Oracle® Fusion Middleware

XML Schema Reference for Oracle Business Intelligence
Enterprise Edition

12*c* (12.2.1)

E57389-01

October 2015

Describes how to use the Oracle BI Server MDS XML API
and the legacy Oracle BI Server XML API, and provides
reference information for each MDS and XML schema
element.

ORACLE®

Oracle Fusion Middleware XML Schema Reference for Oracle Business Intelligence Enterprise Edition, 12*c* (12.2.1)

E57389-01

Contents

Part I   MDS XML Schema Elements

1   About the Oracle BI Server MDS XML API

2   MDS XML Logical Elements

Part II   XML Schema Elements

6   About the Oracle BI Server XML API

7   XML Logical Elements

8   XML Physical Elements

9   XML Presentation Elements

10   XML Marketing, Security, and Other Elements

Preface

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, 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 usage and reference information about both the Oracle BI Server MDS XML API and the legacy Oracle BI Server XML API.

Audience

This document is intended for metadata repository developers who use MDS XML or Oracle BI Server XML in their repository development processes, or for system administrators who use the Oracle BI Server XML API to programmatically interact with the Oracle BI repository.

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 Documents 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.

Conventions

The following text conventions are used in this document:

Convention	Meaning
boldface	Boldface type indicates graphical user interface elements associated with an action, or terms defined in text or the glossary.
italic	Italic type indicates book titles, emphasis, or placeholder variables for which you supply particular values.
`monospace`	Monospace type indicates commands within a paragraph, URLs, code in examples, text that appears on the screen, or text that you enter.

Part I

MDS XML Schema Elements

Part I provides usage and reference information for the Oracle BI Server MDS XML API.

Part I contains the following chapters:

1

About the Oracle BI Server MDS XML API

This chapter provides information about Oracle BI Server MDS XML, an XML format that is compatible with Oracle Metadata Services and the Oracle BI repository. Oracle Business Intelligence provides the ability to save Oracle BI repository metadata as a set of XML documents in MDS XML format.

Using this feature, you can integrate with third-party source control management (SCM) systems for Oracle BI repository development. For more details, see "Using a Source Control Management System for Repository Development" in *Oracle Fusion Middleware Metadata Repository Builder's Guide for Oracle Business Intelligence Enterprise Edition*.

> **Note:** MDS XML format is different from the XML format generated by the Oracle BI Server XML API, where the metadata for an Oracle BI repository is generated in a single XML file. For more information about the Oracle BI Server XML API, see Chapter 6, "About the Oracle BI Server XML API."

This chapter contains the following topics:

- About the Oracle BI Server MDS XML API
- About Generating MDS XML
- Executing MDS XML
- Generic MDS XML Elements and Attributes
- Example: Analysis of an MDS XML Logical Table Element
- Topics of Interest in Other Guides
- System Requirements and Certification

1.1 About the Oracle BI Server MDS XML API

The contents and structure of the Oracle BI Server MDS XML repository files are defined through the following schema element files:

- xudml_mds_admin.xsd and xudml_mds.xsd

  These files contain the basic MDS XML grammar for the repository elements.

- xudml_mds_core.xsd

  This file contains the detailed MDS XML grammar for the repository elements and attributes and the relationships between the elements.

You can find these files at:

ORACLE_HOME/bi/bifoundation/server/bin

You can view these files to see the relationships between MDS XML metadata objects, but you must *not* modify these files.

1.2 About Generating MDS XML

You can generate MDS XML from an existing repository file either from within the Administration Tool or by using a command-line utility.

This section contains the following topics:

- Section 1.2.1, "Generating MDS XML from an Existing RPD Using the Administration Tool"

- Section 1.2.2, "Generating MDS XML from an Existing RPD Using a Command-Line Utility"

1.2.1 Generating MDS XML from an Existing RPD Using the Administration Tool

Perform these steps to generate MDS XML from an existing repository file using the Administration Tool:

1. Open your existing repository file (RPD) in the Administration Tool in offline mode.

2. Select **File**, then select **Save As**, then select **MDS XML Documents**.

3. Select a root location for your MDS XML repository files, and then click **OK**.

The output files are generated in directories under the following path:

- *root_location*/oracle/bi/server/base.

The number of generated directories depends on the complexity of your repository.

For example, with C:\SampleApp_MDS selected as your root location, the output directory structure could be as shown in Figure 1–1.

Figure 1–1   Example of Directories Containing MDS XML Elements
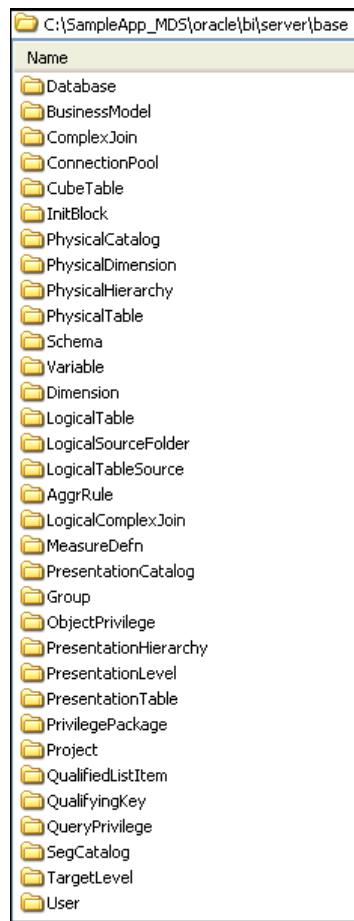
1.2.2 Generating MDS XML from an Existing RPD Using a Command-Line Utility

Oracle Business Intelligence provides the `biserverxmlgen` command-line utility to generate MDS XML output from a repository file.

The location of the `biserverxmlgen` utility is:

ORACLE_HOME/user_projects/domains/bi/bitools/bin

At the command prompt, you can run `biserverxmlgen` with no arguments or parameters to see usage information.

Or, at the command prompt, type `biserverxmlgen` and specify the desired options to generate MDS XML output from an existing repository file, as described below:

```
biserverxmlgen -M -R repository_pathname [-P password]
pathname {-O output_script_pathname | -D directory_name | -Z output_RPD_name}
[-8] [-N] [{-Q | -S | -L | -C}] [-V variable_list_pathname] [-X] [-U output_RPD_
password][-B]
```

Where:

`-M` indicates that you want MDS XML output.

repository_pathname is the name and location of the repository file from which you want to generate MDS XML.

password is the repository password.

The password argument is optional. If you do not provide a password argument, you are prompted to enter a password when you run the command. To minimize the risk of security breaches, Oracle recommends that you do not provide a password argument either on the command line or in scripts. Note that the password argument is supported for backward compatibility only, and will be removed in a future release. For scripting purposes, you can pass the password through standard input.

output_script_pathname is the name and location of the XML file created by biserverxmlgen. By default, this file contains XML for all objects. However, if you use the -C option, then this file contains only XUDML for connection pools and their relative variables.

directory_name is the name and location of the directory under which you want to generate your MDS XML output.

ouput_RPD_name is the name of the repository output file. This output file contains no connection pool information. If you specify this option, then you can also optionally specify -X. If you specify this option, then you must include -U*[ouput_RPD_password]*.

Specify -8 to use UTF-8 encoding in the generated XML file. If you do not specify -8, the generated XML file uses ANSI ISO-8859-1 encoding by default.

Specify -N to generate output without upgrade ids (uids). These are the internal identifiers of objects. Use this if you want to create a new repository without the old upgrade ids. Do not use this option if you are generating XML. If you are generating XML, then use -N, instead.

You can use one of the following options to control the generation of security objects, presentation objects, or connection pools. Note if you specify more than one option, then you will receive an error.

- Use -Q to generate output without security objects.

- Use -S to generate output for only security objects.

- Use -L to generate only a list of presentation objects.

- Use -C to generate a script only for connection pools and variables relative to the connection pool.

variable_list_pathname is optionally used with -C. It is the file name that contains the variable list used to generate the specified variables. If you specify this option, then the following are generated: connection pools, variables relative to the connection pool, and variables from the file.

Use -X to generate XUDML without connection pool information. If you specify this option, then you can optionally specify the -Z *[ouput_RPD_name]* option.

output_rpd_password is the password of the repository that you are outputting. If you specify -Z *[ouput_RPD_name]* then you must include this option.

Use -B to regenerate duplicate names of upgrade ids (uids) for XUDML generation.

1.3 Executing MDS XML

You can use the biserverxmlexec command-line utility to execute MDS XML in offline mode to create or modify a repository file. This utility can generate an entire repository file (RPD) from a set of MDS XML documents, or it can modify an existing repository file by applying the changes specified in the MDS XML. The input MDS XML is validated against the MDS XML schema. Any objects that exist in both the RPD and the MDS XML documents are overwritten by the corresponding object

definitions in the MDS XML. Note that the same object cannot be defined twice in the MDS XML documents.

The location of the `biserverxmlexec` is:

ORACLE_HOME/user_projects/domains/bi/bitools/bin

To use `biserverxmlexec` to execute MDS XML, execute the following at the command prompt:

```
biserverxmlexec [-P rpd_password] {-I input_script_filename |
-D MDS_XML_document_directory | -X cust_directory}
[-S MDS_XML_password] [-B base_repository_pathname]
-O output_repository_pathname [-M] [-E] [-C] [-N] [-R]
```

Where:

`rpd_password` is the password for the RPD file. If you specified a base repository, enter the repository password for the base repository. If you did not specify a base repository, enter the password you want to use for the new repository.

The password argument is optional. If you do not provide a password argument, you are prompted to enter a password when you run the command. To minimize the risk of security breaches, Oracle recommends that you do not provide a password argument either on the command line or in scripts. Note that the password argument is supported for backward compatibility only, and will be removed in a future release. For scripting purposes, you can pass the password through standard input.

`input_script_filename` is the path of the input XUDML/MDS XML file.

`MDS_XML_document_directory` is the location of the input MDS XML documents.

`cust_directory` is the path of the customization folder located in the service instance of the Oracle BI Server. This folder contains multiple action XML groups. The customization_order.xml file determines the order in which the customizations are applied.

`MDS_XML_password` is the password for the set of MDS XML documents. You only need to specify [-S *MDS_XML_password*] when the set of MDS XML documents has a different password than the password specified for [-P *rpd_password*]. Note also that you can specify `-C` to avoid password checking for the MDS XML documents.

The MDS_XML_password argument is optional. If you do not provide an MDS XML password argument, and if the set of MDS XML documents has a different password than the password specified for [-P *rpd_password*], you are prompted to enter an MDS XML password when you run the command (unless you have specified `-C`). To minimize the risk of security breaches, Oracle recommends that you do not provide a password argument either on the command line or in scripts. Note that the password argument is supported for backward compatibility only, and will be removed in a future release. For scripting purposes, you can pass the password through standard input.

`base_repository_pathname` is the existing repository file you want to modify using the set of MDS XML documents (optional). Do not specify this argument if you want to generate a new repository file from the MDS XML.

`output_repository_pathname` is the name and location of the RPD output file you want to generate. Note that you must specify an output repository regardless of whether you are generating a new RPD, or whether you are modifying an existing base repository. The changes that result from executing MDS XML on a base repository are contained in the specified output repository, not in the base repository.

Specify `-M` to execute MDS XML documents. If you specify `-D` *MDS_XML_document_directory*, the `-M` argument is not needed. You only need to specify `-M` when you have a single MDS XML file that contains all the object definitions.

Specify `-E` to exit without creating the RPD output file if an expression parsing error occurs.

Specify `-C` to skip prompting for the input MDS XML password. When you use this option, all connection pool passwords are removed from the output RPD.

Specify `-N` to ignore all non-fatal XUDML errors.

Specify `-R` to disable XML transformation before applying the changes to the repository.

Examples

The following example creates a new repository called rp1 based on the input MDS XML document directory:

```
biserverxmlexec -D C:\MDS_dir -O rp1.rpd
Give password: my_rpd_password
```

The following example uses the action XML customizations in the existing repository's (rp1) Custom_dir directory to create a new repository called rp2.

```
biserverxmlexec -P my_rpd_password -X C:\Custom_dir -B rp1.rpd -O rp2.rpd
```

1.4 Generic MDS XML Elements and Attributes

This section describes generic elements and attributes that are common, like Description, name, and mdsid. In the Oracle BI Server MDS XML schema (.xsd file), these elements and attributes are defined under the `object_t` element.

The only common element is the Description element. This element can hold a text string describing a particular object. For example:

```
<Description>
   <![CDATA[ Generated by Time Series Wizard ]]>
</Description>
```

There are nine common attributes defined under the `object_t` element. Table 1–1 lists these attributes.

Table 1–1   Common MDS XML Attributes in object_t

Attribute Name	Description
name	The name of the object.
id	Not used for MDS XML.
mdsid	mdsid is a universally unique identifier, 37-characters long.
iconIndex	The index number for the icon of the object in the Administration Tool.
isDefaultReadable	If set to `true`, indicates that this object is readable by default.
isDefaultReadWriteable	If set to `true`, indicates that this object is both readable and writable by default.
isDefaultDeletable	If set to `true`, indicates that this object is deletable by default.
isDefaultGrantable	If set to `true`, indicates that this object is grantable by default

Table 1–1   (Cont.) Common MDS XML Attributes in object_t

Attribute Name	Description
isDefaultAll	If set to `true`, indicates that this object is readable, writable, deletable, and grantable by default.

In addition to the common attributes defined in `object_t`, an additional common attribute is defined in `ref_t`. This attribute is used when one object references another object or set of objects. For example, business model objects reference the logical display folders contained in that business model, using the sub-element `RefLogicalDisplayFolder`.

All referenced sub-elements have the same common attribute refId shown in Table 1–2.

Table 1–2   Common MDS XML Attribute in ref_t

Attribute Name	Description
refId	Consists of the mdsid of the referencing object and the mdsid of the referenced object, separated by "-".

1.4.1 About MDS XML Object Identifiers

Oracle BI Server MDS XML metadata objects have a single unique identifier:

- **mdsid.** This identifier consists of 37 characters, and is unique across the entire repository. The mdsid is created by the Oracle BI Server for the lifetime of the object.

  For example: mdsid="`m1d08ed10-0bf4-1000-806e-0a9716a80000`".

1.5 Example: Analysis of an MDS XML Logical Table Element

This section illustrates the use of MDS XML identifiers and reference attributes for a Logical Table called F2 Coupon Usages.

The logical table F2 Coupon Usages has the following properties:

- It contains four logical columns, including the column ORDER_ID

- It has a logical key CUSTOMER_ID, that consists of the single logical column ORDER_ID

- It is contained within the business model Fusion Order Demo

- It has one logical table source COUPON_USAGES

The MDS XML elements to illustrate this example occur in three separate MDS XML files: a file that describes the logical table elements and two files that describe the associated business model and logical table source elements.

The focus of this example is the logical table file, especially the references in the file to related elements and attributes. The only details shown of the business model and logical table source files are those that illustrate relationships with the logical table.

As an overview, the following figure shows these three files highlighted within the general directory structure created when MDS XML is generated from an Oracle BI repository.

Figure 1–2   MDS XML Example Element Files
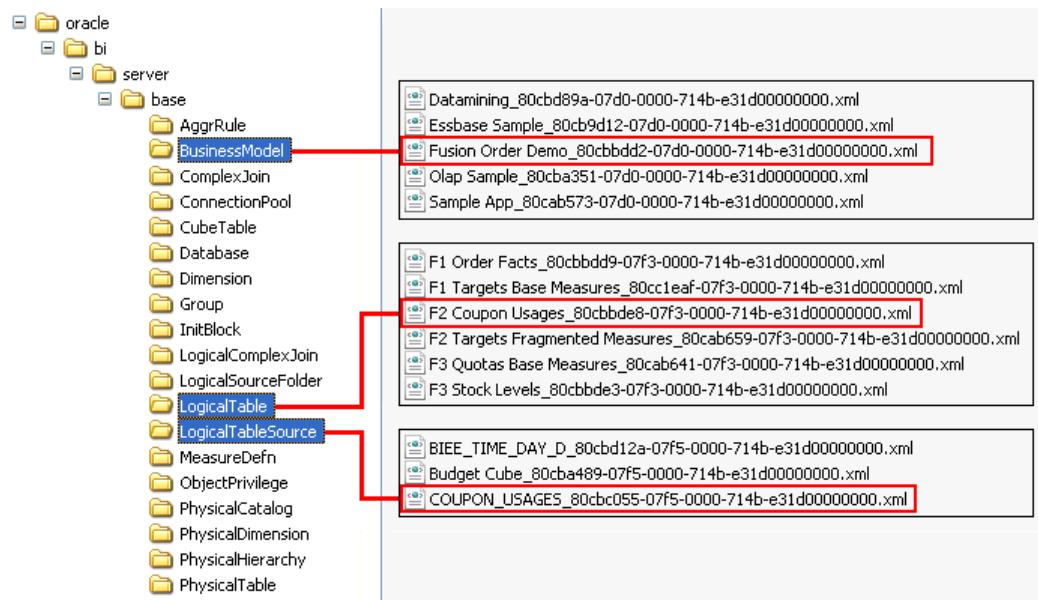
The contents of the main Logical Table file

`F2 Coupon Usages_80cbbde8-07f3-0000-714b-e31d00000000.xml`

appear in this section, with the mdsid of the logical table highlighted *(the italicized line numbers have been inserted for easy element tag identification in the subsequent sections of this topic).*

```
1 <?xml version="1.0" encoding="UTF-8" ?>
2 <LogicalTable mdsid="m80cbbde8-07f3-0000-714b-e31d00000000"
3    name="F2 Coupon Usages"
4    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
5    xmlns="http://www.oracle.com/obis/repository"
6    x="133" y="378"
7    subjectAreaRef="/oracle/bi/server/base/BusinessModel
8       /Fusion Order Demo_80cbbdd2-07d0-0000-714b-e31d00000000.xml#
9       m80cbbdd2-07d0-0000-714b-e31d00000000">
10   <LogicalColumn mdsid="m80cbbefc-07d6-0000-714b-e31d00000000"
11      name="Applied Date" isWriteable="false">
12   </LogicalColumn>
13   <LogicalColumn mdsid="m80cbbeff-07d6-0000-714b-e31d00000000"
14      name="# of Customers" isWriteable="false">
15   </LogicalColumn>
16   <LogicalColumn mdsid="m80cbbf00-07d6-0000-714b-e31d00000000"
17      name="# of Coupons and Discounts" isWriteable="false">
18   </LogicalColumn>
19   <LogicalColumn mdsid="m80cbbf04-07d6-0000-714b-e31d00000000"
20      name="Order ID" isWriteable="false">
21   </LogicalColumn>
22   <LogicalKey mdsid="m80cbbf39-07d8-0000-714b-e31d00000000"
23      name="CUSTOMER_ID" isPrimary="true">
24      <RefColumns>
25         <RefLogicalColumn
26           refId="m80cbbf39-07d8-0000-714b-e31d00000000-
27                 m80cbbf04-07d6-0000-714b-e31d00000000"
28           logicalColumnRef="/oracle/bi/server/base/LogicalTable
29              /F2 Coupon Usages_80cbbde8-07f3-0000-714b-e31d00000000.xml#
30              m80cbbf04-07d6-0000-714b-e31d00000000" />
```

```
31          </RefColumns>
32      </LogicalKey>
33      <RefTableSources>
34          <RefLogicalTableSource
35              refId="m80cbbde8-07f3-0000-714b-e31d00000000-
36                      m80cbc055-07f5-0000-714b-e31d00000000"
37              logicalTableSourceRef=
38                  "/oracle/bi/server/base/LogicalTableSource
39                   /COUPON_USAGES_80cbc055-07f5-0000-714b-e31d00000000.xml#
40                   m80cbc055-07f5-0000-714b-e31d00000000" />
41      </RefTableSources>
42 </LogicalTable>
```

Reference from Logical Table to Business Model

The `subjectAreaRef` attribute *(lines 7 to 9)* points to the file and mdsid that describe the related business model:

```
7 subjectAreaRef="/oracle/bi/server/base/BusinessModel
8               /Fusion Order Demo_80cbbdd2-07d0-0000-714b-e31d00000000.xml#
9                           m80cbbdd2-07d0-0000-714b-e31d00000000">
```

Note that the file name includes most of the business model mdsid.

The Business Model file *(full contents not shown here)* contains the `BusinessModel` tag, which includes the Business Model mdsid attribute:

```
<BusinessModel mdsid="m80cbbdd2-07d0-0000-714b-e31d00000000"
               name="Fusion Order Demo" .....
```

Reference from Logical Key to Logical Column (in current Logical Table)

The logical key tag *(lines 22 to 32)* contains the mdsid of the logical key.

```
22 <LogicalKey mdsid="m80cbbf39-07d8-0000-714b-e31d00000000"
23              name="CUSTOMER_ID" ...
```

In general, a logical key can consist of several logical columns. In this case, the logical key, CUSTOMER_ID, consists of one logical column, Order ID.

The logical column of the logical key CUSTOMER_ID is referenced in the `RefColumns` tag *(lines 24 to 31)*, and specifically the `RefLogicalColumn` sub-element.

```
24 <RefColumns>
25  <RefLogicalColumn
26   refId="m80cbbf39-07d8-0000-714b-e31d00000000-
27          m80cbbf04-07d6-0000-714b-e31d00000000"
28   logicalColumnRef="/oracle/bi/server/base/LogicalTable
29                  /F2 Coupon Usages_80cbbde8-07f3-0000-714b-e31d00000000.xml#
30                  m80cbbf04-07d6-0000-714b-e31d00000000" />
31 </RefColumns>
```

`logicalColumnRef` *(lines 28 to 30)* points to the current Logical Table file *(lines 28 to 29)* and the mdsid that describe the logical column within the logical table that makes up the logical key *(line 30)*.

The logical column mdsid *(line 30)* references the mdsid of the `LogicalColumn` tag *(lines 19 to 21)*, that appears just before the `LogicalKey` tag in the current Logical Table file:

```
19  <LogicalColumn mdsid="m80cbbf04-07d6-0000-714b-e31d00000000"
20              name="Order ID" ...
```

The `refId` value of the `RefLogicalColumn` sub-element of the logical table *(lines 26 to 27)*:

```
26  refId="m80cbbf39-07d8-0000-714b-e31d00000000-
27        m80cbbf04-07d6-0000-714b-e31d00000000"
```

consists of the mdsid of the logical key itself *(line 22 of the logical table file, shown in bold at the beginning of this topic)* and the mdsid of the logical column to which it refers *(line 19 of the logical table file, shown in bold in the main body of this topic)*, separated by "-".

Reference from Logical Table to Logical Table Source

In general, a logical table can refer to several logical table sources. In this case, the logical table F2 Coupon Usages refers to the single logical table source COUPON_USAGES.

The `RefTableSources` tag *(lines 33 to 41)* is a child element of the `LogicalTable` tag. The explicit reference to the logical table source appears within the `RefLogicalTableSource` sub-element.

```
33  <RefTableSources>
34    <RefLogicalTableSource
35    refId="m80cbbde8-07f3-0000-714b-e31d00000000-
36          m80cbc055-07f5-0000-714b-e31d00000000"
37    logicalTableSourceRef=
38          "/oracle/bi/server/base/LogicalTableSource
39          /COUPON_USAGES_80cbc055-07f5-0000-714b-e31d00000000.xml#
40                  m80cbc055-07f5-0000-714b-e31d00000000" />
41  </RefTableSources>
```

`logicalTableSourceRef` *(lines 37 to 40)* points to the file and the mdsid that describe the logical table source *(note that the file name includes most of the logical table source mdsid)*.

The Logical Table Source file *(full contents not shown here)* contains the `LogicalTableSource` tag, which includes the mdsid of the logical table source:

```
<LogicalTableSource mdsid="m80cbc055-07f5-0000-714b-e31d00000000"
                    name="COUPON_USAGES" ...
```

The `refId` value of the `RefLogicalTableSource` sub-element of the logical table *(lines 35 to 36)*:

```
35  refId="m80cbbde8-07f3-0000-714b-e31d00000000-
36        m80cbc055-07f5-0000-714b-e31d00000000"
```

consists of the mdsid of the logical table itself *(shown in bold in line 2 of the logical table file listing, at the beginning of Section 1.5, "Example: Analysis of an MDS XML Logical Table Element")* and the mdsid of the logical table source *(shown in bold in the body of this topic)*, separated by "-".

1.6 Topics of Interest in Other Guides

Some topics that may be of interest to XML schema reference users are covered in other guides. Table 1–3 lists these topics, and indicates where to go for more information.

Table 1–3   Topics Covered in Other Guides

Topic	Where to Go for More Information
Designing and building an Oracle BI repository using the Oracle BI Administration Tool	*Oracle Fusion Middleware Metadata Repository Builder's Guide for Oracle Business Intelligence Enterprise Edition*
Using a source control management system for repository development	*Oracle Fusion Middleware Metadata Repository Builder's Guide for Oracle Business Intelligence Enterprise Edition*
Starting and stopping Oracle Business Intelligence processes	*Oracle Fusion Middleware System Administrator's Guide for Oracle Business Intelligence Enterprise Edition*
Using the Oracle BI Server Web services	*Oracle Fusion Middleware Integrator's Guide for Oracle Business Intelligence Enterprise Edition*
Managing configuration settings that affect repository development in Fusion Middleware Control and NQSConfig.INI	*Oracle Fusion Middleware System Administrator's Guide for Oracle Business Intelligence Enterprise Edition*
Managing users, groups, and application roles	*Oracle Fusion Middleware Security Guide for Oracle Business Intelligence Enterprise Edition*
Moving from test to production environments	*Oracle Fusion Middleware Administrator's Guide*
Setting up DSNs for the Oracle BI Server	*Oracle Fusion Middleware Integrator's Guide for Oracle Business Intelligence Enterprise Edition*
Managing logging	*Oracle Fusion Middleware System Administrator's Guide for Oracle Business Intelligence Enterprise Edition*
General information about managing Oracle WebLogic Server	*Oracle Fusion Middleware Administrator's Guide*

1.7 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:

http://www.oracle.com/technetwork/middleware/ias/downloads/fusion-requirements-100147.html

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

http://www.oracle.com/technetwork/middleware/ias/downloads/fusion-certification-100350.html

2

MDS XML Logical Elements

This chapter provides MDS XML reference information for logical elements. Logical elements typically correspond to objects in the Business Model and Mapping layer of the Oracle BI repository, or in other words, the objects that appear in the center pane of the Oracle BI Administration Tool.

This chapter contains the following topics:

- MDS XML Elements: Logical Column
- MDS XML Elements: Business Model
- MDS XML Elements: Logical Complex Join
- MDS XML Elements: Logical Level
- MDS XML Elements: Dimension
- MDS XML Elements: Logical Table
- MDS XML Elements: Logical Foreign Key
- MDS XML Elements: Logical Key
- MDS XML Elements: Logical Table Source
- MDS XML Elements: Logical Source Folder
- MDS XML Elements: Measure Definition
- MDS XML Elements: Aggregation Rule
- MDS XML Elements: Override Aggregation Rule
- MDS XML Elements: Logical Display Folder

2.1 MDS XML Elements: Logical Column

The logical column element corresponds to the logical column object in the Business Model and Mapping layer.

The logical column element is not a top-level element - it appears as a child element of the logical table element.

The logical column tag includes the following attributes:

Table 2–1   Logical Column Tag Attributes

Attribute Name	Description
isDerived	When set to true, indicates that the logical column is based on a user-defined expression (for example, another logical column, a constant value, or a variable).
IsWriteable	When set to true, indicates that write back has been enabled for this column. This feature is typically used with ADF Business Component data sources. This option is called **Writeable** in the Administration Tool.
customSortOrderRef	If the sort order for this logical column is based on a different logical column, this attribute references that logical column.
descriptorIDRef	When multilingual columns are based on a lookup function, it is common to specify the non-translated lookup key column as the descriptor ID column of the translated column. This attribute references the descriptor ID column.

The logical column tag includes the following child elements:

Table 2–2   Logical Column Child Elements

Element Name	Description
Expr	Contains the expression from which the logical column should be derived. This element is only used when the isDerived attribute is set to true.
MeasureDefn	Contains the measure definition for a measure column. See Section 2.11, "MDS XML Elements: Measure Definition" for more information.
AttrDefn	Specifies the internal object to cache the logical column's mapping to the physical layer.

Syntax

```
<LogicalColumn …
    isDerived=""
    isWriteable="
    customSortOrderRef=""
    descriptorIDRef="">
  <Description />
  <Expr>...</Expr>
  <MeasureDefn />
  <AttrDefn />
</LogicalColumn>
```

Example

```
<LogicalColumn mdsid="m8030eac4-07d6-0000-714b-e31d00000000"
  name="Days Closed Category"
  isDerived="true"
  isWriteable="false">
  <Description>
    <![CDATA[ "Days Closed Category by number of days closed.
      Categories are, A: <= 5, B: 6 - 30, and C: 31+" ]]>
  </Description>
  <Expr>
    <ExprText>
      <![CDATA[ CASE WHEN "%1" IS NULL THEN 'A: <=5'
        WHEN "%1" <= 5 THEN 'A: <= 5'
```

```
            WHEN "%1" <= 30 THEN 'B: 6 - 30'
            ELSE 'C: 31+' END ]]>
        </ExprText>
        <ExprTextDesc>
          <![CDATA[ CASE
            WHEN "Contact List"."Service Request"."Days Closed" IS NULL THEN 'A: <=5'
            WHEN "Contact List"."Service Request"."Days Closed" <= 5 THEN 'A: <= 5'
            WHEN "Contact List"."Service Request"."Days Closed" <= 30 THEN 'B: 6 - 30'
            ELSE 'C: 31+' END ]]>
        </ExprTextDesc>
        <ObjectRefList>
          <RefObject refId="m8030eac4-07d6-0000-714b-e31d00000000-m8030eac2-07d6-
             0000-714b-e31d00000000"
            objectTypeId="2006"
            objectRef="/oracle/bi/server/base/LogicalTable/Service Request_8030ea6a-
              07f3-0000-714b-e31d00000000.xml#m8030eac2-07d6-0000-714b-e31d00000000"/>
        </ObjectRefList>
      </Expr>
   </LogicalColumn>
```

2.2 MDS XML Elements: Business Model

The business model element corresponds to the business model object in the Business Model and Mapping layer.

The business model tag includes the following attributes:

Table 2–3   Business Model Tag Attributes

Attribute Name	Description
isClassicStar	If set to true, indicates that the business model follows a star schema. Star schemas have one-to-many relationships between the logical dimension tables and the logical fact table.
isAvailable	If set to true, indicates that the corresponding business model is available for queries.

The business model tag includes the following child elements:

Table 2–4   Business Model Child Elements

Element Name	Description
RefDisplayFolders	References the display folders that belong to this business model. Each display folder is contained in a sub-element called `RefLogicalDisplayFolder`.

Syntax

```
<BusinessModel …
     isClassicStar=""
     isAvailable="">
   <Description />
   <RefDisplayFolders>
     <RefLogicalDisplayFolder logicalDisplayFolderRef="" …/>
     <RefLogicalDisplayFolder logicalDisplayFolderRef="" …/>
   </RefDisplayFolders>
</BusinessModel>
```

Example

```
<BusinessModel mdsid="m1d08ed10-0bf4-1000-806e-0a9716a80000"
   name="Real-Time Activity"
   xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
   xmlns="http://www.oracle.com/obis/repository"
   isClassicStar="false"
   isAvailable="true">
   <RefDisplayFolders>
     <RefLogicalDisplayFolder refId="m1d08ed10-0bf4-1000-806e-0a9716a80000-
        m1d0ae8e0-0bf4-1000-806e-0a9716a80000"
       logicalDisplayFolderRef="/oracle/bi/server/base/LogicalDisplayFolder/F1_
         1d0ae8e0-0bf4-1000-806e-0a9716a80000.xml#m1d0ae8e0-0bf4-1000-806e-
         0a9716a80000" />
     <RefLogicalDisplayFolder refId="m1d08ed10-0bf4-1000-806e-0a9716a80000-
        m4edbf441-0bf9-1000-a1a7-0a970e580000"
       logicalDisplayFolderRef="/oracle/bi/server/base/LogicalDisplayFolder/F2_
         4edbf441-0bf9-1000-a1a7-0a970e580000.xml#m4edbf441-0bf9-1000-a1a7-
         0a970e580000" />
   </RefDisplayFolders>
</BusinessModel>
```

2.3 MDS XML Elements: Logical Complex Join

The logical complex join element corresponds to the logical join object in the Business Model and Mapping Layer.

The logical complex join tag includes the following attributes:

Table 2–5   Logical Complex Join Tag Attributes

Attribute Name	Description
type	The type of join. Valid values are Inner, LeftOuter, RightOuter, FullOuter, and FullOuterStitch.
drivingTableRef	If a driving table has been specified for the key, this attribute references that logical table.
logicalTable1Ref	References the first logical table of the join.
multiplicity1	`multiplicity1` and `multiplicity2` indicate the multiplicity of the tables in the join. Valid values are `([0-9])* TO ([0-9])*`, `ZERO TO ONE`, `ZERO TO MANY`, `ONE TO ONE`, `ONE TO MANY`, and `UNKNOWN`.
isAggregate1	`isAggregate1` and `isAggregate2` indicate whether the corresponding table is an aggregate.
logicalTable2Ref	References the second logical table of the join.
multiplicity2	*(See Description for multiplicity1.)*
isAggregate2	*(See Description for isAggregate1.)*

Syntax

```
<LogicalComplexJoin …
     type=""
     drivingTableRef=""
     logicalTable1Ref=""
     multiplicity1=""
     isAggregate1=""
     logicalTable2Ref=""
     multiplicity2=""
```

```
     isAggregate2="">
   <Description />
</LogicalComplexJoin>
```

Example

```
<LogicalComplexJoin mdsid="m80e70525-07d4-0000-714b-e31d00000000"
   name="Relationship_2004:9974601258446906"
   xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
   xmlns="http://www.oracle.com/obis/repository"
   type="Inner"
   logicalTable1Ref="/oracle/bi/server/base/LogicalTable/Dim Rating Model 80d6
    3a05-07f3-0000-714b-e31d00000000.xml#m80d63a05-07f3-0000-714b-e31d00000000"
   multiplicity1="0..1"
   isAggregate1="false"
   logicalTable2Ref="/oracle/bi/server/base/LogicalTable/Fact Performance Rating_
    80d12881-07f3-0000-714b-e31d00000000.xml#m80d1288107f3-0000-714b-e31d00000000"
   multiplicity2="0..n"
   isAggregate2="false">
</LogicalComplexJoin>
```

2.4 MDS XML Elements: Logical Level

The logical level element corresponds to the logical level object contained in the dimensions in the Business Model and Mapping layer.

The logical level element is not a top-level element - it appears as a component element of the dimension element.

The logical level tag includes the following attributes:

Table 2–6   Logical Level Tag Attributes

Attribute Name	Description
isUniqueSourceKey	If set to true, indicates that this level is associated with the logical column or columns that comprise the logical key of the dimension table (or in other words, that this level is the lowest level of the dimension).
isGTA	If set to true, indicates that this level is the Grand Total level, which is a special level representing the grand total for a dimension. Each dimension can have just one Grand Total level. A grand total level does not contain dimensional attributes and does not have a level key. **Note:** GTA stands for Grand Total Alias.
isFDUC	If set to true, indicates that the logical level rolls up to its parent. This option is called **Supports rollup to higher level of aggregation** in the Administration Tool. **Note:** FDUC stands for FullDrillUpCoverage.
levelConst	The star schema level constant.
memberCount	The number of elements that exist at this logical level.

The logical level tag includes the following child elements:

Table 2–7   Logical Level Child Elements

Element Name	Description
Logical Key	References the parent key for this level (for dimensions with parent-child hierarchies only). The parent key is contained in a sub-element called `RefColumns`. For details, see Section 2.8, "MDS XML Elements: Logical Key."
RefChildLevels	References the child levels that have been defined for this logical level. Each child level is contained in a sub-element called `RefLogicalLevel`.
RefPreferredDrillDown	If a drill path has been defined that is outside the normal drill path defined by the dimension level hierarchy, this element references the level to which users should drill. The preferred drill level is contained in a sub-element called `RefLogicalLevel`.
RefLogicalColumns	References the logical columns associated with this logical level. Each logical column is contained in a sub-element called `RefLogicalColumn`.

Syntax

The syntax here includes the summary child element entry for the logical key element. The full syntax for the logical key element appears in Section 2.8, "MDS XML Elements: Logical Key."

```
<LogicalLevel …
      isUniqueSourceKey=""
      isGTA=""
      isFDUC=""
      levelConst=""
      memberCount="">
   <Description />
   <LogicalKey />
   <RefChildLevels>
      <RefLogicalLevel logicalLevelRef="" …/>
   </RefChildLevels>
   <RefPreferredDrillDown>
      <RefLogicalLevel logicalLevelRef="" …/>
   </RefPreferredDrillDown>
   <RefLogicalColumns>
      <RefLogicalColumn logicalColumnRef="" …/>
   </RefLogicalColumns>
</LogicalLevel>
```

Example

```
<LogicalLevel mdsid="m80334c74-07e9-0000-714b-e31d00000000"
   name="Year"
   isGTA="false"
   isFDUC="true"
   memberCount="1"
   levelConst="'Year'">
   <LogicalKey mdsid="m80334d04-07d8-0000-714b-e31d00000000"
     name="Last Login Year"
     isPrimary="true"
     isForDrillDown="true">
     <RefColumns>
```

```
        <RefLogicalColumn refId="m80334d04-07d8-0000-714b-e31d00000000-m80334ca2-
          07d6-0000-714b-e31d00000000"
          logicalColumnRef="/oracle/bi/server/base/LogicalTable/Dim Last Login
            Date_80334c8e-07f3-0000-714b-e31d00000000.xml#m80334ca2-07d6-0000-714b-
            e31d00000000" />
      </RefColumns>
    </LogicalKey>
    <RefChildLevels>
      <RefLogicalLevel refId="m80334c74-07e9-0000-714b-e31d00000000_m80334c75-
        07e9-0000-714b-e31d00000000"
        logicalLevelRef="/oracle/bi/server/base/LogicalLevel/Quarter_80334c75-
        07e9-0000-714b-e31d00000000.xml#m80334c75-07e9-0000-714b-e31d00000000" />
    </RefChildLevels>
    <RefLogicalColumns>
        <RefLogicalColumn refId="m80334c74-07e9-0000-714b-e31d00000000-m80334ca2-
          07d6-0000-714b-e31d00000000"
          logicalColumnRef="/oracle/bi/server/base/LogicalTable/Dim Last Login Date
            _80334c8e-07f3-0000-714b-e31d00000000.xml#m80334ca2-07d6-0000-714b-
            e31d00000000" />
    </RefLogicalColumns>
</LogicalLevel>
```

2.5 MDS XML Elements: Dimension

The dimension element corresponds to the dimension object in the Business Model and Mapping layer.

The dimension tag includes the following attributes:

Table 2–8   Dimension Tag Attributes

Attribute Name	Description
isTimeDim	If set to true, indicates that this dimension is a time dimension.
isRagged	If set to true, indicates that this dimension hierarchy is unbalanced. An unbalanced hierarchy is one that contains levels that are not at the same depth.
isSkipped	If set to true, indicates that this dimension hierarchy is a skip-level hierarchy. A skip-level hierarchy is one in which there are members that do not have a value for a particular parent level.
isValueBased	If set to true, indicates that this object is a dimension with parent-child hierarchies. A parent-child hierarchy is a hierarchy of members that all have the same type. In a parent-child hierarchy, the inter-member relationships are parent-child relationships between dimension members.
defaultRootLevelRef	References the default root level of this dimension. When there are many root levels in a dimension, the default root level is the one that is used for drilldown.
subjectAreaRef	References the business model of this dimension.

The dimension tag includes the following child elements:

Table 2–9   Dimension Child Elements

Element Name	Description
LogicalLevel	References the logical levels for this dimension.
	For details, see Section 2.4, "MDS XML Elements: Logical Level."

Syntax

The syntax here includes the summary child element entry for the logical level element. The full syntax for the logical level element appears in Section 2.4, "MDS XML Elements: Logical Level."

```
<Dimension …
    isTimeDim=""
    isRagged=""
    isSkipped=""
    isValueBased=""
    defaultRootLevelRef=""
    subjectAreaRef="">
  <Description />
  <LogicalLevel />
</Dimension>
```

Example

```
<Dimension mdsid="m80be897c-07e3-0000-714b-e31d00000000"
  name="Time"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xmlns="http://www.oracle.com/obis/repository"
  isValueBased="false"
  isRagged="false"
  isSkipped="false"
  defaultRootLevelRef="/oracle/bi/server/base/Dimension/80be897c-07e3-
   0000-714b-e31d00000000.xml#m80be8d55-07e9-0000-714b-e31d00000000"
  subjectAreaRef="/oracle/bi/server/base/BusinessModel/80be895f-07e3-
   0000-714b-e31d00000000.xml#m80be895f-07d0-0000-714b-e31d00000000">
  <LogicalLevel mdsid="m80be8d55-07e9-0000-714b-e31d00000000"
   name="Year" isGTA="false" isFDUC="true"
   memberCount="1" levelConst="&apos;Year&apos;">
   <LogicalKey mdsid="m80be9271-07d8-0000-714b-e31d00000000"
     name="Year" isPrimary="true" isForDrillDown="true">
     <RefColumns>
       <RefLogicalColumn refId="m80be9271-07d8-0000-714b-e31d00000000-m80be8ba5-
         07d6-0000-714b-e31d00000000"
        logicalColumnRef="/oracle/bi/server/base/LogicalTable/80be8ba4-07f3-
         0000-714b-e31d00000000.xml#m80be8ba5-07d6-0000-714b-e31d00000000"/>
     </RefColumns>
   </LogicalKey>
   <RefChildLevels>
     <RefLogicalLevel refId="m80be8d55-07e9-0000-714b-e31d00000000_m80be8d56-
         07e9-0000-714b-e31d00000000_1"
        logicalLevelRef="/oracle/bi/server/base/Dimension/80be897c-07e3-
         0000-714b-e31d00000000.xml#m80be8d56-07e9-0000-714b-e31d00000000"/>
   </RefChildLevels>
   <RefLogicalColumns>
     <RefLogicalColumn refId="m80be8d55-07e9-0000-714b-e31d00000000-m80be8ba5-
         07d6-0000-714b-e31d00000000"
        logicalColumnRef="/oracle/bi/server/base/LogicalTable/80be8ba4-
         07f3-0000-714b-e31d00000000.xml#m80be8ba5-07d6-0000-714b-e31d00000000"/>
   </RefLogicalColumns>
```

```
          </LogicalLevel>
          <LogicalLevel mdsid="m80be8d56-07e9-0000-714b-e31d00000000"
            name="Quarter" isGTA="false" isFDUC="true"
            memberCount="1" levelConst="&apos;Quarter&apos;">
            <LogicalKey mdsid="m80be9273-07d8-0000-714b-e31d00000000"
              name="Quarter" isPrimary="true" isForDrillDown="true">
              <RefColumns>
                <RefLogicalColumn refId="m80be9273-07d8-0000-714b-e31d00000000-m80be8ba5-
                    07d6-0000-714b-e31d00000000"
                  logicalColumnRef="/oracle/bi/server/base/LogicalTable/80be8ba4-07f3-
                    0000-714b-e31d00000000.xml#m80be8ba5-07d6-0000-714b-e31d00000000"/>
                <RefLogicalColumn refId="m80be9273-07d8-0000-714b-e31d00000000-m80be8ba6-
                    07d6-0000-714b-e31d00000000"
                  logicalColumnRef="/oracle/bi/server/base/LogicalTable/80be8ba4-07f3-
                    0000-714b-e31d00000000.xml#m80be8ba6-07d6-0000-714b-e31d00000000"/>
              </RefColumns>
            </LogicalKey>
            <RefLogicalColumns>
              <RefLogicalColumn refId="m80be8d56-07e9-0000-714b-e31d00000000-m80be8ba6-
                  07d6-0000-714b-e31d00000000"
                logicalColumnRef="/oracle/bi/server/base/LogicalTable/80be8ba4-07f3-
                  0000-714b-e31d00000000.xml#m80be8ba6-07d6-0000-714b-e31d00000000"/>
            </RefLogicalColumns>
          </LogicalLevel>
      </Dimension>
```

2.6 MDS XML Elements: Logical Table

The logical table element corresponds to the logical table object in the Business Model and Mapping layer.

The logical table tag includes the following attributes:

Table 2–10   Logical Table Tag Attributes

Attribute Name	Description
isLookupTable	If set to true, indicates that this logical table is a lookup table.
	Lookup tables are typically used to store fields that contain translations in several languages. Queries that require multilingual data join the base table and lookup table to obtain the translated values for each row in the base table.
x	The *x* coordinate of the table when it is shown in the business model diagrams.
y	The *y* coordinate of the table when it is shown in the business model diagrams.
subjectAreaRef	References the business model for this logical table.
levelColumnRef	References the column that is used in the level that corresponds to this logical table.

The logical table tag includes the following child elements:

Table 2–11   Logical Table Child Elements

Element Name	Description
LogicalColumn	Specifies the logical column that belongs to this logical table. For details, see Section 2.1, "MDS XML Elements: Logical Column."

Table 2–11   (Cont.) Logical Table Child Elements

Element Name	Description
LogicalKey	References the logical columns in this logical table that make up the logical key.
	Each logical column is referenced in a sub-element called `RefColumns`. For details, see Section 2.8, "MDS XML Elements: Logical Key."
LogicalForeignKey	References the logical key in an external logical table and the logical columns in this logical table that together make up the logical foreign key.
	Each logical column is referenced in a sub-element called `RefColumns`.
	For details, see Section 2.7, "MDS XML Elements: Logical Foreign Key."
RefTableSources	References the logical table sources for this logical table.
	Each logical table source is contained in a sub-element called `RefLogicalTableSource`.

Syntax

The syntax here includes summary child element entries for the logical column, logical key, and logical foreign key elements. The full syntax for each child element appears in the appropriate section listed in the following table:

Table 2–12   References to Child Elements of Logical Table Element

Child Element Entry	Section Containing Child Element Syntax
LogicalColumn	MDS XML Elements: Logical Column
LogicalKey	MDS XML Elements: Logical Key
LogicalForeignKey	MDS XML Elements: Logical Foreign Key

```
<LogicalTable …
    isLookupTable=""
    x=""
    y=""
    subjectAreaRef=""
    levelColumnRef="">
  <Description />
  <LogicalColumn />
  <LogicalKey />
  <LogicalForeignKey />
  <RefTableSources …>
    <RefLogicalTableSource logicalTableSourceRef="" …/>
    <RefLogicalTableSource logicalTableSourceRef="" …/>
  </TableSources>
</LogicalTable>
```

Example

```
<LogicalTable mdsid="me406bc22-0bf1-1000-b290-0ae593200000"
   name="SalesPlan"
   xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
   xmlns="http://www.oracle.com/obis/repository"
   x="170"
   y="97"
   subjectAreaRef="/oracle/bi/server/base/BusinessModel/SnowflakeSales_e406baec-
```

```
 0bf1-1000-b290-0ae593200000.xml#me406baec-0bf1-1000-b290-0ae593200000">
<LogicalColumn mdsid="me406bc23-0bf1-1000-b290-0ae593200000"
  name="Category ID" isWriteable="false">
</LogicalColumn>
<LogicalColumn mdsid="me406bc24-0bf1-1000-b290-0ae593200000"
  name="Country" isWriteable="false">
</LogicalColumn>
<LogicalColumn mdsid="me406bc25-0bf1-1000-b290-0ae593200000"
  name="Year" isWriteable="false">
</LogicalColumn>
<LogicalColumn mdsid="me406bc26-0bf1-1000-b290-0ae593200000"
  name="PlanRevenue" isWriteable="false">
</LogicalColumn>
<LogicalKey mdsid="me4070952-0bf1-1000-b290-0ae593200000"
  name="Category ID, Country, Year"
  isPrimary="true" isForDrillDown="true">
  <RefColumns>
    <RefLogicalColumn refId="me4070952-0bf1-1000-b290-0ae593200000-me406bc23-
      0bf1-1000-b290-0ae593200000"
     logicalColumnRef="/oracle/bi/server/base/LogicalTable/SalesPlan_e406bc22-
      0bf1-1000-b290-0ae593200000.xml#me406bc23-0bf1-1000-b290-0ae593200000"/>
    <RefLogicalColumn refId="me4070952-0bf1-1000-b290-0ae593200000-me406bc24-
      0bf1-1000-b290-0ae593200000"
     logicalColumnRef="/oracle/bi/server/base/LogicalTable/SalesPlan_e406bc22-
      0bf1-1000-b290-0ae593200000.xml#me406bc24-0bf1-1000-b290-0ae593200000"/>
    <RefLogicalColumn refId="me4070952-0bf1-1000-b290-0ae593200000-me406bc25-
      0bf1-1000-b290-0ae593200000"
     logicalColumnRef="/oracle/bi/server/base/LogicalTable/SalesPlan_e406bc22-
      0bf1-1000-b290-0ae593200000.xml#me406bc25-0bf1-1000-b290-0ae593200000"/>
  </RefColumns>
</LogicalKey>
<LogicalForeignKey mdsid="me4070a81-0bf1-1000-b290-0ae593200000"
  name="SalesPlan_FKey" type="Inner"
  counterPartKeyRef="/oracle/bi/server/base/LogicalTable/Year_e406bbff-0bf1-
   1000-b290-0ae593200000.xml#me407094c-0bf1-1000-b290-0ae593200000">
  <RefColumns>
    <RefLogicalColumn refId="me4070a81-0bf1-1000-b290-0ae593200000-me406bc25-
      0bf1-1000-b290-0ae593200000"
     logicalColumnRef="/oracle/bi/server/base/LogicalTable/SalesPlan_e406bc22-
      0bf1-1000-b290-0ae593200000.xml#me406bc25-0bf1-1000-b290-0ae593200000"/>
  </RefColumns>
</LogicalForeignKey>
<LogicalForeignKey mdsid="me4070a82-0bf1-1000-b290-0ae593200000"
  name="SalesPlan_FKey1" type="Inner"
  counterPartKeyRef="/oracle/bi/server/base/LogicalTable/Category_e406bbb2-
   0bf1-1000-b290-0ae593200000.xml#me407093e-0bf1-1000-b290-0ae593200000">
  <RefColumns>
    <RefLogicalColumn refId="me4070a82-0bf1-1000-b290-0ae593200000-me406bc23-
      0bf1-1000-b290-0ae593200000"
     logicalColumnRef="/oracle/bi/server/base/LogicalTable/SalesPlan_e406bc22-
      0bf1-1000-b290-0ae593200000.xml#me406bc23-0bf1-1000-b290-0ae593200000"/>
  </RefColumns>
</LogicalForeignKey>
<LogicalForeignKey mdsid="me4070a83-0bf1-1000-b290-0ae593200000"
  name="SalesPlan_FKey2" type="Inner"
  counterPartKeyRef="/oracle/bi/server/base/LogicalTable/EmployeeCountry_
   e406bbee-0bf1-1000-b290-0ae593200000.xml#me4070949-0bf1-1000-b290-
   0ae593200000">
  <RefColumns>
    <RefLogicalColumn refId="me4070a83-0bf1-1000-b290-0ae593200000-me406bc24-
```

```
                0bf1-1000-b290-0ae593200000"
            logicalColumnRef="/oracle/bi/server/base/LogicalTable/SalesPlan_e406bc22-
                0bf1-1000-b290-0ae593200000.xml#me406bc24-0bf1-1000-b290-0ae593200000"/>
        </RefColumns>
    </LogicalForeignKey>
    <RefTableSources>
        <RefLogicalTableSource refId="me406bc22-0bf1-1000-b290-0ae593200000-me4077d88
            -0bf1-1000-b290-0ae593200000"
          logicalTableSourceRef="/oracle/bi/server/base/LogicalTableSource/SalesPlan_
              e4077d88-0bf1-1000-b290-0ae593200000.xml#me4077d88-0bf1-1000-b290-
              0ae593200000" />
    </RefTableSources>
</LogicalTable>
```

2.7 MDS XML Elements: Logical Foreign Key

The logical foreign key element corresponds to the logical foreign key object in the Business Model and Mapping layer.

The logical foreign key element is not a top-level element - it appears as a component element of the logical table element.

The logical foreign key tag includes the following attributes:

Table 2–13   Logical Foreign Key Tag Attributes

Attribute Name	Description
type	The type of join. Valid values are `Inner`, `LeftOuter`, `RightOuter`, `FullOuter`, and `FullOuterStitch`.
counterPartKeyRef	References the logical key in the primary key table that matches the `RefColumns` of this foreign key.
drivingTableRef	If a driving table has been specified for this logical foreign key, this element references that logical table.

The logical foreign key tag includes the following child elements:

Table 2–14   Logical Foreign Key Child Elements

Element Name	Description
RefColumns	References the logical columns (in the logical table that contains the foreign key) that match `counterPartKeyRef`. Each logical column is contained in a sub-element called `RefLogicalColumn`.

Syntax

```
<LogicalForeignKey …
    type=""
    counterPartKeyRef=""
    drivingTableRef="">
  <Description />
  <RefColumns>
    <RefLogicalColumn logicalColumnRef="" …/>
    <RefLogicalColumn logicalColumnRef="" …/>
  </RefColumns>
</LogicalForeignKey>
```

Example

```
<LogicalForeignKey mdsid="me4070a83-0bf1-1000-b290-0ae593200000"
    name="SalesPlan_FKey2" type="Inner"
    counterPartKeyRef="/oracle/bi/server/base/LogicalTable/EmployeeCountry_
        e406bbee-0bf1-1000-b290-0ae593200000.xml#me4070949-0bf1-1000-b290-
        0ae593200000">
    <RefColumns>
        <RefLogicalColumn refId="me4070a83-0bf1-1000-b290-0ae593200000-me406bc24-
            0bf1-1000-b290-0ae593200000"
            logicalColumnRef="/oracle/bi/server/base/LogicalTable/SalesPlan_e406bc22-
            0bf1-1000-b290-0ae593200000.xml#me406bc24-0bf1-1000-b290-0ae593200000" />
    </RefColumns>
</LogicalForeignKey>
```

2.8 MDS XML Elements: Logical Key

The logical key element corresponds to the logical key object in the Business Model and Mapping layer.

The logical key element is not a top-level element - it appears as a child element of the logical level and logical table elements.

The logical key tag includes the following attributes:

Table 2–15   Logical Key Tag Attributes

Attribute Name	Description
isPrimary	If set to true, indicates that this key is the logical primary key for the table.
isForDrillDown	If set to true, indicates that this key is the key that is displayed when a user clicks to drill down.
isChronKey	If set to true, indicates that this key is a chronological key for a time dimension.
logicalLevelRef	References the logical level for this logical key.

The logical key tag includes the following child elements:

Table 2–16   Logical Key Child Elements

Element Name	Description
RefColumns	References the logical columns that define the key of the logical table.
	Each logical column is contained in a sub-element called `RefLogicalColumn`.

Syntax

```
<LogicalKey …
    isPrimary=""
    isForDrillDown=""
    isChronKey=""
    logicalLevelRef="">
    <Description />
    <RefColumns …>
        <RefLogicalColumn logicalColumnRef="" …/>
        <RefLogicalColumn logicalColumnRef="" …/>
    </RefColumns>
```

```
</LogicalKey>
```

Example

```
<LogicalKey mdsid="m80334d04-07d8-0000-714b-e31d00000000"
    name="Last Login Year"
    isPrimary="true"
    isForDrillDown="true">
    <RefColumns>
      <RefLogicalColumn refId="m80334d04-07d8-0000-714b-e31d00000000-m80334ca2-
          07d6-0000-714b-e31d00000000"
        logicalColumnRef="/oracle/bi/server/base/LogicalTable/Dim Login_880334c8e-
          07f3-0000-714b-e31d00000000.xml#m80334ca2-07d6-0000-714b-e31d00000000" />
    </RefColumns>
</LogicalKey>
```

2.9 MDS XML Elements: Logical Table Source

The logical table source element corresponds to the logical table source object in the Business Model and Mapping layer. See also the column mapping element, described in Section 2.9.1, "Column Mapping."

The logical table source tag includes the following attributes:

Table 2–17   Logical Table Source Attributes

Attribute Name	Description
isDistinct	This attribute is used if the values for the logical table source are unique. In the Administration Tool, this option is called **Select distinct values** in the Content tab of the Logical Table Source dialog.
isDimOnly	This attribute is not used.
isSysGen	If set to true, indicates that an internal utility such as the Aggregate Persistence Wizard has generated this logical table source.
canCombine	If set to true, indicates that this logical table source can be combined with other logical table sources to provide a full set of results. In the Administration Tool, this option is called **This source should be combined with other sources at this level** in the Content tab of the Logical Table Source dialog.
isActive	If set to true, indicates that this logical table source is active. In the Administration Tool, this attribute corresponds with the **Disabled** option in the General tab of the Logical Table Source dialog.
priorityGroup	Indicates the priority group number of this logical table source. Logical table source priority group numbers are assigned to indicate which logical table source should be used for queries for which there is more than one logical table source that can satisfy the requested set of columns.
allowUnmappedTable	Determines if the logical table source can have physical tables which are not mapped to logical columns. This can occur with a snowflake of physical tables A->B->C, where a logical table maps to columns in A and C, but B needs to be included in the logical table source because it is in the join path between A and C.
isJoinRestricted	This attribute is not used.
logicalTableRef	References the logical table for this logical table source.

Table 2–17   (Cont.) Logical Table Source Attributes

Attribute Name	Description
closureTableRef	References the parent-child table, if any.

The logical table source tag includes the following child elements:

Table 2–18   Logical Table Source Child Elements

Element Name	Description
ColumnMapping	For details, see Section 2.9.1, "Column Mapping."
Link	References the set of physical elements (physical tables, cube tables, AW cubes, or AW dimensions) to which the logical table source is mapped. These links are references to the physical joins that already exist. In the Administration Tool, this element corresponds with the **Map to these tables** section in the General tab of the Logical Table Source dialog. Each Link child element contains two sub-elements: ■ The startNodeTableRef attribute references the physical element identified by this link. This can be a Cube Table, Physical Table, AW Dimension, or AW Cube, depending on your data source type. ■ The Joins sub-element defines the joins for this link. It contains different sub-elements, depending on the type of join. For example: RefCubeTable, RefPhysicalTable, RefAWCube, or RefAWDimension RefPhysicalForeignKey or RefComplexJoin DrivingTable, which contains a sub-element RefPhysicalTable The Joins sub-element has two attributes: type (Inner, LeftOuter, RightOuter, FullOuter, or FullOuterStitch) and cardinality (ONE TO ONE, ZERO OR ONE TO ONE, ONE TO ZERO OR ONE, ZERO OR ONE TO ZERO OR ONE, ONE TO MANY, ZERO OR ONE TO MANY, ZERO OR ONE TO MANY, MANY TO ONE, MANY TO ZERO OR ONE, or MANY TO MANY). See the syntax for the logical table source element to see the complete hierarchy for the link child element.
WhereClause	If a WHERE clause filter has been defined, contains the WHERE clause expression that limits the number of rows the source uses in the resultant table. The expression is contained in a sub-element called Expr. In the Administration Tool, this option is called **Use this "WHERE clause" filter to limit rows returned (exclude the "WHERE")** in the Content tab of the Logical Table Source dialog.
GroupBy	Contains the expression that defines whether the aggregation is grouped by logical level or by column. The expression is contained in a sub-element called Expr. In the Administration Tool, this option is called **Aggregation content, group by** in the Content tab of the Logical Table Source dialog.

