).</td>
</tr>
</tbody>
</table>

2.30 KPIRequest Structure

Use this structure to contain the information required to request assessment values for the specified KPI. This structure is used in the "KPIAssessmentService Service".

Table 2–33 lists the fields in this structure.

**Table 2–33  KPIRequest Structure Fields**

<table>
<thead>
<tr>
<th>Fields</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>String Path</td>
<td>Specifies the KPI’s Presentation Services catalog path.</td>
</tr>
<tr>
<td>KPIDimensionPinning[] dimensionPinnings</td>
<td>Specifies an array of dimension pinnings that define the filters to be applied to the query. For more information, see Section 2–32, &quot;KPIDimensionPinning Structure Fields&quot;.</td>
</tr>
</tbody>
</table>
2.31 KPIResultColumn Structure

Use this structure to contain a single assessment for a particular QDR for a node in a strategy tree. This structure is used in the "ScorecardAssessmentService Service".

Table 2–34 lists the fields in this structure.

<table>
<thead>
<tr>
<th>Fields</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>String Name</td>
<td>Specifies the column name that the cell belongs to. For more information, see Section 2-31, &quot;KPIColumnName Enumeration Values&quot;.</td>
</tr>
<tr>
<td>String Type</td>
<td>Specifies the cell's data type.</td>
</tr>
<tr>
<td>String Value</td>
<td>Specifies the cell's value.</td>
</tr>
<tr>
<td>String FormattedValue</td>
<td>Specifies the formatted value.</td>
</tr>
<tr>
<td>String ObjectContext</td>
<td>Specifies the QDR that was applied to the query that returned this cell.</td>
</tr>
<tr>
<td>Boolean IsAnnotated</td>
<td>Specifies whether the cell has been annotated (true) or not (false).</td>
</tr>
</tbody>
</table>

2.32 MRUItem Structure

Use this structure to retrieve most recently used (MRU) item information during Presentation Catalog Service method invocations. This structure is used in the "UserPersonalizationService Service".

Table 2–35 lists the fields in this structure.

<table>
<thead>
<tr>
<th>Fields</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>String catalogPath</td>
<td>Specifies the catalog path for the recent catalog object.</td>
</tr>
<tr>
<td>Boolean isFavorite</td>
<td>Specifies if the MRU item is a favorite item as well.</td>
</tr>
<tr>
<td>ItemInfo itemInfo</td>
<td>Specifies catalog information about the object, supplied in the ItemInfo common structure. For information about the ItemInfo structure, see Section 2.21, &quot;ItemInfo Structure&quot;.</td>
</tr>
</tbody>
</table>

2.33 NameValuePair Structure

Use this structure to denote named properties, such as COLOR=RED. This structure is used in the "WebCatalogService Service".

Table 2–36 lists the fields in this structure.

<table>
<thead>
<tr>
<th>Fields</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>String name</td>
<td>Specifies a character string that contains the name of the property, such as COLOR.</td>
</tr>
<tr>
<td>String value</td>
<td>Specifies a character string that contains the value, such as RED.</td>
</tr>
</tbody>
</table>
2.34 NodeInfo Structure

Use this structure to contain the information that identifies a single node. This structure is used in the "ScorecardAssessmentService Service".

Table 2–37 lists the fields in this structure.

<table>
<thead>
<tr>
<th>Fields</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>String NodeType</td>
<td>Specifies the type of node. For more information, see Section 2.34.1, &quot;NodeTypes Enumeration&quot;.</td>
</tr>
<tr>
<td>String NodeID</td>
<td>Specifies the node’s GUID.</td>
</tr>
</tbody>
</table>

2.34.1 NodeTypes Enumeration

This enumeration defines the values for the different types of nodes. This enumeration is used in the "NodeInfo Structure".

Table 2–38 lists the values in this enumeration.

<table>
<thead>
<tr>
<th>Values</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>String STRATEGY_NODE</td>
<td>Specifies the node belongs to a strategy tree.</td>
</tr>
<tr>
<td>String INITIATIVE_NODE</td>
<td>Specifies the node belongs to an initiative tree.</td>
</tr>
</tbody>
</table>

2.35 PathMap Structure

Use this structure to specify the location to which you want to copy the data included in the export method.

Table 2–39 lists the fields in this structure.

<table>
<thead>
<tr>
<th>Fields</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>PathMapEntry pathMapEntries</td>
<td>Specifies the location to which you want to copy the data included in the export method.</td>
</tr>
</tbody>
</table>

2.36 ParameterDocument Structure

Use this structure to model a parameter, as used by the Action framework. This structure is used in the "Action Structure".

Table 2–40 lists the fields in this structure.

<table>
<thead>
<tr>
<th>Fields</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>String Name</td>
<td>Specifies the name (title) of the parameter.</td>
</tr>
<tr>
<td>String Prompt</td>
<td>Specifies the prompt displayed to the user for this parameter.</td>
</tr>
<tr>
<td>String Description</td>
<td>Specifies the description of the parameter document (sometimes displayed as a tooltip).</td>
</tr>
</tbody>
</table>
2.37 ParameterValue Structure

Use this structure to model a parameter value, as used by the ParameterDocument structure. A ParameterDocument owns an array of zero or more of these. This structure is used in the "ParameterDocument Structure".

Table 2-41 lists the fields in this structure.

### Table 2-40 (Cont.) ParameterDocument Structure Fields

<table>
<thead>
<tr>
<th>Fields</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>String ParameterType</td>
<td>Specifies the datatype of the parameter which should be one of the following:</td>
</tr>
<tr>
<td>Array[] ParameterValues</td>
<td>Specifies an array of parameter value objects. This could be an empty array, or an array with one or more parameter values (see MultiValuesAllowed).</td>
</tr>
<tr>
<td>String ValueFixed</td>
<td>Specifies whether the parameter values are fixed for this parameter (cannot be overridden). Values are 'true' or 'false'.</td>
</tr>
<tr>
<td>String Order</td>
<td>Specifies the particular order of parameters in which the owning documents want to keep them.</td>
</tr>
<tr>
<td>String MultiValuesAllowed</td>
<td>Specifies if the parameter supports multiple values. Values are 'true' or 'false'.</td>
</tr>
<tr>
<td>String Mandatory</td>
<td>Specifies whether user entry of a value is mandatory. Values are 'true' or 'false'.</td>
</tr>
</tbody>
</table>

### Table 2-41 ParameterValue Structure Fields

<table>
<thead>
<tr>
<th>Fields</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>String Value</td>
<td>Specifies the value. Defaults to an empty string.</td>
</tr>
</tbody>
</table>
2.38 Prompt Structures

Use these structures to specify the prompts in the "getPromptElements Method" of the "ReportEditingService Service."

This section consists of the following structures:

- Section 2.38.1, "PromptsObjectModel Structure"
- Section 2.38.2, "PromptCollectionRunTimeInfo Structure"
- Section 2.38.3, "PromptStepObjectModel Structure"
- Section 2.38.4, "PromptStepRunTimeInfo Structure"
- Section 2.38.5, "IndividualPromptObjectModel Structure"
- Section 2.38.6, "IndividualPromptRunTimeInfoLimitedByInfo Structure"
- Section 2.38.7, "IndividualPromptRunTimeInfo Structure"
- Section 2.38.8, "IndividualPromptRunTimeInfoDataTypeHierarchyLevelSQLInfo Structure"
- Section 2.38.9, "IndividualPromptRunTimeInfoDataTypeHierarchyLevelInfo Structure"
- Section 2.38.10, "IndividualPromptRunTimeInfoDataTypeHierarchyLevels Structure"
- Section 2.38.11, "IndividualPromptRunTimeInfoDataTypeHierarchyFormulaLevels Structure"
- Section 2.38.12, "IndividualPromptRunTimeInfoDataTypeHierarchyInfo Structure"
- Section 2.38.13, "IndividualPromptRunTimeInfoDataTypeDoubleColumnInfo Structure"
- Section 2.38.14, "IndividualPromptRunTimeInfoDataType Structure"
- Section 2.38.15, "IndividualPromptRunTimeInfoSingleValueType Structure"
- Section 2.38.16, "IndividualPromptRunTimeInfoValuesType Structure"
- Section 2.38.17, "IndividualPromptRunTimeInfoCurrentValues Structure"

String ValueMapping Specifies the type of parameter value, which should be one of the following:

- value
- session
- repository
- presentation
- colrequest
- request
- column
- catalog
- date
- time
- dateTime

String AltDisplayValue Specifies an alternative display value, for when the actual value is a code.

<table>
<thead>
<tr>
<th>Fields</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>String ValueMapping</td>
<td>Specifies the type of parameter value, which should be one of the following:</td>
</tr>
<tr>
<td></td>
<td>value, session, repository, presentation, colrequest, request, column, catalog, date, time, dateTime</td>
</tr>
<tr>
<td>String AltDisplayValue</td>
<td>Specifies an alternative display value, for when the actual value is a code.</td>
</tr>
</tbody>
</table>

Table 2-41 (Cont.) ParameterValue Structure Fields
2.38.1 PromptsObjectModel Structure

Use this structure to specify the object model of the prompt. This prompt structure is used in the "getPromptElements Method."

Table 2–42 lists the fields in this structure.

<table>
<thead>
<tr>
<th>Fields</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>String name</td>
<td>Specifies the name of the prompt.</td>
</tr>
<tr>
<td>String description</td>
<td>Specifies the description of the prompt.</td>
</tr>
<tr>
<td>String scope</td>
<td>Specifies the scope of the prompt.</td>
</tr>
<tr>
<td>String subjectArea</td>
<td>Specifies the subject area of the prompt.</td>
</tr>
<tr>
<td>String layout</td>
<td>Specifies the layout of the prompt.</td>
</tr>
<tr>
<td>PromptCollectionRunTimeInfo</td>
<td>Specifies the run time information of the prompt</td>
</tr>
<tr>
<td>runTimeInfo</td>
<td>collection. For more information, see</td>
</tr>
<tr>
<td></td>
<td>&quot;PromptCollectionRunTimeInfo Structure.&quot;</td>
</tr>
<tr>
<td>PromptStepObjectModel</td>
<td>Specifies the object model of the prompt state.</td>
</tr>
<tr>
<td>promptStepObj</td>
<td>For more information, see &quot;PromptStepObjectModel</td>
</tr>
<tr>
<td></td>
<td>Structure.&quot;</td>
</tr>
</tbody>
</table>

2.38.2 PromptCollectionRunTimeInfo Structure

Use this structure to specify the run time information of the prompt collection. This prompt is used in the "getPromptElements Method."

Table 2–43 lists the fields in this structure.

<table>
<thead>
<tr>
<th>Fields</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>String collectionID</td>
<td>Specifies the collection ID of the prompt.</td>
</tr>
<tr>
<td>String viewStatePath</td>
<td>Specifies the view state path of the prompt.</td>
</tr>
<tr>
<td>Int currentStep</td>
<td>Specifies the current step of the prompt.</td>
</tr>
<tr>
<td>Boolean reloadInline</td>
<td>Specifies whether to reload the prompt inline (true)</td>
</tr>
<tr>
<td></td>
<td>or not (false).</td>
</tr>
<tr>
<td>Boolean supportAutoComplete</td>
<td>Specifies whether the prompt auto completes (true)</td>
</tr>
<tr>
<td></td>
<td>or not (false).</td>
</tr>
<tr>
<td>Boolean showReturnLink</td>
<td>Specifies whether the prompt displays a return link</td>
</tr>
<tr>
<td></td>
<td>(true) or not (false).</td>
</tr>
<tr>
<td>String currentAction</td>
<td>Specifies the current action of the prompt.</td>
</tr>
</tbody>
</table>
2.38.3 PromptStepObjectModel Structure

Use this structure to specify the step object model of the prompt. This prompt is used in the "getPromptElements Method."

Table 2–44 lists the fields in this structure.

<table>
<thead>
<tr>
<th>Fields</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>String title</td>
<td>Specifies the title of the prompt.</td>
</tr>
<tr>
<td>String instruction</td>
<td>Specifies the instruction of the prompt.</td>
</tr>
<tr>
<td>String buttonsPosition</td>
<td>Specifies the position of the button in the prompt.</td>
</tr>
<tr>
<td>String labelPosition</td>
<td>Specifies the position of the label in the prompt.</td>
</tr>
<tr>
<td>String wrapLabelText</td>
<td>Specifies the wrap label text in the prompt.</td>
</tr>
<tr>
<td>String customWidthUsage</td>
<td>Specifies custom width usage of the prompt.</td>
</tr>
<tr>
<td>String customWidthWidth</td>
<td>Specifies custom width of the prompt.</td>
</tr>
<tr>
<td>String setWidthToAllPrompts</td>
<td>Specifies whether width applies to all prompts.</td>
</tr>
<tr>
<td>Boolean autoApplyPrompt</td>
<td>Specifies whether the prompt is applied automatically (true) or not (false).</td>
</tr>
<tr>
<td>Boolean showResetButton</td>
<td>Specifies whether the prompt displays a Reset button (true) or not (false).</td>
</tr>
<tr>
<td>PromptStepRunTimeInfo runTimeInfo (nullable)</td>
<td>Specifies the run time information for the prompt step. This can be null.</td>
</tr>
<tr>
<td>IndividualPromptObjectModel[] promptObj</td>
<td>Species an array of prompt object models. For more information, see &quot;IndividualPromptObjectModel Structure.&quot;</td>
</tr>
</tbody>
</table>

2.38.4 PromptStepRunTimeInfo Structure

Use this structure to specify the step run time information of the prompt. This prompt is used in the "getPromptElements Method."

Table 2–45 lists the fields in this structure.

<table>
<thead>
<tr>
<th>Fields</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boolean applyToAllSteps</td>
<td>Specifies whether the prompt applies to all steps (true) or not (false).</td>
</tr>
<tr>
<td>Boolean autoApplyPrompt</td>
<td>Specifies whether the prompt is applied automatically (true) or not (false).</td>
</tr>
<tr>
<td>Boolean showResetButton</td>
<td>Specifies whether the prompt displays the Reset button (true) or not (false).</td>
</tr>
<tr>
<td>Int remaininglRequiredPromptsOnSubsequentSteps</td>
<td>Specifies the required prompts on subsequent steps.</td>
</tr>
<tr>
<td>Int firstPromptStartIndex</td>
<td>Specifies the index of the first prompt.</td>
</tr>
</tbody>
</table>

2.38.5 IndividualPromptObjectModel Structure

Use this structure to specify the prompt object model of the prompt. This prompt is used in the "getPromptElements Method."
Table 2–46 lists the fields in this structure.

Table 2–46 IndividualPromptObjectModel Structure Fields

<table>
<thead>
<tr>
<th>Fields</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>String label</td>
<td>Specifies the label of the prompt.</td>
</tr>
<tr>
<td>String description</td>
<td>Specifies the description of the prompt.</td>
</tr>
<tr>
<td>String type</td>
<td>Specifies the type of prompt.</td>
</tr>
<tr>
<td>String subjectArea</td>
<td>Specifies the subject area of the prompt.</td>
</tr>
<tr>
<td>Boolean placedOnNewColumn</td>
<td>Specifies whether the prompt is applied on a new column (true) or not (false).</td>
</tr>
<tr>
<td>Boolean required</td>
<td>Specifies whether the prompt is required (true) or not (false).</td>
</tr>
<tr>
<td>String formulaExprString</td>
<td>Specifies the formula expression of the prompt.</td>
</tr>
<tr>
<td>String promptUIControlType</td>
<td>Specifies the user interface control type of the prompt.</td>
</tr>
<tr>
<td>String promptOperator</td>
<td>Specifies the prompt operator.</td>
</tr>
<tr>
<td>String customWidthUsage</td>
<td>Specifies the custom width usage of the prompt.</td>
</tr>
<tr>
<td>String customWidthWidth</td>
<td>Specifies the custom width of the prompt.</td>
</tr>
<tr>
<td>String setPromptVariableType</td>
<td>Specifies the prompt variable type of the prompt.</td>
</tr>
<tr>
<td>String setVariableName</td>
<td>Specifies the variable name of the prompt.</td>
</tr>
<tr>
<td>IndividualPromptRunTimeInfoLimitedByInfo limitedByInfo</td>
<td>Specifies the limited by information of a prompt. For more information, see &quot;IndividualPromptRunTimeInfoLimitedByInfo Structure.&quot;</td>
</tr>
<tr>
<td>IndividualPromptRunTimeInfo runTimeInfo</td>
<td>Specifies the run time information of a prompt. For more information, see &quot;IndividualPromptRunTimeInfo Structure.&quot;</td>
</tr>
</tbody>
</table>

2.38.6 IndividualPromptRunTimeInfoLimitedByInfo Structure

Use this structure to specify the run time limited information of the prompt. This prompt is used in the "getPromptElements Method."

Table 2–47 lists the fields in this structure.

Table 2–47 IndividualPromptRunTimeInfoLimitedByInfo Structure Fields

<table>
<thead>
<tr>
<th>Fields</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>String limitedByType</td>
<td>Specifies whether the prompt is limited by other prompt types, such as none, allPrompts, and specificPrompts.</td>
</tr>
<tr>
<td>Boolean isLimitedByNotApplied</td>
<td>Specifies whether constraint is applied to the prompt (true) or not (false).</td>
</tr>
<tr>
<td>IndividualPromptRunTimeInfoLimitedByPromptRefGroups specificPrompts</td>
<td>Specifies prompts that limit this prompt.</td>
</tr>
</tbody>
</table>

2.38.7 IndividualPromptRunTimeInfo Structure

Use this structure to specify the run time information of the prompt. This prompt is used in the "getPromptElements Method."

Table 2–48 lists the fields in this structure.
2.38.8 IndividualPromptRunTimeInfoDataTypeHierarchyLevelSQLInfo Structure

Use this structure to specify the SQL information of the hierarchy level of the display column of the prompt. This prompt is used in the "getPromptElements Method."

Table 2–49 lists the fields in this structure.

<table>
<thead>
<tr>
<th>Fields</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>String displayFormula</td>
<td>Specifies the display formula of the prompt.</td>
</tr>
<tr>
<td>String sqlFormula</td>
<td>Specifies the SQL formula of the prompt.</td>
</tr>
<tr>
<td>String dataType</td>
<td>Specifies the data type of the prompt.</td>
</tr>
<tr>
<td>String category</td>
<td>Specifies the category of the prompt.</td>
</tr>
<tr>
<td>String primaryType</td>
<td>Specifies the primary type of the prompt.</td>
</tr>
<tr>
<td>Boolean nullable</td>
<td>Specifies whether the prompt displays a nullable value (true) or not (false).</td>
</tr>
<tr>
<td>Boolean isMeasure</td>
<td>If set to TRUE, the prompt displays a measure. If set to FALSE, the prompt displays an attribute.</td>
</tr>
<tr>
<td>String aggType</td>
<td>Specifies the aggregate type of the prompt.</td>
</tr>
<tr>
<td>String aggRule</td>
<td>Specifies the aggregate rule of the prompt.</td>
</tr>
</tbody>
</table>
2.38.9 IndividualPromptRunTimeInfoDataTypeHierarchyLevelInfo Structure

Use this structure to specify the level information of a prompt based on a hierarchy column. This prompt is used in the "getPromptElements Method."

Table 2–50 lists the fields in this structure.

<table>
<thead>
<tr>
<th>Fields</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>String levelID</td>
<td>Specifies the level ID of the prompt.</td>
</tr>
<tr>
<td>String displayName</td>
<td>Specifies the display name of the prompt.</td>
</tr>
<tr>
<td>String displayFormula</td>
<td>Specifies the display formula of the prompt.</td>
</tr>
<tr>
<td>String sqlFormula</td>
<td>Specifies the SQL formula of the prompt.</td>
</tr>
<tr>
<td>Boolean isDoubleColumn</td>
<td>Specifies whether the prompt displays a double column (true) or not (false).</td>
</tr>
<tr>
<td>IndividualPromptRunTimeInfoDataTypeHierarchyLevelSQLInfo keyColumnInfo</td>
<td>Specifies the SQL information of the hierarchy level of the key column of the prompt if the prompt column is a hierarchy level. For more information, see &quot;IndividualPromptRunTimeInfoDataTypeHierarchyLevelSQLInfo Structure.&quot;</td>
</tr>
<tr>
<td>IndividualPromptRunTimeInfoDataTypeHierarchyLevelSQLInfo displayColumnInfo</td>
<td>Specifies the SQL information of the hierarchy level of the display column of the prompt if the prompt column is a hierarchy level. For more information, see &quot;IndividualPromptRunTimeInfoDataTypeHierarchyLevelSQLInfo Structure.&quot;</td>
</tr>
</tbody>
</table>

2.38.10 IndividualPromptRunTimeInfoDataTypeHierarchyLevels Structure

Use this structure to specify the levels of a prompt based on a hierarchy column. This prompt is used in the "getPromptElements Method."

Table 2–51 lists the field in this structure.

<table>
<thead>
<tr>
<th>Fields</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>IndividualPromptRunTimeInfoDataTypeHierarchyLevelInfo [][] levelInfo</td>
<td>Specifies an array of level information of a prompt based on a hierarchy column. For more information, see &quot;IndividualPromptRunTimeInfoDataTypeHierarchyLevelInfo Structure.&quot;</td>
</tr>
</tbody>
</table>

2.38.11 IndividualPromptRunTimeInfoDataTypeHierarchyFormulaLevels Structure

Use this structure to specify the metadata/formula information of a prompt based on a hierarchy column. This prompt is used in the "getPromptElements Method."

Table 2–52 lists the fields in this structure.

<table>
<thead>
<tr>
<th>Fields</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>String subjectArea</td>
<td>Specifies the subject area of the prompt.</td>
</tr>
<tr>
<td>String dimensionID</td>
<td>Specifies the dimension of the prompt.</td>
</tr>
<tr>
<td>String tableName</td>
<td>Specifies the table name of the prompt.</td>
</tr>
</tbody>
</table>
2.38.12 IndividualPromptRunTimeInfoDataTypeHierarchyInfo Structure

Use this structure to specify the hierarchy information of a prompt based on a hierarchy column. This prompt is used in the "getPromptElements Method.”

Table 2–53 lists the fields in this structure.

<table>
<thead>
<tr>
<th>Fields</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>String hierarchyID</td>
<td>Specifies the hierarchy ID of the prompt.</td>
</tr>
<tr>
<td>String dimensionID</td>
<td>Specifies the dimension ID of the prompt.</td>
</tr>
<tr>
<td>String tableName</td>
<td>Specifies the table name of the prompt.</td>
</tr>
<tr>
<td>IndividualPromptRunTimeInfoDataTypeHierarchyFormulaLevels formulaLevels</td>
<td>Specifies the metadata/formula information for a prompt based on a hierarchy column. For more information, see “IndividualPromptRunTimeInfoDataTypeHierarchyFormulaLevels Structure.”</td>
</tr>
</tbody>
</table>

2.38.13 IndividualPromptRunTimeInfoDataTypeDoubleColumnInfo Structure

Use this structure to specify the information of a prompt based on a double column. This prompt is used in the "getPromptElements Method.”

Table 2–54 lists the fields in this structure.

<table>
<thead>
<tr>
<th>Fields</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>String codeColumnFormula</td>
<td>Specifies the code column formula of the prompt.</td>
</tr>
<tr>
<td>String codeColumnCategory</td>
<td>Specifies the code column category of the prompt.</td>
</tr>
<tr>
<td>String codeColumnPrimaryType</td>
<td>Specifies the code of the column primary type of the prompt.</td>
</tr>
<tr>
<td>String codeColumnDBPrimaryType</td>
<td>Specifies the code of the database primary type of the prompt.</td>
</tr>
<tr>
<td>Boolean enableDoubleColumnInput</td>
<td>Specifies whether the prompt enables input in a double column (true) or not (false).</td>
</tr>
</tbody>
</table>
2.38.14 IndividualPromptRunTimeInfoDataType Structure

Use this structure to specify the data type information of a prompt. This prompt is used in the "getPromptElements Method."

Table 2–55 lists the fields in this structure.

<table>
<thead>
<tr>
<th>Fields</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>String subjectArea</td>
<td>Specifies the subject area for the prompt.</td>
</tr>
<tr>
<td>String displayColumnFormula</td>
<td>Specifies the column formula for the prompt.</td>
</tr>
<tr>
<td>String displayColumnCategory</td>
<td>Specifies the column category for the prompt.</td>
</tr>
<tr>
<td>String displayColumnPrimaryType</td>
<td>Specifies the column primary type for the prompt.</td>
</tr>
<tr>
<td>String displayColumnDBPrimaryType</td>
<td>Specifies the column data database primary type for the prompt.</td>
</tr>
<tr>
<td>Boolean isMeasureColumn</td>
<td>If set to TRUE, the report column is a measure. If set to FALSE, the report column is an attribute.</td>
</tr>
<tr>
<td>String displayTimeZone</td>
<td>Specifies the time zone for the prompt.</td>
</tr>
<tr>
<td>Int dataTimeZoneOffset</td>
<td>Specifies the data time zone offset for the prompt.</td>
</tr>
<tr>
<td>Int displayToDataOffset</td>
<td>Specifies the data offset for the prompt.</td>
</tr>
<tr>
<td>String promptSourceDataType</td>
<td>Specifies the source data type for the prompt display column.</td>
</tr>
<tr>
<td>Boolean isHierarchy</td>
<td>Specifies whether the prompt column is a hierarchy column (true) or not (false).</td>
</tr>
<tr>
<td>IndividualPromptRunTimeInfoDataTypeHierarchyInfo hierarchyInfo (nullable)</td>
<td>Specifies the hierarchy information of a prompt based on a hierarchy column. This argument can be null. For more information, see &quot;IndividualPromptRunTimeInfoDataTypeHierarchyInfo Structure.&quot;</td>
</tr>
<tr>
<td>Boolean isDoubleColumnInput</td>
<td>Specifies whether the prompt input is in a double column (true) or not (false).</td>
</tr>
<tr>
<td>IndividualPromptRunTimeInfoDataTypeDoubleColumnInfo codeColumnInfo (nullable)</td>
<td>Specifies the code column information of a prompt based on a double column. This argument can be null. For more information, see &quot;IndividualPromptRunTimeInfoDataTypeDoubleColumnInfo Structure.&quot;</td>
</tr>
</tbody>
</table>

2.38.15 IndividualPromptRunTimeInfoSingleValueType Structure

Use this structure to specify a single value for the prompt. This prompt is used in the "getPromptElements Method."

Table 2–56 lists the fields in this structure.
2.38.16 IndividualPromptRunTimeInfoValuesType Structure

Use this structure to specify all values that are used by the prompt. This prompt is used in the "getPromptElements Method."

Table 2–57 lists the field in this structure.

<table>
<thead>
<tr>
<th>Fields</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>IndividualPromptRunTimeInfoSingleValue_type</td>
<td>Specifies array of single values for the prompt. For more information, see &quot;IndividualPromptRunTimeInfoSingleValue_type Structure.&quot;</td>
</tr>
</tbody>
</table>

2.38.17 IndividualPromptRunTimeInfoCurrentValues Structure

Use this structure to specify the current values of a prompt. This prompt is used in the "getPromptElements Method."

Table 2–58 lists the fields in this structure.

<table>
<thead>
<tr>
<th>Fields</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>String currentOperator</td>
<td>Specifies the current operator of the prompt.</td>
</tr>
<tr>
<td>Boolean emptyAsAllChoices</td>
<td>Specifies whether an empty prompt defaults to all choices (true) or not (false).</td>
</tr>
<tr>
<td>IndividualPromptRunTimeInfoValuesType_values</td>
<td>Specifies the values for the prompt. For more information, see &quot;IndividualPromptRunTimeInfoValuesType Structure.&quot;</td>
</tr>
</tbody>
</table>

2.38.18 IndividualPromptRunTimeInfoAvailableOptions Structure

Use this structure to specify the available options of a prompt. This prompt is used in the "getPromptElements Method."

Table 2–59 lists the fields in this structure.

<table>
<thead>
<tr>
<th>Fields</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Int numOptionsPerPage</td>
<td>Specifies the number of options per page.</td>
</tr>
<tr>
<td>Int currentPageInOptions</td>
<td>Specifies current page number.</td>
</tr>
<tr>
<td>Boolean moreOptions</td>
<td>Specifies whether the prompt consists of more options (true) or not (false).</td>
</tr>
</tbody>
</table>
Prompt Structures

2.38.19 IndividualPromptRunTimeInfoDataTypeHierarchyInfo Structure

Use this structure to specify the additional attributes of a prompt. This prompt is used in the "getPromptElements Method."

Table 2–60 lists the fields in this structure.

<table>
<thead>
<tr>
<th>Fields</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Int opMinNumValues</td>
<td>Specifies the minimum number of values in the prompt.</td>
</tr>
<tr>
<td>Int opMaxNumValues</td>
<td>Specifies the maximum number of values in the prompt.</td>
</tr>
</tbody>
</table>

2.38.20 IndividualPromptRunTimeInfoLimitedByPromptReference Structure

Use this structure to specify prompts that limit this prompt. This prompt is used in the "getPromptElements Method."

Table 2–61 lists the fields in this structure.

<table>
<thead>
<tr>
<th>Fields</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Int promptID</td>
<td>Specifies the identifier of the prompt.</td>
</tr>
<tr>
<td>String formulaExprString</td>
<td>Specifies the formula expression of the prompt.</td>
</tr>
</tbody>
</table>

2.38.21 IndividualPromptRunTimeInfoLimitedByPromptRefGroups Structure

Use this structure to specify prompts that limit the groups of this prompt. This prompt is used in the "getPromptElements Method."

Table 2–62 lists the field in this structure.
2.39 Privilege Structure

Use this structure to represent global privileges. In Oracle BI EE, you configure these privileges using the Manage Privileges screen. This structure is used in the "SecurityService Service".

Table 2–63 lists the fields in this structure.

<table>
<thead>
<tr>
<th>Fields</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>String name</td>
<td>Specifies the name of a privilege.</td>
</tr>
<tr>
<td>String description</td>
<td>Specifies the description of a privilege.</td>
</tr>
</tbody>
</table>

2.40 PurgeJobInstancesFilter Structure

Use this structure when purging job instances. This structure is used in the "SchedulerService Service".

Table 2–64 lists the fields in this structure. You must choose only one of the two properties.

<table>
<thead>
<tr>
<th>Fields</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>List of JobReference (Optional)</td>
<td>(Optional) If no Job References are specified then all JobReferences are returned.</td>
</tr>
<tr>
<td>JobInstanceStatus (Optional)</td>
<td>The current status of the Job instance. Valid values are:</td>
</tr>
<tr>
<td></td>
<td>Completed</td>
</tr>
<tr>
<td></td>
<td>Running</td>
</tr>
<tr>
<td></td>
<td>Failed</td>
</tr>
<tr>
<td></td>
<td>Cancelled</td>
</tr>
<tr>
<td></td>
<td>TimedOut</td>
</tr>
<tr>
<td></td>
<td>Warning</td>
</tr>
</tbody>
</table>

2.41 QueryResults Structure

Use this structure to specify query details during query execution. This structure is used in the "XMLViewService Service" (in the executeXMLQuery method).

Table 2–65 lists the fields in this structure.
### 2.42 RenameAccount Structure

Use this structure to hold the old name, new name and type of an account which will be renamed. This structure is used in the "SecurityService Service."

Table 2–66 lists the fields in this structure.

<table>
<thead>
<tr>
<th>Fields</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>String oldAccountName</td>
<td>Specifies the old name of the account.</td>
</tr>
<tr>
<td>String newAccountName</td>
<td>Specifies the new name of the account.</td>
</tr>
<tr>
<td>int accountType</td>
<td>Specifies the account type.</td>
</tr>
</tbody>
</table>

### 2.43 RenameAccountResults Structure

Use this structure to hold the status of the rename accounts operation for each account. This structure is used in the "SecurityService Service."

Table 2–68 lists the fields in this structure.

<table>
<thead>
<tr>
<th>Fields</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>String oldAccountName</td>
<td>Specifies the old name of the account.</td>
</tr>
<tr>
<td>String newAccountName</td>
<td>Specifies the new name of the account.</td>
</tr>
<tr>
<td>int accountType</td>
<td>Specifies the type of account.</td>
</tr>
<tr>
<td>int status</td>
<td>Specifies the status of the overall rename accounts operation. The values are:</td>
</tr>
<tr>
<td></td>
<td>■ 0-Success</td>
</tr>
<tr>
<td></td>
<td>■ 1&gt;Error</td>
</tr>
</tbody>
</table>

### 2.44 RenameAccountsStatus Structure

Use this structure to hold the overall status of the rename accounts operation. This structure is used in the "SecurityService Service."

Table 2–68 lists the fields in this structure.
2.45 ReportADFParameters Structure

Use this structure to define report parameters (prompt, filter, or variable). This structure is used in the "ReportEditingService Service".

Table 2–69 lists the field in this structure.

2.46 ReportHTMLOptions Structure

Use this structure to define options for displaying results on an HTML page. This structure is used in the "HtmlViewService Service".

Table 2–70 lists the field in this structure.

2.46.1 ReportHTMLLinksMode Enumeration

This enumeration specifies a list of valid values for the ReportHTMLLinksMode field in the "ReportHTMLOptions Structure".

---

**Table 2–68 RenameAccountsStatus Structure Fields**

<table>
<thead>
<tr>
<th>Fields</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>int status</td>
<td>Specifies the status of the overall rename accounts operation. The values are:</td>
</tr>
<tr>
<td></td>
<td>▪ 0- Success</td>
</tr>
<tr>
<td></td>
<td>▪ 1- Error</td>
</tr>
<tr>
<td>RenameAccountResult</td>
<td>Specifies the old name, new name and account type with Success or Fail message for each account.</td>
</tr>
</tbody>
</table>

**Table 2–69 ReportADFParameters Structure Fields**

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>String name</td>
<td>Specifies the formula of the prompt, filter, or variable</td>
</tr>
<tr>
<td>String operator</td>
<td>Specifies the prompt operator</td>
</tr>
<tr>
<td>String type</td>
<td>Specifies the type of parameter (filter, prompt, or variable).</td>
</tr>
<tr>
<td>String datatype</td>
<td>Specifies the SQL datatype of the parameter</td>
</tr>
<tr>
<td>String value</td>
<td>Specifies the field used for an operator needing two operands. Other operators have values specified in the ADFParameterValues field.</td>
</tr>
<tr>
<td>ADFParameterValues</td>
<td>Specifies the values for this parameter</td>
</tr>
<tr>
<td>ADFParameterValuesString</td>
<td>Specifies an array of string values</td>
</tr>
</tbody>
</table>

**Table 2–70 ReportHTMLOptions Structure Field**

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>boolean enableDelayLoading</td>
<td>Internal use only. This field is always set to 1, which means that Oracle Business Intelligence web services is never required to provide results immediately, and displays a message indicating that it is waiting for results.</td>
</tr>
<tr>
<td>String linkMode</td>
<td>Specifies whether to display drills or links in the current browser window or a new browser window. For more information about valid values, see Section 2.46.1, &quot;ReportHTMLLinksMode Enumeration&quot;.</td>
</tr>
</tbody>
</table>

---
Table 2–71 lists the values in this enumeration.

**Table 2–71 ReportHTMLLinksMode Enumeration Values**

<table>
<thead>
<tr>
<th>Values</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>String InPlace</td>
<td>Specifies that drills or links should replace only the content of the current analysis without changing the rest of the page.</td>
</tr>
<tr>
<td>String NewPage</td>
<td>Specifies that drills or links should be displayed in a new browser window.</td>
</tr>
<tr>
<td>String SamePage</td>
<td>Specifies that drills or links should replace the current browser window.</td>
</tr>
</tbody>
</table>

### 2.47 ReportParams Structure

Use this structure to replace existing filters and variables in an analysis. This structure is common to all services in Oracle BI EE web services.

Table 2–72 lists the fields in this structure.

**Table 2–72 ReportParams Structure Fields**

<table>
<thead>
<tr>
<th>Fields</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>String[] filterExpressions</td>
<td>Specifies an array of Oracle Business Intelligence web services filter expressions in the form Object[] filter_expression, filter_expression ...</td>
</tr>
<tr>
<td>Variable[] variables</td>
<td>Specifies an array of variable values to be set before method execution. This structure is used in Section 3.16.4, “executeXMLQuery() Method” and Section 3.8.4, “generateReportSQL() Method”. For more information, see Section 2.64, “Variable Structure”.</td>
</tr>
<tr>
<td>NameValuePair[] nameValues</td>
<td>Should be set to NULL. This field is for internal use only.</td>
</tr>
<tr>
<td>TemplateInfo[] templateInfos</td>
<td>Should be set to NULL. This field is for internal use only.</td>
</tr>
<tr>
<td>String viewName</td>
<td>Specifies which view to use when generating XML data for the analysis.</td>
</tr>
</tbody>
</table>

Table 2–73 shows how filter expressions are applied to an analysis.

**Table 2–73 How Filter Expressions Are Applied to an Analysis in Oracle BI EE Web Services**

<table>
<thead>
<tr>
<th>Step</th>
<th>Internal Processing</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Obtains XML representations of the analysis and each filter expression.</td>
</tr>
<tr>
<td>2</td>
<td>For each expression element, locates the child node of the type sqlExpression (the type is determined by the value of the xsi:type attribute), and references its inner text.</td>
</tr>
<tr>
<td>3</td>
<td>In the analysis XML, locates all nodes that also have a child node of type sqlExpression where the inner text matches that located in the preceding step.</td>
</tr>
<tr>
<td>4</td>
<td>Replaces all nodes found in Step 3 with the expression from Step 2.</td>
</tr>
</tbody>
</table>

Table 2–74 shows how variables are applied to an analysis.

**Table 2–74 How Variables Are Applied to an Analysis in Oracle BI EE Web Services**

<table>
<thead>
<tr>
<th>Step</th>
<th>Internal Processing</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Obtains XML representations of the analysis.</td>
</tr>
</tbody>
</table>
2.48 ReportHierarchicalColumn

Use this structure to return column properties for a hierarchical column used in an analysis. This structure is used in "ReportEditingService Service."

Note: System wide default column properties that apply to any of the report columns are returned in the report column properties.

Table 2–75 lists the fields in this structure.

Table 2–75 ReportHierarchicalColumn Structure Fields

<table>
<thead>
<tr>
<th>Fields</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>String ID</td>
<td>Specifies the column identifier of the report column</td>
</tr>
<tr>
<td>String tableHeading</td>
<td>Specifies the table heading of the report column</td>
</tr>
<tr>
<td>String columnHeading</td>
<td>Specifies the column heading of the report column</td>
</tr>
<tr>
<td>Boolean hidden</td>
<td>If set to TRUE, the column is hidden. If set to FALSE, the column is displayed.</td>
</tr>
<tr>
<td>String subjectArea</td>
<td>Specifies the subject area of the report column</td>
</tr>
<tr>
<td>String tableName</td>
<td>Specifies the table name of the report column</td>
</tr>
<tr>
<td>String hierarchyID</td>
<td>Specifies the hierarchy of the report column</td>
</tr>
<tr>
<td>String dimensionID</td>
<td>Specifies the dimension of the report column</td>
</tr>
</tbody>
</table>

2.49 ReportRegularColumn

Use this structure to return column properties for a regular column used in an analysis. This structure is used in "ReportEditingService Service."

Note: System wide default column properties that apply to any of the report columns are returned in the report column properties.

Table 2–76 lists the fields in this structure.

Table 2–76 ReportRegularColumn Structure Fields

<table>
<thead>
<tr>
<th>Fields</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>String ID</td>
<td>Specifies the column identifier of the report column</td>
</tr>
<tr>
<td>String tableHeading</td>
<td>Specifies the table heading of the report column</td>
</tr>
<tr>
<td>String columnHeading</td>
<td>Specifies the column heading of the report column</td>
</tr>
<tr>
<td>Boolean hidden</td>
<td>If set to TRUE, the column is hidden. If set to FALSE, the column is displayed.</td>
</tr>
</tbody>
</table>
2.49.1 ColumnAggregationRule Values

The ReportRegularColumn structure specifies the default aggregation rule for the column. The following list shows the aggregation functions available:

- Default
- Server
- Sum
- Average
- Count
- CountDistinct
- Max
- Min
- None
- ServerAggregate
- Unknown

2.50 ReportRef Structure

Use this structure to reference an analysis in one of the following ways:

- The location of the analysis in the catalog.
- The ReportDef object that defines the analysis. This field should always be null.
- The XML that defines the analysis.

**Note:** Only one of the fields in ReportRef should be populated.

The ReportRef structure is common to all services in Oracle BI EE web services.

Table 2–77 lists the fields in this structure.

<table>
<thead>
<tr>
<th>Fields</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>String reportPath</td>
<td>Specifies a string value that provides the path to the analysis in the catalog. For example, <code>/users/jchan/analyses/</code>.</td>
</tr>
</tbody>
</table>
2.51 SAColumn Structure

Use this structure to represent the logical column in the Subject Area. This structure is used in the "MetadataService Service".

Table 2–78 lists the fields in this structure.

**Table 2–78 SAColumn Structure Fields**

<table>
<thead>
<tr>
<th>Fields</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>String name</td>
<td>Specifies a column name used in SQL statements.</td>
</tr>
<tr>
<td>String displayName</td>
<td>Specifies a localized name, used in Oracle Business Intelligence Answers.</td>
</tr>
<tr>
<td>String description</td>
<td>Specifies a string to contain the description of the column name.</td>
</tr>
<tr>
<td>boolean nullable</td>
<td>If set to TRUE, then the column can be null.</td>
</tr>
<tr>
<td>String dataType</td>
<td>Specifies the type of data that a column contains. For more information, see Section 2.51.1, &quot;SADataType Values&quot;.</td>
</tr>
<tr>
<td>boolean aggregateable</td>
<td>If set to TRUE, then the column can be aggregated.</td>
</tr>
<tr>
<td>String aggrRule</td>
<td>If the column contains aggregated data, this value specifies the type of aggregation used. For more information, see Section 2.51.2, &quot;AggregationRule Values&quot;.</td>
</tr>
</tbody>
</table>

**2.51.1 SADataType Values**

The SADataType indicates the type of data that a column contains. The following list shows the data types available:

- BigInt
- Binary
- Bit
- Char
- Coordinate
- Date
- Decimal
- Double
- Float
- Integer
- Invalid
- LongVarBinary
- LongVarChar
- Numeric
- Real
2.51.2 AggregationRule Values

The SADataType specifies the default aggregation rule for the column. The following list shows the aggregation functions available:

- Avg
- BottomN
- Complex
- Count
- CountDistinct
- CountStar
- DimensionAggr
- First
- Last
- Max
- Min
- None
- Percentile
- Rank
- ServerDefault
- SubTotal
- Sum
- TopN

2.52 SASubjectArea Structure

Use this structure to represent Subject Area attributes. This structure is used in the "MetadataService Service".

Table 2–79 lists the fields in this structure.

<table>
<thead>
<tr>
<th>Fields</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>String name</td>
<td>Specifies the table name that is used in SQL statements.</td>
</tr>
</tbody>
</table>
2.53 SATable Structure

Use this structure to represent the logical table in the Subject Area. This structure is used in the "MetadataService Service".

Table 2–80 lists the fields in this structure.

<table>
<thead>
<tr>
<th>Fields</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>String name</td>
<td>Specifies the table name that is used in SQL statements.</td>
</tr>
<tr>
<td>String displayName</td>
<td>Specifies the localized name, used in Oracle Business Intelligence Answers.</td>
</tr>
<tr>
<td>String description</td>
<td>Specifies the description of the table name.</td>
</tr>
<tr>
<td>SATable[] tables</td>
<td>Specifies a collection of tables for this subject area. For information about the SATable structure, see Section 2.53, &quot;SATable Structure&quot;.</td>
</tr>
</tbody>
</table>

2.54 SAWLocale Structure

Use this structure to define the locale for the current session. This structure is used in the "SAWSessionService Service".

Table 2–81 lists the fields in this structure.

<table>
<thead>
<tr>
<th>Fields</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>String language</td>
<td>Specifies the language code. Values for language should conform to the ones used in Java, in the java.util.Locale class (ISO-639, ISO-3166).</td>
</tr>
<tr>
<td>String country</td>
<td>Specifies the country code. Values for country should conform to the ones used in Java, in the java.util.Locale class (ISO-639, ISO-3166).</td>
</tr>
</tbody>
</table>

2.55 SAWSessionParameters Structure

Use this structure to define optional parameters for the current session. This structure is used in the "SAWSessionService Service".

Table 2–82 lists the fields in this structure.
2.56 SegmentationOptions Structure

Use this structure to define the segment or segment tree to override the defaults specified in the Oracle Marketing Analytics user interface. This structure is used in the "MetadataService Service".

Table 2–83 lists the fields in this structure.

