DBMS_XSLPROCESSOR

The DBMS_XSLPROCESSOR package provides an interface to manage the contents and structure of XML documents.

This chapter contains the following topics:

- DBMS_XSLPROCESSOR Overview
- DBMS_XSLPROCESSOR Security Model
- Summary of DBMS_XSLPROCESSOR Subprograms



Oracle XML DB Developer's Guide

DBMS_XSLPROCESSOR Overview

The DBMS_XSLPROCESSOR package provides an interface to manage the contents and structure of XML documents.

Standards

This PL/SQL implementation of the XSL processor follows the W3C XSLT working draft rev WD-xslt-19990813 and includes the required behavior of an XSL processor in terms of how it must read XSLT stylesheets and the transformation it must effect.

Concepts

The Extensible Stylesheet Language Transformation (XSLT) describes rules for transforming a source tree into a result tree. A transformation expressed in XSLT is called a stylesheet. The transformation specified is achieved by associating patterns with templates defined in the stylesheet. A template is instantiated to create part of the result tree.

Implementation

The following is the default behavior for this PL/SQL XSL Processor:

- A result tree which can be accessed by DOM programmatic interface
- Errors are not recorded unless an error log is specified; however, an application error will be raised if parsing fails

DBMS_XSLPROCESSOR Security Model

Owned by XDB, the DBMS_XSLPROCESSOR package must be created by SYS or XDB. The EXECUTE privilege is granted to PUBLIC. Subprograms in this package are executed using the privileges of the current user.

Summary of DBMS_XSLPROCESSOR Subprograms

This table lists the <code>DBMS_XSLPROCESSOR</code> subprograms and briefly describes them.

Table 243-1 DBMS_XSLPROCESSOR Package Subprograms

Method	Description
FREEPROCESSOR Procedure	Frees a processor object
FREESTYLESHEET Procedure	Frees a stylesheet object
NEWPROCESSOR Function	Returns a new processor instance
NEWSTYLESHEET Functions	Creates a new stylesheet from input and reference URLs
PROCESSXSL Functions and Procedures	Transforms an input XML document
REMOVEPARAM Procedure	Removes a top-level stylesheet parameter
RESETPARAMS Procedure	Resets the top-level stylesheet parameters
SELECTNODES Function	Selects nodes from a DOM tree that match a pattern
SELECTSINGLENODE Function	Selects the first node from the tree that matches a pattern
SETERRORLOG Procedure	Sets errors to be sent to the specified file
SETPARAM Procedure	Sets a top-level parameter in the stylesheet
SHOWWARNINGS Procedure	Turns warnings on or off
TRANSFORMNODE Function	Transforms a node in a DOM tree using a stylesheet
VALUEOF Function and Procedure	Gets the value of the first node that matches a pattern

FREEPROCESSOR Procedure

This procedure frees a Processor object.

Syntax

```
DBMS_XSLPROCESSOR.FREEPROCESSOR(
    p IN Processor);
```

Parameters

Table 243-2 FREEPROCESSOR Procedure Parameters

Parameter	Description
р	Processor

FREESTYLESHEET Procedure

This procedure frees a Stylesheet object.

Syntax

```
DBMS_XSLPROCESSOR.FREESTYLESHEET(
    ss IN Stylesheet);
```



Parameters

Table 243-3 FREESTYLESHEET Procedure Parameters

Parameter	Description
SS	Stylesheet

NEWPROCESSOR Function

This function returns a new Processor instance.

The function must be called before the default behavior of Processor can be changed and if other processor methods need to be used.

Syntax

```
DBMS_XSLPROCESSOR.NEWPROCESSOR
RETURN Processor;
```

NEWSTYLESHEET Functions

This function creates and returns a new Stylesheet instance.

The options are described in the following table.