Table 2–18   (Cont.) Logical Table Source Child Elements

Element Name	Description
FragmentContent	Contains the expression that defines how the source is fragmented. The expression is contained in a sub-element called `Expr`.
	This child element is used in conjunction with the `canCombine` attribute. In the Administration Tool, this option is called **Fragmentation content** in the Content tab of the Logical Table Source dialog.

Syntax

The syntax here includes the summary child element entry for the column mapping element. The full syntax for the column mapping element appears in Section 2.9.1, "Column Mapping."

```
<LogicalTableSource …
      isDistinct=""
      isSysGen=""
      canCombine=""
      isActive=""
      priorityGroup=""
      allowUnmappedTable=""
      logicalTableRef=""
      closureTableRef="">
    <Description />
    <ColumnMapping />
    <Link>
      startNodeTableRef=""
      <Join
          type=""
          cardinality=""
          physicalTable1Ref=""
          physicalTable2Ref=""
          physicalJoinRef="" >
    </Link>
    <WhereClause />
    <GroupBy />
    <FragmentContent />
</LogicalTableSource>
```

> **Note:**   Each of the summary syntax elements `<WhereClause />`, `<GroupBy />`, and `<Fragment Content />` have the following sub-elements:
>
> ```
> <ExprText>...</ExprText>
> <ExprTextDesc>...</ExprTextDesc>
> <ObjectRefList>
>   <RefObject objectRef="" …/>
>   <RefObject objectRef="" …/>
> </ObjectRefList>
> ```

Example

```
<LogicalTableSource mdsid="m80e13d0b-07f5-0000-714b-e31d00000000"
   name="Fact_W_REVN_F_Team_Security_Resource"
   xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
   xmlns="http://www.oracle.com/obis/repository"
   isActive="true"
```

```
logicalTableRef="/oracle/bi/server/base/LogicalTable/Dim _u0150 Security _u0150
 Opportunity_80e13d09-07f3-0000-714b-e31d00000000.xml#m80e13d09-07f3-0000-714b-
 e31d00000000">
<ColumnMapping>
  <LogicalColumnExpr>
    <ExprText>
       <![CDATA[ "%1" ]]>
    </ExprText>
    <ExprTextDesc>
       <![CDATA[ "Core"."Dim - Security - Opportunity"."Row Wid" ]]>
    </ExprTextDesc>
    <ObjectRefList>
      <RefObject refId="m80e13d0b-07f5-0000-714b-e31d00000000-m80e13d0d-07d6-
         0000-714b-e31d00000000"
        objectTypeId="2006"
        objectRef="/oracle/bi/server/base/LogicalTable/Dim _u0150 Security
         _u0150 Opportunity80e13d09-07f3-0000-714b-e31d00000000.xml#m80e13d0d-
         07d6-0000-714b-e31d00000000" />
    </ObjectRefList>
  </LogicalColumnExpr>
  <Expr>
    <ExprText>
       <![CDATA[ "%1" ]]>
    </ExprText>
    <ExprTextDesc>
      <![CDATA[ "Oracle Data Warehouse"."Catalog"."dbo"."Fact_W_REVN_F".
         "ROW_WID" ]]>
    </ExprTextDesc>
    <ObjectRefList>
      <RefObject refId="m80e13d0b-07f5-0000-714b-e31d00000000-m00228792-0bbb-
         0000-714b-e31d00000000"
        objectTypeId="3003"
        objectRef="/oracle/bi/server/base/PhysicalTable/Fact_W_REVN_F_0022613e-
         0bb9-0000-714b-e31d00000000.xml#m00228792-0bbb-0000-714b-e31d00000000"
          />
    </ObjectRefList>
  </Expr>
</ColumnMapping>
<ColumnMapping>
...
...
</ColumnMapping>
<Link startNodeTableRef="/oracle/bi/server/base/PhysicalTable/Fact_W_REVN_F_
   0022613e-0bb9-0000-714b-e31d00000000.xml#m0022613e-0bb9-0000-714b-
   e31d00000000">
  <Join type="LeftOuter" cardinality="MANY TO ONE"
    physicalTable1Ref="/oracle/bi/server/base/PhysicalTable/Fact_W_REVN_F_00226
     13e-0bb9-0000-714b-e31d00000000.xml#m0022613e-0bb9-0000-714b-e31d00000000"
    physicalTable2Ref="/oracle/bi/server/base/PhysicalTable/Dim_Team_Security_
     Opty_Resource_80e13d20-0bb9-0000-714b-e31d00000000.xml#m80e13d20-0bb9-
     0000-714b-e31d00000000"
    physicalJoinRef="/oracle/bi/server/base/PhysicalTable/Fact_W_REVN_F_
     0022613e-0bb9-0000-714b-e31d00000000.xml#m80e13d24-0bbe-0000-714b-
     e31d00000000" />
</Link>
<Link startNodeTableRef="/oracle/bi/server/base/PhysicalTable/Dim_Team_Security
   _Opty_Resource_80e13d20-0bb9-0000-714b-e31d00000000.xml#m80e13d20-0bb9-0000-
   714b-e31d00000000">
  <Join type="RightOuter" cardinality="ONE TO MANY"
    physicalTable1Ref="/oracle/bi/server/base/PhysicalTable/Dim_Team_Security_
```

```
                          Opty_Resource_80e13d20-0bb9-0000-714b-e31d00000000.xml#m80e13d20-0bb9-
                          0000-714b-e31d00000000"
                       physicalTable2Ref="/oracle/bi/server/base/PhysicalTable/Fact_W_REVN_F_00226
                          13e-0bb9-0000-714b-e31d00000000.xml#m0022613e-0bb9-0000-714b-e31d00000000"
                       physicalJoinRef="/oracle/bi/server/base/PhysicalTable/Fact_W_REVN_F_
                          0022613e-0bb9-0000-714b-e31d00000000.xml#m80e13d24-0bbe-0000-714b-
                          e31d00000000" />
                 </Link>
                 <WhereClause>
                    <ExprText />
                    <ExprTextDesc />
                 </WhereClause>
                 <GroupBy>
                    <ExprText>
                       <![CDATA[ GROUPBYLEVEL("%1") ]]>
                    </ExprText>
                    <ExprTextDesc>
                       <![CDATA[ GROUPBYLEVEL("Core"."Security - Opportunity"."Detail") ]]>
                    </ExprTextDesc>
                    <ObjectRefList>
                       <RefObject refId="m80e13d0b-07f5-0000-714b-e31d00000000-m80e13d12-07e9-
                          0000-714b-e31d00000000"
                        objectRef="/oracle/bi/server/base/LogicalLevel/Detail_80e13d12-07e9-
                          0000-714b-e31d00000000.xml#m80e13d12-07e9-0000-714b-e31d00000000" />
                    </ObjectRefList>
                 </GroupBy>
                 <FragmentContent>
                    <ExprText />
                    <ExprTextDesc />
                 </FragmentContent>
              </LogicalTableSource>
```

2.9.1 Column Mapping

The column mapping element does not correspond to any metadata repository object.
It is only used in conjunction with the logical table source element. The column
mapping element appears on its own in the MDS XML schema (.xsd file), rather than
as part of the logical table source element, so that the column mapping details are
easier to read.

The column mapping tag includes the following child elements:

Table 2–19   Column Mapping Child Elements

Element Name	Description
LogicalColumnExpr	Contains the expression that identifies the logical column for this column mapping.
Expr	Contains the expression that identifies the physical column for this column mapping.

The column mapping tag does not include any attributes.

Syntax

```
<ColumnMapping>
   <LogicalColumnExpr />
   <Expr />
</ColumnMapping>
```

> **Note:** Both of the summary syntax elements `<Expr />` and
> `<LogicalColumnExpr />` have the following sub-elements:
>
> ```
> <ExprText>...</ExprText
> <ExprTextDesc>...</ExprTextDesc>
> <ObjectRefList>
>   <RefObject objectRef="" …/>
>   <RefObject objectRef="" …/>
> </ObjectRefList>
> ```

Example

```
<ColumnMapping>
   <LogicalColumnExpr>
     <ExprText>
      <![CDATA[ "%1" ]]>
     </ExprText>
     <ExprTextDesc>
      <![CDATA[ "Core"."Fact - CRM - Employee"."# Employees" ]]>
     </ExprTextDesc>
     <ObjectRefList>
       <RefObject refId="m0022522d-07f5-0000-714b-e31d00000000-m00221e5b-07d6-
         0000-714b-e31d00000000"
        objectTypeId="2006"
        objectRef="/oracle/bi/server/base/LogicalTable/Fact Employee_00224fc8-
         07f3-0000-714b-e31d00000000.xml#m00221e5b-07d6-0000-714b-e31d00000000"
          />
     </ObjectRefList>
   </LogicalColumnExpr>
   <Expr>
     <ExprText>
      <![CDATA[ "%1" ]]>
     </ExprText>
     <ExprTextDesc>
      <![CDATA[ "Oracle Data Warehouse"."Catalog"."dbo"."Dim_W_EMPLOYEE_D".
        "ROW_WID" ]]>
     </ExprTextDesc>
     <ObjectRefList>
       <RefObject refId="m0022522d-07f5-0000-714b-e31d00000000-m00228946-0bbb-
         0000-714b-e31d00000000"
        objectTypeId="3003"
        objectRef="/oracle/bi/server/base/PhysicalTable/Dim_W_EMPLOYEE_D_
         00226151-0bb9-0000-714b-e31d00000000.xml#m00228946-0bbb-0000-714b-
         e31d00000000" />
     </ObjectRefList>
   </Expr>
</ColumnMapping>
```

2.10 MDS XML Elements: Logical Source Folder

The logical source folder element corresponds to the logical source folder object in the
Business Model and Mapping layer. Logical source folders contain logical table
sources.

The logical source folder tag includes the following attributes:

Table 2–20   Logical Source Folder Tag Attributes

Attribute Name	Description
logicalTableRef	References the logical table for this logical source folder.

Syntax

```
<LogicalSourceFolder …
    logicalTableRef="">
    <Description />
</LogicalSourceFolder>
```

Example

```
<LogicalSourceFolder mdsid="m00090a43-07fe-0000-714b-e31d00000000"
    name="Sources"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xmlns="http://www.oracle.com/obis/repository"
    logicalTableRef="/oracle/bi/server/base/LogicalTable/Fact Purchasing
     Requisition_00090a2f-07f3-0000-714b-e31d00000000.xml#m00090a2f-07f3-0000-
     714b-e31d00000000">
</LogicalSourceFolder>
```

2.11 MDS XML Elements: Measure Definition

The measure definition element stores the measure definition for a measure column. A measure column is usually in a fact table, can change for each record, and can be added up or aggregated in some way.

The measure definition element is not a top-level element - it appears as a child element of the logical column element.

The measure definition tag includes the following attributes:

Table 2–21   Measure Definition Tag Attributes

Attribute Name	Description
isCommutative	If set to true, indicates that the aggregation rule lets the server switch the order if it can increase the performance. For example, the following aggregation function is commutative: `A (B (x)) = B (A (x))`

The measure definition tag includes the following child elements:

Table 2–22   Measure Definition Child Elements

Element Name	Description
AggrRule	References the aggregation rule for this measure. For details, see Section 2.12, "MDS XML Elements: Aggregation Rule."
OverrideAggrRule	References the override aggregation rule for this measure, if any. For details, see Section 2.13, "MDS XML Elements: Override Aggregation Rule."

Syntax

```
<MeasureDefn …
    isCommutative="">
    <AggrRule />
    <OverrideAggrRule />
```

```
      <Description />
</MeasureDefn>
```

Example

```
<MeasureDefn mdsid="m80cb68e2-0800-0000-714b-e31d00000000"
     name="Measure"
     isCommutative="false">
  <AggrRule mdsid="m80cb6c4e-0802-0000-714b-e31d00000000" name="AggRule_
  2050:434541273647807" isDefault="true">
     <Expr mdsid="m00000001-01f4-0000-2a4a-02de00000000" name="Expr">
        <ExprText>
           <![CDATA[ SUM("%1")]]>
        </ExprText>
        <ExprTextDesc>
           <![CDATA[ SUM("SampleApp Lite"."F1 Targets Base Measures"."Target
           Revenue")]]>
        </ExprTextDesc>
        <ObjectRefList>
           <RefObject refId="m00000001-01f4-0000-2a4a-02de00000000-m80cb68a4-07d6
           -0000-714b-e31d00000000" objectTypeId="2006" objectRef="/oracle/
           bi/server/base/LogicalTable/80cb68a3-07f3-0000-714b-e31d00000000.xml#
           m80cb68a4-07d6-0000-714b-e31d00000000" />
        </ObjectRefList>
     </Expr>
  </AggrRule>
</MeasureDefn>
```

2.12 MDS XML Elements: Aggregation Rule

The aggregation rule element corresponds to the aggregation rule object in the Business Model and Mapping layer.

The aggregation rule element is not a top-level element - it appears as a child element of the measure definition element.

The aggregation rule tag includes the following attributes:

Table 2–23   Aggregation Rule Tag Attributes

Attribute Name	Description
isDefault	If set to true, indicates that this is the default rule for aggregate calculations. This option only applies when there is more than one aggregation rule.
basedOnDimensionRef	If this aggregation rule is specific to a particular dimension, references the dimension for which this aggregation rule applies.

The aggregation rule tag includes the following child elements:

Table 2–24   Aggregation Rule Child Elements

Element Name	Description
Expr	Contains the expression on which this aggregation rule is based.

Syntax

```
<AggrRule …
     isDefault=""
```

```
          basedOnDimensionRef="">
      <Description />
      <Expr>
        <ExprText>...</ExprText>
        <ExprTextDesc>...</ExprTextDesc>
        <ObjectRefList>
          <RefObject objectRef="" …/>
          <RefObject objectRef="" …/>
        </ObjectRefList
      </Expr>
  </AggrRule>
```

Example

```
<AggrRule mdsid="m80cb6c4e-0802-0000-714b-e31d00000000"
      name="AggRule_2050:434541273647807"
      isDefault="true">
  <Expr mdsid="m00000001-01f4-0000-2a4a-02de00000000" name="Expr">
    <ExprText>
      <![CDATA[ SUM("%1")]]>
    </ExprText>
    <ExprTextDesc>
      <![CDATA[ SUM("SampleApp Lite"."F1 Targets Base Measures"."Target
      Revenue")]]>
    </ExprTextDesc>
    <ObjectRefList>
      <RefObject refId="m00000001-01f4-0000-2a4a-02de00000000-m80cb68a4-07d6-
      0000-714b-e31d00000000" objectTypeId="2006" objectRef="/oracle/bi/server/
      base/LogicalTable/80cb68a3-07f3-0000-714b-e31d00000000.xml#m80cb68a4-07d6-0
      000-714b-e31d00000000" />
    </ObjectRefList>
  </Expr>
</AggrRule>
```

2.13 MDS XML Elements: Override Aggregation Rule

The override aggregation rule element corresponds to the override aggregation expression for a logical table source in the Business Model and Mapping Layer.

When you select Count Distinct as the default aggregation rule, you can specify an override aggregation expression for specific logical table sources. This option is useful when you have more than one logical table source mapped to a logical column and you want to apply a different aggregation rule to each source.

The override aggregation rule element is not a top-level element - it appears as a child element of the measure definition element.

The override aggregation rule tag includes the following attributes:

Table 2–25   Override Aggregation Rule Tag Attributes

Attribute Name	Description
logicalTableSourceRef	References the logical table source for this override aggregation rule.

The override aggregation rule tag includes the following child elements:

Table 2–26   Override Aggregation Rule Child Elements

Element Name	Description
Expr	Contains the expression on which this aggregation rule is based.

Syntax

```
<OverrideAggrRule …
     logicalTableSourceRef="">
   <Description />
   <Expr>
     <ExprText>...</ExprText>
     <ExprTextDesc>...</ExprTextDesc>
     <ObjectRefList>
       <RefObject objectRef="" …/>
       <RefObject objectRef="" …/>
     </ObjectRefList
   </Expr>
</OverrideAggrRule>
```

Example

```
<OverrideAggrRule mdsid="m80c95c48-0806-0000-714b-e31d00000000"
   name="OvAggRule_2054:385771246426812"
   xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
   xmlns="http://www.oracle.com/obis/repository"
   logicalTableSourceRef="/oracle/bi/server/base/LogicalTableSource/Fact_Agg_W_
    RESP_CMPOFR_A_8033657e-07f5-0000-714b-e31d00000000.xml#m8033657e-07f5-0000-
    714b-e31d00000000">
   <Expr>
     <ExprText>
       <![CDATA[ SUM("%1") ]]>
     </ExprText>
     <ExprTextDesc>
       <![CDATA[ SUM("Core"."Fact - CRM - Response"."# Responses") ]]>
     </ExprTextDesc>
     <ObjectRefList>
       <RefObject refId="m80c95c48-0806-0000-714b-e31d00000000-m00222110-07d6-
          0000-714b-e31d00000000"
         objectTypeId="2006"
         objectRef="/oracle/bi/server/base/LogicalTable/Fact Response_00224ffb-
          07f3-0000-714b-e31d00000000.xml#m00222110-07d6-0000-714b-e31d00000000"
          />
     </ObjectRefList>
   </Expr>
</OverrideAggrRule>
```

2.14 MDS XML Elements: Logical Display Folder

The logical display folder element corresponds to the logical display folder object in the Business Model and Mapping layer.

The logical display folder tag includes the following attributes:

Table 2–27   Logical Display Folder Tag Attributes

Attribute Name	Description
subjectAreaRef	References the business model for this logical display folder.

The logical display folder tag includes the following child elements:

Table 2–28   Logical Display Folder Child Elements

Element Name	Description
Dimensions	References the dimensions that belong to this logical display folder. Each dimension is contained in a sub-element called `RefDimension`.
Tables	References the logical tables that belong to this logical display folder. Each table is contained in a sub-element called `RefLogicalTable`.

Syntax

```
<LogicalDisplayFolder …
   subjectAreaRef="">
   <Description />
   <RefDimensions>
     <RefDimension dimensionRef="" …/>
     <RefDimension dimensionRef="" …/>
   </RefDimensions>
   <RefTables>
     <RefLogicalTable logicalTableRef="" …/>
     <RefLogicalTable logicalTableRef="" …/>
   </RefTables>
</LogicalDisplayFolder>
```

Example

```
<LogicalDisplayFolder mdsid="me4070ae0-0bf1-1000-b290-0ae593200000"
   name="Fact Tables"
   iconIndex="69"
   xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
   xmlns="http://www.oracle.com/obis/repository"
   subjectAreaRef="/oracle/bi/server/base/BusinessModel/Time Series_e406baf8-
    0bf1-1000-b290-0ae593200000.xml#me406baf8-0bf1-1000-b290-0ae593200000">
   <RefTables>
     <RefLogicalTable refId="me4070ae0-0bf1-1000-b290-0ae593200000-me406e378-0bf1-
        1000-b290-0ae593200000"
       logicalTableRef="/oracle/bi/server/base/LogicalTable/SalesFacts_e406e378-
        0bf1-1000-b290-0ae593200000.xml#me406e378-0bf1-1000-b290-0ae593200000" />
     <RefLogicalTable refId="me4070ae0-0bf1-1000-b290-0ae593200000-me406e456-0bf1-
        1000-b290-0ae593200000"
       logicalTableRef="/oracle/bi/server/base/LogicalTable/SalesPlan_e406e456-
        0bf1-1000-b290-0ae593200000.xml#me406e456-0bf1-1000-b290-0ae593200000" />
   </RefTables>
</LogicalDisplayFolder>
```

3

MDS XML Physical Elements

This chapter provides MDS XML reference information for physical elements. Physical elements typically correspond to objects in the Physical layer of the Oracle BI repository, or in other words, the objects that appear in the right-hand pane of the Oracle BI Administration Tool.

This chapter contains the following topics:

- MDS XML Elements: Database
- MDS XML Elements: Physical Catalog
- MDS XML Elements: Physical Schema
- MDS XML Elements: Physical Display Folder
- MDS XML Elements: Physical Table
- MDS XML Elements: Physical Column
- MDS XML Elements: Connection Pool
- MDS XML Elements: Physical Key
- MDS XML Elements: Physical Foreign Key
- MDS XML Elements: Complex Join
- MDS XML Elements: Cube Table
- MDS XML Elements: Physical Dimension
- MDS XML Elements: Physical Hierarchy
- MDS XML Elements: Physical Level
- MDS XML Elements: Cube Column
- MDS XML Elements: Analytic Workspace
- MDS XML Elements: AW Cube
- MDS XML Elements: AW Dimension
- MDS XML Elements: AW Hierarchy
- MDS XML Elements: AW Level
- MDS XML Elements: AW Column

3.1 MDS XML Elements: Database

The database element corresponds to the database object in the Physical layer.

The database tag includes the following attributes:

Table 3–1   Database Tag Attributes

Attribute Name	Description
type	The type of data source, such as XMLDirect or ODBC20.
dbFlag	Stores the value of the following options: ■ **CRM metadata tables:** For legacy Siebel Systems sources only. When selected, the Administration Tool import utility looks for the table definition in Oracle's Siebel CRM-specific tables. ■ **Virtual Private Database:** Identifies the physical database source as a virtual private database (VPD). When a VPD is used, returned data results are contingent on the user's authorization credentials. This option is used with the Security Sensitive option for session variables. ■ **Allow populate queries by default:** When selected, allows all users to execute POPULATE SQL. If you want most, but not all, users to be able to execute POPULATE SQL, select this option and then limit queries for specific users or groups. ■ **Allow direct database requests by default:** When selected, allows all users to execute physical queries. The Oracle BI Server will send unprocessed, user-entered, physical SQL directly to an underlying database. If you want most, but not all, users to be able to execute physical queries, select this option and then limit queries for specific users or groups.
containerRef	References the container for this database.
persistConnPoolRef	References the connection pool that is used as the persist connection pool, if one has been assigned. A persist connection pool is a database property that is used for specific types of queries (typically used to support Marketing queries).

The database tag includes the following child elements:

Table 3–2   Database Child Elements

Element Name	Description
Features	Lists the SQL features for this database. Each feature is contained in a sub-element called Feature. This sub-element has two attributes: ■ name indicates the name of the feature, such as LEFT_OUTER_JOIN_SUPPORTED. ■ value indicates whether this feature is supported by the database, or provides the actual value of the feature (such as "0" for MAX_COLUMNS_IN_SELECT).
DisplayFolders	References any physical display folders that contain objects in this database. Physical display folders can be used to organize tables in a database. For example, all alias tables can be stored in a display folder called Alias, in addition to being present in the database. Each display folder is contained in a sub-element called RefPhysicalDisplayFolder.
RefConnectionPools	References the connection pools for this database object. Each connection pool is contained in a sub-element called RefConnectionPool.

Table 3–2 (Cont.) Database Child Elements

Element Name	Description
Properties	Custom database properties for Oracle ADF Business Component data sources that are passed to the Administration Tool from Oracle ADF BI view objects.

Syntax

```
<Database …
    type=""
    dbFlag=""
    containerRef=""
    persistConnectionPoolRef="">
  <Description />
  <Features>
    <Feature name="" value=""/>
    <Feature name="" value=""/>
    ...
  </Features>
  <RefConnectionPools>
    <RefConnectionPool connectionPoolRef="" …/>
    <RefConnectionPool connectionPoolRef="" …/>
  </RefConnectionPools>
  <RefDisplayFolders>
    <RefPhysicalDisplayFolder physicalDisplayFolderRef="" …/>
    <RefPhysicalDisplayFolder physicalDisplayFolderRef="" …/>
  </RefDisplayFolders>
  <Properties>
    <PropertyGroup category="">
      <Property>
          <Name …/>
          <Value …/>
      </Property>
    </PropertyGroup>
  </Properties>
</Database>
```

Example

```
<Database mdsid="m80c882ea-0bcf-0000-714b-e31d00000000"
  name="Loyalty Input Data Source"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xmlns="http://www.oracle.com/obis/repository"
  type="ODBC200">
  <Feature name="LEFT_OUTER_JOIN_SUPPORTED" value="true" />
  <Feature name="RIGHT_OUTER_JOIN_SUPPORTED" value="false" />
  <Feature name="FULL_OUTER_JOIN_SUPPORTED" value="false" />
  <Feature name="NESTED_OUTER_JOIN_SUPPORTED" value="false" />
  <Feature name="UNION_SUPPORTED" value="false" />
  <Feature name="UNION_ALL_SUPPORTED" value="false" />
  <Feature name="COUNT_SUPPORTED" value="true" />
  <Feature name="COUNT_DISTINCT_SUPPORTED" value="true" />
...
  <Feature name="SORT_ORDER_LOCALE" value="english-usa" />
  <Feature name="COMMENT_START" />
  <Feature name="COMMENT_END" />
  <RefConnectionPools>
    <RefConnectionPool refId="m80c882ea-0bcf-0000-714b-e31d00000000-m80c882ec-
        0bd5-0000-714b-e31d00000000"
      connectionPoolRef="/oracle/bi/server/base/ConnectionPool/Loyalty Input
```

```
            Connection Pool_80c882ec-0bd5-0000-714b-e31d00000000.xml#m80c882ec-0bd5-
            0000-714b-e31d00000000" />
      </RefConnectionPools>
</Database>
```

3.2 MDS XML Elements: Physical Catalog

The physical catalog element corresponds to the physical catalog object in the Physical layer.

The physical catalog tag includes the following attributes:

Table 3–3   Physical Catalog Tag Attributes

Attribute Name	Description
containerRef	References the database for this physical catalog.
dynamicNameRef	If a session variable is being used to specify the name of this physical catalog, this element references that session variable.

Syntax

```
<PhysicalCatalog …
    containerRef=""
    dynamicNameRef="">
    <Description />
</PhysicalCatalog>
```

Example

```
<PhysicalCatalog mdsid="m00238422-0bd1-0000-714b-e31d00000000"
    name="Catalog"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xmlns="http://www.oracle.com/obis/repository"
    containerRef="/oracle/bi/server/base/Database/Forecasting Oracle Data Warehouse
     _00238415-0bcf-0000-714b-e31d00000000.xml#m00238415-0bcf-0000-714b-
      e31d00000000">
</PhysicalCatalog>
```

3.3 MDS XML Elements: Physical Schema

The physical schema element corresponds to the physical schema object in the Physical layer.

The physical schema tag includes the following attributes:

Table 3–4   Physical Catalog Tag Attributes

Attribute Name	Description
containerRef	References the database for this physical schema.
dynamicNameRef	If a session variable is being used to specify the name of this physical schema, this element references that session variable.

Syntax

```
<Schema …>
    containerRef=""
    dynamicNameRef="">
    <Description />
</Schema>
```

Example

```
<Schema mdsid="m80d02084-0bd3-0000-714b-e31d00000000"
    name="RTDUSER"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xmlns="http://www.oracle.com/obis/repository"
    containerRef="/oracle/bi/server/base/Database/RTD Reporting Database_80d02083-
      0bcf-0000-714b-e31d00000000.xml#m80d02083-0bcf-0000-714b-e31d00000000">
</Schema>
```

3.4 MDS XML Elements: Physical Display Folder

The physical display folder element corresponds to the physical display folder object in the Physical layer.

The physical display folder tag includes the following attributes:

Table 3–5 Physical Display Folder Tag Attributes

Attribute Name	Description
databaseRef	References the database for this physical display folder.

The physical display folder tag includes the following child elements:

Table 3–6 Physical Display Folder Child Elements

Element Name	Description
RefTables	References the physical tables that belong to this physical display folder.
	Each physical table is contained in a sub-element called `RefPhysicalTable`.

Syntax

```
<PhysicalDispFolder … >
    databaseRef=""
    <Description />
    <RefTables>
      <RefPhysicalTable tableRef="" …/>
      <RefPhysicalTable tableRef="" …/>
    </RefTables>
</Schema>
```

Example

```
<PhysicalDisplayFolder mdsid="me40757e1-0bf1-1000-b290-0ae593200000"
    name="Opaque Views"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xmlns="http://www.oracle.com/obis/repository"
    databaseRef="/oracle/bi/server/base/Database/SQLDB_Northwind_e4070ae5-0bf1-
      1000-b290-0ae593200000.xml#me4070ae5-0bf1-1000-b290-0ae593200000">
    <RefTables>
      <RefPhysicalTable refId="me40757e1-0bf1-1000-b290-0ae593200000-me4072f9e-
          0bf1-1000-b290-0ae593200000"
        tableRef="/oracle/bi/server/base/PhysicalTable/Employees_Country_e4072f9e-
          0bf1-1000-b290-0ae593200000.xml#me4072f9e-0bf1-1000-b290-0ae593200000" />
      <RefPhysicalTable refId="me40757e1-0bf1-1000-b290-0ae593200000-me4072fc7-
          0bf1-1000-b290-0ae593200000"
        tableRef="/oracle/bi/server/base/PhysicalTable/Population_e4072fc7-0bf1-
          1000-b290-0ae593200000.xml#me4072fc7-0bf1-1000-b290-0ae593200000" />
```

```
        <RefPhysicalTable refId="me40757e1-0bf1-1000-b290-0ae593200000-me4072fcc-
          0bf1-1000-b290-0ae593200000"
          tableRef="/oracle/bi/server/base/PhysicalTable/Quarter_e4072fcc-0bf1-1000-
          b290-0ae593200000.xml#me4072fcc-0bf1-1000-b290-0ae593200000" />
        <RefPhysicalTable refId="me40757e1-0bf1-1000-b290-0ae593200000-me4072fa0-
          0bf1-1000-b290-0ae593200000"
          tableRef="/oracle/bi/server/base/PhysicalTable/Year_e4072fa0-0bf1-1000-
          b290-0ae593200000.xml#me4072fa0-0bf1-1000-b290-0ae593200000" />
      </RefTables>
  </PhysicalDisplayFolder>
```

3.5 MDS XML Elements: Physical Table

The physical table element corresponds to the physical table object in the Physical layer.

The physical table tag includes the following attributes:

Table 3–7   Physical Table Tag Attributes

Attribute Name	Description
type	The type of physical table. Options are as follows: ■ select indicates that this physical table object is a SELECT statement. ■ sp indicates that this physical table is a stored procedure. ■ alias indicates that this physical table is an alias table. An alias table (alias) is a physical table that references a different physical table as its source. ■ none indicates that this physical table is a regular physical table.
isCacheable	If set to true, indicates that this table is included in the Oracle BI Server query cache.
CacheExpiry	How long table entries should persist in the query cache. A value of 0 indicates that cache entries do not expire.
isCacheEventTable	If set to true, indicates that this table has been registered as an Oracle BI Server event polling table.
isOverrideCacheProp	For alias tables only. If set to true, indicates that the alias table has its own cache properties that override the cache properties of the source table.
pollFreq	The polling frequency, in seconds. Only applies if this table is an Oracle BI Server event polling table. The default value is 3600 seconds.
x	The x coordinate of the table when it is shown in the physical diagram.
y	The y coordinate of the table when it is shown in the physical diagram.
rowCount	The latest number of rows retrieved for this physical table.
lastUpdated	The time at which row counts were last updated for this physical table.
uri	For XML data sources only. The resource identifier for the XML data source.

Table 3–7   (Cont.) Physical Table Tag Attributes

Attribute Name	Description
xslPath	For XML data sources only. An XSLT file contains formatting rules written according to the XSLT standard. It defines how an XML file may be transformed.
maxConn	For XML data sources only. The maximum number of connections allowed to the same URL from different users.
xmlRefreshInterval	For XML data sources only. The time interval after which the XML data source is queried again directly, rather than using results in cache.
scriptPath	For XML data sources only. The extended gateway script path.
hints	For Oracle Databases only. Lists any database hints, such as index hints or leading hints, that were specified for this physical table.
isExtGatewayInProcess	For XML data sources only. Indicates that this physical table is the extended gateway part of the process.
extGatewayDelimiter	For XML data sources only. The row delimiter used in the metadata import process, typically the second level element in the XML document.
isSysGen	If set to true, indicates that an internal utility has generated this physical table.
isDDLAggr	Indicates whether this physical table is an aggregate table.
isDeployedView	For relational databases only. If set to true, indicates that this physical table is a deployed (opaque) view. An opaque view is a Physical layer table that consists of a SELECT statement.
containerRef	References the database, schema, or physical catalog for this physical table.
aggrConnPoolRef	If this physical table is an aggregate table, this element references the connection pool used for the aggregate.
sourceTableRef	For alias tables only. References the physical table that is being used as the source for this alias table.
variableRef	If a session variable is being used to specify the name of this physical table, this element references that session variable.
memberKeyRef	Applies to parent-child relationship tables that support parent-child hierarchies on relational sources. The name of the column that uniquely identifies members of the parent-child relationship table.
parentKeyRef	The name of the column that contains the key of the parent or ancestor member. Applies to parent-child relationship tables that support parent-child hierarchies on relational sources.
distanceColumnRef	The name of the column that records the number of levels between the member and the ancestor. Applies to parent-child relationship tables that support parent-child hierarchies on relational sources.
leafColumnRef	The name of the column that indicates whether the member has no child members (1 if the member is a leaf and has no children, 0 if the member is not a leaf and has children). Applies to parent-child relationship tables that support parent-child hierarchies on relational sources.

The physical table tag includes the following child elements:

Table 3–8   Physical Table Child Elements

Element Name	Description
DBMapItem	Stores the value of database-specific strings. The `<DBMapItem>` element contains a `<name>` attribute and a `<Value>` sub-element.
PhysicalColumn	Specifies the physical column that belongs to this physical table. For details, see Section 3.6, "MDS XML Elements: Physical Column."
PhysicalKey	References the physical columns in this physical table that make up the physical key. Each physical column is referenced in a sub-element called `RefColumns`. For details, see Section 3.8, "MDS XML Elements: Physical Key."
PhysicalForeignKey	References the physical key in an external physical table and the physical columns in this physical table that together make up the physical foreign key. Each physical column is referenced in a sub-element called `RefColumns`. For details, see Section 3.9, "MDS XML Elements: Physical Foreign Key.".
XSLT	For Oracle web service data sources. XSLT stores the XSLT transformation to flatten the web service response into a tabular result set.
XSDSchema	For Oracle web service data sources. XSDSchema stores the XML schema describing the structure of the web service response.
Properties	Contains one or more `Property` sub-elements, each of which has attributes `<name>` and `<value>`. These attributes specify a name-value pair of properties for data source metadata.

Syntax

The syntax here includes summary child element entries for the physical column, physical key, and physical foreign key elements. The full syntax for each child element appears in the appropriate section listed in the following table:

Table 3–9   References to Child Elements of Physical Table Element

Child Element Entry	Section Containing Child Element Syntax
`PhysicalColumn`	MDS XML Elements: Physical Column
`PhysicalKey`	MDS XML Elements: Physical Key
`PhysicalForeignKey`	MDS XML Elements: Physical Foreign Key

```
<PhysicalTable …
    type=""
    isCacheable=""
    cacheExpiry=""
    isCacheEventTable=""
    isOverrideCacheProp=""
    pollFreq=""
    x=""
    y=""
    rowCount=""
    lastUpdated=""
    uri=""
```

```
              xslPath=""
              maxConn=""
              xmlRefreshInterval=""
              scriptPath=""
              hints=""
              isExtGatewayInProcess=""
              extGatewayDelimiter=""
              isSysGen=""
              isDDLAggr=""
              containerRef=""
              aggrConnPoolRef=""
              sourceTableRef=""
              variableRef=""
              memberKeyRef=""
              parentKeyRef=""
              distanceColumnRef=""
              leafColumnRef="">
        <Description />
        <DBMapItem name="">
            <Value …/>
        </DBMapItem>
        <PhysicalColumn />
        <PhysicalKey />
        <PhysicalForeignKey />
        <XSLT />
        <XSDSchema />
        <Properties>
          <Property name="" value=""/>
          <Property name="" value=""/>
        </Properties>
</PhysicalTable>
```

Example

```
<PhysicalTable mdsid="m00226232-0bb9-0000-714b-e31d00000000"
    name="CONTACTS_PRODUCTS_NOT_ORDERED"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xmlns="http://www.oracle.com/obis/repository"
    type="select"
    x="625"
    y="376"
    maxConn="0"
    containerRef="/oracle/bi/server/base/Schema/dbo_00238426-0bd3-0000-714b-
    e31d00000000.xml#m00238426-0bd3-0000-714b-e31d00000000">
    <DBMapItem name="SQLServer70">
      <Value>
        <![CDATA[
          select distinct T10.ROW_WID AS CONTACT_WID, T11.ROW_WID AS PRODUCT_WID
          from VALUEOF(OLAPTBO).W_PERSON_D T10, VALUEOF(OLAPTBO).W_PRODUCT_D T11
          where Not EXISTS (
          select * from VALUEOF(OLAPTBO).W_ORDERITEM_F T1 where T1.CONTACT_WID =
          T10.ROW_WID and T1.PROD_WID = T11.ROW_WID)
          ]]>
      </Value>
    </DBMapItem>
    <DBMapItem name="DefaultMulDB">
      <Value>
        <![CDATA[
          select distinct T10.ROW_WID AS CONTACT_WID, T11.ROW_WID AS PRODUCT_WID
          from VALUEOF(OLAPTBO).W_PERSON_D T10, VALUEOF(OLAPTBO).W_PRODUCT_D T11
          where Not EXISTS (
```

```
                        select * from VALUEOF(OLAPTBO).W_ORDERITEM_F T1 where T1.CONTACT_WID =
                        T10.ROW_WID and T1.PROD_WID = T11.ROW_WID)
                        ]]>
                </Value>
            </DBMapItem>
            <PhysicalColumn mdsid="m0022ba68-0bbb-0000-714b-e31d00000000"
                name="CONTACT_WID"
                dataType="INT" specialType="none">
            </PhysicalColumn>
            <PhysicalColumn mdsid="m0022ba69-0bbb-0000-714b-e31d00000000"
                name="PRODUCT_WID"
                dataType="INT" specialType="none">
            </PhysicalColumn>
            <PhysicalKey mdsid="m00238038-0bc0-0000-714b-e31d00000000"
                name="CONTACT_PRODUCT_KEY">
                <RefColumns>
                    <RefColumn refId="m00238038-0bc0-0000-714b-e31d00000000-m0022ba68-0bbb-
                        0000-714b-e31d00000000"
                        columnRef="/oracle/bi/server/base/PhysicalTable/CONTACTS_PRODUCTS_NOT_
                        ORDERED_00226232-0bb9-0000-714b-e31d00000000.xml#m0022ba68-0bbb-0000-
                        714b-e31d00000000" />
                    <RefColumn refId="m00238038-0bc0-0000-714b-e31d00000000-m0022ba69-0bbb-
                        0000-714b-e31d00000000"
                        columnRef="/oracle/bi/server/base/PhysicalTable/CONTACTS_PRODUCTS_NOT_
                        ORDERED_00226232-0bb9-0000-714b-e31d00000000.xml#m0022ba69-0bbb-0000-
                        714b-e31d00000000" />
                </RefColumns>
            </PhysicalKey>
            <PhysicalForeignKey mdsid="m002377f8-0bbe-0000-714b-e31d00000000"
                name="CONTACTS_PRODUCTS_NOT_ORDERED_FKey"
                counterPartKeyRef="/oracle/bi/server/base/PhysicalTable/Dim_W_PARTY_PER_D_
                Contact_002261ab-0bb9-0000-714b-e31d00000000.xml#m00237fa7-0bc0-0000-714b-
                e31d00000000">
                <RefColumns>
                    <RefColumn refId="m002377f8-0bbe-0000-714b-e31d00000000-m0022ba68-0bbb-
                        0000-714b-e31d00000000"
                        columnRef="/oracle/bi/server/base/PhysicalTable/CONTACTS_PRODUCTS_NOT_
                        ORDERED_00226232-0bb9-0000-714b-e31d00000000.xml#m0022ba68-0bbb-0000-
                        714b-e31d00000000" />
                </RefColumns>
            </PhysicalForeignKey>
            <PhysicalForeignKey mdsid="m002377f9-0bbe-0000-714b-e31d00000000"
                name="CONTACTS_PRODUCTS_NOT_ORDERED_FKey1"
                counterPartKeyRef="/oracle/bi/server/base/PhysicalTable/Dim_W_PRODUCT_D_
                0022612d-0bb9-0000-714b-e31d00000000.xml#m00237f18-0bc0-0000-
                714b-e31d00000000">
                <RefColumns>
                    <RefColumn refId="m002377f9-0bbe-0000-714b-e31d00000000-m0022ba69-0bbb-
                        0000-714b-e31d00000000"
                        columnRef="/oracle/bi/server/base/PhysicalTable/CONTACTS_PRODUCTS_NOT_
                        ORDERED_00226232-0bb9-0000-714b-e31d00000000.xml#m0022ba69-0bbb-0000-
                        714b-e31d00000000" />
                </RefColumns>
            </PhysicalForeignKey>
        </PhysicalTable>
```

3.6 MDS XML Elements: Physical Column

The physical column element corresponds to the physical column object in the Physical layer.

The physical column element is not a top-level element - it appears as a child element of the physical table element.

The physical column tag includes the following attributes:

Table 3–10   Physical Column Tag Attributes

Attribute Name	Description
extName	The external name for the physical column. This attribute is required if the same name (such as STATE) is used in multiple hierarchies. This attribute is optional for XML documents. For XML, the `extName` attribute stores the fully qualified name of a column.
dataType	The data type of the physical column, such as VARCHAR. This option is called **Type** in the Physical Column dialog in the Administration Tool.
nullable	If set to true, indicates that null values are allowed for the column. This allows null values to be returned to the user, which is expected with certain functions and with outer joins.
precision	The precision of the data type of the column.
scale	The scale of the data type of the column.
rowCount	The latest number of rows retrieved for this physical column.
lastUpdated	The time at which row counts were last updated for this physical column.
valueType	Applies to Siebel OM data sources only. Indicates the cardinality of the value of the column. Valid values include: ■ One to One (Default/Unknown/Single-valued) ■ Many to One (Picklist) ■ One to Many (Multi-valued) ■ Many to Many (Multi-valued)
mappedColumn	Applies to Siebel OM data sources only. The name of the mapped column. Corresponds to the field of the same name for the multi-valued group (MVG) business component.
MVLinkName	Applies to Siebel OM data sources only. The name of the link used in the Siebel business component.
specialType	Valid values are LUD or None. LUD stands for "Last Update Date." This attribute is currently used only for ADF data sources. It is used to indicate that the column should be checked when performing ETL operations.
dynamicNameRef	If a session variable is being used to specify the name of this physical column, this element references that session variable.
sourceColumnRef	For physical columns in an alias table only. References the physical column that is being used as the source for this column.

The physical column tag includes the following child elements:

Table 3–11   Physical Column Child Elements

Element Name	Description
Properties	Contains one or more `Property` sub-elements, each of which has attributes `<name>` and `<value>`. These attributes specify a name-value pair of properties for data source metadata.

Syntax

```
<PhysicalColumn …
      extName=""
      dataType=""
      length=""
      nullable=""
      precision=""
      scale=""
      rowCount=""
      lastUpdated=""
      valueType=""
      mappedColumn=""
      MVLinkName=""
      specialType=""
      dynamicNameRef=""
      sourceColumnRef="">
   <Description />
   <Properties>
     <Property name="" value=""/>
     <Property name="" value=""/>
   </Properties>
</PhysicalColumn>
```

Example

```
<PhysicalColumn mdsid="m80e86ae3-0bbb-0000-714b-e31d00000000"
   name="ReportDate"
   dataType="TIMESTAMP" scale="-127" specialType="none"
   sourceColumnRef="/oracle/bi/server/base/PhysicalTable/FscmTopModelAM.Gregorian
     CalendarAM.FndCalDay_80d8ff44-0bb9-0000-714b-e31d00000000.xml#m80d759cf-0bbb-
     0000-714b-e31d00000000">
</PhysicalColumn>
```

3.7 MDS XML Elements: Connection Pool

The connection pool element corresponds to the connection pool object in the Physical layer.

The connection pool tag includes the following attributes:

Table 3–12   Connection Pool Tag Attributes

Attribute Name	Description
bulkInsertBufferSize	Used for limiting the number of bytes each time data is inserted in a database table. The value is given in kilobytes (KB).
transactionBoundary	Controls the batch size for an insert in a database table.
unicodeDB	This attribute is typically set to `true` when working with columns of an explicit Unicode data type, such as `NCHAR`, in an Unicode database.

Table 3–12   (Cont.) Connection Pool Tag Attributes

Attribute Name	Description
tempTablePrefix	The first two characters in a temporary table name. The default value is `TT`.
tempTableOwner	Table owner name used to qualify a temporary table name in a SQL statement, for example to create the table `owner.tablename`.
tempTableDatabase	Database where the temporary table will be created. This property applies only to IBM OS/390, because IBM OS/390 requires the database name qualifier to be part of the `CREATE TABLE` statement.
tempTableSpace	Tablespace where the temporary table will be created. This property applies only to IBM OS/390, because IBM OS/390 requires the tablespace name qualifier to be part of the `CREATE TABLE` statement.
user	The user name for the data source.
password	The password for the data source. Note that passwords are encrypted.
timeout	The amount of time that a connection to the data source will remain open after a request completes. During this time, new requests use this connection rather than open a new one (up to the number specified for the maximum connections). The time is reset after each completed connection request. If you set the timeout to 0 (the default), connection pooling is disabled. In other words, each connection to the data source terminates immediately when the request completes. Any new connections either use another connection pool or open a new connection.
maxConnDiff	The maximum number of total connections allowed to this connection pool across all users.
dataSource	The data source name that is configured to access the database to which you want to connect. The data source name must contain valid logon information for the data source.
reqQualifedTableName	If set to true, indicates that this database requires fully qualified table names. The fully qualified names are based on the physical object names in the repository.
isSharedLogin	If set to true, all users whose queries use the connection pool will access the underlying database using the same user name and password.
isConcurrentQueriesInConnection	An option that enables a single database connection to remain open for the specified time for use by future query requests. If you do not select this option, each query sent to the database opens a new connection. In the Administration Tool, this option corresponds to a value of "selected" for **Enable connection pooling** in the General tab of the Connection Pool dialog.
isCloseAfterEveryRequest	If set to true, indicates that the connection pool gets closed after every query. In the Administration Tool, this option corresponds to a value of "not selected" for **Enable connection pooling** in the General tab of the Connection Pool dialog.
isAsyncExecution	An option that indicates that the data source supports asynchronous queries.

Table 3–12   (Cont.) Connection Pool Tag Attributes

Attribute Name	Description
executeOnCmd	A command that is to be executed by the Oracle BI Server each time a connection is made to the database. The command may be any command accepted by the database.
xslPath	For XML data sources only. An XSLT file contains formatting rules written according to the XSLT standard. It defines how an XML file may be transformed. Specifying the XSLT file in the connection pool applies it to all the XML physical tables in the connection pool. Used when `outputType` is set to XML.
maxConn	The maximum number of total connections allowed to this connection pool for a given user.
xmlRefreshInterval	For XML data sources only. The time interval after which the XML data source is queried again directly, rather than using results in cache.
scriptPath	The connection method Search script. This option is used for XML Server data sources.
outputType	For XML data sources only. The query output format (`delimited`, `xml`, or `fixed`). In the Administration Tool, this option is called **Query output format** in the XML tab of the Connection Pool dialog. If this option is not set, the query output format is assumed to be a custom format, and the value for `convertScriptPath` is used.
gwDelim	The delimiting characters for the query output format. Used when `outputType` is set to `delimited`.
xpath	An XPath expression is a simple XSLT transformation rule that fits into one line. Used when `outputType` is set to `xml`.
convertScriptPath	Used when `outputType` is not set. The path to the .exe file to be used to convert the query output to a custom output format (such as HTML).
ignoreFirstLine	If set to true, indicates that the first line of the output file is ignored.
xmlHeaderPath	The path to the header file, if any, used as a query input supplement. Used for XML Server data sources.
trailerPath	The path to the trailer file, if any, used as a query input supplement. Used for XML Server data sources.
supportParams	Indicates whether the data source supports parameters. If set to false, and the database features table supports parameters, special code executes that enables the Oracle BI Server to push filters (or calculations) with parameters to the database.

Table 3–12   (Cont.) Connection Pool Tag Attributes

Attribute Name	Description
isolationLevel	For ODBC and DB2 gateways. Sets the transaction isolation level on each connection to the back-end database. The isolation level setting controls the default transaction locking behavior for all statements issued by a connection. Options are as follows: ■ `default` uses the default transaction locking behavior of the data source. ■ `readCommitted` specifies that shared locks are held while the data is read to avoid dirty reads. ■ `readUncommitted` implements dirty read (isolation level 0 locking). When this option is set, it is possible to read uncommitted or dirty data, change values in the data, and have rows appear or disappear in the data set before the end of the transaction. ■ `repeatableRead` places locks on all data that is used in a query, preventing other users from updating the data. ■ `serializable` places a range lock on the data set, preventing other users from updating or inserting rows into the data set until the transaction is complete.
xmlaInfo	The vendor-specific information used to connect to the multidimensional data source.
xmlaCatalog	The list of catalogs available. The cube tables correspond to the catalog you use in the connection pool.
xmlaUseSession	If set to true, causes queries go through a common session.
multiThreaded	If set to true, indicates that the connection pool supports multi-threading, or in other words, that one connection pool can support multiple queries. If this option is set to false, each query is tied to a single database connection.
type	The call interface type.
appServerName	The name of the ADF application server.
appServerPort	The port number of the ADF application server.
appID	The ADF application ID.
appEJBBean	The name of the ADF application Enterprise Java Bean.
javaHostServiceName	The name of the JavaHost service. The JavaHost is used as a connector between the Oracle BI Server and data sources that use Java, such as ADF.
isSiebelJDBSecured	For Siebel OM data sources only. Indicates whether the connection between the Oracle BI Server and the Siebel data source is encrypted.
csfKey	This attribute is not currently used.
isAW	This attribute is not currently used.
useCert	This attribute stands for "Use Certificate." It is used for ADF data sources and indicates whether to use a certificate when securing the connection.
wsServer	Specifies the Oracle database web service host name.
wsWSDL	Specifies the WSDL URL to describe the Oracle database web service.
databaseRef	References the database for this connection pool.

Table 3–12   (Cont.) Connection Pool Tag Attributes

Attribute Name	Description
relationalConnectionPoolRef	This attribute is not used.
relationalDataFolderRef	This attribute is not used.
sqlBypassDBRef	For Oracle ADF data sources only. References the SQL Bypass database, if one has been specified. The SQL Bypass feature directly queries the database so that aggregations and other transformations are pushed down where possible, reducing the amount of data streamed and worked on in Oracle Business Intelligence.

The connection pool tag includes the following child elements:

Table 3–13   Connection Pool Child Elements

Element Name	Description
AfterQueryString	Contains a connection script that is executed after the query is run.
BeforeQueryString	Contains a connection script that is executed before the query is run.
PostConnectString	Contains SQL queries executed after the connection is closed.
PreDisconnectString	Contains SQL queries executed before the connection is established.

Syntax

```
<ConnectionPool …
     bulkInsertBufferSize=""
     transactionBoundary=""
     unicodeDB=""
     tempTablePrefix=""
     tempTableOwner=""
     tempTableDatabase=""
     tempTableSpace=""
     user=""
     password=""
     timeout=""
     maxConnDiff=""
     dataSource=""
     reqQualifedTableName=""
     isSharedLogin=""
     isConcurrentQueriesInConnection=""
     isCloseAfterEveryRequest=""
     isAsyncExecution=""
     executeOnCmd=""
     xslPath=""
     maxConn=""
     xmlRefreshInterval=""
     scriptPath=""
     outputType=""
     gwDelim=""
     xpath=""
     convertScriptPath=""
     ignoreFirstLine=""
     xmlHeaderPath=""
     trailerPath=""
```

```
                supportParams=""
                isolationLevel=""
                xmlaInfo=""
                xmlaCatalog=""
                xmlaUseSession=""
                multiThreaded=""
                type=""
                appServerName=""
                appServerPort=""
                appID=""
                appEJBBean=""
                javaHostServiceName=""
                isSiebelJDBSecured=""
                csfKey=""
                useCert=""
                wsServer=""
                wsWSDL=""
                databaseRef=""
                sqlBypassDBRef="">
        <Description />
        <AfterQueryString isEnabled="">
          <Value …/>
        </AfterQueryString>
        <BeforeQueryString isEnabled="">
          <Value …/>
        </BeforeQueryString>
        <PostConnectString isEnabled="">
          <Value …/>
        </PostConnectString>
        <PreDisconnectString isEnabled="">
          <Value …/>
        </PreDisconnectString>
</ConnectionPool>
```

Example

```
<ConnectionPool mdsid="m80b43a95-0bd5-0000-714b-e31d00000000"
    name="Oracle EBS OLTP Connection Pool"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xmlns="http://www.oracle.com/obis/repository"
    user="VALUEOF(ORA_EBS_OLTP_USER)"
    password="6C6F0BE01FC4111F3AC2236A364D912E0284EB262305E146621D44D6B80DC27D4E248
      07068A0EA49C11EFF4E9741BB7046FB2852F64F0B86F08378C4012BFA56769A9CF97FA4051F08C
      9679B3C5486E"
    timeout="300"
    maxConnDiff="10"
    maxConn="64"
    dataSource="VALUEOF(ORA_EBS_OLTP_DSN)"
    type="Default"
    reqQualifedTableName="false"
    isSharedLogin="true"
    isConcurrentQueriesInConnection="false"
    isCloseAfterEveryRequest="false"
    outputType="xml"
    ignoreFirstLine="false"
    bulkInsertBufferSize="32768"
    tempTablePrefix="TT"
    transactionBoundary="10"
    xmlaUseSession="false"
    isolationLevel="readUncommitted"
    isSiebelJDBSecured="false"
```

```
        databaseRef="/oracle/bi/server/base/Database/Oracle EBS OLTP_80b43a93-0bcf-
         0000-714b-e31d00000000.xml#m80b43a93-0bcf-0000-714b-e31d00000000">
        <Description>
         <![CDATA[
            User Name is VALUEOF(ORACLE_OLTP_USER)
            Data source name: VALUEOF(ORA_EBS_OLTP_DSN) ]]>
        </Description>
        <PostConnectString
          isEnabled="true">
          <Value>
            <![CDATA[ call /* valueof(NQ_SESSION.ACF) */ APP_SESSION.validate_icx_
              session('valueof(NQ_SESSION.ICX_SESSION_COOKIE)') ]]>
          </Value>
        </PostConnectString>
</ConnectionPool>
```

3.8 MDS XML Elements: Physical Key

The physical key element corresponds to the physical key object in the Physical layer.

The physical key element is not a top-level element - it appears as a child element of the physical table element.

The physical key tag includes the following child elements:

Table 3–14   Physical Key Child Elements

Element Name	Description
RefColumns	References the column that defines this physical key.
	The column is contained in a sub-element, either `RefPhysicalColumn` or `RefCubeColumn`.

The physical key element does not include any attributes.

Syntax

```
<PhysicalKey …>
    <Description />
    <RefColumns>
      <RefColumn columnRef="" …/>
      <RefColumn columnRef="" …/>
    </RefColumns>
</PhysicalKey>
```

Example

```
<PhysicalKey mdsid="m00238038-0bc0-0000-714b-e31d00000000"
    name="CONTACT_PRODUCT_KEY">
    <RefColumns>
      <RefColumn refId="m00238038-0bc0-0000-714b-e31d00000000-m0022ba68-0bbb-0000-
        714b-e31d00000000"
        columnRef="/oracle/bi/server/base/PhysicalTable/CONTACTS_PRODUCTS_NOT_
        ORDERED_00226232-0bb9-0000-714b-e31d00000000.xml#m0022ba68-0bbb-0000-
        714b-e31d00000000" />
      <RefColumn refId="m00238038-0bc0-0000-714b-e31d00000000-m0022ba69-0bbb-0000-
        714b-e31d00000000"
        columnRef="/oracle/bi/server/base/PhysicalTable/CONTACTS_PRODUCTS_NOT_
        ORDERED_00226232-0bb9-0000-714b-e31d00000000.xml#m0022ba69-0bbb-0000-
        714b-e31d00000000" />
    </RefColumns>
```

```
</PhysicalKey>
```

3.9 MDS XML Elements: Physical Foreign Key

The physical foreign key element corresponds to the physical foreign key object in the Physical layer.

The physical foreign key element is not a top-level element - it appears as a child element of the physical table element.

The physical foreign key tag includes the following attributes:

Table 3–15   Physical Foreign Key Tag Attributes

Attribute Name	Description
hints	For Oracle Databases only. Lists any database hints, such as index hints or leading hints, that were specified for this physical foreign key.
counterPartKeyRef	References the physical key in the primary key table, that matches the RefColumns of this foreign key.

The physical foreign key tag includes the following child elements:

Table 3–16   Physical Foreign Key Child Elements

Element Name	Description
RefColumns	References the physical columns (in the physical table that contains the foreign key) that match counterPartKeyRef. Each physical column is contained in a sub-element called either RefPhysicalColumn or RefCubeColumn.

Syntax

```
<PhysicalForeignKey …
    hints=""
    counterPartKeyRef="">
  <Description />
  <RefColumns>
    <RefColumn columnRef="" …/>
    <RefColumn columnRef="" …/>
  </RefColumns>
</PhysicalForeignKey>
```

Example

```
<PhysicalForeignKey mdsid="m002377f9-0bbe-0000-714b-e31d00000000"
  name="CONTACTS_PRODUCTS_NOT_ORDERED_FKey1"
  counterPartKeyRef="/oracle/bi/server/base/PhysicalTable/Dim_W_PRODUCT_D_
   0022612d-0bb9-0000-714b-e31d00000000.xml#m00237f18-0bc0-0000-
   714b-e31d00000000">
  <RefColumns>
    <RefColumn refId="m002377f9-0bbe-0000-714b-e31d00000000-m0022ba69-0bbb-0000-
       714b-e31d00000000"
      columnRef="/oracle/bi/server/base/PhysicalTable/CONTACTS_PRODUCTS_NOT_
       ORDERED_00226232-0bb9-0000-714b-e31d00000000.xml#m0022ba69-0bbb-0000-
       714b-e31d00000000" />
  </RefColumns>
</PhysicalForeignKey>
```

3.10 MDS XML Elements: Complex Join

The complex join element corresponds to the complex join object in the Physical layer.

The complex join tag includes the following attributes:

Table 3–17   Complex Join Tag Attributes

Attribute Name	Description
hints	For Oracle Databases only. Lists any database hints, such as index hints or leading hints, that were specified for this complex join.
cardinality	Indicates the cardinality of the join. Valid values are: `ONE TO ONE`, `ZERO OR ONE TO ONE`, `ONE TO ZERO OR ONE`, `ZERO OR ONE TO ZERO OR ONE`, `ONE TO MANY`, `ZERO OR ONE TO MANY`, `ZERO OR ONE TO MANY`, `MANY TO ONE`, `MANY TO ZERO OR ONE`, or `MANY TO MANY`.
extName	The external name for the join.
table1Ref	References the first physical table of the join.
table2Ref	References the second physical table of the join.