Table 2–83 SegmentationOptions Structure Fields

<table>
<thead>
<tr>
<th>Fields</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>OverrideType</td>
<td>Specifies how you want to override the Oracle Marketing Analytics’ “Cache the block for future update counts requests” user interface option.</td>
</tr>
<tr>
<td>cacheOverride</td>
<td>If set to Default, then the cache override is not specified in the structure or the structure is not specified. The Default value specifies to use what is defined in the user interface option for each criteria block.</td>
</tr>
<tr>
<td></td>
<td>If set to None, the system overrides the user interface-defined values and sets all criteria blocks to disable the “Cache the block for future update counts requests” user interface option.</td>
</tr>
<tr>
<td></td>
<td>If set to All, the system overrides the user interface-defined values and sets all criteria blocks to enable the “Cache the block for future update counts requests” user interface option.</td>
</tr>
<tr>
<td>OverrideType</td>
<td>Specifies if the system should use the getCounts method to generate the count numbers.</td>
</tr>
<tr>
<td>countOverride</td>
<td>If set to Default, then the count override is not specified in the structure or the structure is not specified.</td>
</tr>
<tr>
<td></td>
<td>If set to All, the system executes the getCounts method. When set to All, the system calculates count numbers for all criteria blocks.</td>
</tr>
<tr>
<td>NameValuePair</td>
<td>Specifies a value to enforce the corresponding contract planning rules for the segment or segment tree.</td>
</tr>
<tr>
<td>govRules</td>
<td></td>
</tr>
</tbody>
</table>
2.57 SessionEnvironment Structure

Use this structure to return environment information for the current session. This structure is used in the "SAWSessionService Service".

Table 2–84 lists the fields in this structure.

<table>
<thead>
<tr>
<th>Fields</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>String userName</td>
<td>Specifies the name of the current user.</td>
</tr>
<tr>
<td>ItemInfo homeDirectory</td>
<td>Specifies the full path to the user’s home directory in the catalog. For example, /users/&lt;user login ID&gt;.</td>
</tr>
<tr>
<td>ItemInfo[] SharedDirectories</td>
<td>Specifies the full paths to shared directories to which the current user has at least read access.</td>
</tr>
</tbody>
</table>

Note: By default, only administrators are allowed to list direct descendents of the "/shared" directory. Retrieving the SessionEnvironment object is the only way to enable users to navigate its shared area.

2.58 StartPageParams Structure

Use this structure to define options in startPage method invocations. This structure is used in the "HtmlViewService Service".

Table 2–85 lists the fields in this structure.

<table>
<thead>
<tr>
<th>Fields</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>String idsPrefix</td>
<td>Specifies a prefix to be used with IDs and names of all HTML elements to avoid name conflicts on an HTML page.</td>
</tr>
<tr>
<td>boolean dontUseHttpCookies</td>
<td>If set to TRUE, then Oracle Business Intelligence Presentation Services cannot rely on cookies for passing the sessionID. Instead, the sessionID is included as a parameter in callback URLs.</td>
</tr>
</tbody>
</table>
2.59 TreeFlags Enumeration

This enumeration specifies the static definitions for the various different TreeFlag values that can be returned as part of a nodes assessment. This enumeration is used in the "KPIAssessmentService Service".

Table 2–86 lists the values in this enumeration.

<table>
<thead>
<tr>
<th>Values</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Integer STRATEGY</td>
<td>Specifies that the value of the Strategy TreeFlag is 1.</td>
</tr>
<tr>
<td>Integer INITIATIVE</td>
<td>Specifies that the value of the Initiative TreeFlag is 2.</td>
</tr>
<tr>
<td>Integer ACCOUNTABILITY</td>
<td>Specifies that the value of the Accountability TreeFlag is 4.</td>
</tr>
</tbody>
</table>

Note: You can add the values in Table 2–86 together if required. For example, if the you want the results to include nodes from both the Strategy and Initiative trees, you would pass 3 as the value (1+2).

2.60 TreeNodePath Structure

Use this structure to specify a segment tree path and branch Id number for a branch in the segment tree. This structure is used in the "JobManagementService Service".

Table 2–87 lists the fields in this structure.

<table>
<thead>
<tr>
<th>Fields</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>String treeNode</td>
<td>Specifies the segment tree's branch Id number that contains the members to include in the list.</td>
</tr>
<tr>
<td>String treePath</td>
<td>Specifies the path to the segment tree.</td>
</tr>
</tbody>
</table>

2.61 UpdateACLParams Structure

Use this structure to set options in updateACL method invocations. This structure is used in the "SecurityService Service".

Table 2–88 lists the fields in this structure.

<table>
<thead>
<tr>
<th>Fields</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>UpdateACLMode</td>
<td>Specifies how to update the ACL mode. For more information, see Section 2.61.1, &quot;UpdateACLMode Enumeration&quot;.</td>
</tr>
</tbody>
</table>

2.61.1 UpdateACLMode Enumeration

This enumeration specifies a list of valid values for the update flag in the "UpdateACLParams Structure".

Table 2–89 lists the values in this enumeration.
2.62 UpdateCatalogItemACLParams Structure

Use this structure to provide additional parameters in the "updateCatalogItemACL() Method". This structure is used in the "WebCatalogService Service".

Table 2–90 lists the fields in this structure.

<table>
<thead>
<tr>
<th>Fields</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>UpdateACLMode updateFlag</td>
<td>Specifies how to update the ACL mode. For more information, see Section 2.61.1, &quot;UpdateACLMode Enumeration&quot;.</td>
</tr>
<tr>
<td>boolean recursive</td>
<td>If set to TRUE, then the method is applied to the catalog item and all descendents, which are identified by the path. If set to FALSE, then the method is only applied to the catalog item.</td>
</tr>
</tbody>
</table>

2.63 ValidActionLinks Structure

Use this structure to reference valid action links. This structure is used in the "AssessmentResult Structure".

Table 2–91 lists the fields in this structure.

<table>
<thead>
<tr>
<th>Fields</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>DimensionContext[] Action</td>
<td>Specifies an array of DimensionContext structures. For more information, see Section 2.14, &quot;DimensionContext Structure&quot;.</td>
</tr>
<tr>
<td>LinkContext</td>
<td>ActionLinks[] ActionLink</td>
</tr>
</tbody>
</table>

2.64 Variable Structure

Use this structure to reference a variable in the analysis and replace it with another variable. This structure is common to all services in Oracle BI EE web services.

Table 2–92 lists the fields in this structure.
### 2.65 XMLQueryExecutionOptions Structure

Use this structure to specify optional parameters during a query. This structure is used in the "XMLViewService Service" (in the executeXMLQuery method).

Table 2–93 lists the fields in this structure.

<table>
<thead>
<tr>
<th>Fields</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>boolean async</td>
<td>If set to TRUE, then asynchronous query execution is enabled. If set to FALSE, then asynchronous query execution is disabled.</td>
</tr>
<tr>
<td>int maxRowsPerPage</td>
<td>Specifies the maximum number of rows to be returned by a</td>
</tr>
<tr>
<td></td>
<td>executeXMLQuery or fetchNext method.</td>
</tr>
<tr>
<td>boolean refresh</td>
<td>If set to TRUE, then the server re-submits the query to refresh the data. If set to FALSE, then the Oracle Business Intelligence Server uses data in the cache.</td>
</tr>
<tr>
<td>boolean presentationInfo</td>
<td>If set to TRUE, then store localized presentation information in the</td>
</tr>
<tr>
<td></td>
<td>metadata section of the record set XML.</td>
</tr>
<tr>
<td></td>
<td>Presentation information consists of the following:</td>
</tr>
<tr>
<td></td>
<td>- Column heading information (stored in the columnHeading field).</td>
</tr>
<tr>
<td></td>
<td>- Table heading information (stored in the tableHeading field).</td>
</tr>
<tr>
<td>String type</td>
<td>Specifies the query ID, which can be used in logs to diagnose errors.</td>
</tr>
</tbody>
</table>
This chapter describes the services and methods used by the Oracle Business Intelligence Session-Based Web Services.

This document uses JavaScript-like syntax to describe structures. The exact syntax and implementation depends on the SOAP code generation tool and the target language used by your application development environment.

This chapter includes the following sections:

- AnalysisExportViews Service
- ConditionService Service
- HtmlViewService Service
- iBotService Service
- JobManagementService Service
- KPIAssessmentService Service
- MetadataService Service
- ReportEditingService Service
- SAWSessionService Service
- SchedulerService Service
- ScorecardAssessmentService Service
- ScorecardMetadataService Service
- SecurityService Service
- UserPersonalizationService Service
- WebCatalogService Service
- XMLViewService Service

### 3.1 AnalysisExportViews Service

Use this service to initiate export of analysis reports and retrieve exported files in PDF, MHTML, Excel 2007 and CSV formats.

**Table 3–1** shows the supported methods.
3.1.1 initiateAnalysisExport () Method

Use this method to initiate and retrieve exported files of analysis in the following formats - PDF, MHTML, Excel 2007, CSV.

3.1.1.1 Signature

initiateAnalysisExport(ReportRef reportRef, AnalysisExportOutputFormat outputFormat, AnalysisExportExecutionOptions executionOptions, ReportParams reportParams, String reportViewName, String sessionID);

Arguments Description

<table>
<thead>
<tr>
<th>Argument</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ReportRef reportRef</td>
<td>Specifies the path to the analysis definition, supplied in the ReportRef common structure.</td>
</tr>
<tr>
<td>AnalysisExportOutputFormat outputFormat</td>
<td>Specifies one of the following output formats that you can select:</td>
</tr>
<tr>
<td></td>
<td>■ String PDF - Specifies the PDF format</td>
</tr>
<tr>
<td></td>
<td>■ String MHTML - Specifies the MHTML format</td>
</tr>
<tr>
<td></td>
<td>■ String Excel 2007 - Specifies the Excel 2007 format</td>
</tr>
<tr>
<td></td>
<td>■ String CSV - Specifies the CSV format</td>
</tr>
<tr>
<td>AnalysisExportExecutionOptions executionOptions</td>
<td>Specifies the execution options in the AnalysisExportExecutionOptions structure. For more information, see</td>
</tr>
<tr>
<td>ReportParams reportParams</td>
<td>Specifies the filters or variables to apply to the analysis before execution, supplied in the ReportParams common structure.</td>
</tr>
<tr>
<td>String reportViewName</td>
<td>Specifies the view to export. If this parameter is null, the analysis default view is used. The view name should match the one used to identify the view in the analysis XML definition.</td>
</tr>
<tr>
<td>String sessionID</td>
<td>Specifies the session ID.</td>
</tr>
</tbody>
</table>

3.1.1.2 Returns

Returns an output as defined in the AnalysisExportResult structure. For information on the AnalysisExportResult structure, see Section 2.7, "AnalysisExportResult Structure.”

3.1.2 completeAnalysisExport () Method

Use this method to retrieve exported files in PDF, MHTML, Excel 2007, or CSV formats.
3.1.2.1 Signature

completeAnalysisExport(String queryID, String sessionID);

<table>
<thead>
<tr>
<th>Arguments</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>String queryID</td>
<td>Specifies query ID returned by the initiateAnalysisExport method. For more information, see Section 3.1.1, &quot;initiateAnalysisExport () Method.&quot;</td>
</tr>
<tr>
<td>String SessionID</td>
<td>Specifies the unique session ID.</td>
</tr>
</tbody>
</table>

3.1.2.2 Returns

Returns an output as defined in the AnalysisExportResult structure. For information on the AnalysisExportResult structure, see Section 2.7, "AnalysisExportResult Structure."

3.2 ConditionService Service

Use this service to evaluate Oracle BI EE conditions programatically. This service also allows users to obtain the customizable filters available in a condition.

Table 3–2 shows the supported methods.

<table>
<thead>
<tr>
<th>Table 3–2 ConditionService Methods</th>
</tr>
</thead>
<tbody>
<tr>
<td>Method Name</td>
</tr>
<tr>
<td>Section 3.2.1, &quot;evaluateCondition() Method&quot;</td>
</tr>
<tr>
<td>Section 3.2.2, &quot;evaluateInlineCondition() Method&quot;</td>
</tr>
<tr>
<td>Section 3.2.3, &quot;getConditionCustomizableReportElements() Method&quot;</td>
</tr>
</tbody>
</table>

3.2.1 evaluateCondition() Method

Use this method to evaluate a Condition that is stored in the catalog. This method returns an XML string containing the result of the condition (true or false).

3.2.1.1 Signature

boolean evaluateCondition(String path, String[] reportCustomizationParameters, String sessionID);

<table>
<thead>
<tr>
<th>Arguments</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>String path</td>
<td>Specifies the full path and name of the Condition in the catalog. For example, /users/jchan/Conditions/IsRegionUnderBudget.</td>
</tr>
<tr>
<td>String [] reportCustomizationParameters</td>
<td>Specifies the customization parameters XML, which is only used if the Condition has customizable filters. This XML is validated against the customization schema available in orahome/bifoundation/web/schemas/analysis_customization.xsd.</td>
</tr>
</tbody>
</table>
### 3.2.2 evaluateInlineCondition() Method

Use this method to evaluate a condition defined outside of Oracle BI EE Presentation Services. The Condition XML is supplied in the conditionXML parameter. This method returns an XML string with the result of the condition evaluation, true or false.

#### 3.2.2.1 Signature

```java
boolean evaluateInlineCondition(String conditionXML, String[] reportCustomizationParameters, String sessionID);
```

<table>
<thead>
<tr>
<th>Arguments</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>String conditionXML</td>
<td>Specifies the Condition XML. This XML is validated against the condition schema available in orahome/bifoundation/web/schemas/condition.xsd.</td>
</tr>
<tr>
<td>String[] reportCustomizationParams</td>
<td>Specifies the customization parameters XML, which is only used if the Condition has customizable filters. This XML is validated against the customization schema available in orahome/bifoundation/web/schemas/analysis_customization.xsd.</td>
</tr>
<tr>
<td>String sessionID</td>
<td>Specifies the session ID, which is usually returned by the logon method. If the SOAP client engine can handle HTTP cookies, you can omit the session ID or set it to null.</td>
</tr>
</tbody>
</table>

### 3.2.3 getConditionCustomizableReportElements() Method

Use this method to determine the customizable filters available in a condition that is stored in the catalog. This method returns an XML string containing the definition of the customizable filters available in the condition. The XML is in the format defined in the customization schema available in orahome/bifoundation/web/schemas/analysis_customization.xsd.

#### 3.2.3.1 Signature

```java
String[] getConditionCustomizableReportElements(String path, String sessionID);
```

<table>
<thead>
<tr>
<th>Arguments</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>String path</td>
<td>Specifies the full path and name of the condition in the catalog. For example, /users/jchan/Conditions/IsRegionUnderBudget.</td>
</tr>
<tr>
<td>String sessionID</td>
<td>Specifies the session ID, which is usually returned by the logon method. If the SOAP client engine can handle HTTP cookies, you can omit the session ID or set it to null.</td>
</tr>
</tbody>
</table>

### 3.3 HtmlViewService Service

Use this service to embed Oracle BI EE HTML results in third-party dynamic web pages, such as Active Server Pages (ASP) or JavaServer Pages (JSP), and portal frameworks. The embed process merges Oracle BI EE web services content with the content of third-party web pages.
Table 3–3 shows the supported methods.

<table>
<thead>
<tr>
<th>Method Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Section 3.3.2, &quot;addReportToPage() Method&quot;</td>
<td>Adds results to an HTML page.</td>
</tr>
<tr>
<td>Section 3.3.3, &quot;endPage() Method&quot;</td>
<td>Destroys a server page object and all data associated with it.</td>
</tr>
<tr>
<td>Section 3.3.4, &quot;getCommonBodyHTML() Method&quot;</td>
<td>Retrieves HTML to include in the &lt;BODY&gt; section.</td>
</tr>
<tr>
<td>Section 3.3.5, &quot;getHeadersHTML() Method&quot;</td>
<td>Retrieves HTML to include in the &lt;HEAD&gt; section.</td>
</tr>
<tr>
<td>Section 3.3.6, &quot;getHtmlforPageWithOneReport() Method&quot;</td>
<td>Retrieves HTML for a page that contains only one analysis.</td>
</tr>
<tr>
<td>Section 3.3.7, &quot;getHTMLForReport() Method&quot;</td>
<td>Retrieves HTML to display a particular set of results.</td>
</tr>
<tr>
<td>Section 3.3.8, &quot;setBridge() Method&quot;</td>
<td>Specifies a bridge URL to receive communications. Can be useful when the Oracle Business Intelligence web services server and the Presentation Services that the user is accessing reside on different machines or when you want to modify the results in your application development environment.</td>
</tr>
<tr>
<td>Section 3.3.9, &quot;startPage() Method&quot;</td>
<td>Creates a new page object and returns its ID.</td>
</tr>
</tbody>
</table>

The methods in the HtmlViewService service extract fragments of HTML code that can be inserted in third-party web pages. Table 3–4 describes the HTML code excerpts and desired page locations.

<table>
<thead>
<tr>
<th>HTML Code Fragment</th>
<th>Desired Page Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Header</td>
<td>Should be inserted in the &lt;HEAD&gt; section of an HTML page. The code contains links to common JavaScript files and style sheets.</td>
</tr>
<tr>
<td>Report Objects</td>
<td>Can be inserted anywhere in the &lt;BODY&gt; section.</td>
</tr>
<tr>
<td>Common Body</td>
<td>Should be inserted in the &lt;BODY&gt; tag after all analysis links. The code contains hidden HTML elements that are used to implement drilldown links.</td>
</tr>
</tbody>
</table>

For each returned analysis object, the HTML code fragment contains a callback link that is followed automatically when the web page is loaded by the browser. The code fragment does not contain the full user interface definition of the analysis. While the analysis is being constructed by Oracle BI EE Presentation Services, the interface displays the Oracle BI EE web services “Searching...” image embedded on the third-party web page.

For smooth analysis transitioning, Oracle BI EE Presentation Services tracks the Oracle Business Intelligence analyses that have been added to third-party web pages by maintaining information in an internal logical page object during the construction of the third-party web page. The HtmlViewService service methods explicitly refer to the internal logical page by its ID.
3.3.1 About HtmlViewService Bridging and Callback URLs

To embed an analysis with active drilldown links, the HtmlViewService service allows the web browser to issue callback requests from embedded analyses to the Oracle BI EE Presentation Services server. Although it is possible to route requests directly to the Oracle BI EE Presentation Services server, in many cases it is preferable to route requests through the Oracle BI EE instance that originally serviced the third-party page. Also, in situations where Oracle BI EE Presentation Services and the third-party web server do not belong to the same Domain Name Service (DNS) domain, users may get JavaScript errors related to browser security constraints for cross-domain scripting.

To avoid these issues, use the setBridge() method to modify callback URLs to point to the third-party web server. Be aware that a web component executed by the third-party web server to re-route requests to Oracle BI EE Presentation Services is not provided. This function would need to be fulfilled by the third-party application. For more information about the setBridge() method, see Section 3.3.8, "setBridge() Method".

3.3.2 addReportToPage() Method

Use this method to add results to an HTML page.

3.3.2.1 Signature

void addReportToPage(String pageID, String reportID, ReportRef report, String reportViewName, ReportParams reportParams, ReportHTMLOptions options, String sessionID);

<table>
<thead>
<tr>
<th>Arguments</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>String pageID</td>
<td>Specifies a character string page ID returned by the startPage() method. For information about the startPage() method, see Section 3.3.9, &quot;startPage() Method&quot;.</td>
</tr>
<tr>
<td>String reportID</td>
<td>Specifies a character string that identifies the analysis containing the results to add to the page. It should be used to reference this analysis in subsequent method invocations; for example, corresponding user interface elements generated by the Oracle Business Intelligence Presentation Services server would reference the same ID.</td>
</tr>
<tr>
<td>ReportRef report</td>
<td>Specifies the analysis definition, supplied in the ReportRef structure.</td>
</tr>
<tr>
<td>String reportViewName</td>
<td>Specifies the view to display. If this parameter is null, the analysis’ default view is used. The view name should match the one used to identify the view in the analysis XML definition.</td>
</tr>
<tr>
<td>ReportParams reportParams</td>
<td>Optional. Specifies the filters or variables to apply to the analysis before execution, supplied in the ReportParams common structure. For more information, see Section 3, &quot;Description of Services and Methods in Oracle BI EE Web Services&quot;.</td>
</tr>
<tr>
<td>ReportHTMLOptions options</td>
<td>Optional. Specifies the display options to apply to the analysis after execution, supplied in the ReportHTMLOptions structure. For more information, see Section 2.41, &quot;QueryResults Structure&quot;.</td>
</tr>
</tbody>
</table>
3.3.3 endPage() Method

Use this method to destroy the Oracle BI EE Presentation Services server page object and all data associated with it.

3.3.3.1 Signature

void endpage(String pageID, String sessionID);

Arguments Description
---
String pageID Specifies the ID of the page object, which is returned by the startPage() method (for more information, see Section 3.3.9, “startPage() Method”).

String sessionID Specifies the session ID, which is usually returned by the logon method. If the SOAP client engine can handle HTTP cookies, you can omit the session ID or set it to null.

3.3.4 getCommonBodyHTML() Method

Use this method to retrieve HTML to include in the <BODY> section.

3.3.4.1 Signature

String getCommonBodyHTML(String pageID, String sessionID);

Arguments Description
---
String pageID Specifies the ID of the page object, which is returned by the startPage() method (for more information, see Section 3.3.9, “startPage() Method”).

String sessionID Specifies the session ID, which is usually returned by the logon method. If the SOAP client engine can handle HTTP cookies, you can omit the session ID or set it to null.

3.3.4.2 Returns

Returns a string containing the HTML to include in the <BODY> section.

3.3.5 getHeadersHTML() Method

Use this method to retrieve HTML to include in the <HEAD> section.

3.3.5.1 Signature

String getHeadersHTML(String pageID, String sessionID);

Arguments Description
---
String pageID Specifies the ID of the page object, which is returned by the startPage() method (for more information, see Section 3.3.9, “startPage() Method”).

String sessionID Specifies the session ID, which is usually returned by the logon method. If the SOAP client engine can handle HTTP cookies, you can omit the session ID or set it to null.
3.3.5.2 Returns

Returns a string containing the HTML to include in the <HEAD> section.

3.3.6 getHtmlForPageWithOneReport() Method

Use this method to retrieve the HTML for a page that contains only one analysis. A page that contains only one analysis does not have <BODY> and <HEAD> sections.

3.3.6.1 Signature


<table>
<thead>
<tr>
<th>Arguments</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>String sessionID</td>
<td>Specifies the session ID, which is usually returned by the logon method. If the SOAP client engine can handle HTTP cookies, you can omit the session ID or set it to null.</td>
</tr>
</tbody>
</table>

3.3.7 getHTMLForReport() Method

Use this method to retrieve an HTML excerpt to display the results for a particular analysis. Before invoking this method, use the addReportToPage method to add the results to an HTML page.

3.3.7.1 Signature

String getHTMLForReport(String pageID, String pageReportID, String sessionID);
### 3.3.7 Returns

Returns a string containing the HTML excerpt that displays the specified analysis.

### 3.3.8 setBridge() Method

Use this method to specify a bridge URL to receive communications. Specifying a bridge URL can be useful when the Oracle BI EE web services server and the user's web server reside on different machines, or when you want to modify the results in your application development environment.

After the setBridge() method is called, all requests from the client browser to the Oracle BI EE Presentation Services server are sent to the bridge URL, which then forwards requests to the Oracle BI EE Presentation Services server.

#### 3.3.8.1 Signature

```java
setBridge(String bridge, String sessionID);
```

#### Arguments

<table>
<thead>
<tr>
<th>Arguments</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>String bridge</td>
<td>Specifies the bridge URL. For example, <a href="http://myserver/myapplication/sawbridge">http://myserver/myapplication/sawbridge</a></td>
</tr>
<tr>
<td>String sessionID</td>
<td>Specifies the session ID, which is usually returned by the logon method. If the SOAP client engine can handle HTTP cookies, you can omit the session ID or set it to null.</td>
</tr>
</tbody>
</table>

#### 3.3.8.2 Usage

You must make sure that the client browser provides a handler to the bridge URL in the form of a Java servlet, an Active Server Pages (ASP) page, a Common Gateway Interface (CGI), an Internet Server application programming interface (ISAPI), or an equivalent application.

You must also perform the following tasks:

- Decode the path of the requested Oracle BI EE web services resource in the RedirectURL argument of the request character string. For information about the RedirectURL argument, see Section 3.3.8.3, “How Callback URLs Are Replaced”.
- Forward all other request arguments, together with all headers and the request body, to the bridge URL.
- Copy the response from the Oracle BI EE Presentation Services server to the response stream.
3.3.8.3 How Callback URLs Are Replaced

The new callback URL is based on the bridge URL, with the addition of a RedirectURL argument. The value of the RedirectURL argument should be the original value of the URL, encoded using standard URL encoding rules.

Internally, Oracle BI EE web services usually uses relative URLs for callback links. For example, if the original callback link is saw.dll?Go and the bridge URL is

http://myserver/myapplication/sawbridge

then the new callback URL is

http://myserver/myapplication/sawbridge?RedirectURL=saw.dll%3fGo

3.3.9 startPage() Method

Use this method to create a page object and returns its ID.

3.3.9.1 Signature

String startPage(StartPageParams options, String sessionID);

<table>
<thead>
<tr>
<th>Arguments</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>StartPageParams options</td>
<td>Specifies the options to use when starting the page, supplied in the StartPageParams structure. For information about the StartPageParams structure, see Section 2.58, &quot;StartPageParams Structure&quot;.</td>
</tr>
<tr>
<td>String sessionID</td>
<td>Specifies the session ID, which is usually returned by the logon method. If the SOAP client engine can handle HTTP cookies, you can omit the session ID or set it to null.</td>
</tr>
</tbody>
</table>

3.3.9.2 Returns

Returns a string containing the Oracle Business Intelligence Presentation Services page ID.

3.4 iBotService Service

Use this service to save, edit, delete, subscribe, unsubscribe, customize, and execute Oracle BI EE agents. Note that as of the Oracle Business Intelligence 11g (11.1.1) release, “iBots” have been renamed to “agents.”

Table 3–5 shows the supported methods.

<table>
<thead>
<tr>
<th>Method Names</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Section 3.4.1, &quot;writeIBot() Method&quot;</td>
<td>Writes a new agent into the catalog and registers it with Oracle BI Scheduler.</td>
</tr>
<tr>
<td>Section 3.4.2, &quot;deleteIBot() Method&quot;</td>
<td>Deletes an agent from the catalog and deregisters it from the Oracle BI Scheduler.</td>
</tr>
<tr>
<td>Section 3.4.3, &quot;executeIBotNow() Method&quot;</td>
<td>Executes an agent saved in the catalog.</td>
</tr>
<tr>
<td>Section 3.4.4, &quot;moveIBot() Method&quot;</td>
<td>Moves an agent from one catalog folder to another.</td>
</tr>
<tr>
<td>Section 3.4.5, &quot;sendMessage() Method&quot;</td>
<td>Sends a message to an Oracle BI EE user, group, or user and group.</td>
</tr>
</tbody>
</table>
3.4.1 writeIBot() Method

Use this method to write a new agent to the catalog and to register it with Oracle BI Scheduler. Note that this method is different from the WebCatalogService service's "writeObjects() Method", which only writes to the catalog.

3.4.1.1 Signature

```java
int writeIBot (CatalogObject obj, String path, boolean resolveLinks, boolean allowOverwrite, String sessionID);
```

Arguments Description
---
CatalogObject obj | Specifies the object to be written to the catalog. The object’s XML is validated against analysis_ibot.xsd, which is located in orahome/bifoundation/web/schemas directory.
String path | Specifies the full path and name of the agent in the catalog. For example, /users/jchan/iBots/BrandDollars.
boolean resolveLinks | If set to TRUE and the path in the catalog refers to a link, then the object is written to the location pointed to by the link.
boolean allowOverwrite | Specifies whether to overwrite an existing object. Set to TRUE to overwrite any object already present in the location specified by "path."
String sessionID | Specifies the session ID, which is usually returned by the logon method. If the SOAP client engine can handle HTTP cookies, you can omit the session ID or set it to null.

3.4.2 deleteIBot() Method

Use this method to delete a saved agent. Deleting an agent not only removes it (the object) from the catalog, but it also deregisters the agent from the Oracle BI Scheduler. Note that this method is different from the "WebCatalogService Service" "deleteitem" method because the "deleteitem" method does not deregister the agent from the Oracle BI Scheduler.

3.4.2.1 Signature

```java
void deleteIBot (String path, String sessionID);
```

Arguments Description
---
String path | Specifies the full path and name of the agent in the catalog. For example, /users/jchan/iBots/BrandDollars.
String sessionID | Specifies the session ID, which is usually returned by the logon method. If the SOAP client engine can handle HTTP cookies, you can omit the session ID or set it to null.
3.4.3 executeIBotNow() Method

Use this method to execute an agent that is stored in the catalog. Note that this method does not change the agent's original schedule.

3.4.3.1 Signature

void executeIBotNow(String path, String sessionID);

<table>
<thead>
<tr>
<th>Arguments</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>String path</td>
<td>Specifies the full path and name of the agent in the catalog. For example, /users/jchan/iBots/BrandDollars.</td>
</tr>
<tr>
<td>String sessionID</td>
<td>Specifies the session ID, which is usually returned by the logon method. If the SOAP client engine can handle HTTP cookies, you can omit the session ID or set it to null.</td>
</tr>
</tbody>
</table>

3.4.4 moveIBot() Method

Use this method to move an agent from one catalog folder to another. Note that this method is different from the "WebCatalogService Service" "moveItem" method because the "moveItem" method moves the catalog object and informs the Oracle BI Scheduler that the object was moved.

3.4.4.1 Signature

void moveIBot(String fromPath, String toPath, boolean resolveLinks, boolean allowOverwrite, String sessionID);

<table>
<thead>
<tr>
<th>Arguments</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>String fromPath</td>
<td>Specifies the full catalog path of the agent to be moved.</td>
</tr>
<tr>
<td>String toPath</td>
<td>Specifies the full catalog path where the agent is moved to.</td>
</tr>
<tr>
<td>boolean resolveLinks</td>
<td>Specifies if you want to move the child objects. If this argument is set to TRUE and the path specified in the &quot;fromPath&quot; argument is a link, then the child object pointed to by that link is moved.</td>
</tr>
<tr>
<td>boolean allowOverwrite</td>
<td>Specifies if you want to overwrite an existing object. If this argument is set to TRUE and another catalog object existed in the path specified by &quot;toPath&quot;, it is overwritten.</td>
</tr>
<tr>
<td>String sessionID</td>
<td>Specifies the session ID, which is usually returned by the logon method. If the SOAP client engine can handle HTTP cookies, you can omit the session ID or set it to null.</td>
</tr>
</tbody>
</table>

3.4.5 sendMessage() Method

Use this method to send a message to a Oracle BI EE user, group, or user and group. The message is delivered according to the corresponding recipient's delivery profile, which was set up in the "My Account dialog" in Oracle BI Presentation Services.

3.4.5.1 Signature

String sendMessage(String[] recipient, String[] group, String subject, String body, String priority, String sessionID);
3.4.6 subscribe() Method

Use this method to subscribe to a published agent. If the agent allows customization, then you can also specify the customization XML.

3.4.6.1 Signature

void subscribe(String path, String customizationXml, String sessionID);

Arguments Description
---
String path Specifies the full path and name of the agent in the catalog. For example, /users/jchan/iBots/BrandDollars.

String customizationXml Specifies the customization XML (only if the agent allows customizations). This XML is validated against the customization schema available in orahome/bifoundation/web/schemas/analysis_customization.

String sessionID Specifies the session ID, which is usually returned by the logon method. If the SOAP client engine can handle HTTP cookies, you can omit the session ID or set it to null.

3.4.7 unsubscribe() Method

Use this method to unsubscribe from an agent. This method also deletes any user customizations.

3.4.7.1 Signature

void unsubscribe(String path, String sessionID);

Arguments Description
---
String path Specifies the full path and name of the agent in the catalog. For example, /users/jchan/iBots/BrandDollars.

String sessionID Specifies the session ID, which is usually returned by the logon method. If the SOAP client engine can handle HTTP cookies, you can omit the session ID or set it to null.

3.5 JobManagementService Service

Use this service to execute marketing segmentation and list generation functionality.
Table 3–6 shows the supported methods.

<table>
<thead>
<tr>
<th>Method Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Section 3.5.1, &quot;cancelJob() Method&quot;</td>
<td>Cancels a running marketing job.</td>
</tr>
<tr>
<td>Section 3.5.2, &quot;deleteResultSet() Method&quot;</td>
<td>Deletes a saved result set.</td>
</tr>
<tr>
<td>Section 3.5.3, &quot;getCounts() Method&quot;</td>
<td>Generates the count numbers for a segment or segment tree.</td>
</tr>
<tr>
<td>Section 3.5.4, &quot;getJobInfo() Method&quot;</td>
<td>Gets status and detailed information about a marketing job.</td>
</tr>
<tr>
<td>Section 3.5.5, &quot;getPromptedColumns() Method&quot;</td>
<td>Returns prompted columns for a segment or segment tree.</td>
</tr>
<tr>
<td>Section 3.5.6, &quot;prepareCache() Method&quot;</td>
<td>Caches a segment or segment tree for list export.</td>
</tr>
<tr>
<td>Section 3.5.7, &quot;purgeCache() Method&quot;</td>
<td>Purges the whole cache, entries for a segment, or entries for the segment tree.</td>
</tr>
<tr>
<td>Section 3.5.8, &quot;saveResultSet() Method&quot;</td>
<td>Saves a list of members based on the most recent updated counts.</td>
</tr>
<tr>
<td>Section 3.5.9, &quot;writeListFiles() Method&quot;</td>
<td>Generates a list for list export, segment campaign load, or segment tree campaign load.</td>
</tr>
</tbody>
</table>

### 3.5.1 cancelJob() Method

Use this method to cancel a running marketing job.

#### 3.5.1.1 Signature

```java
JobInfo cancelJob(BigInteger jobID, String sessionID);
```

<table>
<thead>
<tr>
<th>Arguments</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>BigInteger jobID</td>
<td>Specifies the marketing job ID.</td>
</tr>
<tr>
<td>String sessionID</td>
<td>Specifies the session ID, which is usually returned by the logon method. If the SOAP client engine can handle HTTP cookies, you can omit the session ID or set it to null.</td>
</tr>
</tbody>
</table>

### 3.5.2 deleteResultSet() Method

Use this method to delete one or more saved results sets of target-level objects identified by a list of GUID values belonging to the specified segment.

#### 3.5.2.1 Signature

```java
JobInfo deleteResultSet(String targetLevel, ArrayOfGUIDs guiDs, String segmentPath, String sessionID);
```

<table>
<thead>
<tr>
<th>Arguments</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>String targetLevel</td>
<td>Specifies the target level of the saved results set.</td>
</tr>
</tbody>
</table>
3.5.3 `getCounts()` Method

Use this method to generate the count numbers for either a segment or a segment tree.

### 3.5.3.1 Signature

```java
JobInfo getCounts(String segmentPath, String treePath, SegmentationOptions segmentationOptions, String sessionID);
```

<table>
<thead>
<tr>
<th>Arguments</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>String segmentPath</code></td>
<td>Specifies the path to the segment. Used when <code>getCounts</code> is performed on a segment.</td>
</tr>
<tr>
<td><code>String treePath</code></td>
<td>Specifies the path to the segment tree. Used when <code>getCounts</code> is performed on a segment tree.</td>
</tr>
<tr>
<td><code>SegmentationOptions</code></td>
<td>Specifies the segment and segment tree override options supplied in the <code>SegmentationOptions</code> structure. These options are used instead of</td>
</tr>
<tr>
<td></td>
<td>the segment or segment tree defaults as specified in the Oracle Marketing Analytics user interface. For more information about the <code>SegmentationOptions</code></td>
</tr>
<tr>
<td></td>
<td>structure, see Section 2.56, &quot;SegmentationOptions Structure&quot;.</td>
</tr>
<tr>
<td><code>String sessionID</code></td>
<td>Specifies the session ID, which is usually returned by the logon method. If the SOAP client engine can handle HTTP cookies, you can omit the</td>
</tr>
<tr>
<td></td>
<td>session ID or set it to null.</td>
</tr>
</tbody>
</table>

---

3.5.4 `getJobInfo()` Method

Use this method to get the status and detailed job information about a marketing job.

### 3.5.4.1 Signature

```java
JobInfo getJobInfo(BigInteger jobID, String sessionID);
```

<table>
<thead>
<tr>
<th>Arguments</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>BigInteger jobID</code></td>
<td>Specifies the marketing job ID.</td>
</tr>
<tr>
<td><code>String sessionID</code></td>
<td>Specifies the session ID, which is usually returned by the logon method. If the SOAP client engine can handle HTTP cookies, you can omit the</td>
</tr>
<tr>
<td></td>
<td>session ID or set it to null.</td>
</tr>
</tbody>
</table>

---

3.5.5 `getPromptedColumns()` Method

Use this method to return prompted columns for a segment or segment tree.
### 3.5.5 PromptedColumnInfo getPromptedColumns(String segmentPath, String treePath, String sessionID);

<table>
<thead>
<tr>
<th>Arguments</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>String segmentPath</td>
<td>Specifies the path to the segment. Used when getPromptedColumns is performed on a segment.</td>
</tr>
<tr>
<td>String treePath</td>
<td>Specifies the path to the segment tree. Used when getPromptedColumns is performed on a segment tree.</td>
</tr>
<tr>
<td>String sessionID</td>
<td>Specifies the session ID, which is usually returned by the logon method. If the SOAP client engine can handle HTTP cookies, you can omit the session ID or set it to null.</td>
</tr>
</tbody>
</table>

### 3.5.6 prepareCache() Method

Use this method to cache a segment or segment tree for list export.

### 3.5.6.1 Signature

JobInfo prepareCache(String segmentPath, String treePath, Boolean refresh, String sessionID);

<table>
<thead>
<tr>
<th>Arguments</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>String segmentPath</td>
<td>Specifies the path to the segment. Used when prepareCache is performed on a segment.</td>
</tr>
<tr>
<td>String treePath</td>
<td>Specifies the path to the segment tree. Used when prepareCache is performed on a segment tree.</td>
</tr>
<tr>
<td>Boolean refresh</td>
<td>If set to TRUE, then the system populates cache entries on cache hits and populates cache entries on cache misses.</td>
</tr>
<tr>
<td>String sessionID</td>
<td>Specifies the session ID, which is usually returned by the logon method. If the SOAP client engine can handle HTTP cookies, you can omit the session ID or set it to null.</td>
</tr>
</tbody>
</table>

### 3.5.7 purgeCache() Method

Use this method to purge the whole cache, purge entries for a segment from the cache, or purge entries for the segment tree from the cache.

### 3.5.7.1 Signature

JobInfo purgeCache(String segmentPath, String treePath, Boolean ignoreCacheRef, String sessionID);

<table>
<thead>
<tr>
<th>Arguments</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>String segmentPath</td>
<td>Specifies the path to the segment.Used when purgeCache is performed on a segment.</td>
</tr>
<tr>
<td>String treePath</td>
<td>Specifies the path to the segment tree. Used when purgeCache is performed on a segment tree.</td>
</tr>
<tr>
<td>Boolean ignoreCacheRef</td>
<td>If set to TRUE, the system purges the cache entries that are currently used and referenced by segments, segment trees, expired cache entries, and non-existent cache-entries.</td>
</tr>
</tbody>
</table>
3.5.8 saveResultSet() Method

Use this method to save a list of members that qualify for the segment or segment tree based on the most recent updated counts. The system extracts and saves the members to the segment path that you specify.

3.5.8.1 Signature

JobInfo saveResultSet(String segmentPath, TreeNodePath treeNodePath, String savedSegmentPath, SegmentationOptions segmentationOptions, String srCustomLabel, Boolean appendStaticSegment, String sessionID);

<table>
<thead>
<tr>
<th>Arguments</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>String segmentPath</td>
<td>Specifies the path to the segment.</td>
</tr>
<tr>
<td>TreeNodePath</td>
<td>Specifies the segment tree path and branch ID number.</td>
</tr>
<tr>
<td>String savedSegmentPath</td>
<td>Specifies the path and name of the new segment where the system extracts and saves the resulting members.</td>
</tr>
<tr>
<td>Segmentation Options</td>
<td>Specifies the segment and segment tree override options supplied in the SegmentationOptions structure. These options are used instead of the segment or segment tree defaults as specified in the Oracle Marketing Analytics user interface. For more information about the SegmentationOptions structure, see Section 2.56, &quot;SegmentationOptions Structure&quot;.</td>
</tr>
<tr>
<td>String srCustomLabel</td>
<td>Specifies the custom label for creating a static segment.</td>
</tr>
<tr>
<td>Boolean appendStaticSegment</td>
<td>Specifies a flag to create a static segment entry under the same saved segment path.</td>
</tr>
<tr>
<td>String sessionID</td>
<td>Specifies the session ID, which is usually returned by the logon method. If the SOAP client engine can handle HTTP cookies, you can omit the session ID or set it to null.</td>
</tr>
</tbody>
</table>

3.5.9 writeListFiles() Method

Use this method to generate lists for list export, segment campaign load, or segment tree campaign load.

3.5.9.1 Signature

JobInfo writeListFiles(ReportRef report, ReportParams reportParams, String segmentPath, TreeNodePath treeNodePath, SegmentationOptions segmentationOptions, String filesystem, BigInteger timeout, String sessionID);

<table>
<thead>
<tr>
<th>Arguments</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ReportRef report</td>
<td>Specifies the analysis reference definition supplied in the ReportRef structure. For more information about the ReportRef structure, see Section 2.50, &quot;ReportRef Structure&quot;.</td>
</tr>
</tbody>
</table>
KPIAssessmentService Service

Use this service to provide methods for assessing KPIs. Table 3–7 shows the supported methods.

### Table 3–7  KPIAssessmentService Methods

<table>
<thead>
<tr>
<th>Method Names</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Section 3.6.1, &quot;executeKPI() Method&quot;</td>
<td>Requests assessments for the specified KPIs.</td>
</tr>
<tr>
<td>Section 3.6.2, &quot;executeKPIDimensionLOVQuery() Method&quot;</td>
<td>Retrieves a list of values for the specified KPI's dimension.</td>
</tr>
<tr>
<td>Section 3.6.3, &quot;generateDrillTo() Method&quot;</td>
<td>Generates an Oracle Business Intelligence report containing a detail report for the specified KPI.</td>
</tr>
<tr>
<td>Section 3.6.4, &quot;getKPIWatchlistDimensions() Method&quot;</td>
<td>Returns the list of dimensions used by the KPIs in the Watchlist.</td>
</tr>
</tbody>
</table>

3.6.1  executeKPI() Method

Use this method to request assessments for the specified KPIs.

#### 3.6.1.1 Signature

KPIResultSet executeKPI(Array KPIRequests, Array KPIColumnNames, Array Variables, Boolean UseAsyncService, Boolean Fresh, String sessionID);

<table>
<thead>
<tr>
<th>Arguments</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>KPIRequest[] KPIRequests</td>
<td>Specifies KPIRequest structure objects defining the KPIs you want assessments for. For more information, see Section 2.30, &quot;KPIRequest Structure&quot;.</td>
</tr>
<tr>
<td>String[] KPIColumnNames</td>
<td>Specifies an array of strings from the KPIColumnName enumeration. For more information, see Section 2.28, &quot;KPIColumnName Enumeration&quot;</td>
</tr>
</tbody>
</table>
### 3.6.2 executeKPIDimensionLOVQuery() Method

Use this method to retrieve the list of values for the specified KPI’s dimension.

#### 3.6.2.1 Signature

*KPIDimensionLOVQueryResult executeKPIDimensionLOVQuery(Integer RowsPerFetch, String KPIPath, String DimensionID, String SessionID);*

<table>
<thead>
<tr>
<th>Arguments</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Integer RowsPerFetch</td>
<td>Specifies the maximum number of values you want to retrieve.</td>
</tr>
<tr>
<td>String KPIPath</td>
<td>Specifies the catalog path to the KPI you are interested in.</td>
</tr>
<tr>
<td>String DimensionID</td>
<td>Specifies the ID of the dimension you are interested in.</td>
</tr>
<tr>
<td>String SessionID</td>
<td>Specifies the SessionID that you want to use in the SOAP request.</td>
</tr>
</tbody>
</table>

If the SOAP client engine can handle HTTP cookies, you can omit the session ID or set it to null.

### 3.6.3 generateDrillTo() Method

Use this method to call the KPI Engine’s generateDrillTo web service method which is responsible for generating an Oracle Business Intelligence report containing a detail report for the specified KPI.

#### 3.6.3.1 Signature

*DrillToReportURLResult generateDrillTo(Object KpiRequest, String ReportPath, Array Variables, String sessionID);*

<table>
<thead>
<tr>
<th>Arguments</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Object KPIRequest</td>
<td>Specifies the KPIRequest structure objects containing the pinnings.</td>
</tr>
<tr>
<td>String ReportPath</td>
<td>Specifies the Presentation Services catalog path where the generated report should be saved.</td>
</tr>
<tr>
<td>Variable[] Variables</td>
<td>Specifies an array of Variable objects that you want to apply in the query. For more information, see Section 2.64, &quot;Variable Structure&quot;.</td>
</tr>
<tr>
<td>String sessionID</td>
<td>Specifies the SAW Session ID. This parameter can usually be omitted as the session ID is stored in a cookie.</td>
</tr>
</tbody>
</table>

---

*KPIAssessmentService Service*

Description of Services and Methods in Oracle BI EE Web Services  3-19
3.6.4 getKPIWatchlistDimensions() Method

Use this method to retrieve the superset of dimensions used by the KPIs in the specified KPI Watchlist.