Syntax

Creates and returns a new stylesheet instance using the given DOMDOCUMENT and reference URLs:

```
DBMS_XSLPROCESSOR.NEWSTYLESHEET(
   xmldoc IN DOMDOCUMENT,
   ref IN VARCHAR2)
RETURN Stylesheet;
```

Creates and returns a new Stylesheet instance using the given input and reference URLs:

```
DBMS_XSLPROCESSOR.NEWSTYLESHEET(
  inp     IN     VARCHAR2,
  ref     IN     VARCHAR2)
RETURN Stylesheet;
```

Table 243-4 NEWSTYLESHEET Function Parameters

Parameter	Description
xmldoc	DOMDocument to use for construction
inp	Input URL to use for construction
ref	Reference URL



PROCESSXSL Functions and Procedures

This function transforms input XMLDocument.

Any changes to the default processor behavior should be effected before calling this procedure. An application error is raised if processing fails.

Syntax

Transforms input XMLDocument using given DOMDocument and stylesheet, and returns the resultant document fragment:

```
DBMS_XSLPROCESSOR.PROCESSXSL(
p IN Processor,
ss IN Stylesheet,
xmldoc IN DOMDOCUMENT),
RETURN DOMDOCUMENTFRAGMENT;
```

Transforms input XMLDocument using given document as URL and the Stylesheet, and returns the resultant document fragment:

```
DBMS_XSLPROCESSOR.PROCESSXSL(
p IN Processor,
ss IN Stylesheet,
url IN VARCHAR2,
RETURN DOMDOCUMENTFRAGMENT;
```

Transforms input XMLDocument using given document as CLOB and the Stylesheet, and returns the resultant document fragment:

Transforms input XMLDocument using given DOMDOCUMENT and the stylesheet, and writes the output to the specified file:

```
DBMS_XSLPROCESSOR.DBMS_XSLPROCESSOR.(

p IN Processor,

ss IN Stylesheet,

xmldoc IN DOMDOCUMENT,

dir IN VARCHAR2,

fileName IN VARCHAR2);
```

Transforms input XMLDocument using given URL and the stylesheet, and writes the output to the specified file in a specified directory:

```
DBMS_XSLPROCESSOR.PROCESSXSL(
p IN Processor,
ss IN Stylesheet,
url IN VARCHAR2,
dir IN VARCHAR2,
fileName IN VARCHAR2);
```

Transforms input XMLDocument using given DOMDOCUMENT and the stylesheet, and writes the output to a CLOB:

```
DBMS_XSLPROCESSOR.PROCESSXSL(
p IN Processor,
ss IN Stylesheet,
xmldoc IN DOMDOCUMENT,
cl IN OUT CLOB);
```

Transforms input XMLDocument using given DOMDOCUMENTFRAGMENT and the stylesheet, and returns the resultant document fragment:

```
DBMS_XSLPROCESSOR.PROCESSXSL(
p IN Processor,
ss IN Stylesheet,
xmldf IN DOMDOCUMENTFRAGMENT)
RETURN DOMDOCUMENTFRAGMENT;
```

Transforms input XMLDocumentFragment using given DOMDocumentFragment and the stylesheet, and writes the output to the specified file in a specified directory:

```
DBMS_XSLPROCESSOR.PROCESSXSL(
p IN Processor,
ss IN Stylesheet,
xmldf IN DOMDOCUMENTFRAGMENT,
dir IN VARCHAR2,
filename IN VARCHAR2);
```

Transforms input XMLDocumentFragment using given DOMDOCUMENTFRAGMENT and the stylesheet, and writes the output to a buffer:

Transforms input XMLDocumentFragment using given DOMDOCUMENTFRAGMENT and the stylesheet, and writes the output to a CLOB:

```
DBMS_XSLPROCESSOR.PROCESSXSL(

p IN Processor,

ss IN Stylesheet,

xmldf IN DOMDOCUMENTFRAGMENT,

cl IN OUT CLOB);
```

Table 243-5 PROCESSXSL Function and Procedure Parameters

	Description
р	Processor instance
SS	Stylesheet instance
xmldoc	XML document being transformed
url	URL for the information being transformed
clb	CLOB containing information to be transformed
dir	Directory where processing output file is saved
filename	Processing output file
cl	CLOB to which the processing output is saved

Table 243-5 (Cont.) PROCESSXSL Function and Procedure Parameters

Parameter	Description
xmldf	XMLDocumentFragment being transformed

REMOVEPARAM Procedure

This procedure removes a top level stylesheet parameter.