The complex join tag includes the following child elements:

Table 3–18   Complex Join Child Elements

Element Name	Description
Expr	Contains the expression that defines the relationship between the two tables.
ExternalExpr	Contains the external expression used for ADF Business Component data sources.

Syntax

```
<ComplexJoin …
    hints=""
    cardinality=""
    extName=""
    table1Ref=""
    table2Ref="">
  <Description />
  <Expr />
  <ExternalExpr />
</ComplexJoin>
```

> **Note:** Both of the summary syntax elements `<Expr />` and `<ExternalExpr />` have the following sub-elements:
>
> ```
> <ExprText>...</ExprText>
> <ExprTextDesc>...</ExprTextDesc>
> <ObjectRefList>
>   <RefObject objectRef=""/>
>   <RefObject objectRef=""/>
> </ObjectRefList>
> ```

Example

```
<ComplexJoin mdsid="m00238388-0bc4-0000-714b-e31d00000000"
```

```
                name="W_ORG_D (Account)_W_PARTY_LOGIN"
                xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
                xmlns="http://www.oracle.com/obis/repository"
                table1Ref="/oracle/bi/server/base/PhysicalTable/W_PARTY_LOGIN _u0040
                 Account)_00226660-0bb9-0000-714b-e31d00000000.xml#m00226660-0bb9-0000-714b-
                 e31d00000000"
                table2Ref="/oracle/bi/server/base/PhysicalTable/W_PARTY_D _u0040
                 Account)_002266ad-0bb9-0000-714b-e31d00000000.xml#m002266ad-0bb9-0000-714b-
                 e31d00000000">
                <Expr>
                  <ExprText>
                    <![CDATA[ "%1" = "%2" ]]>
                  </ExprText>
                  <ExprTextDesc>
                    <![CDATA[ "Forecasting Oracle Data Warehouse"."Catalog"."dbo"."W_PARTY_D
                        (Account)"."VIS_PR_POS_ID" = "Forecasting Oracle Data Warehouse".
                        "Catalog"."dbo"."W_PARTY_LOGIN (Account)"."PARTY_ID" ]]>
                  </ExprTextDesc>
                  <ObjectRefList>
                    <RefObject refId="m00238388-0bc4-0000-714b-e31d00000000-m00234fdf-0bbb-
                        0000-714b-e31d00000000"
                      objectTypeId="3003"
                      objectRef="/oracle/bi/server/base/PhysicalTable/W_PARTY_D _u0040
                       Account)_002266ad-0bb9-0000-714b-e31d00000000.xml#m00234fdf-0bbb-0000-
                       714b-e31d00000000" />
                    <RefObject refId="m00238388-0bc4-0000-714b-e31d00000000-m00234624-0bbb-
                        0000-714b-e31d00000000"
                      objectTypeId="3003"
                      objectRef="/oracle/bi/server/base/PhysicalTable/W_PARTY_LOGIN _u0040
                       Account)_00226660-0bb9-0000-714b-e31d00000000.xml#m00234624-0bbb-0000-
                       714b-e31d00000000" />
                  </ObjectRefList>
                </Expr>
              </ComplexJoin>
```

3.11 MDS XML Elements: Cube Table

The cube table element corresponds to the physical cube table object in the Physical layer.

The cube table tag includes the following attributes:

Table 3–19   Cube Table Tag Attributes

Attribute Name	Description
extName	The external name for the data source.
type	The type of physical cube table. Options are as follows: ■ select indicates that this physical table object is a SELECT statement. ■ sp indicates that this physical cube table is a stored procedure. ■ alias indicates that this physical cube table is an alias table to a logical table source. ■ none indicates that this physical cube table is a regular physical cube table.
isCacheable	If set to true, indicates that this table is included in the Oracle BI Server query cache.

Table 3–19   (Cont.) Cube Table Tag Attributes

Attribute Name	Description
CacheExpiry	How long table entries should persist in the query cache. A value of `0` indicates that cache entries do not expire.
isCacheEventTable	If set to true, indicates that this table has been registered as an Oracle BI Server event polling table.
pollFreq	The polling frequency, in seconds. Only applies if this table is an Oracle BI Server event polling table. The default value is 3600 seconds.
x	The *x* coordinate of the table when it is shown in the physical diagram.
y	The *y* coordinate of the table when it is shown in the physical diagram.
rowCount	The latest number of rows retrieved for this physical cube table.
lastUpdated	The time at which row counts were last updated for this physical cube table.
scriptPath	For XML data sources only. The extended gateway script path.
isSysGen	If set to true, indicates that an internal utility has generated this physical cube table.
isOverrideCacheProp	For alias tables only. If set to true, indicates that the alias table has its own cache properties that override the cache properties of the source table.
hints	This attribute is not used.
isDDLAggr	Indicates whether this cube table is an aggregate table.
memberReference	For Essbase data sources only. Indicates the cube property (for example, Member Name). An Essbase cube can have multiple aliases, and the value of memberReference is one of the alias names. The query engine will generate a query against the alias set for memberReference.
dateFormat	For Essbase only. Defines the format of date member, for example, 'yyyy-MM-dd.' The value is automatically set during import.
isMemberAliasUnique	This is used for query performance. If you know that all the member names in your data source are unique, you can set it to true by selecting the option **Use unqualified member name for better performance**.
containerRef	References the database for this cube table.
aliasTableVarRef	For Essbase data sources only. Each `AliasTableVar` represents an Essbase alias table.

The cube table tag includes the following child elements:

Table 3–20   Cube Table Child Elements

Element Name	Description
Alias	For Essbase data sources only. For any alias tables for this Essbase cube, lists the alias to use (such as default, LongNames, French, and so on).
DBMapItem	Stores the value of database-specific strings. The `<DBMapItem>` element contains a `<name>` attribute and a `<Value>` sub-element.

Table 3–20   (Cont.) Cube Table Child Elements

Element Name	Description
CubeVar	For SAP/BW data sources only. Cube variables are used as a means of parameterizing queries.
	Each cube variable is contained in a sub-element called `CubeVar`. This sub-element has the following attributes:
	■ `name`: Name of the cube variable.
	■ `caption`: A description (label or caption) associated with the cube variable, mainly used for display purposes.
	■ `type`: The type of cube variable (`SAP_VAR_TYPE_MEMBER`, `SAP_VAR_TYPE_HIERARCHY`, or `SAP_VAR_TYPE_NUMERIC`).
	■ `selectionType`: The selection type of the cube variable, for cube variables of type `SAP_VAR_TYPE_MEMBER` (`SAP_VAR_SEL_TYPE_VALUE`, `SAP_SEL_TYPE_INTERVAL`, or `SAP_VAR_SEL_TYPE_COMPLEX`).
	■ `entryType`: Indicates whether replacing variables is optional or mandatory. Values include `SAP_VAR_INPUT_TYPE_OPTIONAL`, `SAP_VAR_INPUT_TYPE_MANDATORY`, or `SAP_VAR_INPUT_TYPE_MANDATORY_NOT_INITIAL`.
	■ `refDimension`: The reference dimension. This column contains a `DIMENSION_UNIQUE_NAME` for the parameter type `SAP_VAR_TYPE_HIERARCHY`.
	■ `refHierarchy`: The reference hierarchy. This column contains a `HIERARCHY_UNIQUE_NAME` for the variable type `SAP_VAR_TYPE_MEMBER`.
	■ `defaultLow`: Contains a default value for the variable, or is zero.
	■ `defaultHigh`: Contains a default value for the variable, or is zero. This property is only important for variables with the selection type `SAP_VAR_SEL_TYPE_INTERVAL` and `SAP_VAR_SEL_TYPE_SELECTION`.
	■ `overrideLow`: The default value for the cube variable (used if `defaultLow` is zero).
	■ `overrideHigh`: The default value for the cube variable (used if `defaultHigh` is zero).
CubeColumn	Specifies the cube column that belongs to this cube table. For details, see Section 3.15, "MDS XML Elements: Cube Column."

Syntax

The syntax here includes the summary child element entry for the cube column element. The full syntax for the cube column element appears in Section 3.15, "MDS XML Elements: Cube Column."

```
<CubeTable …
     extName=""
     type=""
     isCacheable=""
     cacheExpiry=""
     isCacheEventTable=""
     pollFreq=""
     x=""
     y=""
     rowCount=""
     lastUpdated=""
     scriptPath=""
```

```
              isSysGen=""
              isOverrideCacheProp=""
              hints=""
              isDDLAggr=""
              memberReference=""
              dateFormat=""
              isMemberAliasUnique=""
              containerRef=""
              aliasTabVarRef="">
          <Description />
          <Alias name="" />
          <CubeVar />
          <DBMapItem name="">
              <Value …/>
          </DBMapItem>
          <CubeColumn />
      </CubeTable>
```

Example

```
<CubeTable mdsid="me40756b1-0bf1-1000-b290-0ae593200000"
    name="OpaqueSales"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xmlns="http://www.oracle.com/obis/repository"
    type="select"
    extName="select { [Measures].[Unit Sales], [Measures].[Store Cost] } on
     COLUMNS, { [Time].[Year].members } on ROWS from [Sales]"
    isCacheable="false"
    isMemberAliasUnique="true"
    containerRef="/oracle/bi/server/base/Database/FoodMart_e4070ae8-0bf1-1000-
     b290-0ae593200000.xml#me4070ae8-0bf1-1000-b290-0ae593200000">
    <DBMapItem name="DefaultMulDB">
      <Value>
        <![CDATA[ select { [Measures].[Unit Sales], [Measures].[Store Cost] } on
            COLUMNS, { [Time].[Year].members } on ROWS from [Sales] ]]>
      </Value>
    </DBMapItem>
    <CubeColumn mdsid="me40756b2-0bf1-1000-b290-0ae593200000"
      name="[Time].[Year]"
      extName="[Time].[Year]"
      dataType="VARCHAR" precision="4" nullable="true" dimPropType="none">
    </CubeColumn>
    <CubeColumn mdsid="me40756b3-0bf1-1000-b290-0ae593200000"
      name="Unit Sales"
      extName="Unit Sales" dataType="DOUBLE" nullable="true" dimPropType="none">
    </CubeColumn>
    <CubeColumn mdsid="me40756b4-0bf1-1000-b290-0ae593200000"
      name="Store Cost"
      extName="Store Cost" dataType="DOUBLE" nullable="true" dimPropType="none">
    </CubeColumn>
</CubeTable>
```

3.12 MDS XML Elements: Physical Dimension

The physical dimension element corresponds to the physical dimension object in the Physical layer.

The physical dimension tag includes the following attributes:

Table 3–21   Physical Dimension Tag Attributes

Attribute Name	Description
defaultMember	The default member for this physical dimension.
cubeTableRef	References the cube table for this physical dimension.

The physical dimension tag includes the following child elements:

Table 3–22   Physical Dimension Child Elements

Element Name	Description
RefUserAttributes	References the dimension properties for this physical dimension. Each dimension property is contained in a sub-element called RefCubeColumn.
AlternateHierarchyName	For Essbase physical dimension objects, lists the names of any alternate hierarchies that belong to this dimension.

Syntax

```
<PhysicalDimension …
     defaultMember=""
     cubeTableRef="">
   <Description />
   <RefUserAttributes>
     <RefCubeColumn cubeColumnRef="" …/>
     <RefCubeColumn cubeColumnRef="" …/>
   </RefUserAttributes>
   <AlternateHierarchyName …/>
</PhysicalDimension>
```

Example

```
<PhysicalDimension mdsid="m80cb9c61-0bf8-0000-714b-e31d00000000"
   name="Months"
   xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
   xmlns="http://www.oracle.com/obis/repository"
   cubeTableRef="/oracle/bi/server/base/CubeTable/Sample_80cb9c63-0bdf-0000-714b-
    e31d00000000.xml#m80cb9c63-0bdf-0000-714b-e31d00000000">
   <RefUserAttributes>
     <RefCubeColumn refId="m80cb9c61-0bf8-0000-714b-e31d00000000-m80cb9cce-0be3-
       0000-714b-e31d00000000"
       cubeColumnRef="/oracle/bi/server/base/CubeTable/Sample_80cb9c63-0bdf-0000-
       714b-e31d00000000.xml#m80cb9cce-0be3-0000-714b-e31d00000000" />
     <RefCubeColumn refId="m80cb9c61-0bf8-0000-714b-e31d00000000-m80cb9ccf-0be3-
       0000-714b-e31d00000000"
       cubeColumnRef="/oracle/bi/server/base/CubeTable/Sample_80cb9c63-0bdf-0000-
       714b-e31d00000000.xml#m80cb9ccf-0be3-0000-714b-e31d00000000" />
   </RefUserAttributes>
   <AlternateHierarchyName>
     <![CDATA[ Calendar ]]>
   </AlternateHierarchyName>
   <AlternateHierarchyName>
     <![CDATA[ Fiscal ]]>
   </AlternateHierarchyName>
</PhysicalDimension>
```

3.13 MDS XML Elements: Physical Hierarchy

The physical hierarchy element corresponds to the physical hierarchy object in the Physical layer.

The physical hierarchy tag includes the following attributes:

Table 3–23   Physical Hierarchy Tag Attributes

Attribute Name	Description
memberType	Values are Unknown, Regular, All, Formula, Measure. Default value is Unknown.
extName	The external name for the physical hierarchy.
type	The type of physical hierarchy. Options include `FULLY BALANCED`, `UNBALANCED`, `RAGGED BALANCED`, and `NETWORK`. This option corresponds to the **Hierarchy Type** option in the Physical Hierarchy dialog in the Administration Tool.
dimType	The dimension type (for example, Measure Dimension) for the dimension to which this hierarchy belongs.
rowCount	The latest number of rows retrieved for this physical hierarchy.
isTimeDim	If set to true, indicates that this physical dimension is a time dimension.
dimUniqueName	The name of the dimension to which this hierarchy belongs.
isMemberAliasUnique	Indicates whether member names (including aliases) are unique in a given hierarchy so that the Oracle BI Server can take advantage of specific MDX syntax to optimize performance. This option corresponds to the **Use unqualified member name for better performance** option in the Physical Hierarchy dialog in the Administration Tool.
cubeTableRef	References the cube table for this physical hierarchy.
dimensionRef	References the physical dimension for this physical hierarchy.
memberKeyRef	For parent-child (value) hierarchies. References the cube column that is the member key for this hierarchy.
parentKeyRef	For parent-child (value) hierarchies. References the cube column that is the parent key for this hierarchy.

The physical hierarchy tag includes the following child elements:

Table 3–24   Physical Hierarchy Child Elements

Element Name	Description
RefColumns	References the set of cube columns that belong to this physical hierarchy. Each cube column is contained in a sub-element called `RefCubeColumn`.
PhysicalLevel	For level-based hierarchies. References the set of physical levels that belong to this physical hierarchy. Each level is contained in a sub-element called `RefPhysical Level`. For more details, see Section 3.14, "MDS XML Elements: Physical Level."

Syntax

The syntax here includes the summary child element entry for the physical level element. The full syntax for the physical level element appears in Section 3.14, "MDS XML Elements: Physical Level."

```
<PhysicalHierarchy …
     memberType=""
     extName=""
     type=""
     dimType=""
     rowCount=""
     isTimeDim=""
     dimUniqueName=""
     isMemberAliasUnique=""
     cubeTableRef=""
     dimensionRef=""
     memberKeyRef=""
     parentKeyRef="">
   <Description />
   <RefColumns>
     <RefCubeColumn cubeColumnRef="" …/>
     <RefCubeColumn cubeColumnRef="" …/>
   </RefColumns>
   <PhysicalLevel />
</PhysicalHierarchy>
```

Example

```
<PhysicalHierarchy mdsid="m80cb9c58-0be1-0000-714b-e31d00000000"
   name="Employees"
   xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
   xmlns="http://www.oracle.com/obis/repository"
   memberType="all"
   extName="Employees"
   type="VALUE"
   dimType="Other"
   dimUniqueName="Employees"
   cubeTableRef="/oracle/bi/server/base/CubeTable/Sample_80cb9c63-0bdf-0000-714b-
    e31d00000000.xml#m80cb9c63-0bdf-0000-714b-e31d00000000"
   dimensionRef="/oracle/bi/server/base/PhysicalDimension/Employees_80cb9c5d-0bf8-
    0000-714b-e31d00000000.xml#m80cb9c5d-0bf8-0000-714b-e31d00000000"
   memberKeyRef="/oracle/bi/server/base/CubeTable/Sample_80cb9c63-0bdf-0000-714b-
    e31d00000000.xml#m80cb9c9c-0be3-0000-714b-e31d00000000"
   parentKeyRef="/oracle/bi/server/base/CubeTable/Sample_80cb9c63-0bdf-0000-714b-
    e31d00000000.xml#m80cb9cda-0be3-0000-714b-e31d00000000">
   <RefColumns>
     <RefCubeColumn refId="m80cb9c58-0be1-0000-714b-e31d00000000-m80cb9c9c-0be3-
        0000-714b-e31d00000000"
       cubeColumnRef="/oracle/bi/server/base/CubeTable/Sample_80cb9c63-0bdf-0000-
        714b-e31d00000000.xml#m80cb9c9c-0be3-0000-714b-e31d00000000" />
     <RefCubeColumn refId="m80cb9c58-0be1-0000-714b-e31d00000000-m80cb9c9e-0be3-
        0000-714b-e31d00000000"
       cubeColumnRef="/oracle/bi/server/base/CubeTable/Sample_80cb9c63-0bdf-0000-
        714b-e31d00000000.xml#m80cb9c9e-0be3-0000-714b-e31d00000000" />
     <RefCubeColumn refId="m80cb9c58-0be1-0000-714b-e31d00000000-m80cb9c9f-0be3-
        0000-714b-e31d00000000"
       cubeColumnRef="/oracle/bi/server/base/CubeTable/Sample_80cb9c63-0bdf-0000-
        714b-e31d00000000.xml#m80cb9c9f-0be3-0000-714b-e31d00000000" />
     <RefCubeColumn refId="m80cb9c58-0be1-0000-714b-e31d00000000-m80cb9cda-0be3-
        0000-714b-e31d00000000"
       cubeColumnRef="/oracle/bi/server/base/CubeTable/Sample_80cb9c63-0bdf-0000-
```

```
              714b-e31d00000000.xml#m80cb9cda-0be3-0000-714b-e31d00000000" />
       </RefColumns>
       <PhysicalLevel mdsid="m80cb9d03-0be5-0000-714b-e31d00000000"
          name="All Employees"
          levelNum="0"
          extName="All Employees"
          levelKeyRef="/oracle/bi/server/base/CubeTable/Sample80cb9c63-0bdf-0000-714b-
           e31d00000000.xml#m80cb9c8d-0be3-0000-714b-e31d00000000">
       </PhysicalLevel>
       <PhysicalLevel mdsid="m80cb9d04-0be5-0000-714b-e31d00000000"
          name="Employee L1"
          levelNum="1"
          extName="Employee L1"
          levelKeyRef="/oracle/bi/server/base/CubeTable/Sample80cb9c63-0bdf-0000-714b-
           e31d00000000.xml#m80cb9c90-0be3-0000-714b-e31d00000000">
       </PhysicalLevel>
       <PhysicalLevel mdsid="m80cb9d05-0be5-0000-714b-e31d00000000"
          name="Employee L2"
          levelNum="2"
          extName="Employee L2"
          levelKeyRef="/oracle/bi/server/base/CubeTable/Sample80cb9c63-0bdf-0000-714b-
           e31d00000000.xml#m80cb9c94-0be3-0000-714b-e31d00000000">
       </PhysicalLevel>
       <PhysicalLevel mdsid="m80cb9d06-0be5-0000-714b-e31d00000000"
          name="Employee L3"
          levelNum="3"
          extName="Employee L3"
          levelKeyRef="/oracle/bi/server/base/CubeTable/Sample80cb9c63-0bdf-0000-714b-
           e31d00000000.xml#m80cb9c98-0be3-0000-714b-e31d00000000">
       </PhysicalLevel>
       <PhysicalLevel mdsid="m80cb9d07-0be5-0000-714b-e31d00000000"
          name="Employee Names"
          levelNum="4"
          extName="Employee Names"
          levelKeyRef="/oracle/bi/server/base/CubeTable/Sample80cb9c63-0bdf-0000-714b-
           e31d00000000.xml#m80cb9c9c-0be3-0000-714b-e31d00000000">
       </PhysicalLevel>
    </PhysicalHierarchy>
```

3.14 MDS XML Elements: Physical Level

The physical level element corresponds to the hierarchical levels for a physical cube table object in the Physical layer.

The physical level element is not a top-level element - it appears as a child element of the physical hierarchy element.

The physical level tag includes the following attributes:

Table 3–25   Physical Level Tag Attributes

Attribute Name	Description
levelNum	Identifies the order of this physical level in the hierarchy.
extName	Fully qualified name for the level.
rowCount	The latest number of rows retrieved for this physical level.
levelKeyRef	References the key column for this physical level.

Syntax

```
<PhysicalLevel …
    levelNumber=""
    extName=""
    rowCount=""
    levelKeyRef="">
  <Description />
</PhysicalLevel>
```

Example

```
<PhysicalLevel mdsid="m80cb9d03-0be5-0000-714b-e31d00000000"
   name="All Employees"
   levelNum="0"
   extName="All Employees"
   levelKeyRef="/oracle/bi/server/base/CubeTable/Sample80cb9c63-0bdf-0000-714b-
   e31d00000000.xml#m80cb9c8d-0be3-0000-714b-e31d00000000">
</PhysicalLevel>
```

3.15 MDS XML Elements: Cube Column

The cube column element corresponds to the cube column of a physical cube object in the Physical layer.

The cube column element is not a top-level element - it appears as a child element of the cube table element.

The cube column tag includes the following attributes:

Table 3–26   Cube Column Tag Attributes

Attribute Name	Description
extName	The external name for the cube column. This attribute is required if the same name (such as STATE) is used in multiple hierarchies.
aggrType	The type of aggregation on the column, if any.
dataType	The data type of the cube column, such as VARCHAR.
nullable	If set to true, indicates that null values are allowed for the column. This allows null values to be returned to the user, which is expected with certain functions and with outer joins.
precision	The precision of the data type of the cube column.
scale	The scale of the data type of the column.
rowCount	The latest number of rows retrieved for this cube column.
lastUpdated	The time at which row counts were last updated for this cube column.

Table 3–26   (Cont.) Cube Column Tag Attributes

Attribute Name	Description
dimPropType	For Essbase dimensional columns only. Indicates the property type of the cube column. Valid values are: ■ `uda`: User Defined Attribute (UDA) type. ■ `memnor`: Memnor type, used for outline sorts in the logical layer. Imported at the lowest level of each dimension. Called **Outline Sort** in the Administration Tool. ■ `attribute`: Attribute type, for attribute dimensions. ■ `other`: The type is different than those listed, or unknown. ■ `none`: The column does not have a property type. Note that this type is mapped to **Member Alias** in the Administration Tool. ■ `ancestorRef`: References the ancestor of a dimension. ■ `memberKey`: The column is a member key. ■ `levelNumber`: The column is the lowest member of the hierarchy. Called **Leaf** in the Administration Tool. ■ `genNumber`: The column is the root member of the hierarchy. Called **Root** in the Administration Tool. ■ `parentRef`: References the parent of a dimension.
attributeHierarchyRef	References the physical hierarchy to which this cube column belongs.
physicalLevelRef	References the physical level to which this cube column belongs.

Syntax

```
<CubeColumn …
     extName=""
     aggrType=""
     dataType=""
     nullable=""
     precision=""
     rowCount=""
     lastUpdated=""
     scale="">
     dimPropType=""
     attributeHierarchyRef=""
     physicalLevelRef="">
   <Description />
</CubeColumn>
```

Example

```
<CubeColumn mdsid="m80cbf77f-0be3-0000-714b-e31d00000000"
   name="Product Types - Ancestor Ref"
   extName="Ancestor_Names"
   dataType="VARCHAR" precision="128" dimPropType="ancestorRef"
   physicalLevelRef="/oracle/bi/server/base/PhysicalHierarchy/Products_80cbf730-
     0be1-0000-714b-e31d00000000.xml#m80cbf7ef-0be5-0000-714b-e31d00000000">
</CubeColumn>
```

3.16 MDS XML Elements: Analytic Workspace

The Analytic Workspace element corresponds to the Oracle OLAP Analytic Workspace (AW) object in the Physical layer.

The Analytic Workspace tag includes the following attributes:

Table 3–27   Analytic Workspace Tag Attributes

Attribute Name	Description
version	The version of the Analytic Workspace.
containerRef	References the physical catalog for this Analytic Workspace.
dynamicNameRef	If a session variable is being used to specify the name of this Analytic Workspace, this element references that session variable.

Syntax

```
<AnalyticWorkspace …
      version=""
      containerRef=""
      dynamicNameRef="">
   <Description />
</AnalyticWorkspace>
```

Example

```
<AnalyticWorkspace mdsid="m000000ae-0be9-0000-714b-e31d00000000"
   name="GLOBAL"
   xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
   xmlns="http://www.oracle.com/obis/repository"
   version="10"
   containerRef="/oracle/bi/server/base/PhysicalCatalog/GLOBAL_000000ad-0bd1-0000-
     714b-e31d00000000.xml#m000000ad-0bd1-0000-714b-e31d00000000">
</AnalyticWorkspace>
```

3.17 MDS XML Elements: AW Cube

The AW cube element corresponds to the Oracle OLAP cube object in the Physical layer.

The AW cube tag includes the following attributes:

Table 3–28   AW Cube Tag Attributes

Attribute Name	Description
extName	The physical name that is used when referencing the cube in physical SQL queries.
isCacheable	If set to true, indicates that this table is included in the Oracle BI Server query cache.
CacheExpiry	How long table entries should persist in the query cache. A value of 0 indicates that cache entries do not expire.
isCacheEventTable	If set to true, indicates that this table has been registered as an Oracle BI Server event polling table.
pollFreq	The polling frequency, in seconds. Only applies if this table is an Oracle BI Server event polling table. The default value is 3600 seconds.

Table 3–28   (Cont.) AW Cube Tag Attributes

Attribute Name	Description
x	The *x* coordinate of the table when it is shown in the physical diagram.
y	The *y* coordinate of the table when it is shown in the physical diagram.
rowCount	The latest number of rows retrieved for this Oracle OLAP cube.
lastUpdated	The time at which row counts were last updated for this Oracle OLAP cube.
hints	For Oracle Databases only. Lists any database hints, such as index hints or leading hints, that were specified for this physical table.
isExtGatewayInProcess	For XML data sources only. Indicates that this physical table is the extended gateway part of the process.
isOverrideCacheProperties	For alias tables only. If set to true, indicates that the alias table has its own cache properties that override the cache properties of the source table.
isDDLAggr	Indicates whether this Oracle OLAP cube is an aggregate table.
isSysGen	If set to true, indicates that an internal utility has generated this Oracle OLAP cube.
isPartitioned	If set to true, indicates that the cube is partitioned by one or more dimensions.
densityStatus	For Oracle OLAP 10*g* cubes only. Indicates whether the cube is dense or sparse. If neither dense nor sparse is specified, the Oracle BI Server assumes the data is sparse. Valid values are `dense`, `sparse`, and `unknown`.
materializationStatus	For Oracle OLAP 10*g* cubes only. Indicates whether the cube is fully materialized. Valid values are `fully`, `not fully`, and `unknown`.
aggrConnPoolRef	If this Oracle OLAP cube is an aggregate table, this element references the connection pool used for the aggregate.
containerRef	References the Analytic Workspace for this AW cube.

The AW cube tag includes the following child elements:

Table 3–29   AW Cube Child Elements

Element Name	Description
CompositeInfo	References dimensions for the cube. Contains the sub-element called `Composite`, which has one attribute called `name` and a sub-element called `Dimension`. Each dimension is contained in the `Dimension` sub-element.
AWColumn	References the Oracle OLAP columns that belong to this Oracle OLAP cube. For more details, see Section 3.21, "MDS XML Elements: AW Column."

Syntax

The syntax here includes the summary child element entry for the AW column element. The full syntax for the AW column element appears in Section 3.21, "MDS

XML Elements: AW Column."

```
<AWCube …
      extName=""
      isCacheable=""
      cacheExpiry=""
      isCacheEventTable=""
      pollFreq=""
      x=""
      y=""
      rowCount=""
      lastUpdated=""
      hints=""
      isExtGatewayInProcess=""
      isOverrideCacheProp=""
      isDDLAggr=""
      isSysGen=""
      isPartitioned=""
      densityStatus""
      materializationStatus=""
      aggrConnPoolRef=""
      containerRef="">
   <Description />
   <CompositeInfo>
      <Composite name="">
         <Dimension …/>
      </Composite>
   </CompositeInfo>
   <AWColumn />
</AWCube>
```

Example

```
<AWCube mdsid="m000000b0-0bee-0000-714b-e31d00000000"
   name="Time Channel Cube"
   xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
   xmlns="http://www.oracle.com/obis/repository"
   extName="Time Channel Cube"
   isPartitioned="true"
   containerRef="/oracle/bi/server/base/AnalyticWorkspace/GLOBAL_000000ae-0be9-
    0000-714b-e31d00000000.xml#m000000ae-0be9-0000-714b-e31d00000000">
   <CompositeInfo>
     <Composite name="TIME_CHANNEL_CUBE_102_PRTCOMP">
       <Dimension>
         <![CDATA[ CHANNEL ]]>
       </Dimension>
     </Composite>
     <Composite name="TIME_CHANNEL_CUBE_119_PRTCOMP">
       <Dimension>
         <![CDATA[ CHANNEL ]]>
       </Dimension>
     </Composite>
...
...
   </CompositeInfo>
   <AWColumn mdsid="m000000d4-0bf4-0000-714b-e31d00000000"
     name="Units"
     extName="TIME_CHANNEL_CUBE_UNITS"
     dataType="DOUBLE" nullable="true">
   </AWColumn>
   <AWColumn mdsid="m000000d5-0bf4-0000-714b-e31d00000000"
```

```
      name="Sales"
      extName="TIME_CHANNEL_CUBE_SALES"
      dataType="DOUBLE" nullable="true">
    </AWColumn>
    <AWColumn mdsid="m000000d6-0bf4-0000-714b-e31d00000000"
      name="Cost"
      extName="TIME_CHANNEL_CUBE_COST"
      dataType="DOUBLE" nullable="true">
    </AWColumn>
    <AWColumn mdsid="m000000d7-0bf4-0000-714b-e31d00000000"
      name="Measure1"
      extName="TIME_CHANNEL_CUBE_MEASURE1"
      dataType="DOUBLE" nullable="true">
    </AWColumn>
    <AWColumn mdsid="m000000d8-0bf4-0000-714b-e31d00000000"
      name="SALES_5_QUARTERS_AGO"
      extName="TIME_CHANNEL_CUBE_SALES_5_QUARTERS_AGO"
      dataType="DOUBLE" nullable="true">
    </AWColumn>
  </AWCube>
```

3.18 MDS XML Elements: AW Dimension

The AW dimension element corresponds to the Oracle OLAP dimension object in the Physical layer.

The AW dimension tag includes the following attributes:

Table 3–30   AW Dimension Tag Attributes

Attribute Name	Description
type	The dimension type.
isCacheable	If set to true, indicates that this dimension is included in the Oracle BI Server query cache.
CacheExpiry	If set to true, indicates that this dimension is included in the Oracle BI Server query cache.
isCacheEventTable	How long table entries should persist in the query cache. A value of 0 indicates that cache entries do not expire.
isOverrideCacheProp	For alias tables only. If set to true, indicates that the alias table has its own cache properties that override the cache properties of the source table.
pollFreq	If set to true, indicates that this table has been registered as an Oracle BI Server event polling table.
x	The polling frequency, in seconds. Only applies if this table is an Oracle BI Server event polling table. The default value is 3600 seconds.
y	The *x* coordinate of the table when it is shown in the physical diagram.
rowCount	The *y* coordinate of the table when it is shown in the physical diagram.
lastUpdated	The time at which row counts were last updated for this Oracle OLAP dimension.
hints	This attribute is not used.

Table 3–30   (Cont.) AW Dimension Tag Attributes

Attribute Name	Description
isSysGen	If set to true, indicates that an internal utility has generated this Oracle OLAP dimension.
isDDLAggr	Indicates whether this Oracle OLAP dimension is an aggregate table.
isTimeDim	If set to true, indicates that this Oracle OLAP dimension is a time dimension.
extName	The physical name that is used when referencing the dimension in physical SQL queries.
aggrConnPoolRef	If this AW dimension is an aggregate table, this element references the connection pool used for the aggregate.
isRagged	If set to true, indicates that this dimension hierarchy is unbalanced. An unbalanced hierarchy is one that contains levels that are not at the same depth.
isSkipped	If set to true, indicates that this dimension hierarchy is a skip-level hierarchy. A skip-level hierarchy is one in which there are members that do not have a value for a particular parent level.
containerRef	References the Analytic Workspace for this AW dimension.

The AW dimension tag includes the following child elements:

Table 3–31   AW Dimension Child Elements

Element Name	Description
AWObject	References the Oracle OLAP objects, such a list of hierarchies, associated with this dimension.
	The AWObject element includes the following attributes:
	■ name
	■ type
	■ dataType
	■ nullable
	■ precision
	■ scale
AWColumn	References the AW columns that belong to this AW dimension.
	For more details, see Section 3.21, "MDS XML Elements: AW Column."

Syntax

The syntax here includes the summary child element entry for the AW column element. The full syntax for the AW column element appears in Section 3.21, "MDS XML Elements: AW Column."

```
<AWDimension …
    type=""
    isCacheable=""
    cacheExpiry=""
    isCacheEventTable=""
    isOverrideCacheProp=""
    pollFreq=""
```

```
            x=""
            y=""
            rowCount=""
            lastUpdated=""
            isSysGen=""
            isDDLAggr=""
            hints=""
            isTimeDim=""
            extName=""
            aggrConnPoolRef=""
            isRagged=""
            isSkipped=""
            containerRef="">
        <Description />
        <AWObject name="" type="" dataType=""
          nullable="" precision="" scale="" />
        <AWColumn />
</AWDimension>
```

Example

```
<AWDimension mdsid="m000000b2-0bec-0000-714b-e31d00000000"
    name="Channel" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xmlns="http://www.oracle.com/obis/repository"
    type="none"
    extName="CHANNEL"
    containerRef="/oracle/bi/server/base/AnalyticWorkspace/GLOBAL_000000ae-0be9-
     0000-714b-e31d00000000.xml#m000000ae-0be9-0000-714b-e31d00000000">
    <AWObject type="HIER_LIST" name="CHANNEL_HIERLIST"
      dataType="VARCHAR" precision="100" />
    <AWObject type="LEVEL_LIST" name="CHANNEL_LEVELLIST"
      dataType="VARCHAR" precision="100" />
    <AWObject type="IN_HIER" name="CHANNEL_INHIER"
      dataType="VARCHAR" precision="100" />
    <AWObject type="PARENT_REL" name="CHANNEL_PARENTREL"
      dataType="VARCHAR" precision="100" />
    <AWObject type="LEVEL_REL" name="CHANNEL_LEVELREL"
      dataType="VARCHAR" precision="100" />
    <AWObject type="FAMILY_REL" name="CHANNEL_FAMILYREL"
      dataType="VARCHAR" precision="100" />
    <AWColumn mdsid="m000000fc-0bf4-0000-714b-e31d00000000"
      name="Total Channel - Long Description"
      extName="CHANNEL_LONG_DESCRIPTION"
      dataType="VARCHAR" precision="100"
      awLevelRef="/oracle/bi/server/base/AWHierarchy/Primary_0000012f-0bf0-0000-
       714b-e31d00000000.xml#m0000013b-0bf2-0000-714b-e31d00000000">
    </AWColumn>
    <AWColumn mdsid="m000000fd-0bf4-0000-714b-e31d00000000"
      name="Total Channel - Short Description"
      extName="CHANNEL_SHORT_DESCRIPTION"
      dataType="VARCHAR" precision="100"
      awLevelRef="/oracle/bi/server/base/AWHierarchy/Primary_0000012f-0bf0-0000-
       714b-e31d00000000.xml#m0000013b-0bf2-0000-714b-e31d00000000">
    </AWColumn>
    <AWColumn mdsid="m000000fe-0bf4-0000-714b-e31d00000000"
      name="Total Channel"
      extName="CHANNEL"
      dataType="VARCHAR" precision="100"
      awLevelRef="/oracle/bi/server/base/AWHierarchy/Primary_0000012f-0bf0-0000-
       714b-e31d00000000.xml#m0000013b-0bf2-0000-714b-e31d00000000">
    </AWColumn>
```

```
<AWColumn mdsid="m000000ff-0bf4-0000-714b-e31d00000000"
  name="Channel - Long Description"
  extName="CHANNEL_LONG_DESCRIPTION"
  dataType="VARCHAR" precision="100"
  awLevelRef="/oracle/bi/server/base/AWHierarchy/Primary_0000012f-0bf0-0000-
    714b-e31d00000000.xml#m0000013c-0bf2-0000-714b-e31d00000000">
</AWColumn>
<AWColumn mdsid="m00000100-0bf4-0000-714b-e31d00000000"
  name="Channel - Short Description"
  extName="CHANNEL_SHORT_DESCRIPTION"
  dataType="VARCHAR" precision="100"
  awLevelRef="/oracle/bi/server/base/AWHierarchy/Primary_0000012f-0bf0-0000-
    714b-e31d00000000.xml#m0000013c-0bf2-0000-714b-e31d00000000">
</AWColumn>
<AWColumn mdsid="m00000101-0bf4-0000-714b-e31d00000000"
  name="Channel"
  extName="CHANNEL"
  dataType="VARCHAR" precision="100"
  awLevelRef="/oracle/bi/server/base/AWHierarchy/Primary_0000012f-0bf0-0000-
    714b-e31d00000000.xml#m0000013c-0bf2-0000-714b-e31d00000000">
</AWColumn>
</AWDimension>
```

3.19 MDS XML Elements: AW Hierarchy

The AW hierarchy element corresponds to the Oracle OLAP hierarchy object in the Physical layer.

The AW hierarchy tag includes the following attributes:

Table 3–32   AW Hierarchy Tag Attributes

Attribute Name	Description
type	The type of Oracle OLAP hierarchy (value or level).
isDefault	If set to true, indicates that this is the default hierarchy for the Oracle OLAP dimension.
extName	The physical name that is used when referencing the hierarchy in physical SQL queries.
dataType	The data type of the Oracle OLAP hierarchy, such as VARCHAR.
nullable	If set to true, indicates that null values are allowed for the Oracle OLAP hierarchy. This allows null values to be returned to the user, which is expected with certain functions and with outer joins.
precision	The precision of the data type of the Oracle OLAP hierarchy.
scale	The scale of the data type of the Oracle OLAP hierarchy.
memberKeyRef	References the member key (for parent-child hierarchies).
dimensionRef	References the AW dimension for this Oracle OLAP hierarchy.

The AW hierarchy tag includes the following child elements:

Table 3–33   AW Hierarchy Child Elements

Attribute Name	Description
AWLevel	For level-based hierarchies only. References the AW level for this Oracle OLAP dimension.
	For more details, see Section 3.20, "MDS XML Elements: AW Level."

Syntax

The syntax here includes the summary child element entry for the AW level element. The full syntax for the AW level element appears in Section 3.20, "MDS XML Elements: AW Level."

```
<AWHierarchy …
     type=""
     isDefault=""
     extName=""
     dataType=""
     nullable=""
     precision=""
     scale=""
     memberKeyRef=""
     dimensionRef="">
   <Description />
   <AWLevel />
</AWHierarchy>
```

Example

```
<AWHierarchy mdsid="m0000012d-0bf0-0000-714b-e31d00000000"
   name="Calendar Year"
   xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
   xmlns="http://www.oracle.com/obis/repository"
   isDefault="true"
   extName="CALENDAR_YEAR"
   dataType="UNKNOWN"
   dimensionRef="/oracle/bi/server/base/AWDimension/Time_000000b1-0bec-0000-714b-
    e31d00000000.xml#m000000b1-0bec-0000-714b-e31d00000000">
   <AWLevel mdsid="m00000133-0bf2-0000-714b-e31d00000000"
     name="All Years"
     extName="ALL_YEARS"
     dataType="UNKNOWN"
     levelKeyRef="/oracle/bi/server/base/AWDimension/Time_000000b1-0bec-0000-714b-
      e31d00000000.xml#m000000da-0bf4-0000-714b-e31d00000000"
     awHierarchyRef="/oracle/bi/server/base/AWHierarchy/Calendar Year_0000012d-
      0bf0-0000-714b-e31d00000000.xml#m0000012d-0bf0-0000-714b-e31d00000000">
   </AWLevel>
   <AWLevel mdsid="m00000134-0bf2-0000-714b-e31d00000000"
     name="Year"
     extName="YEAR"
     dataType="UNKNOWN"
     levelKeyRef="/oracle/bi/server/base/AWDimension/Time_000000b1-0bec-0000-714b-
      e31d00000000.xml#m000000df-0bf4-0000-714b-e31d00000000"
     awHierarchyRef="/oracle/bi/server/base/AWHierarchy/Calendar Year_0000012d-
      0bf0-0000-714b-e31d00000000.xml#m0000012d-0bf0-0000-714b-e31d00000000">
   </AWLevel>
   <AWLevel mdsid="m00000135-0bf2-0000-714b-e31d00000000"
     name="Quarter"
     extName="QUARTER"
```

```
        dataType="UNKNOWN"
        levelKeyRef="/oracle/bi/server/base/AWDimension/Time_000000b1-0bec-0000-714b-
          e31d00000000.xml#m000000e5-0bf4-0000-714b-e31d00000000"
        awHierarchyRef="/oracle/bi/server/base/AWHierarchy/Calendar Year_0000012d-
          0bf0-0000-714b-e31d00000000.xml#m0000012d-0bf0-0000-714b-e31d00000000">
      </AWLevel>
      <AWLevel mdsid="m00000136-0bf2-0000-714b-e31d00000000"
        name="Month"
        extName="MONTH"
        dataType="UNKNOWN"
        levelKeyRef="/oracle/bi/server/base/AWDimension/Time_000000b1-0bec-0000-714b-
          e31d00000000.xml#m000000eb-0bf4-0000-714b-e31d00000000"
        awHierarchyRef="/oracle/bi/server/base/AWHierarchy/Calendar Year_0000012d-
          0bf0-0000-714b-e31d00000000.xml#m0000012d-0bf0-0000-714b-e31d00000000">
      </AWLevel>
</AWHierarchy>
```

3.20 MDS XML Elements: AW Level

The AW level element corresponds to the Oracle OLAP level object in the Physical layer.

The AW level element is not a top-level element - it appears as a child element of the AW hierarchy element.

The AW level tag includes the following attributes:

Table 3–34   AW Level Tag Attributes

Attribute Name	Description
extName	The physical name that is used when referencing the level in physical SQL queries.
dataType	The data type of the Oracle OLAP level, such as VARCHAR.
nullable	If set to true, indicates that null values are allowed for the Oracle OLAP level. This allows null values to be returned to the user, which is expected with certain functions and with outer joins.
precision	The precision of the data type of the Oracle OLAP level.
scale	The scale of the data type of the Oracle OLAP level.
levelKeyRef	References the key column for this Oracle OLAP level.
awHierarchyRef	References the AW hierarchy for this Oracle OLAP level.

The AW level tag does not include any child elements.

Syntax

```
<AWLevel …
    extName=""
    dataType=""
    nullable=""
    precision=""
    scale=""
    levelKeyRef=""
    awHierarchyRef="">
  <Description />
</AWLevel>
```

Example

```
<AWLevel mdsid="m00000133-0bf2-0000-714b-e31d00000000"
   name="All Years"
   extName="ALL_YEARS"
   dataType="UNKNOWN"
   levelKeyRef="/oracle/bi/server/base/AWDimension/Time_000000b1-0bec-0000-714b-
    e31d00000000.xml#m000000da-0bf4-0000-714b-e31d00000000"
   awHierarchyRef="/oracle/bi/server/base/AWHierarchy/Calendar Year_0000012d-
    0bf0-0000-714b-e31d00000000.xml#m0000012d-0bf0-0000-714b-e31d00000000">
</AWLevel>
```

3.21 MDS XML Elements: AW Column

The AW column element corresponds to the AW column object in the Physical layer.

The AW column element is not a top-level element - it appears as a child element of the AW cube and AW dimension elements.

The AW column tag includes the following attributes:

Table 3–35   AW Column Tag Attributes

Attribute Name	Description
extName	The physical name that is used when referencing the column in physical SQL queries.
isParentKey	Indicates whether this Oracle OLAP column is a parent key for a level.
dataType	The data type of the Oracle OLAP column, such as VARCHAR.
scale	The scale of the data type of the Oracle OLAP column.
nullable	If set to true, indicates that null values are allowed for the Oracle OLAP column. This allows null values to be returned to the user, which is expected with certain functions and with outer joins.
precision	The precision of the data type of the Oracle OLAP column.
awHierarchyRef	For value-based hierarchies, references the AW hierarchy for this Oracle OLAP column.
awLevelRef	References the hierarchy level for this Oracle OLAP column.

The AW column tag does not include any child elements.

Syntax

```
<AWColumn …
    extName=""
    isParentKey=""
    dataType=""
    nullable=""
    precision=""
    scale=""
    awHierarchyRef=""
    awLevelRef=""/>
  <Description />
</AWColumn>
```

Example

```
<AWColumn mdsid="m000000fe-0bf4-0000-714b-e31d00000000"
```

```
name="Total Channel"
extName="CHANNEL"
dataType="VARCHAR" precision="100"
awLevelRef="/oracle/bi/server/base/AWHierarchy/Primary_0000012f-0bf0-0000-
  714b-e31d00000000.xml#m0000013b-0bf2-0000-714b-e31d00000000">
</AWColumn>
```

4

MDS XML Presentation Elements

This chapter provides MDS XML reference information for presentation elements. Presentation elements typically correspond to objects in the Presentation layer of the Oracle BI repository, or in other words, the objects that appear in the left-hand pane of the Oracle BI Administration Tool.

This chapter contains the following topics:

- MDS XML Elements: Presentation Catalog
- MDS XML Elements: Presentation Table
- MDS XML Elements: Presentation Column
- MDS XML Elements: Presentation Hierarchy
- MDS XML Elements: Presentation Level

4.1 MDS XML Elements: Presentation Catalog

The presentation catalog element corresponds to the subject area object in the Presentation layer.

The presentation catalog tag includes the following attributes:

Table 4–1 Presentation Catalog Tag Attributes

Attribute Name	Description
isExportKeys	If set to true, indicates that logical keys for this subject area are exposed to other applications.
isAutoAggr	If set to true, indicates that auto aggregation is enabled. Auto aggregation is the process by which the Oracle BI Server infers the GROUP BY from the attributes projected in the query. Typically, auto aggregation is always enabled for queries against the Presentation layer.
hasDispName	Indicates whether this subject area has a custom display name.
dispName	The value of the custom display name, if one exists for this subject area.
hasDispDescription	Indicates whether this subject area has a custom description.
dispDescription	The value of the custom description, if one exists for this subject area.
containerRef	References the container for this presentation catalog.
translationKey	The value of the translation key, if one exists for this presentation catalog.

Table 4–1   (Cont.) Presentation Catalog Tag Attributes

Attribute Name	Description
subjectAreaRef	References the business model for this subject area.
defaultFactColRef	References the implicit fact column for this subject area, if one has been set. This column is used to specify a default join path between dimension tables when there are several possible alternatives or contexts.

The presentation catalog tag includes the following child elements:

Table 4–2   Presentation Catalog Child Elements

Element Name	Description
Alias	Lists any aliases that have been defined for this subject area. Aliases are created when presentation objects are renamed to ensure that any references to the old names still work in logical SQL queries. Each alias has an attribute called `name`.
RefTables	References the presentation tables that belong to this subject area. Each presentation table is contained in a sub-element called `RefPresentationTable`.
VisibilityFilter	Contains the expression specified to control the visibility of this object in Answers and BI Composer. This element corresponds to the **Hide object if** field in the Administration Tool. The expression is contained in two sub-elements called `ExprText` and `ExprTextDesc`.

Syntax

```
<PresentationCatalog …
    isExportKeys=""
    isAutoAggr=""
    hasDispName=""
    dispName=""
    hasDispDescription=""
    dispDescription""
    containerRef=""
    translationKey=""
    subjectAreaRef=""
    defaultFactColumnRef="">
  <Description />
  <Alias name=""/>
  <RefTables>
    <RefPresentationTable presentationTableRef="" …/>
    <RefPresentationTable presentationTableRef="" …/>
  </RefTables>
  <VisibilityFilter>
    <ExprText …/>
    <ExprTextDesc …/>
  </VisibilityFilter>
</PresentationCatalog>
```

Example

```
<PresentationCatalog mdsid="m80d0301d-0fa4-0000-714b-e31d00000000"
   name="Inventory Org Real Time"
```

```
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns="http://www.oracle.com/obis/repository"
hasDispName="false"
hasDispDescription="false"
subjectAreaRef="/oracle/bi/server/base/BusinessModel/Core_0021f84a-07d0-0000-
 714b-e31d00000000.xml#m0021f84a-07d0-0000-714b-e31d00000000"
defaultFactColumnRef="/oracle/bi/server/base/LogicalTable/Fact _u0150 InvOrg _u
 0150 Dummy Fact for dimension browsing_80d55585-07f3-0000-714b-e31d00000000.
 xml#m80d5558b-07d6-0000-714b-e31d00000000">
<Description>
  <![CDATA[ Provides information about inventory organization. ]]>
</Description>
<Alias name="Oracle Inventory Real Time" />
<Alias name="OTBI - Oracle Inventory" />
<RefTables>
  <RefPresentationTable refId="m80d0301d-0fa4-0000-714b-e31d00000000-m80d0301f-
    0fa8-0000-714b-e31d00000000"
   presentationTableRef="/oracle/bi/server/base/PresentationTable/Inventory
     Organization 80d0301f-0fa8-0000-714b-e31d00000000.xml#m80d0301f-0fa8-0000-
     714b-e31d00000000" />
  <RefPresentationTable refId="m80d0301d-0fa4-0000-714b-e31d00000000-m80d030b7-
    0fa8-0000-714b-e31d00000000"
   presentationTableRef="/oracle/bi/server/base/PresentationTable/Subinventory
     _80d030b7-0fa8-0000-714b-e31d00000000.xml#m80d030b7-0fa8-0000-714b-
     e31d00000000" />
  <RefPresentationTable refId="m80d0301d-0fa4-0000-714b-e31d00000000-m80d031aa-
    0fa8-0000-714b-e31d00000000"
   presentationTableRef="/oracle/bi/server/base/PresentationTable/Locator_
     80d031aa-0fa8-0000-714b-e31d00000000.xml#m80d031aa-0fa8-0000-714b-
     e31d00000000" />
  <RefPresentationTable refId="m80d0301d-0fa4-0000-714b-e31d00000000-m80d65acb-
    0fa8-0000-714b-e31d00000000"
   presentationTableRef="/oracle/bi/server/base/PresentationTable/Fact _u0150
     InvOrg _u0150 Dummy Fact for dimension browsing_80d65acb-0fa8-0000-714b-
     e31d00000000.xml#m80d65acb-0fa8-0000-714b-e31d00000000" />
  </RefTables>
</PresentationCatalog>
```

4.2 MDS XML Elements: Presentation Table

The presentation table element corresponds to the presentation table object in the Presentation layer.

The presentation table tag includes the following attributes:

Table 4–3   Presentation Table Tag Attributes

Attribute Name	Description
hasDispName	Indicates whether this presentation table has a custom display name.
dispName	The value of the custom display name, if one exists for this presentation table.
hasDispDescription	Indicates whether this presentation table has a custom description.
dispDescription	The value of the custom description, if one exists for this presentation table.
translationKey	The value of the translation key, if one exists for this presentation table.

Table 4–3   (Cont.) Presentation Table Tag Attributes

Attribute Name	Description
containerRef	References the presentation catalog for this presentation table.

The presentation table tag includes the following child elements:

Table 4–4   Presentation Table Child Elements

Element Name	Description
Alias	Lists any aliases that have been defined for this presentation table. Aliases are created when presentation objects are renamed to ensure that any references to the old names still work in logical SQL queries.
	Each alias has an attribute called `name`.
PresentationColumn	References the presentation columns that belong to this presentation table. For details, see Section 4.3, "MDS XML Elements: Presentation Column."
RefHierarchies	References the hierarchies for this presentation table.
	Each hierarchy is contained in a sub-element called `RefPresentationHierarchy`.
VisibilityFilter	Contains the expression specified to control the visibility of this object in Answers and BI Composer. This element corresponds to the **Hide object if** field in the Administration Tool.
	The expression is contained in two sub-elements called `ExprText` and `ExprTextDesc`.
RefContentFolders	References any child presentation tables that have been designated for this presentation table. Child presentation tables appear as nested folders in Answers and BI Composer.
	Note that the folders only appear to be nested - they are not actually nested in terms of drill-down, and the qualified names of the objects remain the same.
	Each child presentation table is contained in a sub-element called `RefPresentationTable`.

Syntax

The syntax here includes the summary child element entry for the presentation column element. The full syntax for the presentation column element appears in Section 4.3, "MDS XML Elements: Presentation Column."

```
<PresentationTable …
    hasDispName=""
    dispName=""
    hasDispDescription=""
    dispDescription=""
    translationKey=""
    containerRef="">
  <Description />
  <Alias name="" />
  <PresentationColumn />
  <RefHierarchies>
    <RefPresentationHierarchy presentationHierarchyRef="" …/>
    <RefPresentationHierarchy presentationHierarchyRef="" …/>
  </RefHierarchies>
  <VisibilityFilter>
    <ExprText …/>
```

```
        <ExprTextDesc …/>
      </VisibilityFilter>
      <RefContentFolders>
        <RefPresentationTable presentationTableRef="" …/>
      </RefContentFolders>
  </PresentationTable>
```

Example

```
<PresentationTable mdsid="m80ebeef8-0fa8-0000-714b-e31d00000000"
    name="Class"
    iconIndex="93"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xmlns="http://www.oracle.com/obis/repository"
    hasDispName="false"
    hasDispDescription="false"
    containerRef="/oracle/bi/server/base/PresentationCatalog/OTBI HCM Stock
     Details_80ebeef7-0fa4-0000-714b-e31d00000000.xml#m80ebeef7-0fa4-0000-714b-
     e31d00000000">
    <Alias name="Dim - Class" />
    <PresentationColumn mdsid="m80ebefb7-0faa-0000-714b-e31d00000000"
      name="Class"
      hasDispName="false"
      hasDispDescription="false"
      overrideLogicalName="false"
      logicalColumnRef="/oracle/bi/server/base/LogicalTable/Dim _u0150 Class_
       80dc7e5c-07f3-0000-714b-e31d00000000.xml#m80dbc57a-07d6-0000-714b-
       e31d00000000">
    </PresentationColumn>
    <PresentationColumn mdsid="m80ebefb9-0faa-0000-714b-e31d00000000"
      name="ClassType"
      hasDispName="false"
      hasDispDescription="false"
      overrideLogicalName="false"
      logicalColumnRef="/oracle/bi/server/base/LogicalTable/Dim _u0150 Class_
       80dc7e5c-07f3-0000-714b-e31d00000000.xml#m80dbc580-07d6-0000-714b-
       e31d00000000">
    </PresentationColumn>
    <RefHierarchies>
      <RefPresentationHierarchy refId="m80ebeef8-0fa8-0000-714b-e31d00000000-
         m80ebeef9-0fbc-0000-714b-e31d00000000"
        presentationHierarchyRef="/oracle/bi/server/base/PresentationHierarchy/
         Class_80ebeef9-0fbc-0000-714b-e31d00000000.xml#m80ebeef9-0fbc-0000-714b-
         e31d00000000" />
    </RefHierarchies>
</PresentationTable>
```

4.3 MDS XML Elements: Presentation Column

The presentation column element corresponds to the presentation column object in the Presentation layer.

The presentation column element is not a top-level element - it appears as a child element of the presentation table element.

The presentation column tag includes the following attributes:

Table 4–5   Presentation Column Tag Attributes

Attribute Name	Description
overrideLogicalName	Indicates whether the presentation column has been configured to always use the logical column name.
	This option corresponds to **Use Logical Column Name** in the Administration Tool. A `false` value for this attribute indicates that this option has been selected.
hasDispName	Indicates whether this presentation column has a custom display name.
dispName	The value of the custom display name, if one exists for this presentation column.
hasDispDescription	Indicates whether this presentation column has a custom description.
dispDescription	The value of the custom description, if one exists for this presentation column.
translationKey	The value of the translation key, if one exists for this presentation column.
logicalColumnRef	References the logical column upon which this presentation column is based.

The presentation column tag includes the following child elements:

Table 4–6   Presentation Column Child Elements

Attribute Name	Description
Alias	Lists any aliases that have been defined for this presentation column. Aliases are created when presentation objects are renamed to ensure that any references to the old names still work in logical SQL queries.
	Each alias has an attribute called `name`.
VisibilityFilter	Contains the expression specified to control the visibility of this object in Answers and BI Composer. This element corresponds to the **Hide object if** field in the Administration Tool.
	The expression is contained in two sub-elements called `ExprText` and `ExprTextDesc`.

Syntax

```
<PresentationColumn …
    overideLogicalName=""
    hasDispName=""
    dispName=""
    hasDispDescription=""
    dispDescription=""
    translationKey=""
    logicalColumnRef="">
  <Description />
  <Alias name="" />
  <VisibilityFilter>
     <ExprText …/>
     <ExprTextDesc …/>
  </VisibilityFilter>
</PresentationColumn>
```

Example

```
<PresentationColumn mdsid="m80ebefb7-0faa-0000-714b-e31d00000000"
    name="Class"
    hasDispName="false"
    hasDispDescription="false"
    overrideLogicalName="false"
    logicalColumnRef="/oracle/bi/server/base/LogicalTable/Dim _u0150 Class_
      80dc7e5c-07f3-0000-714b-e31d00000000.xml#m80dbc57a-07d6-0000-714b-
      e31d00000000">
</PresentationColumn>
```

4.4 MDS XML Elements: Presentation Hierarchy

The presentation hierarchy element corresponds to the presentation hierarchy object in the Presentation layer.

The presentation hierarchy tag includes the following attributes:

Table 4–7   Presentation Hierarchy Tag Attributes

Attribute Name	Description
hasDispName	Indicates whether this presentation hierarchy has a custom display name.
dispName	The value of the custom display name, if one exists for this presentation hierarchy.
hasDispDescription	Indicates whether this presentation hierarchy has a custom description.
dispDescription	The value of the custom description, if one exists for this presentation hierarchy.
translationKey	The value of the translation key, if one exists for this presentation hierarchy.
containerRef	References the presentation table for this presentation hierarchy.
logicalDimensionRef	References the logical dimension upon which this presentation hierarchy is based.

The presentation hierarchy tag includes the following child elements:

Table 4–8   Presentation Hierarchy Child Elements

Element Name	Description
PresentationLevel	References the presentation levels for this presentation hierarchy.
	For details, see Section 4.5, "MDS XML Elements: Presentation Level."
Alias	Lists any aliases that have been defined for this presentation hierarchy. Aliases are created when presentation objects are renamed to ensure that any references to the old names still work in logical SQL queries.
	Each alias has an attribute called name.
RefDisplayColumns	For parent-child hierarchies only. This element references the columns designated to be used for display for this parent-child hierarchy. Each display column is contained in a sub-element called RefPresentationColumn.