3.6.4.1 Signature

KPIWatchlistDimensions KPIWatchlistDimensions(String WatchlistPath, String WatchListXML, Boolean GetFresh, Session sessionID);

<table>
<thead>
<tr>
<th>Arguments</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>String WatchlistPath</td>
<td>Specifies the catalog path to the KPI Watchlist you are interested in.</td>
</tr>
<tr>
<td>String WatchListXML</td>
<td>Specifies the KPI Watchlist catalog XML containing unsaved metadata.</td>
</tr>
<tr>
<td>Session sessionID</td>
<td>(Optional) Specifies the SAW Session ID. This parameter can usually be omitted as the session ID is stored in a cookie.</td>
</tr>
</tbody>
</table>

3.7 MetadataService Service

Use this service to retrieve descriptions of Oracle Business Intelligence Presentation Services schema objects, such as columns, tables, and subject areas.

Table 3–8 shows the supported methods.

<table>
<thead>
<tr>
<th>Method Names</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Section 3.7.1, &quot;clearQueryCache() Method&quot;</td>
<td>Clears the query cache.</td>
</tr>
<tr>
<td>Section 3.7.2, &quot;describeColumn() Method&quot;</td>
<td>Retrieves column information for a specified column in a specified subject area and table.</td>
</tr>
<tr>
<td>Section 3.7.3, &quot;describeSubjectArea() Method&quot;</td>
<td>Retrieves subject area information for a specified subject area.</td>
</tr>
<tr>
<td>Section 3.7.4, &quot;describeSubjectAreaWithSort() Method&quot;</td>
<td>Retrieves subject area information for a specified subject area in the specified sort order.</td>
</tr>
<tr>
<td>Section 3.7.5, &quot;describeTable() Method&quot;</td>
<td>Retrieves table information for a specified table in a specified subject area.</td>
</tr>
<tr>
<td>Section 3.7.6, &quot;describeTableWithSort() Method&quot;</td>
<td>Retrieves table information for a specified table in a specified subject area in the specified sort order (of their names).</td>
</tr>
<tr>
<td>Section 3.7.7, &quot;getSubjectAreas() Method&quot;</td>
<td>Retrieves the list of subject areas available.</td>
</tr>
<tr>
<td>Section 3.7.8, &quot;getSubjectAreasWithSort() Method&quot;</td>
<td>Retrieves the list of subject areas available in the specific sort order.</td>
</tr>
<tr>
<td>Section 3.7.9, &quot;reloadLogConfiguration() Method&quot;</td>
<td>Forces changes to logging configuration to take effect without manually restarting Oracle BI Presentation Services.</td>
</tr>
<tr>
<td>Section 3.7.10, &quot;reloadMetadata() Method&quot;</td>
<td>Reloads XML message files, refresh server metadata, and clear caches.</td>
</tr>
</tbody>
</table>
3.7.1 clearQueryCache() Method

Use this method to clear the query cache.

3.7.1.1 Signature

boolean clearQueryCache(String sessionID);

<table>
<thead>
<tr>
<th>Arguments</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>String sessionID</td>
<td>Specifies the session ID, which is usually returned by the logon method. If the SOAP client engine can handle HTTP cookies, you can omit the session ID or set it to null.</td>
</tr>
</tbody>
</table>

3.7.2 describeColumn() Method

Use this method to retrieve column information for a specified column in a specified subject area and table.

3.7.2.1 Signature

SAColumn describeColumn(String subjectAreaName, String tableName, String columnName, String sessionID);

<table>
<thead>
<tr>
<th>Arguments</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>String subjectAreaName</td>
<td>Specifies the subject area to be queried.</td>
</tr>
<tr>
<td>String tableName</td>
<td>Specifies the table to be queried.</td>
</tr>
<tr>
<td>String columnName</td>
<td>Specifies the name of the column to be queried.</td>
</tr>
<tr>
<td>String sessionID</td>
<td>Specifies the session ID, which is usually returned by the logon method. If the SOAP client engine can handle HTTP cookies, you can omit the session ID or set it to null.</td>
</tr>
</tbody>
</table>

3.7.2.2 Returns

Returns an SAColumn Object. For information on the SAColumn structure, see Section 2.51, "SAColumn Structure".

3.7.3 describeSubjectArea() Method

Use this method to retrieve subject area information about the specified subject area.

3.7.3.1 Signature

SASubjectArea describeSubjectArea (String subjectAreaName, SASubjectAreaDetails detailsLevel, String sessionID);

<table>
<thead>
<tr>
<th>Arguments</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>String subjectAreaName</td>
<td>Specifies the subject area to be queried.</td>
</tr>
<tr>
<td>SASubjectAreaDetails detailsLevel</td>
<td>Specifies the information to be retrieved about the subject area. For information on the SASubjectAreaDetails structure, see Section 3.7.3.2, &quot;SASubjectAreaDetails Values&quot;.</td>
</tr>
<tr>
<td>String sessionID</td>
<td>Specifies the session ID, which is usually returned by the logon method. If the SOAP client engine can handle HTTP cookies, you can omit the session ID or set it to null.</td>
</tr>
</tbody>
</table>
3.7.3.2 SASubjectAreaDetails Values
Use this method to specify what information should be retrieved about the subject area. Table 3–9 lists the available values.

Table 3–9 SASubjectAreaDetails Values

<table>
<thead>
<tr>
<th>Values</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>IncludeTables</td>
<td>Include table list with minimum information about each table.</td>
</tr>
<tr>
<td>IncludeTablesAndColumns</td>
<td>Include full table and column information.</td>
</tr>
<tr>
<td>Minimum</td>
<td>Do not include table and column information.</td>
</tr>
</tbody>
</table>

3.7.3.3 Returns
Returns an SASubjectArea Object (for more information, see Section 2.52, "SASubjectArea Structure").

3.7.3.4 Usage
Depending on the value of the detailsLevel parameter, the returned object contains the information specified in Table 3–10.

Table 3–10 detailsLevel Values

<table>
<thead>
<tr>
<th>Value of detailsLevel</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>IncludeTables</td>
<td>Specifies that the tables field is not null and contains the collection of tables for this subject area. Each table object has the columns field set to null.</td>
</tr>
<tr>
<td>IncludeTablesAndColumns</td>
<td>Specifies that the tables field is not null and contains the collection of tables for this subject area. For each table object the columns field contains the corresponding collection of columns.</td>
</tr>
<tr>
<td>Minimum</td>
<td>Specifies that the table list is not available. The tables field in the resulting subject area object is null.</td>
</tr>
</tbody>
</table>

3.7.4 describeSubjectAreaWithSort() Method
Use this method to retrieve subject area information about the specified subject area in the specified sort order.

3.7.4.1 Signature
SASubjectArea describeSubjectAreaWithSort (String subjectAreaName, SASubjectAreaDetails detailsLevel, String sortOrder, String sortOrderCaseSensitive, String sessionID);

Arguments Description

<table>
<thead>
<tr>
<th>Arguments</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>String subjectAreaName</td>
<td>Specifies the subject area to be queried.</td>
</tr>
<tr>
<td>SASubjectAreaDetails detailsLevel</td>
<td>Specifies the information to be retrieved about the subject area. For information on the SASubjectAreaDetails structure, see Section 3.7.3.2, &quot;SASubjectAreaDetails Values&quot;.</td>
</tr>
<tr>
<td>String sortOrder</td>
<td>Specifies specifies which sort order you want the results returned in. Values can be ‘asc’ or ‘desc’. ‘asc’ returns values in ascending order of the current language of the user (for example, in English, A to Z), and conversely ‘desc’ returns in the reverse order (for example, in English - from Z to A).</td>
</tr>
</tbody>
</table>
3.7.4.2 Returns
Returns an SASubjectArea Object (for more information, see Section 2.52, "SASubjectArea Structure") with tables returned in the specified sort order.

3.7.5 describeTable() Method
Use this method to retrieve table information for a specified table in a specified subject area.

3.7.5.1 Signature
SATable describeTable (String subjectAreaName, String tableName, SATableDetails detailsLevel, String sessionID);

3.7.5.2 SATablesDetails Values
Used to specify the information to retrieve about the table. Table 3–11 lists the available values.

Table 3–11 SATablesDetails Values

<table>
<thead>
<tr>
<th>Values</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>IncludeColumns</td>
<td>Populate the columns field in the SATable Object.</td>
</tr>
<tr>
<td>Minimum</td>
<td>Do not include column information. The columns field in the SATable Object is set to null.</td>
</tr>
</tbody>
</table>

3.7.5.3 Returns
Returns an SATable Object. For information on the SATable structure, see Section 2.53, "SATable Structure".

3.7.6 describeTableWithSort() Method
Use this method to retrieve table information for a specified table in the specified sort order (of their names).
3.7.6.1 Signature
SATable describeTable (String subjectAreaName, String tableName, SATableDetails detailsLevel, String sortOrder, String sortOrderCaseSensitive, String sessionID);

<table>
<thead>
<tr>
<th>Arguments</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>String subjectAreaName</td>
<td>Specifies the subject area to be queried.</td>
</tr>
<tr>
<td>String tableName</td>
<td>Specifies the table to be queried.</td>
</tr>
<tr>
<td>SATableDetails detailsLevel</td>
<td>Specifies the information to retrieve about the table. For information on the SATableDetails structure, see Section 3.7.5.2, &quot;SATablesDetails Values&quot;.</td>
</tr>
<tr>
<td>String sortOrder</td>
<td>Specifies which sort order you want the results returned in. Values can be 'asc' or 'desc'. 'asc' returns values in ascending order of the current language of the user (for example, in English, A to Z), and conversely 'desc' returns in the reverse order (for example, in English - from Z to A).</td>
</tr>
<tr>
<td>String sortOrderCaseSensitive</td>
<td>Specifies if the case of the values need to be taken into consideration during sort. Values can be 'caseSensitive' or 'caseInsensitive'.</td>
</tr>
<tr>
<td>String sessionID</td>
<td>Specifies the session ID, which is usually returned by the logon method. If the SOAP client engine can handle HTTP cookies, you can omit the session ID or set it to null.</td>
</tr>
</tbody>
</table>

3.7.6.2 Returns
Returns an SATable Object with columns in the specified sort order. For information on the SATable structure, see Section 2.53, "SATable Structure".

There is a fixed order for column types. This fixed sort order is:

- Nested folders
- Measures
- Attributes
- Hierarchies

3.7.7 getSubjectAreas() Method
Use this method to retrieve the list of subject areas that are available.

3.7.7.1 Signature
List[] getSubjectAreas(String sessionID);

<table>
<thead>
<tr>
<th>Arguments</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>String sessionID</td>
<td>Specifies the session ID, which is usually returned by the logon method. If the SOAP client engine can handle HTTP cookies, you can omit the session ID or set it to null.</td>
</tr>
</tbody>
</table>

3.7.7.2 Returns
Returns an array of SASubjectArea objects. For information on the SASubjectArea structure, see Section 2.52, "SASubjectArea Structure".
3.7.7.3 Usage
SASubjectArea objects returned by this method do not have table information available. The tables field is null. The approach to querying at all levels is to use getSubjectAreas() to retrieve the list of subject areas and then use describeSubjectArea() to retrieve the list of tables. Next, use describeTable() to retrieve the list of columns in a specified table, and finally, use describeColumn() to retrieve information on a specified column.

3.7.8 getSubjectAreasWithSort() Method
Use this method to retrieve the list of subject areas that are available in the specific sort order.

3.7.8.1 Signature
List[] getSubjectAreasWithSort(String sortOrder, String sortOrderCaseSensitive, String sessionID);

<table>
<thead>
<tr>
<th>Arguments</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>String sortOrder</td>
<td>Specifies which sort order you want the results returned in. Values can be 'asc' or 'desc'. 'asc' returns values in ascending order of the current language of the user (for example, in English, A to Z), and conversely 'desc' returns in the reverse order (for example, in English - from Z to A).</td>
</tr>
<tr>
<td>String sortOrderCaseSensitive</td>
<td>Specifies if the case of the values need to be taken into consideration during sort. Values can be 'caseSensitive' or 'caseInsensitive'.</td>
</tr>
<tr>
<td>String sessionID</td>
<td>Specifies the session ID, which is usually returned by the logon method. If the SOAP client engine can handle HTTP cookies, you can omit the session ID or set it to null.</td>
</tr>
</tbody>
</table>

3.7.8.2 Returns
Returns an array of SASubjectArea objects returned in the specified sort order. For information on the SASubjectArea structure, see Section 2.52, "SASubjectArea Structure".

3.7.8.3 Usage
SASubjectArea objects returned by this method do not have table information available. The tables field is null. The approach to querying at all levels is to use getSubjectAreasWithSort() to retrieve the list of subject areas and then use describeSubjectAreaWithSort() to retrieve the list of tables. Next, use describeTableWithSort() to retrieve the list of columns in a specified table, and finally, use describeColumn() to retrieve information on a specified column.

3.7.9 reloadLogConfiguration() Method
Use this method to force changes to logging configuration to take effect without manually restarting Oracle BI Presentation Services.

3.7.9.1 Signature
boolean reloadLogConfiguration(String sessionID);
### 3.7.10 reloadMetadata() Method

Use this method to reload XML message files, refresh server metadata, and clear caches.

#### 3.7.10.1 Signature

```java
boolean reloadMetadata(String sessionID);
```

<table>
<thead>
<tr>
<th>Arguments</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>String sessionID</td>
<td>Specifies the session ID, which is usually returned by the logon method. If the SOAP client engine can handle HTTP cookies, you can omit the session ID or set it to null.</td>
</tr>
</tbody>
</table>

#### 3.7.10.2 Returns

Returns a boolean to indicate if the operation is successful.

### 3.8 ReportEditingService Service

Use this service to merge arguments and Oracle Business Intelligence Presentation Services data to create and return the results.

Table 3–12 shows the supported methods.

#### Table 3–12 ReportEditingService Methods

<table>
<thead>
<tr>
<th>Method Names</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Section 3.8.1, &quot;applyReportDefaults() Method&quot;</td>
<td>Applies analysis default arguments to the analysis and returns the results.</td>
</tr>
<tr>
<td>Section 3.8.2, &quot;applyReportParams() Method&quot;</td>
<td>Applies report arguments to the analysis object and returns the results.</td>
</tr>
<tr>
<td>Section 3.8.3, &quot;getPromptElements Method&quot;</td>
<td>Retrieves a list of criteria prompt column definitions in a given analysis and current runtime state.</td>
</tr>
<tr>
<td>Section 3.8.4, &quot;generateReportSQL() Method&quot;</td>
<td>Retrieves the SQL query for a given analysis.</td>
</tr>
<tr>
<td>Section 3.8.5, &quot;getReportColumns Method&quot;</td>
<td>Retrieves a list of criteria columns in an analysis.</td>
</tr>
<tr>
<td>Section 3.8.6, &quot;getReportElements Method&quot;</td>
<td>Retrieves a list of prompts, unprotected filters, and referenced presentation variables in the given report.</td>
</tr>
</tbody>
</table>

### 3.8.1 applyReportDefaults() Method

Use this method to apply analysis default arguments to the analysis and returns the results.

#### 3.8.1.1 Signature

```java
String applyReportDefaults(ReportRef reportRefs, String sessionID);
```
3.8.1.2 Returns
Returns the result of applying the default analysis arguments to the specified analysis object.

3.8.2 applyReportParams() Method
Use this method to apply analysis arguments to the analysis and return the results.

3.8.2.1 Signature
Object applyReportParams(ReportRef reportRef, ReportParams reportParams, boolean encodeInString, String sessionID);

<table>
<thead>
<tr>
<th>Arguments</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ReportRef reportRef</td>
<td>Specifies the path to the analysis definition, supplied in the ReportRef common structure.</td>
</tr>
<tr>
<td>ReportParams reportParams</td>
<td>Optional. Specifies the filters or variables to apply to the analysis before execution, supplied in the ReportParams common structure. For more information, see Section 3, &quot;Description of Services and Methods in Oracle BI EE Web Services&quot;.</td>
</tr>
<tr>
<td>boolean encodeInString</td>
<td>If set to TRUE, then the returned analysis object is encoded as a character string.</td>
</tr>
<tr>
<td>String sessionID</td>
<td>Specifies the session ID, which is usually returned by the logon method. If the SOAP client engine can handle HTTP cookies, you can omit the session ID or set it to null.</td>
</tr>
</tbody>
</table>

3.8.2.2 Returns
Returns the result of applying analysis arguments to the specified analysis object. If you set encodeInString to true, then the result is encoded as a character string.

3.8.3 getPromptElements Method
Use this method to retrieve a list of criteria prompt column definitions in a given analysis and current runtime state.

3.8.3.1 Signature
getPromptElements(ReportRef promptRef, String viewState, String viewID, String portalPath, String page, NameValuePair optionalParams, String sessionID);

<table>
<thead>
<tr>
<th>Arguments</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ReportRef promptRef</td>
<td>Required. Specifies the catalog path to a saved report or a report xml document.</td>
</tr>
</tbody>
</table>
ReportEditingService Service

### 3.8.3.2 Returns
A set of report prompt columns. See "PromptsObjectModel Structure."

### 3.8.4 generateReportSQL() Method
Use this method to retrieve the logical SQL query for a given analysis.

#### 3.8.4.1 Signature
```
String generateReportSQL(ReportRef reportRef, ReportParams reportParams, 
String sessionID);
```

<table>
<thead>
<tr>
<th>Arguments</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ReportRef reportRef</td>
<td>Specifies the path to the analysis definition supplied in the ReportRef common structure.</td>
</tr>
<tr>
<td>ReportParams reportParams</td>
<td>Optional. Specifies the path to the filters or variables to apply to the analysis before execution, supplied in the ReportParams common structure. For more information, see Section 3, &quot;Description of Services and Methods in Oracle BI EE Web Services&quot;.</td>
</tr>
<tr>
<td>String sessionID</td>
<td>Specifies the session ID, which is usually returned by the logon method. If the SOAP client engine can handle HTTP cookies, you can omit the session ID or set it to null.</td>
</tr>
</tbody>
</table>

#### 3.8.4.2 Returns
A string containing the SQL query for the specified analysis.

### 3.8.5 getReportColumns Method
Use this method to retrieve a list of criteria columns in a given analysis.

#### 3.8.5.1 Signature
```
ReportColumn[] getReportElements(String reportPath, String sessionID);
```

<table>
<thead>
<tr>
<th>Arguments</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>String reportPath</td>
<td>Specifies the path to the analysis definition supplied in the ReportRef common structure.</td>
</tr>
<tr>
<td>String sessionID</td>
<td>Specifies the session ID, which is usually returned by the logon method. If the SOAP client engine can handle HTTP cookies, you can omit the session ID or set it to null.</td>
</tr>
</tbody>
</table>
3.8.5.2 Returns
ReportColumn[] - array of columns in the report. See Section 2.48, "ReportHierarchicalColumn" and Section 2.49, "ReportRegularColumn."

3.8.6 getReportElements Method
Use this method to retrieve a list of all report prompts, unprotected filters, and referenced presentation variables in the given report.

3.8.6.1 Signature
String getReportElements(String reportPath, String sessionID);

Arguments Description
--- | ---
String reportPath | Required. Specifies the report catalog path for the report.
String sessionID | Optional. Specifies the session ID, which is usually returned by the logon method. If the SOAP client engine can handle HTTP cookies, you can omit the session ID or set it to null.

3.8.6.2 Returns
If present, report ADF parameters for the following objects, in the order listed:
- Prompts
- Unprotected filters
- Presentation variables referenced in the report
- Context variables referenced by the Oracle Business Intelligence Presentation Services

See also, "ReportADFFParameters Structure."

3.9 SAWSessionService Service
Use this service to provide authentication methods such as logon and logoff, and other session-related methods.

Table 3–13 shows the supported methods.

<table>
<thead>
<tr>
<th>Method Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Section 3.9.1, &quot;getCurUser() Method&quot;</td>
<td>Retrieves the current user ID for the session.</td>
</tr>
<tr>
<td>Section 3.9.2, &quot;GetSessionEnvironment() Method&quot;</td>
<td>Retrieves the environment object for the current session.</td>
</tr>
<tr>
<td>Section 3.9.3, &quot;getSessionVariable() Method&quot;</td>
<td>Retrieves a list of session variables.</td>
</tr>
</tbody>
</table>

Table 3–13 SAWSessionService Methods
### 3.9.1 `getCurUser()` Method

Use this method to retrieve the current user name for the session.

#### 3.9.1.1 Signature

```java
String getCurUser(String sessionID);
```

<table>
<thead>
<tr>
<th>Argument</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>String <code>sessionID</code></td>
<td>Specifies the session ID, which is usually returned by the logon method. If the SOAP client engine can handle HTTP cookies, you can omit the session ID or set it to null.</td>
</tr>
</tbody>
</table>

#### 3.9.1.2 Returns

Returns a string indicating the current user name for the session.

### 3.9.2 `getSessionEnvironment()` Method

Use this method to retrieve the environment object for the current session.

#### 3.9.2.1 Signature

```java
SessionEnvironment getSessionEnvironment(String sessionID);
```

<table>
<thead>
<tr>
<th>Arguments</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>String <code>sessionID</code></td>
<td>Specifies the session ID, which is usually returned by the logon method. If the SOAP client engine can handle HTTP cookies, you can omit the session ID or set it to null.</td>
</tr>
</tbody>
</table>

#### 3.9.2.2 Returns

This method returns a session environment object (for more information, see Section 2.57, "SessionEnvironment Structure").

### 3.9.3 `getSessionVariable()` Method

Use this method to retrieve a list of session variables.
3.9.3.1 Signature
List[] getSessionVariables(List[] names, String sessionID);

<table>
<thead>
<tr>
<th>Arguments</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>List[] names</td>
<td>Specifies the names of the session variables.</td>
</tr>
<tr>
<td>String sessionID</td>
<td>Specifies the session ID, which is usually returned by the logon method. If the SOAP client engine can handle HTTP cookies, you can omit the session ID or set it to null.</td>
</tr>
</tbody>
</table>

3.9.3.2 Returns
This method returns values of the Oracle BI EE variables associated with the current session.

3.9.4 impersonate() Method
Use this method to log on and impersonate the user during the SAWSessionService service. This method is useful when you need to create sessions for multiple users and have only the administrator's name and password. You do not need to use the (logon) method if you use the impersonate() method.

If user authentication or impersonation fails, an exception is thrown.

3.9.4.1 Signature
String impersonate(String name, String password, String impersonateID);

<table>
<thead>
<tr>
<th>Arguments</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>String name</td>
<td>Specifies the user name to log on and authenticate.</td>
</tr>
<tr>
<td>String password</td>
<td>Specifies the password for the user. If there is no password for the user, leave this field empty (void).</td>
</tr>
<tr>
<td>String impersonateID</td>
<td>Specifies the user name to impersonate the authenticated user.</td>
</tr>
</tbody>
</table>

3.9.4.2 Returns
This method returns the session ID and sets an HTTP session cookie. The session ID is used in other methods to identify the Oracle Business Intelligence web services session.

3.9.5 impersonateex() Method
Use this method to log on and impersonate the user in the SAWSessionService service. Similar to the impersonate method, but impersonateex can specify optional session parameters. This method is useful when you need to create sessions for multiple users and have only the administrator's name and password. You do not need to use the (logon) method if you use the impersonateex() method.

If user authentication or impersonation fails, then an exception is thrown.

3.9.5.1 Signature
AuthResults impersonateex(String name, String password, String impersonateID, SAWSessionParameters sessionparams);
3.9.5.2 Returns
This method returns the AuthResult structure containing the session ID, and also sets
an HTTP session cookie. The session ID is used in other methods to identify the Oracle
Business Intelligence Presentation Services session. For more information, see
Section 2.10, "AuthResult Structure".

3.9.6 keepAlive() Method
Use this method to instruct Oracle BI EE Presentation Services not to end particular
web user sessions due to inactivity. The effect of this method on session lifetime is the
same as if those users performed an activity in the browser such as clicking an
analysis, or invoking a method.

3.9.6.1 Signature
void keepAlive(String[] sessionID);

3.9.7 logoff() Method
Use this method to log off the user from Oracle BI EE Presentation Services.

3.9.7.1 Signature
void logoff(String sessionID);

3.9.8 logon() Method
Use this method to authenticate the user. If authentication fails, an exception is
thrown.

3.9.8.1 Signature
String logon(String name, String password);
3.9.8.2 Returns
This method returns the session ID and sets an HTTP session cookie. The session ID is used in other methods to identify the Oracle BI EE Presentation Services session.

3.9.9 logonex() Method
Use this method to authenticate the user. Logonex() to the logon method, but logonex can specify optional session parameters. If authentication fails, an exception is thrown.

3.9.9.1 Signature
AuthResult logonex(String name, String password, SAWSessionParameters sessionparams);

<table>
<thead>
<tr>
<th>Arguments</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>String name</td>
<td>Specifies the user name to authenticate.</td>
</tr>
<tr>
<td>String password</td>
<td>Specifies the password for the user. If there is no password, leave this field empty (void).</td>
</tr>
<tr>
<td>SAWSessionParameters sessionparams</td>
<td>Optional. Specifies the sessionparams to use, supplied in the SAWSessionParameters structure. For information about the SAWSessionParameters structure, see Section 2.55, &quot;SAWSessionParameters Structure&quot;.</td>
</tr>
</tbody>
</table>

3.9.9.2 Returns
This method returns the AuthResult structure containing the session ID, and also sets an HTTP session cookie. The session ID is used in other methods to identify the Oracle Business Intelligence Presentation Services session.

3.10 SchedulerService Service
The following terms are associated with the SchedulerService service:

- Agents (or iBots) - These are Presentation Services catalog objects.
- Jobs - These are scheduler objects, and every agent has at least one job stored in the BI_PLATFORM schema.
- JobInstances - These are scheduler objects representing active or completed jobs and are stored in the BI_PLATFORM schema.

Use this service to list, and detail scheduler jobs and job instances, and to purge and remove job instances (removing a job automatically purges job instances). Deleting agents automatically removes jobs.

To use this service, you must obtain a user session ID to return a list of Job or Job Instance Reference ID's, which you use to get details or remove the object. You obtain a user session ID by using the logon() method of the SAW session service (for more information, see Section 3.9.8, "Logon() Method"). You must then apply filters to specify particular Job Reference IDs and Job Instance IDs.
For examples of using the SchedulerService service methods, see Section 3.10.8, "Examples of Using the SchedulerService API"

The client must be granted the privileges Access SOAP, and Access SchedulerService Service to call methods in the SchedulerService service API. These privileges are granted by default to the BIConsumer application role. You manage these privileges using the Manage Privileges Page in Presentation Services Administration. For more information, see "Using Presentation Services Administration" in Oracle Fusion Middleware Security Guide for Oracle Business Intelligence Enterprise Edition.

The methods described in this section are synchronous unless stated otherwise. Table 3–5 shows the supported methods.

<table>
<thead>
<tr>
<th>Method Names</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Section 3.10.1, &quot;getJobReferences() Method&quot;</td>
<td>Returns a list of Jobs that match the selection criteria in the specified filter argument.</td>
</tr>
<tr>
<td>Section 3.10.2, &quot;getJobInstanceReferences() Method&quot;</td>
<td>Returns a list of Job Instances that match the selection criteria in the specified filter argument.</td>
</tr>
<tr>
<td>Section 3.10.3, &quot;getJob() Method&quot;</td>
<td>Returns a Job definition for a specified Job reference.</td>
</tr>
<tr>
<td>Section 3.10.4, &quot;getJobInstance() Method&quot;</td>
<td>Returns Job Instance details for a specified Job Reference.</td>
</tr>
<tr>
<td>Section 3.10.5, &quot;cancelJobInstance() Method&quot;</td>
<td>Requests to cancel an executing Job Instance for a specified Job Reference.</td>
</tr>
<tr>
<td>Section 3.10.6, &quot;removeJobs() Method&quot;</td>
<td>Requests to remove a Job definition for a specified Job Reference.</td>
</tr>
<tr>
<td>Section 3.10.7, &quot;purgeJobInstances() Method&quot;</td>
<td>Requests to purge an existing Job Instance for a specified Job Reference.</td>
</tr>
</tbody>
</table>

### 3.10.1 getJobReferences() Method

Use this method to get a list of job references based on a filter.

Returned references are not live and are invalidated when jobs or instances are deleted.

#### 3.10.1.1 Signature

```java
JobReference[] getJobReferences(List[] JobFilter, String SessionID);
```

<table>
<thead>
<tr>
<th>Arguments</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>List[] JobFilter</td>
<td>Selection criteria that returns matching job references. An empty JobFilter results in all job references being returned. Note that filters are applied in the context of the calling user, which means that a user is restricted to listing jobs within their tenancy but does not require any Presentation Services catalog permissions on the agent corresponding to the job. For more information, see Section 2.23, “JobFilter Structure”, and Section 2.27, “JobReferenceAndInstanceReferences Structure”.</td>
</tr>
<tr>
<td>String SessionID</td>
<td>Specifies the session ID, which is usually returned by the login method. If the SOAP client engine can handle HTTP cookies, you can omit the session ID or set it to null. If no Session IDs are specified then all JobReferences are returned.</td>
</tr>
</tbody>
</table>
3.10.2 getJobInstanceReferences() Method

Use this method to get a list of job instances that correspond to running, cancelled or completed jobs. The JobInstanceFilter must include one or more Job References (unknown Job References are ignored).

A structure is returned in the list for each Job which has associated Job Instances that satisfy the filter. For example, if the method is invoked with a JobInstanceFilter that specifies three Job references, and two of these Jobs are found to have associated Job Instances, then there will be two JobReferenceAndInstanceReferences structures returned in the list.

There is no limit to the number of structures and job instances that can be returned. Performance of this method is critical and must be optimized to allow efficient polling of job status.

References are not live and are invalidated if jobs or instances are deleted or cancelled.

The following properties can be applied when listing job instance references:

- List of JobReference [Mandatory]. For more information, see Section 2.27, "JobReferenceAndInstanceReferences Structure"
- JobInstanceStatus [Optional] For more information, see Section 2.26, "JobInstanceStatus Enumeration".
- JobFilter, JobInstanceFilter, and PurgeJobInstancesFilter properties are selection criteria that are used as follows:
  - A filter is always applied in the context of the current user.
  - Properties in the filter are selection criteria.
  - Filter and its properties must be populated according to the schema.
  - If the selection criteria are valid, but would return Jobs that are not visible to the current user these jobs is excluded without error.
  - All properties in a filter is used as selection criteria (union).
  - Filter criteria are applied by the server at the time the request is serviced.

For more information, see Section 2.23, "JobFilter Structure", Section 2.25, "JobInstanceFilter Structure", and Section 2.40, "PurgeJobInstancesFilter Structure".

3.10.2.1 Signature

JobReferenceAndInstanceReferences[] getJobInstanceReferences(Array JobInstanceFilter, String SessionID);

<table>
<thead>
<tr>
<th>Arguments</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>JobInstanceFilter</td>
<td>Specifies the selection criteria that determines which JobInstanceReferences to return. For more information, see Section 2.25, &quot;JobInstanceFilter Structure&quot; and Section 2.27, &quot;JobReferenceAndInstanceReferences Structure&quot;.</td>
</tr>
<tr>
<td>String SessionID</td>
<td>Specifies the session ID, which is usually returned by the logon method. If the SOAP client engine can handle HTTP cookies, you can omit the session ID or set it to null.</td>
</tr>
</tbody>
</table>

3.10.3 getJob() Method

Use this method to get the Job definition given a Job Reference. If you try to get a job that does not exist, a Job not found fault is raised.
3.10.3.1 Signature

Job[] getJob(String JobReference, String SessionID);

<table>
<thead>
<tr>
<th>Arguments</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>String JobReference</td>
<td>Specifies a unique job identifier. For more information, see Section 2.22, &quot;Job Structure&quot;.</td>
</tr>
<tr>
<td>String SessionID</td>
<td>Specifies the session ID, which is usually returned by the logon method. If the SOAP client engine can handle HTTP cookies, you can omit the session ID or set it to null.</td>
</tr>
</tbody>
</table>

3.10.4 getJobInstance() Method

Use this method to get the Job Instance details, when given a Job Instance Reference. If you try to get a Job Instance that does not exist, a JobInstance not found error is raised.

3.10.4.1 Signature

JobInstance[] getJobInstance(String JobReference, String JobInstanceReference, String SessionID);

<table>
<thead>
<tr>
<th>Arguments</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>String JobReference</td>
<td>Specifies a unique job identifier. For more information, see Section 2.24, &quot;JobInstance Structure&quot;.</td>
</tr>
<tr>
<td>String JobInstanceReference</td>
<td>Specifies a unique job instance identifier.</td>
</tr>
<tr>
<td>String SessionID</td>
<td>Specifies the session ID, which is usually returned by the logon method. If the SOAP client engine can handle HTTP cookies, you can omit the session ID or set it to null.</td>
</tr>
</tbody>
</table>

3.10.5 cancelJobInstance() Method

Use this method to request to cancel an executing Job Instance, when given a reference to an existing Job Instance.

Successful return indicates that the cancellation request has been accepted. Callers must use the getJobInstanceReferences operation (with an appropriate filter - such as Job Reference and State) or using the getJobInstance operation (and checking the JobInstanceStatus property), to determine if the cancellation has completed.

Cancelling a Job Instance that is not running has no effect. Cancelling a Job Instance that does not exist raises a JobInstance not found error.

3.10.5.1 Signature

Boolean cancelJobInstance(String JobReference, String JobInstanceReference, String SessionID);

<table>
<thead>
<tr>
<th>Arguments</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>String JobReference</td>
<td>Specifies a unique job identifier. For more information, see Section 2.27, &quot;JobReferenceAndInstanceReferences Structure&quot;.</td>
</tr>
<tr>
<td>String JobInstanceReference</td>
<td>Specifies a unique job instance identifier. For more information, see Section 2.27, &quot;JobReferenceAndInstanceReferences Structure&quot;.</td>
</tr>
</tbody>
</table>
3.10.6 removeJobs() Method

Use this method to remove associated jobs, given a list of Job References. If you try to remove a job that does not exist, it will be ignored and logged. The number of Jobs actually removed is returned.

3.10.6.1 Signature

Unsigned Integer removeJobs(List JobReference[], String SessionID);

<table>
<thead>
<tr>
<th>Arguments</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>List JobReference[]</td>
<td>Specifies the job identifiers of the removed jobs. For more information, see Section 2.27, &quot;JobReferenceAndInstanceReferences Structure&quot;.</td>
</tr>
<tr>
<td>String SessionID</td>
<td>Specifies the session ID, which is usually returned by the logon method. If the SOAP client engine can handle HTTP cookies, you can omit the session ID or set it to null.</td>
</tr>
</tbody>
</table>

3.10.7 purgeJobInstances() Method

Use this method to purge Job Instances based on a filter. The purgeJobInstancesFilter must contain either a populated list of Job References or UserIDs, and if this is not done correctly then it will result in an Invalid Choice SOAP fault being raised. Attempting to purge with a Job Reference or UserID that does not exist will be ignored and logged.

The following properties can be applied when purging job instances:

- Choice of only one of the following: [Mandatory]:
  - List of Job Reference [Optional].
  - List of User IDs [Optional].

3.10.7.1 Signature

Void purgeJobInstances(List[] PurgeJobInstancesFilter, String SessionID);

<table>
<thead>
<tr>
<th>Arguments</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>List[] PurgeJobInstancesFilter</td>
<td>Specifies filter properties for the Job Instances to purge. For more information, see Section 2.40, &quot;PurgeJobInstancesFilter Structure&quot;.</td>
</tr>
<tr>
<td>String SessionID</td>
<td>Specifies the session ID, which is usually returned by the logon method. If the SOAP client engine can handle HTTP cookies, you can omit the session ID or set it to null.</td>
</tr>
</tbody>
</table>

3.10.8 Examples of Using the SchedulerService API

This section assumes that the reader is familiar with Java and SOAP based web services. The Java code that follows is intended to illustrate API usage.

- Section 3.10.8.1, "Example - Creating a Session and Scheduler Service"
3.10.8.1 Example - Creating a Session and Scheduler Service
As with all services detailed here, to use the scheduler service you must first establish a SAWSession, then instantiate a handle to the service endpoint:

```java
SAWSessionService sessionService = new SAWSessionService();
SAWSessionServiceSoap sessionServiceSoap = sessionService.getSAWSessionServiceSoap();
String sessionId = sessionServiceSoap.logon("<USER_NAME>", "<PASSWORD>");
SchedulerService schedulerService = new SchedulerService();
SchedulerServiceSoap schedulerServiceSoap = schedulerService.getSchedulerServiceSoap();
```

3.10.8.2 Example - Finding Job References for a User and Displaying the Job Names
This example depends on the code from Section 3.10.8.1, "Example - Creating a Session and Scheduler Service" to create the session and service.

```java
JobFilter jobFilter = new JobFilter();
jobFilter.getUserID().add("<USER_ID>");
List<Long> jobRefs = schedulerServiceSoap.getJobReferences(jobFilter, sessionId);
for (long jobRef : jobRefs)
{
    Job job = schedulerServiceSoap.getJob(jobRef, sessionId);
    System.out.println("Name = " + job.getName());
}
```

3.10.8.3 Example - Finding Job Instances for Two Given Job References
This example depends on the code from Section 3.10.8.1, "Example - Creating a Session and Scheduler Service" to create the session and service.

```java
// Create Job Instance Filter
JobInstanceFilter jobInstanceFilter = new JobInstanceFilter();
jobInstanceFilter.getJobReference().add("<JOB_REFERENCE_1>");
jobInstanceFilter.getJobReference().add("<JOB_REFERENCE_2>");
jobInstanceFilter.setJobInstanceStatus(null);
List<JobReferenceAndInstanceReferences> listJobRefAndInstanceRefs = schedulerServiceSoap.getJobInstanceReferences(jobInstanceFilter, sessionId);
System.out.println("Number of Jobs with Instances found: " +
```
3.10.8.4 Example - Cancelling All Job Instances Associated with a Job Reference

This example cancels all Job Instances for the Job with the given Job Reference. This example also depends on the code from Section 3.10.8.1, "Example - Creating a Session and Scheduler Service" to create the session and service.

```java
// Create Job Instance Filter
JobInstanceFilter jobInstanceFilter = new JobInstanceFilter();
jobInstanceFilter.getJobReference().add(<JOB_REFERENCE>);

// Get JobInstance References
List<JobReferenceAndInstanceReferences> listJobRefAndInstanceRefs =
schedulerServiceSoap.getJobInstanceReferences(jobInstanceFilter, sessionId);

// Cancel all the obtained Job Instances
for (JobReferenceAndInstanceReferences jobRefAndInstanceRefs :
listJobRefAndInstanceRefs) {
    for (BigInteger jobInstanceRef : jobRefAndInstanceRefs.getJobInstanceReference()) {
        System.out.println("Cancelling Job = " +
jobRefAndInstanceRefs.getJobReference() + ", Job Instance = " + jobInstanceRef);
        boolean result = schedulerServiceSoap.cancelJobInstance(jobRef,
jobInstanceRef, sessionId);
        System.out.println("Result = " + result);
    }
}
```

3.10.8.5 Example - Finding and Displaying all Agents in the WebCatalogService

This example shows how to iterate through the WebCatalogService and display the path of all the agents found. This example also depends on the code from Section 3.10.8.1, "Example - Creating a Session and Scheduler Service" to create the session and service.

You could extend this example, so that once an agent has been found, it can be used to call iBot web service methods (for example, Enable the Agent using the Agent path found). Section 3.4, "iBotService Service"

```java
WebCatalogService webCatalogService = new WebCatalogService();
WebCatalogServiceSoap webCatalogServiceSoap =
webCatalogService.getWebCatalogServiceSoap();

void outputAgentsInFolder(String path) {
    List<ItemInfo> items = null;
    try {
        // Get folder items
        items = webCatalogServiceSoap.getSubItems(path, "*", false, null,
sessionId);
        for (ItemInfo itemInfo : items) {
            // If item is Agent then display Agent path
            if (itemInfo.getSignature().equals("coibot1")) {
```
System.out.println("Agent Path = " + itemInfo.getPath());

    } catch (SOAPFaultException soapFault) {
        System.out.println("SOAP Fault for path: " + path);
    } catch (Exception e) {
        e.printStackTrace();
    }
}

3.11 ScorecardAssessmentService Service

Use this service to provide methods for the scorecard assessment engine web service. Table 3–15 shows the supported methods.

Table 3–15 ScorecardAssessmentService Methods

<table>
<thead>
<tr>
<th>Method Names</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Section 3.11.1, &quot;executeScorecard() Method&quot;</td>
<td>Exposes the scorecard assessment engine web service's executeScorecard method.</td>
</tr>
<tr>
<td>Section 3.11.2, &quot;executeScorecardTree() Method&quot;</td>
<td>Retrieves assessments for one or more of the scorecard’s trees in their entirety.</td>
</tr>
<tr>
<td>Section 3.11.3, &quot;generateKPIDrillTo() Method&quot;</td>
<td>Generates an Oracle Business Intelligence report containing a detail report for the specified KPI.</td>
</tr>
<tr>
<td>Section 3.11.4, &quot;getScorecardKPIDimensions() Method&quot;</td>
<td>Returns the set of dimensions that are related to the KPIs currently in use by the strategy and initiative trees.</td>
</tr>
</tbody>
</table>

3.11.1 executeScorecard() Method

Use this method to expose the scorecard assessment engine web service’s executeScorecard method.

3.11.1.1 Signature

AssessmentResult[] executeScorecard(String ScorecardPath, Array NodeInfos, Array Variables, Boolean GetFresh, Session sessionID);

For more information about AssessmentResult[], see Section 2.9, "AssessmentResult Structure".

<table>
<thead>
<tr>
<th>Arguments</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>String ScorecardPath</td>
<td>Specifies the Presentation Services catalog path identifying the folder containing the scorecard you want to assess.</td>
</tr>
<tr>
<td>Array NodeInfos</td>
<td>Specifies an array of nodes for which you need assessments. For more information, see Section 2.34.1, &quot;NodeTypes Enumeration&quot;.</td>
</tr>
<tr>
<td>Variable[] Variables</td>
<td>Specifies an array of Variable objects that you want to apply in the query. For more information, see Section 2.64, &quot;Variable Structure&quot;.</td>
</tr>
<tr>
<td>Boolean GetFresh</td>
<td>(Optional) Specifies whether server side Presentation Services cache should be hit (true), or not (false)? Defaults to false.</td>
</tr>
</tbody>
</table>
### 3.11.2 `executeScorecardTree()` Method

Use this method to retrieve assessments for one or more of the scorecard’s trees in their entirety.

#### 3.11.2.1 Signature

```java
AssessmentResult[] executeScorecardTree(String ScorecardPath, Integer TreesFlag, Array Variables, Boolean GetFresh, Session sessionID);
```

<table>
<thead>
<tr>
<th>Arguments</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Session sessionID</td>
<td>(Optional) Specifies the SAW Session ID. This parameter can usually be omitted as the session ID is stored as a cookie.</td>
</tr>
</tbody>
</table>

### 3.11.3 `generateKPIDrillTo()` Method

Use this method to generate an Oracle Business Intelligence report containing a detail report for the specified KPI.

#### 3.11.3.1 Signature

```java
DrillToReportURLResult generateKPIDrillTo(String ScorecardPath, String NodeID, String NodeType, String ReportPath, Array Variables, Boolean IsDrillToReport, chartHeight, chartWidth, Session sessionID);
```

<table>
<thead>
<tr>
<th>Arguments</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>String ScorecardPath</td>
<td>Specifies the path to the scorecard folder containing the strategy tree or initiative tree the specified KPI is pinned to.</td>
</tr>
<tr>
<td>Integer TreesFlag</td>
<td>Specifies an integer indicating which trees you are interested in. Use the &quot;bitwise or&quot; operator (</td>
</tr>
<tr>
<td>Variable[] Variables</td>
<td>Specifies an array of Variable objects that you want to apply in the query. For more information, see Section 2.64, &quot;Variable Structure&quot;.</td>
</tr>
<tr>
<td>String sessionID</td>
<td>(Optional) Specifies the SAW session ID. This parameter can usually be omitted as the session ID is stored as a cookie.</td>
</tr>
</tbody>
</table>
3.11.4 getScorecardKPIDimensions() Method

Use this method to return the set of dimensions that are related to the KPIs currently in use by the strategy and initiative trees.

3.11.4.1 Signature

ScorecardDimensionReference[] getScorecardKPIDimensions(Boolean GetFresh, Session sessionID);

<table>
<thead>
<tr>
<th>Arguments</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boolean GetFresh</td>
<td>(Optional) Specifies whether the results must be freshly retrieved from the middle-tier (true) or whether the cached list is sufficient (false). Default: false.</td>
</tr>
<tr>
<td>Session sessionID</td>
<td>(Optional) Specifies the HTTP Session ID that should be used to make the request. Default: The current HTTP session (as identified by the session cookie).</td>
</tr>
</tbody>
</table>

3.12 ScorecardMetadataService Service

Use this service to provide methods for the ScorecardMetadataService SOAP API for creating, updating and deleting Scorecard Metadata in the Oracle BI Presentation Services Catalog. Table 3–16 shows the supported methods.

