XBinder

XML Schema Compiler
Version 2.4
C++ XML Runtime
Reference Manual

Objective Systems, Inc. — April 2016

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C XML Runtime Library Functions

The **C run-time XML library** contains functions used to encode/decode XML data. These functions are identified by their *rtXml* prefixes.

The categories of functions provided are as follows:

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- int rtXmlDecBase64Str (OSCTXT ∗pctxt, OSOCTET ∗pvalue, OSUINT32 ∗pnocts, OSINT32 bufsize)

  This function decodes a contents of a Base64-encode binary string into a static memory structure.

- int rtXmlDecBase64StrValue (OSCTXT ∗pctxt, OSOCTET ∗pvalue, OSUINT32 ∗pnocts, size_t bufSize, size_t srcDataLen)

  This function decodes a contents of a Base64-encode binary string into the specified octet array.

- int rtXmlDecBigInt (OSCTXT ∗pctxt, const OSUTF8CHAR ∗∗ppvalue)

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- int rtXmlDecDynUTF8Str (OSCTXT ∗pctxt, const OSUTF8CHAR ∗∗outdata)

    This function decodes the contents of a UTF-8 string data type.

- int rtXmlDecHexBinary (OSRTMEMBUF ∗pMemBuf, const OSUTF8CHAR ∗inpdata, int length)

    This function decodes the contents of a hex-encoded binary data type into a memory buffer.

- int rtXmlDecHexStr (OSCTXT ∗pctxt, OSOCTET ∗pvalue, OSUINT32 ∗pnocts, OSINT32 bufsize)

    This function decodes the contents of a hexBinary string into a static memory structure.

- int rtXmlDecGYear (OSCTXT ∗pctxt, OSXSDDateTime ∗pvalue)

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    This function decodes a variable of the XSD 'gMonthDay' type.

- int rtXmlDecGDay (OSCTXT ∗pctxt, OSXSDDateTime ∗pvalue)

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    This function decodes the contents of an 8-bit integer data type (i.e.

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    This function decodes the contents of an unsigned 32-bit integer data type.

- int rtXmlDecUInt8 (OSCTXT ∗pctxt, OSUINT8 ∗pvalue)

  This function decodes the contents of an unsigned 8-bit integer data type (i.e.

- int rtXmlDecUInt16 (OSCTXT ∗pctxt, OSUINT16 ∗pvalue)

  This function decodes the contents of an unsigned 16-bit integer data type.

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- int rtXmlDecXSIAttr (OSCTXT ∗pctxt, const OSUTF8CHAR ∗attrName, const OSUTF8CHAR ∗attrValue)

  This function decodes XML schema instance (XSI) attribute.

- int rtXmlDecXSIAttrs (OSCTXT ∗pctxt, const OSUTF8CHAR ∗const ∗attrs, const char ∗typeName)

  This function decodes XML schema instance (XSI) attributes.

- int rtXmlDecXmlStr (OSCTXT ∗pctxt, OSXMLSTRING ∗outdata)

  This function decodes the contents of an XML string data type.

- int rtXmlParseElementName (OSCTXT ∗pctxt, OSUTF8CHAR ∗∗ppName)

  This function parses the initial tag from an XML message.

- int rtXmlParseElemQName (OSCTXT ∗pctxt, OSXMLQName ∗pQName)

  This function parses the initial tag from an XML message.

6.1.1 Function Documentation

6.1.1.1 int rtXmlDecBase64Binary (OSRTMEMBUF ∗ *pMemBuf*, const OSUTF8CHAR ∗ *inpdata*, int *length*)

This function decodes the contents of a Base64-encoded binary data type into a memory buffer.

Input is expected to be a string of UTF-8 characters returned by an XML parser. The decoded data will be put into the memory buffer starting from the current position and bit offset. After all data is decoded the octet string may be fetched out.

This function is normally used in the 'characters' SAX handler.

Parameters

pMemBuf Memory buffer to which decoded binary data is to be appended.

inpdata Pointer to a source string to be decoded.

length Length of the source string (in characters).

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.1.1.2 int rtXmlDecBase64Str (OSCTXT $*$ *pctxt*, OSOCTET $*$ *pvalue*, OSUINT32 $*$ *pnocts*, OSINT32 *bufsize*)

This function decodes a contents of a Base64-encode binary string into a static memory structure.