Table 4–8   (Cont.) Presentation Hierarchy Child Elements

Element Name	Description
VisibilityFilter	Contains the expression specified to control the visibility of this object in Answers and BI Composer. This element corresponds to the **Hide object if** field in the Administration Tool.
	The expression is contained in two sub-elements called `ExprText` and `ExprTextDesc`.

Syntax

The syntax here includes the summary child element entry for the presentation level element. The full syntax for the presentation level element appears in Section 4.5, "MDS XML Elements: Presentation Level."

```
<PresentationHierarchy …
     hasDisplayName=""
     displayName=""
     hasDispDescription=""
     dispDescription=""
     translationKey=""
     containerRef=""
     logicalDimensionRef=""/>
  <Description />
  <Alias name="" />
  <PresentationLevel />
  <RefDisplayColumns>
    <RefPresentationColumn presentationColumnRef="" …/>
    <RefPresentationColumn presentationColumnRef="" …/>
  </RefDisplayColumns>
  <VisibilityFilter>
    <ExprText …/>
    <ExprTextDesc …/>
  </VisibilityFilter>
</PresentationHierarchy>
```

Example

```
<PresentationHierarchy mdsid="m80bee414-0fbc-0000-714b-e31d00000000"
  name="Product - Category"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xmlns="http://www.oracle.com/obis/repository"
  hasDispName="false"
  hasDispDescription="false"
   containerRef="/oracle/bi/server/base/PresentationTable/80beb309-
   0fa8-0000-714b-e31d00000000.xml#m80beb309-0fa8-0000-714b-e31d00000000"
  logicalDimensionRef="/oracle/bi/server/base/Dimension/80beaf01-
   07e3-0000-714b-e31d00000000.xml#m80beaf01-07e3-0000-714b-e31d00000000">
  <PresentationLevel mdsid="m80bee419-0fbe-0000-714b-e31d00000000"
    name="Category" hasDispName="false" hasDispDescription="false"
    containerRef="/oracle/bi/server/base/PresentationHierarchy/80bee414-0fbc-
     0000-714b-e31d00000000.xml#m80bee414-0fbc-0000-714b-e31d00000000"
    logicalLevelRef="/oracle/bi/server/base/Dimension/80beaf01-07e3-
     0000-714b-e31d00000000.xml#m80beafc1-07e9-0000-714b-e31d00000000">
    <RefDisplayColumns>
      <RefPresentationColumn refId="m80bee419-0fbe-0000-714b-e31d00000000-
         m80beb2a7-0faa-0000-714b-e31d00000000"
        presentationColumnRef="/oracle/bi/server/base/PresentationTable/80beb309-
         0fa8-0000-714b-e31d00000000.xml#m80beb2a7-0faa-0000-714b-
         e31d00000000" />
      <RefPresentationColumn refId="m80bee419-0fbe-0000-714b-e31d00000000-
```

```
            m80beb2a9-0faa-0000-714b-e31d00000000"
         presentationColumnRef="/oracle/bi/server/base/PresentationTable/80beb309-
            0fa8-0000-714b-e31d00000000.xml#m80beb2a9-0faa-0000-714b-
            e31d00000000" />
      </RefDisplayColumns>
   </PresentationLevel>
   <PresentationLevel mdsid="m80bee41a-0fbe-0000-714b-e31d00000000"
      name="Product" hasDispName="false" hasDispDescription="false"
      containerRef="/oracle/bi/server/base/PresentationHierarchy/80bee414-0fbc-
       0000-714b-e31d00000000.xml#m80bee414-0fbc-0000-714b-e31d00000000"
      logicalLevelRef="/oracle/bi/server/base/Dimension/80beaf01-07e3-
       0000-714b-e31d00000000.xml#m80beafc3-07e9-0000-714b-e31d00000000">
      <RefDisplayColumns>
        <RefPresentationColumn refId="m80bee41a-0fbe-0000-714b-e31d00000000-
           m80beb295-0faa-0000-714b-e31d00000000"
          presentationColumnRef="/oracle/bi/server/base/PresentationTable/80beb309-
           0fa8-0000-714b-e31d00000000.xml#m80beb295-0faa-0000-714b-
           e31d00000000" />
        <RefPresentationColumn refId="m80bee41a-0fbe-0000-714b-e31d00000000-
           m80beb297-0faa-0000-714b-e31d00000000"
          presentationColumnRef="/oracle/bi/server/base/PresentationTable/80beb309-
           0fa8-0000-714b-e31d00000000.xml#m80beb297-0faa-0000-714b-
           e31d00000000" />
      </RefDisplayColumns>
   </PresentationLevel>
</PresentationHierarchy>
```

4.5 MDS XML Elements: Presentation Level

The presentation level element corresponds to the presentation level object in the Presentation layer.

The presentation level element is not a top-level element - it appears as a child element of the presentation hierarchy element.

The presentation level tag includes the following attributes:

Table 4–9   Presentation Level Tag Attributes

Attribute Name	Description
hasDispName	Indicates whether this presentation level has a custom display name.
dispName	The value of the custom display name, if one exists for this presentation level.
hasDispDescription	Indicates whether this presentation level has a custom description.
dispDescription	The value of the custom description, if one exists for this presentation level.
translationKey	The value of the translation key, if one exists for this presentation level.
containerRef	References the presentation hierarchy to which this presentation level belongs.
logicalLevelRef	References the logical level upon which this presentation level is based.

The presentation level tag includes the following child elements:

Table 4–10   Presentation Level Child Elements

Element Name	Description
Alias	Lists any aliases that have been defined for this presentation level. Aliases are created when presentation objects are renamed to ensure that any references to the old names still work in logical SQL queries.
	Each alias has an attribute called `name`.
RefDrillTo	References the levels for cross-dimension drill-down operations, as in the case of a Region dimension with a City level that can have a "drill to" level Year in the Time dimension.
RefDisplayColumns	References the columns that have been designated to be used for display for this presentation level (on drill-down).
	Each column is contained in a sub-element called `RefPresentationColumn`.
VisibilityFilter	This child element is not used.

Syntax

```
<PresentationLevel …
      hasDisplayName=""
      displayName=""
      hasDispDescription=""
      dispDescription=""
      translationKey=""
      containerRef=""
      logicalLevelRef=""/>
   <Description />
   <RefDrillTo>
     <RefPresentationLevel presentationLevelRef="" …/>
     <RefPresentationLevel presentationLevelRef="" …/>
   </RefDrillTo>
   <RefDisplayColumns>
     <RefPresentationColumn presentationColumnRef="" …/>
     <RefPresentationColumn presentationColumnRef="" …/>
   </RefDisplayColumns>
   <Alias name="" />
</PresentationLevel>
```

Example

```
<PresentationLevel mdsid="m80de558f-0fbe-0000-714b-e31d00000000"
   name="Position Type"
   hasDispName="false"
   hasDispDescription="false"
   containerRef="/oracle/bi/server/base/PresentationHierarchy/HR Positions_80de
    558d-0fbc-0000-714b-e31d00000000.xml#m80de558d-0fbc-0000-714b-e31d00000000"
   logicalLevelRef="/oracle/bi/server/base/LogicalLevel/Position Type_002e58f1-
    07e9-0000-714b-e31d00000000.xml#m002e58f1-07e9-0000-714b-e31d00000000">
   <RefDisplayColumns>
     <RefPresentationColumn refId="m80de558f-0fbe-0000-714b-e31d00000000-
        m80de5584-0faa-0000-714b-e31d00000000"
       presentationColumnRef="/oracle/bi/server/base/PresentationTable/HR
        Position_80de558c-0fa8-0000-714b-e31d00000000.xml#m80de5584-0faa-0000-
        714b-e31d00000000" />
     <RefPresentationColumn refId="m80de558f-0fbe-0000-714b-e31d00000000-
        m80de5585-0faa-0000-714b-e31d00000000"
       presentationColumnRef="/oracle/bi/server/base/PresentationTable/HR
        Position_80de558c-0fa8-0000-714b-e31d00000000.xml#m80de5585-0faa-0000-
```

```
        714b-e31d00000000" />
    </RefDisplayColumns>
</PresentationLevel>
```

5

MDS XML Marketing, Security, and Other Elements

This chapter provides MDS XML reference information for Oracle Marketing Segmentation elements, security elements, and miscellaneous Oracle BI repository elements that do not fall in other categories.

This chapter contains the following topics:

- MDS XML Marketing Elements
- MDS XML Security Elements
- Other MDS XML Elements

5.1 MDS XML Marketing Elements

Marketing elements are typically those elements that are related to features for the Oracle Marketing Segmentation product. For information about features and options related to Oracle Marketing Segmentation, see the administrator documentation for the Oracle Marketing Segmentation application.

Marketing elements include:

- Section 5.1.1, "MDS XML Elements: Catalog Link"
- Section 5.1.2, "MDS XML Elements: Target Level"
- Section 5.1.3, "MDS XML Elements: List Catalog"
- Section 5.1.4, "MDS XML Elements: Qualified List Item"
- Section 5.1.5, "MDS XML Elements: Qualifying Key"
- Section 5.1.6, "MDS XML Elements: Sampling Table"
- Section 5.1.7, "MDS XML Elements: Seg Catalog"

5.1.1 MDS XML Elements: Catalog Link

The catalog link element corresponds to the conforming dimension link object in the Marketing metadata. A conforming dimension links a fact that contains target-level IDs to a fact that does not contain target-level IDs by navigating along a dimension that is shared by both fact tables.

The catalog link tag includes the following attributes:

Table 5–1   Catalog Link Tag Attributes

Attribute Name	Description
inColumnRef	References the presentation column that represents the primary key of the subject area from which the dimension link originates.
outColumnRef	References the presentation column that represents the primary key of the subject area to which the dimension link points.

Syntax

```
<CatalogLink …
     inColumnRef=""
     outColumnRef="">
   <Description />
</CatalogLink>
```

Example

```
<CatalogLink mdsid="m8033142f-0fac-0000-714b-e31d00000000"
   name="Customer Profile->Opportunity Contact"
   xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
   xmlns="http://www.oracle.com/obis/repository"
   inColumnRef="/oracle/bi/server/base/PresentationTable/_u0150 Contact Profile_80
     2b468d-0fa8-0000-714b-e31d00000000.xml#m80312fa3-0faa-0000-714b-e31d00000000"
   outColumnRef="/oracle/bi/server/base/PresentationTable/_u0150 Contact Profile_
     80330ba0-0fa8-0000-714b-e31d00000000.xml#m80330b9e-0faa-0000-714b-e31d00000000
     ">
   <Description>
     <![CDATA[ Used by Account Target Level to navigate to Opportunity Contact ]]>
   </Description>
</CatalogLink>
```

5.1.2 MDS XML Elements: Target Level

The target level element corresponds to the target level object in the Marketing metadata. A target level is the entity that a marketer wants to count, typically customer types like individuals, businesses, or households.

The target level tag includes the following attributes:

Table 5–2   Target Level Tag Attributes

Attribute Name	Description
hasDispName	Indicates whether this target level has a custom display name.
dispName	The value of the custom display name, if one exists for this target level.
hasDispDescription	Indicates whether this target level has a custom description.
dispDescription	The value of the custom description, if one exists for this target level.
translationKey	The value of the translation key, if one exists for this target level.
primaryQLIRef	References the primary qualified list item for this target level.
primaryCatalogRef	References the primary segmentation catalog for this target level.
staticSegmentCatalogRef	References the set of segmentation catalogs for this target level.

Table 5–2   (Cont.) Target Level Tag Attributes

Attribute Name	Description
staticSegmentTargetColumnRef	References the Target Id presentation column.
staticSegmentNodeColumnRef	References the GUID presentation column.
staticSegmentPhysicalTableRef	References the physical table that stores the result sets for this target level.
staticSegmentConnectionPoolRef	References the connection pool in which this target level is mapped.

The target level tag includes the following child elements:

Table 5–3   Target Level Child Elements

Element Name	Description
HeaderSQL	Contains the physical SQL to insert the Saved Result Header. Used when users save a result set.
DelHeaderSQL	Contains the physical SQL to delete the saved result set header. Used when users purge saved result sets.
DelDataSQL	Contains the physical SQL to delete the saved result data set. Used when users purge saved result sets.

Syntax

```
<TargetLevel …
     hasDispName=""
     dispName=""
     hasDispDescription=""
     dispDescription=""
     translationKey=""
     primaryQLIRef=""
     primaryCatalogRef=""
     staticSegmentCatalogRef=""
     staticSegmentTargetColumnRef=""
     staticSegmentNodeColumnRef=""
     staticSegmentPhysicalTableRef=""
     staticSegmentConnectionPoolRef="">
   <Description />
   <HeaderSQL … />
   <DelHeaderSQL … />
   <DelDataSQL … />
</TargetLevel>
```

Example

```
<TargetLevel mdsid="m802ba17b-0fae-0000-714b-e31d00000000"
   name="Contacts"
   xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
   xmlns="http://www.oracle.com/obis/repository"
   hasDispName="false"
   primaryQLIRef="/oracle/bi/server/base/QualifiedListItem/Contacts_802ba17c-
    0fb2-0000-714b-e31d00000000.xml#m802ba17c-0fb2-0000-714b-e31d00000000"
   primaryCatalogRef="/oracle/bi/server/base/PresentationCatalog/Customer Profile_
    segmentation_802b44df-0fa4-0000-714b-e31d00000000.xml#m802b44df-0fa4-0000-
    714b-e31d00000000"
   staticSegmentTargetColumnRef="/oracle/bi/server/base/PresentationTable/_u0150
```

```
    Contact Results Data_802ba2d1-0fa8-0000-714b-e31d00000000.xml#m802ba2cd-0faa-
    0000-714b-e31d00000000"
  staticSegmentNodeColumnRef="/oracle/bi/server/base/PresentationTable/_u0150
   Contact Results Data_802ba2d1-0fa8-0000-714b-e31d00000000.xml#m802ba2cf-0faa-
    0000-714b-e31d00000000"
  staticSegmentPhysicalTableRef="/oracle/bi/server/base/PhysicalTable/M_SR_
   CONTACT_802ba200-0bb9-0000-714b-e31d00000000.xml#m802ba200-0bb9-0000-714b-
   e31d00000000">
  <HeaderSQL>
    <![CDATA[ INSERT INTO M_SR_HEADER (GUID, SEGMENT_PATH, SR_CUSTOM_LABEL,
        PRIORITY, NODE_PATH, NODE_LABEL, TARGET_LEVEL, CREATED_BY, "COUNT", DATE_
        TIME, SR_PATH, CONNECTION_POOL) VALUES ('@{guid}', '@{segmentPath}',
        '@{srCustomLabel}', @{priority}, '@{nodePath}', '@{nodeLabel}',
        '@{targetLevel}','@{createdBy}', @{count},'@{createdTime}', '@{srPath}',
        '@{connectionPool}') ]]>
  </HeaderSQL>
  <DelHeaderSQL>
    <![CDATA[ DELETE FROM M_SR_HEADER WHERE GUID IN (@{guids}) ]]>
  </DelHeaderSQL>
  <DelDataSQL>
    <![CDATA[ DELETE FROM M_SR_CONTACT WHERE GUID IN (@{guids}) ]]>
  </DelDataSQL>
</TargetLevel>
```

5.1.3 MDS XML Elements: List Catalog

The list catalog element corresponds to the list catalog object in the Marketing metadata. A list catalog is an object that is used to generate a list of data at the target level.

The list catalog key tag includes the following attributes:

Table 5–4   List Catalog Tag Attributes

Attribute Name	Description
presentationCatalogRef	References the subject area for this list catalog. The name of the subject area is used as the name of the list catalog.

The list catalog tag does not include any child elements.

Syntax

```
<ListCatalog …
    presentationCatalogRef="">
  <Description />
</ListCatalog>
```

Example

```
<ListCatalog mdsid="m8032fe28-0fb0-0000-714b-e31d00000000"
  name="Marketing Contact List"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xmlns="http://www.oracle.com/obis/repository"
  presentationCatalogRef="/oracle/bi/server/base/PresentationCatalog/Marketing
   Contact List_8031263b-0fa4-0000-714b-e31d00000000.xml#m8031263b-0fa4-0000-
    714b-e31d00000000">
</ListCatalog>
```

5.1.4 MDS XML Elements: Qualified List Item

The qualified list item element corresponds to the qualified list item object in the Marketing metadata. A qualified list item is an entity that is evaluated against segment criteria so that the information related to that entity can be exported in a list file.

The qualified list item tag includes the following attributes:

Table 5–5   Qualified List Item Tag Attributes

Attribute Name	Description
cacheTable	Indicates whether this qualified list item is cached.
cacheCatalogRef	References the subject area for the cache for this qualified list item.
cacheConnPoolRef	References the connection pool for the cached table.
cacheTargetColumnRef	References the Target Id presentation column.
cacheNodeColumnRef	References the GUID presentation column.
cachePhysicalTableRef	References the physical table that stores the cached qualified list item.

The qualified list item tag includes the following child elements:

Table 5–6   Qualified List Item Child Elements

Element Name	Description
DeleteSQL	Contains the physical SQL used to delete the cached results.

Syntax

```
<QualifiedListItem …
    cacheTable=""
    cacheCatalogRef=""
    cacheConnPoolRef=""
    cacheTargetColumnRef=""
    cacheNodeColumnRef=""
    cachePhysicalTableRef="">
  <DeleteSQL>
    <!CDATA[[…]]>
  </DeleteSQL>
</QualifiedListItem>
```

Example

```
<QualifiedListItem mdsid="m80331498-0fb2-0000-714b-e31d00000000"
   name="Ordered Products"
   xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
   xmlns="http://www.oracle.com/obis/repository"
   cacheTable="M_C_GENERIC"
   cacheCatalogRef="/oracle/bi/server/base/PresentationCatalog/Marketing
    Segmentation Cache and Saved Results_802ba2ad-0fa4-0000-714b-e31d00000000.
    xml#m802ba2ad-0fa4-0000-714b-e31d00000000"
   cacheConnPoolRef="/oracle/bi/server/base/ConnectionPool/Oracle Data Warehouse
    Connection Pool_00238434-0bd5-0000-714b-e31d00000000.xml#m00238434-0bd5-0000-
    714b-e31d00000000"
   cacheTargetColumnRef="/oracle/bi/server/base/PresentationTable/_u0150 Generic
    Item Cache_80331490-0fa8-0000-714b-e31d00000000.xml#m8033148e-0faa-0000-714b-
    e31d00000000"
   cacheNodeColumnRef="/oracle/bi/server/base/PresentationTable/_u0150 Generic
```

```
        Item Cache_80331490-0fa8-0000-714b-e31d00000000.xml#m8033148c-0faa-0000-714b-
        e31d00000000"
      cachePhysicalTableRef="/oracle/bi/server/base/PhysicalTable/M_C_GENERIC_8033
        1468-0bb9-0000-714b-e31d00000000.xml#m80331468-0bb9-0000-714b-e31d00000000">
      <DeleteSQL>
        <![CDATA[ DELETE FROM M_C_GENERIC WHERE GUID = '@{guid}' ]]>
      </DeleteSQL>
    </QualifiedListItem>
```

5.1.5 MDS XML Elements: Qualifying Key

The qualifying key element corresponds to the qualifying keys that are used in list catalog or segmentation catalog objects in the Marketing metadata. Qualifying keys map qualified list items to presentation columns.

The qualifying key tag includes the following attributes:

Table 5–7   Qualifying Key Tag Attributes

Attribute Name	Description
listCatalogRef	References the list catalog to which this qualifying key belongs.
segmentationCatalogRef	References the segmentation catalog to which this qualifying key belongs.
keyColumnRef	References the presentation column for this qualifying key.
qualifiedListItemRef	References the qualified list item for this qualifying key.

Syntax

```
<QualifyingKey …
     listCatalogRef=""
     segmentationCatalogRef=""
     keyColumnRef=""
     qualifiedListItemRef="">
   <Description />
</QualifyingKey>
```

Example

```
<QualifyingKey mdsid="m80c10f04-0fb4-0000-714b-e31d00000000"
   name="MKTG_QK_4020:4722171188242192"
   xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
   xmlns="http://www.oracle.com/obis/repository"
   segmentationCatalogRef="/oracle/bi/server/base/SegCatalog/Accounts_Pharma Sales
    Effectiveness_Segmentation_80c10f0a-0fba-0000-714b-e31d00000000.xml#m80c10f0a-
    0fba-0000-714b-e31d00000000"
   keyColumnRef="/oracle/bi/server/base/PresentationTable/Accounts_80c0ef0d-0fa8-
    0000-714b-e31d00000000.xml#m80c0ef09-0faa-0000-714b-e31d00000000"
   qualifiedListItemRef="/oracle/bi/server/base/QualifiedListItem/Accounts_802b
    a1a6-0fb2-0000-714b-e31d00000000.xml#m802ba1a6-0fb2-0000-714b-e31d00000000">
</QualifyingKey>
```

5.1.6 MDS XML Elements: Sampling Table

The sampling table element corresponds to the sampling table object in the Marketing metadata. Sampling tables are created and managed as part of target level objects.

The sampling table tag includes the following attributes:

Table 5–8   Sampling Table Tag Attributes

Attribute Name	Description
factor	The sampling factor (for example, 10%).
targetLevelRef	References the target level for the sampling table.
physicalTableRef	References the physical table being used as the sampling table.

Syntax

```
<SamplingTable …
    factor=""
    targetLevelRef=""
    physicalTableRef="">
  <Description />
</SamplingTable>
```

Example

```
<SamplingTable mdsid="m80342e77-0fb8-0000-714b-e31d00000000"
   name="M_10A_ASSET_D"
   xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
   xmlns="http://www.oracle.com/obis/repository"
   factor="0.1"
   targetLevelRef="/oracle/bi/server/base/TargetLevel/Assets_80341f24-0fae-0000-
     714b-e31d00000000.xml#m80341f24-0fae-0000-714b-e31d00000000"
   physicalTableRef="/oracle/bi/server/base/PhysicalTable/W_ASSET_D_00226101-0bb9-
     0000-714b-e31d00000000.xml#m00226101-0bb9-0000-714b-e31d00000000">
</SamplingTable>
```

5.1.7 MDS XML Elements: Seg Catalog

The seg catalog element corresponds to the segmentation catalog object in the Marketing metadata. Segmentation catalogs are Oracle BI subject areas that are enabled for segmentation. Segmentation catalogs provides a set of dimensions and fact measures that can be used to create segment criteria.

The seg catalog tag includes the following attributes:

Table 5–9   Seg Catalog Tag Attributes

Attribute Name	Description
targetLevelRef	References the target level for the segmentation catalog.
presentationCatalogRef	References the subject area for this segmentation catalog.

Syntax

```
<SegCatalog …
    targetLevelRef=""
    presentationCatalogRef="">
  <Description />
</SegCatalog>
```

Example

```
<SegCatalog mdsid="m802ba19b-0fba-0000-714b-e31d00000000"
   name="Contacts_Quotes_segmentation"
   xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
   xmlns="http://www.oracle.com/obis/repository"
   targetLevelRef="/oracle/bi/server/base/TargetLevel/Contacts_802ba17b-0fae-
```

```
      0000-714b-e31d00000000.xml#m802ba17b-0fae-0000-714b-e31d00000000"
    presentationCatalogRef="/oracle/bi/server/base/PresentationCatalog/Quotes_
      segmentation_802b5904-0fa4-0000-714b-e31d00000000.xml#m802b5904-0fa4-0000-
      714b-e31d00000000">
  </SegCatalog>
```

5.2 MDS XML Security Elements

Security elements are typically those elements that are related to Oracle Business Intelligence security features, such as those related to variables, authentication, privileges, users, and application roles. Security elements include:

- Section 5.2.1, "MDS XML Elements: Variable"
- Section 5.2.2, "MDS XML Elements: LDAP Server"
- Section 5.2.3, "MDS XML Elements: Init Block"
- Section 5.2.4, "MDS XML Elements: Custom Authenticator"
- Section 5.2.5, "MDS XML Elements: Privilege Package"
- Section 5.2.6, "MDS XML Elements: Object Privilege"
- Section 5.2.7, "MDS XML Elements: Query Privilege"
- Section 5.2.8, "MDS XML Elements: User"
- Section 5.2.9, "MDS XML Elements: Group"
- Section 5.2.10, "MDS XML Elements: DB Sign-On"

5.2.1 MDS XML Elements: Variable

The variable element corresponds to the variable object in the Physical layer of the repository.

The variable tag includes the following attributes:

Table 5–10   Variable Tag Attributes

Attribute Name	Description
securityMask	For session variables only. This attribute stores the value of the following options:
	■ **Enable any user to set the value.** When selected, lets session variables be set after the initialization block has populated the value (at user login) by calling the ODBC store procedure `NQSSetSessionValue()`. For example, this option lets non-administrators set this variable for sampling.
	■ **Security Sensitive.** When selected, identifies the variable as sensitive to security for virtual private databases (VPDs). When filtering cache table matches, the Oracle BI Server looks at the parent database of each column or table that is referenced in the logical request projection list. If the physical database source is a VPD, the Oracle BI Server matches a list of security-sensitive variables to each prospective cache hit. Cache hits would only occur on cache entries that included and matched all security-sensitive variables.

Table 5–10   (Cont.) Variable Tag Attributes

Attribute Name	Description
isSessionVar	If set to true, indicates that this variable is a session variable. Session variables are created and assigned a value when each user logs on, unlike repository variables, which have static values.
initBlockRef	References the init block where this variable is initialized.

The variable tag includes the following child elements:

Table 5–11   Variable Child Elements

Element Name	Description
Expr	Contains the expression that forms the definition of this variable.

Syntax

```
<Variable name=""
    securityMask=""
    isSessionVar=""
    initBlockRef="">
  <Description />
  <Expr>
    <ExprText>...</ExprText>
    <ExprTextDesc>...</ExprTextDesc>
    <ObjectRefList>
      <RefObject objectRef="" …/>
      <RefObject objectRef="" …/>
    </ObjectRefList>
  </Expr>
</Variable>
```

Example

```
<Variable mdsid="m804054aa-0bd7-0000-714b-e31d00000000"
   name="CURRENT_DAY"
   xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
   xmlns="http://www.oracle.com/obis/repository">
   <Description>
     <![CDATA[ Returns the value of Current Date in the MM/DD/YYYY format. ]]>
   </Description>
   <Expr>
     <ExprText>
       <![CDATA[ VALUEOF("%1") ]]>
     </ExprText>
     <ExprTextDesc>
       <![CDATA[ VALUEOF("Warehouse Refresh Date"."LAST_REFRESH_DT") ]]>
     </ExprTextDesc>
     <ObjectRefList>
       <RefObject refId="m804054aa-0bd7-0000-714b-e31d00000000-m0023848c-0bd7-
          0000-714b-e31d00000000"
         objectRef="/oracle/bi/server/base/Variable/LAST_REFRESH_DT_0023848c-0bd7-
         0000-714b-e31d00000000.xml#m0023848c-0bd7-0000-714b-e31d00000000" />
     </ObjectRefList>
   </Expr>
</Variable>
```

5.2.2 MDS XML Elements: LDAP Server

The LDAP server element corresponds to the LDAP server object in the Identity Manager dialog in the Administration Tool.

The LDAP server tag includes the following attributes:

Table 5–12   LDAP Server Tag Attributes

Attribute Name	Description
hostName	The host name of the LDAP server.
port	The port number of the LDAP server (for example, 389).
baseDN	The base distinguished name (DN) that identifies the starting point of the authentication search.
bindDN	The optional DN that is required to bind to the LDAP server. This option is required if `isADSI` is set to true.
userNameAttrType	A value that uniquely identifies a user, such as the user ID, the RDN (relative distinguished name), or (for ADSI) sAMAccountName.
domainID	A domain identifier that uniquely identifies the domain for which the LDAP object is responsible. This is especially useful when there are multiple LDAP objects.
password	The user password associated with the Bind DN. This option is required if `isADSI` is set to true. Note that passwords are encrypted.
timeout	The time period after which Administration Tool import attempts or Oracle BI Server user authentication attempts against this LDAP server will time out.
cacheExpiry	The interval at which the authentication cache entry in the LDAP cache for a logged on user is refreshed. This option corresponds to **Cache refresh interval** in the Repository tab of the Options dialog in the Administration Tool.
isADSI	If set to true, indicates that this is an Active Directory LDAP server.
useSSL	If set to true, indicates that the connection to the LDAP server uses Secure Sockets Layer (SSL).
keyFile	The name of the key file that holds the client certificate and Certificate Authority (CA) certificate. Required if useSSL is set to true. This option corresponds to **Key file name** in the Repository tab of the Options dialog in the Administration Tool.
keyPassword	The password that is required to connect to the external LDAP server.
version	The LDAP version number of the LDAP server, either 2 or 3. The default is 3.
cacheEntries	The maximum number of entries in the authentication cache, preallocated when the Oracle BI Server starts. If the number of users exceeds this limit, cache entries are replaced using the LRU algorithm. If this value is 0, then the authentication cache is disabled. This option corresponds to **Number of Cache Entries** in the Repository tab of the Options dialog in the Administration Tool.

The LDAP server tag does not include any child elements.

Syntax

```
<LDAPServer …
    hostName=""
    port=""
    baseDN=""
    bindDN=""
    userNameAttrType=""
    domainID=""
    password=""
    timeout=""
    cacheExpiry=""
    entities=""
    isADSI=""
    useSSL=""
    keyFile=""
    keyPassword=""
    version=""
    cacheEntries="">
  <Description />
</LDAPServer>
```

Example

```
<LDAPServer mdsid="mbd837790-0bf6-1000-806e-0a97078d0000"
   name="LDAP01"
   isDefaultReadable="false"
   xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
   xmlns="http://www.oracle.com/obis/repository"
   hostName="sdacns05"
   port="389"
   version="3"
   baseDN="name1"
   bindDN="name2"
   userNameAttrType="sAMAccountName"
   password="6C6F0BE01FC4111F3AC2236A364D912EEBFE551E0A2AC2F5352A18F9228901AA7D896
    E3DA56ECB22F248B15B1759E26A638B148E7051643B2E72CAAC984A64515B58DEA74F85662056F
    795206529ADEF"
   timeout="60"
   cacheExpiry="86400"
   cacheEntries="1000"
   isADSI="true"
   useSSL="false"
   keyPassword="E3130008E1C4CAD47041E4AE68B048E67C2E35213306F12832914CBE7A9DD9556
    1D771DED06484112B1FC6F27B6D0D58">
</LDAPServer>
```

5.2.3 MDS XML Elements: Init Block

The init block element corresponds to the initialization block object in the Physical layer. Initialization blocks are used to initialize dynamic repository variables, system session variables, and nonsystem session variables.

The init block tag includes the following attributes:

Table 5–13   Init Block Tag Attributes

Attribute Name	Description
isSessionVar	If set to true, indicates that this initialization block is a session initialization block. Session initialization blocks are used with session variables.
	The default value is false.
refreshPeriod	The refresh interval for this initialization block, in seconds. For repository initialization blocks only.
	The default value is 0.
baseTime	The start date and time for this initialization block. For repository initialization blocks only.
	The default value is `2001-01-01 00:00:00`.
isRowWiseInit	If set to true, indicates that row-wise initialization has been enabled. Row-wise initialization lets you create session variables dynamically and set their values when a session begins. For session initialization blocks only.
	The default value is false.
isRowWiseCacheEnabled	If set to true, indicates that the **Use caching** option has been enabled. This option directs the Oracle BI Server to store the results of the query in a main memory cache. This option is only available if row-wise initialization has been enabled.
	The default value is true.
isSuccRequired	Indicates that the **Required for Authentication** option has been selected for this initialization block in the Administration Tool.
	If this option is selected, this initialization block must succeed for users to log in. In other words, users will be denied access to Oracle BI EE if the initialization block fails to execute. Failure to execute can occur if the wrong credentials have been defined in the initialization block, or if there is an error in the default initialization string.
	The default value is false.
isEnabled	If set to true, indicates that this initialization block is enabled. For session initialization blocks only.
	The default value is true.
isDeferredExecution	If set to true, indicates that deferred execution of this initialization block is enabled.
	Deferred execution is used to speed up the server startup time, by preventing the execution of the SQL for the initialization block when the server starts. The SQL is issued and the variables are intialized only when one of the variables is used.
isDBIndependentSQL	If set to true, indicates that database independent SQL is enabled.
	The SQL is logical SQL, and it is translated by Oracle BI server to database specific SQL.
connectionPoolRef	References the connection pool for this initialization block.
	This element is only used if the data source type for this initialization block is Database or XML.

The init block tag includes the following child elements:

Table 5–14   Init Block Child Elements

Element Name	Description
DBMapItem	Stores the value of database-specific strings. The `<DBMapItem>` element contains a `<name>` attribute and a `<Value>` sub-element.
RefPredecessors	References the initialization blocks, if any, that are initialized before this initialization block
	Each initialization block is contained in a sub-element called `RefInitBlock`.
RefVariables	References the variables that are associated with this initialization block.
	Each variable is contained in a sub-element called `RefVariable`.
InitString	The SQL initialization string needed to populate the variables.
	This element is only used if the data source type for this initialization block is Database or XML.
RefLDAPServers	References the LDAP servers that are associated with this initialization block.
	Each LDAP server is contained in a sub-element called `RefLDAPServer`.
	This element is only used if the data source type for this initialization block is LDAP.

Syntax

```
<InitBlock …
     isSessionVar=""
     refreshPeriod=""
     baseTime=""
     isRowWiseInit=""
     isRowWiseCacheEnabled=""
     isSuccRequired=""
     isEnabled=""
     isDeferredExecution=""
     isDBIndependentSQL=""
     connectionPoolRef="">
  <Description />
  <DBMapItem name="">
     <Value …/>
  </DBMapItem>
  <RefPredecessors>
    <RefInitBlock predecessorRef="" …/>
    <RefInitBlock predecessorRef="" …/>
  </RefPredecessors>
  <RefVariables>
    <RefVariable variableRef="" …/>
    <RefVariable variableRef="" …/>
  </RefVariables>
  <InitString …/>
  <RefLDAPServers>
    <RefLDAPServer ldapServerRef="" …/>
    <RefLDAPServer ldapServerRef="" …/>
  </RefLDAPServers>
</InitBlock>
```

Example

```
<InitBlock mdsid="m002384be-0bd9-0000-714b-e31d00000000"
```

```
                      name="Primary Owner ID"
                      xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
                      xmlns="http://www.oracle.com/obis/repository"
                      isSessionVar="true"
                      isRowWiseCacheEnabled="false"
                      isEnabled="false"
                      connectionPoolRef="/oracle/bi/server/base/ConnectionPool/Siebel OLTP Connection
                       Pool_00238431-0bd5-0000-714b-e31d00000000.xml#m00238431-0bd5-0000-714b-
                       e31d00000000">
                      <DBMapItem name="DefaultMulDB">
                        <Value>
                          <![CDATA[
                             select PAR_ROW_ID
                             from VALUEOF(TBO).S_USER
                             where LOGIN = ':USER' ]]>
                        </Value>
                      </DBMapItem>
                      <RefPredecessors>
                        <RefInitBlock refId="m002384be-0bd9-0000-714b-e31d00000000-m002384ac-0bd9-
                          0000-714b-e31d00000000"
                          predecessorRef="/oracle/bi/server/base/InitBlock/Authentication_002384ac-
                          0bd9-0000-714b-e31d00000000.xml#m002384ac-0bd9-0000-714b-e31d00000000" />
                      </RefPredecessors>
                      <RefVariables>
                        <RefVariable refId="m002384be-0bd9-0000-714b-e31d00000000-m0023845e-0bd7-
                          0000-714b-e31d00000000"
                          variableRef="/oracle/bi/server/base/Variable/PR_OWNER_ID_0023845e-0bd7-
                          0000-714b-e31d00000000.xml#m0023845e-0bd7-0000-714b-e31d00000000" />
                      </RefVariables>
                      <InitString>
                          <![CDATA[
                             select PAR_ROW_ID
                             from VALUEOF(TBO).S_USER
                             where LOGIN = ':USER' ]]>
                      </InitString>
                  </InitBlock>
```

5.2.4 MDS XML Elements: Custom Authenticator

The Custom Authenticator element corresponds to the Custom Authenticator object in the Identity Manager dialog in the Administration Tool.

The Custom Authenticator tag includes the following attributes:

Table 5–15   Custom Authenticator Tag Attributes

Attribute Name	Description
cacheExpiry	The interval at which the authentication cache entry for a logged on user is refreshed for this custom authenticator.
path	The path and name of the authenticator plug-in dll.
configParam	Lists any parameters for this custom authenticator that have been explicitly exposed for configuration.
hiddenParam	Lists any parameters for this custom authenticator that have been encrypted, such as passwords.

Table 5–15 (Cont.) Custom Authenticator Tag Attributes

Attribute Name	Description
cacheEntries	The maximum number of entries in the authentication cache for this custom authenticator, preallocated when the Oracle BI Server starts. If the number of users exceeds this limit, cache entries are replaced using the LRU algorithm. If this value is 0, then the authentication cache is disabled.
csfKey	This attribute is not used.
initBlockRef	References the init block for the custom authenticator.

The Custom Authenticator element does not include any child elements.

Syntax

```
<CustomAuthenticator …
    isDefaultReadable=""
    cacheExpiry=""
    path=""
    configParam=""
    hiddenParam=""
    cacheEntries=""
    initBlockRef="">
  <Description />
</CustomAuthenticator>
```

Example

```
<CustomAuthenticator mdsid="mbdf488e1-0bf6-1000-806e-0a97078d0000"
   name="CA01"
   isDefaultReadable="false"
   xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
   xmlns="http://www.oracle.com/obis/repository"
   cacheExpiry="86400"
   cacheEntries="1000"
   path="authenticate.dll"
   configParam="ABC"
   hiddenParam="D7EDED84BC624A917F5B462A4DCA05CDCE256EEEEEDC97D5D885270569A16AB6">
</CustomAuthenticator>
```

5.2.5 MDS XML Elements: Privilege Package

The privilege package element is a container for other privileges. It corresponds to a set of permissions that applies to a particular user or application role object in the repository metadata. The privilege package element contains the information available on the Object Permissions, Data Filters, and Query Limits tabs of the User/Application Role Permissions dialog in the Administration Tool.

Because privilege packages can be associated with more than one user or application role, the total number of privilege packages may not equal the total number of users and application roles.

The privilege package tag includes the following attributes:

Table 5–16 Privilege Package Tag Attributes

Attribute Name	Description
userRef	References any users that have the privilege package.

Table 5–16   (Cont.) Privilege Package Tag Attributes

Attribute Name	Description
roleRef	References any application roles that have the privilege package.
isFineGrainedMode	Reserved for Oracle internal use only.

The privilege package tag includes the following child elements:

Table 5–17   Privilege Package Child Elements

Element Name	Description
QueryPrivilegeMapping	References any query privileges that belong to this privilege package, along with the corresponding database. Contains two attributes: `databaseRef`, which references the database name, and `queryPrivilegeRef`, which references the query privilege.
FilterMapping	References any data filters that belong to this privilege package by mapping an object name with the filter expression. Contains the following attributes and sub-elements: ■ `Status`. Valid values are Enabled, Disabled, and Ignored ■ `objectRef`, which references the metadata object name ■ `Expr`, which contains the filter expression

Syntax

```
<PrivilegePackage …
    userRef=""
    roleRef=""
    isFineGrainedMode="">
  <Description />
  <QueryPrivilegeMapping
    databaseRef=""
    queryPrivilegeRef="">
  <FilterMapping
    status=""
    objectTypeID=""
    objectRef="">
    <Expr>
      <ExprText>...</ExprText>
      <ExprTextDesc>...</ExprTextDesc>
      <ObjectRefList>
        <RefObject objectRef="" …/>
        <RefObject objectRef="" …/>
      </ObjectRefList>
    </Expr>
  </FilterMapping>
</PrivilegePackage>
```

Example

```
<PrivilegePackage mdsid="m808626e7-1071-0000-714b-e31d00000000"
   name="PrivPack_4209:3417381144981469"
   xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
   xmlns="http://www.oracle.com/obis/repository"
   roleRef="/oracle/bi/server/base/Group/Purchasing Buyer_0041592c-106e-0000-714b-
     e31d00000000.xml#m0041592c-106e-0000-714b-e31d00000000">
   <QueryPrivilegeMapping
```

```
  databaseRef="/oracle/bi/server/base/Database/Oracle Data Warehouse_0023840a-
   0bcf-0000-714b-e31d00000000.xml#m0023840a-0bcf-0000-714b-e31d00000000"
  queryPrivilegeRef="/oracle/bi/server/base/QueryPrivilege/QueryPriv_4204_
   u0058_3417391144981469_808626e8-106c-0000-714b-e31d00000000.xml#m808626e8-
   106c-0000-714b-e31d00000000" />
<FilterMapping status="disable" objectTypeId="2035"
  objectRef="/oracle/bi/server/base/LogicalTable/Fact _u0150 Sourcing _u0150
   Response_80d105ed-07f3-0000-714b-e31d00000000.xml#m80d105ed-07f3-0000-714b-
   e31d00000000">
  <Expr>
    <ExprText>
      <![CDATA[ cast("%1" AS DOUBLE) = valueof(NQ_SESSION.PRC_BU_MANAGE_NEG)
         AND ("%2" = valueof(NQ_SESSION."%3") OR cast("%1" AS DOUBLE)=
         valueof(NQ_SESSION.PRC_BU_MANAGE_NEG_ViewOthers)) ]]>
    </ExprText>
    <ExprTextDesc>
      <![CDATA[ cast("Core"."Dim - Procurement Business Unit"."Key Id" AS
         DOUBLE) = valueof(NQ_SESSION.PRC_BU_MANAGE_NEG) AND ("Core"."Dim -
         Purchase Buyer"."Purchase Buyer Login" = valueof(NQ_SESSION."USER")
         OR cast("Core"."Dim - Procurement Business Unit"."Key Id" AS DOUBLE)=
         valueof(NQ_SESSION.PRC_BU_MANAGE_NEG_ViewOthers)) ]]>
    </ExprTextDesc>
    <ObjectRefList>
      <RefObject refId="m808626e7-1071-0000-714b-e31d00000000-m000b17e8-07d6-
         0000-714b-e31d00000000"
       objectTypeId="2006"
       objectRef="/oracle/bi/server/base/LogicalTable/Dim _u0150 Procurement
         Business Unit_000b17df-07f3-0000-714b-e31d00000000.xml#m000b17e8-07d6-
         0000-714b-e31d00000000" />
      <RefObject refId="m808626e7-1071-0000-714b-e31d00000000-m80ea6449-07d6-
         0000-714b-e31d00000000"
       objectTypeId="2006"
       objectRef="/oracle/bi/server/base/LogicalTable/Dim _u0150 Purchase
         Buyer_805fe01a-07f3-0000-714b-e31d00000000.xml#m80ea6449-07d6-0000-
         714b-e31d00000000" />
      <RefObject refId="m808626e7-1071-0000-714b-e31d00000000-m00238445-0bd7-
         0000-714b-e31d00000000"
        objectRef="/oracle/bi/server/base/Variable/USER_00238445-0bd7-0000-
         714b-e31d00000000.xml#m00238445-0bd7-0000-714b-e31d00000000" />
    </ObjectRefList>
  </Expr>
</FilterMapping>
<FilterMapping status="disable" objectTypeId="2035"
  objectRef="/oracle/bi/server/base/LogicalTable/Fact _u0150 Sourcing _u0150
   Negotiation Award_80d105fe-07f3-0000-714b-e31d00000000.xml#m80d105fe-07f3-
   0000-714b-e31d00000000">
  <Expr>
    <ExprText>
      <![CDATA[ cast("%1" AS DOUBLE)= valueof(NQ_SESSION.PRC_BU_MANAGE_NEG) AND
         ("%2" = valueof(NQ_SESSION."%3") OR cast("%1" AS DOUBLE) =
         valueof(NQ_SESSION.PRC_BU_MANAGE_NEG_ViewOthers)) ]]>
    </ExprText>
    <ExprTextDesc>
      <![CDATA[ cast("Core"."Dim - Procurement Business Unit"."Key Id" AS
         DOUBLE)= valueof(NQ_SESSION.PRC_BU_MANAGE_NEG) AND ("Core"."Dim -
         Purchase Buyer"."Purchase Buyer Login" = valueof(NQ_SESSION."USER"
         OR cast("Core"."Dim - Procurement Business Unit"."Key Id" AS DOUBLE) =
         valueof(NQ_SESSION.PRC_BU_MANAGE_NEG_ViewOthers)) ]]>
    </ExprTextDesc>
    <ObjectRefList>
```

```
            <RefObject refId="m808626e7-1071-0000-714b-e31d00000000-m000b17e8-07d6-
              0000-714b-e31d00000000"
             objectTypeId="2006"
             objectRef="/oracle/bi/server/base/LogicalTable/Dim _u0150 Procurement
              Business Unit_000b17df-07f3-0000-714b-e31d00000000.xml#m000b17e8-07d6-
              0000-714b-e31d00000000" />
            <RefObject refId="m808626e7-1071-0000-714b-e31d00000000-m80ea6449-07d6-
              0000-714b-e31d00000000"
             objectTypeId="2006"
             objectRef="/oracle/bi/server/base/LogicalTable/Dim _u0150 Purchase
              Buyer_805fe01a-07f3-0000-714b-e31d00000000.xml#m80ea6449-07d6-0000-
              714b-e31d00000000" />
            <RefObject refId="m808626e7-1071-0000-714b-e31d00000000-m00238445-0bd7-
              0000-714b-e31d00000000"
             objectRef="/oracle/bi/server/base/Variable/USER_00238445-0bd7-0000-
              714b-e31d00000000.xml#m00238445-0bd7-0000-714b-e31d00000000" />
          </ObjectRefList>
        </Expr>
      </FilterMapping>
      <FilterMapping status="disable" objectTypeId="2035"
        objectRef="/oracle/bi/server/base/LogicalTable/Fact _u0150 Sourcing _u0150
         Negotiation_80d10624-07f3-0000-714b-e31d00000000.xml#m80d10624-07f3-0000-
         714b-e31d00000000">
        <Expr>
          <ExprText>
            <![CDATA[ cast("%1" AS DOUBLE)= valueof(NQ_SESSION.PRC_BU_MANAGE_NEG) AND
               ("%2" = valueof(NQ_SESSION."%3") OR cast("%1" AS DOUBLE) =
               valueof(NQ_SESSION.PRC_BU_MANAGE_NEG_ViewOthers)) ]]>
          </ExprText>
          <ExprTextDesc>
            <![CDATA[ cast("Core"."Dim - Procurement Business Unit"."Key Id" AS
               DOUBLE)= valueof(NQ_SESSION.PRC_BU_MANAGE_NEG) AND ("Core"."Dim -
               Purchase Buyer"."Purchase Buyer Login" = valueof(NQ_SESSION."USER")
               OR cast("Core"."Dim - Procurement Business Unit"."Key Id" AS DOUBLE) =
               valueof(NQ_SESSION.PRC_BU_MANAGE_NEG_ViewOthers)) ]]>
          </ExprTextDesc>
          <ObjectRefList>
            <RefObject refId="m808626e7-1071-0000-714b-e31d00000000-m000b17e8-07d6-
              0000-714b-e31d00000000"
             objectTypeId="2006"
             objectRef="/oracle/bi/server/base/LogicalTable/Dim _u0150 Procurement
              Business Unit_000b17df-07f3-0000-714b-e31d00000000.xml#m000b17e8-07d6-
              0000-714b-e31d00000000" />
            <RefObject refId="m808626e7-1071-0000-714b-e31d00000000-m80ea6449-07d6-
              0000-714b-e31d00000000"
             objectTypeId="2006"
             objectRef="/oracle/bi/server/base/LogicalTable/Dim _u0150 Purchase
              Buyer_805fe01a-07f3-0000-714b-e31d00000000.xml#m80ea6449-07d6-0000-
              714b-e31d00000000" />
            <RefObject refId="m808626e7-1071-0000-714b-e31d00000000-m00238445-0bd7-
              0000-714b-e31d00000000"
             objectRef="/oracle/bi/server/base/Variable/USER_00238445-0bd7-0000-
              714b-e31d00000000.xml#m00238445-0bd7-0000-714b-e31d00000000" />
          </ObjectRefList>
        </Expr>
      </FilterMapping>
    </PrivilegePackage>
```

5.2.6 MDS XML Elements: Object Privilege

The object privilege element corresponds to the set of object permissions you can apply to metadata objects such as logical or presentation columns. In the Administration Tool, you can set object permissions in the Presentation layer, or in the Object Permissions tab of the User/Application Role Permissions dialog.

The object privilege tag includes the following attributes:

Table 5–18   Object Privilege Tag Attributes

Attribute Name	Description
type	Contains the type of privilege applied to the objects. Valid values are: ■ read: corresponds to the **Read** privilege in theAdministration Tool ■ readWrite: corresponds to the **Read/Write** privilege in the Administration Tool ■ none: corresponds to the **No Access** privilege in the Administration Tool This attribute can contain the following other values: delete, write, grant, and all. These other values are for internal use.
privilegePackageRef	References the privilege package block for the object privilege.

The object privilege tag includes the following child elements:

Table 5–19   Object Privilege Child Elements

Element Name	Description
RefObjects	References the set of objects for which this privilege type applies. Each object is contained in a sub-element called RefObject.

Syntax

```
<ObjectPrivilege …
    type=""
    privilegePackageRef="">
  <Description />
  <RefObjects>
    <RefObject objectRef="" …/>
    <RefObject objectRef="" …/>
  </RefObjects>
</ObjectPrivilege>
```

Example

```
<ObjectPrivilege mdsid="m80343298-05dc-0000-714b-e31d00000000"
   name="ObjPriv_1500:1678341098389037"
   xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
   xmlns="http://www.oracle.com/obis/repository"
   type="none"
   privilegePackageRef="/oracle/bi/server/base/PrivilegePackage/PrivPack_4209_
    u0058_1278041021507837_0023e21b-1071-0000-714b-e31d00000000.xml#m0023e21b-
    1071-0000-714b-e31d00000000">
   <RefObjects>
     <RefObject refId="m80343298-05dc-0000-714b-e31d00000000-m80343156-0fa8-0000-
        714b-e31d00000000"
```

```
          objectTypeId="4008"
          objectRef="/oracle/bi/server/base/PresentationTable/Fact _u0150 Contact_
            80343156-0fa8-0000-714b-e31d00000000.xml#m80343156-0fa8-0000-714b-
            e31d00000000" />
       <RefObject refId="m80343298-05dc-0000-714b-e31d00000000-m8034314d-0fa8-0000-
            714b-e31d00000000"
          objectTypeId="4008"
          objectRef="/oracle/bi/server/base/PresentationTable/Fact _u0150 Contact_
            8034314d-0fa8-0000-714b-e31d00000000.xml#m8034314d-0fa8-0000-714b-
            e31d00000000" />
     </RefObjects>
  </ObjectPrivilege>
```

5.2.7 MDS XML Elements: Query Privilege

The query privilege element corresponds to the set of query privileges you can apply to users or application roles. In the Administration Tool, you can set query privileges in the Query Limits tab of the User/Application Role Permissions dialog.

The query privilege tag includes the following attributes:

Table 5–20   Query Privilege Tag Attributes

Attribute Name	Description
maxExecTime	The maximum number of minutes queries can run on a database.
maxExecTimePrivilege	Specifies the status of the maximum query run time limit. Valid values are: ■ **Enable:** Limits the time to the value specified in maxExecTime. ■ **Disable:** Disables any limits set in maxExecTime. ■ **Warn:** Does not enforce limits, but logs queries that exceed the set time limit in the Query log. ■ **Ignore:** Inherits limits from the parent application role. If there is no time limit to inherit, no limit is enforced.
maxRows	The maximum number of rows for users to retrieve from a database.
maxRowsPrivilege	Specifies the status of the maximum number of rows limit. Valid values are: ■ **Enable:** Limits the number of rows to the value specified. If the number of rows exceeds the maxRows value, the query is terminated. ■ **Disable:** Disables any limits set in maxRows. ■ **Warn:** Does not enforce limits, but logs queries that exceed the set limit in the Query log. ■ **Ignore:** Inherits limits from the parent application role. If there is no row limit to inherit, no limit is enforced.

Table 5–20 (Cont.) Query Privilege Tag Attributes

Attribute Name	Description
populatePrivilege	Specifies whether the Populate privilege is granted or denied for a database. The Populate stored procedure writes the Cache/Saved Result Set value to the database when a criteria block is cached. Valid values are: ■ **Allow:** Explicitly grants the Populate privilege. ■ **Disallow:** Explicitly denies the Populate privilege. ■ **Ignore:** Inherits limits from the parent application role. If there is no limit to inherit, then the Populate privilege is allowed or disallowed based on the property **Allow populate queries by default** for the database object.
execPhysicalPrivilege	Specifies whether direct database requests can be executed by default. Valid values are: ■ **Allow:** Explicitly grants the ability to execute direct database requests. ■ **Disallow:** Explicitly denies the ability to execute direct database requests. ■ **Ignore:** Inherits limits from the parent application role. If there is no limit to inherit, then direct database requests are allowed or disallowed based on the property **Allow direct database requests by default** for the database object.

The query privilege tag includes the following child elements:

Table 5–21 Query Privilege Child Elements

Element Name	Description
ExecTimeTableItem	If database access has been restricted to particular time periods, lists the time periods and whether access is allowed or disallowed. Contains three attributes: `allow` (true or false), `startTime`, and `endTime`.

Syntax

```
<QueryPrivilege …
     maxExecTime=""
     maxExecTimePrivilege=""
     maxRows=""
     maxRowsPrivilege=""
     populatePrivilege=""
     execPhysicalPrivilege="">
   <Description />
   <ExecTimeTableItem allow="" startTime="" endTime=""/>
</QueryPrivilege>
```

Example

```
<QueryPrivilege mdsid="m803ac151-106c-0000-714b-e31d00000000"
   name="QueryPriv_4204:1926721120861104"
   xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
   xmlns="http://www.oracle.com/obis/repository"
   maxExecTime="600"
   maxRows="100000"
   populatePrivilege="enable">
</QueryPrivilege>
```

5.2.8 MDS XML Elements: User

The user element corresponds to the user object in the repository. These objects represent the metadata repository copies or versions of externally managed user objects.

The user tag includes the following attributes:

Table 5–22   User Tag Attributes

Attribute Name	Description
fullName	The full name of this user.
loggingLevel	The logging level for this user.
logStatisticsStatus	This attribute is not used.
guid	Global unique identifier for a given user, which is independent of the user name.

The user tag includes the following child elements:

Table 5–23   User Child Elements

Element Name	Description
RefGroups	References the application roles to which this user belongs.
	Each application role is contained in a sub-element called `RefGroup`.
DBSignOnListMapping	References database login user names and passwords, along with the corresponding database, if this user has database-specific logins defined.
	Contains two attributes: `dbSignOnRef`, which references the database credentials, and `databaseRef`, which references the database name. Note that database passwords are encrypted.

Syntax

```
<User …
    fullName=""
    loggingLevel=""
    guid="">
  <Description />
  <RefGroups>
    <RefGroup groupRef="" …/>
    <RefGroup groupRef="" …/>
  </RefGroups>
  <DBSignOnListMapping dbSignOnRef="" databaseRef="" />
</User>
```

Example

```
<User mdsid="m0021f847-05dd-0000-714b-e31d00000000"
   name="Administrator"
   xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
   xmlns="http://www.oracle.com/obis/repository"
   guid="B0E8200AE53A11DE8F4643DF3B7A9E29"
   loggingLevel="6">
   <RefGroups>
     <RefGroup refId="m0021f847-05dd-0000-714b-e31d00000000-m0023e1a2-106e-0000-
         714b-e31d00000000"
       groupRef="/oracle/bi/server/base/Group/BIAdministrators_0023e1a2-106e-0000-
```

```
    714b-e31d00000000.xml#m0023e1a2-106e-0000-714b-e31d00000000" />
  <RefGroup refId="m0021f847-05dd-0000-714b-e31d00000000-m0023e1a7-106e-0000-
    714b-e31d00000000"
   groupRef="/oracle/bi/server/base/Group/Service Analytics Administrator_
    0023e1a7-106e-0000-714b-e31d00000000.xml#m0023e1a7-106e-0000-714b-
    e31d00000000" />
  <RefGroup refId="m0021f847-05dd-0000-714b-e31d00000000-m0041592c-106e-0000-
    714b-e31d00000000"
   groupRef="/oracle/bi/server/base/Group/Purchasing Buyer_0041592c-106e-
    0000-714b-e31d00000000.xml#m0041592c-106e-0000-714b-e31d00000000" />
 </RefGroups>
</User>
```

5.2.9 MDS XML Elements: Group

The group element corresponds to the application role object in the repository metadata.

The group tag includes the following attributes:

Table 5–24   Group Tag Attributes

Attribute Name	Description
displayName	The custom Display Name for this application role.
logLevel	This attribute is not used.
logStatisticsStatus	This attribute is not used.
guid	Global unique identifier for a given application role, which is independent of the role name.

The group tag includes the following child elements:

Table 5–25   Group Child Elements

Element Name	Description
RefChildGroups	References the set of application roles that belong to this application role.
	Each child application role is contained in a sub-element called RefGroup.

Syntax

```
<Group …
    displayName=""
    guid="">
  <Description …/>
  <RefChildGroups>
    <RefGroup groupRef="" …/>
    <RefGroup groupRef="" …/>
  </RefChildGroups>
</Group>
```

Example

```
<Group mdsid="m0023e1d2-106e-0000-714b-e31d00000000"
  name="Insurance"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xmlns="http://www.oracle.com/obis/repository">
  <RefChildGroups>
```

```
        <RefGroup refId="m0023e1d2-106e-0000-714b-e31d00000000-m0023e1dc-106e-0000-
          714b-e31d00000000"
          groupRef="/oracle/bi/server/base/Group/Financial Services Analytics User_
            0023e1dc-106e-0000-714b-e31d00000000.xml#m0023e1dc-106e-0000-714b-
            e31d00000000" />
        <RefGroup refId="m0023e1d2-106e-0000-714b-e31d00000000-m0023e1de-106e-0000-
          714b-e31d00000000"
          groupRef="/oracle/bi/server/base/Group/Insurance Analytics User_0023e1de-
            106e-0000-714b-e31d00000000.xml#m0023e1de-106e-0000-714b-e31d00000000" />
    </RefChildGroups>
</Group>
```

5.2.10 MDS XML Elements: DB Sign-On

The DB sign-on element corresponds to the information provided in the Logons tab of
the user object. If the repository has been set up for database-specific login IDs and
passwords, you can set up database-specific credentials to allow privileged users to
connect to the underlying databases at the level of authority granted to those users in
the databases.

The DB sign-on tag includes the following attributes:

Table 5–26   DB Sign-on Tag Attributes

Attribute Name	Description
user	The user name for the underlying database.
password	The corresponding password for the underlying database. Note that passwords are encrypted.

The DB sign-on tag does not include any child elements.