<table>
<thead>
<tr>
<th>Method Names</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Section 3.12.1, &quot;createScorecard() Method&quot;</td>
<td>Creates a scorecard.</td>
</tr>
<tr>
<td>Section 3.12.2, &quot;openScorecard() Method&quot;</td>
<td>Opens a scorecard (in read only mode).</td>
</tr>
<tr>
<td>Section 3.12.3, &quot;closeScorecard() Method&quot;</td>
<td>Closes a scorecard.</td>
</tr>
<tr>
<td>Section 3.12.4, &quot;editScorecard() Method&quot;</td>
<td>Edits a scorecard (opens in read-write mode).</td>
</tr>
<tr>
<td>Section 3.12.5, &quot;getScorecardDetails() Method&quot;</td>
<td>Retrieves scorecard details.</td>
</tr>
<tr>
<td>Section 3.12.6, &quot;updateScorecardSettings() Method&quot;</td>
<td>Updates scorecard settings.</td>
</tr>
<tr>
<td>Section 3.12.7, &quot;addStrategyNode() Method&quot;</td>
<td>Adds a strategy node to a specified scorecard.</td>
</tr>
<tr>
<td>Section 3.12.8, &quot;deleteStrategyNode() Method&quot;</td>
<td>Deletes a strategy node from a specified scorecard.</td>
</tr>
<tr>
<td>Section 3.12.9, &quot;updateStrategyNode() Method&quot;</td>
<td>Updates a strategy node for a specified scorecard.</td>
</tr>
</tbody>
</table>
Table 3–16 (Cont.) ScorecardMetadataService Methods

<table>
<thead>
<tr>
<th>Method Names</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Section 3.12.10, &quot;moveStrategyNode() Method&quot;</td>
<td>Moves a strategy node to a new parent node in a specified scorecard.</td>
</tr>
<tr>
<td>Section 3.12.11, &quot;addInitiativeNode() Method&quot;</td>
<td>Adds an initiative node to a specified scorecard.</td>
</tr>
<tr>
<td>Section 3.12.12, &quot;deleteInitiativeNode() Method&quot;</td>
<td>Deletes an initiative node from a specified scorecard.</td>
</tr>
<tr>
<td>Section 3.12.13, &quot;moveInitiativeNode() Method&quot;</td>
<td>Moves an initiative node to a new parent node in a specified scorecard.</td>
</tr>
<tr>
<td>Section 3.12.14, &quot;openTreeNode() Method&quot;</td>
<td>Reads the information for a particular strategy or initiative node within a specific scorecard.</td>
</tr>
<tr>
<td>Section 3.12.15, &quot;addPerspective() Method&quot;</td>
<td>Adds a perspective to a specified scorecard.</td>
</tr>
<tr>
<td>Section 3.12.16, &quot;deletePerspective() Method&quot;</td>
<td>Deletes a perspective from a specified scorecard.</td>
</tr>
<tr>
<td>Section 3.12.17, &quot;updatePerspective() Method&quot;</td>
<td>Updates a perspective in a specified scorecard.</td>
</tr>
<tr>
<td>Section 3.12.18, &quot;addScorecardView() Method&quot;</td>
<td>Adds a scorecard view to a specified scorecard.</td>
</tr>
<tr>
<td>Section 3.12.19, &quot;updateScorecardView() Method&quot;</td>
<td>Updates a scorecard view in a specified scorecard.</td>
</tr>
<tr>
<td>Section 3.12.20, &quot;deleteScorecardView() Method&quot;</td>
<td>Deletes a scorecard view from a specified scorecard.</td>
</tr>
<tr>
<td>Section 3.12.21, &quot;updateCausalLinkages() Method&quot;</td>
<td>Updates the causal linkages in the specified scorecard.</td>
</tr>
<tr>
<td>Section 3.12.22, &quot;updateScorecardItemACL() Method&quot;</td>
<td>Updates the Access Control List (ACL) for an item in the specified scorecard.</td>
</tr>
</tbody>
</table>

3.12.1 createScorecard() Method

Use this method to create a scorecard.

3.12.1.1 Signature

CreateScorecardResult createScorecard(String Name, String Description, String Path, String RootNodeName, Boolean UseDefaultPerspectives, String SessionID);

<table>
<thead>
<tr>
<th>Arguments</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>String Name</td>
<td>Specifies the name you want to give to the new scorecard.</td>
</tr>
<tr>
<td>String Description</td>
<td>Specifies the description you want to give to the new scorecard.</td>
</tr>
<tr>
<td>String Path</td>
<td>Specifies the catalog path where you want to save the new scorecard.</td>
</tr>
<tr>
<td>String RootNodeName</td>
<td>Specifies the name that you want to give to the root node of the new scorecard’s strategy tree.</td>
</tr>
<tr>
<td>Boolean UseDefaultPerspectives</td>
<td>Specifies whether the scorecard should be pre populated with the default perspectives (true) or not (false).</td>
</tr>
<tr>
<td>String SessionID</td>
<td>(Optional) Specifies the HTTP session ID.</td>
</tr>
</tbody>
</table>
3.12.2 openScorecard() Method

Use this method to open a scorecard.

3.12.2.1 Signature

OpenScorecardResult openScorecard(String Path, Boolean RequestedReadWrite, Object RetryOrigResult, String SessionID);

<table>
<thead>
<tr>
<th>Arguments</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>String Path</td>
<td>Specifies the catalog path of the scorecard you want to open.</td>
</tr>
<tr>
<td>Boolean RequestedReadWrite</td>
<td>Specifies whether you want to open the scorecard in Edit mode (true) or View mode (false).</td>
</tr>
<tr>
<td>String SessionID</td>
<td>(Optional) Specifies the HTTP session ID.</td>
</tr>
</tbody>
</table>

3.12.3 closeScorecard() Method

Use this method to close a scorecard.

3.12.3.1 Signature

CloseScorecardResult closeScorecard(String ScorecardID, String ErrorCode, String ErrorMessage);

<table>
<thead>
<tr>
<th>Arguments</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>String ScorecardID</td>
<td>Specifies the ID of the scorecard you want to close.</td>
</tr>
<tr>
<td>Boolean Unlock</td>
<td>Specifies whether you want to unlock the scorecard (true) or not (false).</td>
</tr>
<tr>
<td>String SessionID</td>
<td>(Optional) Specifies the HTTP session ID.</td>
</tr>
</tbody>
</table>

3.12.4 editScorecard() Method

Use this method to edit a scorecard.

3.12.4.1 Signature

OpenScorecardResult editScorecard(String Path, String ScorecardID, Boolean Edit, String SessionID);

<table>
<thead>
<tr>
<th>Arguments</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>String Path</td>
<td>Specifies the catalog path of the scorecard you want to open.</td>
</tr>
<tr>
<td>String ScorecardID</td>
<td>Specifies the ID of the scorecard you want to close.</td>
</tr>
<tr>
<td>Boolean Edit</td>
<td>Specifies whether you want to open the scorecard in Edit mode (true) or View mode (false).</td>
</tr>
<tr>
<td>String SessionID</td>
<td>(Optional) Specifies the HTTP session ID.</td>
</tr>
</tbody>
</table>

3.12.5 getScorecardDetails() Method

Use this method to retrieve scorecard details.
3.12.5.1 Signature
GetScorecardDetailsResult getScorecardDetails(String ScorecardID, Boolean GetSettings, Boolean GetPerspectives, Boolean GetStrategyTree, Boolean GetInitiativeTree, Boolean GetCausalLinkages, Boolean GetViews, Boolean IncludeCatalogObjects, String SessionID);

<table>
<thead>
<tr>
<th>Arguments</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>String ScorecardID</td>
<td>The ID of the Scorecard you are interested in.</td>
</tr>
<tr>
<td>Boolean GetSettings</td>
<td>Specifies whether you want the results to include the Scorecard Settings (true) or not (false).</td>
</tr>
<tr>
<td>Boolean GetPerspectives</td>
<td>Specifies whether you want the results to include the Scorecard’s Perspectives (true) or not (false).</td>
</tr>
<tr>
<td>Boolean GetStrategyTree</td>
<td>Specifies whether you want the results to include the Scorecard’s Strategy Tree (true) or not (false).</td>
</tr>
<tr>
<td>Boolean GetInitiativeTree</td>
<td>Specifies whether you want the results to include the Scorecard’s Initiative Tree (true) or not (false).</td>
</tr>
<tr>
<td>Boolean GetCausalLinkages</td>
<td>Specifies whether you want the results to include the Scorecard’s Causal Linkages (true) or not (false).</td>
</tr>
<tr>
<td>Boolean GetViews</td>
<td>Specifies whether you want the results to include the Scorecard’s Views (true) or not (false).</td>
</tr>
<tr>
<td>Boolean IncludeCatalogObjects</td>
<td>Specifies whether you want the results to include the Scorecard’s Catalog Objects (true) or not (false).</td>
</tr>
<tr>
<td>String SessionID</td>
<td>(Optional) Specifies the HTTP session ID.</td>
</tr>
</tbody>
</table>

3.12.6 updateScorecardSettings() Method
Use this method to update scorecard settings.

3.12.6.1 Signature
void updateScorecardSettings(String ScorecardID, Object ScorecardSettings, String SessionID);

<table>
<thead>
<tr>
<th>Arguments</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>String ScorecardID</td>
<td>Specifies the ID of the Scorecard you want to update.</td>
</tr>
<tr>
<td>Object ScorecardSettings</td>
<td>Specifies the new scorecard settings that you want to apply.</td>
</tr>
<tr>
<td>String SessionID</td>
<td>(Optional) Specifies the HTTP session ID.</td>
</tr>
</tbody>
</table>

3.12.7 addStrategyNode() Method
Use this method to add a strategy node to the specified scorecard.

3.12.7.1 Signature
ObjectiveNode (or PinnedKPINode) addStrategyNode(String ScorecardID, Object StrategyNode, String SessionID);

<table>
<thead>
<tr>
<th>Arguments</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>String ScorecardID</td>
<td>Specifies the ID of the Scorecard you want to add the strategy node to.</td>
</tr>
</tbody>
</table>
3.12.8 deleteStrategyNode() Method

Use this method to delete a strategy node from a specified scorecard.

3.12.8.1 Signature

```
DeleteNodeResult deleteStrategyNode(String ScorecardID, String NodeID, Boolean RemoveLinkedObjective, Boolean Recursive, String SessionID);
```

### Arguments

<table>
<thead>
<tr>
<th>Argument</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>String ScorecardID</td>
<td>Specifies the ID of the Scorecard you want to remove the strategy node from.</td>
</tr>
<tr>
<td>String NodeID</td>
<td>Specifies the ID of the node you want to delete.</td>
</tr>
<tr>
<td>Boolean RemoveLinkedObjective</td>
<td>Specifies whether you want to delete all the nodes linked to the specified node (true) or not (false).</td>
</tr>
<tr>
<td>Boolean Recursive</td>
<td>Specifies whether you want to delete all the nodes beneath the specified node (true) or not (false).</td>
</tr>
<tr>
<td>String SessionID</td>
<td>(Optional) Specifies the HTTP session ID.</td>
</tr>
</tbody>
</table>

3.12.9 updateStrategyNode() Method

Use this method to update a strategy node in the specified scorecard.

3.12.9.1 Signature

```
ObjectiveNode (or PinnedKPINode) updateStrategyNode(String ScorecardID, Object StrategyNode, String SessionID);
```

### Arguments

<table>
<thead>
<tr>
<th>Argument</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>String ScorecardID</td>
<td>Specifies the ID of the Scorecard containing the strategy node you want to update.</td>
</tr>
<tr>
<td>Object StrategyNode</td>
<td>Specifies the strategy node that you want to update.</td>
</tr>
<tr>
<td>String SessionID</td>
<td>(Optional) Specifies the HTTP session ID.</td>
</tr>
</tbody>
</table>

3.12.10 moveStrategyNode() Method

Use this method to move a strategy node to a new parent node in the specified scorecard.

3.12.10.1 Signature

```
MoveNodeResult moveStrategyNode(String ScorecardID, String NodeToBeMovedGuid, String OriginalParentGuid, String ReferenceNodeGuid, String NewParentGuid, String Operation, String SessionID);
```

### Arguments

<table>
<thead>
<tr>
<th>Argument</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>String ScorecardID</td>
<td>Specifies the ID of the Scorecard containing the strategy node you want to move.</td>
</tr>
<tr>
<td>Object StrategyNode</td>
<td>Specifies the strategy node that you want to move.</td>
</tr>
<tr>
<td>String SessionID</td>
<td>(Optional) Specifies the HTTP session ID.</td>
</tr>
</tbody>
</table>
3.12.11 addInitiativeNode() Method

Use this method to add an initiative node to the specified scorecard.

3.12.11.1 Signature

InitiativeNode (or PinnedKPINode) addInitiativeNode(String ScorecardID, Object InitiativeNode, String SessionID);

<table>
<thead>
<tr>
<th>Arguments</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>String ScorecardID</td>
<td>Specifies the ID of the Scorecard you want to add the initiative node to.</td>
</tr>
<tr>
<td>Object InitiativeNode</td>
<td>Specifies the initiative node that you want to add.</td>
</tr>
<tr>
<td>String SessionID</td>
<td>(Optional) Specifies the HTTP session ID.</td>
</tr>
</tbody>
</table>

3.12.12 deleteInitiativeNode() Method

Use this method to delete an initiative node from the specified scorecard.

3.12.12.1 Signature

DeleteNodeResult deleteInitiativeNode(String ScorecardID, String NodeID, Boolean RemoveLinkedInitiative, Boolean Recursive, String SessionID);

<table>
<thead>
<tr>
<th>Arguments</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>String ScorecardID</td>
<td>Specifies the ID of the Scorecard you want to remove the initiative node from.</td>
</tr>
<tr>
<td>String NodeID</td>
<td>Specifies the ID of the node that you want to delete.</td>
</tr>
<tr>
<td>Boolean RemoveLinkedInitiative</td>
<td>Specifies whether you want to delete all the nodes linked to the specified node (true) or not (false).</td>
</tr>
<tr>
<td>Boolean Recursive</td>
<td>Specifies whether you want to delete all the nodes beneath the specified node (true) or not (false).</td>
</tr>
<tr>
<td>String SessionID</td>
<td>(Optional) Specifies the HTTP session ID.</td>
</tr>
</tbody>
</table>
3.12.13 moveInitiativeNode() Method

Use this method to move an initiative node to a new parent node in the specified scorecard.

3.12.13.1 Signature

MoveNodeResult moveInitiativeNode(String ScorecardID, String NodeToBeMovedGuid, String OriginalParentGuid, String ReferenceNodeGuid, String NewParentGuid, String Operation, String SessionID);

<table>
<thead>
<tr>
<th>Arguments</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>String ScorecardID</td>
<td>Specifies the ID of the Scorecard containing the strategy node you want to move.</td>
</tr>
<tr>
<td>String NodeToBeMovedGuid</td>
<td>Specifies the ID of the node you want to move.</td>
</tr>
<tr>
<td>String OriginalParentGuid</td>
<td>Specifies the ID of the old parent node.</td>
</tr>
<tr>
<td>String ReferenceNodeGuid</td>
<td>Specifies the ID of the reference node (this is used with respect to the specified operation to determine the final resting place of the moved node).</td>
</tr>
<tr>
<td>String NewParentGuid</td>
<td>Specifies the ID of the new parent node.</td>
</tr>
<tr>
<td>String Operation</td>
<td>Specifies the move operation to apply. Specifies the operation ADD, UPDATE, or DELETE.</td>
</tr>
<tr>
<td>String SessionID</td>
<td>(Optional) Specifies the HTTP session ID.</td>
</tr>
</tbody>
</table>

3.12.14 openTreeNode() Method

Use this method to read the information for a particular strategy or initiative node within a specific scorecard.

3.12.14.1 Signature

openTreeNode(String scorecardID, String nodeID, String type, String sessionID);

<table>
<thead>
<tr>
<th>Arguments</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>String scorecardID</td>
<td>Specifies the ID of the scorecard node you want to open.</td>
</tr>
<tr>
<td>String nodeID</td>
<td>Specifies the ID of the Strategy or Initiative node.</td>
</tr>
<tr>
<td>String type</td>
<td>Specifies the type of the node (&quot;OBJECTIVE_NODE&quot; or &quot;INITIATIVE_NODE&quot;).</td>
</tr>
<tr>
<td>String sessionID</td>
<td>(Optional) Specifies the HTTP session ID.</td>
</tr>
</tbody>
</table>

3.12.15 addPerspective() Method

Use this method to add a perspective to a scorecard.

3.12.15.1 Signature

Perspective addPerspective(String ScorecardID, Object InitiativeNode, String SessionID);
3.12.16 deletePerspective() Method

Use this method to delete a perspective from the specified scorecard.

3.12.16.1 Signature

DeletePerspectiveResult deleteInitiativeNode(String ScorecardID, String PerspectiveID, String SessionID);

<table>
<thead>
<tr>
<th>Arguments</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>String ScorecardID</td>
<td>Specifies the ID of the Scorecard you want to add the perspective to.</td>
</tr>
<tr>
<td>Object Perspective</td>
<td>Specifies the perspective you want to add.</td>
</tr>
<tr>
<td>String SessionID</td>
<td>(Optional) Specifies the HTTP session ID.</td>
</tr>
</tbody>
</table>

3.12.17 updatePerspective() Method

Use this method to update a perspective in the specified scorecard.

3.12.17.1 Signature

Perspective updatePerspective(String ScorecardID, Object Perspective, String SessionID);

<table>
<thead>
<tr>
<th>Arguments</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>String ScorecardID</td>
<td>Specifies the ID of the Scorecard containing the perspective you want to update.</td>
</tr>
<tr>
<td>Object Perspective</td>
<td>Specifies the perspective you want to update.</td>
</tr>
<tr>
<td>String SessionID</td>
<td>(Optional) Specifies the HTTP session ID.</td>
</tr>
</tbody>
</table>

3.12.18 addScorecardView() Method

Use this method to add a scorecard view to the specified scorecard.

3.12.18.1 Signature

ItemInfo addScorecardView(String ScorecardID, Object XMLDocumentInfo, String SessionID);

<table>
<thead>
<tr>
<th>Arguments</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>String ScorecardID</td>
<td>Specifies the ID of the Scorecard you want to add a scorecard view to.</td>
</tr>
<tr>
<td>Object XMLDocumentInfo</td>
<td>Specifies the object containing the new view's metadata.</td>
</tr>
<tr>
<td>String SessionID</td>
<td>(Optional) Specifies the HTTP session ID.</td>
</tr>
</tbody>
</table>
3.12.19 updateScorecardView() Method

Use this method to update a scorecard view in the specified scorecard.

3.12.19.1 Signature
ItemInfo updateScorecardView(String ScorecardID, Object XMLDocumentInfo, String SessionID);

<table>
<thead>
<tr>
<th>Arguments</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>String ScorecardID</td>
<td>Specifies the ID of the Scorecard containing the view you want to update.</td>
</tr>
<tr>
<td>Object XMLDocumentInfo</td>
<td>Specifies the object containing the updated view's metadata.</td>
</tr>
<tr>
<td>String SessionID</td>
<td>(Optional) Specifies the HTTP session ID.</td>
</tr>
</tbody>
</table>

3.12.20 deleteScorecardView() Method

Use this method to delete a scorecard view from the specified scorecard.

3.12.20.1 Signature
DeleteScorecardViewResult deleteScorecardView(String ScorecardID, String Path, String SessionID);

<table>
<thead>
<tr>
<th>Arguments</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>String ScorecardID</td>
<td>Specifies the ID of the Scorecard containing the view you want to delete.</td>
</tr>
<tr>
<td>String Path</td>
<td>Specifies the catalog path of the view you want to delete.</td>
</tr>
<tr>
<td>String SessionID</td>
<td>(Optional) Specifies the HTTP session ID.</td>
</tr>
</tbody>
</table>

3.12.21 updateCausalLinkages() Method

Use this method to update the causal linkages in the specified scorecard.

3.12.21.1 Signature
UpdateCausallLinkageResult updateCausalLinkages(String Name, Array CausalLinkage, String SessionID);

<table>
<thead>
<tr>
<th>Arguments</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>String ScorecardID</td>
<td>Specifies the ID of the Scorecard containing the causal linkages you want to update.</td>
</tr>
<tr>
<td>Array CausalLinkage[]</td>
<td>Specifies an array of CausallLinkage structure objects that you want to update. For more information, see Section 2.13, &quot;CausalLinkage Structure&quot;.</td>
</tr>
<tr>
<td>String SessionID</td>
<td>(Optional) Specifies the HTTP session ID.</td>
</tr>
</tbody>
</table>

3.12.22 updateScorecardItemACL() Method

Use this method to update the Access Control List (ACL) for an item in the specified scorecard.
3.12.22.1 Signature

UpdateScorecardItemACLResult updateScorecardItemACL(String ScorecardID, Enumeration Type, String Path, String id, ACL acl, UpdateCatalogItemACLParams options, String SessionID);

Arguments | Description
--- | ---
String ScorecardID | Specifies the ID of the Scorecard containing the item whose ACL you want to update.
Enumeration Type | Specifies what type of object is having its ACL updated.
The Type field can be the following valid values: SCORECARD, STRATEGY_NODE, and INITIATIVE_NODE types.
String id | Specifies a scorecard tree NODE GUID which is only needed for Strategy Tree or Initiative Tree ACLs (when Type is STRATEGY_NODE or INITIATIVE_NODE). It can be null for other catalog types.
String Path | Specifies the path to the object whose ACL you want to update.
ACL acl | Specifies the new ACL. For more information, see Section 2.3, "ACL Structure".
UpdateCatalogItemACLParams options | The 'options' UpdateCatalogItemACLParams structure contains the UpdateACLMode and Recursive flags and is of type UpdateCatalogItemACLParams. For more information, see Section 2.62, "UpdateCatalogItemACLParams Structure".
String SessionID | (Optional) Specifies the HTTP session ID.

3.13 SecurityService Service

Use this service to provide methods for identifying accounts and privileges. Table 3–17 shows the supported methods.

<table>
<thead>
<tr>
<th>Method Names</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Section 3.13.1, &quot;forgetAccountsEx() Method&quot;</td>
<td>Removes accounts from the catalog.</td>
</tr>
<tr>
<td>Section 3.13.2, &quot;getAccounts() Method&quot;</td>
<td>Searches for Oracle BI EE user accounts.</td>
</tr>
<tr>
<td>Section 3.13.3, &quot;getAccountTenantID() Method&quot;</td>
<td>Gets the tenant ID of a specific account.</td>
</tr>
<tr>
<td>Section 3.13.4, &quot;getGlobalPrivilegeACL() Method&quot;</td>
<td>Gets the Access Control List for global privileges.</td>
</tr>
<tr>
<td>Section 3.13.5, &quot;getGlobalPrivileges() Method&quot;</td>
<td>Gets the list of all global privileges.</td>
</tr>
<tr>
<td>Section 3.13.6, &quot;getGroups() Method&quot;</td>
<td>Gets a list of catalog groups that are members of the account (for example, user or group</td>
</tr>
<tr>
<td>Section 3.13.7, &quot;getMembers() Method&quot;</td>
<td>Gets direct members of the catalog group.</td>
</tr>
<tr>
<td>Section 3.13.8, &quot;getPermissions() Method&quot;</td>
<td>Get the list of permissions for the specified user.</td>
</tr>
<tr>
<td>Section 3.13.9, &quot;getPermissionsEx() Method&quot;</td>
<td>Get the list of permissions for the specified user.</td>
</tr>
<tr>
<td>Section 3.13.10, &quot;getPrivilegesStatus() Method&quot;</td>
<td>Lists all privileges and their statuses.</td>
</tr>
</tbody>
</table>
### 3.13.1 forgetAccountsEx() Method

Use this method to remove accounts from the catalog.

**3.13.1.1 Signature**

```java
forgetAccountsStatus(ForgetAccount forgetAccountsList, String sessionID);
```

**Argument Description**

<table>
<thead>
<tr>
<th>Argument</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ForgetAccount forgetAccountsList</td>
<td>Specifies the accounts to forget, supplied in the ForgetAccount structure. For information about the ForgetAccount structure, see Section 2.17, &quot;ForgetAccount Structure.&quot;</td>
</tr>
<tr>
<td>String sessionID</td>
<td>Specifies the session ID, which is usually returned by the logon method. If the SOAP client engine can handle HTTP cookies, you can omit the session ID or set it to null.</td>
</tr>
</tbody>
</table>

**3.13.1.2 Returns**

Returns a list of account names with status of forgetAccounts operation in the ForgetAccountsStatus Structure. For more information, see Section 2.19, "ForgetAccountsStatus Structure."

### 3.13.2 getAccounts() Method

Use this method to search for Oracle BI EE user accounts (for example, LDAP users, catalog groups, or application roles).

**3.13.2.1 Signature**

```java
List[] getAccounts(List[], String sessionID);
```

**Argument Description**

<table>
<thead>
<tr>
<th>Argument</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>List[]</td>
<td>Specifies user names, catalog group names, and application role names. A flag indicates if the name is a user, group, or application role.</td>
</tr>
<tr>
<td>String sessionID</td>
<td>Specifies the session ID, which is usually returned by the logon method. If the SOAP client engine can handle HTTP cookies, you can omit the session ID or set it to null.</td>
</tr>
</tbody>
</table>

### 3.13.3 getAccountTenantID() Method

Use this method to retrieve the tenant ID of a specific account.
3.13.3.1 Signature
List[] getAccountTenantID(List[], String sessionID);

<table>
<thead>
<tr>
<th>Argument</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Account account</td>
<td>Specifies the account for which we want tenant ID.</td>
</tr>
<tr>
<td>String sessionID</td>
<td>Specifies the session ID, which is usually returned by the logon method. If the SOAP client engine can handle HTTP cookies, you can omit the session ID or set it to null.</td>
</tr>
</tbody>
</table>

3.13.3.2 Returns
Returns the tenant ID.

3.13.4 getGlobalPrivilegeACL() Method
Use this method to retrieve the Access Control List for global privileges.

3.13.4.1 Signature
ACL getGlobalPrivilegeACL(String privilegeName, String sessionID);

<table>
<thead>
<tr>
<th>Argument</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>String privilegeName</td>
<td>Specifies the name of the privilege to retrieve.</td>
</tr>
<tr>
<td>String sessionID</td>
<td>Specifies the session ID, which is usually returned by the logon method. If the SOAP client engine can handle HTTP cookies, you can omit the session ID or set it to null.</td>
</tr>
</tbody>
</table>

3.13.5 getGlobalPrivileges() Method
Use this method to retrieve the list of global privileges.

3.13.5.1 Signature
List[] getGlobalPrivileges(String sessionID);

<table>
<thead>
<tr>
<th>Argument</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>String sessionID</td>
<td>Specifies the session ID, which is usually returned by the logon method. If the SOAP client engine can handle HTTP cookies, you can omit the session ID or set it to null.</td>
</tr>
</tbody>
</table>

3.13.6 getGroups() Method
Use this method to get a list of catalog groups that are members of the account (for example, user or group).

3.13.6.1 Signature
List[] getGroups(List[], Boolean expandGroups, String sessionID);

<table>
<thead>
<tr>
<th>Argument</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>List[]</td>
<td>Specifies user or group.</td>
</tr>
<tr>
<td>Boolean expandGroups</td>
<td>Specifies to expand the groups to which the members belong.</td>
</tr>
</tbody>
</table>
3.13.7 getMembers() Method

Use this method to get direct members of the catalog group.

3.13.7.1 Signature

List[] getMembers(List[] group, Boolean expandGroups, String sessionID);

<table>
<thead>
<tr>
<th>Argument</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>String sessionID</td>
<td>Specifies the session ID, which is usually returned by the logon method. If the SOAP client engine can handle HTTP cookies, you can omit the session ID or set it to null.</td>
</tr>
</tbody>
</table>

3.13.8 getPermissions() Method

Use this method to retrieve a list of permissions for the specified user, based on the specified access control list.

**Note:** This method also returns any permissions that are inherited by a user's security group, even if the access control list does not specify the group's permissions.

3.13.8.1 Signature

List[] getPermissions(List[], Account account, String sessionID);

<table>
<thead>
<tr>
<th>Argument</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>List[]</td>
<td>Specifies the access control list for the user specified by Account account.</td>
</tr>
<tr>
<td>Account account</td>
<td>Specifies the name of the user for whom to find permission for the ACLs. Can be the user's name or a GUID.</td>
</tr>
<tr>
<td>String sessionID</td>
<td>Specifies the session ID, which is usually returned by the logon method. If the SOAP client engine can handle HTTP cookies, you can omit the session ID or set it to null.</td>
</tr>
</tbody>
</table>

3.13.8.2 Returns

Returns permissions information in the permissionMask field in the AccessControlToken structure (for more information, see Section 2.1, "AccessControlToken Structure").

3.13.9 getPermissionsEx() Method

Use this method to retrieve a list of permissions for the specified user, owner, or creator, based on the specified access control list.
3.13.9.1 Signature
List[] getPermissionsEx(List[], Account account, Owner owner, Creator creator, String sessionID);

<table>
<thead>
<tr>
<th>Argument</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>List[]</td>
<td>Specifies the access control list for the user specified by Account account.</td>
</tr>
<tr>
<td>Account account</td>
<td>Specifies the name of the user for whom to find permission for the ACLs. Can be the user’s name or a GUID.</td>
</tr>
<tr>
<td>Owner owner</td>
<td>Specifies the name of the owner for whom to find permission for the ACLs. Can be the owner’s user name or a GUID.</td>
</tr>
<tr>
<td>Creator creator</td>
<td>Specifies the name of the creator for whom to find permission for the ACLs. Can be the creator’s user name or a GUID.</td>
</tr>
<tr>
<td>String sessionID</td>
<td>Specifies the session ID, which is usually returned by the logon method. If the SOAP client engine can handle HTTP cookies, you can omit the session ID or set it to null.</td>
</tr>
</tbody>
</table>

3.13.9.2 Returns
Returns permissions information in the permissionMask field in the AccessControlToken structure (for more information, see Section 2.1, "AccessControlToken Structure").

3.13.10 getPrivilegesStatus() Method
Use this method to list all privileges and their statuses.

3.13.10.1 Signature
List[] getPrivilegesStatus(List[] privileges, String sessionID);

<table>
<thead>
<tr>
<th>Argument</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>List[] privileges</td>
<td>Specifies a list of privileges.</td>
</tr>
<tr>
<td>String sessionID</td>
<td>Specifies the session ID, which is usually returned by the logon method. If the SOAP client engine can handle HTTP cookies, you can omit the session ID or set it to null.</td>
</tr>
</tbody>
</table>

3.13.11 isMember() Method
Use this method to confirm if a catalog group is a member of the user or group.

3.13.11.1 Signature
boolean isMember(List[] group, List[] member, Boolean expandGroups, String sessionID);

<table>
<thead>
<tr>
<th>Argument</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>List[] group</td>
<td>Specifies the username, catalog group, or application role name.</td>
</tr>
<tr>
<td>List[] member</td>
<td>Specifies the name of the member to verify. Consider the example isMember(BIAdministrator, Administrator, false). This example asks if the user Administrator is a member of the BIAdministrator application role.</td>
</tr>
<tr>
<td>Boolean expandGroups</td>
<td>Specifies to expand the groups to which the members belong.</td>
</tr>
</tbody>
</table>
### 3.13.12 joinGroups() Method

Use this method to join a catalog group as a member.

#### 3.13.12.1 Signature

```java
void joinGroups(List[] group, List[] member, String sessionID);
```

<table>
<thead>
<tr>
<th>Argument</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>String sessionID</td>
<td>Specifies the session ID, which is usually returned by the logon method. If the SOAP client engine can handle HTTP cookies, you can omit the session ID or set it to null.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Argument</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>List[] group</td>
<td>Specifies the name of the group to join or become a member. Consider the following example: join(Marketing, UserA). This example illustrates that UserA will join the Marketing catalog group.</td>
</tr>
<tr>
<td>List[] member</td>
<td>Specifies the name of the underlying member. For more information, see the example included in the previous argument.</td>
</tr>
<tr>
<td>String sessionID</td>
<td>Specifies the session ID, which is usually returned by the logon method. If the SOAP client engine can handle HTTP cookies, you can omit the session ID or set it to null.</td>
</tr>
</tbody>
</table>

### 3.13.13 leaveGroups() Method

Use this method to remove a member from a group.

#### 3.13.13.1 Signature

```java
void leaveGroups(List[] group, List[] member, String sessionID);
```

<table>
<thead>
<tr>
<th>Argument</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>List[] group</td>
<td>Specifies the group from which to remove a member.</td>
</tr>
<tr>
<td>List[] member</td>
<td>Specifies the member that you want to remove from the group.</td>
</tr>
<tr>
<td>String sessionID</td>
<td>Specifies the session ID, which is usually returned by the logon method. If the SOAP client engine can handle HTTP cookies, you can omit the session ID or set it to null.</td>
</tr>
</tbody>
</table>

### 3.13.14 renameAccountsEx() Method

Use this method to rename accounts.

#### 3.13.14.1 Signature

```java
renameAccountsStatus(RenameAccount renameAccountsList, String sessionID);
```

<table>
<thead>
<tr>
<th>Argument</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>RenameAccount renameAccountsList</td>
<td>Specifies a list of old names and new names with their account types in the RenameAccount structure. For information about the RenameAccount structure, see “RenameAccountsStatus Structure.”</td>
</tr>
</tbody>
</table>
3.13.14.2 Returns
Returns a list of account names with status of renameAccounts operation in the RenameAccountsStatus Structure. For information, see "RenameAccountsStatus Structure."

3.13.15 updateGlobalPrivilegeACL() Method
Use this method to update the Access Control List for global privileges.

3.13.15.1 Signature
void updateGlobalPrivilegeACL(String privilegeName, ACL acl, UpdateACLParams updateACLParams, String sessionID);

<table>
<thead>
<tr>
<th>Argument</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>String privilegeName</td>
<td>Specifies the name of privilege to update.</td>
</tr>
<tr>
<td>ACL acl</td>
<td>Specifies the Access Control List to update, supplied in the ACL structure. For information about the ACL structure, see Section 2.3, &quot;ACL Structure&quot;.</td>
</tr>
<tr>
<td>UpdateACLParams</td>
<td>Specifies the Access Control List parameters to update, supplied in the UpdateACLParams structure. For information about the UpdateACLParams structure, see Section 2.61, &quot;UpdateACLParams Structure&quot;.</td>
</tr>
<tr>
<td>String sessionID</td>
<td>Specifies the session ID, which is usually returned by the logon method. If the SOAP client engine can handle HTTP cookies, you can omit the session ID or set it to null.</td>
</tr>
</tbody>
</table>

3.14 UserPersonalizationService Service
Use this service to manage favorites and favorite categories. Table 3–18 shows the supported methods.

Table 3–18 UserPersonalizationService Methods

<table>
<thead>
<tr>
<th>Method Names</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Section 3.14.1, “addFavorite() Method”</td>
<td>Adds a catalog object as a favorite in favorite list.</td>
</tr>
<tr>
<td>Section 3.14.2, &quot;addFavoriteCategory() Method&quot;</td>
<td>Adds a category object in favorite manager.</td>
</tr>
<tr>
<td>Section 3.14.3, &quot;deleteFavorite() Method&quot;</td>
<td>Deletes an existing favorite item from favorite manager.</td>
</tr>
<tr>
<td>Section 3.14.4, &quot;deleteFavoriteCategory() Method&quot;</td>
<td>Deletes an existing favorite category from favorite manager.</td>
</tr>
<tr>
<td>Section 3.14.5, &quot;getFavorites() Method&quot;</td>
<td>Returns all existing favorite items and category.</td>
</tr>
<tr>
<td>Section 3.14.6, &quot;updateFavorites() Method&quot;</td>
<td>Removes all existing favorite items and category and regenerates all favorite manager items using the supplied list of favorite items.</td>
</tr>
<tr>
<td>Section 3.14.7, &quot;getMostRecents() Method&quot;</td>
<td>Returns all most recent used items.</td>
</tr>
</tbody>
</table>
3.14.1 addFavorite() Method

Use this method to add a catalog object as favorite in the favorite list.

3.14.1.1 Signature

void addFavorite(String catalogObjectPath, String categoryPath, String sessionID);

<table>
<thead>
<tr>
<th>Arguments</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>String catalogObjectPath</td>
<td>Specifies the catalog object path to add as a favorite.</td>
</tr>
<tr>
<td>String categoryPath</td>
<td>Specifies the category location (in favorite manager) to create the favorite item. If blank, the favorite item is added as a root element in favorite manager.</td>
</tr>
<tr>
<td>String sessionID</td>
<td>Specifies the session ID, which is usually returned by the logon method. If the SOAP client engine can handle HTTP cookies, you can omit the session ID or set it to null.</td>
</tr>
</tbody>
</table>

3.14.2 addFavoriteCategory() Method

Use this method to add a category object in favorite manager.

3.14.2.1 Signature

void addFavoriteCategory(String categoryName, String categoryPath, String sessionID);

<table>
<thead>
<tr>
<th>Arguments</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>String categoryName</td>
<td>Specifies the catalog object path to add as a favorite.</td>
</tr>
<tr>
<td>String categoryPath</td>
<td>Specifies the category location (in favorite manager) to create new category. If empty, new category will be added on root of favorite manager.</td>
</tr>
<tr>
<td>String sessionID</td>
<td>Specifies the session ID, which is usually returned by the logon method. If the SOAP client engine can handle HTTP cookies, you can omit the session ID or set it to null.</td>
</tr>
</tbody>
</table>

3.14.3 deleteFavorite() Method

Use this method to delete an existing favorite item from favorite manager.

3.14.3.1 Signature

void deleteFavorite(String catalogObjectPath, String categoryPath, String sessionID);

<table>
<thead>
<tr>
<th>Arguments</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>String catalogObjectPath</td>
<td>Specifies the catalog object path for which to delete the favorite item.</td>
</tr>
<tr>
<td>String categoryPath</td>
<td>Specifies the category location (in favorite manager) from where favorite item needs to be deleted. If empty, catalog object will be removed from all categories, that is, it will be marked as non favorite object.</td>
</tr>
<tr>
<td>String sessionID</td>
<td>Specifies the session ID, which is usually returned by the logon method. If the SOAP client engine can handle HTTP cookies, you can omit the session ID or set it to null.</td>
</tr>
</tbody>
</table>
3.14.4 deleteFavoriteCategory() Method

Use this method to delete an existing favorite category from favorite manager.

3.14.4.1 Signature

void deleteFavoriteCategory(String categoryPath, String sessionID);

<table>
<thead>
<tr>
<th>Arguments</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>String categoryPath</td>
<td>Specifies the complete category path (in favorite manager) that needs to be deleted. This path starts from /root.</td>
</tr>
<tr>
<td>String sessionID</td>
<td>Specifies the session ID, which is usually returned by the logon method. If the SOAP client engine can handle HTTP cookies, you can omit the session ID or set it to null.</td>
</tr>
</tbody>
</table>

3.14.5 getFavorites() Method

Use this method to return all existing favorite items and category.

3.14.5.1 Signature

List[] getFavorites(String categoryPath, boolean recursive, boolean categoryOnly, String sessionID);

<table>
<thead>
<tr>
<th>Arguments</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>String categoryPath</td>
<td>Specifies the category location (in favorite manager) to create favorite item. If blank, favorite item is added as root element in favorite manager.</td>
</tr>
<tr>
<td>Boolean recursive</td>
<td>Specifies whether the child-level categories were included in the result.</td>
</tr>
<tr>
<td>Boolean categoryOnly</td>
<td>Specifies if only categories were included in the result and excluding all favorite items.</td>
</tr>
<tr>
<td>String sessionID</td>
<td>Specifies the session ID, which is usually returned by the logon method. If the SOAP client engine can handle HTTP cookies, you can omit the session ID or set it to null.</td>
</tr>
</tbody>
</table>

3.14.5.2 Returns

All existing favorite items and category.

3.14.6 updateFavorites() Method

Use this method to remove all existing favorite items and category, and regenerate all favorite manager items using supplied list of favorite items.

3.14.6.1 Signature

void updateFavorites(List [] favoriteItems, String sessionID);
3.14.7 getMostRecents() Method

Use this method to return all most recent used items.

3.14.7.1 Signature

List[] getMostRecents(UnsignedShort listType, String sessionID);

<table>
<thead>
<tr>
<th>Arguments</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>UnsignedShort listType</td>
<td>listType value is as following flags:</td>
</tr>
<tr>
<td></td>
<td>1 = Recently Updated</td>
</tr>
<tr>
<td></td>
<td>2 = Recently Viewed</td>
</tr>
<tr>
<td></td>
<td>3 = Frequently Viewed</td>
</tr>
<tr>
<td></td>
<td>4 = Recent</td>
</tr>
<tr>
<td></td>
<td>5 = Suggestions</td>
</tr>
<tr>
<td>String sessionID</td>
<td>Specifies the session ID, which is usually returned by the logon method. If the SOAP client engine can handle HTTP cookies, you can omit the session ID or set it to null.</td>
</tr>
</tbody>
</table>

3.14.7.2 Returns

A list of MRUItem. For more information, see "MRUItem Structure".

3.15 WebCatalogService Service

Use this service to provide methods for navigating and managing the catalog, and to read and write catalog objects in XML format. Table 3–19 shows the supported enumerations and methods.

<table>
<thead>
<tr>
<th>Table 3–19</th>
<th>WebCatalogService Enumerations and Methods</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enumeration and Method Names</td>
<td>Description</td>
</tr>
<tr>
<td>Section 3.15.1, &quot;ErrorDetailsLevel Enumeration&quot;</td>
<td>Specifies a list of valid values for methods.</td>
</tr>
<tr>
<td>Section 3.15.2, &quot;ReadObjectsReturnOptions Enumeration&quot;</td>
<td>Specifies a list of valid values for methods.</td>
</tr>
<tr>
<td>Section 3.15.3, &quot;copyItem() Method&quot;</td>
<td>Copies an object from one location to another in the catalog.</td>
</tr>
<tr>
<td>Section 3.15.4, &quot;copyItem2() Method&quot;</td>
<td>Generates an archive file from the catalog.</td>
</tr>
<tr>
<td>Section 3.15.5, &quot;createFolder() Method&quot;</td>
<td>Creates a new folder in the catalog.</td>
</tr>
</tbody>
</table>
3.15.1 ErrorDetailsLevel Enumeration

This enumeration specifies a list of valid values for methods in the "WebCatalogService Service". Table 3–20 lists the values in this enumeration.

<table>
<thead>
<tr>
<th>Values</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>String ErrorCode</td>
<td>Specifies that the ErrorInfo.errorCode field is populated.</td>
</tr>
<tr>
<td>String ErrorCodeAndText</td>
<td>Specifies that the ErrorInfo.errorCode and ErrorInfo.message fields are populated.</td>
</tr>
<tr>
<td>String FullDetails</td>
<td>Specifies that all ErrorInfo fields are populated.</td>
</tr>
</tbody>
</table>

Note: Only one of the values in ErrorDetailsLevel should be selected.
3.15.2 ReadObjectsReturnOptions Enumeration

This enumeration specifies a list of valid values for methods in the "WebCatalogService Service". Table 3–21 lists the values in this enumeration.

<table>
<thead>
<tr>
<th>Values</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>String NoObject</td>
<td>Specifies that the catalogObject and catalogObjectBytes fields are not populated.</td>
</tr>
<tr>
<td>String ObjectAsString</td>
<td>Specifies that the catalogObject field is populated and the catalogObjectBytes fields is not populated.</td>
</tr>
<tr>
<td>String ObjectAsBinary</td>
<td>Specifies that the catalogObject field is not populated and the catalogObjectBytes fields is populated.</td>
</tr>
<tr>
<td>String ObjectAsBinaryUseMtom</td>
<td>Specifies that the catalogObject field is not populated and the catalogObjectBytes fields is populated and using MTOM to encode the content returned by the SOAP message.</td>
</tr>
</tbody>
</table>

3.15.3 copyItem() Method

Use this method to copy an object from one location in the catalog to another location in the catalog.

3.15.3.1 Signature

void copyItem(String pathSrc, String pathDest, int flagACL, String sessionID);

<table>
<thead>
<tr>
<th>Arguments</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>String pathSrc</td>
<td>Specifies the current path to the object in the catalog.</td>
</tr>
<tr>
<td>String pathDest</td>
<td>Specifies the location in the catalog where the object should be copied.</td>
</tr>
<tr>
<td>int flagACL</td>
<td>Specified whether the item is copied with security. 0 indicates that the item is copied without security. 1 indicates that the item is copied with security.</td>
</tr>
<tr>
<td>String sessionID</td>
<td>Specifies the session ID, which is usually returned by the logon method. If the SOAP client engine can handle HTTP cookies, you can omit the session ID or set it to null.</td>
</tr>
</tbody>
</table>

3.15.4 copyItem2() Method

Use this method to generate an archive file from the catalog.