The octet string must be Base64 encoded. This function call is used to decode a sized base64Binary string production.

Parameters

pctxt A pointer to a context structure. This provides a storage area for the function to store all working variables that must be maintained between function calls.

pvalue A pointer to a variable to receive the decoded bit string. This is assumed to be a static array large enough to hold the number of octets specified in the bufsize input parameter.

pnocts A pointer to an integer value to receive the decoded number of octets.

bufsize The size (in octets) of the sized octet string. An error will occur if the number of octets in the decoded string is larger than this value.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.1.1.3 int rtXmlDecBase64StrValue (OSCTXT $*$ *pctxt*, OSOCTET $*$ *pvalue*, OSUINT32 $*$ *pnocts*, size_t *bufSize*, size_t *srcDataLen*)

This function decodes a contents of a Base64-encode binary string into the specified octet array.

The octet string must be Base64 encoded. This function call is used internally to decode both sized and non-sized base64binary string production.

Parameters

pctxt A pointer to a context structure. This provides a storage area for the function to store all working variables that must be maintained between function calls.

pvalue A pointer to a variable to receive the decoded bit string. This is assumed to be a static array large enough to hold the number of octets specified in the bufsize input parameter.

pnocts A pointer to an integer value to receive the decoded number of octets.

bufSize A maximum size (in octets) of `pvalue` buffer. An error will occur if the number of octets in the decoded string is larger than this value.

srcDataLen An actual source data length (in octets) without whitespaces.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.1.1.4 int rtXmlDecBigInt (OSCTXT ∗ *pctxt*, const OSUTF8CHAR ∗∗ *ppvalue*)

This function will decode a variable of the XSD integer type.

In this case, the integer is assumed to be of a larger size than can fit in a C or C++ long type (normally 32 or 64 bits). For example, parameters used to calculate security values are typically larger than these sizes.

These variables are stored in character string constant variables. The radix should be 10. If it is necessary to convert to another radix, then use rtxBigIntSetStr or rtxBigIntToString functions.

Parameters

pctxt Pointer to context block structure.

ppvalue Pointer to a pointer to receive decoded UTF-8 string. Dynamic memory is allocated for the variable using the rtMemAlloc function. The decoded variable is represented as a string starting with appropriate prefix.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.1.1.5 int rtXmlDecBool (OSCTXT ∗ *pctxt*, OSBOOL ∗ *pvalue*)

This function decodes a variable of the boolean type.

Parameters

pctxt Pointer to context block structure.

pvalue Pointer to a variable to receive the decoded boolean value.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.1.1.6 int rtXmlDecDate (OSCTXT ∗ *pctxt*, OSXSDDateTime ∗ *pvalue*)

This function decodes a variable of the XSD 'date' type.

Input is expected to be a string of characters returned by an XML parser. The string should have CCYY-MM-DD format.

Parameters

pctxt Pointer to context block structure.

pvalue OSXSDDateTime type pointer points to a OSXSDDateTime value to receive decoded result.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.1.1.7 int rtXmlDecDateTime (OSCTXT $*$ *pctxt*, OSXSDDateTime $*$ *pvalue*)

This function decodes a variable of the XSD 'dateTime' type.

Input is expected to be a string of characters returned by an XML parser.

Parameters

pctxt Pointer to context block structure.

pvalue OSXSDDateTime type pointer points to a OSXSDDateTime value to receive decoded result.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.1.1.8 int rtXmlDecDecimal (OSCTXT $*$ *pctxt*, OSREAL $*$ *pvalue*)

This function decodes the contents of a decimal data type.

Input is expected to be a string of characters returned by an XML parser.

Parameters

pctxt Pointer to context block structure.

pvalue Pointer to 64-bit double value to receive decoded result.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.1.1.9 int rtXmlDecDouble (OSCTXT $*$ *pctxt*, OSREAL $*$ *pvalue*)

This function decodes the contents of a float or double data type.

Input is expected to be a string of characters returned by an XML parser.