Syntax

```
<DBSignOn …
    user=""
    password="">
  <Description />
</DBSignOn>
```

Example

```
<DBSignOn mdsid="me406bac9-0bf1-1000-b290-0ae593200000"
  name="LOGON_4211:2559932074113"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xmlns="http://www.oracle.com/obis/repository"
  user="my_db_user"
  password="BA0EAAB163">
</DBSignOn>
```

5.3 Other MDS XML Elements

The elements described in this section are miscellaneous elements that do not fit into
any other category. These elements include:

- Section 5.3.1, "MDS XML Elements: Project"

- Section 5.3.2, "MDS XML Elements: Query Object"

5.3.1 MDS XML Elements: Project

The project element corresponds to the project object in the repository metadata. Projects support multiuser development by enabling developers to work on projects in their area of responsibility.

The project tag includes the following child elements:

Table 5–27   Project Child Elements

Element Name	Description
RefCatalogs	References the subject areas that belong to the project. Each subject area is contained in a sub-element called `RefPresentationCatalog`.
RefFactTables	References the logical fact tables that belong to the project. Each fact table is contained in a sub-element called `RefLogicalTable`.
RefGroups	References the application roles that belong to the project. Each application role is contained in a sub-element called `RefGroup`.
RefUsers	References the users that belong to the project. Each user is contained in a sub-element called `RefUser`.
RefVariables	References the variables that belong to the project. Each variable is contained in a sub-element called `RefVariable`.
RefInitBlocks	References the initialization blocks that belong to the project. Each initialization block is contained in a sub-element called `RefInitBlock`.
RefListCatalogs	References the list catalogs that belong to the project. Each list catalog is contained in a sub-element called `RefListCatalog`.
RefTables	References the presentation tables that belong to the project. Each presentation table is contained in a sub-element called `RefPresentationTable`.
RefColumns	References the presentation columns that belong to the project. Each presentation column is contained in a sub-element called `RefPresentationColumn`.
RefHierarchies	References the presentation hierarchies that belong to the project. Each presentation hierarchy is contained in a sub-element called `RefPresentationHierarchy`.
RefLevels	References the presentation levels that belong to the project. Each presentation level is contained in a sub-element called `RefPresentationLevel`.
RefExcludedCatalogs	References any subject areas that do not belong to the project, but that are mapped to logical objects that do belong to the project. Each subject area is contained in a sub-element called `RefPresentationCatalog`.

Table 5–27   (Cont.) Project Child Elements

Element Name	Description
RefExcludedTables	References any presentation tables that do not belong to the project, but that are mapped to logical objects that do belong to the project.
	Each presentation table is contained in a sub-element called `RefPresentationTable`.
RefExcludedColumns	References any presentation columns that do not belong to the project, but that are mapped to logical objects that do belong to the project.
	Each presentation column is contained in a sub-element called `RefPresentationColumn`.
RefExcludedHierarchies	References any presentation hierarchies that do not belong to the project, but that are mapped to logical objects that do belong to the project.
	Each presentation hierarchy is contained in a sub-element called `RefPresentationHierarchy`.
RefExcludedLevels	References any presentation levels that do not belong to the project, but that are mapped to logical objects that do belong to the project.
	Each subject area is contained in a sub-element called `RefPresentationLevel`.

The project tag does not include any attributes.

Syntax

```
<Project …>
   <Description />
   <RefCatalogs>
     <RefPresentationCatalog catalogRef="" …/>
   </RefCatalogs>
   <RefFactTables>
     <RefLogicalTable logicalTableRef="" …/>
   </RefFactTables>
   <RefGroups>
     <RefGroup groupRef="" …/>
   </RefGroups>
   <RefUsers>
     <RefUser userRef="" …/>
   </RefUsers>
   <RefVariables>
     <RefVariable variableRef="" …/>
   </RefVariables>
   <RefInitBlocks>
     <RefInitBlock initBlockRef="" …/>
   </RefInitBlocks>
   <RefListCatalogs>
     <RefListCatalog listcatalogRef="" …/>
   </RefListCatalogs>
   <RefTables>
     <RefPresentationTable tableRef="" …/>
   </RefTables>
   <RefColumns>
     <RefPresentationColumn columnRef="" …/>
   </RefColumns>
   <RefHierarchies>
```

```
        <RefPresentationHierarchy hierarchyRef="" …/>
      </RefHierarchies>
      <RefLevels>
        <RefPresentationLevel levelRef="" …/>
      </RefLevels>
      <RefExcludedCatalogs>
        <RefPresentationCatalog catalogRef="" …/>
      </RefExcludedCatalogs>
      <RefExcludedTables>
        <RefPresentationTable tableRef="" …/>
      </RefExcludedTables>
      <RefExcludedColumns>
        <RefPresentationColumn columnRef="" …/>
      </RefExcludedColumns>
      <RefExcludedHierarchies>
        <RefPresentationHierarchy hierarchyRef="" …/>
      </RefExcludedHierarchies>
      <RefExcludedLevels>
        <RefPresentationLevel levelRef="" …/>
      </RefExcludedLevels>
</Project>
```

Example

```
<Project mdsid="m80c9e2bf-1075-0000-714b-e31d00000000"
    name="FUSION_Sale Forecasting"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xmlns="http://www.oracle.com/obis/repository">
    <RefCatalogs>
      <RefPresentationCatalog refId="m80c9e2bf-1075-0000-714b-e31d00000000-
        m80ca9dbb-0fa4-0000-714b-e31d00000000"
        catalogRef="/oracle/bi/server/base/PresentationCatalog/Sales Manager
        Dashboard _u0150 Campaign 80ca9dbb-0fa4-0000-714b-e31d00000000.xml
        #m80ca9dbb-0fa4-0000-714b-e31d00000000" />
      <RefPresentationCatalog refId="m80c9e2bf-1075-0000-714b-e31d00000000-
        m80c9a197-0fa4-0000-714b-e31d00000000"
        catalogRef="/oracle/bi/server/base/PresentationCatalog/Territory Management
        _u0150 CRM Forecast_80c9a197-0fa4-0000-714b-e31d00000000.xml#m80c9a197-
        0fa4-0000-714b-e31d00000000" />
...
    </RefCatalogs>
    <RefFactTables>
      <RefLogicalTable refId="m80c9e2bf-1075-0000-714b-e31d00000000-m00224fba-07f3-
        0000-714b-e31d00000000"
        logicalTableRef="/oracle/bi/server/base/LogicalTable/Fact _u0150 CRM _u0150
        Revenue_00224fba-07f3-0000-714b-e31d00000000.xml#m00224fba-07f3-0000-714b-
        e31d00000000" />
      <RefLogicalTable refId="m80c9e2bf-1075-0000-714b-e31d00000000-m002250bc-07f3-
        0000-714b-e31d00000000"
        logicalTableRef="/oracle/bi/server/base/LogicalTable/Fact for Presentation
        Foldering_002250bc-07f3-0000-714b-e31d00000000.xml#m002250bc-07f3-0000-
        714b-e31d00000000" />
...
    </RefFactTables>
    <RefGroups>
      <RefGroup refId="m80c9e2bf-1075-0000-714b-e31d00000000-m0023e1a2-106e-0000-
        714b-e31d00000000"
        groupRef="/oracle/bi/server/base/Group/BIAdministrators_0023e1a2-106e-0000-
        714b-e31d00000000.xml#m0023e1a2-106e-0000-714b-e31d00000000" />
    </RefGroups>
    <RefUsers>
```

```
    <RefUser refId="m80c9e2bf-1075-0000-714b-e31d00000000-m0021f847-05dd-0000-
      714b-e31d00000000"
      userRef="/oracle/bi/server/base/User/Administrator_0021f847-05dd-0000-714b-
      e31d00000000.xml#m0021f847-05dd-0000-714b-e31d00000000" />
  </RefUsers>
  <RefVariables>
    <RefVariable refId="m80c9e2bf-1075-0000-714b-e31d00000000-m00238445-0bd7-
      0000-714b-e31d00000000"
      variableRef="/oracle/bi/server/base/Variable/USER_00238445-0bd7-0000-714b-
      e31d00000000.xml#m00238445-0bd7-0000-714b-e31d00000000" />
    <RefVariable refId="m80c9e2bf-1075-0000-714b-e31d00000000-m00238451-0bd7-
      0000-714b-e31d00000000"
      variableRef="/oracle/bi/server/base/Variable/LOCALE_00238451-0bd7-0000-
      714b-e31d00000000.xml#m00238451-0bd7-0000-714b-e31d00000000" />
...
  </RefVariables>
  <RefInitBlocks>
    <RefInitBlock refId="m80c9e2bf-1075-0000-714b-e31d00000000-m002384ea-0bd9-
      0000-714b-e31d00000000"
      initBlockRef="/oracle/bi/server/base/InitBlock/Warehouse Refresh Date_
      002384ea-0bd9-0000-714b-e31d00000000.xml#m002384ea-0bd9-0000-714b-
      e31d00000000" />
    <RefInitBlock refId="m80c9e2bf-1075-0000-714b-e31d00000000-m80c606df-0bd9-
      0000-714b-e31d00000000"
      initBlockRef="/oracle/bi/server/base/InitBlock/Dashboard Currency_80c606df-
      0bd9-0000-714b-e31d00000000.xml#m80c606df-0bd9-0000-714b-e31d00000000" />
...
  </RefInitBlocks>
  <RefExcludedColumns>
    <RefPresentationColumn refId="m80c9e2bf-1075-0000-714b-e31d00000000-
      m80ec06eb-0faa-0000-714b-e31d00000000"
      columnRef="/oracle/bi/server/base/PresentationTable/Date_80cf8966-0fa8-
      0000-714b-e31d00000000.xml#m80ec06eb-0faa-0000-714b-e31d00000000" />
    <RefPresentationColumn refId="m80c9e2bf-1075-0000-714b-e31d00000000-
      m80ec06ec-0faa-0000-714b-e31d00000000"
      columnRef="/oracle/bi/server/base/PresentationTable/Date_80cf8966-0fa8-
      0000-714b-e31d00000000.xml#m80ec06ec-0faa-0000-714b-e31d00000000" />
...
  </RefExcludedColumns>
</Project>
```

5.3.2 MDS XML Elements: Query Object

The query object element corresponds to the saved query object in the repository metadata. You can save a query from the Query Repository dialog in the Administration Tool.

The query object tag includes the following child elements:

Table 5–28   Query Object Child Elements

Element Name	Description
QueryString	Contains the query string that qualifies and defines the query.

The query object tag does not include any attributes.

Syntax

```
<QueryObject …>
   <Description />
```

```
      <QueryString …/>
</QueryObject>
```

Example

```
<QueryObject mdsid="mbd2048f1-0bf6-1000-806e-0a97078d0000"
    name="Sample Query"
    isDefaultReadable="false"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xmlns="http://www.oracle.com/obis/repository">
    <QueryString>
        <![CDATA[ (128 = "*") AND (6 = Database) AND (189 1 "1")]]>
    </QueryString>
</QueryObject>
```

Part II

XML Schema Elements

Part II provides usage and reference information for the Oracle BI Server XML API.

Part II contains the following chapters:

6

About the Oracle BI Server XML API

This chapter provides information about the Oracle BI Server XML API, which can be used to create a generic, XML-based representation of the Oracle BI repository metadata. The Oracle BI Server XML API can be used for metadata migration, programmatic metadata generation and manipulation, metadata patching, and other functions.

Note that Oracle BI Server XML API objects correspond to metadata repository objects in an RPD file. These objects are not the same as Oracle BI Presentation Catalog XML objects.

This chapter contains the following topics:

- About the Oracle BI Server XML API
- About Generating and Executing XML
- Using the Oracle BI Server XML API
- Generic XML Elements and Attributes

6.1 About the Oracle BI Server XML API

The Oracle BI Server XML schema document (xudml1.xsd) contains the grammar for the structure of XML repository files. You can find this file at:

ORACLE_HOME/bi/bifoundation/server/bin

Note that this is *not* the file that enables the generation of MDS XML output. For information about generating MDS XML output, see Chapter 1, "About the Oracle BI Server MDS XML API."

You can view this file to see relationships between XML metadata objects, but you must *not* modify this file. Doing so can lead to errors and crashes in the biserverxmlexec utility.

The structure of the repository is primarily a flat list of objects, in the format:

```
<?xml version="1.0" encoding="iso-8859-1"?>
<Repository xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
  <DECLARE>
    <ObjectType {attributes}>
      Contents…
    </ObjectType>
    <ObjectType {attributes}>
      Contents…
    </ObjectType>
    …
  </DECLARE>
```

```
</Repository>
```

Most of the modeling relationships, including the hierarchical ones, are formed using name references between objects, not by the hierarchical structure of the XML.

Note that the metadata objects in the XML file must appear in a particular order. You can view the set order in the XML schema document under the `objectList_t` element.

6.1.1 About Using the Oracle BI Server XML API to Merge and Append Objects

Do not use the Oracle BI Server XML API to attempt a full repository merge. The merge feature in the Administration Tool handles an extremely complex set of object comparisons and decisions, and it is not possible to account for and resolve these conflicts using the XML utilities. Because of this, using the XML API to perform a full merge is not supported. Attempting to do so might result in a corrupted repository.

However, you can use the XML API to append objects from one repository to another repository, using the -B option with biserverxmlexec to specify a base repository path name. This approach works when you have two completely separate repositories with no shared objects between the two, including no shared variables or application roles. For example, if you have separate repositories for the Credit and Manufacturing departments, you can take objects from the Credit XML metadata and append them to the Manufacturing XML metadata, and then convert to a single RPD that contains both working models. Using this method, you are essentially adding one repository to another.

Before attempting to perform an append operation, you should create a script to ensure that there are no common objects. Even when your repositories are separate, they might contain the same names for common objects, such as a current_date variable.

It is also a good idea to equalize the upgrade IDs to ensure that there are no accidental clashes. Equalizing objects causes objects in two repositories that have the same name but different upgrade ids to be treated as the same object. See "Equalizing Objects" in *Oracle Fusion Middleware Metadata Repository Builder's Guide for Oracle Business Intelligence Enterprise Edition* for more information.

6.2 About Generating and Executing XML

Oracle Business Intelligence provides the following command-line tools to generate and execute XML:

- **biserverxmlgen** generates XML from an existing RPD

- **biserverxmlexec** lets you execute the XML in offline mode to create or modify a repository file

- **biserverxmlcli** executes the XML against the Oracle BI Server

Note that when you execute XML to update an existing repository with new content, objects are replaced in their entirety. For example, to change the name attribute of a PresentationTable object from name="Facts Revenue" to name="Facts Financial," you must submit the entire PresentationTable object to biserverxmlexec or biserverxmlcli.

In addition, make sure that the qualified name, UID, and ID are correct when replacing existing objects. The Oracle BI Server assumes that a different ID is a different object.

This section contains the following topics:

- Section 6.2.1, "Generating XML from an Existing RPD"

- Section 6.2.2, "Executing XML in Offline Mode"
- Section 6.2.3, "Executing XML Against the Oracle BI Server"

6.2.1 Generating XML from an Existing RPD

Use `biserverxmlgen` to generate an XML file from an existing repository file (RPD). The location of this command-line utility is:

ORACLE_HOME/user_projects/domains/bi/bitools/bin

To use the `biserverxmlgen` utility, execute the following at the command prompt:

```
biserverxmlgen -M -R repository_pathname [-P password]
pathname {-O output_script_pathname | -D directory_name | -Z output_RPD_name}
[-8] [-N] [{-Q | -S | -L | -C}] [-V variable_list_pathname] [-X] [-U output_RPD_
password [-B]]
```

Where:

`-M` indicates that you want XML output.

repository_pathname is the name and location of the repository file from which you want to generate XML.

password is the repository password.

The password argument is optional. If you do not provide a password argument, you are prompted to enter a password when you run the command. To minimize the risk of security breaches, Oracle recommends that you do not provide a password argument either on the command line or in scripts. Note that the password argument is supported for backward compatibility only, and will be removed in a future release. For scripting purposes, you can pass the password through standard input.

output_script_pathname is the name and location of the XML output file you want to generate. It is recommended that you provide an output filename with an .xml extension. By default, this file contains XML for all objects. However, if you use the `-C` option, then this file contains only XUDML for connection pools and their relative variables.

directory_name is the name and location of the directory under which you want to generate your XML output.

ouput_RPD_name is the name of the repository output file. This output file contains no connection pool information. If you specify this option, then you can also optionally specify `-X`. If you specify this option, then you must include `-U [ouput_RPD_ password]`.

Specify `-8` to use UTF-8 encoding in the generated XML file. If you do not specify `-8`, the generated XML file uses ANSI ISO-8859-1 encoding by default.

Specify `-N` to generate output without upgrade ids (uids). These are the internal identifiers of objects. Use this if you want to create a new repository without the old upgrade ids. Do not use this option if you are generating XML. If you are generating XML, then use `-N`, instead.

You can use one of the following options to control the generation of security objects, presentation objects, or connection pools. Note if you specify more than one option, then you will receive an error.

- Use `-Q` to generate output without security objects.
- Use `-S` to generate output for only security objects.

- Use `-L` to generate only a list of presentation objects.

- Use `-C` to generate a script only for connection pools and variables relative to the connection pool.

variable_list_pathname is optionally used with `-C`. It is the file name that contains the variable list used to generate the specified variables. If you specify this option, then the following are generated: connection pools, variables relative to the connection pool, and variables from the file.

Use `-X` to generate XUDML without connection pool information. If you specify this option, then you can optionally specify the `-Z [ouput_RPD_name]` option.

output_rpd_password is the password of the repository that you are outputting. If you specify `-Z [ouput_RPD_name]` then you must include this option.

Use `-B` to regenerate duplicate names of upgrade ids (uids) for XUDML generation.

6.2.2 Executing XML in Offline Mode

Use `biserverxmlexec` to execute XML in offline mode. This utility can generate an entire repository file (RPD) from an XML repository file, or it can modify an existing repository file by applying the changes specified in the XML file. The input XML is validated against the Oracle BI Server XML schema. Any objects that exist in both the RPD and the XML file are overwritten by the corresponding object definitions in the XML file. Note that the same object cannot be defined twice in the XML file.

A qualified name (qualifiedName) or upgrade id (uid) must be specified for each object. When the utility resolves and identifies objects, uids have the highest priority, followed by qualifiedNames. See Section 6.4, "Generic XML Elements and Attributes" for more information about identifier attributes.

The location of `biserverxmlexec` is:

ORACLE_HOME/user_projects/domains/bi/bitools/bin

To use the `biserverxmlexec` utility, execute the following at the command prompt:

```
biserverxmlexec [-P rpd_password] {-I input_script_filename |
-D XML_document_directory | -X cust_directory}
[-S XML_password] [-B base_repository_pathname]
-O output_repository_pathname [-M] [-E] [-C] [-N] [-R]
```

Where:

rpd_password is the repository password. If you specified a base repository, enter the repository password for the base repository. If you did not specify a base repository, enter the password you want to use for the new repository.

The password argument is optional. If you do not provide a password argument, you are prompted to enter a password when you run the command. To minimize the risk of security breaches, Oracle recommends that you do not provide a password argument either on the command line or in scripts. Note that the password argument is supported for backward compatibility only, and will be removed in a future release. For scripting purposes, you can pass the password through standard input.

input_script_filehname is the name and location of the XML input file you want to execute.

XML_document_directory is the location of the input XML documents.

cust_directory is the path of the customization folder located in the service instance of the Oracle BI Server. This folder contains multiple action XML groups. The

customization_order.xml file determines the order in which the customizations are applied.

XML_password is the password for the set of XML documents. You only need to specify [-S *XML_password*] when the set of XML documents has a different password than the password specified for [-P *rpd_password*]. Note also that you can specify -C to avoid password checking for the XML documents.

The XML_password argument is optional. If you do not provide an XML password argument, and if the set of XML documents has a different password than the password specified for [-P *rpd_password*], you are prompted to enter an XML password when you run the command (unless you have specified -C). To minimize the risk of security breaches, Oracle recommends that you do not provide a password argument either on the command line or in scripts. Note that the password argument is supported for backward compatibility only, and will be removed in a future release. For scripting purposes, you can pass the password through standard input.

base_repository_pathname is the existing repository file you want to modify using the XML input file (optional). Do not specify this argument if you want to generate a new repository file from the XML input file.

output_repository_pathname is the name and location of the RPD output file you want to generate. Note that you must specify an output repository regardless of whether you are generating a new RPD, or whether you are modifying an existing base repository. The changes that result from executing the XML file on a base repository are contained in the specified output repository, not in the base repository.

Specify -M to execute XML documents. If you specify -D *MDS_XML_document_ directory*, the -M argument is not needed. You only need to specify -M when you have a single XML file that contains all the object definitions.

Specify -E to exit without creating the RPD output file if an expression parsing error occurs.

Specify -C to skip prompting for the input XML password. When you use this option, all connection pool passwords are removed from the output RPD.

Specify -N to ignore all non-fatal errors. Examples of non-fatal errors are unresolved objects, duplicated objects, and broken expressions.

Specify -R to disable XML transformation before applying the changes to the repository.

Examples

The following example creates a new repository called rp1:

```
biserverxmlexec -I testxudml.txt -O rp1.rpd
Give password: my_rpd_password
```

The following example modifies rp1 and writes to rp2:

```
biserverxmlexec -I testxudml.txt -B rp1.rpd -O rp2.rpd
Give password: my_rpd_password
```

6.2.3 Executing XML Against the Oracle BI Server

Use biserverxmlcli to execute XML against the Oracle BI Server. This utility is similar to biserverxmlexec, but is instead used to modify an online repository. An online repository is a running Oracle BI Server instance that has loaded an existing repository into its navigation space.

The location of `biserverxmlcli` is:

ORACLE_HOME/user_projects/domains/bi/bitools/bin

To use the `biserverxmlcli` utility, execute the following at the command prompt:

```
biserverxmlcli -U user_name [-P user_password] -R repository_password
-D data_source_name [-W ssl_pass_phrase | -Y] {-I XML_file_path_name |
-X MDS_documents_Dir} [-M] [-8] [-K] [-N] [-S XUDML_script_password]
```

Where:

user_name is a valid user name. This user must have the manage repository permission (oracle.bi.server.manageRepositories).

user_password is the corresponding user password.

The user password argument is optional. If you do not provide a user password argument, you are prompted to enter a user password when you run the command. To minimize the risk of security breaches, Oracle recommends that you do not provide password arguments either on the command line or in scripts. Note that the user password argument is supported for backward compatibility only, and will be removed in a future release. For scripting purposes, you can pass the password through standard input.

repository_password is the repository password for the online repository.

The repository password argument is optional. If you do not provide a repository password argument, you are prompted to enter a repository password when you run the command. To minimize the risk of security breaches, Oracle recommends that you do not provide password arguments either on the command line or in scripts. Note that the repository password argument is supported for backward compatibility only, and will be removed in a future release. For scripting purposes, you can pass the password through standard input.

data_source_name is the Oracle BI Server ODBC data source name (DSN) to which you want to connect.

ssl_pass_phrase is the SSL passphrase for the Oracle BI Server, if the ODBC connection has been configured to use SSL.

`-Y` is the SSL passphrase to the private key file.

XML_file_path_name is the name and location of the XML input file you want to execute.

MDS_documents_directory is the location of the MDS XML directory containing the input file you want to execute.

Specify `-M` when the XML located in `-I XML_file_path_name` is the MDS XML type.

Specify `-8` to use UTF-8 encoding in the generated XML file. If you do not specify `-8`, the input XML file uses ANSI ISO-8859-1 encoding by default.

Specify `-K` to store the XML changes in memory instead of writing the changes to disk.

Specify `-N` to ignore all non-fatal errors. Examples of non-fatal errors are unresolved objects, duplicated objects, and broken expressions.

XUDML_script_password is the input file script password if it is different from the password used by the repository loaded into the Oracle BI Server.

The input file script password is optional. If you do not provide a password argument, then you are prompted to enter a script password when you run the command. To minimize the risk of security breaches, Oracle recommends that you do not provide

password arguments either on the command line or in scripts. Note that the script password argument is supported for backward compatibility only, and will be removed in a future release. For scripting purposes, you can pass the password through standard input.

If you do not specify this option, then the program assumes that the UDML script password is the same as the repository password.

6.3 Using the Oracle BI Server XML API

This section provides information about different use cases for the Oracle BI Server XML API feature. This section contains the following topics:

- Section 6.3.1, "About Maintaining Versions of the Metadata"
- Section 6.3.2, "About Migrating Metadata from Another System"
- Section 6.3.3, "Applying a Metadata Patch Against a Running Oracle BI Server"
- Section 6.3.4, "About Manipulating Metadata Programmatically"
- Section 6.3.5, "Moving from Test to Production Environments"
- Section 6.3.6, "Using XSL to Transform XML Files"
- Section 6.3.7, "Setting Permissions Using Command-Line Tools"

6.3.1 About Maintaining Versions of the Metadata

The Oracle BI Server XML API provides an efficient way of keeping versions of an RPD. Rather than storing entire RPD files for each version, you can generate XML patch files using the Create Patch feature in the Compare dialog in the Administration Tool. The patch file contains only the delta of the changes between the current and original versions. Using patch files to store changes eliminates the need to store redundant data in entire repository files and saves disk space. Note that you always need to retain a copy of the original repository file to maintain versions using this method.

You can apply a patch to the original file using the patch merge feature in the Administration Tool, using the patchrpd utility, or by running biserverxmlexec with the -B option.

For example, if you have repository versions A0, A1, and A2, and you have an XML patch file called A2-0delta.xml that contains the changes between the latest and original versions, you can run the following command:

```
biserverxmlexec -I A2-0delta.xml -B A0.rpd -O A2reproduced.rpd
Give password: my_password
```

Alternatively, if you stored changes between A0 and A1, and then A1 and A2, you can run two commands to apply the latest changes on the original file:

```
biserverxmlexec -I A1-0delta.xml -B A0.rpd -O A1reproduced.rpd
Give password: my_password

biserverxmlexec -I A2-1delta.xml -B A1reproduced.rpd -O A2reproduced.rpd
Give password: my_password
```

Make sure to specify different names for the -B and -O arguments to avoid overwriting the original repository file.

See *Oracle Fusion Middleware Metadata Repository Builder's Guide for Oracle Business Intelligence Enterprise Edition* for more information about patch merges.

6.3.2 About Migrating Metadata from Another System

If you have another business intelligence or reporting system and want to migrate the metadata to Oracle Business Intelligence, you can write an adapter to transform the third-party metadata to the Oracle Business Intelligence generic XML format. The XML schema file (xudml1.xsd) provides a way to understand the structure of the Oracle Business Intelligence metadata. After you have a compatible XML metadata file, you can use the biserverxmlexec utility to create a corresponding RPD file.

6.3.3 Applying a Metadata Patch Against a Running Oracle BI Server

If you use the Administration Tool to make changes to your repository in offline mode, you can use the XML patch feature to apply the changes to an online repository, without needing to restart the server or apply the changes manually.

To do this, open the new version of the repository in the Administration Tool, compare it with the running version, and create an XML patch file using the Create Patch feature. You can then apply the patch against the running Oracle BI Server to load the changes, using the biserverxmlcli utility. For example:

```
biserverxmlcli -U my_user -D my_server_dsn -I my_xml_file_pathname
Give user password: my_password
Give repository password: my_repos_password
```

6.3.4 About Manipulating Metadata Programmatically

You can use the Oracle BI Server XML API to develop custom applications to modify Oracle BI repository metadata. To do this, you can generate XML from your RPD file using the biserverxmlgen utility, and then parse the XML using a generic XML parser. Because the Oracle BI XML utilities are command-line utilities, they can be invoked from batch files, scripts, or as processes from within the code. You can modify the XML programmatically, and then use the biserverxmlexec utility to generate a new RPD that includes the changes.

For example, the Cloning Application Framework (CAF) uses the Oracle BI Server XML API to replicate content developed for one application so that it can be used by another application. The goal of the CAF application is to reuse content across applications so that it does not need to be developed twice.

CAF users can map Presentation layer objects and logical dimension hierarchies from one RPD to the corresponding names in the other RPD. The CAF application generates XML for the first RPD using the biserverxmlgen utility, then scans the XML to determine the Presentation layer object dependencies in the Business Model and Mapping layer and Physical layer. It then creates the necessary Presentation and Business Model and Mapping layer objects (such as columns, subject areas, and expressions), identical to objects in the first RPD but with the appropriate mapped names. When the corresponding XML is ready, it generates the cloned RPD using the biserverxmlexec utility.

6.3.4.1 Example of Programmatically Creating a Repository Object Using XML

This example shows how to add a presentation column called "Billed Qty" to the "Facts Revenue" presentation table of the "Sample Small" subject area. The logical column in the business model on which it is based already exists, and has the name "Sample Small"."F0 Rev Base Measures"."2-01 Billed Qty (Sum All)".

Figure 6–1 illustrates the goal of the example.

Figure 6–1   Logical Column Exists in Repository with No Corresponding Presentation Column
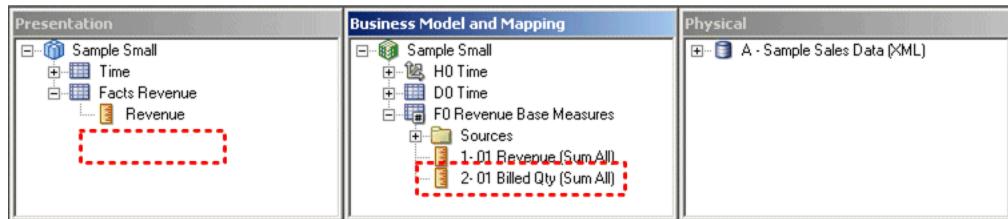
To add the presentation column programmatically, two metadata changes are needed:

1. A <PresentationColumn> object must be created for the new "Billed Qty" presentation column. It must reference the "2-01 Bill Qty (Sum All)" logical column to which it maps, and the Facts Revenue presentation table to which it belongs.

2. The <PresentationTable name="Facts Revenue"> object must be updated to reference the new "Billed Qty" presentation column object.

Figure 6–2 shows a view of what the new presentation column looks like in the Administration Tool after it is created.

Figure 6–2   Administration Tool Equivalent for New Presentation Column
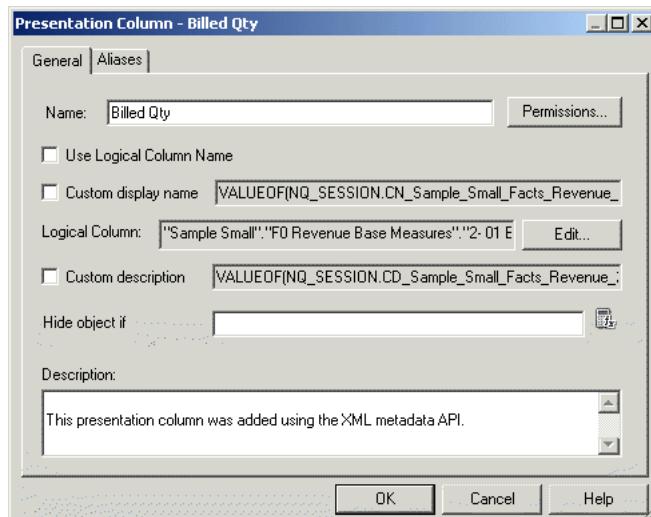
To update the metadata, first create an XML file called Change.rpdx. This file will contain the metadata changes needed, in XML format. Add the following code:

```
<?xml version="1.0" encoding="iso-8859-1"?>
<Repository xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
  <DECLARE>
    <PresentationColumn name="Billed Qty" parentName="&quot;Sample Small&quot;..
    &quot;Facts Revenue&quot;" parentId="4008:2143"
    parentUid="80cab573-07d0-0000-714b-e31d00000000"
    hasDispName="false"
    overrideLogicalName="true">
      <Description>
        <![CDATA[This presentation column was added using the XML metadata API.]]>
      </Description>
      <RefLogicalColumn uid="946" id="2006:106" qualifiedName="&quot;Sample
```

```
            Small&quot;.&quot;F0 Rev Base Measures&quot;.&quot;2-01 Billed Qty (Sum
            All)&quot;"/>
        </PresentationColumn>
    </DECLARE>
</Repository>
```

This code adds a presentation column that references both the parent presentation table to which it belongs ("Facts Revenue"), and the logical column to which it maps ("2-01 Billed Qty (Sum All)"). Note that although the new presentation column has a qualified name, the id and uid are not specified, because they will be automatically created by the Oracle BI Server when it loads the modified RPD file.

In addition to adding the presentation column object, you must also add a reference to the new object from the existing presentation table object. To do this, generate an XML version of the current repository using biserverxmlgen and search the XML for the name of the presentation table (Facts Revenue). Copy the code for the presentation table object to the clipboard, as follows:

```
<PresentationTable name="Facts Revenue" parentName="&quot;Sample Small&quot;.
&quot;&quot;" parentId="4004:2137" parentUid="73609" id="4008:2143"
uid="73625"
hasDispName="false">
  <Description>
    <![CDATA[This folder contains several types of aggregation metrics
    leveraging single revenue fact column. It also contains aggregations
    metrics based on Forecast physical table]]>
  </Description>
  <Aliases>
  <Alias name="F1 Revenue"/>
  </Aliases>
  <Columns>
    <RefPresentationColumn uid="80cbbe7b-07d6-0000-714b-e31d00000000"
    id="4010:1707" qualifiedName="&quot;Sample Small&quot;
    ..&quot;Facts Revenue&quot;.&quot;Revenue&quot;"/>
  </Columns>
</PresentationTable>
```

Paste the code for the Facts Revenue presentation table into the Change.rpdx file, and add the appropriate presentation column reference to it. The final Change.rpdx file appears as follows, with the key metadata changes shown in bold:

```
<?xml version="1.0" encoding="iso-8859-1"?>
<Repository xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
  <DECLARE>
    <PresentationTable name="Facts Revenue" parentName="&quot;Sample Small&quot;.
    &quot;&quot;"
    parentId="4004:2137" parentUid="80cab573-07d0-0000-714b-e31d00000000"
    id="4008:12457" uid="80cab839-0fa8-0000-714b-e31d00000000"
    hasDispName="false">
      <Description>
        <![CDATA[This folder contains several types of aggregation metrics
        leveraging single revenue fact column. It also contains aggregations
        metrics based on Forecast physical table]]>
      </Description>
      <Aliases>
      <Alias name="F1 Revenue"/>
      </Aliases>
      <Columns>
        <RefPresentationColumn uid="80cb981e-0faa-0000-714b-e31d00000000"
        id="4010:1707" qualifiedName="&quot;Sample Small&quot;..&quot;
```

```
          Facts Revenue&quot;.&quot;Revenue&quot;"/>
         <RefPresentationColumn qualifiedName="&quot;Sample Small&quot;.
         .&quot;Facts Revenue&quot;.&quot;Billed Qty&quot;"/>
      </Columns>
   </PresentationTable>
   <PresentationColumn name="Billed Qty" parentName="&quot;Sample Small&quot;.
   .&quot;Facts Revenue&quot;" parentId="4008:2143"
   parentUid="80cab573-07d0-0000-714b-e31d00000000"
   hasDispName="false" overrideLogicalName="true">
     <Description>
       <![CDATA[This presentation column was added using the XML metadata API.]]>
     </Description>
     <RefLogicalColumn uid="80cbbe7b-07d6-0000-714b-e31d00000000"
     id="2006:106" qualifiedName="&quot;SampleSmall&quot;.&quot;
     F0 Rev Base Measures&quot;.&quot;2-01 Billed Qty (Sum All)&quot;"/>
   </PresentationColumn>
  </DECLARE>
</Repository>
```

Finally, run the biserverxmlexec utility to execute Change.rpdx to update the original RPD file.

6.3.5 Moving from Test to Production Environments

When you move from test to production environments, you typically need to update connection pool settings for your data sources. You can use the Oracle BI Server XML API to programmatically update these settings in the repository.

To accomplish this task, you first need to open your test repository in the Administration Tool, manually update the connection pool settings for your data sources, and then save the repository under a different name. Next, you can compare the new repository with the original repository using the Administration Tool and then create an XML patch file that contains the changes. Finally, you can use biserverxmlexec or biserverxmlcli to execute the changes against a test repository.

Example 6–1 provides step-by-step information about how to perform these tasks using an example scenario.

Example 6–1   Updating Connection Pool Test Values to Production Values

This example shows how to programmatically update test values for two example connection pools to production values.

The following table shows example values for the two example data sources, in both test and production environments.

Environment	Data Source Type	Data Source Name	User Name	Password
Test	Relational	orcl_test	user_test	password_test
Test	XML	VALUEOF(*ORACLE_HOME*)/XML_data/Forecast	n/a	n/a
Production	Relational	orcl_prod	user_prod	password_prod
Production	XML	VALUEOF(*ORACLE_HOME*)/fcast_data/Forecast	n/a	n/a

To programmatically update connection pool test values to production values:

1. Open the test repository (for example, SampleApp_test.rpd) in the Administration Tool.

2. In the Physical layer, open the connection pool for the relational source that needs to be changed.

3. Update the values for **Data Source Name**, **User Name**, and **Password** to the production values. Then, click **OK**.

4. Open the connection pool for the XML source that needs to be changed.

5. Update the value for **Data Source Name** to the production value. Then, click **OK**.

6. Select **File**, then select **Save As**. Then, save the repository under a new name (for example, SampleApp_prod.rpd).

7. Select **File**, then select **Compare**.

8. Select the original repository file (SampleApp_test.rpd) to compare to the currently open repository file (SampleApp_prod.rpd).

   The Compare repositories dialog lists the two connection pools you modified

9. Click **Create Patch**, enter the name of the patch file you want to create (for example, SampleApp_diff.xml), and click **Save**.

   The resulting XML patch file might appear as follows:

```
<?xml version="1.0" encoding="UTF-8" ?>
<Repository xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
<DECLARE>
<ConnectionPool name="SampleApp_XML" parentName="&quot;1 - Sample App Xml
  Data&quot;" parentId="3023:84"
  parentUid="80ca62be-0bcf-0000-714b-e31d00000000" id="3029:1158"
  uid="80ca62c4-0bcf-0000-714b-e31d00000000"
  password="D7EDED84BC624A917F5B462A4DCA05CDCE256EEEEEDC97D5AC4D07C3A079829F"
  timeout="300" maxConnDiff="10" maxConn="10"
  dataSource="VALUEOF(BI_EE_HOME)/fcast_data/Forecast" type="Default"
  reqQualifedTableName="false" isSharedLogin="false"
  isConcurrentQueriesInConnection="false" isCloseAfterEveryRequest="true"
  xmlRefreshInterval="4294967295" outputType="xml" bulkInsertBufferSize="0"
  transactionBoundary="0" xmlaUseSession="false" multiThreaded="false"
  supportParams="false" isSiebelJDBSecured="false">
  <Description></Description>
</ConnectionPool>
<ConnectionPool name="SampleApp_Relational" parentName="&quot;1 - Sample App
  Data&quot;" parentId="3023:85"
  parentUid="80cc60c9-0bcf-0000-714b-e31d00000000" id="3029:1159"
  uid="80ca62bf-0bd5-0000-714b-e31d00000000" user="user_prod"
  password="D7EDED84BC624A917F5B462A4DCA05CDCE256EEEEEDC97D5A1
  50C61FBEB9092AF80FAEC9819DD51771A41425D03FB466B55BB9F03BCF6439"
  timeout="4294967295" maxConnDiff="10" maxConn="10" dataSource="orcl_prod"
  type="OCI10G" reqQualifedTableName="false" isSharedLogin="true"
  isConcurrentQueriesInConnection="false" isCloseAfterEveryRequest="false"
  outputType="xml" bulkInsertBufferSize="131072" tempTablePrefix="TT"
  transactionBoundary="1000" xmlaUseSession="false"
isSiebelJDBSecured="false">
  <Description></Description>
</ConnectionPool>
</DECLARE>
</Repository>
```

10. After you create the patch, your test repository might continue to change, including name changes that could affect the parentNames or other attributes in your patch code. If this occurs, regenerate the patch using the steps in this section.

11. You can use biserverxmlexec to execute the generated XML patch file against the test version of the repository to programmatically update the connection pool settings. For example:

```
biserverxmlexec -I SampleApp_diff.xml -B SampleApp_test.rpd
-O SampleApp_prod.rpd
Give password: my_rpd_password
```

To execute the XML patch file against a repository loaded into the Oracle BI Server, use biserverxmlcli.

6.3.6 Using XSL to Transform XML Files

You can use XSL to perform transformations on the XML files you generate. For example, you might want to use XSL to remove object IDs or UIDs to avoid conflicts.

Example 6–2 shows a sample XSL script that you can use as a model for your own transformations. The example script disables all logical table sources in the repository.

Example 6–2   Sample XSL Script

```
<?xml version="1.0" encoding="UTF-8"?>
<xsl:stylesheet xmlns:xsl="http://www.w3.org/1999/XSL/Transform" version="2.0"
xmlns:xalan="http://xml.apache.org/xslt"
xmlns:fn="http://www.w3.org/2003/11/xpath-functions">
<xsl:output method="xml" version="1.0" encoding="UTF-8" indent="yes"
cdata-section-elements="Description Expr Value" xalan:indent-amount="4"/>
<xsl:strip-space elements="*"/>

<xsl:template match="/Repository/DECLARE">
  <xsl:element name="Repository">
    <xsl:element name="DECLARE">
      <xsl:for-each select="./*">
        <xsl:call-template name="objectmatch"/>
      </xsl:for-each>
    </xsl:element>
  </xsl:element>
</xsl:template>

<!-- The 'objectmatch' template is matched for every metadata object -->
<xsl:template name="objectmatch">
  <xsl:choose>
    <!-- We copy every object except for Logical Table Sources. We call the
    'ltsmatch' template for LTSs -->
    <xsl:when test="name() = 'LogicalTableSource'">
      <xsl:call-template name="ltsmatch"/>
    </xsl:when>
    <xsl:otherwise>
      <xsl:copy-of select=".">
        <xsl:apply-templates/>
      </xsl:copy-of>
    </xsl:otherwise>
  </xsl:choose>
</xsl:template>

<!-- The 'ltsmatch' template gets matched for every logical table source. -->
```

```
<xsl:template name="ltsmatch">
  <xsl:element name="LogicalTableSource">
    <xsl:for-each select="./@*">
      <!-- We call the 'ltspropmatch' template to process specific attributes on
      the LTS -->
      <xsl:call-template name="ltspropmatch"/>
    </xsl:for-each>
    <xsl:for-each select="./*">
      <xsl:call-template name="objectmatch"/>
    </xsl:for-each>
  </xsl:element>
</xsl:template>

<xsl:template name="ltspropmatch">
  <xsl:choose>
    <!-- When we encounter the 'isActive' property, we set it to false. -->
    <xsl:when test="name() = 'isActive'">
      <xsl:attribute name="isActive">
        <xsl:text>false</xsl:text>
      </xsl:attribute>
    </xsl:when>
    <xsl:otherwise>
      <xsl:copy-of select=".">
        <xsl:apply-templates/>
      </xsl:copy-of>
    </xsl:otherwise>
  </xsl:choose>
</xsl:template>

</xsl:stylesheet>
```

6.3.7 Setting Permissions Using Command-Line Tools

You can set permissions for various presentation and marketing objects by using the command-line tools `biserverxmlexec` and `biserverxmlcli`.

To achieve the desired effect, first create a SetPermission element, together with the appropriate role, user, and object sub-elements in the XML file that is input to `biserverxmlexec` and `biserverxmlcli`. Then execute the command-line utility that you selected. The XML execution generates in the output repository the permissions that you specified in the SetPermission element.

For details, which include a SetPermission element example, see Section 10.2.11, "XML Elements: SetPermission."

6.4 Generic XML Elements and Attributes

This section describes generic elements and attributes that are common, like Description, name, and id. In the Oracle BI Server XML schema (.xsd file), these elements and attributes are defined under the `object_t` and `ref_t` elements.

The only common element is the Description element. This element can hold a text string describing a particular object. For example:

```
<Description>
  <![CDATA[ Generated by Time Series Wizard ]]>
</Description>
```

There are eleven common attributes defined under the `object_t` element. Table 6–1 lists these attributes.

Table 6–1   Common XML Attributes in object_t

Attribute Name	Description
name	The name of the object.
parentName	The qualified name of the parent of the object, in the format `parent1.parent2.parent3`, and so on.
parentId	The global unique identifier of the parent of the object, in the format `type_id:parent_object_id`.
parentUid	The internal identifier of the parent of the object. Referring to objects using this attribute instead of qualified names can provide faster access.
id	The global unique identifier of the object, in the format `type_id:object_id`.
uid	The internal identifier of the object. Referring to objects using this attribute instead of qualified names can provide faster access.
iconIndex	The index number for the icon of the object in the Administration Tool.
isDefaultReadable	If set to `true`, indicates that this object is readable by default.
isDefaultReadWriteable	If set to `true`, indicates that this object is both readable and writable by default.
isDefaultDeletable	If set to `true`, indicates that this object is deletable by default.
isDefaultGrantable	If set to `true`, indicates that this object is grantable by default
isDefaultAll	If set to `true`, indicates that this object is readable, writable, deletable, and grantable by default.

In addition to the common attributes defined in `object_t`, additional common attributes are defined in `ref_t`. These attributes are used when one object references another object or set of objects. For example, business model objects reference the logical tables contained in that business model, using the sub-element `RefLogicalTable`. All referenced sub-elements have the same common attributes shown in Table 6–2.

Table 6–2   Common XML Attributes in ref_t

Attribute Name	Description
id	The global unique identifier of the object, in the format `type_id:object_id`.
uid	The internal identifier of the object. Referring to objects using this attribute instead of qualified names can provide faster access.
qualifiedName	The fully qualified name of the object. For example, the `qualifiedName` attribute for a logical column might appear as follows: `qualifiedName=""Sample Sales"."F3 Rolling Measures"."1-22L Revenue (All Hist Sum)""`

6.4.1 About Object Identifiers

Oracle BI Server XML metadata objects can have three different types of object identifiers, any of which can be used to reference the object. Object identifiers include:

- **Fully qualified name (qualifiedName).** This identifier is the only reference you need to include in your XML when creating a new object, because the other identifiers (uid and id) are automatically generated by the Oracle BI Server when it opens the RPD file. The fully qualified name must be unique within the file, but the name (the text after the last dot) only needs to be unique within the scope of its parent.

  The fully qualified name is the best identifier to use when searching an XML repository file to find a particular object, because the name of each object is visible in the Administration Tool. For example:

  ```
  qualifiedName="&quot;Sample Sales&quot;.&quot;H0 Time&quot;.&quot;Month&quot;"
  ```

  Note that qualified names for Presentation objects use .. between the subject area and the presentation table name. This syntax is used because there is no such thing as a presentation schema, which would normally go between a catalog and a table. For example:

  ```
  qualifiedName="&quot;Sample Small&quot;..&quot;Facts
  Revenue&quot;.&quot;Billed
  Qty&quot;"
  ```

  A similar convention is used for Physical layer objects, when the database does not have a physical catalog or physical schema.

- **uid.** This identifier, also called the UpgradeID, is a 32-bit number that is unique across the entire repository. The uid is created by the Oracle BI Server for the lifetime of the object. You can leave it blank when creating new objects in XML, because the server generates it automatically when it loads the RPD file. When you alter an object, make sure not to change the uid.

  The uid is used for compare and merge algorithms. It can also be useful for tracing relationships when analyzing or reverse-engineering XML metadata.

  For example: uid="80ca62be-0bcf-0000-714b-e31d00000000"

- **id.** This identifier, also called the VoidID, is created by the Oracle BI Server for the lifetime of the object. It is used in situations where the object type can be used to achieve better performance than the uid.

  Like the uid, you can leave the id blank when creating new objects in XML, because the server generates it automatically when it loads the RPD file. When you alter an object, make sure not to change the id.

  The id is a structure that contains two pieces of information: the type and a unique number within that type (for example, 2000:123456). Each object type, such as a logical column, has a particular number associated with it (for example, 2000). So, two objects of the same type both have the same number in the first part of the id.

  The unique number in the second part of the id is a randomly assigned number within that type. It must be unique within the type, but does not need to be unique across different object types. For example, a repository might have the valid ids 2000:123456 and 2001:123456.

  Although the id is typically created by the Oracle BI Server, you can create your own if needed, as long as you ensure that it is unique.

  For example: id="4010:1720"

6.4.2 About Naming Requirements for Repository Objects

All repository object names must follow these requirements:

- Names cannot be longer than 128 characters

- Names cannot contain leading or trailing spaces

- Names cannot contain single quotes, question marks, or asterisks

Note that repository object names can include multibyte characters.

7

XML Logical Elements

This chapter provides Oracle BI Server XML API reference information for logical elements. Logical elements typically correspond to objects in the Business Model and Mapping layer of the Oracle BI repository, or in other words, the objects that appear in the center pane of the Oracle BI Administration Tool.

This chapter contains the following topics:

- XML Elements: Logical Column
- XML Elements: Business Model
- XML Elements: Logical Complex Join
- XML Elements: Logical Level
- XML Elements: Dimension
- XML Elements: Logical Table
- XML Elements: Logical Foreign Key
- XML Elements: Logical Key
- XML Elements: Logical Table Source
- XML Elements: Logical Source Folder
- XML Elements: Measure Definition
- XML Elements: Aggregation Rule
- XML Elements: Override Aggregation Rule
- XML Elements: Logical Display Folder

7.1 XML Elements: Logical Column

The logical column element corresponds to the logical column object in the Business Model and Mapping layer.

The logical column tag includes the following attributes:

Table 7–1   Logical Column Tag Attributes

Attribute Name	Description
isDerived	When set to true, indicates that the logical column is based on a user-defined expression (for example, another logical column, a constant value, or a variable).

Table 7–1   (Cont.) Logical Column Tag Attributes

Attribute Name	Description
IsWriteable	When set to true, indicates that write back has been enabled for this column. This feature is typically used with ADF Business Component data sources. This option is called **Writeable** in the Administration Tool.

The logical column tag includes the following child elements:

Table 7–2   Logical Column Child Elements

Element Name	Description
Expr	Contains the expression from which the logical column should be derived. This element is only used when the `isDerived` attribute is set to true.
CustomSortOrder	If the sort order for this logical column is based on a different logical column, this element references that logical column. The logical column upon which the sort order is based is contained in a sub-element called `RefLogicalColumn`.
DescriptorID	When multilingual columns are based on a lookup function, it is common to specify the non-translated lookup key column as the descriptor ID column of the translated column. This element references the descriptor ID column. The descriptor ID logical column is contained in a sub-element called `RefLogicalColumn`.
Levels	For dimension columns, shows the level to which this column has been assigned. For level-based measures, shows the level at which the column has been explicitly fixed. The level is contained in a sub-element called `RefLogicalLevel`.

Syntax

```
<LogicalColumn …
    isDerived=""
    isWriteable="">
  <Description />
  <Expr>...</Expr>
  <CustomSortOrder>
    <RefLogicalColumn …/>
  </CustomSortOrder>
  <DescriptorID>
    <RefLogicalColumn …/>
  </DescriptorID>
  <Levels>
    <RefLogicalLevel …/>
  </Levels>
</LogicalColumn>
```

Example

```
<LogicalColumn name="Person ID"
    parentName="&quot;8 - Fusion Order Demo (OLTP)&quot;.&quot;
     D01 Customers&quot;"
    parentId="2035:61791" parentUid="80cbbddc-07f3-0000-714b-e31d00000000"
    id="2006:61814" uid="80cbbe7b-07d6-0000-714b-e31d00000000"
    isWriteable="false">
  <Levels>
```

```
        <RefLogicalLevel id="2025:63664"
         uid="80cbc70a-07e9-0000-714b-e31d00000000"
         qualifiedName="&quot;8 - Fusion Order Demo (OLTP)&quot;
          .&quot;H01 Customers&quot;.&quot;Customer ID&quot;"/>
      </Levels>
</LogicalColumn>
```

7.2 XML Elements: Business Model

The business model element corresponds to the business model object in the Business Model and Mapping layer.

The business model tag includes the following attributes:

Table 7–3   Subject Area Tag Attributes

Attribute Name	Description
isClassicStar	If set to true, indicates that the business model follows a star schema. Star schemas have one-to-many relationships between the logical dimension tables and the logical fact table.
isAvailable	If set to true, indicates that the corresponding subject area is available for queries.

The business model tag includes the following child elements:

Table 7–4   Subject Area Child Elements

Element Name	Description
Tables	References the display tables that belong to this business model.
	Each table is contained in a sub-element called `RefLogicalTable`.
	Included for backward compatibility. As table order is not significant within business model, this element will not be generated in output XML.
DisplayFolders	References the display folders that belong to this business model.
	Each display folder is contained in a sub-element called `RefLogicalDisplayFolder`.

Syntax

```
<BusinessModel …
     isClassicStar=""
     isAvailable="">
   <Description />
   <Tables>
     <RefLogicalTable …/>
     <RefLogicalTable …/>
   </Tables>
   <DisplayFolders>
     <RefLogicalDisplayFolder …/>
     <RefLogicalDisplayFolder …/>
   </DisplayFolders>
</BusinessModel>
```

Example

```
<BusinessModel name="9 - Usage Tracking"
```

```
        id="2000:22314" uid="802b289f-07d0-0000-714b-e31d00000000"
    isClassicStar="false" isAvailable="true">
</BusinessModel>
```

7.3 XML Elements: Logical Complex Join

The logical complex join element corresponds to the logical join object in the Business Model and Mapping Layer.

The logical complex join tag includes the following attributes:

Table 7–5   Logical Complex Join Tag Attributes

Attribute Name	Description
type	The type of join. Valid values are Inner, LeftOuter, RightOuter, FullOuter, and FullOuterStitch.

The logical complex join tag includes the following child elements:

Table 7–6   Logical Complex Join Child Elements

Element Name	Description
Roles	Roles define how a logical table or a logical level contributes to the join.
	Each role is contained in a sub-element called `Role`. The role sub-element has two attributes:
	■ `multiplicity` indicates the multiplicity of the table or level in the join. Valid values are `([0-9])* TO ([0-9])*`, `ZERO TO ONE`, `ZERO TO MANY`, `ONE TO ONE`, `ONE TO MANY`, and `UNKNOWN`.
	■ `isAggregate` indicates whether the table or level is an aggregate.
	Each `Role` sub-element can contain two additional sub-elements: `RefLogicalTable`, which references the logical tables in the join, and `RefLogicalLevel`, which references the logical levels in the join.
	See the syntax for the logical complex join element to see the complete hierarchy for the roles child element.
DrivingTable	If a driving table has been specified for the key, this element references that logical table.
	The driving table is contained in a sub-element called `RefLogicalTable`.

Syntax

```
<LogicalComplexJoin …
    type="">
  <Description />
  <Roles>
    <Role multiplicity="" isAggregate="">
      <RefLogicalTable …/>
      <RefLogicalLevel …/>
    </Role>
  </Roles>
  <DrivingTable>
    <RefLogicalTable …/>
  </DrivingTable>
```

```
    </LogicalComplexJoin>
```

Example

```
<LogicalComplexJoin name="Relationship_2004:617171273059824"
    id="2004:61717" uid="80cbbf09-07d4-0000-714b-e31d00000000"
    type="Inner">
  <Roles>
    <Role multiplicity="n..n" isAggregate="false">
      <RefLogicalTable id="2035:61664"
       uid="80cbbdd9-07f3-0000-714b-e31d00000000"
       qualifiedName="&quot;8 - Fusion Order Demo (OLTP)&quot;.&quot;
        F1 Order Facts&quot;"/>
    </Role>
    <Role multiplicity="0..1" isAggregate="false">
      <RefLogicalTable id="2035:61573"
       uid="80cbbdd5-07f3-0000-714b-e31d00000000"
       qualifiedName="&quot;8 - Fusion Order Demo (OLTP)&quot;.&quot;
        D11 Discounts and Coupons&quot;"/>
    </Role>
  </Roles>
</LogicalComplexJoin>
```

7.4 XML Elements: Logical Level

The logical level element corresponds to the logical level object contained in the dimensions in the Business Model and Mapping layer.

The logical level tag includes the following attributes:

Table 7–7   Logical Level Tag Attributes

Attribute Name	Description
isUniqueSourceKey	If set to true, indicates that this level is associated with the logical column or columns that comprise the logical key of the dimension table (or in other words, that this level is the lowest level of the dimension).
isGTA	If set to true, indicates that this level is the Grand Total level, which is a special level representing the grand total for a dimension. Each dimension can have just one Grand Total level. A grand total level does not contain dimensional attributes and does not have a level key. **Note:** GTA stands for Grand Total Alias.
isFDUC	If set to true, indicates that the logical level rolls up to its parent. This option is called **Supports rollup to higher level of aggregation** in the Administration Tool. **Note:** FDUC stands for FullDrillUpCoverage.
levelConst	The star schema level constant.
memberCount	The number of elements that exist at this logical level.

The logical level tag includes the following child elements:

Table 7–8 Logical Level Child Elements

Element Name	Description
ChildLevels	References the child levels that have been defined for this logical level. Each child level is contained in a sub-element called `RefLogicalLevel`.
PreferredDrillDown	If a drill path has been defined that is outside the normal drill path defined by the dimension level hierarchy, this element references the level to which users should drill. The preferred drill level is contained in a sub-element called `RefLogicalLevel`.
ParentKey	References the parent key for this level (for dimensions with parent-child hierarchies only). The parent key is contained in a sub-element called `RefLogicalKey`.

Syntax

```
<LogicalLevel …
    isUniqueSourceKey=""
    isGTA=""
    isFDUC=""
    levelConst=""
    memberCount="">
  <Description />
  <ChildLevels>
    <RefLogicalLevel …/>
    <RefLogicalLevel …/>
  </ChildLevels>
  <PreferredDrillDown>
    <RefLogicalLevel …/>
  </PreferredDrillDown>
  <ParentKey>
    <RefLogicalLevel …/>
  </ParentKey>
</LogicalLevel>
```

Example

```
<LogicalLevel name="City"
    parentName="&quot;8 - Fusion Order Demo (OLTP)&quot;.&quot;
     H02 Cust Primary Addresses&quot;"
    parentId="2019:63679" parentUid="80cbc715-07e3-0000-714b-e31d00000000"
    id="2025:63890" uid="80cbc796-07e9-0000-714b-e31d00000000"
    isGTA="false" isFDUC="true" memberCount="1" levelConst="&apos;City&apos;">
  <ChildLevels>
    <RefLogicalLevel id="2025:63894"
     uid="80cbc798-07e9-0000-714b-e31d00000000"
     qualifiedName="&quot;8 - Fusion Order Demo (OLTP)&quot;.&quot;
      H02 Cust Primary Addresses&quot;.&quot;Cust Address&quot;"/>
  </ChildLevels>
</LogicalLevel>
```

7.5 XML Elements: Dimension

The dimension element corresponds to the dimension object in the Business Model and Mapping layer.

The dimension tag includes the following attributes:

Table 7–9   Dimension Tag Attributes

Attribute Name	Description
isTimeDim	If set to true, indicates that this dimension is a time dimension.
isRagged	If set to true, indicates that this dimension hierarchy is unbalanced. An unbalanced hierarchy is one that contains levels that are not at the same depth.
isSkipped	If set to true, indicates that this dimension hierarchy is a skip-level hierarchy. A skip-level hierarchy is one in which there are members that do not have a value for a particular parent level.
isValueBased	If set to true, indicates that this object is a dimension with parent-child hierarchies. A parent-child hierarchy is a hierarchy of members that all have the same type. In a parent-child hierarchy, the inter-member relationships are parent-child relationships between dimension members.