3.15.4.1 Signature

DataHandler copyItem2(List[] path, boolean recursive, boolean permissions, boolean timestamps, boolean useMtom, String sessionID);

<table>
<thead>
<tr>
<th>Arguments</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>List[] path</td>
<td>Specifies the location in the catalog from which the archive was created.</td>
</tr>
<tr>
<td>boolean recursive</td>
<td>Specifies whether the child-level folders were included in the archive.</td>
</tr>
<tr>
<td>boolean permissions</td>
<td>Specified whether the items are copied with security.</td>
</tr>
</tbody>
</table>
### 3.15.5 `createFolder()` Method

Use this method to create a folder in the catalog.

#### 3.15.5.1 Signature

```java
void createFolder(String path, boolean createIfNotExists, boolean createIntermediateDirs, String sessionID);
```

<table>
<thead>
<tr>
<th>Arguments</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>boolean timestamps</td>
<td>Specifies whether to preserve the items’ time stamps were preserved.</td>
</tr>
<tr>
<td>boolean useMtom</td>
<td>Specifies whether MTOM was used to encode the content returned by the SOAP message.</td>
</tr>
<tr>
<td>String sessionID</td>
<td>Specifies the session ID, which is usually returned by the logon method. If the SOAP client engine can handle HTTP cookies, you can omit the session ID or set it to null.</td>
</tr>
</tbody>
</table>

### 3.15.6 `createLink()` Method

Use this method to create a link to the catalog.

#### 3.15.6.1 Signature

```java
void createLink(String path, String pathTarget, boolean overwriteIfExists, String sessionID);
```

<table>
<thead>
<tr>
<th>Arguments</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>String path</td>
<td>Specifies the location in the catalog where the folder should be created, including the name of the new folder.</td>
</tr>
<tr>
<td>boolean createIfNotExists</td>
<td>If set to TRUE, then the folder object is created in the catalog if it does not already exist. If set to FALSE, then the folder object is not recreated if it already exists.</td>
</tr>
<tr>
<td>boolean createIntermediateDirs</td>
<td>If set to TRUE, then an intermediate directory is created. If set to FALSE, the an intermediate directory is not created.</td>
</tr>
<tr>
<td>String sessionID</td>
<td>Specifies the session ID, which is usually returned by the logon method. If the SOAP client engine can handle HTTP cookies, you can omit the session ID or set it to null.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Arguments</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>String Path</td>
<td>Specifies the path to the parent object in the catalog.</td>
</tr>
<tr>
<td>String TargetPath</td>
<td>Specifies the location in the catalog to which the link being created should refer.</td>
</tr>
<tr>
<td>boolean overwriteIfExists</td>
<td>If set to TRUE, then the link is overwritten if it already exists in the catalog. If set to FALSE, then the link is not overwritten if it already exists in the catalog.</td>
</tr>
<tr>
<td>String sessionID</td>
<td>Specifies the session ID, which is usually returned by the logon method. If the SOAP client engine can handle HTTP cookies, you can omit the session ID or set it to null.</td>
</tr>
</tbody>
</table>
3.15.7 `deleteItem()` Method

Use this method to delete an object from the catalog. To delete a folder, read Section 3.15.19, "removeFolder() Method".

### 3.15.7.1 Signature

```java
void deleteItem(String path, String sessionID);
```

<table>
<thead>
<tr>
<th>Arguments</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>String path</td>
<td>Specifies the path to the object in the catalog.</td>
</tr>
<tr>
<td>String sessionID</td>
<td>Specifies the session ID, which is usually returned by the logon method. If the SOAP client engine can handle HTTP cookies, you can omit the session ID or set it to null.</td>
</tr>
</tbody>
</table>

3.15.8 `getItemInfo()` Method

Use this method to retrieve catalog information for an object.

### 3.15.8.1 Signature

```java
ItemInfo getItemInfo(String path, boolean resolveLinks, String sessionID);
```

<table>
<thead>
<tr>
<th>Arguments</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>String path</td>
<td>Specifies the path to the object in the catalog.</td>
</tr>
<tr>
<td>boolean resolveLinks</td>
<td>If set to TRUE and the path in the catalog refers to a link, then Oracle Business Intelligence retrieves information for the object pointed to by the link.</td>
</tr>
<tr>
<td>String sessionID</td>
<td>Specifies the session ID, which is usually returned by the logon method. If the SOAP client engine can handle HTTP cookies, you can omit the session ID or set it to null.</td>
</tr>
</tbody>
</table>

### 3.15.8.2 Returns

Returns catalog information for an object in an ItemInfo structure. For more information, see Section 2.21, "ItemInfo Structure".

3.15.9 `getMaintenanceMode()` Method

Use this method to retrieve the maintenance mode status.

### 3.15.9.1 Signature

```java
Boolean getMaintenanceMode(String sessionID);
```

<table>
<thead>
<tr>
<th>Arguments</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>String sessionID</td>
<td>Specifies the session ID, which is usually returned by the logon method. If the SOAP client engine can handle HTTP cookies, you can omit the session ID or set it to null.</td>
</tr>
</tbody>
</table>

### 3.15.9.2 Returns

Returns true or false value indicating current maintenance mode status. For more information, see Section 3.15.15, "maintenanceMode() Method".
3.15.10 **getObjectCategories() Method**

Use this method to retrieve the supported categories.

### 3.15.10.1 Signature

Boolean getObjectCategories(String sessionID);

<table>
<thead>
<tr>
<th>Arguments</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>String sessionID</td>
<td>Specifies the session ID, which is usually returned by the logon method. If the SOAP client engine can handle HTTP cookies, you can omit the session ID or set it to null.</td>
</tr>
</tbody>
</table>

### 3.15.10.2 Returns

Returns a list of supported categories.

3.15.11 **getObjectCreateList() Method**

Use this method to retrieve a list of all creatable objects.

### 3.15.11.1 Signature

Boolean getObjectCreateList(String sessionID);

<table>
<thead>
<tr>
<th>Arguments</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>String sessionID</td>
<td>Specifies the session ID, which is usually returned by the logon method. If the SOAP client engine can handle HTTP cookies, you can omit the session ID or set it to null.</td>
</tr>
</tbody>
</table>

### 3.15.11.2 Returns

Returns a list of creatable objects.

3.15.12 **getObjectTypes() Method**

Use this method to retrieve a list of all supported catalog object types.

### 3.15.12.1 Signature

Boolean getObjectTypes(String sessionID);

<table>
<thead>
<tr>
<th>Arguments</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>String sessionID</td>
<td>Specifies the session ID, which is usually returned by the logon method. If the SOAP client engine can handle HTTP cookies, you can omit the session ID or set it to null.</td>
</tr>
</tbody>
</table>

### 3.15.12.2 Returns

Returns a list of supported object types.

3.15.13 **getSubItems() Method**

Use this method to retrieve the collection of child sub-items for an object in the catalog.
3.15.13.1 Signature
List[] getSubItems(String path, String mask, boolean resolveLinks,
GetSubItemsParams options, String sessionID);

<table>
<thead>
<tr>
<th>Arguments</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>String path</td>
<td>Specifies the path to the parent object in the catalog.</td>
</tr>
<tr>
<td>String mask</td>
<td>Specifies a mask that indicates the child subitems to retrieve. The mask character is an asterisk (*). To retrieve all child subitems, use a single asterisk.</td>
</tr>
<tr>
<td>boolean resolveLinks</td>
<td>If set to TRUE and the path in the catalog refers to a link, then information is retrieved for the child subitems of the object pointed to by the link.</td>
</tr>
<tr>
<td>GetSubItemsParams options</td>
<td>Optional. Specifies parameters to supply to the GetSubItemsParams structure. For information about the GetSubItemsParams structure, see Section 2.20, &quot;GetSubItemsParams Structure&quot;.</td>
</tr>
<tr>
<td>String sessionID</td>
<td>Specifies the session ID, which is usually returned by the logon method. If the SOAP client engine can handle HTTP cookies, you can omit the session ID or set it to null.</td>
</tr>
</tbody>
</table>

3.15.13.2 Returns
Returns a collection of child subitems in an ItemInfo structure. For more information, see Section 2.21, "ItemInfo Structure".

3.15.14 getUserHomeDirPath() Method
Use this method to retrieve the home directory path of a user.

3.15.14.1 Signature
String(String userName, String sessionID);

<table>
<thead>
<tr>
<th>Arguments</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>String userName</td>
<td>Specifies the name of the user</td>
</tr>
<tr>
<td>String sessionID</td>
<td>Specifies the session ID, which is usually returned by the logon method. If the SOAP client engine can handle HTTP cookies, you can omit the session ID or set it to null.</td>
</tr>
</tbody>
</table>

3.15.14.2 Returns
Returns the path of the specified user’s home directory.

3.15.15 maintenanceMode() Method
Use this method to lock the catalog during maintenance.

3.15.15.1 Signature
void maintenanceMode(boolean flag, String sessionID);

<table>
<thead>
<tr>
<th>Arguments</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>boolean flag</td>
<td>Set to TRUE if the catalog is locked.</td>
</tr>
</tbody>
</table>
### 3.15.16 `moveItem()` Method

Use this method to move an object in the catalog to a different location in the catalog.

#### 3.15.16.1 Signature

```java
void moveItem(String pathSrc, String pathDest, int flagACL, String sessionID);
```

<table>
<thead>
<tr>
<th>Arguments</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>String sessionID</td>
<td>Specifies the session ID, which is usually returned by the logon method. If the SOAP client engine can handle HTTP cookies, you can omit the session ID or set it to null.</td>
</tr>
</tbody>
</table>

#### Arguments Description

- **String pathSrc**: Specifies the current path to the object in the catalog.
- **String pathDest**: Specifies the location in the catalog where the object should be moved.
- **int flagACL**: Specifies whether the item is moved with security. 0 indicates that the item is moved without security. 1 indicates that the item is moved with security.
- **String sessionID**: Specifies the session ID, which is usually returned by the logon method. If the SOAP client engine can handle HTTP cookies, you can omit the session ID or set it to null.

### 3.15.17 `pasteItem2()` Method

Use this method to paste the copied items.

#### 3.15.17.1 Signature

```java
void pasteItem2(Binary stream DataHandler archive, String replacePath, int flagACL, int flagOverwrite, String sessionID);
```

<table>
<thead>
<tr>
<th>Arguments</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Binary stream DataHandler</td>
<td>Specifies the returned content of the item as string or bytes. What you specify in this field is determined by the <code>readObjects</code> method.</td>
</tr>
<tr>
<td>String replacePath</td>
<td>Specifies the location to paste the copied item.</td>
</tr>
<tr>
<td>int flagACL</td>
<td>Specified whether the item is pasted with security. 0 indicates that the item is pasted without security. 1 indicates that the item is pasted without security.</td>
</tr>
<tr>
<td>int flagOverwrite</td>
<td>Specifies whether the pasted item overwrites existing item. 0 indicates replace all, 1 indicates replace old, 2 indicates replace none, and 3 indicates force replace.</td>
</tr>
<tr>
<td>int flagReplaceReferences</td>
<td>Specifies whether to replace the path references in the xml objects.</td>
</tr>
<tr>
<td>String sessionID</td>
<td>Specifies the session ID, which is usually returned by the logon method. If the SOAP client engine can handle HTTP cookies, you can omit the session ID or set it to null.</td>
</tr>
</tbody>
</table>

#### Arguments Description

- **Binary stream DataHandler**: Specifies the returned content of the item as string or bytes. What you specify in this field is determined by the `readObjects` method.
- **String replacePath**: Specifies the location to paste the copied item.
- **int flagACL**: Specified whether the item is pasted with security. 0 indicates that the item is pasted without security. 1 indicates that the item is pasted without security.
- **int flagOverwrite**: Specifies whether the pasted item overwrites existing item. 0 indicates replace all, 1 indicates replace old, 2 indicates replace none, and 3 indicates force replace.
- **int flagReplaceReferences**: Specifies whether to replace the path references in the xml objects.
- **String sessionID**: Specifies the session ID, which is usually returned by the logon method. If the SOAP client engine can handle HTTP cookies, you can omit the session ID or set it to null.
3.15.18 readObjects() Method

Use this method to read an object from the catalog and return a CatalogObject structure.

3.15.18.1 Signature

List[] readObjects(List[] paths, boolean resolveLinks, ErrorDetailsLevel errorMode, ReadObjectsReturnOptions returnOptions, String sessionID);

3.15.18.2 Returns

Returns an array of "CatalogObject Structure" Objects.

Note: If a read operation fails for a catalog object (for example, due to an invalid path or insufficient privileges), the errorInfo field for that object contains a description of the error.

3.15.19 removeFolder() Method

Use this method to delete a folder and its contents from the catalog. To delete an object other than a folder and its contents, see Section 3.15.7, "deleteItem() Method".

3.15.19.1 Signature

void removeFolder(String path, boolean recursive, String sessionID);

3.15.20 setItemAttributes() Method

Use this method to set attribute flags for a specified catalog item.
3.15.20.1 Signature
void setItemAttributes(List[] path, int value, int valueOff, boolean recursive, String sessionID);

<table>
<thead>
<tr>
<th>Arguments</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>List[] path</td>
<td>Specifies the path to the folder in the catalog.</td>
</tr>
<tr>
<td>int value</td>
<td>Specifies which attributes is added. Specifies a combination of the following flags: 1 = read only 2 = archive 4 = hidden 8 = system</td>
</tr>
<tr>
<td>int valueOff</td>
<td>Specifies which attributes is removed. See the above int value cell for flags.</td>
</tr>
<tr>
<td>boolean recursive</td>
<td>Specifies whether to set the properties of items in sub-directories.</td>
</tr>
<tr>
<td>String sessionID</td>
<td>Specifies the session ID, which is usually returned by the logon method. If the SOAP client engine can handle HTTP cookies, you can omit the session ID or set it to null.</td>
</tr>
</tbody>
</table>

3.15.21 setItemProperty() Method
Use this method to set a property for an object in the catalog.

3.15.21.1 Signature
void setItemProperty(List[] path, List[] name, List[] value, boolean recursive, String sessionID);

<table>
<thead>
<tr>
<th>Arguments</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>List[] path</td>
<td>Specifies the path to the object in the catalog.</td>
</tr>
<tr>
<td>List[] name</td>
<td>Specifies the name of the property to set.</td>
</tr>
<tr>
<td>List[] value</td>
<td>Specifies the new setting for the property.</td>
</tr>
<tr>
<td>boolean recursive</td>
<td>Specifies whether to set the properties of items in sub-directories.</td>
</tr>
<tr>
<td>String sessionID</td>
<td>Specifies the session ID, which is usually returned by the logon method. If the SOAP client engine can handle HTTP cookies, you can omit the session ID or set it to null.</td>
</tr>
</tbody>
</table>

3.15.22 setOwnership() Method
Use this method to take ownership of the specified item.

3.15.22.1 Signature
void setOwnership(List[] path, Account owner, boolean recursive, String sessionID);

<table>
<thead>
<tr>
<th>Arguments</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>List[] path</td>
<td>Specifies the location in the catalog of the object to take ownership.</td>
</tr>
<tr>
<td>Account owner</td>
<td>Specifies the account to assign as owner.</td>
</tr>
<tr>
<td>boolean recursive</td>
<td>If set to TRUE, then apply this action to the specified folder and its contents. If set to FALSE, then only apply this action to the specified folder if it is empty, otherwise display an exception message.</td>
</tr>
</tbody>
</table>
3.15.23 updateCatalogItemACL() Method

Use this method to update the Access Control List for an item in the catalog.

3.15.23.1 Signature

```java
void updateCatalogItemACL(List[] path, ACL acl, UpdateCatalogItemACLParams options, String sessionID);
```

<table>
<thead>
<tr>
<th>Fields</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>List[] path</td>
<td>Specifies the path to the object in the catalog.</td>
</tr>
<tr>
<td>ACL acl</td>
<td>Specifies the Access Control List. For more information, see Section 2.3, &quot;ACL Structure&quot;.</td>
</tr>
<tr>
<td>UpdateCatalogItemACLParams options</td>
<td>Specifies additional parameters. For more information, see Section 2.62, &quot;UpdateCatalogItemACLParams Structure&quot;.</td>
</tr>
<tr>
<td>String sessionID</td>
<td>Specifies the session ID, which is usually returned by the logon method. If the SOAP client engine can handle HTTP cookies, you can omit the session ID or set it to null.</td>
</tr>
</tbody>
</table>

String sessionID Specifies the session ID, which is usually returned by the logon method. If the SOAP client engine can handle HTTP cookies, you can omit the session ID or set it to null.

3.15.24 writeObjects() Method

Use this method to write an array of objects to the catalog.

3.15.24.1 Signature

```java
List[] writeObjects(List[] catalogObjects, boolean allowOverwrite, boolean createIntermediateDirs, ErrorDetailsLevel errorMode, String sessionID);
```

<table>
<thead>
<tr>
<th>Argument</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>List [] catalogObjects</td>
<td>Specifies the objects to write to the catalog, supplied in the CatalogObject structure. For information about the CatalogObject structure, see Section 2.12, &quot;CatalogObject Structure&quot;. All fields of object.itemInfo are ignored, except for the array of item properties, which are applied to the object. The signature of the resulting document is always COXmlDocument1.</td>
</tr>
<tr>
<td>boolean allowOverwrite</td>
<td>If set to TRUE, then if the object already exists in the catalog, it is overwritten. If set to FALSE, then if the object already exists in the catalog, it is not overwritten.</td>
</tr>
<tr>
<td>boolean createIntermediateDirs</td>
<td>If set to TRUE and the path in the catalog refers to a link, then the object is written to the location pointed to by the link.</td>
</tr>
<tr>
<td>ErrorDetailsLevel errorMode</td>
<td>Specifies the amount of error information in the errorInfo field in the &quot;CatalogObject Structure&quot;.</td>
</tr>
<tr>
<td>String sessionID</td>
<td>Specifies the session ID, which is usually returned by the logon method. If the SOAP client engine can handle HTTP cookies, you can omit the session ID or set it to null.</td>
</tr>
</tbody>
</table>
3.15.24.2 Returns
An array of "ErrorInfo Structure" objects.

3.16 XMLViewService Service
Use this service to retrieve results from Oracle BI EE Presentation Services in XML format. Table 3–22 shows the supported enumeration and methods.

<table>
<thead>
<tr>
<th>Table 3–22 XMLView Service Enumeration and Methods</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enumeration and Method Name</td>
</tr>
<tr>
<td>Section 3.16.1, &quot;XMLQueryOutputFormat Enumeration&quot;</td>
</tr>
<tr>
<td>Section 3.16.2, &quot;cancelQuery() Method&quot;</td>
</tr>
<tr>
<td>Section 3.16.3, &quot;executeSQLQuery() Method&quot;</td>
</tr>
<tr>
<td>Section 3.16.4, &quot;executeXMLQuery() Method&quot;</td>
</tr>
<tr>
<td>Section 3.16.5, &quot;fetchNext() Method&quot;</td>
</tr>
<tr>
<td>Section 3.16.6, &quot;getPromptedFilters() Method&quot;</td>
</tr>
<tr>
<td>Section 3.16.7, &quot;upgradeXML() Method&quot;</td>
</tr>
</tbody>
</table>

3.16.1 XMLQueryOutputFormat Enumeration
This enumeration specifies a list of valid values for the executeSQLQuery() Method and executeXMLQuery() Method. For example, you might want to return data rows and metadata, or data rows only. Table 3–23 lists the values in this enumeration.

| Note: Only one of the values in XMLQueryOutputFormat can be selected. |
| Table 3–23 XMLQueryOutputFormat Enumeration Values |
| Values | Description |
| String SAWRowsetData | Specifies that the query returns only data rows. |
| String SAWRowsetSchema | Specifies that the query returns only metadata. |
| String SAWRowsetSchemaAndData | Specifies that the query returns both metadata and data rows. |

3.16.2 cancelQuery() Method
Use this method to cancel a query and clean up resources associated with the query. This method should only be used if the query row set is not scrolled to the last row in the data set returned.

| Note: If you use this method when the query row set is scrolled to the last row in the data set returned, query data is cleaned up during the last fetchNext method invocation. |
3.16.2.1 Signature
void cancelQuery(String queryID, String sessionID);

<table>
<thead>
<tr>
<th>Argument</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>String queryID</td>
<td>Specifies the unique ID of the query.</td>
</tr>
<tr>
<td>String sessionID</td>
<td>Specifies the unique ID of the session.</td>
</tr>
</tbody>
</table>

3.16.3 executeSQLQuery() Method
Use this method to execute a SQL query and return the results of the query.

**Note:** If the results returned exceed one page, you need to use the fetchNext() Method to return the next page of rows.

3.16.3.1 Signature
QueryResults executeSQLQuery(String sql, XMLQueryOutputFormat outputFormat, XMLQueryExecutionOptions executionOptions, String sessionID);

<table>
<thead>
<tr>
<th>Argument</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>String sql</td>
<td>Specifies the string of SQL code to execute.</td>
</tr>
<tr>
<td>XMLQueryOutputFormat outputFormat</td>
<td>Specifies the output format (for more information, see Section 2.65, &quot;XMLQueryExecutionOptions Structure&quot;).</td>
</tr>
<tr>
<td>XMLQueryExecutionOptions executionOptions</td>
<td>Specifies the query execution options (for more information, see Section 2.65, &quot;XMLQueryExecutionOptions Structure&quot;).</td>
</tr>
<tr>
<td>String sessionID</td>
<td>Specifies the unique ID of the session.</td>
</tr>
</tbody>
</table>

3.16.3.2 Returns
Returns the results of the query as one or more rows of data in a QueryResults structure (for more information, see Section 2.41, "QueryResults Structure").

3.16.4 executeXMLQuery() Method
Use this method to execute an XML query and return the results of the query.

**Note:** If the results returned exceed one page, you need to use the fetchNext() Method to return the next page of rows.

3.16.4.1 Signature
QueryResults executeXMLQuery(ReportRef report, XMLQueryOutputFormat outputFormat, XMLQueryExecutionOptions executionOptions, ReportParams reportParams, String sessionID);

<table>
<thead>
<tr>
<th>Argument</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ReportRef reportRef</td>
<td>Specifies the analysis definition, supplied in the ReportRef common structure.</td>
</tr>
</tbody>
</table>
XMLViewService Service

Description of Services and Methods in Oracle BI EE Web Services

3.16.4.2 Returns

Returns the results of the query as one or more rows of data in a QueryResults structure (for more information, see Section 2.41, "QueryResults Structure").

3.16.5 fetchNext() Method

Use this method to return the next page of rows retrieved by a query.

**Note:** The page returned might contain zero rows. If the finished flag is not set, the remaining rows might not be available immediately.

3.16.5.1 Signature

QueryResults fetchNext(String queryID, String sessionID);

<table>
<thead>
<tr>
<th>Argument</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>String queryID</td>
<td>Specifies the unique ID of the query, which is returned in the QueryResults object.</td>
</tr>
<tr>
<td>String sessionID</td>
<td>Specifies the unique ID of the session.</td>
</tr>
</tbody>
</table>

3.16.5.2 Returns

Returns the next page of query results as one or more rows of data in a QueryResults structure (for more information, see Section 2.41, "QueryResults Structure").

3.16.6 getPromptedFilters() Method

Use this method to retrieve a saved analysis’ prompted columns or the prompted columns from an analysis’ xml definition. Note that to create an analysis with a prompted column, you must assign the isPrompted operator to it.

3.16.6.1 Signature

List[] getPromptedFilters(ReportRef report, String sessionID);

<table>
<thead>
<tr>
<th>Argument</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ReportRef report</td>
<td>Specifies the analysis’ reportPath or a reportXml (report definition).</td>
</tr>
</tbody>
</table>
3.16.7 upgradeXML() Method

Use this method to upgrade Oracle BI EE objects that reside outside of the Presentation Services catalog. This method upgrades object from Oracle BI EE 10g to Oracle BI EE 11g. Use this method primarily for Oracle BI Add-in for Microsoft Office to upgrade the analyses that were saved within Oracle BI Office and not to the catalog. You should only use this method if you want to upgrade the objects in your Oracle BI Office catalog.

Note that if you use methods like executeXmlQuery and use the ReportRef argument to pass an Oracle BI EE 10g report definition, that report is upgraded before the query is run.

3.16.7.1 Signature

String upgradeXML(String xml, String sessionID);

<table>
<thead>
<tr>
<th>Argument</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>String xml</td>
<td>Specifies the catalog object's xml.</td>
</tr>
<tr>
<td>String sessionID</td>
<td>Specifies the unique ID of the session.</td>
</tr>
</tbody>
</table>
Using the Oracle Business Intelligence Server Metadata Web Service

This chapter introduces the Oracle Business Intelligence Server Metadata Web Service, and describes configuring the web service connection to Oracle BI Server, the methods used to call the web service, securing the web service, and using Oracle BI Server XML procedures.

This chapter includes the following sections:

- Overview of the Oracle BI Server Metadata Web Service
- Configuring the Oracle BI Server Metadata Web Service
- Calling the Oracle BI Server Metadata Web Service
- Using the Oracle BI Server XML Procedures

4.1 Overview of the Oracle BI Server Metadata Web Service

The Oracle BI Server uses a semantic model to store and control behavior related to its operations. The semantic layer, called the Common Enterprise Information Model, is captured inside of metadata that is managed by the Oracle BI Administration Tool.

In previous versions of Oracle Business Intelligence, you would use the Administration Tool to access the information stored in the metadata repository. However, in this version of Oracle Business Intelligence, the Oracle BI Server Metadata Web Service allows you to use a web service interface to call Oracle BI Server stored procedures. These procedures provide the ability to obtain information about the metadata and to modify the metadata.

For example, a developer who wants to update the server repository with new metadata, doesn't have to open Administration Tool or restart the server with a modified repository. The developer can use a stored procedure to directly apply the patch XML created from two different versions of the repository.

There are two techniques of calling the Oracle BI Server Metadata Web Service, synchronous and asynchronous. In cases where the response returns immediately, the synchronous technique might be adequate. However, because request processing can be delayed, it is often useful to utilize the asynchronous technique of calling the Web Service so the client application can continue its work and handle the response later on.

4.2 Configuring the Oracle BI Server Metadata Web Service

This topic contains the following sections:
4.2.1 Configuring the Oracle BI Server Metadata Web Service Connection to Oracle BI Server

Use this topic if you are not using the default installation of BI Server. By default the Oracle BI Server Metadata Web Service attempts to connect to an instance of BI Server running at the following URL:

jdbc:oraclebi://localhost:9703/

However, if the BI Server is deployed on a different machine, uses a different port, or if you want to configure an SSL connection between the web service and the server, you should use a Oracle Business Intelligence JDBC data source that you create in Oracle WebLogic Server Administration Console. The Oracle BI Server Metadata Web Service will look for a data source with the following name, and if found, will use it to connect to the Oracle BI Server.

jdbc/bi/server

4.2.1.1 Setting Up an Oracle Business Intelligence JDBC Data Source

For instructions about how to create an Oracle Business Intelligence JDBC data source, see "How to Create a BI JDBC Data Source in Oracle WebLogic" in Oracle Fusion Middleware Developer’s Guide for Oracle Business Intelligence Enterprise Edition.

However, note the following requirements for setting up an Oracle Business Intelligence JDBC data source for use with the Oracle BI Server Metadata Web Service. After you have finished setting up this data source, be sure to stop and start the web service so that your preferences are applied.

- In the URL field located on the Connection Properties page of the New JDBC Data Source wizard, specify the port that you configured for Oracle BI Server. The existing instructions state that you should specify "9703," but it is likely that "9703" will not be the correct port number.

- After you created and saved the BI JDBC data source, you must modify the data source’s settings. Access the Settings for the data source and click the Connections Pool tab. Modify the settings as follows:
  - In the Statement Cache Size field, enter 0. Specifying this value disables the statement cache.
  - In the Advanced tab, go to the Connection Creation Retry Frequency field and enter 10 (or any number larger than 0).

4.2.2 Securing the Oracle BI Server Metadata Web Service

You secure the Oracle BI Server Metadata Web Service using Oracle Web Services Manager (WSM). To call the Oracle BI Server Metadata Web Service, you must configure your client code with the correct client side policy, and provide security credentials for a user with permission to call the stored procedures.

This topic contains the following sections:

- Section 4.2.2.1, "Applying Policies"
- Section 4.2.2.2, "Configuring WSM"
Section 4.2.2.3, "Assigning the manageRepositories Permission"

4.2.2.1 Applying Policies
You apply a security policy by choosing one from a predefined list that is appropriate for the security guidelines of your organization, then assign it to the web service.

An example of a web service security policy is:

oracle/wss11_saml_token_with_message_protection_service_policy

To successfully call the Oracle BI Server Metadata Web Service, the client code must set up a matching client side policy, and supply the required information. For example, the client side policy that matches the service policy above is:

oracle/wss11_saml_token_with_message_protection_client_policy

In this example, the client code would have to add a valid SAML token for a user with permission to call the stored procedures to the SOAP message headers. The security policy on the web service ensures that any SOAP messages without a valid token are rejected. If the token is valid, the web service connects to Oracle BI Server using the System user credentials and impersonates the user specified in the token.

For more information about WSM and how to apply and configure predefined policies, see Oracle Fusion Middleware Security and Administrator’s Guide for Web Services.

4.2.2.2 Configuring WSM
You must configure WSM before you can successfully use the Oracle BI Server Metadata Web Service. The configuration for the Oracle BI Server Metadata Web Service and the Action Framework are identical.

For information about configuring WSM to work with the Oracle BI Server Metadata Web Service, see "Configuring Oracle Web Services Manager".

4.2.2.3 Assigning the manageRepositories Permission
You must provide the user who will run the Oracle BI Server Metadata Web Service with the manageRepositories permission. For information about how to set up security and apply this permission, see Oracle Fusion Middleware Security Guide for Oracle Business Intelligence Enterprise Edition.

4.3 Calling the Oracle BI Server Metadata Web Service
This section contains information about calling the Oracle BI Server Metadata Web Service:

- Section 4.3.1, "Calling the Oracle BI Server Metadata Web Service Synchronously"
- Section 4.3.2, "Calling the Oracle BI Server Metadata Web Service Asynchronously"

4.3.1 Calling the Oracle BI Server Metadata Web Service Synchronously
The Oracle BI Server Metadata Web Service is normally deployed at the following location, for synchronous calls:

http://server:port/AdminService/AdminService

The WSDL can be found at the following location:

http://server:port/AdminService/AdminService?WSDL
Use the following methods to synchronously call any stored procedure on the Oracle BI Server:

- **Section 4.3.1.1, "callProcedure() Method"**
- **Section 4.3.1.2, "callProcedureWithResults() Method"**
- **Section 4.3.1.3, "startExtender() Method"**
- **Section 4.3.1.4, "Sample Code"**

### 4.3.1.1 callProcedure() Method

Use this method to call procedures that are not expected to return a result set. **Table 4–1** contains information about this method’s arguments.

**Table 4–1** callProcedure Method Arguments

<table>
<thead>
<tr>
<th>Argument</th>
<th>Data Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>procedureName</td>
<td>String</td>
<td>Name of the procedure to call.</td>
</tr>
<tr>
<td>parameters</td>
<td>List of parameters</td>
<td>A sequence of parameter objects. Each parameter defines a type and value corresponding to the stored procedure arguments. Refer to the WSDL for the supported parameter types.</td>
</tr>
</tbody>
</table>

### 4.3.1.2 callProcedureWithResults() Method

Use this method to call procedures that are expected to return a result set. This method returns an object that mimics the result set as a sequence of ResultsRow objects. Each ResultsRow contains one or more columns, and each column defines a type and value. If an error occurs, most stored procedures return at least one row with a single string column. Therefore, it is important to carefully check the returned results.

Procedures that return a result set are NQSMODIFYMETADATA, NQSQUERYMETADATA, NQSEXTRACTMETADATAPROJECT (returns record sets of binary data), NQSQUERYPROJECTS. These are all query type procedures where the results are interesting, except for NQSMODIFYMETADATA that simply returns the error messages (if any), that occur during the execution of the procedure. You can call NQSMODIFYMETADATA synchronously without callProcedureWithResults, you just wouldn’t know what the error messages are.

**Table 4–2** contains information about this method’s arguments.

**Table 4–2** callProcedure Method Arguments

<table>
<thead>
<tr>
<th>Argument</th>
<th>Data Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>procedureName</td>
<td>String</td>
<td>Name of the procedure to call.</td>
</tr>
<tr>
<td>parameters</td>
<td>List of parameters</td>
<td>A sequence of parameter objects. Each parameter defines a type and value corresponding to the stored procedure arguments. Refer to the WSDL for the supported parameter types.</td>
</tr>
</tbody>
</table>
4.3.1.3 startExtender() Method

The method is for internal use only, and calls the BI Server Extender utility that imports flex object changes from ADF sources and maps them to the Business Model and Mapping layer, and Presentation layer.

This method returns a string indicating that the startExtender command was started.

For more information, see "Automatically Mapping Flex Object Changes Using the biserverextender Utility" in Oracle Fusion Middleware Metadata Repository Builder’s Guide for Oracle Business Intelligence Enterprise Edition.

The WSDL signature for the startExtender () method is:

```xml
<xsd:sequence>
  <xsd:element name="adminBeanServerUrl" type="xsd:string"/>
  <xsd:element name="biAdminUser" type="xsd:string"/>
  <xsd:element name="biAdminPassword" type="xsd:string"/>
  <xsd:element name="jobID" type="xsd:string"/>
  <xsd:element name="connectionDetails" type="xsd:string"/>
</xsd:sequence>
</xsd:complexType>
<xsd:element name="startExtender" type="tns:startExtender"/>
<xsd:complexType name="startExtenderResponse">
  <xsd:sequence>
    <xsd:element name="return" type="xsd:string"/>
  </xsd:sequence>
</xsd:complexType>
```

For example, a startExtender() call might be something like this:

```xml
startExtender(localhost:7001", "wlsuser", "wlspassword", "
  <ConnectionDetails>
    <ConnectionPoolName>"oracle.apps.fscm.model.analytics.
      applicationModule.FacmTopModelAM_FscmTopModelAMLocal"."Connection Pool"
    </ConnectionPoolName>
  </ConnectionPool>
  <NewEssbaseConnection>
    <DatabaseName>computer.example.com:10215</DatabaseName>
    <UserName>FUSION_APPS_GL_ESSBASE_APPID</UserName>
    <Password>D7EDED84BC624A917F5B462A4DCA05
      CDC256E8EE3D97D557BA27BADBC24F0E7675
      6D92C55B91CA53D63E2D7450E3FAEA57FA6B914D4D</Password>
    <CubeNamesList>
      <CubeName>BI_VF_USA_Accounting_Flexfie</CubeName>
    </CubeNamesList>
  </NewEssbaseConnection>
</ConnectionDetails>
```

Table 4–3 contains information about this method’s arguments.

<table>
<thead>
<tr>
<th>Argument</th>
<th>Data Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>procedureName</td>
<td>String</td>
<td>Name of the procedure to call.</td>
</tr>
</tbody>
</table>

Using the Oracle Business Intelligence Server Metadata Web Service  4-5
4.3.1.4 Sample Code

Use the following code to set up client-side security. You can use this code to set up a client-side instance of the Admin Service configured to pass authentication information in a SAML token. This code must reside in an authenticated web application. The authentication information in the session is passed automatically to the Oracle BI Server Metadata Web Service. You will have to generate client-side proxy classes to use code such as the example code.

In this example, the proxies have been generated in the package adminwebservice.client.

```java
import adminwebservice.client.*;

/**
 * Looks up an instance of the Admin Service and sets the correct authentication information on it.
 * @return Admin Proxy to the admin service.
 */
protected Admin getAdminService() throws Exception {
    String SERVICE_NAMESPACE = "http://ws.admin.obiee.oracle/";
    String SERVICE_NAME = "AdminService";
    String PORT_NAME = "AdminPort";
    String WSS_POLICY_CONFIG_FILE_SAML = "wss-policy-saml.xml";
    URL wsdlURL = new URL("http://localhost:7001/AdminService/AdminService?WSDL");
    QName serviceQname = new QName(SERVICE_NAMESPACE, SERVICE_NAME);
    QName portQname = new QName(SERVICE_NAMESPACE, PORT_NAME);
    ServiceDelegateImpl serviceDelegate = new ServiceDelegateImpl(wsdlURL, serviceQname, OracleService.class);
    Admin admin = serviceDelegate.getPort(portQname, Admin.class);
    ((BindingProvider)admin).getRequestContext().put(ClientConstants.CLIENT_CONFIG, toElement(this.getClass().getResourceAsStream(WSS_POLICY_CONFIG_FILE_SAML)));
    ((BindingProvider)admin).getRequestContext().put(BindingProvider.ENDPOINT_ADDRESS_PROPERTY, getServiceUrl());
    return admin;
}
```

**WSS_POLICY_CONFIG_FILE_SAML**

WSS_POLICY_CONFIG_FILE_SAML is the resource name of a file with the following content:

```xml
<?xml version="1.0" encoding="UTF-8"?>
<oracle-webservice-clients>
```

---

**Table 4–3 (Cont.) startExtender() Method Arguments**

<table>
<thead>
<tr>
<th>Argument</th>
<th>Data Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>parameters</td>
<td>List of parameters</td>
<td>A sequence of parameter objects. Each parameter defines a type and value corresponding to the stored procedure arguments. Refer to the WSDL for the supported parameter types.</td>
</tr>
</tbody>
</table>
4.3.2 Calling the Oracle BI Server Metadata Web Service Asynchronously

The Oracle BI Server Metadata Web Service is normally deployed at the following location for asynchronous calls:

http://server:port/AsyncAdminService/service

The WSDL can be found at the following locations for asynchronous web services:

http://server:port/AsyncAdminService/service?wsdl

From the client perspective, the asynchronous method call consists of two one-way message exchanges. Before initiating the asynchronous call, the client must deploy a callback service to listen for the response from the asynchronous web service.

This section contains the following topics:

■ Section 4.3.2.1, "Creating the Callback Service"
■ Section 4.3.2.2, "Configuring the Callback Service"
■ Section 4.3.2.3, "Sample Code"

4.3.2.1 Creating the Callback Service

Use the Create Web Service Proxy wizard in JDeveloper, select Generate As Async to generate an asynchronous proxy. For more information about creating web service clients using the wizard, see "Creating Web Service Proxies" in the JDeveloper Online Help. You can modify the generated callback service code to process the response. You must then deploy the callback service as a web service. Once deployed, add the URL of the callback service to the client code as the replyTo field.

For more information about creating the callback service, see "Defining Asynchronous Web Service Clients" in Oracle Fusion Middleware Developer’s Guide for Oracle Infrastructure Web Services.

4.3.2.2 Configuring the Callback Service

You can attach policies to the following asynchronous components:

■ Client calling asynchronous web service.
■ Asynchronous web service.
■ Asynchronous callback client.
■ Asynchronous callback service.

To attach policies to the components at runtime you can use Fusion Middleware Control. The asynchronous web service and client policies must comply with one another. Similarly, the asynchronous callback client and callback service policies must comply with one another.
For more information about configuring security for the callback service, see "Attaching Policies to Asynchronous Web Services and Clients" in Oracle Fusion Middleware Developer’s Guide for Oracle Infrastructure Web Services.

4.3.2.3 Sample Code
The following code can be used to create and initialize client-side instance of the asynchronous metadata web service. The code includes an example of configuring the client-side instance to pass authentication information required for the oracle/wss_username_token_client_policy policy. You will have to generate client-side proxy classes to use code such as the example code.

```java
/**
 * Looks up an instance of the Asynchronous Admin Service and
 * sets the correct authentication information on it.
 * @return Asynchronous Admin Proxy to the admin service.
 */
protected AsyncAdmin getAsyncAdminService() throws Exception {
    String SERVICE_NAMESPACE = "http://ws.admin.obiee.oracle/";
    String SERVICE_NAME = "AsyncAdminService";
    String SECURITY_POLICY = "oracle/wss_username_token_client_policy";

    URL wsdlURL = new URL("http://localhost:7001/AsyncAdminService/service?wsdl");
    QName serviceQname = new QName(SERVICE_NAMESPACE, SERVICE_NAME);

    AsyncAdminService service = new AsyncAdminService(wsdlURL, serviceQname);
    SecurityPoliciesFeature securityFeature =
        new SecurityPoliciesFeature(new String[] { SECURITY_POLICY });
    AsyncAdmin admin = service.getAsyncAdminPort(securityFeature);

    Map<String, Object> requestContext = ((BindingProvider) admin).getRequestContext();
    requestContext.put(BindingProvider.USERNAME_PROPERTY, "weblogic");
    requestContext.put(BindingProvider.PASSWORD_PROPERTY, "welcome1");

    return admin;
}
```

The following code shows how to specify callback information before calling methods of the asynchronous metadata web service:

```java
String CALLBACK_URL = "http://localhost:7001/ClientCallback/AsyncAdminResponseImplPort";
AddressingVersion WS_ADDR_VER = AddressingVersion.W3C;

WSReference replyTo = new WSReference(CALLBACK_URL, WS_ADDR_VER);
Header replyToHeader = replyTo.createHeader(WS_ADDR_VER.replyToTag);

String messageID = UUID.randomUUID().toString();
WSBindingProvider wsbp = (WSBindingProvider) getAsyncAdminService();
wsbp.setOutboundHeaders(new StringHeader(WS_ADDR_VER.messageIDTag, messageID),
    replyToHeader);
```

4.4 Using the Oracle BI Server XML Procedures
Oracle Business Intelligence provides several Oracle BI Server XML procedures that you can use to call the Oracle BI Server via JDBC or ODBC. You can only use the Oracle BI Server XML procedures with repositories in binary (RPD) format.

This topic contains detailed information on the following procedures:
4.4.1 Extract Project Procedure

Use the Extract Project procedure to extract a project from the repository. The output results set contains a row for each project defined in the repository.

This procedure has the following structure:

```
NQSExtractMetadataProject
Input
  1.PROJECT_NAMES
  2.RPD_NAME (optional)
Output
  1.RPD_OBJECT
```

Table 4–4 contains the Extract Project procedure's input and output parameters and their descriptions.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>PROJECT_NAMES</td>
<td>A delimited list of project names that is sent to the procedure for extraction.</td>
</tr>
<tr>
<td>RPD_NAME</td>
<td>(Optional) This parameter is currently not used. It is reserved for future use.</td>
</tr>
<tr>
<td>RPD_OBJECT</td>
<td>Contains a single BLOB object with the binary representation for the extracted repository.</td>
</tr>
</tbody>
</table>

4.4.2 Import Metadata Procedure

Use the Import Metadata procedure to import metadata into the repository from an external database. This procedure uses a particular database type, passes a predefined set of parameters, and performs an import into the specified repository. The output results set usually contains one row with the BI Server XML text to be applied for import or any resulting error messages.

This procedure has the following structure:

```
NQSMetadataImportFromDatabase
Input
  1.DATASOURCE_TYPE
  2.IMPORT_DB_PARAMETERS
  3.IMPORT_DB_OBJECT_PARAMETERS
  4.IMPORT_DB_SET_TABLE_TYPE_PARAMETER
  5.IMPORT_DB_SET_KEY_IMPORT_TYPE_PARAMETER
Output
  1.XUDML
  2.ERROR_MESSAGES
```

Table 4–5 contains the Import Metadata procedure's input and output parameters and their descriptions.
4.4.3 Modify Metadata Procedure

Use the Modify Metadata procedure to apply changes to the repository. The output result set will contain zero or one row. If the output returns one row, that row will contain error messages.

Note that you can modify metadata using other methods, such as command line XML utilities, for example, biserverxmlgen, biserverxmlexec, and biserverxmlcli, and by copying and pasting within the Administration Tool. For more information about biserverxmlgen, biserverxmlexec, and biserverxmlcli command-line tools, see "Generating and Executing XML" in Oracle Fusion Middleware XML Schema Reference for Oracle Business Intelligence Enterprise Edition.

This procedure has the following structure:

NQSModifyMetadata
Input
  1. XUDML_TEXT
  2. ORIGINAL_RPD (optional)
  3. RPD_NAME (optional)
  4. IGNORE_XUDML_ERRORS (optional)
Output
  1. ERROR_MESSAGES

Table 4–6 contains the Modify Metadata procedure’s input and output parameters and their descriptions.
4.4.4 Query Metadata Procedure

Use the Query Metadata procedure to query the repository for metadata. The output result set will contain as many rows as there are object matches. You must concatenate the results to obtain the fully formed Oracle BI Server XML document.

This procedure has the following structure:

NQSQueryMetadataObjects
Input
  1.OBJECT_TYPES
  2.OBJECT_NAME (optional)
  3.OBJECT_PARENT (optional)
  4.CHILD_FLAG (optional)
  5.QNAME_QUERY_FLAG (optional)
  6.RPD_NAME (optional)
  7.CHILD_TYPE (optional)
Output
  1.XUDML_TEXT
  2.ERROR_MESSAGES

Table 4–7 contains the Query Metadata procedure's input and output parameters and their descriptions.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>OBJECT_TYPES</td>
<td>A list of object types for which to search. You can query for multiple object types by adding a comma between object types. For example, you can query for subject area and presentation catalog objects by setting the object_types to a value of '2000,4004'. In this example, the subject area object has a type ID value of 2000 and presentation catalog object has a type ID value of 4004.</td>
</tr>
</tbody>
</table>
Use the Query Projects procedure to determine what projects are in the repository. The output results set contain the list of projects defined in the repository.