Parameters

pctxt Pointer to context block structure.

pvalue Pointer to 64-bit double value to receive decoded result.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.1.1.10 int rtXmlDecDynBase64Str (OSCTXT * *pctxt*, OSDynOctStr * *pvalue*)

This function decodes a contents of a Base64-encode binary string.

The octet string must be Base64 encoded. This function will allocate dynamic memory to store the decoded result.

Parameters

pctxt A pointer to a context structure. This provides a storage area for the function to store all working variables that must be maintained between function calls.

pvalue A pointer to a dynamic octet string structure to receive the decoded octet string. Dynamic memory is allocated to hold the string using the rtxMemAlloc function.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.1.1.11 int rtXmlDecDynHexStr (OSCTXT * *pctxt*, OSDynOctStr * *pvalue*)

This function decodes a contents of a hexBinary string.

This function will allocate dynamic memory to store the decoded result.

Parameters

pctxt A pointer to a context structure. This provides a storage area for the function to store all working variables that must be maintained between function calls.

pvalue A pointer to a dynamic octet string structure to receive the decoded octet string. Dynamic memory is allocated to hold the string using the rtxMemAlloc function.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.1.1.12 int rtXmlDecDynUTF8Str (OSCTXT * *pctxt*, const OSUTF8CHAR ** *outdata*)

This function decodes the contents of a UTF-8 string data type.

Input is expected to be a string of UTF-8 or Unicode characters returned by an XML parser.

Parameters

pctxt Pointer to context block structure.

outdata Pointer to a pointer to receive decoded UTF-8 string. Memory is allocated for this string using the run-time memory manager.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.1.1.13 int rtXmlDecEmptyElement (OSCTXT ∗ *pctxt*)

This function is used to enforce a requirement that an element be empty.

An error is returned in the current element has any element or character children. The last event must be the start tag.

Parameters

pctxt A pointer to a context structure. This provides a storage area for the function to store all working variables that must be maintained between function calls.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.1.1.14 int rtXmlDecGDay (OSCTXT ∗ *pctxt*, OSXSDDateTime ∗ *pvalue*)

This function decodes a variable of the XSD 'gDay' type.

Input is expected to be a string of characters returned by an XML parser. The string should have ---DD[-+hh:mm|Z] format.

Parameters

pctxt Pointer to context block structure.

pvalue OSXSDDateTime type pointer points to a OSXSDDateTime value to receive decoded result.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.1.1.15 int rtXmlDecGMonth (OSCTXT ∗ *pctxt*, OSXSDDateTime ∗ *pvalue*)

This function decodes a variable of the XSD 'gMonth' type.

Input is expected to be a string of characters returned by an XML parser. The string should have --MM[-+hh:mm|Z] format.

Parameters

pctxt Pointer to context block structure.

pvalue OSXSDDateTime type pointer points to a OSXSDDateTime value to receive decoded result.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.1.1.16 int rtXmlDecGMonthDay (OSCTXT ∗ *pctxt*, OSXSDDateTime ∗ *pvalue*)

This function decodes a variable of the XSD ’gMonthDay’ type.

Input is expected to be a string of characters returned by an XML parser. The string should have --MM-DD[-+hh:mm|Z] format.

Parameters

pctxt Pointer to context block structure.

pvalue OSXSDDateTime type pointer points to a OSXSDDateTime value to receive decoded result.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.1.1.17 int rtXmlDecGYear (OSCTXT ∗ *pctxt*, OSXSDDateTime ∗ *pvalue*)

This function decodes a variable of the XSD ’gYear’ type.

Input is expected to be a string of characters returned by an XML parser. The string should have CCYY[-+hh:mm|Z] format.

Parameters

pctxt Pointer to context block structure.

pvalue OSXSDDateTime type pointer points to a OSXSDDateTime value to receive decoded result.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.1.1.18 int rtXmlDecGYearMonth (OSCTXT ∗ *pctxt*, OSXSDDateTime ∗ *pvalue*)

This function decodes a variable of the XSD ’gYearMonth’ type.

Input is expected to be a string of characters returned by an XML parser. The string should have CCYY-MM[-+hh:mm|Z] format.