The dimension tag includes the following child elements:

Table 7–10   Dimension Child Elements

Element Name	Description
RootLevels	References the root level or levels of this dimension. Root levels are levels in the hierarchy that do not have any levels above them. In the Administration Tool, root levels appear directly below the dimension icon.
	Each level is contained in a sub-element called `RefLogicalLevel.`
DefaultRootLevel	References the default root level of this dimension. When there are many root levels in a dimension, the default root level is the one that is used for drilldown.
	The default root level is contained in a sub-element called `RefLogicalLevel.`

Syntax

```
<Dimension …
    isTimeDim=""
    isRagged=""
    isSkipped=""
    isValueBased="">
  <Description />
  <RootLevels>
    <RefLogicalLevel …/>
    <RefLogicalLevel …/>
  </RootLevels>
  <DefaultRootLevel>
    <RefLogicalLevel …/>
  </DefaultRootLevel>
</Dimension>
```

Example

```
<Dimension name="H0 Time"
    parentName="&quot;3 - Sample Federated&quot;"
    parentId="2000:53458" parentUid="80cb9462-07d0-0000-714b-e31d00000000"
```

```
      id="2019:53459" uid="80cb9463-07e3-0000-714b-e31d00000000"
      isTimeDim="true" isValueBased="false" isRagged="false" isSkipped="false">
   <RootLevels>
     <RefLogicalLevel id="2025:53882"
      uid="80cb960a-07e9-0000-714b-e31d00000000"
      qualifiedName="&quot;3 - Sample Federated&quot;.&quot;H0 Time&quot;.&quot;
       Total Time&quot;"/>
   </RootLevels>
   <DefaultRootLevel>
     <RefLogicalLevel id="2025:53882"
      uid="80cb960a-07e9-0000-714b-e31d00000000"
      qualifiedName="&quot;3 - Sample Federated&quot;.&quot;H0 Time&quot;.&quot;
       Total Time&quot;"/>
   </DefaultRootLevel>
</Dimension>
```

7.6 XML Elements: Logical Table

The logical table element corresponds to the logical table object in the Business Model and Mapping layer.

The logical table tag includes the following attributes:

Table 7–11   Logical Table Tag Attributes

Attribute Name	Description
isLookupTable	If set to true, indicates that this logical table is a lookup table.
	Lookup tables are typically used to store fields that contain translations in several languages. Queries that require multilingual data join the base table and lookup table to obtain the translated values for each row in the base table.
x	The *x* coordinate of the table when it is shown in the business model diagrams.
y	The *y* coordinate of the table when it is shown in the business model diagrams.

The logical table tag includes the following child elements:

Table 7–12   Logical Table Child Elements

Element Name	Description
LevelColumn	References the column that is used in the level that corresponds to this logical table.
	Each level column is contained in a sub-element called `RefLogicalColumn`.
Columns	References the logical columns that belong to this logical table.
	Each logical column is contained in a sub-element called `RefLogicalColumn`.
TableSources	References the logical table sources for this logical table.
	Each logical table source is contained in a sub-element called `RefLogicalTableSource`.

Syntax

```
<LogicalTable …
     isLookupTable=""
```

```
     x=""
     y="">
   <Description />
   <LevelColumn>
     <RefLogicalColumn …/>
   </LevelColumn>
   <Columns>
     <RefLogicalColumn …/>
     <RefLogicalColumn …/>
   </Columns>
   <TableSources>
     <RefLogicalTableSource …/>
     <RefLogicalTableSource …/>
   </TableSources>
</LogicalTable>
```

Example

```
<LogicalTable name="F2 Coupon Usages"
    parentName="&quot;8 - Fusion Order Demo (OLTP)&quot;"
    parentId="2000:61417" parentUid="80cbbdd2-07d0-0000-714b-e31d00000000"
    id="2035:61501" uid="80cbbde8-07f3-0000-714b-e31d00000000"
    x="133" y="378">
  <Columns>
    <RefLogicalColumn id="2006:61504"
     uid="80cbbefc-07d6-0000-714b-e31d00000000"
     qualifiedName="&quot;8 - Fusion Order Demo (OLTP)&quot;.&quot;
      F2 Coupon Usages&quot;.&quot;Applied Date&quot;"/>
    <RefLogicalColumn id="2006:61507"
     uid="80cbbeff-07d6-0000-714b-e31d00000000"
     qualifiedName="&quot;8 - Fusion Order Demo (OLTP)&quot;.&quot;
      F2 Coupon Usages&quot;.&quot;# of Customers&quot;"/>
    <RefLogicalColumn id="2006:61508"
     uid="80cbbf00-07d6-0000-714b-e31d00000000"
     qualifiedName="&quot;8 - Fusion Order Demo (OLTP)&quot;.&quot;
      F2 Coupon Usages&quot;.&quot;# of Coupons and Discounts&quot;"/>
    <RefLogicalColumn id="2006:61512"
     uid="80cbbf04-07d6-0000-714b-e31d00000000"
     qualifiedName="&quot;8 - Fusion Order Demo (OLTP)&quot;.&quot;
      F2 Coupon Usages&quot;.&quot;Order ID&quot;"/>
  </Columns>
  <TableSources>
    <RefLogicalTableSource id="2037:61503"
     uid="80cbc055-07f5-0000-714b-e31d00000000"
     qualifiedName="&quot;8 - Fusion Order Demo (OLTP)&quot;.&quot;
      F2 Coupon Usages&quot;.&quot;COUPON_USAGES&quot;"/>
  </TableSources>
</LogicalTable>
```

7.7 XML Elements: Logical Foreign Key

The logical foreign key element corresponds to the logical foreign key object in the Business Model and Mapping layer.

The logical foreign key tag includes the following attributes:

Table 7–13   Logical Foreign Key Tag Attributes

Attribute Name	Description
type	The type of join. Valid values are `Inner`, `LeftOuter`, `RightOuter`, `FullOuter`, and `FullOuterStitch`.

The logical foreign key tag includes the following child elements:

Table 7–14   Logical Foreign Key Child Elements

Element Name	Description
Columns	References the logical columns in the table that the foreign key references. Each logical column is contained in a sub-element called `RefLogicalColumn`.
CounterPartKey	References the foreign key columns for this foreign key. Each logical column is contained in a sub-element called `RefLogicalKey`.
DrivingTable	If a driving table has been specified for this logical foreign key, this element references that logical table. The driving table is contained in a sub-element called `RefLogicalTable`.

Syntax

```
<LogicalForeignKey …
     type="">
  <Description />
  <Columns>
    <RefLogicalColumn …/>
    <RefLogicalColumn …/>
  </Columns>
  <CounterPartKey>
    <RefLogicalKey …/>
  </CounterPartKey>
  <DrivingTable>
    <RefLogicalTable …/>
  </DrivingTable>
</LogicalForeignKey>
```

Example

```
<LogicalForeignKey name="Measures_FKey"
     parentName="&quot;9 - Usage Tracking&quot;.&quot;Measures&quot;"
     parentId="2035:22319" parentUid="802b28a4-07f3-0000-714b-e31d00000000"
     id="2033:22559" uid="802b29a5-07f1-0000-714b-e31d00000000"
     type="Inner">
  <Columns>
    <RefLogicalColumn id="2006:22349"
     uid="802b28b2-07d6-0000-714b-e31d00000000"
     qualifiedName="&quot;9 - Usage Tracking&quot;.&quot;Measures&quot;.&quot;
       QueryText&quot;"/>
  </Columns>
  <CounterPartKey>
    <RefLogicalKey id="2008:22412"
     uid="802b29a0-07d8-0000-714b-e31d00000000"
     qualifiedName="&quot;9 - Usage Tracking&quot;.&quot;Topic&quot;.&quot;
       Topic_Key&quot;"/>
```

```
     </CounterPartKey>
  </LogicalForeignKey>
```

7.8 XML Elements: Logical Key

The logical key element corresponds to the logical key object in the Business Model and Mapping layer.

The logical key tag includes the following attributes:

Table 7–15 Logical Key Tag Attributes

Attribute Name	Description
isPrimary	If set to true, indicates that this key is the logical primary key for the table.
isForDrillDown	If set to true, indicates that this key is the key that is displayed when a user clicks to drill down.
isChronKey	If set to true, indicates that this key is a chronological key for a time dimension.

The logical key tag includes the following child elements:

Table 7–16 Logical Key Child Elements

Element Name	Description
Columns	References the logical column that defines the key of the logical table. The logical column is contained in a sub-element called `RefLogicalColumn`.

Syntax

```
<LogicalKey …
    isPrimary=""
    isForDrillDown=""
    isChronKey="">
  <Description />
  <Columns>
    <RefLogicalColumn …/>
  </Columns>
</LogicalKey>
```

Example

```
<LogicalKey name="CUSTOMER_ID"
    parentName="&quot;8 - Fusion Order Demo (OLTP)&quot;.&quot;
     F2 Coupon Usages&quot;"
    parentId="2035:61501" parentUid="80cbbde8-07f3-0000-714b-e31d00000000"
    id="2008:61513" uid="80cbbf39-07d8-0000-714b-e31d00000000"
    isPrimary="true">
  <Columns>
    <RefLogicalColumn id="2006:61512"
     uid="80cbbf04-07d6-0000-714b-e31d00000000"
     qualifiedName="&quot;8 - Fusion Order Demo (OLTP)&quot;.&quot;
      F2 Coupon Usages&quot;.&quot;Order ID&quot;"/>
  </Columns>
</LogicalKey>
```

7.9 XML Elements: Logical Table Source

The logical table source element corresponds to the logical table source object in the Business Model and Mapping layer. See also the column mapping element, described in Section 7.9.1, "Column Mapping."

The logical table source tag includes the following attributes:

Table 7–17   Logical Table Source Attributes

Attribute Name	Description
isDistinct	This attribute is used if the values for the logical table source are unique. In the Administration Tool, this option is called **Select distinct values** in the Content tab of the Logical Table Source dialog.
isDimOnly	This attribute is not used.
isSysGen	If set to true, indicates that an internal utility such as the Aggregate Persistence Wizard has generated this logical table source.
canCombine	If set to true, indicates that this logical table source can be combined with other logical table sources to provide a full set of results. In the Administration Tool, this option is called **This source should be combined with other sources at this level** in the Content tab of the Logical Table Source dialog.
isActive	If set to true, indicates that this logical table source is active. In the Administration Tool, this attribute corresponds with the **Disabled** option in the General tab of the Logical Table Source dialog.
allowUnmappedTable	Determines if the logical table source can have physical tables which are not mapped to logical columns.
	This can occur with a snowflake of physical tables A->B->C, where a logical table maps to columns in A and C, but B needs to be included in the logical table source because it is in the join path between A and C.
isJoinRestricted	This attribute is not used.
priorityGroup	Indicates the priority group number of this logical table source. Logical table source priority group numbers are assigned to indicate which logical table source should be used for queries for which there is more than one logical table source that can satisfy the requested set of columns.

The logical table source tag includes the following child elements:

Table 7–18   Logical Table Source Child Elements

Element Name	Description

Link	References the set of physical tables to which the logical table source is mapped. These links are references to the physical joins that already exist. In the Administration Tool, this element corresponds with the **Map to these tables** section in the General tab of the Logical Table Source dialog.
	
	Each link child element contains two sub-elements, `StartNode` and `Joins`:
	
	■ The `StartNode` sub-element references the physical table identified by this link. It can contain the `RefCubeTable`, `RefPhysicalTable`, `RefAWDimension`, or `RefAWCube`, depending on your data source type.
	
	■ The Joins sub-element defines the joins for this link. It contains different sub-elements, depending on the type of join. For example:
	
	`RefCubeTable`, `RefPhysicalTable`, `RefAWDimension`, or `RefAWCube`
	
	`RefPhysicalForeignKey` or `RefComplexJoin`
	
	`DrivingTable`, which contains a sub-element `RefPhysicalTable`
	
	The Joins sub-element has two attributes: `type` (`Inner`, `LeftOuter`, `RightOuter`, `FullOuter`, or `FullOuterStitch`) and `cardinality` (`ONE TO ONE`, `ZERO OR ONE TO ONE`, `ONE TO ZERO OR ONE`, `ZERO OR ONE TO ZERO OR ONE`, `ONE TO MANY`, `ZERO OR ONE TO MANY`, `ZERO OR ONE TO MANY`, `MANY TO ONE`, `MANY TO ZERO OR ONE`, or `MANY TO MANY`).
	
	See the syntax for the logical table source element to see the complete hierarchy for the link child element.

WhereClause	If a `WHERE` clause filter has been defined, contains the `WHERE` clause expression that limits the number of rows the source uses in the resultant table. The expression is contained in a sub-element called `Expr`. In the Administration Tool, this option is called **Use this "WHERE clause" filter to limit rows returned (exclude the "WHERE")** in the Content tab of the Logical Table Source dialog.
GroupBy	Contains the expression that defines whether the aggregation is grouped by logical level or by column. The expression is contained in a sub-element called `Expr`. In the Administration Tool, this option is called **Aggregation content, group by** in the Content tab of the Logical Table Source dialog.
FragmentContent	Contains the expression that defines how the source is fragmented. The expression is contained in a sub-element called `Expr`. This child element is used in conjunction with the `canCombine` attribute. In the Administration Tool, this option is called **Fragmentation content** in the Content tab of the Logical Table Source dialog.
ClosureTable	References the parent-child table, if any. The parent-child table is contained in a sub-element called `RefPhysicalTable`.

Syntax

```
<LogicalTableSource …
      isDistinct=""
      isSysGen=""
      canCombine=""
      isActive=""
      allowUnmappedTable=""
      priorityGroup="">
   <Description />
   <Link>
      <StartNode>
        <RefPhysicalTable …/>
      </StartNode>
      <Joins>
        <Join type="" cardinality="">
          <RefPhysicalTable …/>
          <RefPhysicalTable …/>
          <RefPhysicalForeignKey …/>
        </Join>
      </Joins>
   </Link>
   <WhereClause>
      <Expr>...</Expr>
   </WhereClause>
   <GroupBy>
      <Expr />
   </GroupBy>
   <FragmentContent>
      <Expr />
   </FragmentContent>
   <ClosureTable>
      <RefPhysicalTable …/>
   </ClosureTable>
</LogicalTableSource>
```

Example

```
<LogicalTableSource name="LTS3 Channels (Bridged to Revenue)"
      parentName="&quot;1 - Sample App&quot;.&quot;D4 Offices and Channels
       (M:M Joins)&quot;"
      parentId="2035:11648" parentUid="80cab595-07f3-0000-714b-e31d00000000"
      id="2037:12357" uid="80cab7d5-07f5-0000-714b-e31d00000000"
      isActive="true">
   <Link>
      <StartNode>
        <RefPhysicalTable id="3001:42412"
         uid="80cb6825-0bb9-0000-714b-e31d00000000"
         qualifiedName="&quot;01 - Sample App Data (ORCL)&quot;.&quot;
          Catalog&quot;.&quot;BISAMPLE&quot;.&quot;D30 Offices&quot;"/>
      </StartNode>
      <Joins>
        <Join type="Inner" cardinality=" ONE TO MANY">
          <RefPhysicalTable id="3001:42412"
           uid="80cb6825-0bb9-0000-714b-e31d00000000"
           qualifiedName="&quot;01 - Sample App Data (ORCL)&quot;.&quot;Catalog
            &quot;.&quot;BISAMPLE&quot;.&quot;D30 Offices&quot;"/>
          <RefPhysicalTable id="3001:42416"
           uid="80cb6829-0bb9-0000-714b-e31d00000000"
           qualifiedName="&quot;01 - Sample App Data (ORCL)&quot;.&quot;Catalog
            &quot;.&quot;BISAMPLE&quot;.&quot;D43 Chnls Offs Bridge (Rev)&quot;"/>
```

```
          <RefPhysicalForeignKey id="3006:43167"
           uid="80cb6b18-0bbe-0000-714b-e31d00000000"
           qualifiedName="&quot;01 - Sample App Data (ORCL)&quot;.&quot;Catalog
            &quot;.&quot;BISAMPLE&quot;.&quot;D43 Chnls Offs Bridge (Rev)&quot;
            .&quot;D43 Chnls Offcs Bridge (Revenue)_FKey&quot;"/>
      </Join>
    </Joins>
</Link>
<Link>
  <StartNode>
    <RefPhysicalTable id="3001:42414"
     uid="80cb6827-0bb9-0000-714b-e31d00000000"
     qualifiedName="&quot;01 - Sample App Data (ORCL)&quot;.&quot;Catalog
      &quot;.&quot;BISAMPLE&quot;.&quot;D41 Channels (Revenue)&quot;"/>
  </StartNode>
  <Joins>
    <Join type="Inner" cardinality=" ONE TO MANY">
      <RefPhysicalTable id="3001:42414"
       uid="80cb6827-0bb9-0000-714b-e31d00000000"
       qualifiedName="&quot;01 - Sample App Data (ORCL)&quot;.&quot;Catalog
        &quot;.&quot;BISAMPLE&quot;.&quot;D41 Channels (Revenue)&quot;"/>
      <RefPhysicalTable id="3001:42416"
       uid="80cb6829-0bb9-0000-714b-e31d00000000"
       qualifiedName="&quot;01 - Sample App Data (ORCL)&quot;.&quot;Catalog
        &quot;.&quot;BISAMPLE&quot;.&quot;D43 Chnls Offs Bridge (Rev)&quot;"/>
      <RefPhysicalForeignKey id="3006:43166"
       uid="80cb6b17-0bbe-0000-714b-e31d00000000"
       qualifiedName="&quot;01 - Sample App Data (ORCL)&quot;.&quot;Catalog
        &quot;.&quot;BISAMPLE&quot;.&quot;D43 Chnls Offs Bridge (Rev)&quot;
        .&quot;D53 Teams Membership Bridge (Revenue Facts)_FKey#1&quot;"/>
    </Join>
  </Joins>
</Link>
<Link>
  <StartNode>
    <RefPhysicalTable id="3001:42416"
     uid="80cb6829-0bb9-0000-714b-e31d00000000"
     qualifiedName="&quot;01 - Sample App Data (ORCL)&quot;.&quot;Catalog
      &quot;.&quot;BISAMPLE&quot;.&quot;D43 Chnls Offs Bridge (Rev)&quot;"/>
  </StartNode>
  <Joins>
    <Join type="Inner" cardinality="MANY TO ONE">
      <RefPhysicalTable id="3001:42416"
       uid="80cb6829-0bb9-0000-714b-e31d00000000"
       qualifiedName="&quot;01 - Sample App Data (ORCL)&quot;.&quot;Catalog
        &quot;.&quot;BISAMPLE&quot;.&quot;D43 Chnls Offs Bridge (Rev)&quot;"/>
      <RefPhysicalTable id="3001:42414"
       uid="80cb6827-0bb9-0000-714b-e31d00000000"
       qualifiedName="&quot;01 - Sample App Data (ORCL)&quot;.&quot;Catalog
        &quot;.&quot;BISAMPLE&quot;.&quot;D41 Channels (Revenue)&quot;"/>
      <RefPhysicalForeignKey id="3006:43166"
       uid="80cb6b17-0bbe-0000-714b-e31d00000000"
       qualifiedName="&quot;01 - Sample App Data (ORCL)&quot;.&quot;Catalog
        &quot;.&quot;BISAMPLE&quot;.&quot;D43 Chnls Offs Bridge (Rev)&quot;
        .&quot;D53 Teams Membership Bridge (Revenue Facts)_FKey#1&quot;"/>
    </Join>
    <Join type="Inner" cardinality="MANY TO ONE">
      <RefPhysicalTable id="3001:42416"
       uid="80cb6829-0bb9-0000-714b-e31d00000000"
       qualifiedName="&quot;01 - Sample App Data (ORCL)&quot;.&quot;Catalog
```

```
                        &quot;.&quot;BISAMPLE&quot;.&quot;D43 Chnls Offs Bridge (Rev)&quot;"/>
                    <RefPhysicalTable id="3001:42412"
                     uid="80cb6825-0bb9-0000-714b-e31d00000000"
                     qualifiedName="&quot;01 - Sample App Data (ORCL)&quot;.&quot;Catalog
                     &quot;.&quot;BISAMPLE&quot;.&quot;D30 Offices&quot;"/>
                    <RefPhysicalForeignKey id="3006:43167"
                     uid="80cb6b18-0bbe-0000-714b-e31d00000000"
                     qualifiedName="&quot;01 - Sample App Data (ORCL)&quot;.&quot;Catalog
                      &quot;.&quot;BISAMPLE&quot;.&quot;D43 Chnls Offs Bridge (Rev)&quot;
                      .&quot;D43 Chnls Offcs Bridge (Revenue)_FKey&quot;"/>
                </Join>
            </Joins>
        </Link>
        <WhereClause>
            <Expr></Expr>
        </WhereClause>
        <GroupBy>
            <Expr>
              <![CDATA[ GROUPBYLEVEL("1 - Sample App"."H4 Offices and Channels (M:M)"
              ."Channel Detail")]]>
            </Expr>
        </GroupBy>
        <FragmentContent>
            <Expr></Expr>
        </FragmentContent>
    </LogicalTableSource>
```

7.9.1 Column Mapping

The column mapping element does not correspond to any metadata repository object. It is only used in conjunction with the logical table source element. The column mapping element appears on its own in the XML schema (.xsd file), rather than as part of the logical table source element, so that the column mapping details are easier to read and update.

The column mapping tag includes the following child elements:

Table 7–19   Column Mapping Child Elements

Element Name	Description
RefLogicalTableSource	References the logical table source to which this column mapping belongs. Each column mapping must specify one and only one logical table source.
LogicalColumn	Contains the expression that identifies the logical column for this column mapping. The expression is contained in a sub-element called Expr.
Expr	Contains the expression that identifies the physical column for this column mapping. Note that this Expr child element is different from the Expr sub-element that appears inside the LogicalColumn child element.

The column mapping tag does not include any attributes.

Syntax

```
<ColumnMapping>
    <RefLogicalTableSource …/>
    <LogicalColumn>
      <Expr>...</Expr>
```

```
       </LogicalColumn>
       <Expr>...</Expr>
</ColumnMapping>
```

Example

```
<ColumnMapping>
    <RefLogicalTableSource id="2037:43703"
     uid="80cb6db6-07f5-0000-714b-e31d00000000"
     qualifiedName="&quot;SampleApp &quot;.&quot;F0 Revenue Base Measures
      &quot;.&quot;LTS2 Revenue Facts Aggregate 1&quot;"/>
    <LogicalColumn>
       <Expr>
          <![CDATA["SampleApp"."F0 Revenue Base Measures"."Revenue"]]>
       </Expr>
    </LogicalColumn>
    <Expr>
       <![CDATA["SampleApp".""."".""F11 Revenue Facts Aggregate"."Revenue"]]>
    </Expr>
</ColumnMapping>
```

7.10 XML Elements: Logical Source Folder

The logical source folder element corresponds to the logical source folder object in the Business Model and Mapping layer. Logical source folders contain logical table sources.

The logical source folder element does not include any attributes nor child elements, other than the default attributes and elements.

Syntax

```
<LogicalSourceFolder …>
    <Description />
</LogicalSourceFolder>
```

Example

```
<LogicalSourceFolder name="Sources"
     parentName="&quot;Usage Tracking&quot;.&quot;Measures&quot;"
     parentId="2035:43831" parentUid="6c898eac-b03c-e91a-14ac-7868e974eafc"
     id="2046:43884" uid="6c898eac-b03c-e91a-14ac-7868e974eafc">
</LogicalSourceFolder>
```

7.11 XML Elements: Measure Definition

The measure definition element stores the measure definition for a measure column. A measure column is usually in a fact table, can change for each record, and can be added up or aggregated in some way.

The measure definition tag includes the following attributes:

Table 7–20   Measure Definition Tag Attributes

Attribute Name	Description
isCommutative	If set to true, indicates that the aggregation rule lets the server switch the order if it can increase the performance. For example, the following aggregation function is commutative: `A (B (x)) = B (A (x))`

The measure definition tag includes the following child elements:

Table 7–21   Measure Definition Child Elements

Element Name	Description
Rules	References the aggregation rule for this measure.
	Each rule is contained in a sub-element called `RefAggrRule`. The order of rules is important.
	For more information, see Section 7.12, "XML Elements: Aggregation Rule."
OverrideRules	References the override aggregation rule for this measure, if any.
	Each override aggregation rule is contained in a sub-element called `RefOverrideAggrRule`. The order of override rules is important.
	For more information, see Section 7.13, "XML Elements: Override Aggregation Rule."

Syntax

```
<MeasureDefn …
    isCommutative="">
  <Rules />
  <OverrideRules />
  <Description />
</MeasureDefn>
```

Example

```
<MeasureDefn name="Measure"
    parentName="&quot;SampleApp Lite&quot;.&quot;F0 Revenue Base Measures&quot;
    .&quot;Billed Quantity&quot;"
    parentId="2006:42434"
    parentUid="80cb683b-07d6-0000-714b-e31d00000000"
    id="2048:42595" uid="80cb68dc-0800-0000-714b-e31d00000000"
    isCommutative="false">
  <Rules>
    <RefAggrRule id="2050:43457" uid="80cb6c51-0802-0000-714b-e31d00000000"
    qualifiedName=""SampleApp Lite"."F0 Revenue Base Measures"."Billed Quantity".
    "Measure"."AggRule_2050:434571273647807"" />
  </Rules>
</MeasureDefn>
```

7.12 XML Elements: Aggregation Rule

The aggregation rule element corresponds to the aggregation rule object in the Business Model and Mapping layer.

The aggregation rule tag includes the following attributes:

Table 7–22   Aggregation Rule Tag Attributes

Attribute Name	Description
isDefault	If set to true, indicates that this is the default rule for aggregate calculations. This option only applies when there is more than one aggregation rule.

The aggregation rule tag includes the following child elements:

Table 7–23   Aggregation Rule Child Elements

Element Name	Description
Expr	Contains the expression on which this aggregation rule is based.
BasedOnDimension	If this aggregation rule is specific to a particular dimension, references the dimension for which this aggregation rule applies. The dimension is contained in a sub-element called `RefDimension`.

Syntax

```
<AggrRule …
     isDefault="">
  <Description />
  <BasedOnDimension …/>
  <Expr>
    <![CDATA[…]]>
  </Expr>
</AggrRule>
```

Example

```
<AggrRule name="AggRule_2050:434611273647807"
    parentName="&quot;SampleApp Lite&quot;.&quot;F0 Revenue Base Measures&quot;
    .&quot;# of Products with Orders&quot;.&quot;Measure&quot;"
    parentId="2048:42600" parentUid="80cb68e1-0800-0000-714b-e31d00000000"
    id="2050:43461" uid="80cb6c4b-0802-0000-714b-e31d00000000"
    isDefault="true">
  <Expr>
   <![CDATA[ COUNT(DISTINCT "SampleApp Lite"."F0 Revenue Base Measures".
    "# of Products with Orders")]]>
  </Expr>
</AggrRule>
```

7.13 XML Elements: Override Aggregation Rule

The override aggregation rule element corresponds to the override aggregation expression for a logical table source in the Business Model and Mapping Layer.

When you select Count Distinct as the default aggregation rule, you can specify an override aggregation expression for specific logical table sources. This option is useful when you have more than one logical table source mapped to a logical column and you want to apply a different aggregation rule to each source.

The override aggregation rule tag includes the following child elements:

Table 7–24   Override Aggregation Rule Child Elements

Element Name	Description
RefLogicalTableSource	References the logical table source to which this override aggregation rule applies.
Expr	Contains the expression on which this aggregation rule is based.

The override aggregation rule tag does not include any attributes.

Syntax

```
<OverrideAggrRule …>
```

```
    <Description />
    <RefLogicalTableSource …/>
    <Expr>...</Expr>
</OverrideAggrRule>
```

Example

```
<OverrideAggrRule name="OvAggRule_2054:385501246426812"
    parentName="&quot;Core&quot;.&quot;Fact - CRM - Order Item
     &quot;.&quot;# of Accounts with Orders&quot;.&quot;Measure&quot;"
     parentId="2048:31122" parentUid="00225690-0800-0000-714b-e31d00000000"
     id="2054:38550" uid="802ba5d5-0806-0000-714b-e31d00000000">
  <RefLogicalTableSource id="2037:220577"
   uid="002253c3-07f5-0000-714b-e31d00000000"
   qualifiedName="&quot;Core&quot;.&quot;Fact - CRM - Order Item
    &quot;.&quot;Fact_W_ORDER_F&quot;"/>
  <Expr>
    <![CDATA[ COUNT(DISTINCT "Core"."Fact - CRM - Order Item".
     "# of Accounts with Orders")]]>
  </Expr>
</OverrideAggrRule>
```

7.14 XML Elements: Logical Display Folder

The logical display folder element corresponds to the logical display folder object in the Business Model and Mapping layer.

The logical display folder tag includes the following child elements:

Table 7–25   Logical Display Folder Child Elements

Element Name	Description
Dimensions	References the dimensions that belong to this logical display folder. Each dimension is contained in a sub-element called `RefDimension`.
Tables	References the logical tables that belong to this logical display folder. Each table is contained in a sub-element called `RefLogicalTable`.

The logical display folder element does not include any attributes.

Syntax

```
<LogicalDisplayFolder …>
   <Description />
   <Dimensions>
     <RefDimension …/>
     <RefDimension …/>
   </Dimensions>
   <Tables>
     <RefLogicalTable …/>
     <RefLogicalTable …/>
   </Tables>
</LogicalDisplayFolder>
```

Example

```
<LogicalDisplayFolder name="Resources"
    parentName="&quot;SampleApp&quot;"
    parentId="2000:42377" parentUid="80cb6802-07d0-0000-714b-e31d00000000"
    id="2052:44085" uid="9bf9c250-0c00-1000-835d-0a9702490000">
  <Tables>
    <RefLogicalTable id="2035:42395"
     uid="80cb6814-07f3-0000-714b-e31d00000000"
     qualifiedName="&quot;SampleApp&quot;.&quot;D0 Time&quot;"/>
    <RefLogicalTable id="2035:42562"
     uid="80cb68bb-07f3-0000-714b-e31d00000000"
     qualifiedName="&quot;SampleApp&quot;.&quot;D2 Offices&quot;"/>
  </Tables>
</LogicalDisplayFolder>
```

8

XML Physical Elements

This chapter provides Oracle BI Server XML API reference information for physical elements. Physical elements typically correspond to objects in the Physical layer of the Oracle BI repository, or in other words, the objects that appear in the right-hand pane of the Oracle BI Administration Tool.

This chapter contains the following topics:

- XML Elements: Database
- XML Elements: Physical Catalog
- XML Elements: Physical Schema
- XML Elements: Physical Display Folder
- XML Elements: Physical Table
- XML Elements: Physical Column
- XML Elements: Connection Pool
- XML Elements: Physical Key
- XML Elements: Physical Foreign Key
- XML Elements: Complex Join
- XML Elements: Cube Table
- XML Elements: Physical Dimension
- XML Elements: Physical Hierarchy
- XML Elements: Physical Level
- XML Elements: Cube Column
- XML Elements: Analytic Workspace
- XML Elements: AW Cube
- XML Elements: AW Dimension
- XML Elements: AW Hierarchy
- XML Elements: AW Level
- XML Elements: AW Column

8.1 XML Elements: Database

The database element corresponds to the database object in the Physical layer.

The database tag includes the following attributes:

Table 8–1   Database Tag Attributes

Attribute Name	Description
type	The type of data source, such as XMLDirect or ODBC20.
dbFlag	Stores the value of the following options: ■ **CRM metadata tables:** For legacy Siebel Systems sources only. When selected, the Administration Tool import utility looks for the table definition in Oracle's Siebel CRM-specific tables. ■ **Virtual Private Database:** Identifies the physical database source as a virtual private database (VPD). When a VPD is used, returned data results are contingent on the user's authorization credentials. This option is used with the Security Sensitive option for session variables. ■ **Allow populate queries by default:** When selected, allows all users to execute POPULATE SQL. If you want most, but not all, users to be able to execute POPULATE SQL, select this option and then limit queries for specific users or groups. ■ **Allow direct database requests by default:** When selected, allows all users to execute physical queries. The Oracle BI Server will send unprocessed, user-entered, physical SQL directly to an underlying database. If you want most, but not all, users to be able to execute physical queries, select this option and then limit queries for specific users or groups.

The database tag includes the following child elements:

Table 8–2   Database Child Elements

Element Name	Description
Features	Lists the SQL features for this database. Each feature is contained in a sub-element called Feature. This sub-element has two attributes: ■ name indicates the name of the feature, such as LEFT_OUTER_JOIN_SUPPORTED. ■ value indicates whether this feature is supported by the database, or provides the actual value of the feature (such as "0" for MAX_COLUMNS_IN_SELECT).
PersistConnPool	References the connection pool that is used as the persist connection pool, if one has been assigned. A persist connection pool is a database property that is used for specific types of queries (typically used to support Marketing queries). The persist connection pool is contained in a sub-element called RefConnectionPool.
DisplayFolders	References any physical display folders that contain objects in this database. Physical display folders can be used to organize tables in a database. For example, all alias tables can be stored in a display folder called Alias, in addition to being present in the database. Each display folder is contained in a sub-element called RefPhysicalDisplayFolder.

Table 8–2   (Cont.) Database Child Elements

Element Name	Description
ConnectionPools	References the connection pools for this database object.
	Each connection pool is contained in a sub-element called `RefConnectionPool`.
Properties	Custom database properties for Oracle ADF Business Component data sources that are passed to the Administration Tool from Oracle ADF BI view objects.

Syntax

```
<Database …
     type=""
     dbFlag="">
  <Description />
  <Features>
    <Feature name="" value=""/>
    <Feature name="" value=""/>
    ...
  </Features>
  <PersistConnPool>
    <RefConnectionPool …/>
  </PersistConnPool>
  <DisplayFolders>
    <RefPhysicalDisplayFolder …/>
    <RefPhysicalDisplayFolder …/>
  </DisplayFolders>
  <ConnectionPools>
    <RefConnectionPool …/>
  </ConnectionPools>
  <Properties>
    <PropertyGroup>
      category=""
      <Property>
         <Name …/>
         <Value …/>
      </Property>
    </Property Group>
  </Properties>
</Database>
```

Example

```
<Database name="Paint" id="3023:205" uid="80ca62be-0bcf-0000-714b-e31d00000000"
     type="XMLDirect">
  <Features>
    <Feature name="LEFT_OUTER_JOIN_SUPPORTED" value="false" />
    <Feature name="RIGHT_OUTER_JOIN_SUPPORTED" value="false" />
    <Feature name="FULL_OUTER_JOIN_SUPPORTED" value="false" />
    <Feature name="NESTED_OUTER_JOIN_SUPPORTED" value="false" />
    <Feature name="UNION_SUPPORTED" value="false" />
    <Feature name="UNION_ALL_SUPPORTED" value="false" />
    <Feature name="COUNT_SUPPORTED" value="false" />
    <Feature name="COUNT_DISTINCT_SUPPORTED" value="false" />
...
    <Feature name="SORT_ORDER_LOCALE" value="english-usa" />
    <Feature name="COMMENT_START" />
    <Feature name="COMMENT_END" />
  </Features>
```

```
        </Database>
```

8.2 XML Elements: Physical Catalog

The physical catalog element corresponds to the physical catalog object in the Physical layer.

The physical catalog tag includes the following child elements:

Table 8–3   Physical Catalog Child Elements

Element Name	Description
DynamicName	If a session variable is being used to specify the name of this physical catalog, this element references that session variable. The session variable is contained in a sub-element called `RefVariable`.

The physical catalog element does not include any attributes.

Syntax

```
<PhysicalCatalog …>
   <Description />
   <DynamicName>
     <RefVariable …/>
   </DynamicName>
</PhysicalCatalog>
```

Example

```
<PhysicalCatalog name="Catalog"
     parentName="&quot;01 - Sample App Data (ORCL)&quot;"
     parentId="3023:85" parentUid="80ca62c4-0bcf-0000-714b-e31d00000000"
     id="3025:42377" uid="80cb6802-0bd1-0000-714b-e31d00000000">
</PhysicalCatalog>
```

8.3 XML Elements: Physical Schema

The physical schema element corresponds to the physical schema object in the Physical layer.

The physical schema tag includes the following child elements:

Table 8–4   Physical Schema Child Elements

Element Name	Description
DynamicName	If a session variable is being used to specify the name of this physical schema, this element references that session variable. The session variable is contained in a sub-element called `RefVariable`.
InputMessageTemplate	This child element is reserved for a future release.

The physical schema element does not include any attributes.

Syntax

```
<Schema …>
   <Description />
```

```
    <DynamicName>
      <RefVariable …/>
    </DynamicName>
</Schema>
```

Example

```
<Schema name="BISAMPLE"
    parentName="&quot;01 - Sample App Data (ORCL)&quot;.&quot;Catalog&quot;"
    parentId="3025:42377" parentUid="80cb6802-0bd1-0000-714b-e31d00000000"
    id="3027:42378" uid="80cb6803-0bd3-0000-714b-e31d00000000">
</Schema>
```

8.4 XML Elements: Physical Display Folder

The physical display folder element corresponds to the physical display folder object in the Physical layer.

The physical display folder tag includes the following child elements:

Table 8–5   Physical Display Folder Child Elements

Element Name	Description
Tables	References the physical tables that belong to this physical display folder. Each physical table is contained in a sub-element called `RefPhysicalTable`.

The physical display folder element does not include any attributes.

Syntax

```
<PhysicalDisplayFolder …>
   <Description />
   <Tables>
     <RefPhysicalTable …/>
   </Tables>
</PhysicalDisplayFolder>
```

Example

```
<PhysicalDisplayFolder name="Assets"
    parentName="&quot;Sample Data&quot;"
    parentId="3023:85" parentUid="80ca62c4-0bcf-0000-714b-e31d00000000"
    id="3037:44085" uid="96c2c481-0c00-1000-835d-0a9702490000">
  <Tables>
    <RefPhysicalTable id="3001:129"
     uid="80ca6538-0bb9-0000-714b-e31d00000000"
     qualifiedName="&quot;Sample Data&quot;...&quot;D20 Offices&quot;"/>
  </Tables>
</PhysicalDisplayFolder>
```

8.5 XML Elements: Physical Table

The physical table element corresponds to the physical table object in the Physical layer.

The physical table tag includes the following attributes:

Table 8–6   Physical Table Tag Attributes

Attribute Name	Description
type	The type of physical table. Options are as follows: ■ `select` indicates that this physical table object is a SELECT statement. ■ `sp` indicates that this physical table is a stored procedure. ■ `alias` indicates that this physical table is an alias table. An alias table (alias) is a physical table that references a different physical table as its source. ■ `none` indicates that this physical table is a regular physical table.
isCacheable	If set to true, indicates that this table is included in the Oracle BI Server query cache.
CacheExpiry	How long table entries should persist in the query cache. A value of 0 indicates that cache entries do not expire.
isCacheEventTable	If set to true, indicates that this table has been registered as an Oracle BI Server event polling table.
isOverrideCacheProp	For alias tables only. If set to true, indicates that the alias table has its own cache properties that override the cache properties of the source table.
pollFreq	The polling frequency, in seconds. Only applies if this table is an Oracle BI Server event polling table. The default value is 3600 seconds.
x	The x coordinate of the table when it is shown in the physical diagram.
y	The y coordinate of the table when it is shown in the physical diagram.
rowCount	The latest number of rows retrieved for this physical table.
lastUpdated	The time at which row counts were last updated for this physical table.
uri	For XML data sources only. The resource identifier for the XML data source.
xslPath	For XML data sources only. An XSLT file contains formatting rules written according to the XSLT standard. It defines how an XML file may be transformed.
maxConn	For XML data sources only. The maximum number of connections allowed to the same URL from different users.
xmlRefreshInterval	For XML data sources only. The time interval after which the XML data source is queried again directly, rather than using results in cache.
scriptPath	For XML data sources only. The extended gateway script path.
hints	For Oracle Databases only. Lists any database hints, such as index hints or leading hints, that were specified for this physical table.
isExtGatewayInProcess	For XML data sources only. Indicates that this physical table is the extended gateway part of the process.
extGatewayDelimiter	For XML data sources only. The row delimiter used in the metadata import process, typically the second level element in the XML document.

Table 8–6   (Cont.) Physical Table Tag Attributes

Attribute Name	Description
isSysGen	If set to true, indicates that an internal utility has generated this physical table.
isDDLAggr	Indicates whether this physical table is an aggregate table.
isDeployedView	For relational databases only. If set to true, indicates that this physical table is a deployed (opaque) view. An opaque view is a Physical layer table that consists of a `SELECT` statement.

The physical table tag includes the following child elements:

Table 8–7   Physical Table Child Elements

Element Name	Description
SourceTable	For alias tables only. References the physical table that is being used as the source for this alias table. The physical table is contained in a sub-element called `RefPhysicalTable`.

DBMap	Stores the value of database-specific strings. The `<DBMap>` element contains an `<Item>` tag, which in turn contains a `<Value>` tag, as follows:
	
	`<Item name="">`
	`   <Value />`
	`</Item>`

AggrConnPool	If this physical table is an aggregate table, this element references the connection pool used for the aggregate. The connection pool is contained in a sub-element called `RefConnectionPool`.
RefVariable	If a session variable is being used to specify the name of this physical table, this element references that session variable.
MemberKey	Applies to parent-child relationship tables that support parent-child hierarchies on relational sources. The name of the column that uniquely identifies members of the parent-child relationship table. The member key is contained in a sub-element called `RefPhysicalColumn`.
ParentKey	The name of the column that contains the key of the parent or ancestor member. Applies to parent-child relationship tables that support parent-child hierarchies on relational sources. The parent key is contained in a sub-element called `RefPhysicalColumn`.
DistanceColumn	The name of the column that records the number of levels between the member and the ancestor. Applies to parent-child relationship tables that support parent-child hierarchies on relational sources. The distance column is contained in a sub-element called `RefPhysicalColumn`.

Table 8–7   (Cont.) Physical Table Child Elements

Element Name	Description
LeafColumn	The name of the column that indicates whether the member has no child members (1 if the member is a leaf and has no children, 0 if the member is not a leaf and has children). Applies to parent-child relationship tables that support parent-child hierarchies on relational sources. The leaf column is contained in a sub-element called `RefPhysicalColumn`.
XSLT	For Oracle web service data sources. XSLT stores the XSLT transformation to flatten the web service response into a tabular result set.
XSDSchema	For Oracle web service data sources. XSDSchema stores the XML schema describing the structure of the web service response.
Properties	Contains one or more `Property` sub-elements, each of which has attributes `<name>` and `<value>`. These attributes specify a name-value pair of properties for data source metadata. Used for ADF sources, to store information related to the ADF application, such as information on flex Vos, override data types, join definitions, and data filters.

Syntax

```
<PhysicalTable …
    type=""
    isCacheable=""
    cacheExpiry=""
    isCacheEventTable=""
    isOverrideCacheProp=""
    pollFreq=""
    x=""
    y=""
    rowCount=""
    lastUpdated=""
    uri=""
    xslPath=""
    maxConn=""
    xmlRefreshInterval=""
    scriptPath=""
    hints=""
    isExtGatewayInProcess=""
    extGatewayDelimiter=""
    isSysGen=""
    isDDLAggr=""
    isDeployedView="">
  <Description />
  <SourceTable>
    <RefPhysicalTable …/>
  </SourceTable>
  <DBMap>
    <Item name="">
      <Value …/>
    </Item>
  </DBMap>
  <AggrConnPool>
    <RefConnectionPool …/>
  </AggrConnPool>
```

```
<RefVariable …/>
<MemberKey>
  <RefPhysicalColumn …/>
</MemberKey>
<ParentKey>
  <RefPhysicalColumn …/>
</ParentKey>
<DistanceColumn>
  <RefPhysicalColumn …/>
</DistanceColumn>
<LeafColumn>
  <RefPhysicalColumn …/>
</LeafColumn>
<XSLT />
<XSDSchema />
<Properties>
  <Property name="" value=""/>
  <Property name="" value=""/>
</Properties>
</PhysicalTable>
```

Example

```
<PhysicalTable name="SAMP_LOOKUPS_D"
    parentName="&quot;01 - Sample App Data (ORCL)&quot;
      .&quot;Catalog&quot;.&quot;BISAMPLE&quot;"
    parentId="3027:42378" parentUid="80cb6803-0bd3-0000-714b-e31d00000000"
    id="3001:42390" uid="80cb680f-0bb9-0000-714b-e31d00000000"
    type="none"
    isCacheable="false"
    x="270" y="1551"
    rowCount="0.0"
    uri="VALUEOF(BI_EE_HOME)/sample/SampleAppFiles/Data/SAMP_LOOKUPS_D.xml"
    maxConn="0">
  <Description>
    <![CDATA[ Lookups dimension table : Stores lookup information for various
     dimension attributes in different languages]]>
  </Description>
  <XSLT />
  <XSDSchema />
</PhysicalTable>
```

8.6 XML Elements: Physical Column

The physical column element corresponds to the physical column object in the Physical layer.

The physical column tag includes the following attributes:

Table 8–8   Physical Column Tag Attributes

Attribute Name	Description
extName	The external name for the physical column. This attribute is required if the same name (such as STATE) is used in multiple hierarchies.
	This attribute is optional for XML documents. For XML, the extName attribute stores the fully qualified name of a column.

Table 8–8   (Cont.) Physical Column Tag Attributes

Attribute Name	Description
dataType	The data type of the physical column, such as VARCHAR. This option is called **Type** in the Physical Column dialog in the Administration Tool.
nullable	If set to true, indicates that null values are allowed for the column. This allows null values to be returned to the user, which is expected with certain functions and with outer joins.
precision	The precision of the data type of the column.
scale	The scale of the data type of the column.
rowCount	The latest number of rows retrieved for this physical column.
lastUpdated	The time at which row counts were last updated for this physical column.
valueType	Applies to Siebel OM data sources only. Indicates the cardinality of the value of the column. Valid values include: ■ One to One (Default/Unknown/Single-valued) ■ Many to One (Picklist) ■ One to Many (Multi-valued) ■ Many to Many (Multi-valued)
mappedColumn	Applies to Siebel OM data sources only. The name of the mapped column. Corresponds to the field of the same name for the multi-valued group (MVG) business component.
MVLinkName	Applies to Siebel OM data sources only. The name of the link used in the Siebel business component.
specialType	Valid values are LUD or None. LUD stands for "Last Update Date." This attribute is currently used only for ADF data sources. It is used to indicate that the column should be checked when performing ETL operations.

The physical column tag includes the following child elements:

Table 8–9   Physical Column Child Elements

Element Name	Description
DynamicName	If a session variable is being used to specify the name of this physical column, this element references that session variable. The session variable is contained in a sub-element called RefVariable.
SourceColumn	For physical columns in an alias table only. References the physical column that is being used as the source for this column. The physical column is contained in a sub-element called RefPhysicalColumn.
PicklistColumns	A list of physical columns to which the picklist is mapped. Each physical column is contained in a sub-element called RefPhysicalColumn.
Properties	Contains one or more Property sub-elements, each of which has attributes <name> and <value>. These attributes specify a name-value pair of properties for data source metadata.

Syntax

```
<PhysicalColumn …
    extName=""
    dataType=""
    length=""
    nullable=""
    precision=""
    scale=""
    rowCount=""
    lastUpdated=""
    valueType=""
    mappedColumn=""
    MVLinkName=""
    specialType="">
  <Description />
  <DynamicName>
    <RefVariable …/>
  </DynamicName>
  <SourceColumn>
    <RefPhysicalColumn …/>
  </SourceColumn>
  <PicklistColumns>
    <RefPhysicalColumn …/>
  </PicklistColumns>
  <Properties>
    <Property name="" value=""/>
    <Property name="" value=""/>
  </Properties>
</PhysicalColumn>
```

Example

```
<PhysicalColumn name="Prod_Dsc"
    parentName="&quot;01 - Sample App Data (ORCL)&quot;.&quot;Catalog&quot;
    .&quot;BISAMPLE&quot;.&quot;SAMP_PRODUCTS_D&quot;"
    parentId="3001:42392" parentUid="80cb6811-0bb9-0000-714b-e31d00000000"
    id="3003:42538" uid="80cb68a3-0bbb-0000-714b-e31d00000000"
    dataType="VARCHAR"
    precision="25"
    rowCount="0.0"
    specialType="none">
  <Description>
    <![CDATA[Product Description: Stores the product description information
     as text]]>
  </Description>
</PhysicalColumn>
```

8.7 XML Elements: Connection Pool

The connection pool element corresponds to the connection pool object in the Physical layer.

The connection pool tag includes the following attributes:

Table 8–10   Connection Pool Tag Attributes

Attribute Name	Description
bulkInsertBufferSize	Used for limiting the number of bytes each time data is inserted in a database table. The value is given in kilobytes (KB).

Table 8–10   (Cont.) Connection Pool Tag Attributes

Attribute Name	Description
transactionBoundary	Controls the batch size for an insert in a database table.
unicodeDB	This attribute is typically set to `true` when working with columns of an explicit Unicode data type, such as `NCHAR`, in an Unicode database.
tempTablePrefix	The first two characters in a temporary table name. The default value is `TT`.
tempTableOwner	Table owner name used to qualify a temporary table name in a SQL statement, for example to create the table `owner.tablename`.
tempTableDatabase	Database where the temporary table will be created. This property applies only to IBM OS/390, because IBM OS/390 requires the database name qualifier to be part of the `CREATE TABLE` statement.
tempTableSpace	Tablespace where the temporary table will be created. This property applies only to IBM OS/390, because IBM OS/390 requires the tablespace name qualifier to be part of the `CREATE TABLE` statement.
user	The user name for the data source.
password	The password for the data source. Note that passwords are encrypted.
timeout	The amount of time that a connection to the data source will remain open after a request completes. During this time, new requests use this connection rather than open a new one (up to the number specified for the maximum connections). The time is reset after each completed connection request. If you set the timeout to 0 (the default), connection pooling is disabled. In other words, each connection to the data source terminates immediately when the request completes. Any new connections either use another connection pool or open a new connection.
maxConnDiff	The maximum number of total connections allowed to this connection pool across all users.
dataSource	The data source name that is configured to access the database to which you want to connect. The data source name must contain valid logon information for the data source.
reqQualifedTableName	If set to true, indicates that this database requires fully qualified table names. The fully qualified names are based on the physical object names in the repository.
isSharedLogin	If set to true, all users whose queries use the connection pool will access the underlying database using the same user name and password.
isConcurrentQueriesInConnection	An option that enables a single database connection to remain open for the specified time for use by future query requests. If you do not select this option, each query sent to the database opens a new connection. In the Administration Tool, this option corresponds to a value of "selected" for **Enable connection pooling** in the General tab of the Connection Pool dialog.

Table 8–10   (Cont.) Connection Pool Tag Attributes

Attribute Name	Description
isCloseAfterEveryRequest	If set to true, indicates that the connection pool gets closed after every query. In the Administration Tool, this option corresponds to a value of "not selected" for **Enable connection pooling** in the General tab of the Connection Pool dialog.
isAsyncExecution	An option that indicates that the data source supports asynchronous queries.
executeOnCmd	A command that is to be executed by the Oracle BI Server each time a connection is made to the database. The command may be any command accepted by the database.
xslPath	For XML data sources only. An XSLT file contains formatting rules written according to the XSLT standard. It defines how an XML file may be transformed. Specifying the XSLT file in the connection pool applies it to all the XML physical tables in the connection pool. Used when `outputType` is set to XML.
maxConn	The maximum number of total connections allowed to this connection pool for a given user.
xmlRefreshInterval	For XML data sources only. The time interval after which the XML data source is queried again directly, rather than using results in cache.
scriptPath	The connection method Search script. This option is used for XML Server data sources.
outputType	For XML data sources only. The query output format (`delimited`, `xml`, or `fixed`). In the Administration Tool, this option is called **Query output format** in the XML tab of the Connection Pool dialog. If this option is not set, the query output format is assumed to be a custom format, and the value for `convertScriptPath` is used.
gwDelim	The delimiting characters for the query output format. Used when `outputType` is set to `delimited`.
xpath	An XPath expression is a simple XSLT transformation rule that fits into one line. Used when `outputType` is set to `xml`.
convertScriptPath	Used when `outputType` is not set. The path to the .exe file to be used to convert the query output to a custom output format (such as HTML).
ignoreFirstLine	If set to true, indicates that the first line of the output file is ignored.
xmlHeaderPath	The path to the header file, if any, used as a query input supplement. Used for XML Server data sources.
trailerPath	The path to the trailer file, if any, used as a query input supplement. Used for XML Server data sources.
supportParams	Indicates whether the data source supports parameters. If set to false, and the database features table supports parameters, special code executes that enables the Oracle BI Server to push filters (or calculations) with parameters to the database.

Table 8–10   (Cont.) Connection Pool Tag Attributes

Attribute Name	Description
isolationLevel	For ODBC and DB2 gateways. Sets the transaction isolation level on each connection to the back-end database. The isolation level setting controls the default transaction locking behavior for all statements issued by a connection. Options are as follows: ■ `default` uses the default transaction locking behavior of the data source. ■ `readCommitted` specifies that shared locks are held while the data is read to avoid dirty reads. ■ `readUncommitted` implements dirty read (isolation level 0 locking). When this option is set, it is possible to read uncommitted or dirty data, change values in the data, and have rows appear or disappear in the data set before the end of the transaction. ■ `repeatableRead` places locks on all data that is used in a query, preventing other users from updating the data. ■ `serializable` places a range lock on the data set, preventing other users from updating or inserting rows into the data set until the transaction is complete.
xmlaInfo	The vendor-specific information used to connect to the multidimensional data source.
xmlaCatalog	The list of catalogs available. The cube tables correspond to the catalog you use in the connection pool.
xmlaUseSession	If set to true, causes queries go through a common session.
multiThreaded	If set to true, indicates that the connection pool supports multi-threading, or in other words, that one connection pool can support multiple queries. If this option is set to false, each query is tied to a single database connection.
type	The call interface type.
appServerName	The name of the ADF application server.
appServerPort	The port number of the ADF application server.
appID	The ADF application ID.
appEJBBean	The name of the ADF application Enterprise Java Bean.
javaHostServiceName	The name of the JavaHost service. The JavaHost is used as a connector between the Oracle BI Server and data sources that use Java, such as ADF.
isSiebelJDBSecuredisaw	For Siebel OM data sources only. Indicates whether the connection between the Oracle BI Server and the Siebel data source is encrypted.
csfKey	This attribute is not currently used.
isAW	This attribute is not currently used.
useCert	This attribute stands for "Use Certificate." It is used for ADF data sources and indicates whether to use a certificate when securing the connection.
wsServer	Specifies the Oracle database web service host name.
wsWSDL	Specifies the WSDL URL to describe the Oracle database web service.

The connection pool tag includes the following child elements:

Table 8–11   Connection Pool Child Elements

Element Name	Description
AfterQueryString	Contains a connection script that is executed after the query is run.
BeforeQueryString	Contains a connection script that is executed before the query is run.
PostConnectString	Contains SQL queries executed after the connection is closed.
PreDisconnectString	Contains SQL queries executed before the connection is established.
RelationalConnPool	This child element is not used.
RelationalDataFolder	This child element is not used.
SQLBypassDB	For Oracle ADF data sources only. References the SQL Bypass database, if one has been specified. The SQL Bypass feature directly queries the database so that aggregations and other transformations are pushed down where possible, reducing the amount of data streamed and worked on in Oracle Business Intelligence. The database object is contained in a sub-element called `RefDatabase`.

Syntax

```
<ConnectionPool …
     bulkInsertBufferSize=""
     transactionBoundary=""
     unicodeDB=""
     tempTablePrefix=""
     tempTableOwner=""
     tempTableDatabase=""
     tempTableSpace=""
     user=""
     password=""
     timeout=""
     maxConnDiff=""
     dataSource=""
     reqQualifedTableName=""
     isSharedLogin=""
     isConcurrentQueriesInConnection=""
     isCloseAfterEveryRequest=""
     isAsyncExecution=""
     executeOnCmd=""
     xslPath=""
     maxConn=""
     xmlRefreshInterval=""
     scriptPath=""
     outputType=""
     gwDelim=""
     xpath=""
     convertScriptPath=""
     ignoreFirstLine=""
     xmlHeaderPath=""
     trailerPath=""
     supportParams=""
     isolationLevel=""
```

```
                         xmlaInfo=""
                         xmlaCatalog=""
                         xmlaUseSession=""
                         multiThreaded=""
                         type=""
                         appServerName=""
                         appServerPort=""
                         appID=""
                         appEJBBean=""
                         javaHostServiceName=""
                         isSiebelJDBSecured=""
                         useCert="">
                    <Description />
                    <AfterQueryString flag="">
                      <Value …/>
                    </AfterQueryString>
                    <BeforeQueryString flag="">
                      <Value …/>
                    </BeforeQueryString>
                    <PostConnectString flag="">
                      <Value …/>
                    </PostConnectString>
                    <PreDisconnectString flag="">
                      <Value …/>
                    </PreDisconnectString>
                    <SQLBypassDB>
                      <RefDatabase …/>
                    </SQLBypassDB>
                </ConnectionPool>
```

Example

```
<ConnectionPool name="SampleApp XML Connection"
      parentName="&quot;02 - Sample App Xml Data&quot;"
      parentId="3023:760" parentUid="80ca62c4-0bcf-0000-714b-e31d00000000"
      id="3029:762" uid="80ca62c5-0bd5-0000-714b-e31d00000000"
      password="D7EDED84BC624A917F5B462A4DCA05CDCE256EEEEEDC97D5AC4D07C3A079829F"
      timeout="300"
      maxConnDiff="10"
      maxConn="10"
      dataSource="VALUEOF(BI_EE_HOME)/sample/sample_app/xml_data"
      type="Default"
      reqQualifedTableName="false"
      isSharedLogin="false"
      isConcurrentQueriesInConnection="false"
      isCloseAfterEveryRequest="true"
      xmlRefreshInterval="4294967295"
      outputType="xml"
      bulkInsertBufferSize="0"
      transactionBoundary="0"
      xmlaUseSession="false"
      multiThreaded="false"
      supportParams="false"
      isSiebelJDBSecured="false">
</ConnectionPool>
```

8.8 XML Elements: Physical Key

The physical key element corresponds to the physical key object in the Physical layer.

The physical key tag includes the following child elements:

Table 8–12   Physical Key Child Elements

Element Name	Description
Columns	References the column that defines this physical key. The column is contained in a sub-element, either `RefPhysicalColumn` or `RefCubeColumn`.

The physical key element does not include any attributes.