Syntax

```
DBMS_XSLPROCESSOR.REMOVEPARAM(
    ss      IN Stylesheet,
    name      IN VARCHAR2);
```

Parameters

Table 243-6 REMOVEPARAM Procedure Parameters

Parameter	Description
SS	Stylesheet instance
name	Name of the parameter

RESETPARAMS Procedure

This procedure resets the top-level stylesheet parameters.

Syntax

```
DBMS_XSLPROCESSOR.RESETPARAMS(
    ss IN Stylesheet);
```

Parameters

Table 243-7 RESETPARAMS Procedure Parameters

Parameter	Description
SS	Stylesheet instance

SELECTNODES Function

This function selects nodes which match the supplied path expression from a DOM tree, and returns the result of the selection.

Syntax

```
DBMS_XSLPROCESSOR.SELECTNODES(
n IN DBMS_XMLDOM.DOMNODE,
pattern IN VARCHAR2,
namespace IN VARCHAR2 := NULL)
RETURN DBMS XMLDOM.DOMNODELIST;
```

Parameters

Table 243-8 SELECTNODES Function Parameters

Parameter	Description
n	Root DOMNode of the tree
pattern	Pattern to use
namespace	Namespace declared

SELECTSINGLENODE Function

This function selects the first node from the tree that match the supplied path expression, and returns that node.

Syntax

```
DBMS_XSLPROCESSOR.SELECTSINGLENODE(
n IN DBMS_XMLDOM.DOMNODE,
pattern IN VARCHAR2,
namespace IN VARCHAR2 := NULL)
RETURN DBMS XMLDOM.DOMNODE;
```

Parameters

Table 243-9 SELECTSINGLENODE Function Parameters

Parameter	Description
n	Root DOMNode of the tree
pattern	Pattern to use
namespace	Namespace declared

SETERRORLOG Procedure

This deprecated procedure sets errors to be sent to the specified file.



This subprogram has been deprecated, and is included only for reasons of backward compatibility.

Syntax



Parameters

Table 243-10 SETERRORLOG Procedure Parameters

Parameter	Description
р	Processor instance
fileName	Complete path of the file to use as the error log

SETPARAM Procedure

This procedure sets a top level parameter in the stylesheet.

The parameter value must be a valid XPath expression. Literal string values must be quoted.

Syntax

```
DBMS_XSLPROCESSOR.SETPARAM(
ss IN Stylesheet,
name IN VARCHAR2,
value IN VARCHAR2);
```

Parameters

Table 243-11 SETPARAM Procedure Parameters

Parameter	Description
SS	Stylesheet instance
name	Name of the parameter
value	Value of the parameter

SHOWWARNINGS Procedure

This procedure turns warnings on (TRUE) or off (FALSE).

Syntax

```
DBMS_XSLPROCESSOR.SHOWWARNINGS(
p IN Processor,
yes IN BOOLEAN);
```

Table 243-12 SHOWWARNINGS Procedure Parameters

Parameter	Description
р	Processor instance
yes	Mode to set: TRUE to show warnings, FALSE otherwise

TRANSFORMNODE Function

This function transforms a node in a DOM tree using the given stylesheet, and returns the result of the transformation as a DOMDocumentFragment.

Syntax

Parameters

Table 243-13 TRANSFORMNODE Function Parameters

Parameter	Description
n	DOMNode to transform
SS	Stylesheet to use

VALUEOF Function and Procedure

This subprogram retrieves the value of the first node from the tree that matches the given pattern. You can use either a function or a procedure.

Syntax

```
DBMS_XSLPROCESSOR.VALUEOF(
n IN DBMS_XMLDOM.DOMNODE,
pattern IN VARCHAR2,
namespace IN VARCHAR2 := NULL)
RETURN VARCHAR2;

DBMS_XSLPROCESSOR.VALUEOF(
n IN DBMS_XMLDOM.DOMNODE,
pattern IN VARCHAR2,
val OUT VARCHAR2,
namespace IN VARCHAR2 := NULL);
```

Table 243-14 VALUEOF Function and Procedure Parameters

Parameter	Description
n	Node whose value is being retrieved
pattern	Pattern to use
val	Retrieved value
namespace	Namespace to use