Parameters

pctxt Pointer to context block structure.

pvalue OSXSDDateTime type pointer points to a OSXSDDateTime value to receive decoded result.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.1.1.19 int rtXmlDecHexBinary (OSRTMEMBUF ∗ *pMemBuf*, const OSUTF8CHAR ∗ *inpdata*, int *length*)

This function decodes the contents of a hex-encoded binary data type into a memory buffer.

Input is expected to be a string of UTF-8 characters returned by an XML parser. The decoded data will be put into the given memory buffer starting from the current position and bit offset. After all data is decoded the octet string may be fetched out.

This function is normally used in the 'characters' SAX handler.

Parameters

pMemBuf Pointer to memory buffer onto which the decoded binary data will be appended.

inpdata Pointer to a source string to be decoded.

length Length of the source string (in characters).

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.1.1.20 int rtXmlDecHexStr (OSCTXT ∗ *pctxt*, OSOCTET ∗ *pvalue*, OSUINT32 ∗ *pnocts*, OSINT32 *bufsize*)

This function decodes the contents of a hexBinary string into a static memory structure.

Parameters

pctxt A pointer to a context structure. This provides a storage area for the function to store all working variables that must be maintained between function calls.

pvalue A pointer to a variable to receive the decoded bit string. This is assumed to be a static array large enough to hold the number of octets specified in the bufsize input parameter.

pnocts A pointer to an integer value to receive the decoded number of octets.

bufsize The size (in octets) of the sized octet string. An error will occur if the number of octets in the decoded string is larger than this value.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.1.1.21 int rtXmlDecInt (OSCTXT ∗ *pctxt*, OSINT32 ∗ *pvalue*)

This function decodes the contents of a 32-bit integer data type.

Input is expected to be a string of OSUTF8CHAR characters returned by an XML parser.

Parameters

pctxt Pointer to context block structure.

pvalue Pointer to 32-bit integer value to receive decoded result.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.1.1.22 int rtXmlDecInt16 (OSCTXT ∗ *pctxt*, OSINT16 ∗ *pvalue*)

This function decodes the contents of a 16-bit integer data type.

Input is expected to be a string of OSUTF8CHAR characters returned by an XML parser.

Parameters

pctxt Pointer to context block structure.

pvalue Pointer to 16-bit integer value to receive decoded result.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.1.1.23 int rtXmlDecInt64 (OSCTXT ∗ *pctxt*, OSINT64 ∗ *pvalue*)

This function decodes the contents of a 64-bit integer data type.

Input is expected to be a string of OSUTF8CHAR characters returned by an XML parser.

Parameters

pctxt Pointer to context block structure.

pvalue Pointer to 64-bit integer value to receive decoded result.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.1.1.24 int rtXmlDecInt8 (OSCTXT ∗ *pctxt*, OSINT8 ∗ *pvalue*)

This function decodes the contents of an 8-bit integer data type (i.e.

a signed byte type in the range of -128 to 127). Input is expected to be a string of OSUTF8CHAR characters returned by an XML parser.

Parameters

pctxt Pointer to context block structure.

pvalue Pointer to 8-bit integer value to receive decoded result.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.1.1.25 int rtXmlDecNSAttr (OSCTXT ∗ *pctxt*, const OSUTF8CHAR ∗ *attrName*, const OSUTF8CHAR ∗ *attrValue*, OSRTDList ∗ *pNSAttrs*, const OSUTF8CHAR ∗ *nsTable*[ ], OSUINT32 *nsTableRowCount*)

This function decodes an XML namespac attribute (xmlns).

It is assumed that the given attribute name is either 'xmlns' or 'xmlns:prefix'. The XML namespace prefix and URI are added to the given attribute list structure. The parsed namespace is also added to the namespace stack in the given context.

Parameters

pctxt Pointer to context structure.

attrName Name of the XML namespace attribute. This is assumed to contain either 'xmlns' (a default namespace declaration) or 'xmlns:prefix' where prefix is a namespace prefix.

attrValue XML namespace attribute value (a URI).

pNSAttrs List to receive parsed namespace values.

nsTable Namespace URI's parsed from schema.

nsTableRowCount Number of rows (URI's) in namespace table.

Returns

Zero if success or negative error code.

6.1.1.26 const OSUTF8CHAR∗ rtXmlDecQName (OSCTXT ∗ *pctxt*, const OSUTF8CHAR ∗ *qname*, const OSUTF8CHAR ∗∗ *prefix*)

This function decodes an XML qualified name string (QName) type.