Syntax

```
<PhysicalKey …>
   <Description />
   <Columns>
     <RefPhysicalColumn …/>
     <RefCubeColumn …/>
   </Columns>
</PhysicalKey>
```

Example

```
<PhysicalKey name="09 Segment_Key"
    parentName="&quot;01 - Sample App Data (ORCL)&quot;.&quot;Catalog&quot;
     .&quot;BISAMPLE&quot;.&quot;D61 Customer Segments&quot;"
    parentId="3001:42429" parentUid="80cb6836-0bb9-0000-714b-e31d00000000"
    id="3008:43143" uid="80cb6b00-0bc0-0000-714b-e31d00000000">
  <Columns>
    <RefPhysicalColumn id="3003:42857"
     uid="80cb69e2-0bbb-0000-714b-e31d00000000"
     qualifiedName="&quot;01 - Sample App Data (ORCL)&quot;.&quot;Catalog&quot;
      .&quot;BISAMPLE&quot;.&quot;D61 Customer Segments&quot;
      .&quot;Segment_Key&quot;"/>
  </Columns>
</PhysicalKey>
```

8.9 XML Elements: Physical Foreign Key

The physical foreign key element corresponds to the physical foreign key object in the Physical layer.

The physical foreign key tag includes the following attributes:

Table 8–13   Physical Foreign Key Tag Attributes

Attribute Name	Description
hints	For Oracle Databases only. Lists any database hints, such as index hints or leading hints, that were specified for this physical foreign key.

The physical foreign key tag includes the following child elements:

Table 8–14 Physical Foreign Key Child Elements

Element Name	Description
Columns	References the physical columns in the table that the foreign key references. Each physical column is contained in a sub-element called either `RefPhysicalColumn` or `RefCubeColumn`.
CounterPartKey	References the corresponding primary key. Each primary key is contained in a sub-element called `RefPhysicalKey`.

Syntax

```
<PhysicalForeignKey …
    hints="">
  <Description />
  <Columns>
    <RefPhysicalColumn …/>
    <RefCubeColumn …/>
  </Columns>
  <CounterPartKey>
    <RefPhysicalKey …/>
  </CounterPartKey>
</PhysicalForeignKey>
```

Example

```
<PhysicalForeignKey name="ORDER_ID"
    parentName="&quot;08 - Fusion Order Demo (OLTP)&quot;..&quot;FOD&quot;
     .&quot;ORDER_ITEMS&quot;"
    parentId="3001:60530" parentUid="80cbb70c-0bb9-0000-714b-e31d00000000"
    id="3006:60849" uid="80cbb908-0bbe-0000-714b-e31d00000000">
  <Columns>
    <RefPhysicalColumn id="3003:60537"
     uid="80cbb80c-0bbb-0000-714b-e31d00000000"
     qualifiedName="&quot;08 - Fusion Order Demo (OLTP)&quot;..&quot;FOD&quot;
      .&quot;ORDER_ITEMS&quot;.&quot;ORDER_ID&quot;"/>
  </Columns>
  <CounterPartKey>
    <RefPhysicalKey id="3008:62858"
     uid="80cbc41c-0bc0-0000-714b-e31d00000000
     qualifiedName="&quot;08 - Fusion Order Demo (OLTP)&quot;..&quot;FOD&quot;
      .&quot;ORDERS (Attributes)&quot;.&quot;ORDERS (Attributes)_Key&quot;"/>
  </CounterPartKey>
</PhysicalForeignKey>
```

8.10 XML Elements: Complex Join

The complex join element corresponds to the complex join object in the Physical layer.

The complex join tag includes the following attributes:

Table 8–15 Complex Join Tag Attributes

Attribute Name	Description
hints	For Oracle Databases only. Lists any database hints, such as index hints or leading hints, that were specified for this complex join.

Table 8–15   (Cont.) Complex Join Tag Attributes

Attribute Name	Description
cardinality	Indicates the cardinality of the join. Valid values are: `ONE TO ONE`, `ZERO OR ONE TO ONE`, `ONE TO ZERO OR ONE`, `ZERO OR ONE TO ZERO OR ONE`, `ONE TO MANY`, `ZERO OR ONE TO MANY`, `ZERO OR ONE TO MANY`, `MANY TO ONE`, `MANY TO ZERO OR ONE`, or `MANY TO MANY`.
extName	The external name for the join.

The complex join tag includes the following child elements:

Table 8–16   Complex Join Child Elements

Element Name	Description
Tables	References the physical tables in the join. Each physical table is contained in a sub-element called `RefPhysicalTable`, `RefCubeTable`, `RefAWCube`, or `RefAWDimension`.
Expr	Contains the expression that defines the relationship between the two tables.
ExternalExpr	Contains the external expression used for ADF Business Component data sources.

Syntax

```
<ComplexJoin …
    hints=""
    cardinality=""
    extName="">
  <Description />
  <Tables>
    <RefPhysicalTable …/>
    <RefPhysicalTable …/>
  </Tables>
  <Expr> … </Expr>
  <ExternalExpr> … </ExternalExpr>
</ComplexJoin>
```

Example

```
<ComplexJoin name="D04 Time Rolling Mth_F90 Facts Rolling Time Mth"
    id="3012:43263" uid="80cb6b78-0bc4-0000-714b-e31d00000000">
  <Tables>
    <RefPhysicalTable id="3001:42446"
     uid="80cb6847-0bb9-0000-714b-e31d00000000"
     qualifiedName="&quot;01 - Sample App Data (ORCL)&quot;.&quot;Catalog&quot;
      .&quot;BISAMPLE&quot;.&quot;F90 Facts Rolling Time Mth&quot;"/>
    <RefPhysicalTable id="3001:42407"
     uid="80cb6820-0bb9-0000-714b-e31d00000000"
     qualifiedName="&quot;01 - Sample App Data (ORCL)&quot;.&quot;Catalog&quot;
      .&quot;BISAMPLE&quot;.&quot;D04 Time Rolling Mth&quot;"/>
  </Tables>
  <Expr>
    <![CDATA["01 - Sample App Data (ORCL)"."Catalog"."BISAMPLE"."D04 Time Rolling
      Mth"."Mth_Key" >= "01 - Sample App Data (ORCL)"."Catalog"."BISAMPLE".
     "F90 Facts Rolling Time Mth"."Mth_Key"]]>
  </Expr>
</ComplexJoin>
```

8.11 XML Elements: Cube Table

The cube table element corresponds to the physical cube table object in the Physical layer.

The cube table tag includes the following attributes:

Table 8–17   Cube Table Tag Attributes

Attribute Name	Description
extName	The external name for the data source.
type	The type of physical cube table. Options are as follows: ■ select indicates that this physical table object is a SELECT statement. ■ sp indicates that this physical cube table is a stored procedure. ■ alias indicates that this physical cube table is an alias table to a logical table source. ■ none indicates that this physical cube table is a regular physical cube table.
isCacheable	If set to true, indicates that this table is included in the Oracle BI Server query cache.
CacheExpiry	How long table entries should persist in the query cache. A value of 0 indicates that cache entries do not expire.
isCacheEventTable	If set to true, indicates that this table has been registered as an Oracle BI Server event polling table.
pollFreq	The polling frequency, in seconds. Only applies if this table is an Oracle BI Server event polling table. The default value is 3600 seconds.
x	The *x* coordinate of the table when it is shown in the physical diagram.
y	The *y* coordinate of the table when it is shown in the physical diagram.
rowCount	The latest number of rows retrieved for this physical cube table.
lastUpdated	The time at which row counts were last updated for this physical cube table.
scriptPath	For XML data sources only. The extended gateway script path.
isSysGen	If set to true, indicates that an internal utility has generated this physical cube table.
isOverrideCacheProp	For alias tables only. If set to true, indicates that the alias table has its own cache properties that override the cache properties of the source table.
hints	This attribute is not used.
isDDLAggr	Indicates whether this cube table is an aggregate table.
memberReference	For Essbase data sources only. Indicates the cube property (for example, Member Name). An Essbase cube can have multiple aliases, and the value of memberReference is one of the alias names. The query engine will generate a query against the alias set for memberReference.

Table 8–17   (Cont.) Cube Table Tag Attributes

Attribute Name	Description
dateFormat	For Essbase only. Defines the format of date member, for example, 'yyyy-MM-dd.' The value is automatically set during import.
isMemberAliasUnique	This is used for query performance. If you know that all the member names in your data source are unique, you can set it to true by selecting the option **Use unqualified member name for better performance**.

The cube table tag includes the following child elements:

Table 8–18   Cube Table Child Elements

Element Name	Description
Aliases	For Essbase data sources only. For any alias tables for this Essbase cube, lists the alias to use (such as default, LongNames, French, and so on).
AliasTableVar	For Essbase data sources only. Each `AliasTableVar` represents an Essbase alias table. The `AliasTableVar` child element contains a sub-element called `RefVariable`.
DBMap	This child element is not used.

Table 8–18   (Cont.) Cube Table Child Elements

Element Name	Description
CubeVars	For SAP/BW data sources only. Cube variables are used as a means of parameterizing queries.
	Each cube variable is contained in a sub-element called `CubeVar`. This sub-element has the following attributes:
	■ `name`: Name of the cube variable.
	■ `caption`: A description (label or caption) associated with the cube variable, mainly used for display purposes.
	■ `type`: The type of cube variable (`SAP_VAR_TYPE_MEMBER`, `SAP_VAR_TYPE_HIERARCHY`, or `SAP_VAR_TYPE_NUMERIC`).
	■ `selectionType`: The selection type of the cube variable, for cube variables of type `SAP_VAR_TYPE_MEMBER` (`SAP_VAR_SEL_TYPE_VALUE`, `SAP_SEL_TYPE_INTERVAL`, or `SAP_VAR_SEL_TYPE_COMPLEX`).
	■ `entryType`: Indicates whether replacing variables is optional or mandatory. Values include `SAP_VAR_INPUT_TYPE_OPTIONAL`, `SAP_VAR_INPUT_TYPE_MANDATORY`, or `SAP_VAR_INPUT_TYPE_MANDATORY_NOT_INITIAL`.
	■ `refDimension`: The reference dimension. This column contains a `DIMENSION_UNIQUE_NAME` for the parameter type `SAP_VAR_TYPE_HIERARCHY`.
	■ `refHierarchy`: The reference hierarchy. This column contains a `HIERARCHY_UNIQUE_NAME` for the variable type `SAP_VAR_TYPE_MEMBER`.
	■ `defaultLow`: Contains a default value for the variable, or is zero.
	■ `defaultHigh`: Contains a default value for the variable, or is zero. This property is only important for variables with the selection type `SAP_VAR_SEL_TYPE_INTERVAL` and `SAP_VAR_SEL_TYPE_SELECTION`.
	■ `overrideLow`: The default value for the cube variable (used if `defaultLow` is zero).
	■ `overrideHigh`: The default value for the cube variable (used if `defaultHigh` is zero).
CalcScripts	This child element is not used.
AnonymousCalcBlock	This child element is not used.

Syntax

```
<CubeTable …
     extName=""
     type=""
     isCacheable=""
     cacheExpiry=""
     isCacheEventTable=""
     pollFreq=""
     x=""
     y=""
     rowCount=""
     lastUpdated=""
     scriptPath=""
     isSysGen=""
     isOverrideCacheProp=""
     isDDLAggr=""
     memberReference=""
```

```
      dateFormat=""
      isMemberAliasUnique="">
   <Description />
   <Aliases>
   </Aliases>
   <AliasTableVar>
      <RefVariable …/>
      <RefVariable …/>
   </AliasTableVar>
   <CubeVars>
      <CubeVar …/>
      <CubeVar …/>
   </CubeVars>
</CubeTable>
```

Example

```
<CubeTable name="Budget" parentName="&quot;FoodMart&quot;..&quot;&quot;"
    parentId="3025:55574" parentUid="80cb9c54-0bd1-0000-714b-e31d00000000"
    id="3039:55589" uid="80cb9c63-0bdf-0000-714b-e31d00000000"
    type="none" extName="Budget"
    isCacheable="false" x="170" y="50"
    memberReference="Default"
    dateFormat="MM-DD-YYYY" isMemberAliasUnique="true">
</CubeTable>
```

8.12 XML Elements: Physical Dimension

The physical dimension element corresponds to the physical dimension object in the Physical layer.

The physical dimension tag includes the following attributes:

Table 8–19   Physical Dimension Tag Attributes

Attribute Name	Description
defaultMember	The default member for this physical dimension.

The physical dimension tag includes the following child elements:

Table 8–20   Physical Dimension Child Elements

Element Name	Description
Hierarchies	References the hierarchies that belong to this physical dimension.
	Each hierarchy is contained in a sub-element called `RefPhysicalHierarchy`.
UserAttributes	References the dimension properties for this physical dimension.
	Each dimension property is contained in a sub-element called `RefCubeColumn`.
AlternateHierarchyNames	For Essbase physical dimension objects, lists the names of any alternate hierarchies that belong to this dimension.
	Each hierarchy name is listed in a sub-element called `Name`.

Syntax

```
<PhysicalDimension …
```

```
        defaultMember="">
      <Description />
      <Hierarchies>
        <RefPhysicalHierarchy …/>
      </Hierarchies>
      <UserAttributes>
        <RefCubeColumn …/>
      </UserAttributes>
      <AlternateHierarchyNames>
        <Name …/>
      </AlternateHierarchyNames>
    </PhysicalDimension>
```

Example

```
<PhysicalDimension name="Months"
    parentName="&quot;03 - Essbase Sample E1&quot;.&quot;BISAMPLE
     &quot;..&quot;Sample&quot;"
    parentId="3039:55589" parentUid="80cb9c63-0bdf-0000-714b-e31d00000000"
    id="3064:55587" uid="80cb9c61-0bf8-0000-714b-e31d00000000">
  <Hierarchies>
    <RefPhysicalHierarchy id="3041:55581"
     uid="80cb9c5b-0be1-0000-714b-e31d00000000"
     qualifiedName="&quot;03 - Essbase Sample E1&quot;.&quot;BISAMPLE
      &quot;..&quot;Sample&quot;.&quot;Months&quot;"/>
  </Hierarchies>
  <UserAttributes>
    <RefCubeColumn id="3043:55696"
     uid="80cb9cce-0be3-0000-714b-e31d00000000"
     qualifiedName="&quot;03 - Essbase Sample E1&quot;.&quot;BISAMPLE
      &quot;..&quot;Sample&quot;.&quot;Months Leaf Indicator&quot;"/>
    <RefCubeColumn id="3043:55697"
     uid="80cb9ccf-0be3-0000-714b-e31d00000000"
     qualifiedName="&quot;03 - Essbase Sample E1&quot;.&quot;BISAMPLE
      &quot;..&quot;Sample&quot;.&quot;Months Root Indicator&quot;"/>
  </UserAttributes>
  <AlternateHierarchyNames>
    <Name>
      <![CDATA[Calendar]]>
    </Name>
    <Name>
      <![CDATA[Fiscal]]>
    </Name>
  </AlternateHierarchyNames>
</PhysicalDimension>
```

8.13 XML Elements: Physical Hierarchy

The physical hierarchy element corresponds to the physical hierarchy object in the Physical layer.

The physical hierarchy tag includes the following attributes:

Table 8–21   Physical Hierarchy Tag Attributes

Attribute Name	Description
memberType	Values are Unknown, Regular, All, Formula, Measure. Default value is Unknown.
extName	The external name for the physical hierarchy.

Table 8–21   (Cont.) Physical Hierarchy Tag Attributes

Attribute Name	Description
type	The type of physical hierarchy. Options include `FULLY BALANCED`, `UNBALANCED`, `RAGGED BALANCED`, and `NETWORK`.
	This option corresponds to the **Hierarchy Type** option in the Physical Hierarchy dialog in the Administration Tool.
dimType	The dimension type (for example, Measure Dimension) for the dimension to which this hierarchy belongs.
rowCount	The latest number of rows retrieved for this physical hierarchy.
isTimeDim	If set to true, indicates that this physical dimension is a time dimension.
dimUniqueName	The name of the dimension to which this hierarchy belongs.
isMemberAliasUnique	Indicates whether member names (including aliases) are unique in a given hierarchy so that the Oracle BI Server can take advantage of specific MDX syntax to optimize performance.
	This option corresponds to the **Use unqualified member name for better performance** option in the Physical Hierarchy dialog in the Administration Tool.

The physical hierarchy tag includes the following child elements:

Table 8–22   Physical Hierarchy Child Elements

Element Name	Description
Columns	For parent-child (value) hierarchies. References the set of cube columns that belong to this physical hierarchy.
	Each cube column is contained in a sub-element called `RefCubeColumn`.
MemberKey	For parent-child (value) hierarchies. References the cube column that is the member key for this hierarchy.
	The member key column is contained in a sub-element called `RefCubeColumn`.
ParentKey	For parent-child (value) hierarchies. References the cube column that is the parent key for this hierarchy.
	The parent key column is contained in a sub-element called `RefCubeColumn`.
Levels	For level-based hierarchies. References the set of physical levels that belong to this physical hierarchy.
	Each level is contained in a sub-element called `RefPhysicalLevel`.

Syntax

```
<PhysicalHierarchy …
    memberType=""
    extName=""
    type=""
    dimType=""
    rowCount=""
    isTimeDim=""
    dimUniqueName=""
    isMemberAliasUnique="">
  <Description />
```

```
            <Columns>
              <RefCubeColumn …/>
            </Columns>
            <MemberKey>
              <RefCubeColumn …/>
            </MemberKey>
            <ParentKey>
              <RefCubeColumn …/>
            </ParentKey>
            <Levels>
              <RefPhysicalLevel …/>
            </Levels>
      </PhysicalHierarchy>
```

Example

```
<PhysicalHierarchy name="Employees"
      parentName="&quot;04 - Essbase Sample E2 (Default Import)&quot;
       .&quot;BISAMPLE&quot;..&quot;Sample&quot;"
      parentId="3039:73265" parentUid="80cbf73c-0bdf-0000-714b-e31d00000000"
      id="3041:73255" uid="80cbf732-0be1-0000-714b-e31d00000000"
      memberType="all"
      extName="Employees"
      type="VALUE" dimType="Other" dimUniqueName="Employees"
      isMemberAliasUnique="true">
    <Columns>
      <RefCubeColumn id="3043:73365"
       uid="80cbf7a0-0be3-0000-714b-e31d00000000"
       qualifiedName="&quot;04 - Essbase Sample E2 (Default Import)&quot;.&quot;
        BISAMPLE&quot;..&quot;Sample&quot;.&quot;Employee Name&quot;"/>
      <RefCubeColumn id="3043:73367"
       uid="80cbf7a2-0be3-0000-714b-e31d00000000"
       qualifiedName="&quot;04 - Essbase Sample E2 (Default Import)&quot;.&quot;
        BISAMPLE&quot;..&quot;Sample&quot;.&quot;Employee Name - Memnor&quot;"/>
...
    </Columns>
    <MemberKey>
      <RefCubeColumn id="3043:73365"
       uid="80cbf7a0-0be3-0000-714b-e31d00000000"
       qualifiedName="&quot;04 - Essbase Sample E2 (Default Import)&quot;.&quot;
        BISAMPLE&quot;..&quot;Sample&quot;.&quot;Employee Name&quot;"/>
    </MemberKey>
    <ParentKey>
      <RefCubeColumn id="3043:74681"
       uid="80cbfaa4-0be3-0000-714b-e31d00000000"
       qualifiedName="&quot;04 - Essbase Sample E2 (Default Import)&quot;.&quot;
        BISAMPLE&quot;..&quot;Sample&quot;.&quot;Employees Parent Key&quot;"/>
    </ParentKey>
    <Levels>
      <RefPhysicalLevel id="3045:73449"
       uid="80cbf7f4-0be5-0000-714b-e31d00000000"
       qualifiedName="&quot;04 - Essbase Sample E2 (Default Import)&quot;.&quot;
        BISAMPLE&quot;..&quot;Sample&quot;.&quot;Employees&quot;.&quot;
        All Employees&quot;"/>
      <RefPhysicalLevel id="3045:73450"
       uid="80cbf7f5-0be5-0000-714b-e31d00000000"
       qualifiedName="&quot;04 - Essbase Sample E2 (Default Import)&quot;.&quot;
        BISAMPLE&quot;..&quot;Sample&quot;.&quot;Employees&quot;.&quot;
        Employee L1&quot;"/>
...
    </Levels>
```

```
</PhysicalHierarchy>
```

8.14 XML Elements: Physical Level

The physical level element corresponds to the hierarchical levels for a physical cube table object in the Physical layer.

The physical level tag includes the following attributes:

Table 8–23   Physical Level Tag Attributes

Attribute Name	Description
levelNum	Identifies the order of this physical level in the hierarchy.
extName	Fully qualified name for the level.
rowCount	The latest number of rows retrieved for this physical level.

The physical level tag includes the following child elements:

Table 8–24   Physical Level Child Elements

Element Name	Description
LevelKey	References the key column for this physical level. The key column is contained in a sub-element called `RefCubeColumn`.

Syntax

```
<PhysicalLevel …
     levelNumber=""
     extName=""
     rowCount="">
   <Description />
   <LevelKey>
     <RefCubeColumn …/>
   </LevelKey>
</PhysicalLevel>
```

Example

```
<PhysicalLevel name="Brands"
     parentName="&quot;03 - Essbase Sample E1&quot;.&quot;BISAMPLE
      &quot;..&quot;Sample&quot;.&quot;Products&quot;"
     parentId="3041:55576" parentUid="80cb9c56-0be1-0000-714b-e31d00000000"
     id="3045:55742" uid="80cb9cfc-0be5-0000-714b-e31d00000000"
     levelNum="1" extName="Brands">
   <LevelKey>
     <RefCubeColumn id="3043:55604"
      uid="80cb9c72-0be3-0000-714b-e31d00000000"
      qualifiedName="&quot;03 - Essbase Sample E1&quot;.&quot;BISAMPLE
       &quot;..&quot;Sample&quot;.&quot;Brands&quot;"/>
   </LevelKey>
</PhysicalLevel>
```

8.15 XML Elements: Cube Column

The cube column element corresponds to the cube column of a physical cube object in the Physical layer.

The cube column tag includes the following attributes:

Table 8–25   Cube Column Tag Attributes

Attribute Name	Description
extName	The external name for the cube column. This attribute is required if the same name (such as STATE) is used in multiple hierarchies.
aggrType	The type of aggregation on the column, if any.
dataType	The data type of the cube column, such as VARCHAR.
nullable	If set to true, indicates that null values are allowed for the column. This allows null values to be returned to the user, which is expected with certain functions and with outer joins.
precision	The precision of the data type of the cube column.
scale	The scale of the data type of the column.
rowCount	The latest number of rows retrieved for this cube column.
lastUpdated	The time at which row counts were last updated for this cube column.
dimPropType	For Essbase dimensional columns only. Indicates the property type of the cube column. Valid values are: ■ uda: User Defined Attribute (UDA) type. ■ memnor: Memnor type, used for outline sorts in the logical layer. Imported at the lowest level of each dimension. Called **Outline Sort** in the Administration Tool. ■ attribute: Attribute type, for attribute dimensions. ■ other: The type is different than those listed, or unknown. ■ none: The column does not have a property type. Note that this type is mapped to **Member Alias** in the Administration Tool. ■ ancestorRef: References the ancestor of a dimension. ■ memberKey: The column is a member key. ■ levelNumber: The column is the lowest member of the hierarchy. Called **Leaf** in the Administration Tool. ■ genNumber: The column is the root member of the hierarchy. Called **Root** in the Administration Tool. ■ parentRef: References the parent of a dimension.

The cube column tag includes the following child elements:

Table 8–26   Cube Column Child Elements

Element Name	Description
AttributeHierarchy	References the physical hierarchy to which this cube column belongs. The hierarchy is contained in a sub-element called RefPhysicalHierarchy.
PhysicalLevel	References the physical level to which this cube column belongs. The level is contained in a sub-element called RefPhysicalLevel.

Syntax

```
<CubeColumn …
      extName=""
      aggrType=""
      dataType=""
      nullable=""
      precision=""
      scale=""
      rowCount=""
      lastUpdated=""
      dimPropType="">
   <Description />
   <AttributeHierarchy>
      <RefPhysicalHierarchy …/>
   </AttributeHierarchy>
   <PhysicalLevel>
      <RefPhysicalLevel …/>
   </PhysicalLevel>
</CubeColumn>
```

Example

```
<CubeColumn name="Month Names"
      parentName="&quot;03 - Essbase Sample E1&quot;.&quot;BISAMPLE&quot;
       ..&quot;Sample&quot;"
      parentId="3039:55589" parentUid="80cb9c63-0bdf-0000-714b-e31d00000000"
      id="3043:55660" uid="80cb9caa-0be3-0000-714b-e31d00000000"
      extName="Month Names" dataType="VARCHAR" precision="128"
      nullable="true" dimPropType="none">
   <PhysicalLevel>
      <RefPhysicalLevel id="3045:55757"
       uid="80cb9d0b-0be5-0000-714b-e31d00000000"
       qualifiedName="&quot;03 - Essbase Sample E1&quot;.&quot;BISAMPLE&quot;
        ..&quot;Sample&quot;.&quot;Month of Year&quot;.&quot;Month Names&quot;"/>
   </PhysicalLevel>
</CubeColumn>
```

8.16 XML Elements: Analytic Workspace

The Analytic Workspace element corresponds to the Oracle OLAP Analytic Workspace (AW) object in the Physical layer.

The Analytic Workspace tag includes the following attributes:

Table 8–27   Analytic Workspace Tag Attributes

Attribute Name	Description
version	The version of the Analytic Workspace.

The Analytic Workspace tag includes the following child elements:

Table 8–28   Analytic Workspace Child Elements

Element Name	Description
DynamicName	If a session variable is being used to specify the name of this Analytic Workspace, this element references that session variable.
	The session variable is contained in a sub-element called `RefVariable`.

Syntax

```
<AnalyticWorkspace …
     version="">
   <Description />
   <DynamicName>
     <RefVariable …/>
   </DynamicName>
</AnalyticWorkspace>
```

Example

```
<AnalyticWorkspace name="GLOBAL"
     parentName="&quot;Demo AW&quot;.&quot;GLOBAL&quot;"
     parentId="3025:8" parentUid="000000ad-0bd1-0000-714b-e31d00000000"
     id="3049:9" uid="000000ae-0be9-0000-714b-e31d00000000"
     version="10">
</AnalyticWorkspace>
```

8.17 XML Elements: AW Cube

The AW cube element corresponds to the Oracle OLAP cube object in the Physical layer.

The AW cube tag includes the following attributes:

Table 8–29   AW Cube Tag Attributes

Attribute Name	Description
extName	The physical name that is used when referencing the cube in physical SQL queries.
isCacheable	If set to true, indicates that this table is included in the Oracle BI Server query cache.
CacheExpiry	How long table entries should persist in the query cache. A value of 0 indicates that cache entries do not expire.
isCacheEventTable	If set to true, indicates that this table has been registered as an Oracle BI Server event polling table.
pollFreq	The polling frequency, in seconds. Only applies if this table is an Oracle BI Server event polling table. The default value is 3600 seconds.
x	The *x* coordinate of the table when it is shown in the physical diagram.
y	The *y* coordinate of the table when it is shown in the physical diagram.
rowCount	The latest number of rows retrieved for this Oracle OLAP cube.
lastUpdated	The time at which row counts were last updated for this Oracle OLAP cube.
hints	For Oracle Databases only. Lists any database hints, such as index hints or leading hints, that were specified for this physical table.
isExtGatewayInProcess	For XML data sources only. Indicates that this physical table is the extended gateway part of the process.
isOverrideCacheProperties	For alias tables only. If set to true, indicates that the alias table has its own cache properties that override the cache properties of the source table.

Table 8–29   (Cont.) AW Cube Tag Attributes

Attribute Name	Description
isDDLAggr	Indicates whether this Oracle OLAP cube is an aggregate table.
isPartitioned	If set to true, indicates that the cube is partitioned by one or more dimensions.
isSysGen	If set to true, indicates that an internal utility has generated this Oracle OLAP cube.
densityStatus	For Oracle OLAP 10*g* cubes only. Indicates whether the cube is dense or sparse. If neither dense nor sparse is specified, the Oracle BI Server assumes the data is sparse. Valid values are `dense`, `sparse`, and `unknown`.
materializationStatus	For Oracle OLAP 10*g* cubes only. Indicates whether the cube is fully materialized. Valid values are `fully`, `not fully`, and `unknown`.

The AW cube tag includes the following child elements:

Table 8–30   AW Cube Child Elements

Element Name	Description
Columns	References the Oracle OLAP columns that belong to this Oracle OLAP cube. Each Oracle OLAP column is contained in a sub-element called `RefAWColumn`.
AggrConnPool	If this Oracle OLAP cube is an aggregate table, this element references the connection pool used for the aggregate. The connection pool is contained in a sub-element called `RefConnectionPool`.
CompositeInfo	References dimensions for the cube. Contains the sub-element called `Composite`, which has one attribute called `name` and a sub-element called `Dimension`. Each dimension is contained in the `Dimension` sub-element.

Syntax

```
<AWCube …
     extName=""
     isCacheable=""
     cacheExpiry=""
     isCacheEventTable=""
     pollFreq=""
     x=""
     y=""
     rowCount=""
     lastUpdated=""
     hints=""
     isExtGatewayInProcess=""
     isOverrideCacheProp=""
     isDDLAggr=""
     isSysGen=""
     isPartitioned=""
     densityStatus""
     materializationStatus="">
   <Description />
```

```
        <Columns>
          <RefAWColumn …/>
        </Columns>
        <AggrConnPool>
          <RefConnectionPool …/>
        </AggrConnPool>
        <CompositeInfo>
           <Composite name="">
              <Dimension …/>
           </Composite>
        </CompositeInfo>
    </AWCube>
```

Example

```
<AWCube name="Units Cube"
      parentName="&quot;Demo AW&quot;.&quot;GLOBAL&quot;.&quot;GLOBAL&quot;"
      parentId="3049:9" parentUid="000000ae-0be9-0000-714b-e31d00000000"
      id="3054:10" uid="000000af-0bee-0000-714b-e31d00000000"
      extName="Units Cube">
  <Columns>
    <RefAWColumn id="3060:11"
     uid="000000b5-0bf4-0000-714b-e31d00000000"
     qualifiedName="&quot;Demo AW&quot;.&quot;GLOBAL&quot;
       .&quot;GLOBAL&quot;.&quot;Units Cube&quot;.&quot;Units&quot;"/>
    <RefAWColumn id="3060:12"
     uid="000000b6-0bf4-0000-714b-e31d00000000"
     qualifiedName="&quot;Demo AW&quot;.&quot;GLOBAL&quot;
       .&quot;GLOBAL&quot;.&quot;Units Cube&quot;.&quot;Sales&quot;"/>
...
  <Columns>
  <CompositeInfo>
    <Composite name="UNITS_CUBE_COMPOSITE">
    <Dimension><![CDATA[CUSTOMER]]></Dimension>
    <Dimension><![CDATA[PRODUCT]]></Dimension>
    <Dimension><![CDATA[CHANNEL]]></Dimension>
    </Composite>
  </CompositeInfo>
</AWCube>
```

8.18 XML Elements: AW Dimension

The AW dimension element corresponds to the Oracle OLAP dimension object in the Physical layer.

The AW dimension tag includes the following attributes:

Table 8–31   AW Dimension Tag Attributes

Attribute Name	Description
type	The dimension type.
isCacheable	If set to true, indicates that this dimension is included in the Oracle BI Server query cache.
CacheExpiry	If set to true, indicates that this dimension is included in the Oracle BI Server query cache.
isCacheEventTable	How long table entries should persist in the query cache. A value of 0 indicates that cache entries do not expire.

Table 8–31   (Cont.) AW Dimension Tag Attributes

Attribute Name	Description
isOverrideCacheProp	For alias tables only. If set to true, indicates that the alias table has its own cache properties that override the cache properties of the source table.
pollFreq	If set to true, indicates that this table has been registered as an Oracle BI Server event polling table.
x	The polling frequency, in seconds. Only applies if this table is an Oracle BI Server event polling table. The default value is 3600 seconds.
y	The x coordinate of the table when it is shown in the physical diagram.
rowCount	The y coordinate of the table when it is shown in the physical diagram.
lastUpdated	The time at which row counts were last updated for this Oracle OLAP dimension.
hints	This attribute is not used.
isSysGen	If set to true, indicates that an internal utility has generated this Oracle OLAP dimension.
isDDLAggr	Indicates whether this Oracle OLAP dimension is an aggregate table.
isTimeDim	If set to true, indicates that this Oracle OLAP dimension is a time dimension.
isRagged	If set to true, indicates that this dimension hierarchy is unbalanced. An unbalanced hierarchy is one that contains levels that are not at the same depth.
isSkipped	If set to true, indicates that this dimension hierarchy is a skip-level hierarchy. A skip-level hierarchy is one in which there are members that do not have a value for a particular parent level.
extName	The physical name that is used when referencing the dimension in physical SQL queries.

The AW dimension tag includes the following child elements:

Table 8–32   AW Dimension Child Elements

Element Name	Description
AggrConnPool	If this AW dimension is an aggregate table, this element references the connection pool used for the aggregate. The connection pool is contained in a sub-element called RefConnectionPool.

Table 8–32   (Cont.) AW Dimension Child Elements

Element Name	Description
AWObjects	References the Oracle OLAP objects, such a list of hierarchies, associated with this dimension.
	Each object is contained in a sub-element called `AWObject`. This sub-element includes the following attributes:
	■ name
	■ type
	■ dataType
	■ nullable
	■ precision
	■ scale

Syntax

```
<AWDimension …
    type=""
    isCacheable=""
    cacheExpiry=""
    isCacheEventTable=""
    isOverrideCacheProp=""
    pollFreq=""
    x=""
    y=""
    rowCount=""
    lastUpdated=""
    isSysGen=""
    isDDLAggr=""
    isTimeDim=""
    extName="">
  <Description />
  <AggrConnPool>
    <RefConnectionPool …/>
  </AggrConnPool>
  <AWObjects>
    <AWObject name="" type="" dataType="" …/>
    <AWObject name="" type="" dataType="" …/>
  </AWObjects>
</AWDimension>
```

Example

```
<AWDimension name="Customer"
    parentName="&quot;Demo AW&quot;.&quot;GLOBAL&quot;.&quot;GLOBAL&quot;"
    parentId="3049:9" parentUid="000000ae-0be9-0000-714b-e31d00000000"
    id="3052:91" uid="000000b3-0bec-0000-714b-e31d00000000"
    type="none" extName="CUSTOMER">
  <AWObjects>
    <AWObject type="HIER_LIST" name="CUSTOMER_HIERLIST" dataType="VARCHAR"
     precision="100"/>
    <AWObject type="LEVEL_LIST" name="CUSTOMER_LEVELLIST" dataType="VARCHAR"
     precision="100"/>
    <AWObject type="IN_HIER" name="CUSTOMER_INHIER" dataType="VARCHAR"
     precision="100"/>
    <AWObject type="PARENT_REL" name="CUSTOMER_PARENTREL" dataType="VARCHAR"
     precision="100"/>
    <AWObject type="LEVEL_REL" name="CUSTOMER_LEVELREL" dataType="VARCHAR"
```

```
            precision="100"/>
        <AWObject type="FAMILY_REL" name="CUSTOMER_FAMILYREL" dataType="VARCHAR"
        precision="100"/>
    </AWObjects>
</AWDimension>
```

8.19 XML Elements: AW Hierarchy

The AW hierarchy element corresponds to the Oracle OLAP hierarchy object in the Physical layer.

The AW hierarchy tag includes the following attributes:

Table 8–33   AW Hierarchy Tag Attributes

Attribute Name	Description
type	The type of Oracle OLAP hierarchy (`value` or `level`).
isDefault	If set to true, indicates that this is the default hierarchy for the Oracle OLAP dimension.
extName	The physical name that is used when referencing the hierarchy in physical SQL queries.
dataType	The data type of the Oracle OLAP hierarchy, such as `VARCHAR`.
nullable	If set to true, indicates that null values are allowed for the Oracle OLAP hierarchy. This allows null values to be returned to the user, which is expected with certain functions and with outer joins.
precision	The precision of the data type of the Oracle OLAP hierarchy.
scale	The scale of the data type of the Oracle OLAP hierarchy.

The AW hierarchy tag includes the following child elements:

Table 8–34   AW Hierarchy Child Elements

Attribute Name	Description
Levels	For level-based hierarchies only. References the level or levels for this Oracle OLAP hierarchy. Each level is contained in a sub-element called `RefAWLevel`.
Columns	For value-based hierarchies only. References the column or columns for this Oracle OLAP hierarchy. Each column is contained in a sub-element called `RefAWColumn`.
MemberKey	References the member key (for parent-child hierarchies). The member key is contained in a sub-element called `RefAWColumn`.

Syntax

```
<AWHierarchy …
    type=""
    isDefault=""
    extName=""
    dataType=""
    nullable=""
    precision=""
    scale="">
```

```
        <Description />
        <Levels>
          <RefAWLevel ../>
        </Levels>
        <Columns>
          <RefAWColumn …/>
        </Columns>
        <MemberKey>
          <RefAWColumn …/>
        </MemberKey>
</AWHierarchy>
```

Example

```
<AWHierarchy name="Primary"
     parentName="&quot;Demo AW&quot;.&quot;GLOBAL&quot;.&quot;GLOBAL&quot;.&quot;
      Channel&quot;"
     parentId="3052:84" parentUid="000000b2-0bec-0000-714b-e31d00000000"
     id="3056:138" uid="0000012f-0bf0-0000-714b-e31d00000000"
     isDefault="true" extName="PRIMARY" dataType="UNKNOWN">
   <Levels>
     <RefAWLevel id="3058:150"
      uid="0000013b-0bf2-0000-714b-e31d00000000"
      qualifiedName="&quot;Demo AW&quot;.&quot;GLOBAL&quot;.&quot;GLOBAL&quot;
        .&quot;Channel&quot;.&quot;Primary&quot;.&quot;Total Channel&quot;"/>
     <RefAWLevel id="3058:151"
      uid="0000013c-0bf2-0000-714b-e31d00000000"
      qualifiedName="&quot;Demo AW&quot;.&quot;GLOBAL&quot;.&quot;GLOBAL&quot;
        .&quot;Channel&quot;.&quot;Primary&quot;.&quot;Channel&quot;"/>
   </Levels>
</AWHierarchy>
```

8.20 XML Elements: AW Level

The AW level element corresponds to the Oracle OLAP level object in the Physical layer.

The AW level tag includes the following attributes:

Table 8–35   AW Level Tag Attributes

Attribute Name	Description
extName	The physical name that is used when referencing the level in physical SQL queries.
dataType	The data type of the Oracle OLAP level, such as VARCHAR.
nullable	If set to true, indicates that null values are allowed for the Oracle OLAP level. This allows null values to be returned to the user, which is expected with certain functions and with outer joins.
precision	The precision of the data type of the Oracle OLAP level.
scale	The scale of the data type of the Oracle OLAP level.

The AW level tag includes the following child elements:

Table 8–36   AW Level Child Elements

Element Name	Description
Columns	References the column or columns for this Oracle OLAP level.
	Each column is contained in a sub-element called `RefAWColumn`.
LevelKey	References the key column for this Oracle OLAP level.
	The key column is contained in a sub-element called `RefAWColumn`.

Syntax

```
<AWLevel …
     extName=""
     dataType=""
     nullable=""
     precision=""
     scale="">
   <Description />
   <Columns>
     <RefAWColumn …/>
   </Columns>
   <LevelKey>
     <RefAWColumn …/>
   </LevelKey>
</AWLevel>
```

Example

```
<AWLevel name="All Years"
     parentName="&quot;Demo AW&quot;.&quot;GLOBAL&quot;.&quot;GLOBAL&quot;
      .&quot;Time&quot;.&quot;Calendar Year&quot;"
     parentId="3056:136" parentUid="0000012d-0bf0-0000-714b-e31d00000000"
     id="3058:142" uid="00000133-0bf2-0000-714b-e31d00000000"
     extName="ALL_YEARS" dataType="UNKNOWN">
   <Columns>
     <RefAWColumn id="3060:49"
      uid="000000d9-0bf4-0000-714b-e31d00000000"
      qualifiedName="&quot;Demo AW&quot;.&quot;GLOBAL&quot;.&quot;GLOBAL&quot;
       .&quot;Time&quot;.&quot;CALENDAR_YEAR - All Years - Long Description
       &quot;"/>
     <RefAWColumn id="3060:50"
      uid="000000da-0bf4-0000-714b-e31d00000000"
      qualifiedName="&quot;Demo AW&quot;.&quot;GLOBAL&quot;.&quot;GLOBAL&quot;
       .&quot;Time&quot;.&quot;Calendar Year - All Years&quot;"/>
   </Columns>
   <LevelKey>
     <RefAWColumn id="3060:50"
      uid="000000da-0bf4-0000-714b-e31d00000000"
      qualifiedName="&quot;Demo AW&quot;.&quot;GLOBAL&quot;.&quot;GLOBAL&quot;
       .&quot;Time&quot;.&quot;Calendar Year - All Years&quot;"/>
   </LevelKey>
</AWLevel>
```

8.21 XML Elements: AW Column

The AW column element corresponds to the AW column object in the Physical layer.

The AW column tag includes the following attributes:

Table 8–37   AW Column Tag Attributes

Attribute Name	Description
extName	The physical name that is used when referencing the column in physical SQL queries.
isParentKey	Indicates whether this Oracle OLAP column is a parent key for a level.
dataType	The data type of the Oracle OLAP column, such as `VARCHAR`.
scale	The scale of the data type of the Oracle OLAP column.
nullable	If set to true, indicates that null values are allowed for the Oracle OLAP column. This allows null values to be returned to the user, which is expected with certain functions and with outer joins.
precision	The precision of the data type of the Oracle OLAP column.

The AW column tag does not include any child elements.

Syntax

```
<AWColumn …
      extName=""
      isParentKey=""
      dataType=""
      nullable=""
      precision=""
      scale="">
   <Description />
</AWColumn>
```

Example

```
<AWColumn name="Sales"
      parentName="&quot;Demo AW&quot;.&quot;GLOBAL&quot;.&quot;GLOBAL&quot;
       .&quot;Units Cube&quot;"
      parentId="3054:10" parentUid="000000af-0bee-0000-714b-e31d00000000"
      id="3060:12" uid="000000b6-0bf4-0000-714b-e31d00000000"
      extName="UNITS_CUBE_SALES" dataType="DOUBLE" nullable="true">
</AWColumn>
```

9

XML Presentation Elements

This chapter provides Oracle BI Server XML API reference information for presentation elements. Presentation elements typically correspond to objects in the Presentation layer of the Oracle BI repository, or in other words, the objects that appear in the left-hand pane of the Oracle BI Administration Tool.

This chapter contains the following topics:

- XML Elements: Presentation Catalog
- XML Elements: Presentation Schema
- XML Elements: Presentation Table
- XML Elements: Presentation Column
- XML Elements: Presentation Hierarchy
- XML Elements: Presentation Level

9.1 XML Elements: Presentation Catalog

The presentation catalog element corresponds to the subject area object in the Presentation layer.

The presentation catalog tag includes the following attributes:

Table 9–1   Presentation Catalog Tag Attributes

Attribute Name	Description
isExportKeys	If set to true, indicates that logical keys for this subject area are exposed to other applications.
hasDispName	Indicates whether this subject area has a custom display name.
dispName	The value of the custom display name, if one exists for this subject area.
hasDispDescription	Indicates whether this subject area has a custom description.
dispDescription	The value of the custom description, if one exists for this subject area.
isAutoAggr	If set to true, indicates that auto aggregation is enabled. Auto aggregation is the process by which the Oracle BI Server infers the GROUP BY from the attributes projected in the query. Typically, auto aggregation is always enabled for queries against the Presentation layer.
translationKey	The value of the translation key, if one exists for this subject area.

The presentation catalog tag includes the following child elements:

Table 9–2   Presentation Catalog Child Elements

Element Name	Description
RefBusinessModel	References the business model for this subject area.
DefaultFactCol	References the implicit fact column for this subject area, if one has been set. This column is used to specify a default join path between dimension tables when there are several possible alternatives or contexts. The implicit fact column is contained in a sub-element called `RefLogicalColumn`.
Aliases	Lists any aliases that have been defined for this subject area. Aliases are created when presentation objects are renamed to ensure that any references to the old names still work in logical SQL queries. Each alias is contained in a sub-element called `Alias`, with one attribute called `name`.
Tables	References the presentation tables that belong to this subject area. Each presentation table is contained in a sub-element called `RefPresentationTable`.
VisibilityFilter	Contains the expression specified to control the visibility of this object in Answers and BI Composer. This element corresponds to the **Hide object if** field in the Administration Tool. The expression is contained in a sub-element called `Expr`.

Syntax

```
<PresentationCatalog …
     isExportKeys=""
     isAutoAggr=""
     hasDispName=""
     dispName=""
     hasDispDescription=""
     dispDescription""
     translationKey"">
   <Description />
   <RefBusinessModel …/>
   <DefaultFactCol>
     <RefLogicalColumn …/>
   </DefaultFactCol>
   <Aliases …/>
   <Tables>
     <RefPresentationTable …/>
   </Tables>
   <VisibilityFilter>
     <Expr …/>
   </VisibilityFilter>
</PresentationCatalog>
```

Example

```
<PresentationCatalog name="C - Sample Headcount"
     id="4004:20154" uid="80cad5f1-0fa4-0000-714b-e31d00000000"
     hasDispName="false" hasDispDescription="false">
   <Description>
     <![CDATA[Sample Subject Area for Headcount analysis. ]]>
```

```
      </Description>
      <RefBusinessModel id="2000:11614"
         uid="80cab573-07d0-0000-714b-e31d00000000"
         qualifiedName="&quot;1 - Sample App&quot;"/>
      <DefaultFactCol>
        <RefLogicalColumn id="2006:11713"
         uid="80cab5d6-07d6-0000-714b-e31d00000000"
         qualifiedName="&quot;1 - Sample App&quot;.&quot;
           F0 Revenue Base Measures&quot;.&quot;1- Revenue&quot;"/>
      </DefaultFactCol>
      <Tables>
        <RefPresentationTable id="4008:22157"
         uid="80caddc2-0fa8-0000-714b-e31d00000000"
         qualifiedName="&quot;C - Sample Headcount&quot;..&quot;Time&quot;"/>
        <RefPresentationTable id="4008:32117"
         uid="80cb3805-0fa8-0000-714b-e31d00000000"
         qualifiedName="&quot;C - Sample Headcount&quot;..&quot;Offices&quot;"/>
        <RefPresentationTable id="4008:20169"
         uid="80cad600-0fa8-0000-714b-e31d00000000"
         qualifiedName="&quot;C - Sample Headcount&quot;..&quot;Base Facts&quot;"/>
        <RefPresentationTable id="4008:20170"
         uid="80cad601-0fa8-0000-714b-e31d00000000"
         qualifiedName="&quot;C - Sample Headcount&quot;..&quot;
           Calculated Facts&quot;"/>
        <RefPresentationTable id="4008:20171"
         uid="80cad602-0fa8-0000-714b-e31d00000000"
         qualifiedName="&quot;C - Sample Headcount&quot;..&quot;
           Simple Calculations&quot;"/>
        <RefPresentationTable id="4008:22145"
         uid="80caddb6-0fa8-0000-714b-e31d00000000"
         qualifiedName="&quot;C - Sample Headcount&quot;..&quot;
           Time Span Variations&quot;"/>
      </Tables>
    </PresentationCatalog>
```

9.2 XML Elements: Presentation Schema

The presentation schema element is not used.

9.3 XML Elements: Presentation Table

The presentation table element corresponds to the presentation table object in the Presentation layer.

The presentation table tag includes the following attributes:

Table 9–3   Presentation Table Tag Attributes

Attribute Name	Description
hasDispName	Indicates whether this presentation table has a custom display name.
dispName	The value of the custom display name, if one exists for this presentation table.
hasDispDescription	Indicates whether this presentation table has a custom description.
dispDescription	The value of the custom description, if one exists for this presentation table.

Table 9–3   (Cont.) Presentation Table Tag Attributes

Attribute Name	Description
translationKey	The value of the translation key, if one exists for this presentation table.

The presentation table tag includes the following child elements:

Table 9–4   Presentation Table Child Elements

Element Name	Description
Aliases	Lists any aliases that have been defined for this presentation table. Aliases are created when presentation objects are renamed to ensure that any references to the old names still work in logical SQL queries. Each alias is contained in a sub-element called `Alias`, with one attribute called `name`.
Columns	References the presentation columns that belong to this presentation table. Each presentation column is contained in a sub-element called `RefPresentationColumn`.
VisibilityFilter	Contains the expression specified to control the visibility of this object in Answers and BI Composer. This element corresponds to the **Hide object if** field in the Administration Tool. The expression is contained in a sub-element called `Expr`.
ContentFolders	References any child presentation tables that have been designated for this presentation table. Child presentation tables appear as nested folders in Answers and BI Composer. Note that the folders only appear to be nested - they are not actually nested in terms of drill-down, and the qualified names of the objects remain the same. Each child presentation table is contained in a sub-element called `RefPresentationTable`.

Syntax

```
<PresentationTable …
    hasDispName=""
    dispName=""
    hasDispDescription=""
    dispDescription=""
    translationKey="">
  <Description />
  <Aliases>
    <Alias name=""/>
    <Alias name=""/>
  </Aliases>
  <Columns>
    <RefPresentationColumn …/>
  </Columns>
  <VisibilityFilter>
    <Expr …/>
  </VisibilityFilter>
  <ContentFolders>
    <RefPresentationTable …/>
  </ContentFolders>
</PresentationTable>
```

Example

```
<PresentationTable name="Offices"
    parentName="&quot;A - Sample Sales&quot;.&quot;&quot;"
    parentId="4004:12383" parentUid="80cab7ef-0fa4-0000-714b-e31d00000000"
    id="4008:12457" uid="80cab839-0fa8-0000-714b-e31d00000000"
    dispName="VALUEOF(NQ_SESSION.CN_A_-_Sample_Sales_Offices)"
    hasDispName="true" hasDispDescription="false">
  <Description>
    <![CDATA[Offices dimension attribute objects]]>
  </Description>
  <Columns>
    <RefPresentationColumn id="4010:31845"
     uid="80cb368a-0faa-0000-714b-e31d00000000"
     qualifiedName="&quot;A - Sample Sales&quot;..&quot;Offices&quot;
       .&quot;D1 Office&quot;"/>
    <RefPresentationColumn id="4010:31847"
     uid="80cb368b-0faa-0000-714b-e31d00000000"
     qualifiedName="&quot;A - Sample Sales&quot;..&quot;Offices&quot;
       .&quot;D2 Department&quot;"/>
    <RefPresentationColumn id="4010:31849"
     uid="80cb368c-0faa-0000-714b-e31d00000000"
     qualifiedName="&quot;A - Sample Sales&quot;..&quot;Offices&quot;
       .&quot;D3 Organization&quot;"/>
    <RefPresentationColumn id="4010:31851"
     uid="80cb368d-0faa-0000-714b-e31d00000000"
     qualifiedName="&quot;A - Sample Sales&quot;..&quot;Offices&quot;
       .&quot;D4 Company&quot;"/>
  </Columns>
</PresentationTable>
```

9.4 XML Elements: Presentation Column

The presentation column element corresponds to the presentation column object in the Presentation layer.

The presentation column tag includes the following attributes:

Table 9–5   Presentation Column Tag Attributes

Attribute Name	Description
overrideLogicalName	Indicates whether the presentation column has been configured to always use the logical column name.
	This option corresponds to **Use Logical Column Name** in the Administration Tool. A false value for this attribute indicates that this option has been selected.
hasDispName	Indicates whether this presentation column has a custom display name.
dispName	The value of the custom display name, if one exists for this presentation column.
hasDispDescription	Indicates whether this presentation column has a custom description.
dispDescription	The value of the custom description, if one exists for this presentation column.
translationKey	The value of the translation key, if one exists for this presentation column.

The presentation column tag includes the following child elements:

Table 9–6   Presentation Column Child Elements

Attribute Name	Description
RefLogicalColumn	References the logical column upon which this presentation column is based.
Aliases	Lists any aliases that have been defined for this presentation column. Aliases are created when presentation objects are renamed to ensure that any references to the old names still work in logical SQL queries.
	Each alias is contained in a sub-element called `Alias`, with one attribute called `name`.
VisibilityFilter	Contains the expression specified to control the visibility of this object in Answers and BI Composer. This element corresponds to the **Hide object if** field in the Administration Tool.
	The expression is contained in a sub-element called `Expr`.

Syntax

```
<PresentationColumn …
     overideLogicalName=""
     hasDispName=""
     dispName=""
     hasDispDescription=""
     dispDescription=""
     translationKey="">
   <Description />
   <RefLogicalColumn …/>
   <Aliases>
     <Alias name=""/>
     <Alias name=""/>
   </Aliases>
   <VisibilityFilter>
     <Expr …/>
   </VisibilityFilter>
</PresentationColumn>
```

Example

```
<PresentationColumn name="T01 Per Name Week (Rel Only)"
     parentName="&quot;F - Sample Essb Federated&quot;..&quot;Time&quot;"
     parentId="4008:54644" parentUid="80cb981c-0fa8-0000-714b-e31d00000000"
     id="4010:54646" uid="80cb981e-0faa-0000-714b-e31d00000000"
     hasDispName="false" hasDispDescription="false" overrideLogicalName="false">
   <Description>
     <![CDATA[Help : Period Name Week. Stores the week information
      in the format YYYY Week Number. Eg :- 2006 Week 40]]>
   </Description>
   <RefLogicalColumn id="2006:53537"
    uid="80cb94b1-07d6-0000-714b-e31d00000000"
    qualifiedName="&quot;3 - Sample Federated&quot;.&quot;D0 Time&quot;
     .&quot;T01 Per Name Week (Rel Only)&quot;"/>
   <Aliases>
     <Alias name="T01 Per Name Week"/>
   </Aliases>
</PresentationColumn>
```

9.5 XML Elements: Presentation Hierarchy

The presentation hierarchy element corresponds to the presentation hierarchy object in the Presentation layer.

The presentation hierarchy tag includes the following attributes:

Table 9–7   Presentation Hierarchy Tag Attributes

Attribute Name	Description
hasDispName	Indicates whether this presentation hierarchy has a custom display name.
dispName	The value of the custom display name, if one exists for this presentation hierarchy.
hasDispDescription	Indicates whether this presentation hierarchy has a custom description.
dispDescription	The value of the custom description, if one exists for this presentation hierarchy.
translationKey	The value of the translation key, if one exists for this presentation hierarchy.

The presentation hierarchy tag includes the following child elements:

Table 9–8   Presentation Hierarchy Child Elements

Element Name	Description
Levels	References the presentation levels for this presentation hierarchy. Each presentation level is contained in a sub-element called RefPresentationLevel.
Aliases	Lists any aliases that have been defined for this presentation hierarchy. Aliases are created when presentation objects are renamed to ensure that any references to the old names still work in logical SQL queries. Each alias is contained in a sub-element called `Alias`, with one attribute called `name`.
DisplayColumns	For parent-child hierarchies only. This element references the columns designated to be used for display for this parent-child hierarchy. Each display column is contained in a sub-element called `RefPresentationColumn`.
Dimension	References the logical dimension upon which this presentation hierarchy is based. The dimension is contained in a sub-element called `RefDimension`.
VisibilityFilter	Contains the expression specified to control the visibility of this object in Answers and BI Composer. This element corresponds to the **Hide object if** field in the Administration Tool. The expression is contained in a sub-element called `Expr`.

Syntax

```
<PresentationHierarchy …
    hasDisplayName=""
    displayName=""
    hasDispDescription=""
    dispDescription=""
    translationKey="">
```

```
                    <Description />
                    <Levels>
                      <RefPresentationLevel …/>
                    </Levels>
                    <Aliases>
                      <Alias name=""/>
                      <Alias name=""/>
                    </Aliases>
                    <DisplayColumns>
                      <RefPresentationColumn …/>
                    </DisplayColumns>
                    <Dimension>
                      <RefDimension …/>
                    </Dimension>
                    <VisibilityFilter>
                      <Expr …/>
                    </VisibilityFilter>
                  </PresentationHierarchy>
```

Example

```
<PresentationHierarchy name="Discounts and Coupons"
      parentName="&quot;Fusion Order Demo&quot;..&quot;Discounts and Coupons&quot;"
      parentId="4008:69443" parentUid="80cbdded-0fa8-0000-714b-e31d00000000"
      id="4028:69466" uid="80cbde04-0fbc-0000-714b-e31d00000000"
      hasDispName="false" hasDispDescription="false">
    <Levels>
      <RefPresentationLevel id="4030:69479"
       uid="80cbde11-0fbe-0000-714b-e31d00000000"
       qualifiedName="&quot;Fusion Order Demo&quot;..&quot;Discounts and Coupons
        &quot;.&quot;Discounts and Coupons&quot;.&quot;Total&quot;"/>
      <RefPresentationLevel id="4030:69480"
       uid="80cbde12-0fbe-0000-714b-e31d00000000"
       qualifiedName="&quot;Fusion Order Demo&quot;..&quot;Discounts and Coupons
        &quot;.&quot;Discounts and Coupons&quot;.&quot;Discounts Detail&quot;"/>
    </Levels>
    <Aliases>
      <Alias name="H11 Discounts and Coupons"/>
    </Aliases>
    <Dimension>
      <RefDimension id="2019:63982"
       uid="80cbc7c7-07e3-0000-714b-e31d00000000"
       qualifiedName="&quot;Fusion Order Demo (OLTP)&quot;.&quot;
        H11 Discounts and Coupons&quot;"/>
    </Dimension>
  </PresentationHierarchy>
```

9.6 XML Elements: Presentation Level

The presentation level element corresponds to the presentation level object in the Presentation layer.

The presentation level tag includes the following attributes:

Table 9–9   Presentation Level Tag Attributes

Attribute Name	Description
hasDispName	Indicates whether this presentation level has a custom display name.

Table 9–9   (Cont.) Presentation Level Tag Attributes

Attribute Name	Description
dispName	The value of the custom display name, if one exists for this presentation level.
hasDispDescription	Indicates whether this presentation level has a custom description.
dispDescription	The value of the custom description, if one exists for this presentation level.
translationKey	The value of the translation key, if one exists for this presentation level.

The presentation level tag includes the following child elements:

Table 9–10   Presentation Level Child Elements

Element Name	Description
RefLogicalLevel	References the logical level upon which this presentation level is based.
DrillTo	References the levels for cross-dimension drill-down operations, as in the case of a Region dimension with a City level that can have a "drill to" level Year in the Time dimension.
DisplayColumns	References the columns that have been designated to be used for display for this presentation level (on drill-down). Each column is contained in a sub-element called `RefPresentationColumn`.
Aliases	Lists any aliases that have been defined for this presentation level. Aliases are created when presentation objects are renamed to ensure that any references to the old names still work in logical SQL queries. Each alias is contained in a sub-element called `Alias`, with one attribute called `name`.
VisibilityFilter	This child element is not used.