This procedure has the following structure:

```
NQSQueryMetadataProjects
Input
  1.RPD_NAME (optional)
Output
  1.PROJECT_NAME
```

Table 4–8 contains the Query Projects procedure’s input and output parameters and their descriptions.

### Table 4–8 Query Projects Procedure Parameters and Descriptions

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>RPD_NAME</td>
<td>(Optional) This parameter is currently not used. It is reserved for future use.</td>
</tr>
</tbody>
</table>
Using the Oracle BI Server XML Procedures

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>PROJECT_NAME</td>
<td>Contains a rowset for each project. Note that it is the responsibility of the caller to collect the entire rowset.</td>
</tr>
</tbody>
</table>
Using Actions to Integrate Oracle BI EE with External Systems

This chapter describes the Oracle BI EE Action Framework and the configuration required to enable the Action Framework. Describes the credentials, privileges, and permissions required to add actions to Oracle BI EE content. Describes how to set up targets by action type (for example, Navigate to Siebel CRM and Invoke a Web Service).

This chapter includes the following sections:

- What is the Action Framework?
- Overview of the Action Framework Configuration
- Configuring the Action Framework
- Overview of Action Security
- Adding and Maintaining Credentials for Use With the Action Framework
- Target Functionality for Actions

5.1 What is the Action Framework?

The Action Framework is a component of the Oracle BI EE architecture. It consists of the following items:

- Actions web services for creating and invoking actions that are deployed in the application server.
- Components that reside within the Presentation Server and Scheduler Services.
- Actions-specific JavaScript in the presentation tier for creating actions and invoking certain action types directly from the browser.

To prepare the Action Framework for use in Oracle BI Presentation Services, you must perform the following tasks:

- Configure the Action Framework. For more information, see Section 5.2, "Overview of the Action Framework Configuration" and Section 5.3, "Configuring the Action Framework".
- Secure Actions. For more information, see Section 5.4, "Overview of Action Security" and Section 5.5, "Adding and Maintaining Credentials for Use With the Action Framework".
- Set up action targets. For more information, see Section 5.6, "Target Functionality for Actions".
5.1.1 What Functionality is Provided by the Action Framework?

The Action Framework provides functionality for creating, managing, and invoking actions. Actions provide functionality to:

- Navigate to related content.
- Invoke operations, functions, or processes in external systems.

Actions are created and managed in the Oracle BI Presentation Services user interface. Actions can be included within analyses, dashboards, agents, KPIs, and Scorecard objectives. There are several different types of actions, for example, Navigate to a Web Page, Invoke a Web Service, and Invoke a Browser Script.

For a list of action types, their descriptions, and information about creating and using actions, see "Working with Actions" in Oracle Fusion Middleware User’s Guide for Oracle Business Intelligence Enterprise Edition.

5.1.2 Action Types and Action Execution

The actions that are available in Oracle BI EE are categorized into two groups: those actions that navigate to related content; and those actions that invoke operations, functions, or processes in external systems. Actions are further categorized into action types based on the technology they invoke (for example, URL or web service).

For a description of each action types and information about adding Action links to business intelligence content, see "Working with Actions" in Oracle Fusion Middleware User’s Guide for Oracle Business Intelligence Enterprise Edition.

For information about the Contextual Event action type, which developers can use when adding Oracle BI EE objects to Oracle ADF applications, see "Passing Business Intelligence Content with the Oracle BI EE Contextual Event Action" in Oracle Fusion Middleware Developer’s Guide for Oracle Business Intelligence Enterprise Edition.

Table 5–1, “System Components that Execute Actions” shows each action type and the system components that execute them. For more information about how a specific action type is executed and the other system components that are used in the process, see Section 5.6, “Target Functionality for Actions”.

<table>
<thead>
<tr>
<th>Action Type</th>
<th>Executed by...</th>
</tr>
</thead>
<tbody>
<tr>
<td>Navigate to BI Content</td>
<td>Browser</td>
</tr>
<tr>
<td>Navigate to a Web Page</td>
<td>Browser</td>
</tr>
<tr>
<td>Navigate to EPM Content</td>
<td>Browser</td>
</tr>
<tr>
<td>Navigate to E-Business Suite</td>
<td>Browser</td>
</tr>
<tr>
<td>Navigate to Siebel CRM</td>
<td>Browser</td>
</tr>
<tr>
<td>Invoke a Web Service</td>
<td>AES</td>
</tr>
<tr>
<td>Invoke a Java Method (EJB)</td>
<td>AES</td>
</tr>
<tr>
<td>Invoke a Browser Script</td>
<td>Browser</td>
</tr>
<tr>
<td>Invoke an HTTP Request</td>
<td>AES</td>
</tr>
<tr>
<td>Invoke Server Script</td>
<td>Scheduler</td>
</tr>
<tr>
<td>Invoke Agent</td>
<td>Scheduler</td>
</tr>
<tr>
<td>Java Jobs</td>
<td>Javahost</td>
</tr>
</tbody>
</table>
5.2 Overview of the Action Framework Configuration

Some action types are automatically available when Oracle BI EE is installed, while others require specific configuration to make them available. For action types requiring additional configuration, you must provide information about the external systems hosting functionality to be invoked by the actions, including the location of the target functionality and access details.

Where security policies are applied to action targets (for example, a target web service that is secured using a SAML-based policy), you must create security policy files in the same location. A keystore is also required for security policies that include encryption or signing. For information about policy files and keystores, see Section 5.4, "Overview of Action Security".

Certain actions require credentials to be entered into the credential store. These credentials are used for either browsing for action targets when creating an action or when invoking the target action. For information about additional credentials for actions, see Section 5.5, "Adding and Maintaining Credentials for Use With the Action Framework".

5.2.1 Configuration Checklist by Action Type

This section summarizes the configuration you must perform to use each action type. Table 5–2, "Configuration Requirements by Action Type" lists each action type and its required confirmation. Note the following column descriptions:

- Column 1 contains the name of each action type displayed by the Oracle BI EE user interface.
- Column 2 indicates whether an entry in the configuration file is required so that the Oracle BI EE Presentation Services action menus displays the action type.
- Column 3 indicates whether a registry entry can be added to the configuration file to enable a browsable list of action targets in the web front-end.
- Column 4 indicates whether additional credentials are required in the credential store.
- Column 5 indicates the action types that can implement various security policies and therefore require policy files and, where necessary, additional keystore information.

<table>
<thead>
<tr>
<th>Action Type</th>
<th>Requires Configuration Entry?</th>
<th>Supports Registries?</th>
<th>Additional Credentials Required?</th>
<th>Policy Enabled?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Navigate to BI Content</td>
<td>No</td>
<td>No (Browse for navigation targets enabled by default.)</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Navigate to Web Page</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Navigate to EPM Content</td>
<td>Yes (Registry)</td>
<td>Yes (Mandatory)</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Navigate to E-Business Suite</td>
<td>Yes</td>
<td>No</td>
<td>No (Requires Oracle E-Business Suite security integration.)</td>
<td>No</td>
</tr>
</tbody>
</table>

Using Actions to Integrate Oracle BI EE with External Systems  5-3
5.2.2 Overview of Targets

All actions require a target. A target is something to navigate to or an operation, function, or process to invoke. Before you create an action, you should confirm that the target for the action is in place. For example, a target URL should be available for a Navigate to a Web Page action, and a target web service should be in place for an Invoke Web Service Action.

Some action types have targets within the Oracle Business Intelligence system (for example, Navigate to BI Content), while other action types are primarily for invoking functionality or navigating to content in external systems (for example, Invoke a Java Method). In all cases, the process of creating an action assumes that a suitable target already exists for the action to consume.

For example, suppose that a content designer is building a dashboard that requires an action that the user clicks to book a meeting room. To accomplish this task, you might use Oracle JDeveloper to create and deploy a web service named Room Booking Service with an operation named bookRoom. This is the target web service operation to be invoked by the action. After you create and deploy the web service, the content designer is able to create an “Invoke a Web Service” action.

5.3 Configuring the Action Framework

The Oracle BI EE installation contains a configuration file named ActionFrameworkConfig.xml. You manually edit this configuration file to specify how you want the Action Framework to behave. This configuration file is located by default in the following location:

```
<Oracle Middleware Home>\user_projects\domains\bifoundation_domain\config\fmwconfig\biinstances\coreapplication
```

The configuration file contains several elements. Table 5–3, "Action Framework Configuration Elements" describes each element.
A sample action configuration file is available in Appendix A, "Sample Files". You can use the samples contained in this appendix along with information in this section to understand the various ways to configure actions.

After you modify the configuration file, you need to restart the Managed Server in WebLogic Server that is hosting your Oracle BI EE environment. For general information about how to restart the Managed Server in WebLogic Server, see "Confirming If the Managed Server is Running and Starting It" in Oracle Fusion Middleware System Administrator's Guide for Oracle Business Intelligence Enterprise Edition.

### 5.3.1 Aliases

This topic describes the location alias element. Location aliases provide a substitution mechanism so that actions refer to an alias rather than a fixed URL. Aliases are useful if you want to switch between test and production systems. The aliases element can contain zero or more location-alias elements. Note the following example:

```xml
<location-alias>
  <alias>webservicehost</alias>
  <actual>myserver.mycompany.com:7001</actual>
</location-alias>
```

Based on the webservicehost alias in this example, an Oracle BI EE user is able to create an action to invoke a target web service through the following WSDL:

http://msyserver.mycompany.com:7001/MyWebService/myservice.wsdl

The action saved to the catalog stores the reference to the WSDL as:
http://[@webservicehost@]/MyWebService/myservice.wsdl

When this action is invoked, the Action Framework substitutes the alias for the actual value before invoking the service.

The Administrator can later change the "actual" element value within the location-alias element so that the saved action points to a different URL without requiring an update the action.

An alias can refer to the server and the application path. Therefore, the following example is also valid. Note that the alias should not include the full path to the target WSDL.

<location-alias>
  <alias>webservicehost</alias>
  <actual>myserver.mycompany.com:7001/MyWebService/</actual>
</location-alias>

5.3.2 Registries

This topic describes the registry element. A registry defines how the Action Framework should access a browsable library of action targets. For more information about action types and their configuration requirements, see Section 5.2, "Overview of the Action Framework Configuration".

You can create registry definitions to support the following action types:

- Navigate to Oracle's Hyperion Enterprise Performance Management (EPM) content
- Invoke a Web Service
- Invoke a Java Method (EJB)

5.3.2.1 Navigate to EPM Content Action Type Registry Example

The Hyperion registry contains no additional elements beyond the standard registry elements. The location element should be used to define the Hyperion URL to interrogate. You will need to specify an account with access to the Hyperion targets. The following example is an entry for an EPM content action type. See Table 5–4, "Registry Entry Elements and Descriptions" for a description of each element.

<registry>
  <id>HDPreg</id>
  <name>Hyperion Directory Provider</name>
  <content-type>
    <typename>epm</typename>
    <displayname>Hyperion Applications</displayname>
    <actionType>URLActionType</actionType>
  </content-type>
  <provider-class>oracle.bi.action.registry.epm.HDPRegistry</provider-class>
  <description>Hyperion Financial Reports Registry</description>
  <location>
    <path>http://epms.mycompany.com:1901/workspace/browse/listXML</path>
  </location>
  <service-access>
    <account>EPM</account>
  </service-access>
</registry>
5.3.2.2 Invoke a Java Method Action Type Registry Example

The following example is an entry for an EJB registry of Java methods. The ejb-targets element, which is embedded within the custom-config element, tells the EJB registry specifically about the application server hosting the EJBs and the EJBs that should be exposed as registries from that server.

See Table 5–4, "Registry Entry Elements and Descriptions" for a description of each element.

```xml
<registry>
  <id>reg03</id>
  <name>Sample EJBs</name>
  <content-type>java</content-type>
  <provider-class>oracle.bi.action.registry.java.EJBRegistry</provider-class>
  <description>Custom Java classes which can be invoked as action targets</description>
  <location>
    <path/>
  </location>
  <custom-config>
    <ejb-targets>
      <appserver>
        <context-factory>weblogic.jndi.WLInitialContextFactory</context-factory>
        <jndi-url>t3://localhost:9704</jndi-url>
        <server-name>localhost</server-name>
        <account>WLSJNDI</account>
        <ejb-exclude>mgmt</ejb-exclude>
        <ejb-exclude>PopulationServiceBean</ejb-exclude>
      </appserver>
      <ejb-app>
        <server>localhost</server>
        <app-context>ActionSamplesEJB</app-context>
      </ejb-app>
    </ejb-targets>
  </custom-config>
</registry>
```

5.3.2.3 Invoke a Web Service Action Type Registry Example

The following example is an entry for a WSIL registry of web services. See Table 5–4, "Registry Entry Elements and Descriptions" for a description of each element.

```xml
<registry>
  <id>reg1</id>
  <name>Sample Web Services</name>
  <content-type>webservices</content-type>
  <provider-class>oracle.bi.action.registry.wsil.WSILRegistry</provider-class>
  <description></description>
  <location>
    <path>http://localhost:9704/ActionSamples/inspection.wsil</path>
  </location>
  <service-access>
    <path>/Sample Web Services/Rating Service</path>
    <policy>SAMLPolicy</policy>
    <propagateIdentity>true</propagateIdentity>
  </service-access>
  <service-access>
    <path>/Sample Web Services/Customer Rating Service</path>
    <account>PayrollUser</account>
    <policy>userNamePolicy</policy>
  </service-access>
</registry>
```
5.3.2.4 Registry Elements Descriptions

Table 5-4, "Registry Entry Elements and Descriptions" contains each registry element and its description.

<table>
<thead>
<tr>
<th>Element</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>registry</td>
<td>This element is the outer-most element that contains the registry definition.</td>
</tr>
<tr>
<td>id</td>
<td>This element holds an internal identifier that must be unique for each registry.</td>
</tr>
<tr>
<td>name</td>
<td>This element is the display name that is used by the ActionRegistryService when displaying the list of registries. The name that you specify in this element is also used as the root path for any targets within this registry.</td>
</tr>
<tr>
<td>content-type</td>
<td>You can use Oracle supplied values only. This element points to a content-type, which is another element defined in the Action Framework configuration file. For more information about the content types you can specify in this element, see Section 5.3.3, &quot;Content Types&quot;. Note that if you specify EPM in this element, you must add the &lt;typename&gt;, &lt;displayname&gt;, and &lt;actionType&gt; sub-elements. If you do not correctly enter this element, then the Navigate to EPM action type will not display in the Oracle BI Presentation Services user interface. For an example of how to properly enter this element for EPM, see Section 5.3.2.1, &quot;Navigate to EPM Content Action Type Registry Example.&quot;</td>
</tr>
<tr>
<td>provider-class</td>
<td>You can use Oracle-supplied values, only. Table 5-5, &quot;Provider-Class Element Values&quot; contains the valid values for this element.</td>
</tr>
<tr>
<td>description</td>
<td>This element is reserved for future use.</td>
</tr>
<tr>
<td>location</td>
<td>This element specifies the path to the registry that may contain aliased elements. For example, a WSIL file.</td>
</tr>
</tbody>
</table>
| service-access| This element is optional. You can define zero or more service-access elements in a registry definition. The service-access element specifies the authentication required to access the registry and, where specified, sub-paths within that registry. Note the following: 

- If a registry element does not have any service-access elements, no authentication is used when accessing services from that registry. 

- The service-access elements that specify a path element apply the account element only to services found under the specified path within the registry. 

- If a registry element contains a service-access element with just an account element that points to an account defined in the accounts element, then that account is used to access all services within that registry that are not specified by specific path-based service-access elements. |
| path        | This element is optional. This element is located within the service-access element and specifies a path to a subset of the services in the registry. The path is not a physical location. The path hierarchy starts with the registry name and can be found in the user interface by expanding the nodes that lead to a particular action target when creating a new action. |
Using Actions to Integrate Oracle BI EE with External Systems  5-9

Table 5–4  (Cont.) Registry Entry Elements and Descriptions

<table>
<thead>
<tr>
<th>Element</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>account</td>
<td>This element is optional. This element is located within the service-access element and points to an instance of an account element defined elsewhere in the configuration file.</td>
</tr>
<tr>
<td></td>
<td>If a registry element contains a service-access element with just an account element, then that account is used to access all services within that registry that are not specified by specific path-based service-access elements.</td>
</tr>
<tr>
<td></td>
<td>For webservices registries, the credentials held against the account referenced are used by the Action Framework to invoke target actions if the propagateIdentity element has a value of false.</td>
</tr>
<tr>
<td></td>
<td>For EPM registries, the credentials held against the account are used by the Action Framework to browse for EPM content.</td>
</tr>
<tr>
<td>policy</td>
<td>This element is optional. Use this element for webservices registries only. This element is located within the service-access element and points to a policy defined in the policies section elsewhere in the configuration file.</td>
</tr>
<tr>
<td></td>
<td>This element is required for accessing target web services that define a WS-Security policy.</td>
</tr>
<tr>
<td></td>
<td>Note that when invoking secured web services in this way, you need to correctly configure OWSM to work with Actions. For more information, see Section 5.5.3, “Configuring Oracle Web Services Manager”.</td>
</tr>
<tr>
<td>propagateIdentity</td>
<td>Use this element for web services registries only. This element must be set if the policy element is set. This element is located within the service-access element and can be set to true or false.</td>
</tr>
<tr>
<td></td>
<td>A value of true is valid when used in conjunction with policies that assert identity (for example, SAML-based policies) to enable propagating the identity of the user who initially invoked the action. If the propagateIdentity element is set to true, the account element becomes redundant and instead the identity of the user who invoked the action (for example, in Oracle BI Presentation Services or run as in scheduler) is used to invoke the target web service.</td>
</tr>
<tr>
<td></td>
<td>Setting this element to true in conjunction with a username/password token policy is not supported.</td>
</tr>
<tr>
<td>custom-config</td>
<td>Use this element for java registries only. This element is used to specify how to access the EJBs on the target application server.</td>
</tr>
</tbody>
</table>
5.3.2.5 Valid Values for the Provider-Class Element

Table 5–5, "Provider-Class Element Values" contains the valid values for the provider-class element. For more information about the provider-class element, see Table 5–4, "Registry Entry Elements and Descriptions".

Table 5–5 Provider-Class Element Values

<table>
<thead>
<tr>
<th>Related Action Type</th>
<th>Content Type</th>
<th>SPI Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>Navigate to EPM Content</td>
<td>EPM</td>
<td>oracle.bi.action.registry.epm.HDPRegistry</td>
</tr>
<tr>
<td>Invoke a Java Method (EJB)</td>
<td>Java</td>
<td>oracle.bi.action.registry.java.EJBRegistry</td>
</tr>
<tr>
<td>Invoke a Web Service</td>
<td>Web Services</td>
<td>oracle.bi.action.registry.wsil.WSILRegistry</td>
</tr>
</tbody>
</table>

5.3.3 Content Types

This topic describes the content-type element. Each content-type element provides meta-information about the types of services to which the registries are connecting. The content types provided during installation should not be modified. You can use only the content types shown in the following example:

```xml
<content-types>
  <content-type>
    <ejb-targets>
      Use this element for java registries only. This element defines the application server where EJBs are deployed in the appserver element, and one or more J2EE applications containing EJBs on the specified appserver that is exposed in the ejb-app elements.
    </ejb-targets>
    <appserver>
      Use this element for java registries only. This element is located within the ejb-target element and defines the connection and authentication information to connect to the application server where EJBs are deployed. This element contains the following elements:
      - context-factory – This element contains name of the class used to do JNDI lookups for the application server on which the Action Framework web services are deployed. You must set this element to weblogic.jndi.WLInitialContextFactory.
      - jndi-url – This element contains the URL used in JNDI lookups to query the JNDI directory on the application server hosting the target EJBs.
      - server-name – This element contains the name used internally to refer back to this appserver element, which is located in the server element of subsequent ejb-app elements.
      - account – This element contains the name of an account defined elsewhere in the configuration file. This element must point to credentials that have sufficient permissions to query the JNDI directory on the application server that is hosting target EJBs.
      - ejb-exclude – This element is used to exclude EJBs or applications from a given application or application server. When the EJB registry finds a match for this value in the JNDI hierarchy, it stops searching for EJBs down that branch of the JNDI tree.
    </appserver>
    <ejb-app>
      Use this element for java registries only. This element points to one or more J2EE applications containing EJBs. This element contains the following elements:
      - server - This element’s value needs to match the server-name element located in the appserver element.
      - app-context - This element contains the application context where the target EJBs were deployed.
    </ejb-app>
  </content-type>
</content-types>
```
5.3.4 Accounts

This topic describes the account element. The account element defines gateway accounts, which are used for authentication to action targets. The registry element's service-access element then references the accounts that you have specified. For more information about the registry section, see Section 5.3.2, "Registries".

The following example is an account entry. Table 5–6, "Account Elements and Descriptions" describes each element.

```xml
<account>
  <name>SAMLTest</name>
  <description>Test SAML Account</description>
  <adminonly>false</adminonly>
  <credentialkey>SAMLTest</credentialkey>
</account>
```

5.3.4.1 Account Elements Descriptions

Table 5–6, "Account Elements and Descriptions" contains each account element and its description. For information about storing credentials, see Section 5.5, "Adding and Maintaining Credentials for Use With the Action Framework".

<table>
<thead>
<tr>
<th>Element</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>name</td>
<td>This element specifies the name referenced in registry service-access elements, or the appserver element for Java registries. Each account must have a unique name within the Action Framework configuration.</td>
</tr>
<tr>
<td>description</td>
<td>This element is reserved for future use.</td>
</tr>
<tr>
<td>adminonly</td>
<td>This element is reserved for future use. You must set this element to false.</td>
</tr>
</tbody>
</table>
5.3.5 Policies

The policy element is used to describe the location of OWSM client policy files used in accessing secured web services as action targets. Each policy element provides a name to reference the policy that may then be used by service-access elements as a shorthand to specify that the AES should apply the policy file referred to when invoking an action target covered by that service-access element.

The following example is a policy entry. Table 5–7, "Policy Elements and Descriptions" describes each element.

```xml
<policy>
  <name>SAMLPolicy</name>
  <policyfile>ActionsSAMLPolicy.xml</policyfile>
</policy>
```

5.3.5.1 Policy Elements Descriptions

Table 5–7, "Policy Elements and Descriptions" contains each policy element and its description.

<table>
<thead>
<tr>
<th>Element</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>name</td>
<td>This element specifies the name referenced in service-access elements. Each policy must have a unique name within the Action Framework configuration. For more information about the service-access element, see Section 5.3.2.4, &quot;Registry Elements Descriptions&quot;.</td>
</tr>
<tr>
<td>policyfile</td>
<td>Use this element to enable actions to invoke web services that have WS policies applied to them. This element specifies the name of a file stored in the same directory as the ActionFrameworkConfig.xml file. This file contains an OWSM policy that OWSM applies at runtime when a web service action that was created from a registry path using this policy is executed. For more information about the service-access element, see Section 5.3.2.4, &quot;Registry Elements Descriptions&quot;</td>
</tr>
</tbody>
</table>

5.3.5.2 Policy Files

You need to manually create a separate Action Framework policy file for each distinct client security policy being used to secure target web services. An Action Framework policy file contains a reference to a web services client policy defined in OWSM, which
provides a standard WS-Policy PolicyReference element used to invoke a target web service.

To manually create or copy these files, use the sample files, located in Appendix A, "Sample Files".

After you create or copy the files, save them in the same folder as the main ActionFrameworkConfig.xml.

See the following example of an Action Framework Policy file's contents:

```xml
<?xml version="1.0" encoding="UTF-8"?>
<oracle-webservice-clients>
  <webservice-client>
    <port-info>
      <policy-references>
        <policy-reference uri="oracle/log_policy" category="management"/>
        <policy-reference uri="oracle/wss11_saml_token_with_message_protection_client_policy" category="security"/>
      </policy-references>
    </port-info>
  </webservice-client>
</oracle-webservice-clients>
```

The Action Framework policy file needs to point to the appropriate client policy in order to invoke a web service secured by a service policy.

For example, if a target web service is secured by the policy "oracle/wss11_saml_token_with_message_protection_service_policy," then the web service client (that is, in this case the Action Framework) needs to use the counterpart client policy to invoke this web service. The appropriate client policy in this example is "oracle/wss11_saml_token_with_message_protection_client_policy."

You should enter the name of the appropriate client policy into the Action Framework policy file against the "policy-reference uri" element with a category of "security."

The service and client web services policies available through OWSM can be viewed through Fusion Middleware Control by selecting Web Services and then Policies from the WebLogic domain. For more information about the predefined policies available through OWSM, see "Predefined Policies" in Oracle Fusion Middleware Security and Administrator’s Guide for Web Services.

5.3.6 Proxy

The proxy element specifies proxy settings. The proxy settings are used for accessing items such as web services and URLs that would ordinarily be inaccessible from the network containing the WebLogic server where the Action Framework web services are deployed.

The following example is a proxy entry. Table 5–8, "Proxy Elements and Descriptions" describes each element.

```xml
<proxy>
  <host>proxyserver.mycompany.com</host>
  <port>80</port>
  <userid>jsmith</userid>
  <password>johsmi</password>
  <nonProxyHosts>localhost|*.mycompany.com|10.1.10.78</nonProxyHosts>
</proxy>
```
5.3.6.1 Proxy Elements Descriptions

Table 5–8, "Proxy Elements and Descriptions" contains each proxy element and its description.

<table>
<thead>
<tr>
<th>Element</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>host</td>
<td>This element specifies the host name of the server where the proxy server is located.</td>
</tr>
<tr>
<td>port</td>
<td>This element specifies the proxy server's port number.</td>
</tr>
<tr>
<td>userid</td>
<td>These element specifies the userid and password for the proxy server. Leave these elements blank for a non-authenticating proxy.</td>
</tr>
<tr>
<td>password</td>
<td>Use these elements for a proxy that requires authentication.</td>
</tr>
<tr>
<td>nonProxyHosts</td>
<td>This element allows for a pipe character (</td>
</tr>
</tbody>
</table>

5.3.7 ebusinesssuiteconfig

The ebusinesssuiteconfig element specifies that an Oracle E-Business Suite system is available. If this element is present in the configuration file, Oracle BI Presentation Services displays the menu option that allows users to create a Navigate to E-Business Suite action. Users must have the proper privileges to access E-Business Suite from Oracle BI Presentation Services. For information about this integration configuration, see Chapter 10, "Integrating with Oracle E-Business Suite Security".

The following example is an ebusinesssuiteconfig entry.

```xml
<ebusinesssuiteconfig>
  <visible>true</visible>
</ebusinesssuiteconfig>
```

5.3.8 siebelcrmconfig

The siebelcrmconfig element specifies that an Oracle Siebel CRM system is available. If this element is present in the configuration file, Oracle BI Presentation Services displays the menu option that allows users to create a Navigate to Siebel CRM action. Users must have the proper privileges to access Siebel CRM from Oracle BI Presentation Services.

Note that the Oracle BI Server must be integrated with the Siebel CRM server before users can invoke a Navigate to Siebel CRM action type from Oracle BI Presentation Services. For more information about this integration, see Chapter 11, "Embedding Oracle BI EE In Oracle's Siebel CRM".

The following example is a siebelcrmconfig entry.

```xml
<siebelcrmconfig>
  <visible>true</visible>
</siebelcrmconfig>
```

5.4 Overview of Action Security

Action Framework and actions security is determined by credentials, privileges, and permissions.
5.4.1 Oracle BI EE Credentials

Credentials are security-related attributes used to authenticate or authorize users and systems requesting access to Oracle BI EE resources such as actions. If you have configured one or more registries in the Action Framework to use credentials in the credential store for either browsing for actions targets or invoking actions (namely, if you have specified account elements in the ActionFrameworkConfig.xml) you need to enter a credential into a the credential store to match each account element in the ActionFramworkConfig.xml file. All credentials referenced by account elements must be in a credential map called oracle.bi.actions.

For example, if you have the following account defined in the configuration file, you need to enter a credential for JNDIUser into a map called oracle.bi.actions.

```
<account>
  <name>WLSJNDI</name>
  <description>Account used to access WLS JNDI.</description>
  <adminonly>false</adminonly>
  <credentialkey>JNDIUser</credentialkey>
</account>
```

For more information about how enter a credential into the credential store, see Section 5.5, "Adding and Maintaining Credentials for Use With the Action Framework".

5.4.2 Oracle BI EE Privileges

Actions privileges control the rights that users have to access the actions features and functionality in Oracle BI Presentation Services. The Oracle BI EE Administrator grants or denies privileges to specific application roles, individual users, and Catalog groups. The actions privileges are:

- Create Navigate Actions
- Create Invoke Actions
- Save Actions containing embedded HTML

For more information about the action privileges, see "Managing Presentation Services Privileges" in Oracle Fusion Middleware Security Guide for Oracle Business Intelligence Enterprise Edition.

5.4.3 Oracle BI Presentation Catalog Permissions

Action permissions are authorizations that the action’s owner grants to users or roles. Permissions determine what tasks a user can perform on an action (for example, execute the action). The Oracle BI EE Administrator must give an action’s owner the necessary privileges before the owner can assign permissions to action catalog objects. The action permissions are:

- Delete
- Execute
- Read
- Write

For more information about assigning permissions to action object stored in the catalog, see "Permission Definitions" in Oracle Fusion Middleware User’s Guide for Oracle Business Intelligence Enterprise Edition.
5.5 Adding and Maintaining Credentials for Use With the Action Framework

Use these procedures to enter a credential into the credential store to match each account element in the ActionFrameworkConfig.xml file. For more information about setting up credentials with Action Framework, see Section 5.4.1, "Oracle BI EE Credentials".

This section contains the following procedures:

- Section 5.5.1, "Adding a Credential Map and Credential Key to the Credential Store"
- Section 5.5.2, "Creating a Default Keystore"
- Section 5.5.3, "Configuring Oracle Web Services Manager"

5.5.1 Adding a Credential Map and Credential Key to the Credential Store

Use the following procedure to add a credential map and credential key to the credential store.

1. Log into Fusion Middleware Control. The default location is http://<your host name>:7001/em

2. Expand the tree menu to view your domain, and then right-click on the domain name. An options list displays.

3. Highlight the Security option and from the list, select Credentials. The "Credentials" dialog displays.

4. Click Create Map and add a new map called oracle.bi.actions. Note that the only map Actions can reference is oracle.bi.actions, so you need to create a map with this name and add credentials to it for use with Actions.

5. Click Create Key and add a key against the oracle.bi.actions credential map you created.

6. Save the key and map.

5.5.1.1 Example of Creating the Credential Map and Credential Key

Note the following account element.

```xml
<account>
    <name>SecureTest</name>
    <description>Test Secure Account</description>
    <adminonly>false</adminonly>
    <credentialkey>SecureTest</credentialkey>
</account>
```

If you have this account element in your ActionFrameworkConfig.xml and the following conditions are true:

- this account element is referenced by a registry to invoke a web service secured using a username and password policy
- the propagateIdentity element is set to false,

then, for the example account element above, you must enter a username and password that is valid for invoking the target web service. This should be added to a credential map called oracle.bi.actions against a credentialkey of SecureTest.
5.5.2 Creating a Default Keystore

Use the following procedure to create a default self-signed keystore. Note that creating a default keystore is suitable for demonstration or development use, but is not suitable for production use. In production, a keystore that was created by importing a valid, correctly signed certificate should be used as described in the keytool documentation. For security policies that involve signing or encryption, you must also add a certificate to the bifoundation_domain keystore.

For more information about keytool and Solaris/Linux, go to
http://java.sun.com/javase/6/docs/technotes/tools/solaris/keytool.htm

For information about keytool and Windows, go to

1. Confirm that your installer installed the JDK bin directory and that it displays in your path. For example, <MIDDLEWARE_HOME>/jdk160_11/bin/.

2. Open a command prompt at <MIDDLEWARE_HOME>/user_projects/domains/bifoundation_domain/config/fmwconfig.

3. Run the following command to create a default keystore.

```
keytool -genkeypair -keyalg RSA -alias orakey -keypass orakey_passphrase -keystore default-keystore.jks -storepass store_passphrase -validity 3600
```

The command creates a keystore with the name default-keystore.jks (if it does not already exist) and adds a new private key entry with alias "orakey" and password as "orakey." You can change the alias, password, and storepass in the command, but they must match the OWSM credentials added to the credential store in the Section 5.5.3, "Configuring Oracle Web Services Manager" procedure.

4. When prompted, answer the questions. Enter responses relevant to your organization. See the example. Note that in the example, the user "weblogic" refers to the System Administrator user created during the install. If you chose a user other than "weblogic," enter that username instead.

```
What is your first and last name?
[Unknown]: weblogic
What is the name of your organizational unit?
[Unknown]: J2EE Test Encryption Purposes Only
What is the name of your organization?
[Unknown]: Oracle
What is the name of your City or Locality?
[Unknown]: US
What is the name of your State or Province?
[Unknown]: US
What is the two-letter country code for this unit?
[Unknown]: US
Is CN=weblogic, OU=J2EE Test Encryption Purposes Only, O=Oracle, L=US, ST=US, C=US correct?
[no]: yes
```

5. Confirm that the keystore was generated correctly by using the following command to list its contents.

```
keytool -list -v -keystore default-keystore.jks -storepass welcome1
```

Running this command produces a response similar to the following example.

Keystore type: JKS
Keystore provider: SUN

Your keystore contains 1 entry

Alias name: orakey
Creation date: 16-Sep-2009
Entry type: PrivateKeyEntry
Certificate chain length: 1
Certificate[1]:
Owner: CN=weblogic, OU=J2EE Test Encryption purposes Only, O=Oracle, L=US, ST=US, C=US
Issuer: CN=weblogic, OU=J2EE Test Encryption purposes Only, O=Oracle, L=US, ST=US, C=US
Serial number: 4ab0ee4e
Certificate fingerprints:
Signature algorithm name: SHA1withRSA
Version: 3

*******************************************
*******************************************

6. Check if the default-keystore.jks file exists at the path. If it does not exist, copy it there.

<MIDDLEWARE_HOME>/user_projects/domains/bifoundation_domain/config/fmwconfig

5.5.3 Configuring Oracle Web Services Manager

Use the following procedure to configure Oracle Web Services Manager (WSM) to work with actions. Perform this procedure so that you can create an action that invokes a web service where the target web service has a WS security policy applied to it.

For security policies that involve signing or encryption, you must also add a certificate to a keystore. Note that the enc-csf-key, keystore-csf-key, and sign-csf-key credentials should match the corresponding passphrases given in the keypass and storepass arguments when running keytool.

1. In Fusion Middleware Control, add a credential map named oracle.wsm.security. For instructions on how to add a credential map, see Section 5.5.1, "Adding a Credential Map and Credential Key to the Credential Store".

2. Add the following keys to the oracle.wsm.security map.

<table>
<thead>
<tr>
<th>Keyname</th>
<th>Type</th>
<th>User Name</th>
<th>Password</th>
</tr>
</thead>
<tbody>
<tr>
<td>basic.credentials</td>
<td>Password</td>
<td>weblogic*</td>
<td>welcome1</td>
</tr>
<tr>
<td>enc-csf-key</td>
<td>Password</td>
<td>orakey</td>
<td>welcome1</td>
</tr>
<tr>
<td>keystore-csf-key</td>
<td>Password</td>
<td>owsm</td>
<td>welcome1</td>
</tr>
<tr>
<td>sign-csf-key</td>
<td>Password</td>
<td>orakey</td>
<td>welcome1</td>
</tr>
</tbody>
</table>
This username refers to the System Administrator user created during the installation. If you chose a username other than "weblogic," enter that user name instead. Similarly, you should use the password for that account during install.

3. Save the map.

5.6 Target Functionality for Actions

This section contains further information about setting up target functionality in external systems. The action links added to business intelligence content invokes these target functionalities. The action types explained in this section are:

- Section 5.6.1, "Navigate to EPM Content"
- Section 5.6.2, "Navigate to E-Business Suite"
- Section 5.6.3, "Navigate to Siebel CRM"
- Section 5.6.4, "Invoke a Web Service"
- Section 5.6.5, "Supported Functionality for Calling Web Services"
- Section 5.6.6, "Invoke a Java Method (EJB)"
- Section 5.6.7, "Invoke a Browser Script"
- Section 5.6.8, "Invoke a Server Script"
- Section 5.6.9, "Invoke Agent"
- Section 5.6.10, "Java Job"

5.6.1 Navigate to EPM Content

This action type allows users to browse for target content in the EPM repository and then create an action to navigate to the selected content. Only navigation to Oracle Hyperion Financial Reporting content is currently supported.

For more information about creating this action type in Presentation Services, see "Working with Actions" in Oracle Fusion Middleware User's Guide for Oracle Business Intelligence Enterprise Edition.

5.6.1.1 Prerequisites for This Action Type

In order for the Action Framework to provide this action type, you must have performed the following tasks:

- Modified the configuration file's registry element. For information about this required configuration, see Section 5.3.2.1, "Navigate to EPM Content Action Type Registry Example".

- Added a credential to the credential store to enable the browse for EPM content functionality. For more information, see Section 5.4.1, "Oracle BI EE Credentials" and Section 5.5, "Adding and Maintaining Credentials for Use With the Action Framework".

5.6.1.2 What Happens When This Action Type is Invoked?

Figure 5–1, "Navigate to EPM Content Process Flow" illustrates the Navigate to EPM Content action type's process flow.
5.6.2 Navigate to E-Business Suite

This action type allows users to navigate from Oracle BI EE to Oracle E-Business Suite. The Oracle BI EE session holds the context of the user's Oracle E-Business Suite session, including the current Oracle E-Business Suite responsibility in the Oracle BI EE session variables.

A Navigate to Oracle E-Business Suite action takes two parameters:

- Connection Pool - This parameter contains the name of the BI connection pool that connects to the target Oracle E-Business Suite environment as defined in the repository.
- Function - This parameter contains the name of the target Oracle E-Business Suite function to which to navigate. The Oracle E-Business Suite administrator needs to provide the target function ID.
Note that before users can invoke a Navigate to E-Business Suite action, they must have privileges to execute direct database requests against the Oracle E-Business Suite connection pool.

Note that for a user to successfully invoke a Navigate to E-Business Suite action, the target Oracle E-Business function must be accessible from the user's current Oracle E-Business Suite.

For information about this action type's required security integration configuration, see Chapter 10, "Integrating with Oracle E-Business Suite Security".

5.6.2.1 Overview of Passing Context to Oracle E-Business Suite Java Forms

You can use Oracle Forms Builder to customize a target form and add one or more new, custom parameters to be populated from Oracle BI EE. For information about completing this task, see the Oracle Forms Developer and the Oracle E-Business Suite documentation.

You can use Oracle E-Business Suite's Forms Personalization to map the value or values from these new custom parameters into the form fields used by Oracle E-Business Suite for searching for transactions. For information about completing this task, see the Oracle E-Business Suite documentation.

When you create an action to navigate to the target Oracle E-Business Suite function, you must manually add new parameters with the same names as the custom parameters that you added to the Oracle E-Business Suite form. Note that the new parameters that you add are in addition to the two default parameters (Connection Pool and Function).

After you add the parameters and you invoke the action, Oracle BI EE passes the parameters to the target Oracle E-Business Suite form. Finally, the Form Personalizations take the passed parameter values and uses them to retrieve the required target transaction.

5.6.3 Navigate to Siebel CRM

This action type allows users to navigate from Oracle BI EE to a view (such as an opportunity) in a Siebel CRM application. You use this type of action to allow users to navigate from a dashboard that is embedded in a Siebel CRM application to a record in a view in the CRM application.

A Navigate to Siebel CRM action takes three parameters:

- **View** - This parameter specifies the name of the view that contains the record to which to navigate. For example, Opportunity List View.
- **Applet** - This parameter specifies the name of the parent applet in the view that contains the record to which to navigate. For example, Opportunity List Applet.
- **Pass Value** - The row number of the record to which to navigate. For example, 3SIA-205VU.

For information about determining the name of the view, applet, and record row number, see the Oracle's Siebel CRM application documentation.

Before you can use Navigate to Siebel CRM actions, you must embed Oracle Business Intelligence in the Oracle's Siebel CRM application. For more information, see Chapter 11, "Embedding Oracle BI EE In Oracle's Siebel CRM"
5.6.4 Invoke a Web Service

This action type allows users to browse for target web services operations and then create an action to invoke the selected content. For information about how Action Framework supports calls to web services, see Section 5.6.5, "Supported Functionality for Calling Web Services".

For more information about creating this action type in Presentation Services, see "Working with Actions" in Oracle Fusion Middleware User's Guide for Oracle Business Intelligence Enterprise Edition.

5.6.4.1 Prerequisites for This Action Type

In order for the Action Framework to provide this action type and before a user can create an Invoke a Web Services action, you must have performed the following tasks:

- Confirmed that a target web service with a URL to the WSDL for that web service exists.
- If you want to allow users to browse for web services, you must have added a WSIL document that points to one or more WSDL documents. The WSIL document must be accessible via a URL. For more information, see Section 5.6.4.2, "Example of a WSIL Document".
- If you want to browse to web services operations or apply security policies, you must have modified the configuration file's registry element so that it references the target WSIL document. For information about this required configuration, see Section 5.3.2.3, "Invoke a Web Service Action Type Registry Example".
- Confirmed whether you need to add credentials to the credential store to invoke web services. If the target web service is secured, appropriate configuration needs to be added to pass credentials to the web service operation when it is invoked. A suitable keystore might also be required. For more information, see Section 5.4.1, "Oracle BI EE Credentials", Section 5.5, "Adding and Maintaining Credentials for Use With the Action Framework", and Section 5.5.2, "Creating a Default Keystore".

5.6.4.2 Example of a WSIL Document

WSIL defines an XML format for referencing web service descriptions. These references are contained in a WSIL document and refer to web service descriptions (for example, WSDL files) and to other aggregations of web services (for example, another WSIL document or a UDDI registry). Note the following WSIL example:

```xml
<?xml version="1.0" encoding="UTF-8"?>
<inspection xmlns="http://schemas.xmlsoap.org/ws/2001/10/inspection/">
  <service>
    <abstract>Web Service: Order Services</abstract>
    <name>Order Service</name>
  </service>
</inspection>
```

5.6.4.3 Troubleshooting Actions to Invoke a Web Service

Use the following list to troubleshoot actions to invoke a web service.

1. Confirm that you can invoke the target web service from a test client such as the HTTP Analyzer in JDeveloper.
2. If the target web service has a security policy, check the ActionFrameworkConfig.xml file to make sure that the Action Execution Service (AES) is using the appropriate client policy.

3. Go to Fusion Middleware Control to check the logs and diagnostics for Action Services. To access the log files, go to the Fusion Middleware Control, access the Business Intelligence navigation tree, and select coreapplications to display information about the Oracle BI instance. Select the Diagnostics tab and select the Log Messages sub tab. In the View/Search Log Files area, click Action Services log.

You can enable verbose logging for WebLogic by adding the following entries to the JAVA_OPTIONS variable in the startWebLogic.cmd/*.sh file. After you have modified the JAVA_OPTIONS variable, you must restart WebLogic.

-Doracle.multitenant.enabled=true -Dweblogic.wsee.verbose=* -Dweblogic.log.RedirectStdoutToServerLogEnabled=true -Dweblogic.webservice.client.verbose=true

4. Check the ActionFrameworkConfig.xml file for mistakes or omissions.

5. Thoroughly check any associated policy files and make sure they are in the correct location.

6. If the target web service applies a security policy that includes either message protection or encryption, thoroughly check the additional OWSM credentials in the Credential Store.

5.6.4.4 What Happens When This Action Type is Invoked?

Figure 5–2, "Invoking a Web Service Process Flow" illustrates the web service action type's process flow.
5.6.5 Supported Functionality for Calling Web Services

This section describes the supported technologies and limitations used by the Action Framework when it invokes web services.

5.6.5.1 Transport

Note the following items:

- The Action Framework supports HTTP for both WDSL browsing and calling web services through Actions.
- The Action Framework supports HTTPS for WSDL browsing of web services.
- The Action Framework supports HTTPS for sending messages over a secure channel between AES and the target web service. However, Action Framework does not currently support the use of digital certificates for authenticating between AEService and the target web service.
5.6.5.2 Messaging
Note the following items:

- A web service called from the Action Framework needs to be SOAP-based.
- The Action Framework supports synchronous, request/response messages.
- The Action Framework does not support WS-Addressing.

5.6.5.3 SOAP
The Action Framework supports the following data types in outgoing and incoming SOAP 1.1 and 1.2 messages.

Note that for an out-going SOAP message, you cannot input multiple values for a parameter even when the underlying schema specifies that the parameter should accept multiple values (for example, an array or collection).

- xsd:any
- xsd:base64Binary
- xsd:string
- xsd:date
- xsd:time
- xsd:dateTime
- xsd:double
- xsd:decimal
- xsd:int
- xsd:short
- xsd:long
- xsd:byte
- xsd:Boolean
- xsd:float

5.6.5.4 Response Document
The SOAP response document is made available to the user interface and can be formatted using XPATH and html. The document can retrieve multiple occurrences of the same parameter, but you must map each occurrence to a specific XPATH parameter.

5.6.5.5 Service Description
Note the following items:

- The Action Framework supports WSDL.
- The Action Framework supports synchronous, request/response messages.