This is a type that contains an optional namespace prefix followed by a colon and the local part of the name:

[NS 5] QName ::= (Prefix ':')? LocalPart

[NS 6] Prefix ::= NCName

[NS 7] LocalPart ::= NCName

Parameters

pctxt Pointer to context block structure.

qname String containing XML QName to be decoded.

prefix Pointer to string pointer to receive decoded prefix. This is optional. If NULL, the prefix will not be returned. If not-NULL, the prefix will be returned in memory allocated using `rtxMemAlloc` which must be freed using one of the `rtxMemFree` functions.

Returns

Pointer to local part of string. This is pointer to a location within the given string (i.e. a pointer to the character after the ':' or to the beginning of the string if it contains no colon). This pointer does not need to be freed.

6.1.1.27 int rtXmlDecTime (OSCTXT $*$ *pctxt*, OSXSDDateTime $*$ *pvalue*)

This function decodes a variable of the XSD 'time' type.

Input is expected to be a string of characters returned by an XML parser. The string should have one of following formats:

(1) hh-mm-ss.ss used if tz_flag = false (2) hh-mm-ss.ssZ used if tz_flag = false and tzo = 0 (3) hh-mm-ss.ss+HH:MM if tz_flag = false and tzo $>$ 0 (4) hh-mm-ss.ss-HH:MM-HH:MM if tz_flag = false and tzo $<$ 0

Parameters

pctxt Pointer to context block structure.

pvalue OSXSDDateTime type pointer points to a OSXSDDateTime value to receive decoded result.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.1.1.28 int rtXmlDecUInt (OSCTXT $*$ *pctxt*, OSUINT32 $*$ *pvalue*)

This function decodes the contents of an unsigned 32-bit integer data type.

Input is expected to be a string of OSUTF8CHAR characters returned by an XML parser.

Parameters

pctxt Pointer to context block structure.

pvalue Pointer to unsigned 32-bit integer value to receive decoded result.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.1.1.29 int rtXmlDecUInt16 (OSCTXT $*$ *pctxt*, OSUINT16 $*$ *pvalue*)

This function decodes the contents of an unsigned 16-bit integer data type.

Input is expected to be a string of OSUTF8CHAR characters returned by an XML parser.

Parameters

pctxt Pointer to context block structure.

pvalue Pointer to unsigned 16-bit integer value to receive decoded result.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.1.1.30 int rtXmlDecUInt64 (OSCTXT ∗ *pctxt*, OSUINT64 ∗ *pvalue*)

This function decodes the contents of an unsigned 64-bit integer data type.

Input is expected to be a string of OSUTF8CHAR characters returned by an XML parser.

Parameters

pctxt Pointer to context block structure.

pvalue Pointer to unsigned 64-bit integer value to receive decoded result.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.1.1.31 int rtXmlDecUInt8 (OSCTXT ∗ *pctxt*, OSUINT8 ∗ *pvalue*)

This function decodes the contents of an unsigned 8-bit integer data type (i.e.

a signed byte type in the range of 0 to 255). Input is expected to be a string of OSUTF8CHAR characters returned by an XML parser.

Parameters

pctxt Pointer to context block structure.

pvalue Pointer to unsigned 8-bit integer value to receive decoded result.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.1.1.32 int rtXmlDecUTF8Str (OSCTXT ∗ *pctxt*, OSUTF8CHAR ∗ *outdata*, size_t *max_len*)

This function decodes the contents of a UTF-8 string data type.

Input is expected to be a string of UTF-8 or Unicode characters returned by an XML parser.

Parameters

pctxt Pointer to context block structure.

outdata Pointer to a block of memory to receive decoded UTF8 string.

max_len Size of memory block.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.1.1.33 int rtXmlDecXmlStr (OSCTXT ∗ *pctxt*, OSXMLSTRING ∗ *outdata*)

This function decodes the contents of an XML string data type.

This type contains a pointer to a UTF-8 characer string plus flags that can be set to alter the encoding of the string (for example, the cdata flag allows the string to be encoded in a CDATA section). Input is expected to be a string of UTF-8 characters returned by an XML parser.