Syntax

```
<PresentationLevel …
     hasDisplayName=""
     displayName=""
     hasDispDescription=""
     dispDescription=""
     translationKey="">
  <Description />
  <RefLogicalLevel …/>
  <DrillTo>
    <RefPresentationLevel …/>
    <RefPresentationLevel …/>
  </DrillTo>
  <DisplayColumns>
    <RefPresentationColumn …/>
    <RefPresentationColumn …/>
  </DisplayColumns>
  <Aliases>
    <Alias name=""/>
    <Alias name=""/>
  </Aliases>
```

```
                            </PresentationLevel>
```

Example

```
<PresentationLevel name="Ship to Region"
      parentName="&quot;A - Sample Sales&quot;..&quot;Orders&quot;
       .&quot;Ship To Region Hier&quot;"
      parentId="4028:32353" parentUid="80cb38ef-0fbc-0000-714b-e31d00000000"
      id="4030:32356" uid="80cb38f3-0fbe-0000-714b-e31d00000000"
      dispName="VALUEOF(NQ_SESSION.CN_Orders_Ship_To_Region_Hier_Ship_to_Region)"
      hasDispName="true" hasDispDescription="false">
   <RefLogicalLevel id="2025:32260"
     uid="80cb38a5-07e9-0000-714b-e31d00000000"
     qualifiedName="&quot;1 - Sample App&quot;.&quot;H9 Orders&quot;
       .&quot;Ship To Region&quot;"/>
   <DisplayColumns>
     <RefPresentationColumn id="4010:32350"
      uid="80cb38ec-0faa-0000-714b-e31d00000000"
      qualifiedName="&quot;A - Sample Sales&quot;..&quot;Ship To Regions&quot;
        .&quot;R50 Region&quot;"/>
   </DisplayColumns>
   <Aliases>
     <Alias name="Bill to Region"/>
   </Aliases>
</PresentationLevel>
```

10

XML Marketing, Security, and Other Elements

This chapter provides Oracle BI Server XML API reference information for Oracle Marketing Segmentation elements, security elements, and miscellaneous Oracle BI repository elements that do not fall in other categories.

This chapter contains the following topics:

- XML Marketing Elements
- XML Security Elements
- Other XML Elements

10.1 XML Marketing Elements

Marketing elements are typically those elements that are related to features for the Oracle Marketing Segmentation product. For information about features and options related to Oracle Marketing Segmentation, see the administrator documentation for the Oracle Marketing Segmentation application.

Marketing elements include:

- Section 10.1.1, "XML Elements: Catalog Link"
- Section 10.1.2, "XML Elements: Target Level"
- Section 10.1.3, "XML Elements: List Catalog"
- Section 10.1.4, "XML Elements: Qualified List Item"
- Section 10.1.5, "XML Elements: Qualifying Key"
- Section 10.1.6, "XML Elements: Sampling Table"
- Section 10.1.7, "XML Elements: Seg Catalog"

10.1.1 XML Elements: Catalog Link

The catalog link element corresponds to the conforming dimension link object in the Marketing metadata. A conforming dimension links a fact that contains target-level IDs to a fact that does not contain target-level IDs by navigating along a dimension that is shared by both fact tables.

The catalog link tag includes the following child elements:

Table 10–1   Catalog Link Child Elements

Element Name	Description
From	References the presentation column that represents the primary key of the subject area from which the dimension link originates. The primary key column is contained in a sub-element called `RefPresentationColumn`.
To	References the presentation column that represents the primary key of the subject area to which the dimension link points. The primary key column is contained in a sub-element called `RefPresentationColumn`.

The catalog link tag does not include any attributes.

Syntax

```
<CatalogLink …>
   <Description />
   <From>
     <RefPresentationColumn …/>
   </From>
   <To>
     <RefPresentationColumn …/>
   </To>
</CatalogLink>
```

Example

```
<CatalogLink name="Customer Profile-&gt;Campaign Contacts"
    id="4012:280960" uid="8032f5a3-0fac-0000-714b-e31d00000000">
   <Description>
    <![CDATA[Used by both Contact and Account Target Levels to filter with
     " Offered Product_segmentation" catalog.]]>
   </Description>
   <To>
   <RefPresentationColumn id="4010:223709"
    uid="80312fc3-0faa-0000-714b-e31d00000000"
    qualifiedName="&quot;Campaign Contacts_segmentation&quot;..&quot;
     - Contact Profile&quot;.&quot;ROW_ID&quot;"/>
   </To>
</CatalogLink>
```

10.1.2 XML Elements: Target Level

The target level element corresponds to the target level object in the Marketing metadata. A target level is the entity that a marketer wants to count, typically customer types like individuals, businesses, or households.

The target level tag includes the following attributes:

Table 10–2   Target Level Tag Attributes

Attribute Name	Description
hasDispName	Indicates whether this target level has a custom display name.
dispName	The value of the custom display name, if one exists for this target level.
translationKey	The value of the translation key, if one exists for this target level.

Table 10–2   (Cont.) Target Level Tag Attributes

Attribute Name	Description
hasDispDescription	Indicates whether this target level has a custom description.
dispDescription	The value of the custom description, if one exists for this target level.

The target level tag includes the following child elements:

Table 10–3   Target Level Child Elements

Element Name	Description
PrimaryQLI	References the primary qualified list item for this target level.
	The qualified list item is contained in a sub-element called `RefQualifiedListItem`.
PrimaryPresCatalog	References the primary segmentation catalog for this target level.
	The segmentation catalog is contained in a sub-element called `RefPresentationCatalog`.
SamplingTables	References the physical tables used as sampling tables for this target level.
	Each physical table is contained in a sub-element called `RefSamplingTable`.
Catalogs	References the set of segmentation catalogs for this target level.
	Each segmentation catalog is contained in a sub-element called `RefSegCatalog`.
PresentationCatalog	References the subject area for saved result sets (the saved results catalog).
	The saved results catalog is contained in a sub-element called `RefPresentationCatalog`.
TargetColumn	References the Target Id presentation column.
	The Target Id column is contained in a sub-element called `RefPresentationColumn`.
NodeColumn	References the GUID presentation column.
	The GUID column is contained in a sub-element called `RefPresentationColumn`.
PhysicalTable	References the physical table that stores the result sets for this target level.
	The physical table is contained in a sub-element called `RefPhysicalTable`.
ConnectionPool	References the connection pool in which this target level is mapped.
	The connection pool is contained in a sub-element called `RefConnectionPool`.
HeaderSQL	Contains the physical SQL to insert the Saved Result Header. Used when users save a result set.
DelHeaderSQL	Contains the physical SQL to delete the saved result set header. Used when users purge saved result sets.
DelDataSQL	Contains the physical SQL to delete the saved result data set. Used when users purge saved result sets.

Syntax

```
<TargetLevel …
     hasDispName=""
     dispName=""
     translationKey=""
     hasDispDescription=""
     dispDescription="" >
  <Description />
  <PrimaryQLI>
    <RefQualifiedListItem …/>
  </PrimaryQLI>
  <PrimaryPresCatalog>
    <RefPresentationCatalog …/>
  </PrimaryPresCatalog>
  <SamplingTables>
    <RefSamplingTable …/>
  </SamplingTables>
  <Catalogs>
    <RefSegCatalog …/>
    <RefSegCatalog …/>
  </Catalogs>
  <PresentationCatalog>
    <RefPresentationCatalog …/>
  </PresentationCatalog>
  <TargetColumn>
    <RefPresentationColumn …/>
  </TargetColumn>
  <NodeColumn>
    <RefPresentationColumn …/>
  </NodeColumn>
  <PhysicalTable>
    <RefPhysicalTable …/>
  </PhysicalTable>
  <ConnectionPool>
    <RefConnectionPool …/>
  </ConnectionPool>
  <HeaderSQL …/>
  <DelHeaderSQL …/>
  <DelDataSQL …/>
</TargetLevel>
```

Example

```
<TargetLevel name="Claims"
     id="4014:280967" uid="803421c3-0fae-0000-714b-e31d00000000"
     hasDispName="false" hasDispDescription="false">
  <PrimaryQLI>
    <RefQualifiedListItem id="4018:280971"
     uid="80341f19-0fb2-0000-714b-e31d00000000"
     qualifiedName="&quot;Claims&quot;"/>
  </PrimaryQLI>
  <PrimaryPresCatalog>
    <RefPresentationCatalog id="4004:275727"
     uid="803405cb-0fa4-0000-714b-e31d00000000"
     qualifiedName="&quot;Insurance Claims_Segmentation&quot;"/>
  </PrimaryPresCatalog>
  <SamplingTables>
    <RefSamplingTable id="4024:281052"
     uid="80342e79-0fb8-0000-714b-e31d00000000"
     qualifiedName="&quot;Claims&quot;.&quot;M_10C_INSCLM_D&quot;"/>
```

```
        </SamplingTables>
        <Catalogs>
          <RefSegCatalog id="4026:281080"
           uid="803421ca-0fba-0000-714b-e31d00000000"
           qualifiedName="&quot;Claims&quot;.&quot;Claims_Insurance Claims_Segmentation
             &quot;"/>
          <RefSegCatalog id="4026:281081"
           uid="803421cb-0fba-0000-714b-e31d00000000"
           qualifiedName="&quot;Claims&quot;.&quot;Claims_Fin Accounts and
             Ins Policies_segmentation&quot;"/>
          <RefSegCatalog id="4026:281082"
           uid="803421c8-0fba-0000-714b-e31d00000000"
           qualifiedName="&quot;Claims&quot;.&quot;Claims_Activities_segmentation
             &quot;"/>
          <RefSegCatalog id="4026:281083"
           uid="803421c9-0fba-0000-714b-e31d00000000"
           qualifiedName="&quot;Claims&quot;.&quot;Claims_Service Requests_segmentation
             &quot;"/>
        </Catalogs>
        <TargetColumn>
          <RefPresentationColumn id="4010:226622"
           uid="80342e43-0faa-0000-714b-e31d00000000"
           qualifiedName="&quot;Marketing Segmentation Cache and Saved Results
             &quot;..&quot;- Claim Result Data&quot;.&quot;Claim ID&quot;"/>
        </TargetColumn>
        <NodeColumn>
          <RefPresentationColumn id="4010:226621"
           uid="80342e45-0faa-0000-714b-e31d00000000"
           qualifiedName="&quot;Marketing Segmentation Cache and Saved Results
             &quot;..&quot;- Claim Result Data&quot;.&quot;GUID&quot;"/>
        </NodeColumn>
        <PhysicalTable>
          <RefPhysicalTable id="3001:100690"
           uid="80342d47-0bb9-0000-714b-e31d00000000"
           qualifiedName="&quot;Oracle Data Warehouse&quot;.&quot;Catalog
             &quot;.&quot;dbo&quot;.&quot;M_SR_CLAIM&quot;"/>
        </PhysicalTable>
        <HeaderSQL>
          <![CDATA[INSERT INTO M_SR_HEADER (GUID, SEGMENT_PATH, SR_CUSTOM_LABEL,
           PRIORITY, NODE_PATH, NODE_LABEL, TARGET_LEVEL, CREATED_BY, "COUNT", DATE_
           TIME, SR_PATH, CONNECTION_POOL) VALUES ('@{guid}', '@{segmentPath}',
            '@{srCustomLabel}', @{priority}, '@{nodePath}', '@{nodeLabel}',
            '@{targetLevel}','@{createdBy}', @{count},'@{createdTime}', '@{srPath}',
            '@{connectionPool}')]]>
        </HeaderSQL>
        <DelHeaderSQL>
          <![CDATA[DELETE FROM M_SR_HEADER WHERE GUID IN (@{guids})]]>
        </DelHeaderSQL>
        <DelDataSQL>
          <![CDATA[DELETE FROM M_SR_CLAIM WHERE GUID IN (@{guids})]]>
        </DelDataSQL>
      </TargetLevel>
```

10.1.3 XML Elements: List Catalog

The list catalog element corresponds to the list catalog object in the Marketing metadata. A list catalog is an object that is used to generate a list of data at the target level.

The list catalog tag includes the following child elements:

Table 10–4   List Catalog Child Elements

Element Name	Description
RefPresentationCatalog	References the subject area for this list catalog. The name of the subject area is used as the name of the list catalog.
QualifyingKeys	References the set of qualifying keys for this list catalog. Each qualifying key is contained in a sub-element called `RefQualifyingKey`.

The list catalog tag does not include any attributes.

Syntax

```
<ListCatalog …>
    <Description />
    <RefPresentationCatalog …/>
    <QualifyingKeys>
      <RefQualifyingKey …/>
      <RefQualifyingKey …/>
    </QualifyingKeys>
</ListCatalog>
```

Example

```
<ListCatalog name="Campaign Load - Contacts"
     id="4016:281116" uid="8032fe2c-0fb0-0000-714b-e31d00000000">
  <RefPresentationCatalog id="4004:275725"
   uid="8032fb8c-0fa4-0000-714b-e31d00000000"
   qualifiedName="&quot;Campaign Load - Contacts&quot;"/>
  <QualifyingKeys>
    <RefQualifyingKey id="4020:281006"
     uid="8032fe3d-0fb4-0000-714b-e31d00000000"
     qualifiedName="&quot;Contacts&quot;.&quot;Qualifying Key#29&quot;"/>
    <RefQualifyingKey id="4020:281037"
     uid="8032fe3e-0fb4-0000-714b-e31d00000000"
     qualifiedName="&quot;Accounts&quot;.&quot;Qualifying Key#30&quot;"/>
  </QualifyingKeys>
</ListCatalog>
```

10.1.4 XML Elements: Qualified List Item

The qualified list item element corresponds to the qualified list item object in the Marketing metadata. A qualified list item is an entity that is evaluated against segment criteria so that the information related to that entity can be exported in a list file.

The qualified list item tag includes the following attributes:

Table 10–5   Qualified List Item Tag Attributes

Attribute Name	Description
cacheTable	Indicates whether this qualified list item is cached.

The qualified list item tag includes the following child elements:

Table 10–6   Qualified List Item Child Elements

Element Name	Description
CacheCatalog	References the subject area for the cache for this qualified list item.
	The subject area is contained in a sub-element called `RefPresentationCatalog`.
CacheConnPool	References the connection pool for the cached table.
	The connection pool is contained in a sub-element called `RefConnectionPool`.
TargetColumn	References the Target Id presentation column.
	The Target Id column is contained in a sub-element called `RefPresentationColumn`.
NodeColumn	References the GUID presentation column.
	The GUID column is contained in a sub-element called `RefPresentationColumn`.
PhysicalTable	References the physical table that stores the cached qualified list item.
	The physical table is contained in a sub-element called `RefPhysicalTable`.
DeleteSQL	Contains the physical SQL used to delete the cached results.

Syntax

```
<QualifiedListItem …
    cacheTable="">
  <Description />
  <CacheCatalog>
    <RefPresentationCatalog …/>
  </CacheCatalog>
  <CacheConnPool>
    <RefConnectionPool …/>
  </CacheConnPool>
  <TargetColumn>
    <RefPresentationColumn …/>
  </TargetColumn>
  <NodeColumn>
    <RefPresentationColumn …/>
  </NodeColumn>
  <PhysicalTable>
    <RefPhysicalTable …/>
  </PhysicalTable>
  <DeleteSQL>
    <!CDATA[[…]]>
  </DeleteSQL>
</QualifiedListItem>
```

Example

```
<QualifiedListItem name="Service Requests"
    id="4018:6474" uid="80caa1d3-0fb2-0000-714b-e31d00000000">
  <DeleteSQL>
    <![CDATA[DELETE FROM M_C_GENERIC WHERE GUID = '@{guid}']]>
  </DeleteSQL>
</QualifiedListItem>
```

10.1.5 XML Elements: Qualifying Key

The qualifying key element corresponds to the qualifying keys that are used in list catalog or segmentation catalog objects in the Marketing metadata. Qualifying keys map qualified list items to presentation columns.

The qualifying key tag includes the following child elements:

Table 10–7   Qualifying Key Child Elements

Element Name	Description
RefSegCatalog	References the segmentation catalog to which this qualifying key belongs.
RefListCatalog	References the list catalog to which this qualifying key belongs.
RefPresentationColumn	References the presentation column for this qualifying key.

The qualifying key tag does not include any attributes.

Syntax

```
<QualifyingKey …>
    <Description />
    <RefSegCatalog ../>
    <RefListCatalog ../>
    <RefPresentatonColumn ../>
</QualifyingKey>
```

Example

```
<QualifyingKey name="MKTG_QK_4020:125971262767661"
     parentName="&quot;Customers&quot;"
     parentId="4018:6474" parentUid="80caa1d3-0fb2-0000-714b-e31d00000000"
     id="4020:12597" uid="80cab8c6-0fb4-0000-714b-e31d00000000">
   <RefSegCatalog id="4026:12596"
    uid="80cab8c7-0fba-0000-714b-e31d00000000"
    qualifiedName="&quot;Customers&quot;.&quot;Customers_A - Sample Sales&quot;"/>
   <RefPresentationColumn id="4010:12527"
    uid="80cab87f-0faa-0000-714b-e31d00000000"
    qualifiedName="&quot;A - Sample Sales&quot;..&quot;More Customer Objects&quot;
     .&quot;X20 Cust Key (Segmentation)&quot;"/>
</QualifyingKey>
```

10.1.6 XML Elements: Sampling Table

The sampling table element corresponds to the sampling table object in the Marketing metadata. Sampling tables are created and managed as part of target level objects.

The sampling table tag includes the following attributes:

Table 10–8   Sampling Table Tag Attributes

Attribute Name	Description
factor	The sampling factor (for example, 10%).

The sampling table tag includes the following child elements:

Table 10–9   Sampling Table Child Elements

Element Name	Description
RefPhysicalTable	References the physical table being used as the sampling table.

Syntax

```
<SamplingTable …
    factor="">
  <Description />
  <RefPhysicalTable …/>
</SamplingTable>
```

Example

```
<SamplingTable name="M_10C_PERSON_D"
    parentName="&quot;Contacts&quot;"
    parentId="4014:280966" parentUid="802ba17b-0fae-0000-714b-e31d00000000"
    id="4024:281051" uid="80331464-0fb8-0000-714b-e31d00000000"
    factor="0.1">
  <RefPhysicalTable id="3001:86873"
   uid="002261ab-0bb9-0000-714b-e31d00000000"
   qualifiedName="&quot;Oracle Data Warehouse&quot;.&quot;Catalog&quot;
     .&quot;dbo&quot;.&quot;Dim_W_PARTY_PER_D_Contact&quot;"/>
</SamplingTable>
```

10.1.7 XML Elements: Seg Catalog

The seg catalog element corresponds to the segmentation catalog object in the Marketing metadata. Segmentation catalogs are Oracle BI subject areas that are enabled for segmentation. Segmentation catalogs provides a set of dimensions and fact measures that can be used to create segment criteria.

The seg catalog tag includes the following child elements:

Table 10–10   Seg Catalog Child Elements

Element Name	Description
RefPresentationCatalog	References the subject area for this segmentation catalog.
QualifyingKeys	References the set of qualifying keys for this list catalog.
	Each qualifying key is contained in a sub-element called `RefQualifyingKey`.

The seg catalog tag does not include any attributes.

Syntax

```
<SegCatalog …>
   <Description />
   <RefPresentationCatalog …/>
   <QualifyingKeys>
     <RefQualifyingKey …/>
   </QualifyingKeys>
</SegCatalog>
```

Example

```
<SegCatalog name="Customers_A - Sample Sales"
    parentName="&quot;Customers&quot;"
```

```
         parentId="4014:6473" parentUid="80caa1d2-0fae-0000-714b-e31d00000000"
          id="4026:12596" uid="80cab8c7-0fba-0000-714b-e31d00000000">
       <RefPresentationCatalog id="4004:12383"
        uid="80cab7ef-0fa4-0000-714b-e31d00000000"
        qualifiedName="&quot;A - Sample Sales&quot;"/>
       <QualifyingKeys>
         <RefQualifyingKey id="4020:12597"
          uid="80cab8c6-0fb4-0000-714b-e31d00000000"
          qualifiedName="&quot;Customers&quot;.&quot;
           MKTG_QK_4020:125971262767661&quot;"/>
       </QualifyingKeys>
     </SegCatalog>
```

10.2 XML Security Elements

Security elements are typically those elements that are related to Oracle Business Intelligence security features, such as those related to variables, authentication, privileges, users, and application roles. Security elements include:

- Section 10.2.1, "XML Elements: Variable"

- Section 10.2.2, "XML Elements: LDAP Server"

- Section 10.2.3, "XML Elements: Init Block"

- Section 10.2.4, "XML Elements: Custom Authenticator"

- Section 10.2.5, "XML Elements: Privilege Package"

- Section 10.2.6, "XML Elements: Object Privilege"

- Section 10.2.7, "XML Elements: Query Privilege"

- Section 10.2.8, "XML Elements: User"

- Section 10.2.9, "XML Elements: Group"

- Section 10.2.11, "XML Elements: SetPermission"

- Section 10.2.10, "XML Elements: DB Sign-On"

- Section 10.2.12, "XML Elements: FMW Security"

10.2.1 XML Elements: Variable

The variable element corresponds to the variable object in the Physical layer of the repository.

The variable tag includes the following attributes:

Table 10–11   Variable Tag Attributes

Attribute Name	Description
securityMask	For session variables only. This attribute stores the value of the following options: ■ **Enable any user to set the value.** When selected, lets session variables be set after the initialization block has populated the value (at user login) by calling the ODBC store procedure NQSSetSessionValue(). For example, this option lets non-administrators set this variable for sampling. ■ **Security Sensitive.** When selected, identifies the variable as sensitive to security for virtual private databases (VPDs). When filtering cache table matches, the Oracle BI Server looks at the parent database of each column or table that is referenced in the logical request projection list. If the physical database source is a VPD, the Oracle BI Server matches a list of security-sensitive variables to each prospective cache hit. Cache hits would only occur on cache entries that included and matched all security-sensitive variables.
isSessionVar	If set to true, indicates that this variable is a session variable. Session variables are created and assigned a value when each user logs on, unlike repository variables, which have static values.

The variable tag includes the following child elements:

Table 10–12   Variable Child Elements

Element Name	Description
Expr	Contains the expression that forms the definition of this variable.

Syntax

```
<Variable …
    securityMask=""
    isSessionVar="">
  <Description />
  <Expr>...</Expr>
</Variable>
```

Example

```
<Variable name="DYNAMIC_PRODUCT_TABLE"
    parentName="&quot;DUAL Prod Table&quot;"
    parentId="3033:81463" parentUid="80cc200a-0bd9-0000-714b-e31d00000000"
    id="3031:7079" uid="80caa443-0bd7-0000-714b-e31d00000000"
    securityMask="2" isSessionVar="true">
  <Expr>
    <![CDATA['SAMP_PRODUCTS_D']]>
  </Expr>
</Variable>
```

10.2.2 XML Elements: LDAP Server

The LDAP server element corresponds to the LDAP server object in the Identity Manager dialog in the Administration Tool.

The LDAP server tag includes the following attributes:

Table 10–13   LDAP Server Tag Attributes

Attribute Name	Description
hostName	The host name of the LDAP server.
port	The port number of the LDAP server (for example, 389).
baseDN	The base distinguished name (DN) that identifies the starting point of the authentication search.
bindDN	The optional DN that is required to bind to the LDAP server. This option is required if `isADSI` is set to true.
userNameAttrType	A value that uniquely identifies a user, such as the user ID, the RDN (relative distinguished name), or (for ADSI) sAMAccountName.
domainID	A domain identifier that uniquely identifies the domain for which the LDAP object is responsible. This is especially useful when there are multiple LDAP objects.
password	The user password associated with the Bind DN. This option is required if `isADSI` is set to true. Note that passwords are encrypted.
timeout	The time period after which Administration Tool import attempts or Oracle BI Server user authentication attempts against this LDAP server will time out.
cacheExpiry	The interval at which the authentication cache entry in the LDAP cache for a logged on user is refreshed. This option corresponds to **Cache refresh interval** in the Repository tab of the Options dialog in the Administration Tool.
isADSI	If set to true, indicates that this is an Active Directory LDAP server.
useSSL	If set to true, indicates that the connection to the LDAP server uses Secure Sockets Layer (SSL).
keyFile	The name of the key file that holds the client certificate and Certificate Authority (CA) certificate. Required if useSSL is set to true. This option corresponds to **Key file name** in the Repository tab of the Options dialog in the Administration Tool.
keyPassword	For a secure LDAP, there is a keydb file which stores the required certificates. keyPassword is the password to access the keydb file.
version	The LDAP version number of the LDAP server, either 2 or 3. The default is 3.
cacheEntries	The maximum number of entries in the authentication cache, preallocated when the Oracle BI Server starts. If the number of users exceeds this limit, cache entries are replaced using the LRU algorithm. If this value is 0, then the authentication cache is disabled. This option corresponds to **Number of Cache Entries** in the Repository tab of the Options dialog in the Administration Tool.

The LDAP server tag does not include any child elements.

Syntax

```
<LDAPServer …
    hostName=""
    port=""
    baseDN=""
    bindDN=""
    userNameAttrType=""
    domainID=""
    password=""
    timeout=""
    cacheExpiry=""
    entities=""
    isADSI=""
    useSSL=""
    keyFile=""
    keyPassword=""
    version=""
    cacheEntries="">
  <Description />
</LDAPServer>
```

Example

```
<LDAPServer name="L1"
    id="3035:44085" uid="c39e1310-0c00-1000-806e-0a9702490000"
    hostName="sdacns05" port="389" version="3" baseDN="name1" bindDN="name2"
    userNameAttrType="sAMAccountName"
    password="6C6F0BE01FC4111F3AC2236A364D912E6CC6E805A7729CECC34915F82D6CA5D1B19
     AF813BD5ADC908750471E8F5D151A A886F77E060E2E17F45AD8D18CAB2E4D3EFA15B75E30D8
     B4BFA8C7B2D70552BD"
    timeout="60" cacheExpiry="86400" cacheEntries="1000"
    isADSI="true" useSSL="true"
    keyPassword="E3130008E1C4CAD47041E4AE68B048E6 7C2E35213306F12832914CBE7A9DD95
     561D771DED06484112B1FC6F27B6D0D58">
</LDAPServer>
```

10.2.3 XML Elements: Init Block

The init block element corresponds to the initialization block object in the Physical layer. Initialization blocks are used to initialize dynamic repository variables, system session variables, and nonsystem session variables.

The init block tag includes the following attributes:

Table 10–14   Init Block Tag Attributes

Attribute Name	Description
isSessionVar	If set to true, indicates that this initialization block is a session initialization block. Session initialization blocks are used with session variables.
	The default value is false.
refreshPeriod	The refresh interval for this initialization block, in seconds. For repository initialization blocks only.
	The default value is 0.
baseTime	The start date and time for this initialization block. For repository initialization blocks only.
	The default value is `2001-01-01 00:00:00`.

Table 10–14   (Cont.) Init Block Tag Attributes

Attribute Name	Description
isRowWiseInit	If set to true, indicates that row-wise initialization has been enabled. Row-wise initialization lets you create session variables dynamically and set their values when a session begins. For session initialization blocks only. The default value is false.
isRowWiseCacheEnabled	If set to true, indicates that the **Use caching** option has been enabled. This option directs the Oracle BI Server to store the results of the query in a main memory cache. This option is only available if row-wise initialization has been enabled. The default value is true.
isSuccRequired	Indicates that the **Required for Authentication** option has been selected for this initialization block in the Administration Tool. If this option is selected, this initialization block must succeed for users to log in. In other words, users will be denied access to Oracle BI EE if the initialization block fails to execute. Failure to execute can occur if the wrong credentials have been defined in the initialization block, or if there is an error in the default initialization string. The default value is false.
isEnabled	If set to true, indicates that this initialization block is enabled. For session initialization blocks only. The default value is true.
isDeferredExecution	If set to true, indicates that deferred execution of this initialization block is enabled. Deferred execution is used to speed up the server startup time, by preventing the execution of the SQL for the initialization block when the server starts. The SQL is issued and the variables are intialized only when one of the variables is used.
isDBIndependentSQL	If set to true, indicates that database independent SQL is enabled. The SQL is logical SQL, and it is translated by Oracle BI server to database specific SQL.

The init block tag includes the following child elements:

Table 10–15   Init Block Child Elements

Element Name	Description
RefConnectionPool	References the connection pool for this initialization block. This element is only used if the data source type for this initialization block is Database or XML.
RefCustomAuthenticator	References the custom authenticator for this initialization block.
DBMap	Stores the value of database-specific strings. The `<DBMap>` element contains an `<Item>` tag, which in turn contains a `<Value>` tag, as follows: ``` <Item name="">\n <Value />\n</Item>\n```

Table 10–15 (Cont.) Init Block Child Elements

Element Name	Description
Predecessors	References the initialization blocks, if any, that are initialized before this initialization block
	Each initialization block is contained in a sub-element called `RefInitBlock`.
Variables	References the variables that are associated with this initialization block.
	Each variable is contained in a sub-element called `RefVariable`.
InitString	The SQL initialization string needed to populate the variables.
	This element is only used if the data source type for this initialization block is Database or XML.
LDAPServers	References the LDAP servers that are associated with this initialization block.
	Each LDAP server is contained in a sub-element called `RefLDAPServer`.
	This element is only used if the data source type for this initialization block is LDAP.

Syntax

```
<InitBlock …
      isSessionVar=""
      refreshPeriod=""
      baseTime=""
      isRowWiseInit=""
      isRowWiseCacheEnabled=""
      isSuccRequired=""
      isEnabled=""
      isDeferredExecution=""
      isDBIndependentSQL="">
   <Description />
   <RefConnectionPool …/>
   <RefCustomAuthenticator …/>
   <DBMap>
     <Item name="">
       <Value …/>
     </Item>
   </DBMap>
   <Predecessors>
     <RefInitBlock …/>
   </Predecessors>
   <Variables>
     <RefVariable …/>
     <RefVariable …/>
   </Variables>
   <InitString …/>
   <LDAPServers>
     <RefLDAPServer …/>
     <RefLDAPServer …/>
   </LDAPServers>
<InitBlock>
```

Example

```
<InitBlock name="DUAL Prod Table"
      id="3033:81463" uid="80cc200a-0bd9-0000-714b-e31d00000000"
```

```
         isSessionVar="true">
     <RefConnectionPool id="3029:1159"
      uid="80ca62c5-0bd5-0000-714b-e31d00000000"
      qualifiedName="&quot;01 - Sample App Data (ORCL)&quot;.&quot;
        Sample Relational Connection&quot;"/>
     <DBMap>
       <Item name="DefaultMulDB">
         <Value>
          <![CDATA[Select 'SAMP_PRODUCTS_D' From Dual]]>
         </Value>
       </Item>
     </DBMap>
     <Variables>
       <RefVariable id="3031:7079"
        uid="80caa443-0bd7-0000-714b-e31d00000000"
        qualifiedName="&quot;DUAL Prod Table&quot;.&quot;
         DYNAMIC_PRODUCT_TABLE&quot;"/>
     </Variables>
     <InitString>
       <![CDATA[Select 'SAMP_PRODUCTS_D' From Dual]]>
     </InitString>
  </InitBlock>
```

10.2.4 XML Elements: Custom Authenticator

The Custom Authenticator element corresponds to the Custom Authenticator object in the Identity Manager dialog in the Administration Tool.

The Custom Authenticator tag includes the following attributes:

Table 10–16   Custom Authenticator Tag Attributes

Attribute Name	Description
cacheExpiry	The interval at which the authentication cache entry for a logged on user is refreshed for this custom authenticator.
path	The path and name of the authenticator plug-in dll.
configParam	Lists any parameters for this custom authenticator that have been explicitly exposed for configuration.
hiddenParam	Lists any parameters for this custom authenticator that have been encrypted, such as passwords.
cacheEntries	The maximum number of entries in the authentication cache for this custom authenticator, preallocated when the Oracle BI Server starts. If the number of users exceeds this limit, cache entries are replaced using the LRU algorithm. If this value is 0, then the authentication cache is disabled.
csfKey	This attribute is not used.

The Custom Authenticator element does not include any child elements.

Syntax

```
<CustomAuthenticator …
    cacheExpiry=""
    path=""
    configParam=""
    hiddenParam=""
    cacheEntries="">
  <Description />
```

```
</CustomAuthenticator>
```

Example

```
<CustomAuthenticator name="NEWCA"
    id="3047:44086" uid="c467a4a0-0c00-1000-806e-0a9702490000"
    cacheExpiry="86400" cacheEntries="1000"
    path="authenticate.dll"
    configParam="ABC"
    hiddenParam="D7EDED84BC624A917F5B462A4DCA05CDCE256EEEEEDC97D5B383E1888393F558
      5DA9CAC25EA1FA59">
</CustomAuthenticator>
```

10.2.5 XML Elements: Privilege Package

The privilege package element is a container for other privileges. It corresponds to a set of permissions that applies to a particular user or application role object in the repository metadata. The privilege package element contains the information available on the Object Permissions, Data Filters, and Query Limits tabs of the User/Application Role Permissions dialog in the Administration Tool.

Because privilege packages can be associated with more than one user or application role, the total number of privilege packages may not equal the total number of users and application roles.

> **Note:** You can also set permissions for a privilege package without specifying values in the Administration Tool. For more information, see Section 10.2.11, "XML Elements: SetPermission."

The privilege package tag includes the following attributes:

Table 10–17   Privilege Package Tag Attributes

Attribute Name	Description
isFineGrainedMode	Reserved for Oracle internal use only.

The privilege package tag includes the following child elements:

Table 10–18   Privilege Package Child Elements

Element Name	Description
QueryPrivileges	References any query privileges that belong to this privilege package, along with the corresponding database.
	Each pair of query privileges and database name is contained in a sub-element called Mapping.
	Each Mapping sub-element contains two additional sub-elements: RefDatabase, which references the database name, and RefQueryPrivilege, which references the query privilege.
	See the syntax for the privilege package element to see the complete hierarchy for the QueryPrivileges child element.

Table 10–18   (Cont.) Privilege Package Child Elements

Element Name	Description
Filters	References any data filters that belong to this privilege package by mapping an object name with the filter expression.
	Each pair of object name and filter expression is contained in a sub-element called `Mapping`. This sub-element has one attribute called `Status`. Valid values are Enabled, Disabled, and Ignored.
	Each `Mapping` sub-element contains two additional sub-elements: `RefObject`, which references the metadata object name, and `Expr`, which contains the filter expression.
	See the syntax for the privilege package element to see the complete hierarchy for the `Filters` child element.
ObjectPrivileges	References any object privileges that belong to this privilege package.
	Each object privilege is contained in a sub-element called `RefObjectPrivilege`.

Note that the schema lists attributes for `none`, `read`, `write`, `readwrite`, `delete`, `grant`, and `all`, but these attributes are not used. Instead, these permissions are exposed as part of the child element definitions.

Syntax

```
<PrivilegePackage …
     isFineGrainedMode="">
   <Description />
   <QueryPrivileges>
     <Mapping>
        <RefDatabase …/>
        <RefQueryPrivilege …/>
     </Mapping>
   </QueryPrivileges>
   <Filters>
     <Mapping status="">
        <RefObject …/>
        <Expr …/>
     </Mapping>
   </Filters>
   <ObjectPrivileges>
     <RefObjectPrivilege …/>
   </ObjectPrivileges>
</PrivilegePackage>
```

Example

```
<PrivilegePackage name="PrivPack_4209:3417381144981469"
     id="4209:281602" uid="808626e7-1071-0000-714b-e31d00000000">
   <QueryPrivileges>
     <Mapping>
       <RefDatabase id="3023:68561"
         uid="0023840a-0bcf-0000-714b-e31d00000000"
         qualifiedName="&quot;Oracle Data Warehouse&quot;"/>
       <RefQueryPrivilege id="4204:281350"
         uid="808626e8-106c-0000-714b-e31d00000000"
         qualifiedName="&quot;QueryPriv_4204:3417391144981469&quot;"/>
     </Mapping>
   </QueryPrivileges>
   <Filters>
```

```
        <Mapping status="disable">
          <RefObject id="2035:365983"
           uid="80d105ed-07f3-0000-714b-e31d00000000"
           qualifiedName="&quot;Core&quot;.&quot;Fact - Sourcing - Response&quot;"/>
          <Expr>
           <![CDATA[cast("Core"."Dim - Procurement Business Unit"."Key Id" AS DOUBLE)
            = valueof(NQ_SESSION.PRC_BU_MANAGE_NEG) AND ("Core"."Dim - Purchase
            Buyer"."Purchase Buyer Login" = valueof(NQ_SESSION."USER") OR
            cast("Core"."Dim - Procurement Business Unit"."Key Id" AS DOUBLE)=
            valueof(NQ_SESSION.PRC_BU_MANAGE_NEG_ViewOthers))]]>
          </Expr>
        </Mapping>
        <Mapping status="disable">
          <RefObject id="2035:366000"
           uid="80d105fe-07f3-0000-714b-e31d00000000"
           qualifiedName="&quot;Core&quot;.&quot;Fact - Sourcing - Negotiation Award
            &quot;"/>
          <Expr>
           <![CDATA[cast("Core"."Dim - Procurement Business Unit"."Key Id" AS DOUBLE)
            = valueof(NQ_SESSION.PRC_BU_MANAGE_NEG) AND ("Core"."Dim - Purchase
            Buyer"."Purchase Buyer Login" = valueof(NQ_SESSION."USER") OR
            cast("Core"."Dim - Procurement Business Unit"."Key Id" AS DOUBLE) =
            valueof(NQ_SESSION.PRC_BU_MANAGE_NEG_ViewOthers))]]>
          </Expr>
        </Mapping>
        <Mapping status="disable">
          <RefObject id="2035:366038"
           uid="80d10624-07f3-0000-714b-e31d00000000"
           qualifiedName="&quot;Core&quot;.&quot;Fact - Sourcing - Negotiation
            &quot;"/>
          <Expr>
           <![CDATA[cast("Core"."Dim - Procurement Business Unit"."Key Id" AS DOUBLE)
            = valueof(NQ_SESSION.PRC_BU_MANAGE_NEG) AND ("Core"."Dim - Purchase
            Buyer"."Purchase Buyer Login" = valueof(NQ_SESSION."USER") OR
            cast("Core"."Dim - Procurement Business Unit"."Key Id" AS DOUBLE) =
            valueof(NQ_SESSION.PRC_BU_MANAGE_NEG_ViewOthers))]]>
          </Expr>
        </Mapping>
      </Filters>
      <ObjectPrivileges>
        <RefObjectPrivilege id="1500:281254"
         uid="808626e9-05dc-0000-714b-e31d00000000"
         qualifiedName="&quot;ObjPriv_1500:3417401144981469&quot;"/>
      </ObjectPrivileges>
    </PrivilegePackage>
```

10.2.6 XML Elements: Object Privilege

The object privilege element corresponds to the set of object permissions you can apply to metadata objects such as logical or presentation columns. In the Administration Tool, you can set object permissions in the Presentation layer, or in the Object Permissions tab of the User/Application Role Permissions dialog.

> **Note:** You can also set permissions for an object privilege without specifying values in the Administration Tool. For more information, see Section 10.2.11, "XML Elements: SetPermission."

The object privilege tag includes the following attributes:

Table 10–19   Object Privilege Tag Attributes

Attribute Name	Description
type	Contains the type of privilege applied to the objects. Valid values are: ■ read: corresponds to the **Read** privilege in theAdministration Tool ■ readWrite: corresponds to the **Read/Write** privilege in the Administration Tool ■ none: corresponds to the **No Access** privilege in the Administration Tool This attribute can contain the following other values: delete, write, grant, and all. These other values are for internal use.

The object privilege tag includes the following child elements:

Table 10–20   Object Privilege Child Elements

Element Name	Description
Objects	References the set of objects for which this privilege type applies. Each object is contained in a sub-element called RefObject.

Syntax

```
<ObjectPrivilege …
    type="">
  <Description />
  <Objects>
    <RefObject …/>
    <RefObject …/>
  </Objects>
</ObjectPrivilege>
```

Example

```
<ObjectPrivilege name="ObjPriv_1500:64621257864270"
    id="1500:6462" uid="80caa1bb-05dc-0000-714b-e31d00000000"
    type="read">
  <Objects>
    <RefObject id="4008:43061"
     uid="80cb6a2f-0fa8-0000-714b-e31d00000000"
     qualifiedName="&quot;Sample Sales&quot;..&quot;Time&quot;"/>
    <RefObject id="4008:43085"
     uid="80cb6a47-0fa8-0000-714b-e31d00000000"
     qualifiedName="&quot;Sample Sales&quot;..&quot;More Time Objects&quot;"/>
    <RefObject id="4008:43103"
     uid="80cb6a59-0fa8-0000-714b-e31d00000000"
     qualifiedName="&quot;Sample Sales&quot;..&quot;Products&quot;"/>
  </Objects>
</ObjectPrivilege>
```

10.2.7 XML Elements: Query Privilege

The query privilege element corresponds to the set of query privileges you can apply to users or application roles. In the Administration Tool, you can set query privileges in the Query Limits tab of the User/Application Role Permissions dialog.

The query privilege tag includes the following attributes:

Table 10–21   Query Privilege Tag Attributes

Attribute Name	Description
maxExecTime	The maximum number of minutes queries can run on a database.
maxExecTimePrivilege	Specifies the status of the maximum query run time limit. Valid values are: ■ **Enable:** Limits the time to the value specified in maxExecTime. ■ **Disable:** Disables any limits set in maxExecTime. ■ **Warn:** Does not enforce limits, but logs queries that exceed the set time limit in the Query log. ■ **Ignore:** Inherits limits from the parent application role. If there is no time limit to inherit, no limit is enforced.
maxRows	The maximum number of rows for users to retrieve from a database.
maxRowsPrivilege	Specifies the status of the maximum number of rows limit. Valid values are: ■ **Enable:** Limits the number of rows to the value specified. If the number of rows exceeds the maxRows value, the query is terminated. ■ **Disable:** Disables any limits set in maxRows. ■ **Warn:** Does not enforce limits, but logs queries that exceed the set limit in the Query log. ■ **Ignore:** Inherits limits from the parent application role. If there is no row limit to inherit, no limit is enforced.
populatePrivilege	Specifies whether the Populate privilege is granted or denied for a database. The Populate stored procedure writes the Cache/Saved Result Set value to the database when a criteria block is cached. Valid values are: ■ **Allow:** Explicitly grants the Populate privilege. ■ **Disallow:** Explicitly denies the Populate privilege. ■ **Ignore:** Inherits limits from the parent application role. If there is no limit to inherit, then the Populate privilege is allowed or disallowed based on the property **Allow populate queries by default** for the database object.
execPhysicalPrivilege	Specifies whether direct database requests can be executed by default. Valid values are: ■ **Allow:** Explicitly grants the ability to execute direct database requests. ■ **Disallow:** Explicitly denies the ability to execute direct database requests. ■ **Ignore:** Inherits limits from the parent application role. If there is no limit to inherit, then direct database requests are allowed or disallowed based on the property **Allow direct database requests by default** for the database object.

The query privilege tag includes the following child elements:

Table 10–22   Query Privilege Child Elements

Element Name	Description
ExecTimeTable	If database access has been restricted to particular time periods, lists the time periods and whether access is allowed or disallowed. Each time period is contained in a sub-element called `Item`. The `Item` child element has three attributes: `allow` (true or false), `startTime`, and `endTime`.

Syntax

```
<QueryPrivilege …
    maxExecTime=""
    maxExecTimePrivilege=""
    maxRows=""
    maxRowsPrivilege=""
    populatePrivilege=""
    execPhysicalPrivilege="">
  <Description />
  <ExecTimeTable>
    <Item allow="" startTime="" endTime=""/>
    <Item allow="" startTime="" endTime=""/>
  </ExecTimeTable>
</QueryPrivilege>
```

Example

```
<QueryPrivilege name="QueryPriv_4204:275811265643135"
    id="4204:27581" uid="80cb1ae1-106c-0000-714b-e31d00000000"
    maxExecTime="600" maxRows="100000"
    populatePrivilege="enable" execPhysicalPrivilege="enable">
</QueryPrivilege>
```

10.2.8 XML Elements: User

The user element corresponds to the user object in the repository. These objects represent the metadata repository copies or versions of externally managed user objects.

The user tag includes the following attributes:

Table 10–23   User Tag Attributes

Attribute Name	Description
fullName	The full name of this user.
loggingLevel	The logging level for this user.
logStatisticsStatus	This attribute is not used.
guid	Global unique identifier for a given user, which is independent of the user name.

The user tag includes the following child elements:

Table 10–24   User Child Elements

Element Name	Description
RefPrivilegePackage	References the privilege package, or set of object privileges, data filters, and query privileges, that apply to this user.

Table 10–24   (Cont.) User Child Elements

Element Name	Description
Groups	References the application roles to which this user belongs.
	Each application role is contained in a sub-element called `RefGroup`.
DBSignOnList	References database login user names and passwords, along with the corresponding database, if this user has database-specific logins defined.
	Each pair of database credentials and database name is contained in a sub-element called `Mapping`.
	Each `Mapping` sub-element contains two additional sub-elements: `RefDBSignOn`, which references the database credentials, and `RefDatabase`, which references the database name. Note that passwords are encrypted.
	See the syntax for the user element to see the complete hierarchy for the `DBSignOnList` child element.

Syntax

```
<User …
    fullName=""
    loggingLevel=""
    guid="">
  <Description />
  <RefPrivilegePackage …/>
  <Groups>
    <RefGroup …/>
    <RefGroup …/>
  </Groups>
  <DBSignOnList>
    <Mapping>
      <RefDBSignOn …/>
      <RefDatabase …/>
    </Mapping>
  </DBSignOnList>
</User>
```

Example

```
<User name="mgr" id="1501:577531"
    uid="80ca34ae-05dd-0000-714b-e31d00000000"
    guid="D289B2F1E54411DEBFF92BEEA2576FF2">
  <RefPrivilegePackage id="4209:588476"
   uid="80d92bbd-1071-0000-714b-e31d00000000"
   qualifiedName="&quot;PrivPack_4209:5884761253725358&quot;"/>
  <Groups>
    <RefGroup id="4206:577530"
      uid="80ca34b7-106e-0000-714b-e31d00000000"
      qualifiedName="&quot;Mgr&quot;"/>
  </Groups>
</User>
```

10.2.9 XML Elements: Group

The group element corresponds to the application role object in the repository metadata.

The group tag includes the following attributes:

Table 10–25   Group Tag Attributes

Attribute Name	Description
displayName	The custom Display Name for this application role.
logLevel	This attribute is not used.
logStatisticsStatus	This attribute is not used.
guid	Global unique identifier for a given application role, which is independent of the role name.

The group tag includes the following child elements:

Table 10–26   Group Child Elements

Element Name	Description
RefPrivilegePackage	References the privilege package, or set of object privileges, data filters, and query privileges, that apply to this application role.
ChildGroups	References the set of application roles that belong to this application role. Each child application role is contained in a sub-element called `RefGroup`.

Syntax

```
<Group …>
    displayName=""
    guid="">
  <Description />
  <RefPrivilegePackage …/>
  <ChildGroups>
    <RefGroup …/>
  </ChildGroups>
</Group>
```

Example

```
<Group name="Marketing Analytics User" id="4206:10"
    uid="0023e1a4-106e-0000-714b-e31d00000000"
    guid="Marketing Analytics User">
  <RefPrivilegePackage id="4209:281517"
   uid="0023e206-1071-0000-714b-e31d00000000"
   qualifiedName="&quot;PrivPack_4209:651191007624440&quot;"/>
  <ChildGroups>
    <RefGroup id="4206:26"
     uid="0023e1b5-106e-0000-714b-e31d00000000"
     qualifiedName="&quot;CM Marketing Analytics User&quot;"/>
  </ChildGroups>
</Group>
```

10.2.10 XML Elements: DB Sign-On

The DB sign-on element corresponds to the information provided in the Logons tab of the user object. If the repository has been set up for database-specific login IDs and passwords, you can set up database-specific credentials to allow privileged users to connect to the underlying databases at the level of authority granted to those users in the databases.

The DB sign-on tag includes the following attributes:

Table 10–27   DB Sign-on Tag Attributes

Attribute Name	Description
user	The user name for the underlying database.
password	The corresponding password for the underlying database. Note that passwords are encrypted.

The DB sign-on tag does not include any child elements.

Syntax

```
<DBSignOn …
     user=""
     password="">
   <Description />
</DBSignOn>
```

Example

```
<DBSignOn name="LOGON_4211:2559932074113"
     id="4211:158" uid="309a5c29-0bf7-1000-8f7c-0ae593260000"
     user="my_db_user"
     password="BA0EAAB163">
</DBSignOn>
```

10.2.11 XML Elements: SetPermission

The SetPermission element is a special element, in that it does not represent a repository object. Its purpose is to define permissions to be automatically added to the Object Privilege and Privilege Package objects, without the requirement to explicitly define those objects. For more information on the objects for which these permissions can be defined, see Section 10.2.5, "XML Elements: Privilege Package" and Section 10.2.6, "XML Elements: Object Privilege."

The SetPermission element is effectively a command that is designed to set permissions on objects to users and roles.

Depending on the sub-elements chosen, SetPermission can be used to add or suppress user and role permissions on a variety of presentation and marketing objects, namely:

- Connection Pool
- List Catalog
- Presentation Catalog
- Presentation Column
- Presentation Hierarchy
- Presentation Level
- Presentation Table
- Target Level

The SetPermission element, with selected sub-element and sub-element values, is first added to the XML file which is input to the XML command-line tools biserverxmlexec and biserverxmlcli. For more information on the command-line tools, see Section 6.2, "About Generating and Executing XML".

When those tools are executed, SetPermission sets the appropriate permissions in the Object Privilege and Privilege Package objects that are generated automatically in

output RPD. If these Object Privilege and Privilege Package objects already exist in the RPD, they will be overwritten by the execution of the SetPermission command.

> **Note:** The SetPermission element is only used to add information *into* a repository; it will not appear in the output XML file that can be generated from the Administration Tool for a repository.

The minimum requirement for a SetPermission element is that it must consist of at least one object and one role or user. The objects that are specified can exist in either in the XML input file or the RPD or both. The roles and users must be in the security realm and must also be present in the RPD or XML input file or both.

The SetPermission tag does not include any attributes.

The SetPermission tag includes the following child elements:

Table 10–28   SetPermission Child Elements

Element Name	Description
Objects	References the set of objects for which this SetPermission applies.
	Each object is contained in one of the following sub-elements: `RefPresentationCatalog`, `RefPresentationTable`, `RefPresentationColumn`, `RefPresentationHierarchy`, `RefPresentationLevel`, `RefTargetLevel`, `RefListCatalog`, each of which references its associated object type.
Role	Contains the attributes `name` and `permission`. The `permission` values can be `read`, `write`, `none`, or `default`.
User	Contains the attributes `name` and `permission`. The `permission` values can be `read`, `write`, `none`, or `default`.

Syntax

```
<SetPermission>
   <Objects>
     <RefPresentationCatalog…/>
     <RefPresentationTable…/>
     <RefPresentationColumn…/>
     <RefPresentationHierarchy…/>
     <RefPresentationLevel…/>
     <RefTargetLevel…/>
     <RefListCatalog…/>
   </Objects>
   <Role name="" permission=""/>
   <User name="" permission=""/>
</SetPermission>
```

Example

```
<SetPermission>
   <Objects>
     <RefPresentationCatalog
       qualifiedName="&quot;custExt3c2ce61c_0dc2_420c_b785_cf6b451deda5&quot;" />
   </Objects>
   <Role name="SALES_EXECUTIVE_TRANSACTION_ANALYSIS_DUTY" permission="none" />
   <Role name="SALES_CAMPAIGN_TRANSACTION_ANALYSIS_DUTY" permission="read" />
   <Role name="SALES_MANAGERIAL_TRANSACTION_ANALYSIS_DUTY" permission="read" />
   <Role name="SALES_TRANSACTION_ANALYSIS_DUTY" permission="read" />
```

```
</SetPermission>
```

10.2.12 XML Elements: FMW Security

The FMW security element is not used.

10.3 Other XML Elements

The elements described in this section are miscellaneous elements that do not fit into any other category. These elements include:

- Section 10.3.1, "XML Elements: Project"
- Section 10.3.2, "XML Elements: Query Object"

10.3.1 XML Elements: Project

The project element corresponds to the project object in the repository metadata. Projects support multiuser development by enabling developers to work on projects in their area of responsibility.

The project tag includes the following child elements:

Table 10–29   Project Child Elements

Element Name	Description
Catalogs	References the subject areas that belong to the project.
	Each subject area is contained in a sub-element called `RefPresentationCatalog`.
FactTables	References the logical fact tables that belong to the project.
	Each fact table is contained in a sub-element called `RefLogicalTable`.
Groups	References the application roles that belong to the project.
	Each application role is contained in a sub-element called `RefGroup`.
Users	References the users that belong to the project.
	Each user is contained in a sub-element called `RefUser`.
Variables	References the variables that belong to the project.
	Each variable is contained in a sub-element called `RefVariable`.
InitBlocks	References the initialization blocks that belong to the project.
	Each initialization block is contained in a sub-element called `RefInitBlock`.
ListCatalogs	References the list catalogs that belong to the project.
	Each list catalog is contained in a sub-element called `RefListCatalog`.
Tables	References the presentation tables that belong to the project.
	Each presentation table is contained in a sub-element called `RefPresentationTable`.
Columns	References the presentation columns that belong to the project.
	Each presentation column is contained in a sub-element called `RefPresentationColumn`.

Table 10–29   (Cont.) Project Child Elements

Element Name	Description
Hierarchies	References the presentation hierarchies that belong to the project.
	Each presentation hierarchy is contained in a sub-element called `RefPresentationHierarchy`.
Levels	References the presentation levels that belong to the project.
	Each presentation level is contained in a sub-element called `RefPresentationLevel`.
ExcludedCatalogs	References any subject areas that do not belong to the project, but that are mapped to logical objects that do belong to the project.
	Each subject area is contained in a sub-element called `RefPresentationCatalog`.
ExcludedTables	References any presentation tables that do not belong to the project, but that are mapped to logical objects that do belong to the project.
	Each presentation table is contained in a sub-element called `RefPresentationTable`.
ExcludedColumns	References any presentation columns that do not belong to the project, but that are mapped to logical objects that do belong to the project.
	Each presentation column is contained in a sub-element called `RefPresentationColumn`.
ExcludedHierarchies	References any presentation hierarchies that do not belong to the project, but that are mapped to logical objects that do belong to the project.
	Each presentation hierarchy is contained in a sub-element called `RefPresentationHierarchy`.
ExcludedLevels	References any presentation levels that do not belong to the project, but that are mapped to logical objects that do belong to the project.
	Each subject area is contained in a sub-element called `RefPresentationLevel`.

The project tag does not include any attributes.

Syntax

```
<Project …>
   <Description />
   <Catalogs>
     <RefPresentationCatalog…/>
   </Catalogs>
   <FactTables>
     <RefLogicalTable …/>
   </FactTables>
   <Groups>
     <RefGroup…/>
   </Groups>
   <Users>
     <RefUser …/>
   </Users>
   <Variables>
     <RefVariable …/>
```

```
        </Variables>
        <InitBlocks>
          <RefInitBlock…/>
        </InitBlocks>
        <ListCatalogs>
          <RefListCatalog …/>
        </ListCatalogs>
        <Tables>
          <RefPresentationTable…/>
        </Tables>
        <Columns>
          <RefPresentationColumn…/>
        </Columns>
        <Hierarchies>
          <RefPresentationHierarchy…/>
        </Hierarchies>
        <Levels>
          <RefPresentationLevel…/>
        </Levels>
        <ExcludedCatalogs>
          <RefPresentationCatalog…/>
        </ExcludedCatalogs>
        <ExcludedTables>
          <RefPresentationTable…/>
        </ExcludedTables>
        <ExcludedColumns>
          <RefPresentationColumn…/>
        </ExcludedColumns>
        <ExcludedHierarchies>
          <RefPresentationHierarchy…/>
        </ExcludedHierarchies>
        <ExcludedLevels>
          <RefPresentationLevel…/>
        </ExcludedLevels>
</Project>
```

Example

```
<Project name="FUSION_SPE"
    id="4213:281691" uid="80ca6265-1075-0000-714b-e31d00000000">
    <Catalogs>
      <RefPresentationCatalog id="4004:275486"
       uid="80ca9dbb-0fa4-0000-714b-e31d00000000"
       qualifiedName="&quot;Sales Manager Dashboard - Campaign&quot;"/>
      <RefPresentationCatalog id="4004:275495"
       uid="80ca9e05-0fa4-0000-714b-e31d00000000"
       qualifiedName="&quot;Sales Manager Dashboard - Lead&quot;"/>
...
    </Catalogs>
    <FactTables>
      <RefLogicalTable id="2035:9160"
       uid="00224fb6-07f3-0000-714b-e31d00000000"
       qualifiedName="&quot;Core&quot;.&quot;Fact - CRM - Order Item&quot;"/>
      <RefLogicalTable id="2035:9371"
       uid="00224fb8-07f3-0000-714b-e31d00000000"
       qualifiedName="&quot;Core&quot;.&quot;Fact - CRM - Service Request&quot;"/>
...
    </FactTables>
    <Groups>
      <RefGroup id="4206:1"
       uid="0023e1a2-106e-0000-714b-e31d00000000"
```

```
              qualifiedName="&quot;BIAdministrators&quot;"/>
       </Groups>
       <Users>
         <RefUser id="1501:2"
          uid="0021f847-05dd-0000-714b-e31d00000000"
          qualifiedName="&quot;Administrator&quot;"/>
       </Users>
       <Variables>
         <RefVariable id="3031:250"
          uid="808466f1-0bd7-0000-714b-e31d00000000"
          qualifiedName="&quot;User Hierarchy Level&quot;.&quot;HIER_LEVEL&quot;"/>
         <RefVariable id="3031:337"
          uid="80c96155-0bd7-0000-714b-e31d00000000"
          qualifiedName="&quot;GetCRMCalendar&quot;.&quot;CRM_CAL_ID&quot;"/>
...
       </Variables>
       <InitBlocks>
         <RefInitBlock id="3033:68605"
          uid="808466f2-0bd9-0000-714b-e31d00000000"
          qualifiedName="&quot;User Hierarchy Level&quot;"/>
         <RefInitBlock id="3033:68645"
          uid="80c9615a-0bd9-0000-714b-e31d00000000"
          qualifiedName="&quot;GetCRMCalendar&quot;"/>
...
       </InitBlocks>
       <ExcludedColumns>
         <RefPresentationColumn id="4010:1181008"
          uid="80ec06eb-0faa-0000-714b-e31d00000000"
          qualifiedName="&quot;Sales Manager Dashboard - Customer&quot;..&quot;
           Date&quot;.&quot;Day of Week&quot;"/>
         <RefPresentationColumn id="4010:1181009"
          uid="80ec06ec-0faa-0000-714b-e31d00000000"
          qualifiedName="&quot;Sales Manager Dashboard - Customer&quot;..&quot;
           Date&quot;.&quot;Day of Year&quot;"/>
...
       </ExcludedColumns>
</Project>
```

10.3.2 XML Elements: Query Object

The query object element corresponds to the saved query object in the repository metadata. You can save a query from the Query Repository dialog in the Administration Tool.

The query object tag includes the following child elements:

Table 10–30   Query Object Child Elements

Element Name	Description
QueryString	Contains the query string that qualifies and defines the query.

The query object tag does not include any attributes.

Syntax

```
<QueryObject …>
    <Description />
    <QueryString …/>
</QueryObject>
```

Example

```
<QueryObject name="samplequery"
    id="4217:970" uid="c7fdc3b1-0c00-1000-8e0b-0a9702490000">
  <QueryString>
    <![CDATA[ (128 = "*") AND (6 = Business Model) AND (0) ]]>
  </QueryString>
</QueryObject>
```