5.6.5.6 Discovery Services
Note the following items:

- The Action Framework supports WSIL.
- The Action Framework does not currently support UDDI.
5.6.5.7 Security
The Action Framework supports WS-Security based on the policies available to the OWSM.

5.6.5.8 Reliable Messaging and Transactions
The Action Framework does not currently support any mechanism for guaranteeing message delivery or maintaining the integrity of transactions.

5.6.6 Invoke a Java Method (EJB)
This action type allows users to browse for target Java methods deployed in Enterprise Java Beans (EJBs) and then create an action to invoke the selected method.

For more information about creating this action type in Presentation Services, see "Working with Actions" in Oracle Fusion Middleware User’s Guide for Oracle Business Intelligence Enterprise Edition.

5.6.6.1 Prerequisites for This Action Type
In order for the Action Framework to provide this action type and before a user can create an Invoke a Java Method (EJB) action, you must have performed the following tasks:

- Added a target EJB with a URL to the JNDI location for that EJB. Note that the Action Framework expects EJBs to be deployed to the default location of /ejb.

- Modified the configuration file’s registry element so that it references the target EJB. For information about this required configuration, see Section 5.3.2.2, "Invoke a Java Method Action Type Registry Example”.

- Added a credential to the credential store to invoke the EJB method. The appropriate configuration needs to be added to pass credentials to the EJB method when it is invoked. For more information, see Section 5.4.1, "Oracle BI EE Credentials” and Section 5.5, "Adding and Maintaining Credentials for Use With the Action Framework”.

5.6.6.2 Parameters for the EJB
The Action Framework finds the Java methods exposed through the remote interface of the EJB. The parameters of exposed methods become the parameters for an action.

When deploying an EJB method, you may import, but not modify, the oracle.bi.action.annotation.OBIActionParameter class found in Actionframework-common.jar. This class, which was deployed with the installation of Oracle Business Intelligence, allows you to annotate parameters for use by the Action Framework when creating actions.

The following example shows code to define a remote interface exposing a method called ArchiveReport. Note that the import statement for oracle.bi.action.annotation.OBIActionParameter and the annotation @ OBIActionParameter. This annotation allows you to specify a parameter name and a prompt value to display when creating an action.

```java
package project1;
import java.io.FileNotFoundException;
import java.io.IOException;
import javax.activation.DataHandler;
import javax.ejb.Remote;
import oracle.bi.action.annotation.OBIActionParameter;
```
@Remote
public interface ArchiveReport {
    String ArchiveReport(@OBIActionParameter(name = "Filename", prompt = "Enter filename location:")
            String filename, @OBIActionParameter(name = "Analysis", prompt = "Report to Archive:")
            DataHandler document) throws
            FileNotFoundException, IOException;
}

You can send documents from the catalog to a Java method in an EJB. The binary data for the document is sent using a specific Java data type. Therefore, if you want to create a Java method that accepts an analysis as a parameter, your Java method should include a specific Java data type (javax.activation.DataHandler) as a parameter. The Action Framework recognizes this data type as capable of receiving a document in one of the supported export formats (for example, PDF or HTML).

### 5.6.6.3 What Happens When This Action Type is Invoked?

Figure 5–3, "Invoke Java Method (EJB) Process Flow" illustrates the Invoke a Java Method (EJB) action type's process flow.
5.6.7 Invoke a Browser Script

This action type allows users to browse target JavaScript functions and then create an action to invoke the selected function.

For more information about creating this action type in Presentation Services, see "Working with Actions" in Oracle Fusion Middleware User’s Guide for Oracle Business Intelligence Enterprise Edition.

5.6.7.1 JavaScript Functions

Use the following information to help you create JavaScript functions.

- The target JavaScript functions that Actions use to Invoke a Browser Script call are hosted in the UserScripts.js file found in the following location:

  `MW_HOME/user_projects/domains/bifoundation_domain/servers/bi_server1/tmp/_WL_user/analytics_11.1.1.2.0/<installation dependent folder>/war/res/b_mozilla/actions/UserScripts.js`
A sample UserScript.js file is located in Appendix A, "Sample Files".

You can use the UserScripts.js file and add any user-defined JavaScript functions to invoke from a client-side script action.

Custom functions should use the namespace USERSCRIPT so that no function name conflicts occur with the product code, and so that the Action Framework can identify functions when creating an action.

You must backup the UserScripts.js file and reinstate it after every patch or upgrade, otherwise it will be replaced with a default file, and you will lose your custom JavaScript functions.

After you add user-defined JavaScript functions to the UserScripts.js file, you must restart the Presentation Server, restart the Weblogic Server running analytics, and clear the browser cache.

### 5.6.7.2 UserScript.js

Custom functions in the UserScripts.js file consist of a function to contain the actual code to be called when the action is invoked, and, optionally, an associated "publish" object used by the Action Framework to browse for the function when creating the action and for mapping values to the function parameters.

#### 5.6.7.2.1 JavaScript Example 1

The example shows a JavaScript function of USERSCRIPT.example_displayParameters that can be called by an action. Target functions receive a single parameter and a named array of values, indexed by the parameter name.

```javascript
/** This is an example function to display all parameters that are received
 * @params {Array} aParams an array of values indexed by the parameter name
 */
USERSCRIPT.example_displayParameters = function(aParams)
{
  var sArgs = "";
  for( args in aParams )
  {
    var argName = args;
    var argValue = aParams[argName];
    sArgs += "Parameter name: " + argName + " Value: " + argValue;
    sArgs += "\n";
  }
  alert( sArgs.length == 0 ? "No Parameters" : sArgs );
};
```

#### 5.6.7.2.2 JavaScript Example 2

The USERSCRIPT.parameter object is defined at the beginning of the UserScripts.js file. This object is used by the Action Framework to define parameters in custom JavaScript functions for use when creating an action to Invoke a Browser Script. Each parameter object includes a name, a prompt value holding the text to be displayed against the parameter when creating an action, and a default value.

```javascript
/** This is the parameter object you can create to supply default parameters on
creation of Script action.
 * See the 'displayParameters' example below for usage.
 * @param {String} sName is the unique name of parameter.
 * @param {String} sPrompt is the display text used to prompt for the parameter
value.
 * @param {String} sValue (Optional) is the default value for the parameter.
```
USERSCRIPT.parameter = function(sName, sPrompt, sValue)
{
    this.name   = sName;
    this.prompt = sPrompt;
    this.value  = sValue;
};

The example shows the definition of a "publish" object that defines parameters for the Action Framework. All functions within the USERSCRIPT namespace that include a "publish" object can be browsed for selection when creating an action. The publish object defines the array of parameters to be passed by an action to the target JavaScript function. Note that functions that do not have an associated "publish" object may still be invoked by an action, but the Action Framework is not able to browse to these private functions, and therefore parameters need to be added to the action definition manually.

USERSCRIPT.example_displayParameters.publish =
{
    // The existence of this 'publish' object causes the 'USERSCRIPT.example_displayParameters' function to be shown when browsing the available user script functions (during creation of a Script action).

    // If you wish the Script function to have parameters automatically created on selection of the function,
    // create a 'parameters' object as shown below.
    // You can have any number of parameters, with each parameter requiring a unique name, prompt and an // optional value.
    parameters : [
        new USERSCRIPT.parameter( 'p1', 'Enter value for Param 1', 'p1 default value' ),
        new USERSCRIPT.parameter( 'p2', 'Enter value for Param 2', 'p2 default value' ),
        new USERSCRIPT.parameter( 'p3', 'Enter value for Param 3' )
    ]

    // If no generated parameters are required, either create an empty array
    // parameters : []
    // or don't declare the 'parameters' object at all.
};

5.6.7.3 What Happens When This Action Type is Invoked?

Figure 5–4, "Invoke a Browser Script Process Flow" illustrates the Invoke a Browser Script action type's process flow.
5.6.8 Invoke a Server Script

This action type allows users to specify the filename of a custom script to execute (on Microsoft Windows) when the current agent completes. The custom script type can be either JavaScript or VBScript. By default, the scripts are stored in the following directory:

`ORACLE_INSTANCE\bifoundation\OracleBISchedulerComponent\coreapplication_obischn\scripts\common`

For example:

`D:\OBI11g\instances\instance1\bifoundation\OracleBISchedulerComponent\coreapplication_obisch1\scripts\common`

However, the Administrator can change this default path. For more information about the configuration setting that controls this default path, see "Configuring and Managing Agents" in Oracle Fusion Middleware System Administrator's Guide for Oracle Business Intelligence Enterprise Edition and "Introducing Oracle BI Scheduler" in Oracle Fusion Middleware Scheduling Jobs Guide for Oracle Business Intelligence Enterprise Edition.

When setting up this action type, you can select options for whether results are passed to the script, as well as desired formats. You can also manually add additional
parameters. Depending upon the type of content to be passed (from either the conditional request or the delivery content), results may be passed in some of the following formats:

- PDF
- MHTML (MIME HTML used in email)
- Plain Text
- XML
- CSV
- Excel
- Powerpoint

5.6.8.1 Prerequisites for This Action Type
In order for the user to create an Invoke Server Script action, you must confirm that the custom script file resides on the same server as the Oracle BI Delivers server (the Scheduler). See the above topic for more information about the directory where the scripts are stored by default.

5.6.8.2 What Happens When This Action Type is Invoked?
Figure 5–5, "Invoke a Server Script Process Flow" illustrates the Invoke a Server Script action type’s process flow.
Figure 5–5  Invoke a Server Script Process Flow

5.6.9 Invoke Agent

Agents can execute actions depending on whether a data condition is met. For detailed conceptual information about agents and procedures for creating agents and adding actions to them, see "Delivering Content" and "Working with Actions" in Oracle Fusion Middleware User’s Guide for Oracle Business Intelligence Enterprise Edition.

5.6.9.1 How Filters Work in Invoke Agent Actions

If you add an Invoke Agent action to an agent and the following conditions exist, then the child agent is invoked once with filter values generated by the results of the parent agent.
The parent agent to which you are adding the Invoke Agent action uses a condition to determine whether the parent agent delivers its content and runs its associated actions.

The Invoke Agent action invokes a child agent that also uses a condition to determine whether the child agent delivers its content and runs its associated actions, and that condition is based on an analysis that filters its data by a column prompt.

For example, suppose you have the following:

- A parent agent that uses a condition based on an analysis that uses the Region, District, City, and Sum (Sales) columns
- A child agent that uses a condition based on an analysis that uses the Region, District, City, and Sum (Sales) columns and filters on Region and City.

And suppose when the parent agent runs, the following results are generated:

<table>
<thead>
<tr>
<th>Region</th>
<th>District</th>
<th>City</th>
<th>Sum (Sales)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central</td>
<td>A</td>
<td>C1</td>
<td>100</td>
</tr>
<tr>
<td>Western</td>
<td>B</td>
<td>C2</td>
<td>200</td>
</tr>
</tbody>
</table>

The child agent will run once using the filter values generated by the results of the parent agent, that is, Region = Central and City = C1, or Region = Western and City = C2.

5.6.9.2 What Happens When This Action Type is Invoked?

Figure 5–6 illustrates the Invoke Agent action type’s process flow.
5.6.10 Java Job

In Oracle BI EE 10g, you could specify a custom Java program to execute on Windows and UNIX when an iBot completed. When migrating to the current Oracle BI EE release, these actions are upgraded to read-only Java Job actions.

If you are creating new actions to run Java methods, you should use the Invoke a Java Method (EJB) action type. In order to use Java Job actions that have upgraded from 10g, you need to copy the jar file that includes the target java class into the default user Jar file path, as specified for the Oracle BI Javahost. Where the target java class imports Oracle BI EE classes, you should re-compile your target java class referencing the 11g Oracle BI EE classes in the classpath and make sure these classes are available to the target class when it is invoked. For more information, see "Introducing Oracle BI
5.6.10.1 What Happens When This Action Type is Invoked?

Figure 5–7, "Java Job Process Flow" illustrates the Java Job action type’s process flow.
Integrating Oracle BI Presentation Services into Corporate Environments Using HTTP and JavaScript

This chapter describes the HTTP and JavaScript methods used to integrate Oracle BI Presentation Services into a corporate environment. Describes Go URL, how to use Go URL to use SQL to pass filters, and Dashboard URL.

This chapter includes the following sections:

- Incorporating Oracle Business Intelligence Results into External Portals or Applications
- Referencing Dashboard Content in External Portals or Applications
- Using the Oracle BI Presentation Services Go URL to Issue SQL and Pass Filters
- Example of an Oracle Business Intelligence Third-Party SQL Tool Integration
- Retrieving Links to Dashboard Pages Using Scripts

6.1 Incorporating Oracle Business Intelligence Results into External Portals or Applications

This section describes how to use the Oracle BI Presentation Services Go URL to incorporate results into external portals or applications. It contains the following topics:

- Section 6.1.1, "About the Oracle BI Presentation Services Prompted URL"
- Section 6.1.2, "About the Oracle BI Presentation Services Go URL"
- Section 6.1.3, "Structure of the Basic Oracle BI Presentation Services Go URL"
- Section 6.1.4, "Optional Parameters for the Oracle BI Presentation Services Go URL"

6.1.1 About the Oracle BI Presentation Services Prompted URL

The Oracle BI Presentation Services Prompted URL command allows you to incorporate the path to a dashboard page and a simplified presentation of the dashboard prompts into external portals or applications. For more information on the basic syntax, see "What Are Prompted Links?" in Oracle Fusion Middleware User’s Guide for Oracle Business Intelligence Enterprise Edition.
6.1.2 About the Oracle BI Presentation Services Go URL

The Oracle BI Presentation Services Go URL command is for use in incorporating specific Oracle Business Intelligence results into external portals or applications. The Go URL is used when you add a result to your favorites, or add a link to a request to your dashboard or an external web site. It has a number of forms and optional arguments that can be used to control its behavior.

Note that you can use frame busting to prevent attackers from framing an application in an inline frame. For more information about using this method of security, see "Protecting Pages in Oracle BI EE from Attack" in Oracle Fusion Middleware System Administrator’s Guide for Oracle Business Intelligence Enterprise Edition.

You can post the Go URL as a Form or issue it as a URL. If you are issuing parameters as part of a URL, they need to be escaped properly. You need to replace spaces with plus (+) signs, and so on. For example, to pass East Region as a value, type East+Region.

When called from within an Oracle BI Presentation Services screen, such as a dashboard or an HTML result view, the URL should begin with the following characters:

saw.dll?Go

When called from another screen on the same web server, the URL should begin with the following characters:

/analytics/saw.dll?Go

When referenced from a screen on a different server (or sent through email, and so on), the URL should begin with the fully qualified server name or IP address:

http://server_name_or_ip_address/analytics/saw.dll?Go

When invoking Go URL, you must make sure that a User-Agent string header is set. To test these commands, you can enter the fully qualified version into the Address field of the browser.

6.1.3 Structure of the Basic Oracle BI Presentation Services Go URL

The basic Go URL command needs the full catalog path to the request to execute. It returns the default result view, which is defined in the request.

For example, the following Go URL command returns the default result view as defined in the request, where SB2 is the name of the request to execute.

saw.dll?Go&Path=%2Fshared%2FSB2

6.1.4 Optional Parameters for the Oracle BI Presentation Services Go URL

You can modify the behavior of the Go URL command by adding one or more of the following parameters. If an invalid URL is specified (for example, you type a parameter incorrectly), the browser displays a "The page cannot be found" error with the detailed text of "HTTP 400 - Bad Request." Some browsers require the forward slash character (/) to be encoded in the URL. For example, Path=/Shared Folder/Test/SB2 becomes Path=%2fShared%20Folder%2fTest%2fSB2.
Incorporating Oracle Business Intelligence Results into External Portals or Applications

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**Note:** In parameter descriptions, SB2 is the name of the request to execute.

- **User ID and Password.** The user is prompted for user ID and password if this information has been omitted from the request. Entering a user ID and password directly into the URL is not secure.

  This is the format, where uuu is the user ID and ppp is the password:
  
  \&NQUser=uuu&NQPassword=ppp
  
  Example:
  
  saw.dll?Go&Path=%2fShared%2fSB2&NQUser=user1&NQPassword=rock
  
  This logs on as user1 with a password of rock, and executes the request.

- **Link Options.** The results will include links.

  This is the format:
  
  \&Options=x
  
  The x can be one or more of the following letters:
  
  - m = Modify Request
  - f = Printer Friendly
  - d = Download to Excel
  - r = Refresh Results
  
  Example:
  
  saw.dll?Go&Path=%2fShared%2fTest%2fSB2&Options=md
  
  This displays results with the links Modify Request and Download.

- **Printer Friendly.** Results are in a printer-friendly format, without the paging controls, hot links, and so on.

  This is the format:
  
  \&Action=print
  
  Example:
  
  saw.dll?Go&Path=%2fShared%2fTest%2f&Action=Print

- **Application Friendly.** Results are displayed in an application-friendly format, such as for Microsoft Excel, without the paging control, hot links, and so on.

  This is the format:
  
  \&Action=Extract
  
  Example:
  
  saw.dll?Go&Path%2fShared%2fTest%2fSB2&Action=Extract

  The Extract action also acts as a Navigate action (read Section 6.3.2, "Passing Filters to the Oracle BI Presentation Services Go URL Through a URL (Navigation)") so you can filter the results that are returned by the call.
- **Specific View.** This shows an individual result view rather than the default compound view.

This is the format, where xx is the name of the view:

```
saw.dll?Go&Path=%2fShared%2fTest%2fSB2&ViewName=xx
```

Example:

```
saw.dll?Go&Path=%2fShared%2fTest%2fSB2&ViewName=Chart
```

Assuming that the request contains a Chart view named Chart, this displays just the Chart view.

- **Specific Style.** This shows the results using a specified style. If the style does not exist, the default is used.

This is the format, where xx is the name of the style:

```
saw.dll?Go&Path=%2f%2fShared%2fTest%2fSB2&Style=xx
```

Example:

```
saw.dll?Go&Path=%2fShared%2fSB2&Style=Lime
```

This uses the style named Lime to show the results.

- **Result Format.** This controls the format of the results.

This is the format, where xx is XML, HTML, or CSV:

```
saw.dll?Go&Path=%2fShared%2fTest%2fSB2&Format=xx
```

Example:

```
saw.dll?Go&Path=%2fShared%2fTest%2fSB2&Format=XML
```

This shows results in XML.

- **Passing database prompts.** This enables you to pass database prompts to a report on a dashboard and then pass special characters to report on the dashboard.

Example:

```
saw.dll?Dashboard&PortalPath=%2fshared%2fSAT%20Regional%2f_portal%2f%2fSAT%20Regional%2fDashboard&Page=Region1%20-%20%20AMR&Action=Navigate &col1=%22Dim_Program_D%22.%22PROGRAM%22&val1=%22O_K5B%22+%22O_K60B%22 &col2=%22Dim_Geo_D%22.%22COUNTRY_% NAME%22&val2=%22Brazil%22+%22Canada%22+%22USA%22 &col3=%22Dim_Channel_D%22.%22CHANNEL%22&val3=%22RSLR%22 &col4=%22Dim_Geo_D%22.%22GEO%22&val4=%22AMR%22 &col5=%22Dim_PLAN_VERSION_D%22.%22Plan%20Version%22&val5=%22Current%20Plan%22
```

This example navigates a report on a dashboard page.

- **Downloading data in Excel.** This is related to the syntax shown above but replaces the dashboard path with a report path, and adds syntax to download the data in Excel2007 (data downloaded is for prompted values only).

Example:

```
saw.dll?Go&Path=%2fshared%2fSAT%20Regional%2fReport%20with%20guided %20navigation%2fRegion1_%20AMR&Action=Download&format=excel2007 &col1=%22Dim_Program_D%22.%22PROGRAM%22&val1=%22O_K5B%22+%22O_K60B%22 &col2=%22Dim_Geo_D%22.%22COUNTRY_% NAME%22&val2=%22Brazil%22+%22Canada%22+%22USA%22
```

This example downloads data in Excel.
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This example shows results downloaded in Excel with specific column information.

- **ViewState.** This controls the state of a report or dashboard in terms of initial values and actions that update the ViewState.

A report or dashboard normally starts with an empty ViewState, and subsequent actions update the ViewState. The ViewState enables you to apply initial values to a report or dashboard, after which you can apply a prompted URL or GO URL on top of the initial ViewState.

When the ViewState has no initial value, a Prompted URL or a GO URL is applied to an empty ViewState.

ViewState is temporary and applies for a specified time during a session. It becomes invalid after the session ends. You can configure the time within the current session during which the ViewState parameter is valid by editing the DiskExpireMinutes value in instanceconfig.xml in the XmlCacheDefaults element as follows:

```xml
<XmlCacheDefaults>
  <DiskExpireMinutes>1440</DiskExpireMinutes>
</XmlCacheDefaults>
```

In Javascript use `saw.view.getGlobalViewStateID()` to obtain the viewStateID from the current page once the page has finished loading.

The following example enables you to display the view state in a div, by creating a text object in the dashboard editor or a static text view in an analysis, selecting the **Contains HTML Markup** checkbox, and entering the following script:

```html
<!DOCTYPE html>
<html>
<body>

<div id="idDisplaySink"></div>
<script>
    displayStateID = function() {
        setTimeout(function() {
            document.getElementById('idDisplaySink').innerHTML = saw.view.getGlobalViewStateID();
        }, 50);
    }
    displayStateID();
</script>
</body>
</html>
```

The following examples use the ViewState when state management is built into the application:

- To display a page with an empty view state:
  ```
  saw.dll?Go&Path=%2fShared%2fTest%2fSB2
  saw.dll?Go&Path=%2fShared%2fTest%2fSB2&ViewState=
  ```

- To display a page with an existing view state:
  ```
  saw.dll?Go&Path=%2fShared%2fTest%2fSB2&ViewState=xxxxxxxxxxxxxxx
  ```

- To print a page with an existing view state:
  ```
  saw.dll?Go&Path=%2fShared%2fTest%2fSB2&ViewState=xxxxxxxxxxxxxxx&Action=print
  ```

- To display a page with an existing view state and to apply GO URL parameters to the current state:
saw.dll?Go&Path=%2fShared%2fTest%2fSB2&ViewState=xxxxxxxxxxxxxxxxx&
Action=Navigate&P0=2&P1=cany&P2=Customers.Region&P3=1+e&P4=gt&P5="Sales%20Facts".Dollars&P6=1+20000000

**Limitation:**
You cannot use Action=Print and Action=Download, and supply GoURL or PURL parameters, when ViewState is also used.

**Workaround:**
You use Action=Navigate + GoURL or PURL parameters, then obtain the new ViewStateID, and then use Action=Print or Download + ViewState to print or download the desired contents.

### 6.1.4.1 Displaying All Records in a Table
There are two ways to display all the records in the table:

- Set the Rows per Page property on the Table view to 10,000, and then use the basic Go. This is the easier of the two methods.
- Issue the following URL:
  
  saw.dll?Go&Path=%2fusers%2fAdministrator%2fa&Action=Scroll&P5=-1&ViewID=o:go~r:
  report~v:compoundView!1~v:tableView!1

### 6.2 Referencing Dashboard Content in External Portals or Applications
This section describes how to use the Oracle BI Presentation Services Dashboard URL. It contains the following topics:

- Section 6.2.1, “About the Oracle BI Presentation Services Dashboard URL”
- Section 6.2.2, “Structure of the Basic Oracle BI Presentation Services Dashboard URL”
- Section 6.2.3, “Optional Commands and Parameters for the Oracle BI Presentation Services Dashboard URL”

#### 6.2.1 About the Oracle BI Presentation Services Dashboard URL
The Oracle BI Presentation Services Dashboard URL is for use in incorporating or referencing the content of a specific dashboard in external portals or applications. It has a number of forms and optional arguments that can be used to control its behavior.

You can post the Dashboard URL command as a Form or issue it as a URL. If you are issuing parameters as part of a URL, they need to be escaped properly. You need to replace spaces with plus (+) signs, and so on. For example, to pass East Region as a value, type East+Region.

When called from within an Oracle BI Presentation Services screen, such as a dashboard or an HTML result view, the URL should begin with this:

```
saw.dll?Dashboard
```

When called from another screen on the same web server, the URL should begin with this:

```
/analytics/saw.dll?Dashboard
```

When referenced from a screen on a different server (or sent through email, and so on), the URL should begin with the fully qualified server name or IP address:
http://server_name_or_ip_address/analytics/saw.dll?Dashboard

To test these commands, you can enter the fully qualified version into the Address field in the browser.

6.2.2 Structure of the Basic Oracle BI Presentation Services Dashboard URL

The basic Dashboard URL command needs no parameters. It displays the user's default portal after authenticating the user.

The following is the format of the basic Dashboard URL command:

http://server_name_or_ip_address/analytics/saw.dll?Dashboard&PortalPath=path of your dashboard

Note that PortalPath is the path of the dashboard and that when the user clicks the URL, the user is taken to the first page of the dashboard.

Example


You can add the optional Page argument to specify which dashboard page displays when the user clicks the URL. Use the page number from the dashboard page tab as the value for this argument. This is the format of the URL including the Page argument.

http://server_name_or_ip_address/analytics/saw.dll?Dashboard&PortalPath=path of your dashboard&Page=page of your dashboard

Example


6.2.3 Optional Commands and Parameters for the Oracle BI Presentation Services Dashboard URL

You can add optional commands and parameters to the Dashboard URL. The below examples show and explain various uses of commands and parameters.

User ID and Password Example

You can modify the behavior of the Dashboard URL command by adding the user ID and password parameters. If the parameters are omitted, then the user is prompted for user ID and password information, unless the user chose the option to have logon information remembered when last logged on. If using a Session ID or Ticket, pass it as the NQUser parameter. In the parameter description, SB2 is the name of the request to execute. Entering a user ID and password directly into the URL is not secure.

This is the format where the user ID is uuu and the password is ppp:

&NQUser=uuu&NQPassword=ppp

Example URL:

Referencing Dashboard Content in External Portals or Applications

**PortalPages Example**

You can modify the behavior of the Dashboard URL command by adding the PortalPages command. This command opens a dashboard page without the common header. You can use this command to create a link or image with the specified dashboard page as the destination and open the dashboard page in a new browser window.

This is the format where the catalog path portal page is xxx and the dashboard page name is yyy.

```
PortalPages&PortalPath=xxx&Page=yyy&Done=close
```

Note the following command descriptions:

- **PortalPath** – This parameter contains the dashboard’s catalog path.
- **Page** – (Optional) This parameter contains the dashboard page name.

Example URL:

```
http://localhost:8080/analytics/saw.dll?PortalPages&PortalPath=%2fshared%2fdashboard%2ffolder1%2f_portal%2fdefault&Page=page2&Done=close
```

**Go Example**

You can modify the behavior of the Dashboard URL command by adding the Go command and specifying the catalog path to an analysis. This command opens an analysis without the common header. You can use this command to create a link or image with the specified analysis as the destination and open the analysis in a new browser window.

This is the format where the path is xxx and Done is close.

```
Go&Path=xxx&Done=close
```

Note the following parameter descriptions:

- **Path** – This parameter contains the analysis’ catalog path.
- **Done** – This parameter is obsolete for the analysis’ path.

Example URL:

```
```

**PortalGo Example**

You can modify the behavior of the Dashboard URL command by adding the PortalGo parameter and specifying the catalog path to the analysis. This parameter opens an analysis in a dashboard. You can use this parameter to create a link or image with an analysis as the destination, and open the analysis in the existing browser window.

This is the format where the portal path is xxx, the path is yyy, and Done is zzz.

```
PortalGo&PortalPath=xxx&Path=yyy&Done=zzz
```

Note the following parameter descriptions:

- **PortalPath** – This parameter is the dashboard’s catalog path. It is in this dashboard that the analysis is displayed.
- **Path** – This parameter is the analysis’ catalog path.
Using the Oracle BI Presentation Services Go URL to Issue SQL and Pass Filters

6.3 Using the Oracle BI Presentation Services Go URL to Issue SQL and Pass Filters

This section explains how to use the Go URL command to issue SQL, and how to pass filters to be used for navigation. It contains the following topics:

- Section 6.3.1, "Issuing SQL Commands"
- Section 6.3.2, "Passing Filters to the Oracle BI Presentation Services Go URL Through a URL (Navigation)"

6.3.1 Issuing SQL Commands

The Go URL command can be used to issue Oracle Business Intelligence SQL. These forms of the Go URL return tabular results. The basic options from &Style= and &Options= can be used here as well.

To issue Oracle Business Intelligence's simplified SQL, include the escaped SQL as a parameter to the Go URL. For example:

saw.dll?Go&SQL=select+Region,Dollars+from+SupplierSales

where the FROM clause is the name of the Subject Area to query.

Alternatively, the command IssueRawSQL can be used to bypass the web processing and issue SQL directly against the BI Server.

6.3.2 Passing Filters to the Oracle BI Presentation Services Go URL Through a URL (Navigation)

The Go URL can also be used to pass context such as filters to a destination request. This is done by adding additional parameters to the call. You need to make sure that any columns you are passing are set up in the destination with Is Prompted filters, or specific default filters.

6.3.2.1 Navigation Parameters

The basic syntax of the navigation command is the same as presented in the section Section 6.2.2, "Structure of the Basic Oracle BI Presentation Services Dashboard URL", but with the addition of the Action=Navigate parameter, and then population of the P1 - Pn parameters, as necessary.

By default, you can add up to 100 parameters to the URL. However, you can adjust the number of parameters by modifying the Prompts/MaxPromptedURLParams setting in instanceconfig.xml. For more information see "Using a Text Editor to Update Configuration Settings" in the Oracle Fusion Middleware System Administrator's Guide for Oracle Business Intelligence Enterprise Edition.

&P0=n  where n is the number of columns you wish to filter, currently 1 - 6.
&P1=op  where op is one of the following operators.

<table>
<thead>
<tr>
<th>Operator</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>eq</td>
<td>Equal to or in.</td>
</tr>
<tr>
<td>neq</td>
<td>Not equal to or not in.</td>
</tr>
<tr>
<td>lt</td>
<td>Less than.</td>
</tr>
<tr>
<td>gt</td>
<td>Greater than.</td>
</tr>
<tr>
<td>ge</td>
<td>Greater than or equal to.</td>
</tr>
<tr>
<td>le</td>
<td>Less than or equal to.</td>
</tr>
<tr>
<td>bwith</td>
<td>Begins with.</td>
</tr>
<tr>
<td>ewith</td>
<td>Ends with.</td>
</tr>
<tr>
<td>cany</td>
<td>Contains any (of the values in &amp;P3).</td>
</tr>
<tr>
<td>call</td>
<td>Contains all (of the values in &amp;P3).</td>
</tr>
<tr>
<td>like</td>
<td>You need to type %25 in place of the usual % wildcard. See the examples that follow.</td>
</tr>
<tr>
<td>top</td>
<td>&amp;P3 contains 1+n, where n is the number of top items to display.</td>
</tr>
<tr>
<td>bottom</td>
<td>&amp;P3 contains 1+n, where n is the number of bottom items to display.</td>
</tr>
<tr>
<td>bet</td>
<td>Between (&amp;P3 must have two values).</td>
</tr>
<tr>
<td>null</td>
<td>Is null (&amp;P3 must be 0 or omitted).</td>
</tr>
<tr>
<td>nnull</td>
<td>Is not null (&amp;P3 must be 0 or omitted).</td>
</tr>
<tr>
<td>&amp;P2=ttt.ccc</td>
<td>In this parameter, ttt is the table name and ccc is the column name. If the table or column contains spaces, it must be quoted with double-quotes. Spaces should be escaped as %20, for example, Measures.&quot;Dollar%20Sales&quot;.</td>
</tr>
<tr>
<td>&amp;P3=n+xxx+yyy y+...+zzz</td>
<td>In this parameter, n is the number of values, and xxx, yyy, and zzz are the actual values.</td>
</tr>
</tbody>
</table>

**Note:** If the value of P3 begins with a numeric character, the entire value must be enclosed in quotes. For example:

```sql
saw.dll?Go&Path=%2f/Shared/Test/SB2&Action=Navigate&P0=1&P1=top&P2=Customers.Region&P3="7West"
```

The settings for &P1, &P2, and &P3 are repeated for &P4-P6, &P7-P9, &P10-P12, &P13-P15, and &P16-P18 as necessary, depending on the value of &P0.

### 6.3.2.2 Navigation Examples

This returns records for the East and Central regions:

```sql
saw.dll?Go&Path=%2f/Shared/Test/SB2&Action=Navigate&P0=1&P1=eq&P2=Customers.Region&P3=2+Central+East
```

This returns records for like Regions E....t:

```sql
saw.dll?Go&Path=%2f/Shared/Test/SB2&Action=Navigate&P0=1&P1=like&P2=Customers.Region&P3=1+E%25t
```

This returns the top two regions by dollars sold:

```sql
saw.dll?Go&Path=%2f/Shared/Test/SB2&Action=Navigate&P0=1&P1=top&P2="Sales%20Facts"
```
This is an example where the number of arguments is not included in the syntax:

```
saw.dll?Go&Path=%2f/Shared/Test/SB2&Action=Navigate&P0=1&P1=top&P2=Customers.Region&P3=Central
```

**Note:** You can omit the number of arguments only if just one argument value is included.

This returns records with between 2,000,000 and 2,500,000 in sales:

```
saw.dll?Go&Path=%2f/Shared/Test/SB2&Action=Navigate&P0=1&P1=top&P2="Sales%20Facts".Dollars&P3=2+2000000+2500000
```

This returns records for Regions beginning with the letter E:

```
saw.dll?Go&Path=states&P0=1&P1=bwith&P2=Customers.Region&P3=1+E
```

This returns records for Regions containing the letter E and having more than 20 million in sales:

```
saw.dll?Go&Path=%2f/Shared/Test/SB2&Action=Navigate&P0=2&P1=cany&P2=Customers.Region&P3=1+e&P4=gt&P5="Sales%20Facts".Dollars&P6=1+20000000
```

Oracle BI Presentation Services navigation is currently supported from charts, table and pivot table views, HTML views, and external applications and web pages. The destination search should have filters defined on columns for which it wants to receive context. These can be specific filters or, usually, the Is Prompted filter. In addition to the Table.Column value specifically referenced in the navigation call, all filters from the source request that have corresponding table.columns in the destination, are applied to the destination. Therefore, the appropriate context from a source can be passed to the destination.

**6.3.2.3 Navigation Using JavaScript**

Navigation can currently be accomplished using the custom text/date formatter for a column. The central concept is that you add a column you want to navigate from to your search. You then choose Custom Text Format from the properties for the column, and enter HTML that calls one of the two provided JavaScript functions. This technique can be used to perform many actions, including sorting columns, calling custom JavaScript functions, and so on.

Oracle BI Presentation Services includes two JavaScript functions that enable navigation from Table and Pivot views: GoNav and PortalNav. (These functions are located in ORACLE_HOME/bifoundation/web/app/res/b_mozilla/viewhelper.js.) The former handles navigation to a specific search. The latter handles navigation to a specific dashboard. A description of their syntax follows, along with example Custom Text formats that you can use to implement navigation.

**GoNav function**

```
function GoNav(event, sPath, sTbl, sCol, sVal, sTarget)
```
where:

- `event` = event indicator.
- `sPath` = the catalog path of the destination search.
- `sTbl` = the logical table name to filter.
- `sCol` = the logical column name to filter.
- `sVal` = the value to filter by.
- `sTarget` (optional) = "_blank" to open a new browser window with the results.

**Sample Custom Text Format for GoNav Call**

The GoNav and PortalNav calls can be wrapped in an HTML statement (include the quotes):

```
[html]<font class=nav onclick="JavaScript:GoNav(event, '/shared/topaz/performance/transaction details','Transaction','Quality','"@"');">"@"</font>
```

Table 6–1 explains the elements of this example.

<table>
<thead>
<tr>
<th>Element</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>[html]</td>
<td>Tells Oracle BI Presentation Services to interpret the following text as HTML. Note that every &quot;less than&quot; character (&lt;) must be preceded by a double quote (&quot;) if the intent is to use it in an HTML tag.</td>
</tr>
<tr>
<td>&quot;&lt;font class=nav onclick=&quot;JavaScript:GoNav(event, '/shared/topaz/performance/transaction details','Transaction','Quality','&quot;@&quot;');&quot;&gt;&quot;@&quot;&lt;/font&gt;</td>
<td>An HTML tag that a JavaScript call can be attached to. You could potentially use &lt;div&gt;, &lt;span&gt;, &lt;a&gt;, and so on.</td>
</tr>
<tr>
<td>onclick=&quot;JavaScript:GoNav('event, '/shared/topaz/performance/transaction details','Transaction','Quality','&quot;@&quot;');&quot;&gt;&quot;@&quot;</td>
<td>The method to call a JavaScript function. When the user clicks on the contents of this HTML tag, then the JavaScript function is called.</td>
</tr>
<tr>
<td>&gt;</td>
<td>The end of the font tag.</td>
</tr>
<tr>
<td>&quot;@&quot;</td>
<td>Instructs Oracle BI Presentation Services to replace the at sign (@) with the actual column value. When [html] is used, the @ symbol must be enclosed with double quotation marks (&quot;).</td>
</tr>
<tr>
<td>&lt;/font&gt;</td>
<td>The closing tag to match the &lt;font&gt; tag.</td>
</tr>
</tbody>
</table>

This example of GoNav places this HTML on the dashboard:

```
<a href="javascript:GoNav(event, '/shared/topaz/performance/transaction details','Transaction','Quality','Some value');">Click here to navigate to Transaction Details with 'Some value'</a>
```

**PortalNav Function**

```
function PortalNav(event, sPortal, sTbl, sCol, sVal)
```

- `event` = event indicator.
- `sPortal` = the catalog path of the destination portal.
- `sTbl` = the logical table name to filter.
Example of an Oracle Business Intelligence Third-Party SQL Tool Integration

sCol = the logical column name to filter.
sVal = the value to filter by.

Sample Custom Text Format for PortalNav Call

Make sure to include the quotes exactly as shown.

```
"<font class=nav onclick="JavaScript:PortalNav(event, '/shared/topaz/_portal/transaction analysis','Transaction','Type','"@"');">"@</font>"
```

6.3.2.4 Navigation from HTML Results

This is the same as described in Section 6.3.2.3, "Navigation Using JavaScript", but rather than using a custom formatter, type in the HTML syntax with static values in place of the @ signs.

6.4 Example of an Oracle Business Intelligence Third-Party SQL Tool Integration

This section illustrates the requirements for integrating a third-party SQL tool with Oracle Business Intelligence by describing an example integration, using Microsoft Access. Because Oracle Business Intelligence is designed as a middleware platform for enterprise data access and integration, common report writers and business intelligence tools can communicate natively with the BI Server.

Most third-party SQL tools require the user to include join conditions within queries to avoid cross-joins. A cross-join occurs when a request does not have a WHERE clause, which, in turn creates a Cartesian product of the tables involved in the join. The size of a Cartesian product is the number of rows in the first table multiplied by the number of rows in the second table.

To integrate Microsoft Access with the BI Server, the BI Server Administrator must expose the keys within the Presentation layer of the Oracle BI Administration Tool.

6.4.1 Example of integrating a third-party SQL tool

1. Drag and drop the keys from the Business Model and Mapping layer to the Presentation layer and save the repository.

2. Open Microsoft Access, select the option Blank Access Database, type the name oracle-analytics.mdb when prompted, and click Create.

3. After creating the new Microsoft Access database, right-click in the white section of the screen and select Link Tables.

4. From the Files of Type drop-down list box, select ODBC Databases. The Select a Source Dialog appears, and prompts you for a Data Source Name.

5. Click the Machine Data Source tab, locate the Analytics_web DNS, and click OK. The Oracle BI Server requires a login.

6. Type your user ID and password. The Import Objects dialog box appears.

7. Click the Select All button, or highlight the desired logical tables from Oracle Business Intelligence.
The import may take a while to complete.

8. **When the import completes, right-click in the white section of the screen and select Relationships:**
   a. Add the desired tables and drag and drop the keys from the dimension tables (Period, Market, Product) to the fact table (Sales Measures).
   b. Drag and drop Period Key over the perkey column, and repeat for each corresponding key to create the joins.

Now, you can test and run a request.

9. **Select Create query in Design view from the Queries button:**
   a. Select Markets, Products and Sales Facts.
   b. Add Region, Brand, Units and Dollars, respectively, and then click Run.

### 6.5 Retrieving Links to Dashboard Pages Using Scripts

You can retrieve links (both bookmark links and prompted links) to dashboard pages by using the JavaScript functions described in **Table 6–2** in your custom scripts on your dashboard pages.

**Note:** For these JavaScript functions to work, the HardenXSS element must be set to false. For more information, see "Making Advanced Configuration Changes for Presentation Services" in the *Oracle Fusion Middleware System Administrator’s Guide for Oracle Business Intelligence Enterprise Edition*.

For more information about bookmark links and prompted links, see "About Creating Links to Dashboard Pages" in *Oracle Fusion Middleware User’s Guide for Oracle Business Intelligence Enterprise Edition*.

| **Table 6–2 JavaScript Functions for Retrieving Links to Dashboard Pages** |
|-----------------------------|--------------------------------------------------|
| **JavaScript Function**     | **Description**                                  |
| LinkToPage(bInlineDrill,bGetBookmarkOnly) | Sets the value of the variable saw.bookmarkURL to the bookmark link.  
Set the arguments as follows:
  - bInlineDrill — Set to true if the Page Options button is displayed on the page; otherwise set to false.
  - bGetBookmarkOnly — Set to true to prevent the bookmark URL from being refreshed in the Address Bar of the browser. Set to false (or omit) to allow the bookmark URL to be refreshed in the Address Bar of the browser. |
| GetPURL()                    | Returns the prompted link as a string.           |
This chapter describes the Oracle Business Intelligence Systems Management API, which enables a developer to programmatically perform system administration tasks for Oracle Business Intelligence.

This chapter includes the following sections:

- **What is the Oracle Business Intelligence Systems Management API?**

### 7.1 What is the Oracle Business Intelligence Systems Management API?

This Oracle Business Intelligence Systems Management API is a programming interface which provides access to Business Intelligence JMX Admin MBeans, enabling a developer to programmatically carry out system administration tasks for Oracle Business Intelligence. The system administration tasks that can be carried out using the BI Systems Management API, are also available using Fusion Middleware Control.

For more information, see "Introducing the BI Systems Management API" in *Oracle Fusion Middleware System Administrator’s Guide for Oracle Business Intelligence Enterprise Edition.*
This chapter describe how to configure an ODBC DSN to connect to the Oracle BI Server on Windows and UNIX platforms.

This chapter includes the following topics:

- Overview of Integrating with Oracle Business Intelligence
- About Integrating with the Oracle BI Server as a Data Source
- ODBC Conformance Level
- Configuring an ODBC DSN for the Oracle BI Server on Windows
- Configuring an ODBC DSN for the Oracle BI Server on Linux or UNIX

8.1 Overview of Integrating with Oracle Business Intelligence

You can connect to the Oracle BI Server with a wide variety of ODBC-compliant query and reporting tools, as well as other clients such as remote Administration Tool clients.

**Note:** Oracle generally does not confirm or test third-party client tool compatibility with the Oracle BI Server ODBC interface. Check the Oracle BI EE certification document for any specific certification information on third-party tools and the Oracle BI Server ODBC interface. For more information about the certification document, see "System Requirements and Certification".

To connect with a remote client, you configure an ODBC DSN for the Oracle BI Server on the remote client computer, and then use that DSN to connect to a repository from the query tool.

Oracle BI Presentation Services clients also connect to the Oracle BI Server using an ODBC DSN. A default ODBC DSN for Presentation Services is created and configured for you during Oracle Business Intelligence installation.

Administration Tool clients on the same host as a Presentation Services instance can also use the default DSN to connect to the Oracle BI Server. Or, you can create a separate DSN for the Administration Tool to use.

The connection parameters for the Cluster Controller and the SSL parameters in the default DSN are centrally managed by Fusion Middleware Control. Do not update these parameters. If you attempt to manually update the centrally managed parameters, the values is overwritten the next time the system is started.
In addition, do not change the name of the centrally managed default DSN. The default DSN has a name similar to "coreapplication_OHid_number," where id_number is a number specific to an installed Oracle home.

This chapter explains how you can integrate with the Oracle BI Server as a data source using ODBC on both Windows and UNIX platforms.

### 8.2 About Integrating with the Oracle BI Server as a Data Source

Open Database Connectivity (ODBC) is an industry standard interface for connecting to databases. A Data Source Name (DSN) is used to store the information about connecting to a given database as a given database user over ODBC.

You use the Oracle BI Server ODBC driver to configure a DSN to connect to a set of clustered Oracle BI Servers through the Cluster Controllers, or to an individual Oracle BI Server. The DSN you configure can be used with any ODBC-compliant query and reporting tool.

The Presentation layer lets you configure the presentation of a business model to be consistent with the rules and conventions of your tools to take advantage of the analytical engine and data abstraction of the Oracle BI Server. This makes it much easier to include columns involving complex aggregation and calculation rules in queries and reports. Also, if your organization is currently using query and reporting tools, using the Oracle BI Server as a data source makes these tools more valuable and simplifies the work entailed when using them.