Parameters

pctxt Pointer to context block structure.

outdata Pointer to an XML string structure to receive the decoded string. Memory is allocated for the string using the run-time memory manager.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.1.1.34 int rtXmlDecXSIAttr (OSCTXT ∗ *pctxt*, const OSUTF8CHAR ∗ *attrName*, const OSUTF8CHAR ∗ *attrValue*)

This function decodes XML schema instance (XSI) attribute.

These attributes include the XSI namespace declaration, the XSD schema location attribute, and the XSD no namespace schema location attribute.

Parameters

pctxt Pointer to context block structure.

attrName Attribute's name to be decoded

attrValue Attribute's value to be decoded

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.1.1.35 int rtXmlDecXSIAttrs (OSCTXT * *pctxt*, const OSUTF8CHAR *const * *attrs*, const char * *typeName*)

This function decodes XML schema instance (XSI) attributes.

These attributes include the XSI namespace declaration, the XSD schema location attribute, and the XSD no namespace schema location attribute.

Parameters

pctxt Pointer to context block structure.

attrs Attributes-values array [attr, value]. Should be null-terminated.

typeName Name of parent type to add in error log, if would be necessary.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.1.1.36 int rtXmlParseElementName (OSCTXT * *pctxt*, OSUTF8CHAR ** *ppName*)

This function parses the initial tag from an XML message.

If the tag is a QName, only the local part of the name is returned.

Parameters

pctxt Pointer to OSCTXT structure

ppName Pointer to a pointer to receive decoded UTF-8 string. Dynamic memory is allocated for the variable using the rtxMemAlloc function.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.1.1.37 int rtXmlParseElemQName (OSCTXT * *pctxt*, OSXMLQName * *pQName*)

This function parses the initial tag from an XML message.

Parameters

pctxt Pointer to OSCTXT structure

pQName Pointer to a QName structure to receive parsed name prefix and local name. Dynamic memory is allocated for both name parts using the rtxMemAlloc function.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.2 XML encode functions.

Defines

- #define rtXmlGetEncBufPtr(pctxt) (pctxt)->buffer.data

  This macro returns the start address of the encoded XML message.

- #define rtXmlGetEncBufLen(pctxt) (pctxt)->buffer.byteIndex

  This macro returns the length of the encoded XML message.

Functions

- int rtXmlEncAny (OSCTXT ∗pctxt, OSXMLSTRING ∗pvalue, const OSUTF8CHAR ∗elemName, OSXMLNamespace ∗pNS)

  This function encodes a variable of the XSD any type.

- int rtXmlEncAnyTypeValue (OSCTXT ∗pctxt, const OSUTF8CHAR ∗pvalue)

  This function encodes a variable of the XSD anyType type.

- int rtXmlEncAnyAttr (OSCTXT ∗pctxt, OSRTDList ∗pAnyAttrList)

  This function encodes a list of OSAnyAttr attributes in which the name and value are given as a UTF-8 string.

- int rtXmlEncBase64Binary (OSCTXT ∗pctxt, OSUINT32 nocts, const OSOCTET ∗value, const OSUTF8CHAR ∗elemName, OSXMLNamespace ∗pNS)

  This function encodes a variable of the XSD base64Binary type.

- int rtXmlEncBase64BinaryAttr (OSCTXT ∗pctxt, OSUINT32 nocts, const OSOCTET ∗value, const OSUTF8CHAR ∗attrName, size_t attrNameLen)

  This function encodes a variable of the XSD base64Binary type as an attribute.

- int rtXmlEncBase64StrValue (OSCTXT ∗pctxt, OSUINT32 nocts, const OSOCTET ∗value)

  This function encodes a variable of the XSD base64Binary type.

- int rtXmlEncBigInt (OSCTXT ∗pctxt, const OSUTF8CHAR ∗value, const OSUTF8CHAR ∗elemName, OSXMLNamespace ∗pNS)

  This function encodes a variable of the XSD integer type.

- int rtXmlEncBigIntAttr (OSCTXT ∗pctxt, const OSUTF8CHAR ∗value, const OSUTF8CHAR ∗attrName, size_t attrNameLen)

  This function encodes an XSD integer attribute value.