**Note:** In a non-English environment, you can use a direct ODBC connection from a remote client to the Oracle BI Server. However, the translation and localization option that is provided with Oracle BI Presentation Services is not available. Instead, the translation and localization included in the Oracle BI Server metadata (the Oracle BI repository) is available. For example, if Presentation layer metadata objects are defined in French, they are displayed in French through a third-party application.

### 8.2.1 About Routing Requests to the Physical Layer

Oracle BI Server clients can create a dedicated physical connection to the Oracle BI Server over which all SELECT queries are treated as SELECT_PHYSICAL queries. SELECT_PHYSICAL queries directly query objects in the Physical layer of the metadata repository, bypassing the Presentation layer and the Business Model and Mapping layer. To enable this direct connection for your ODBC client, select **Route Requests To Physical Layer** in the DSN configuration.

Note that you cannot have a single ODBC connection that sends queries to both the Presentation layer, and the Physical layer. Instead, you can create one regular connection that sends requests to the Presentation layer, and one connection that sends requests to the Physical layer.

8.2.2 About Integrating with the Oracle BI Server Using JDBC

In addition to using ODBC, you can also integrate with the Oracle BI Server using JDBC. For full information, see the README.TXT file contained in the bijdbc.jar file. You can find the bijdbc.jar file in the following directory:

`ORACLE_HOME/bifoundation/jdbc`

8.3 ODBC Conformance Level

The Oracle BI Server supports the following ODBC calls from client applications:

- `SQLAllocConnect`
- `SQLAllocEnv`
- `SQLAllocStmt`
- `SQLBindCol`
- `SQLCancel`
- `SQLColumns`
- `SQLConnect`
- `SQLDescribeCol`
- `SQLDisconnect`
- `SQLDriverConnect`
- `SQLError`
- `SQLExecDirect`
- `SQLExecute`
- `SQLExtendedFetch`
- `SQLFetch`
- `SQLFreeConnect`
- `SQLFreeEnv`
- `SQLFreeStmt`
- `SQLGetConnectOption`
- `SQLGetCursorName`
- `SQLGetData`
- `SQLGetFunctions`
- `SQLGetInfo`
- `SQLGetStmtOption`
- `SQLGetTypeInfo`
- `SQLColAttributes`
- `SQLNumResultCols`
- `SQLPrepare`
- `SQLRowCount`
- `SQLSetConnectOption`
Oracle Business Intelligence ODBC supports full scrollable cursors with static, dynamic, forward only, and key set driven cursors. Oracle Business Intelligence ODBC also supports asynchronous and synchronous processing and cancellation.

8.4 Configuring an ODBC DSN for the Oracle BI Server on Windows

This section explains how to create an ODBC DSN for the Oracle BI Server on Windows to enable remote client access. You use the Oracle BI Server DSN Configuration Wizard to set up an ODBC DSN that you can use to connect to a repository through the Oracle BI Server.

The Oracle BI Server ODBC driver (installed with the BI Admin Tool) is a 64-bit version of the driver located at C:\Windows\system32\odbcad32.exe.

To create a DSN for the Oracle BI Server on Windows:

1. Open the Windows Control Panel by selecting Start > Settings > Control Panel, double-click Administrative Tools, and then double-click Data Sources (ODBC).

2. In the ODBC Data Source Administrator dialog, click the System DSN tab, and then click Add.

3. In the Create New Data Source dialog, select the driver Oracle BI Server 11g_ OHid_number (where id_number is a number specific to an installed Oracle home), and then click Finish. The first page of the Oracle BI DSN Configuration wizard is displayed.

4. Type a name for the data source in the Name field.
   
   Note: Do not change the name of the centrally managed default DSN for Presentation Services and the Administration Tool.

5. Optionally, enter a description in the Description field.

6. To connect to a single Oracle BI Server that is not part of a cluster, in the Server field, select the computer on which the Oracle BI Server is running.
   
   If the server name does not appear in the list, then type the computer name in the Server field.
   
   Note: This field is not used for the default DSN created for Presentation Services, because the Oracle Business Intelligence system is clustered by default.

7. To connect to a set of clustered Oracle BI Servers through the Cluster Controllers, do the following:
   
   a. Select Clustered DSN.
   
   b. Enter information for the primary and secondary Cluster Controllers, as follows:
      
      – In the Primary Controller field, enter the name of the computer that is specified as the primary Cluster Controller. Then, enter the port number for the Primary Controller in the appropriate Port field.
      
      – If a secondary Cluster Controller has been set up, then type the name of the host where the Secondary Controller is running in the Secondary Controller field. Then, enter the port number for the Secondary Controller in the appropriate Port field.
You can find information about the Primary and Secondary Controller hosts and ports on the Availability tab of the Capacity Management page in Fusion Middleware Control.

c. To test the connection to the Cluster Controllers, click Test Cluster Connect.

If the test is not successful, then correct any errors identified in the message and test the connection again.

Note: Do not change the Primary Controller, Secondary Controller, and Port parameters of the centrally managed default DSN for Presentation Services.

8. Select Route Requests To Physical Layer to create a dedicated physical connection to the Oracle BI Server for clients using this DSN. All SELECT queries over this connection is treated as SELECT_PHYSICAL queries.

SELECT_PHYSICAL queries directly query objects in the Physical layer of the metadata repository, bypassing the Presentation layer and the Business Model and Mapping layer.

9. Select Use Forward Only Cursor to change the ODBC cursor from its default scrollable mode to forward only.

10. To configure this DSN to communicate over SSL, select Use SSL.

To configure advanced settings for SSL, see "Configuring the ODBC DSN for Advanced SSL Settings" for additional instructions.

Note: Do not change the SSL parameters of the centrally managed default DSN for Presentation Services.

11. Click Next. The second page of the Oracle BI DSN Configuration wizard is displayed.

12. Optionally, for Login ID and Password, enter a user name and corresponding password for the Oracle BI Server.

13. To save the user name in the Windows registry for this client, select Save login ID. If you select this option, you will not have to enter your user name each time you connect. You will still have to enter a password.

14. Enter a port number for the Oracle BI Server in the Port field. This option is enabled when Clustered DSN has not been selected on the first page of the wizard.

You can find information about the Oracle BI Server port on the Availability tab of the Capacity Management page in Fusion Middleware Control.

15. Optionally, select Connect to obtain default settings for the additional configuration options.

If you select this option, the wizard will attempt to connect to the server to obtain default values for the configuration settings on the next screen. If you do not select this option, then you can still configure the DSN by manually entering the information in the next screen.

If you select this option, you must provide values for Login ID and Password.

16. Click Next. The third page of the Oracle BI DSN Configuration wizard is displayed.

17. To change the name of the default subject area, select Change the default subject area to and then enter the name of the subject area. If you selected the Connect option in the previous screen, you can choose a name from the list.
Do not select this option for the DSN used by Oracle BI Presentation Services. If you do not select this option, the default subject area is the one defined in the internal call query metadata. You can use the DATABASE SQL function to determine the default subject area; see Oracle Fusion Middleware Metadata Repository Builder’s Guide for Oracle Business Intelligence Enterprise Edition for more information.

18. To change the default error message language, select Change the default error message language to and then select the language you want to use for error messages. See Oracle Fusion Middleware System Administrator’s Guide for Oracle Business Intelligence Enterprise Edition for more information about choosing the error message language.

19. If needed, select Use Regional Settings when outputting dates and times. When this option is enabled, data in Date, Time, or DateTime format is displayed using Windows regional settings, rather than the default format for the Oracle BI Server. To see the Windows regional settings, open the Control Panel and double-click Regional and Language Options.

20. If the repository has been set up for database-specific login IDs and passwords, you can enter the user names and passwords for the underlying databases. The database-specific credentials allow privileged users to connect to the underlying databases at the level of authority granted to those users in the databases. To enter user names and passwords for the underlying databases, follow these steps:
   a. Select the database for which you want to enter a user name and password and click Edit.
   b. Enter the login ID and password corresponding to the database you selected and click OK.
   c. Repeat these steps for other databases if necessary.

21. Click Finish to save the DSN configuration.

8.4.1 Configuring the ODBC DSN for Advanced SSL Settings

Follow the steps in this section to configure additional advanced settings for SSL.

Note: Do not change the SSL parameters of the centrally managed default DSN for Presentation Services.

To configure the Oracle BI Server DSN for advanced SSL settings:

1. On the first page of the Oracle BI DSN Configuration wizard, after selecting Use SSL, click the Configure SSL button. The Secure Socket Layer Configuration dialog appears.

2. For Certificate File, enter the path and file name of the Client Certificate file, or click Select to browse for the file. For example:

   ORACLE_HOME\ssl\client-cert.pem

3. For Certificate Private Key File, enter the path and file name of the Client Private Key file, or click Select to browse for the file. For example:

   ORACLE_HOME\ssl\client-key.pem

4. For File Containing Passphrase, enter the path and file name of the passphrase file for the Client Key, or click Select to browse for the file. For example:

   ORACLE_HOME\ssl\clientpwd.txt
5. Select Verify Peer.

6. If you are using the hashed version of the CA certificate, enter the directory where the hashed file is located in the CA Certificate Directory field. For example:
   
   ORACLE_HOME\ssl

7. If you are using the CA certificate, provide the path and file name of the CA Certificate file in the CA Certificate File field. For example:
   
   ORACLE_HOME\ssl\cacert.pem

8. For Cipher List, enter the list of ciphers to be used. For example:
   
   EXP-DES-56-SHA


10. For Trusted Peer Distinguished Names, enter DNs of servers that will allowed to connect. For example:
    
    C=US/ST=CA/L=Redwood Shores/O=Oracle/ OU=BI/CN=servercertificate

11. Click OK.

12. Complete the additional steps to configure the DSN, starting from Step 11 of the procedure in the previous section.

   After you complete these steps, copy the client certificate, client private key, and passphrase files (for example, client-cert.pem, client-key.pem, and clientpwd.txt) to the directory specified in the parameters. If you have set the CA Certificate File parameter, you must also copy the CA certificate file (for example cacert.pem) to the directory specified. If you have set the CA Certificate Directory parameter, copy the hash version of the CA certificate to the directory specified.

8.5 Configuring an ODBC DSN for the Oracle BI Server on Linux or UNIX

This section explains how to create an ODBC DSN for the Oracle BI Server on Linux or UNIX to enable remote client access.

On Linux and UNIX systems, the file odbc.ini contains the standard or clustered Oracle BI ODBC connection details that are used by Oracle BI Presentation Services and nqcmd processes.

Do not change the DSN logical name, the Primary and Secondary Cluster Controller and Port parameters, or the SSL parameters for the centrally managed default DSN.

To create an ODBC DSN for the Oracle BI Server on Linux or UNIX:

1. Log on as a separate telnet session.

2. Open the odbc.ini file for editing. You can find this file at:
   
   ORACLE_INSTANCE/bifoundation/OracleBIApplication/coreapplication/setup/odbc.ini

3. In the section [ODBC Data Sources], add the new data source name you want to create and define it as an Oracle BI Server data source. For example:
   
   [ODBC Data Sources]
   my_new_dsn = Oracle BI Server

4. Add a section for the new DSN and provide parameters as follows:
   
   [my_new_dsn]
Configuring an ODBC DSN for the Oracle BI Server on Linux or UNIX

Driver = ORACLE_HOME/bifoundation/server/bin/call_interface.library_suffix
ServerMachine = local
Port = bi_server_port_number
ForwardOnlyCursor = No
SelectPhysical = No
Regional = Yes

Note the following:

■ For call_interface, enter nqsodbc for ODBC35 (the default), or nqsodbc20 for ODBC20.
■ For library_suffix, use the library suffix appropriate for your operating system. For example, use .so for Linux, Solaris, or AIX, or use .sl for HP-UX.
■ For Port, enter the Oracle BI Server port number. Do not provide this option if you want this data source to connect to clustered Oracle BI Servers.
   You can find information about the Oracle BI Server port number on the Availability tab of the Capacity Management page in Fusion Middleware Control.
■ Set ForwardOnlyCursor to Yes to change the ODBC cursor from its default scrollable mode to forward only.
■ Set SelectPhysical to Yes to enable integrating clients to create a dedicated physical connection to the Oracle BI Server over which all SELECT queries are treated as SELECT_PHYSICAL queries.
■ Set Regional to Yes to display data in Date, Time, or DateTime format using the regional settings for your operating system, rather than the default format for the Oracle BI Server.

5. If you want this data source to connect to clustered Oracle BI Servers, supply the following additional parameters. Note that the primary CCS and secondary CCS should not be on the same computer.

IsClusteredDSN=Yes
PrimaryCCS=primary_cluster_controller_name
PrimaryCCSPort=primary_cluster_controller_port_number
SecondaryCCS=secondary_cluster_controller_name
SecondaryCCSPort=secondary_cluster_controller_port_number

Note the following:

■ If you want this data source to connect to a single Oracle BI Server, set IsClusteredDSN to No.
■ You can find information about the Primary and Secondary Controller hosts and ports on the Availability tab of the Capacity Management page in Fusion Middleware Control.

6. To configure SSL for this data source, supply the following additional parameters as appropriate for your SSL deployment:

SSL = Yes
SSLCertificateFile = path_to_client_certificate_file
SSLPrivateKeyFile = path_to_client_private_key_file
SSLPassphraseFile = path_to_passphrase_file_for_client_key
SSLCipherList = list_of_cipers
SSLVerifyPeer = Yes
SSLCACertificateDir = path_to_hashed_version_of_ca_certificate_file
SSLCACertificateFile = path_to_ca_certificate_file
SSLTrustedPeerDNs = list_of_server_DNs_allowed_to_connect
SSLCertVerificationDepth = 1

7. Save and close the file.

8. If you are updating the DSN used by Presentation Services, you must restart Presentation Services.
This chapter describes exposing Oracle Business Intelligence Discoverer worksheets in third-party client applications. Describes converting Discoverer metadata for use in Oracle BI EE.

This chapter includes the following sections:

- Exposing Discoverer Worksheets in Applications
- Converting Discoverer Metadata to Use in Oracle BI EE

9.1 Exposing Discoverer Worksheets in Applications

You can expose Discoverer worksheets for use in third-party client applications, using Oracle Business Intelligence Discoverer Web Services API (Application Programming Interface). A third-party client application can use the Discoverer Web Services API to programmatically obtain Discoverer connections, workbooks, and worksheets; to execute worksheet queries; and to display worksheet content.

For information, see Oracle Fusion Middleware User’s Guide for Oracle Business Intelligence Discoverer Web Services API.

9.2 Converting Discoverer Metadata to Use in Oracle BI EE

You can convert Discoverer metadata into a format that can be used in Oracle BI EE by running the metadata conversion assistant tool. The metadata conversion assistant tool is a command line utility that accelerates the migration of Discoverer metadata from the End User Layer (EUL) to Oracle BI EE. The command line utility takes a Discoverer EEX export file and generates an RPD file that can be used in Oracle BI EE. Note that this RPD file is compatible with Oracle BI EE 10g, but you can use the Oracle BI EE Upgrade Assistant to upgrade this RPD file for use with Oracle BI EE 11g.

You can find the metadata conversion assistant (MigrateEUL.exe) in the following location:

`ORACLE_HOME\bifoundation\server\bin`

You can find documentation that describes how to use the metadata conversion assistant in the following location:

`ORACLE_HOME\bifoundation\server\document`

**Note:** This utility migrates only Discoverer metadata and only for relational data sources.
This chapter describes setting up Oracle Business Intelligence to use Oracle E-Business Suite security to authenticate actions users who navigate to Oracle E-Business Suite. Describes creating a database object and connection pool for the database, setting up authentication, and embedding a link in Oracle E-Business Suite that opens Oracle Business Intelligence dashboards.

This chapter includes the following sections:

- Creating a Database Object and Connection Pool for the Oracle E-Business Suite Database
- Setting Up Authentication
- Embedding Links to Oracle Business Intelligence in Oracle E-Business Suite

10.1 Creating a Database Object and Connection Pool for the Oracle E-Business Suite Database

To enable integration with Oracle E-Business Suite, you must create a database object and connection pool for the Oracle E-Business Suite database in the Oracle BI repository.

To create a database object and connection pool for the Oracle E-Business Suite database:

1. In the Administration Tool, open the repository that you want to integrate with Oracle E-Business Suite.
2. Right-click in the Physical layer and select New Database.
3. Enter a name for the new database (for example, Oracle E-Business Suite 12).
4. For Database, select the appropriate Oracle Database type for your Oracle E-Business Suite database (for example, Oracle 10g R2 or Oracle 11g).
5. Click OK.
6. Right-click the new database object you just created and select New Object, then select Connection Pool.
7. Enter a name for the connection pool (for example, Oracle E-Business Suite 12). You must provide a unique name for this connection pool. Because of this requirement, do not name the object ‘Connection Pool.’
8. For Call interface, select OCI 10g/11g.
9. For **Data source name**, enter the TNS name of the Oracle E-Business Suite database.

10. For **User name** and **Password**, enter the user name and password of the Oracle E-Business Suite super user.

11. Select the Connection Scripts tab.

12. Click **New** for **Execute on connect**.

13. Enter the following physical SQL, and then click **OK**:

    ```sql
call APP_SESSION.validate_icx_session('valueof(NQ_SESSION.ICX_SESSION_COOKIE)')
```

    Check that this script is enabled.

14. Click **OK** in the "Connection Pool dialog."

15. Save the repository.

---

**10.2 Setting Up Authentication**

This section explains how to set up shared authentication between Oracle Business Intelligence and Oracle E-Business Suite.

---

**Note:** If you set up shared authentication using the EBS ICX authentication cookie as described in this section, you cannot use single sign-on to seamlessly navigate from Oracle Business Intelligence to Oracle BI Publisher.

---

This section contains the following topics:

- Section 10.2.1, "Setting Up Session Variables for Authentication"
- Section 10.2.2, "Updating authenticationschemas.xml"
- Section 10.2.3, "Updating instanceconfig.xml"

**10.2.1 Setting Up Session Variables for Authentication**

To set up proper authentication for your integrated environment, you must set up several session variables and an initialization block in the Oracle BI repository.

**To set up session variables for authentication in the Administration Tool:**

1. In the Administration Tool, open the repository that you want to integrate with Oracle E-Business Suite.

2. Select **Manage**, then select **Variables**.

3. From the **Action** menu, select **New**, then **Session**, then **Initialization Block**.

4. Enter a name for the initialization block (for example, Oracle E-Business SSO).

5. Click **Edit Data Source**.

6. For **Default initialization string**, enter the following:

   ```sql
SELECT
    FND_GLOBAL.RESP_ID,
    FND_GLOBAL.RESP_APPL_ID,
    FND_GLOBAL.SECURITY_GROUP_ID,
    FND_GLOBAL.RESP_NAME,
```

---
Setting Up Authentication

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7. For **Connection Pool**, click **Browse**, select the connection pool you created for the Oracle E-Business Suite database (for example, Oracle E-Business Suite 12), and click **Select**.

   Figure 10–1 shows the "Session Variable Initialization Block Data Source dialog," with example values for **Default initialization string** and **Connection Pool**.

   ![Session Variable Initialization Block Data Source Dialog](image)

8. Click **OK**.

9. Click **Edit Data Target**.

10. Create the following session variables:

    ```
    EBS_RESP_ID
    EBS_RESP_APPL_ID
    EBS_SEC_GROUP_ID
    EBS_RESP_NAME
    EBS_USER_ID
    EBS_EMPLOYEE_ID
    USER
    ```

    To do this, click **New**, enter the variable name, and then click **OK**. Click **Yes** when you receive a warning about the special purpose of the **USER** variable.

    Optionally, you can select **Security Sensitive** before clicking **OK** for each variable. See *Oracle Fusion Middleware System Administrator’s Guide for Oracle Business Intelligence Enterprise Edition* for more information about this option.

    You must ensure that the variables are listed in the given order. If necessary, select a variable and click **Up** or **Down** to reorder the list.

    Figure 10–2 shows the "Session Variable Initialization Block Variable Target dialog," with the required variables displayed in the required order.

    ![Session Variable Initialization Block Variable Target Dialog](image)
11. Click **OK** in the "Session Variable Initialization Block Variable Target dialog".

12. In the "Session Variable Initialization Block dialog," clear **Required for authentication**.

13. Click **OK**.

14. Save the repository.

### 10.2.2 Updating authenticationschemas.xml

You must update the authenticationschemas.xml file to add the name of the EBS ICX authentication cookie.

**To update authenticationschemas.xml:**

1. Open the file authenticationschemas.xml for editing. You can find this file at:
   
   `ORACLE_HOME/bifoundation/web/display`

2. Find the following element:
   
   `<AuthenticationSchema name="EBS-ICX"/>

3. Locate the sub-element `RequestVariable source="cookie"` and change the value of the `nameInSource` attribute from ICX_SESSION to the name of the EBS ICX authentication cookie prefix. For example:
   
   `<RequestVariable source="cookie" type="auth" nameInSource="VIS" biVariableName="NQ_SESSION.ICX_SESSION_COOKIE"/>

   Do not update the RequestVariable source="url" sub-element.`
4. In the same entry (RequestVariable source="cookie"), ensure that the value of the biVariableName attribute is the same as the value you entered as part of the connection script when you created the connection pool for the Oracle E-Business Suite database. See Step 13 of Section 10.1, "Creating a Database Object and Connection Pool for the Oracle E-Business Suite Database" for more information.

5. Find the following element:

   <SchemaKeyVariable source="cookie">

6. Change the value of the nameInSource attribute from ICX_SESSION to the name of the EBS ICX authentication cookie prefix (often VIS). For example:

   <SchemaKeyVariable source="cookie" nameInSource="VIS" forceValue="EBS-ICX"/>

7. Save and close the file.

10.2.3 Updating instanceconfig.xml

You must update the instanceconfig.xml file to add EBS ICX as one of the enabled schemas, and set it as the default. You must update the instanceconfig.xml file to configure login and logout information.

To update instanceconfig.xml:


2. Open the file instanceconfig.xml for editing. You can find this file at:

   ORACLE_INSTANCE/config/OracleBIPresentationServicesComponent/coreapplication_obipsn
3. Locate the Authentication element.
4. Include EBS ICX in the list of enabled schemas. For example:

   `<EnabledSchemas>UidPwd, Impersonate, UidPwd-soap, Impersonate-soap, EBS-ICX</EnabledSchemas>`

   Ignore the comment in instanceconfig.xml that says this setting is centrally managed. EBS ICX must be manually added to the EnabledSchemas element.

5. Save and close the file.
6. Restart Oracle Business Intelligence.

**10.3 Embedding Links to Oracle Business Intelligence in Oracle E-Business Suite**

To embed a link in Oracle E-Business Suite that opens Oracle Business Intelligence dashboards, you need to create a form function and then assign menus and responsibilities.

---

**Note:** Before you begin, log in to Oracle E-Business Suite as the system administrator (for example, sysadmin). Then, select the **System Administrator** responsibility from the responsibility navigator pane on the left. The available menus appear on the right.

---

Follow the steps in this section to create the following objects, in sequence:

- Function
- Menu
- Responsibility
- User
- Profile

This section contains the following topics:

- **Section 10.3.1, "Domain Prerequisites"
- **Section 10.3.2, "Creating a Form Function"
- **Section 10.3.3, "Creating a Menu That Invokes the Form Function"
- **Section 10.3.4, "Assigning the Menu to a Responsibility"
- **Section 10.3.5, "Assigning the Responsibility to a User"
- **Section 10.3.6, "Setting Up a Profile"
- **Section 10.3.7, "Navigating from E-Business Suite to Oracle Business Intelligence"

**10.3.1 Domain Prerequisites**

If the URL entry points to your Oracle E-Business Suite instance and your Oracle Business Intelligence instance are configured using different internet domains, you must use an appropriate mechanism to create a single logical domain for the two URLs. This step is required to configure a link between Oracle E-Business Suite and
Oracle Business Intelligence that is capable of passing the Oracle E-Business Suite session information to Oracle Business Intelligence.

For example, if Oracle E-Business Suite is available on

http://ebhost.ebsdomain.com:8001

and Oracle Business Intelligence is available on

http://bihost.bidomain.com:9704

an appropriate mechanism needs to be put in place so that a browser can access both URLs using the same domain.

One way to achieve this is to install a supported HTTP server such as Oracle HTTP Server. In the example above, the HTTP server against Oracle Business Intelligence could be configured so that a request for

http://bihost.ebsdomain.com:9704

maps to

http://bihost.bidomain.com:9704

In this way a client browser can link to

http://bihost.ebsdomain.com:9704

and under the covers, the http server will point to the real location.

For information about configuring and securing Oracle HTTP Server, see Oracle Fusion Middleware Administrator’s Guide for Oracle HTTP Server.

10.3.2 Creating a Form Function

This section explains how to create a form function in Oracle E-Business Suite.

To create a form function:

1. From the Application menu, select Function. The "Form Functions dialog" is displayed.

   Figure 10–3 shows the "Form Functions dialog."

   ![Form Functions Dialog](image)

   Figure 10–3 Form Functions Dialog

2. Enter the name of the function in the Function field (for example, OBIEE).
3. Enter the user function name (for example, OBIEE).
4. Enter a description (for example, Link to Oracle BI).
5. Save your changes using the Save button on the toolbar.
6. Select the Properties tab.
7. For Type, enter SSWA jsp function.
8. Select the Web HTML tab.
9. For HTML Call, enter one of the following options:
   - To link to Answers, enter: OracleOasis.jsp?mode=OBIEE&function=Answers
   - To link to Dashboards, enter: OracleOasis.jsp?mode=OBIEE&function=Dashboard
10. Save your changes using the Save button on the toolbar, and then close the "Form Functions dialog."

10.3.3 Creating a Menu That Invokes the Form Function

This section explains how to create a menu that invokes the form function in Oracle E-Business Suite. Note that menus are compiled whenever they are updated.

To create a menu that invokes the form function:
1. From the Application menu, select Menu. The "Menus dialog" is displayed.
   Tip: If you are already in Forms, you can select Menu from the Top Ten list.
   Figure 10–4 shows the "Menus dialog."

   **Figure 10–4 Menus Dialog**

2. Enter the name of the menu in the Menu field (for example, OBIEE).
3. Enter a User Menu Name (for example, OBIEE).
4. For Menu Type, enter Standard.
5. For Function, enter the name of the function you created in Section 10.3.2, "Creating a Form Function."
6. Save your changes using the Save button on the toolbar, and then close the "Menus dialog."

Note that if a menu has only one function, then that function is selected by default for the user. If this is the case, intermediate steps like displaying the function may be skipped.

10.3.4 Assigning the Menu to a Responsibility

The menu that you created in Section 10.3.3, "Creating a Menu That Invokes the Form Function" must be associated with a responsibility. You can reuse an existing responsibility, or create a responsibility, as shown in the following procedure.

To assign the menu to a new responsibility:

1. Select Responsibilities from the Top Ten List.

   Figure 10–5 shows the "Responsibilities dialog."

   **Figure 10–5  Responsibilities Dialog**

   ![Responsibilities Dialog](image)

   - Enter a name for the responsibility (for example, OBIEE).
   - For Application, enter the application for which you created the menu.
   - For Responsibility Key, define any unique value. To ensure that this value is unique, the Responsibility Key is not translated.
   - For Available From, select Oracle Self Service Web Applications.
   - For Data Group, enter Standard for Name and re-enter the application name for Application.
   - For Menu, enter the name of the menu you created in Section 10.3.3, "Creating a Menu That Invokes the Form Function."
   - Save your changes using the Save button on the toolbar, and then close the "Responsibilities dialog."
10.3.5 Assigning the Responsibility to a User

You must assign the responsibility that is associated with the menu to a user. You can create a user, or assign the responsibility to an existing user, as shown in the following procedure.

To assign the responsibility to an existing user:

1. Select Users from the Top Ten List.
   
   Figure 10–6 shows the "Users dialog."

2. For the user you want to edit, enter the responsibility details in the Direct Responsibilities tab. Enter the responsibility name, application, security group (Standard), and effective dates.

3. Save your changes using the Save button on the toolbar, and then close the "Users dialog."

10.3.6 Setting Up a Profile

You need to enter the URL of the Oracle BI Server as part of a profile. You can set a profile for a responsibility, a user, or a site. The following procedure shows how to set profile options for a responsibility.

To set profile options for a responsibility:

1. From the Application menu, select Profile.
   
   Figure 10–7 shows the "Find System Profile Values dialog."
2. Select Responsibility, and then enter the name of the responsibility to which you assigned the menu in Section 10.3.4, "Assigning the Menu to a Responsibility."

3. Enter %Business Intelligence% in the Profile field.

4. Click Find.

5. On the resulting screen, under Responsibility, enter the Oracle Business Intelligence URL. For example:

   http://my_server.domain.com:port/analytics

   You should use a fully-qualified host name.domain name rather than an IP address or just a host name. The Oracle Business Intelligence domain needs to be the same as the Oracle E-Business Suite domain. This is required so that the EBS ICX cookie is visible to Oracle Business Intelligence from the user's browser. For more information, see "Domain Prerequisites".

   For port, enter the web server port where Oracle Business Intelligence is running (for example, 9704).

6. Save your changes using the Save button on the toolbar.

### 10.3.7 Navigating from E-Business Suite to Oracle Business Intelligence

You next navigate from Oracle E-Business Suite to Oracle Business Intelligence. The following procedure shows how to navigate from Oracle E-Business Suite to Oracle Business Intelligence.

To navigate from E-Business Suite to Oracle Business Intelligence:

1. Ensure that you are assigned the responsibility that can link to Oracle Business Intelligence (for example, OBIEE). See Section 10.3.4, "Assigning the Menu to a Responsibility."

2. Log in to Oracle E-Business Suite.

3. Select the responsibility that can link to Oracle Business Intelligence (for example, OBIEE).
4. In the Menu field, select the menu that you created in Section 10.3.3, “Creating a Menu That Invokes the Form Function” (for example, OBIEE).

   The Form Function is invoked that links to Oracle Business Intelligence.

---

**Note:** Sometimes there is a delay in displaying the responsibility (OBIEE). This is because a job process in Oracle E-Business Suite is still updating the menus etc. In the event you do not see the responsibility immediately, please contact your Oracle E-Business Suite administrator.
11 Embedding Oracle BI EE In Oracle's Siebel CRM

This chapter describes how to embed Oracle BI EE in Oracle's Siebel CRM. Describes configuring the Oracle HTTP server's proxy settings, configuring the Siebel application's HTTPS server, and configuring Siebel's symbolic URLs to locate the Oracle BI EE directory.

This chapter includes the following sections:

- Overview of Embedding Oracle BI EE in Oracle's Siebel CRM
- Configuring Oracle HTTP Server
- Configuring the Siebel Application to Find Oracle BI Through HTTP Server
- Modifying the Siebel URLs to Reference the /analytics Directory

11.1 Overview of Embedding Oracle BI EE in Oracle's Siebel CRM

If, for example, you plan to run Oracle's Siebel Web Extension (SWE) and Oracle Business Intelligence Presentation Services on different web servers, you must use some kind of networking or load balancing mechanism to create a single logical domain (or virtual IP address) for the two machines. One way to achieve this is to install a supported HTTP Server such as Oracle HTTP Server. You then configure the HTTP server against both the Siebel CRM application (SWE) and the entry point to Oracle Business Intelligence. In this way, you configure a reverse proxy that makes it appear to client browsers that both Oracle's Siebel CRM and Oracle Business Intelligence are being served from the same machine.

After modifying the HTTP server's proxy settings, you must update Oracle's Siebel CRM administration settings to map the HTTP server to the NQHOST and NQHOSTHOME variables. Finally, you must confirm that each URL contains a properly formatted reference to the Oracle BI EE analytics directory.

**Note:** The URL to both Oracle's Siebel system and Oracle Business Intelligence system must use the same protocol. In other words, both must use HTTP, or both must use HTTPS.

When displaying Oracle BI EE content in any other portals using IFrames, you might see the following message "Oracle BI EE content cannot be displayed in an IFrame".

To display Oracle BI EE content on a web page using IFrame you set different values to the InIFrameRenderingMode element in the instanceconfig.xml file. For more information, see "B.1.1 Protecting Pages in Oracle BI EE from Attack" in *Oracle Fusion*.
11.2 Configuring Oracle HTTP Server

Use this procedure to configure Oracle HTTP Server’s proxy settings to set up a reverse proxy. This is so the client browser thinks the Oracle BI EE and Oracle’s Siebel CRM applications are on the same machine. The HTTP server routes requests from the client browser to the appropriate machine. Note that the HTTP server must run on the same port at Oracle’s Siebel CRM server.

This procedure assumes that you are using Oracle HTTP Server, but you can use any supported HTTP server to embed Oracle BI EE in Oracle's Siebel CRM.

If you are working in a production environment, Oracle recommends that you add security policies to the HTTP server so that users cannot directly access the underlying business intelligence objects.

For information about installing Oracle HTTP Server, see Oracle Fusion Middleware Quick Installation Guide for Oracle Web Tier. For information about configuring and securing Oracle HTTP Server, see Oracle Fusion Middleware Administrator’s Guide for Oracle HTTP Server.

To configure the Oracle HTTP Server's proxy settings

1. Open Oracle HTTP Server’s mod_wl_ohs.conf file.

2. Insert the following proxy request information into the configuration file. For more information, see the following "Example".

   ProxyRequest Off
   <Proxy*>
   Order deny,allow
   Allow from all
   </Proxy*>

   Location/Oracle's Siebel CRM subdirectory
   ProxyPass http://location of Oracle's Siebel CRM server/
   Oracle's Siebel CRM subdirectory
   ProxyPassReverse http://location of Oracle's Siebel CRM server/
   Oracle's Siebel CRM subdirectory
   /Location

   Location/Oracle BI EE subdirectory
   ProxyPass http://location of Oracle BI EE server/
   Oracle BI EE subdirectory
   ProxyPassReverse http://location of Oracle BI EE server/
   Oracle BI EE subdirectory
   /Location

3. Save and close the configuration file.

4. Test the configuration by using a fully-qualified name to log into Oracle's Siebel CRM through Oracle HTTP Server.

   Example
   Note the following proxy configuration example.

   ProxyRequests Off
   <Proxy *>

   Location/Oracle's Siebel CRM subdirectory
   ProxyPass http://location of Oracle's Siebel CRM server/
   Oracle's Siebel CRM subdirectory
   ProxyPassReverse http://location of Oracle's Siebel CRM server/
   Oracle's Siebel CRM subdirectory
   /Location

   Location/Oracle BI EE subdirectory
   ProxyPass http://location of Oracle BI EE server/
   Oracle BI EE subdirectory
   ProxyPassReverse http://location of Oracle BI EE server/
   Oracle BI EE subdirectory
   /Location
11.3 Configuring the Siebel Application to Find Oracle BI Through HTTP Server

Use this procedure to update the Siebel application's settings to map the HTTP server to the NQHOST and NQHOSTHOME variables.

For more information about working with the administration settings, see the Siebel product documentation.

To configure the Siebel application

1. Navigate to the Siebel application's Administration - Integration tab.
2. Navigate to the Host Administration frame.
3. In the Virtual Name column, located NQHOST and NQHOSTNAME.
4. In the Name column, update the name to the host name of the HTTP server that is serving the Oracle BI Presentation Services. This is the location name that you specified in the Oracle HTTP Server's mod_wl_ohs.conf file. For information about this location, see "Configuring Oracle HTTP Server".

Note that if the HTTP server is running on a port other than 80, then you need to include the port number.

11.4 Modifying the Siebel URLs to Reference the /analytics Directory

Use this procedure to confirm that each symbolic URL located in Oracle's Siebel CRM contains a properly formatted reference to the Oracle BI EE /analytics directory.

To modify the Siebel URLs

1. Navigate to the Siebel application's Administration - Integration tab.
2. Navigate to the Symbolic URL Administration frame.
3. Click Query and in the URL column, search for *Analytics*. The search returns a list of URLs that match the search criteria.
4. Modify any business intelligence object URLs that contain /Analytics (with an upper case "A") to /analytics (with a lower case "a").
This appendix contains the contents of sample files that enable you to configure actions and to enable actions to invoke browser script calls.

This appendix contains the following section:

- Sample Action Framework Configuration File
- Sample Java Script File

A.1 Sample Action Framework Configuration File

Use the ActionFrameworkConfig.xml sample file with information given in Chapter 5, "Using Actions to Integrate Oracle BI EE with External Systems" to understand the various ways to configure actions.

```xml
<?xml version='1.0' encoding='UTF-8' ?>
<obi-action-config xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:noNamespaceSchemaLocation="afconfig.xsd">
  <aliases>
    <location-alias>
      <alias>actionsrv</alias>
      <actual=localhost:9704</actual>
    </location-alias>
    <location-alias>
      <alias>biserver</alias>
      <actual=http://localhost:9704/analytics/saw.dll?WSDL</actual>
    </location-alias>
  </aliases>
  <registries>
    <registry>
      <id>reg1</id>
      <name>Sample Web Services</name>
      <content-type>webservices</content-type>
      <provider-class>oracle.bi.action.registry.wsil.WSILRegistry</provider-class>
      <description />
      <location>
        <path>http://localhost:9704/ActionSamples/inspection.wsil</path>
      </location>
      <service-access>
        <path>/Sample Web Services/Rating Service</path>
        <policy>SAMLPolicy</policy>
        <propagateIdentity>true</propagateIdentity>
      </service-access>
    </registry>
    <registry>
      <id>reg2</id>
    </registry>
  </registries>
</obi-action-config>
```
<name>BI EE Web Services for SOA</name>
<content-type>webservices</content-type>
<provider-class>oracle.bi.action.registry.wsil.WSILRegistry</provider-class>
<description />
- <location>
  <path>http://localhost:9704/biservices/inspection?wsil</path>
</location>
- <service-access>
  <account>wsil.browsing</account>
  <policy>wsig_username_token_policy</policy>
  <propagateIdentity>false</propagateIdentity>
</service-access>
</registry>
- <registry>
  <id>reg1c</id>
  <name>Built-in BI EE Web Services</name>
  <content-type>webservices</content-type>
  <provider-class>oracle.bi.action.registry.wsil.WSILRegistry</provider-class>
  <description />
  - <location>
    <path>http://localhost:9704/ActionSamples/Builtin.wsil</path>
  </location>
</registry>
- <registry>
  <id>reg2</id>
  <name>Secure Web Services Sample</name>
  <content-type>webservices</content-type>
  <provider-class>oracle.bi.action.registry.wsil.WSILRegistry</provider-class>
  <description />
  - <location>
    <path>http://localhost:9704/ActionSamples/secure.wsil</path>
  </location>
  - <service-access>
    <path>/Secure Web Services Sample/RatingService/CreditRatingService/CreditRatingPort/processRating</path>
    <policy>SAMLPolicy</policy>
    <propagateIdentity>true</propagateIdentity>
  </service-access>
</registry>
- <registry>
  <id>reg03</id>
  <name>Sample EJBs</name>
  <content-type>java</content-type>
  <provider-class>oracle.bi.action.registry.java.EJBRegistry</provider-class>
  <description>Custom Java classes which can be invoked as action targets</description>
  - <location>
    <path>http://localhost:9704</path>
  </location>
  - <custom-config>
    - <ejb-targets>
      - <appserver>
        <context-factory>weblogic.jndi.WLInitialContextFactory</context-factory>
        <jndi-url>t3://localhost:9704</jndi-url>
        <server-name>localhost</server-name>
        <account>WLSJNDI</account>
        <ejb-exclude>mgt</ejb-exclude>
        <ejb-exclude>PopulationServiceBean</ejb-exclude>
      </appserver>
    </ejb-targets>
  </custom-config>
<server>localhost</server>
<app-context>ActionSamplesEJB</app-context>
</ejb-app>
</ejb-targets>
</custom-config>
</registry>
</registries>

- <content-types>
  - <content-type>
    <typename>webservices</typename>
    <displayname>Web Services and BPEL Processes</displayname>
    <actionType>WebServiceActionType</actionType>
  </content-type>
  - <content-type>
    <typename>psft</typename>
    <displayname>PeopleSoft Applications</displayname>
    <actionType>URLActionType</actionType>
  </content-type>
  - <content-type>
    <typename>epm</typename>
    <displayname>Hyperion Applications</displayname>
    <actionType>URLActionType</actionType>
  </content-type>
  - <content-type>
    <typename>misc</typename>
    <displayname>Mixed Services</displayname>
    <actionType>URLActionType</actionType>
  </content-type>
  - <content-type>
    <typename>java</typename>
    <displayname>Java Actions</displayname>
    <actionType>JavaActionType</actionType>
  </content-type>
</content-types>

- <accounts>
  - <account>
    <name>wsil.browsing</name>
    <description>Account for BI WS for SOA</description>
    <adminonly>false</adminonly>
    <credentialkey>browsing</credentialkey>
  </account>
  - <account>
    <name>WLSJNDI</name>
    <description>Account used to access WLS JNDI.</description>
    <adminonly>false</adminonly>
    <credentialkey>JNDIUser</credentialkey>
  </account>
  - <account>
    <name>EPM</name>
    <description>Account used to connect to EPM.</description>
    <adminonly>false</adminonly>
    <credentialkey>EPM</credentialkey>
  </account>
</accounts>

- <policies>
  - <policy>
    <name>SAMLPolicy</name>
    <policyfile>ActionsSAMLPolicy.xml</policyfile>
  </policy>
</policies>
<name>wss_username_token_policy</name>
<policyfile>wss_username_token_policy.xml</policyfile>
</policy>
</policies>
- <!--
Uncomment this element to enable support for using proxy settings to enable
browsing/invocation
of external web services when running behind a firewall

<proxy>
  <host>@proxy.host@</host>
  <port>@proxy.port@</port>
  <userid>@proxy.user@</userid>
  <password>@proxy.password@</password>
  <nonProxyHosts>localhost|*.oracle.com|@proxy.nonProxyHosts@</nonProxyHosts>
</proxy>
-->
- <ebusinesssuiteconfig>
  <visible>true</visible>
</ebusinesssuiteconfig>
</obi-action-config>

A.2 Sample Java Script File

Use the UserScripts.js sample file with information given in Chapter 5, "Using Actions
to Integrate Oracle BI EE with External Systems" to understand how to enable actions
to invoke browser script calls.
/
----------------------------------------------------------------------------------
----------------------------------
/** USER-DEFINED SCRIPTS
 *
 * Use this file to enter any user-defined JavaScript functions you wish to
 * invoke from a client-side Script action.
 * By using the namespace of USERSCRIPT (as shown in the example code below), you
 * will ensure that no function name
 * conflicts occur with the product code, and all PUBLISHED functions (in
 * the USERSCRIPT namespace) can be
 * browsed for selection, at Action creation time.
 * By default, all functions in here are PRIVATE, in so much that they are not
 * displayed within the Browse dialog
 * during Action creation.
 * Note - They ARE still usable, providing you know the correct function name.
 * To publish (make visible) a function, simply add the 'publish' static member
 * as shown in the example below, along
 * with any parameters you want automatically created.
 * ALL functions will receive ONE parameter; a named array of values, indexed by
 * the parameter name.
 */
//
----------------------------------------------------------------------------------
----------------------------------
USERSCRIPT = function(){

//
//----------------------------------------------------------------------------------------------------------------------
/** This is the parameter object you can create to supply default parameters on creation of Script action.
 * See the 'displayParameters' example below for usage.
 * @param {String} sName is the unique name of parameter.
 * @param {String} sPrompt is the display text used to prompt for the parameter value.
 * @param {String} sValue (Optional) is the default value for the parameter.
 */
USERSCRIPT.parameter = function(sName, sPrompt, sValue)
{
    this.name   = sName;
    this.prompt = sPrompt;
    this.value  = sValue;
};

/** This is an example function to display all parameters that are received
 * @params {Array} aParams an array of values indexed by the parameter name
 */
USERSCRIPT.example_displayParameters = function(aParams)
{
    var sArgs = '';
    for( args in aParams )
    {
        var argName  = args;
        var argValue = aParams[argName];

        sArgs += 'Parameter name: ' + argName + ' Value: ' + argValue;
        sArgs += '\n';
    }

    alert( sArgs.length == 0 ? "No Parameters" : sArgs );
};
USERSCRIPT.example_displayParameters.publish =
{
    // The existence of this 'publish' object causes the 'USERSCRIPT.example_displayParameters' function to be
    // shown when browsing the available user script functions (during creation of a Script action).

    // If you wish the Script function to have parameters automatically created on selection of the function,
    // create a 'parameters' object as shown below.
    // You can have any number of parameters, with each parameter requiring a unique name, prompt and an
    // optional value.
    parameters :
    {
        new USERSCRIPT.parameter( 'p1', 'Enter value for Param 1', 'p1 default value' ),
        new USERSCRIPT.parameter( 'p2', 'Enter value for Param 2', 'p2 default value' ),
        new USERSCRIPT.parameter( 'p3', 'Enter value for Param 3' )
    }
}
// If no generated parameters are required, either create an empty array
// parameters : []
// or don't declare the 'parameters' object at all.
});

// global variables
var newWin;
var sArgs;


//
===============
/** This is an example of a private function, which is not shown when browsing available
 * user-defined functions. It is private as is does NOT have the 'publish'
 * static member declaration.
 * However, the function CAN still be called if you know the function name.
 */
USERSCRIPT.example_hideMeDuringBrowse = function()
{
    alert("But I can still be called");
};

//
===============
-----------