- int rtXmlEncBigIntValue (OSCTXT ∗pctxt, const OSUTF8CHAR ∗value)

  This function encodes an XSD integer attribute value.

- int rtXmlEncBitString (OSCTXT ∗pctxt, OSUINT32 nbits, const OSOCTET ∗value, const OSUTF8CHAR ∗elemName, OSXMLNamespace ∗pNS)

  This function encodes a variable of the ASN.1 BIT STRING type.

- int rtXmlEncBinStrValue (OSCTXT ∗pctxt, OSUINT32 nbits, const OSOCTET ∗data)

This function encodes a binary string value as a sequence of '1's and '0's.

- int rtXmlEncBool (OSCTXT ∗pctxt, OSBOOL value, const OSUTF8CHAR ∗elemName, OSXMLNamespace ∗pNS)

  This function encodes a variable of the XSD boolean type.

- int rtXmlEncBoolValue (OSCTXT ∗pctxt, OSBOOL value)

  This function encodes a variable of the XSD boolean type.

- int rtXmlEncBoolAttr (OSCTXT ∗pctxt, OSBOOL value, const OSUTF8CHAR ∗attrName, size_t attrNameLen)

  This function encodes an XSD boolean attribute value.

- int rtXmlEncComment (OSCTXT ∗pctxt, const OSUTF8CHAR ∗comment)

  This function encodes an XML comment.

- int rtXmlEncDate (OSCTXT ∗pctxt, const OSXSDDateTime ∗pvalue, const OSUTF8CHAR ∗elemName, OSXMLNamespace ∗pNS)

  This function encodes a variable of the XSD 'date' type as a string.

- int rtXmlEncDateValue (OSCTXT ∗pctxt, const OSXSDDateTime ∗pvalue)

  This function encodes a variable of the XSD 'date' type as a string.

- int rtXmlEncTime (OSCTXT ∗pctxt, const OSXSDDateTime ∗pvalue, const OSUTF8CHAR ∗elemName, OSXMLNamespace ∗pNS)

  This function encodes a variable of the XSD 'time' type as an string.

- int rtXmlEncTimeValue (OSCTXT ∗pctxt, const OSXSDDateTime ∗pvalue)

  This function encodes a variable of the XSD 'time' type as an string.

- int rtXmlEncDateTime (OSCTXT ∗pctxt, const OSXSDDateTime ∗pvalue, const OSUTF8CHAR ∗elemName, OSXMLNamespace ∗pNS)

  This function encodes a numeric date/time value into an XML string representation.

- int rtXmlEncDateTimeValue (OSCTXT ∗pctxt, const OSXSDDateTime ∗pvalue)

  This function encodes a numeric date/time value into an XML string representation.

- int rtXmlEncDecimal (OSCTXT ∗pctxt, OSREAL value, const OSUTF8CHAR ∗elemName, OSXMLNamespace ∗pNS, const OSDecimalFmt ∗pFmtSpec)

  This function encodes a variable of the XSD decimal type.

- int rtXmlEncDecimalAttr (OSCTXT ∗pctxt, OSREAL value, const OSUTF8CHAR ∗attrName, size_t attrNameLen, const OSDecimalFmt ∗pFmtSpec)

  This function encodes a variable of the XSD decimal type as an attribute.

- int rtXmlEncDecimalValue (OSCTXT ∗pctxt, OSREAL value, const OSDecimalFmt ∗pFmtSpec, char ∗pDestBuf, size_t destBufSize)

  This function encodes a value of the XSD decimal type.

- int rtXmlEncDouble (OSCTXT ∗pctxt, OSREAL value, const OSUTF8CHAR ∗elemName, OSXMLNamespace ∗pNS, const OSDoubleFmt ∗pFmtSpec)

This function encodes a variable of the XSD double type.

- int rtXmlEncDoubleAttr (OSCTXT ∗pctxt, OSREAL value, const OSUTF8CHAR ∗attrName, size_t attrNameLen, const OSDoubleFmt ∗pFmtSpec)

  This function encodes a variable of the XSD double type as an attribute.

- int rtXmlEncDoubleNormalValue (OSCTXT ∗pctxt, OSREAL value, const OSDoubleFmt ∗pFmtSpec, int defaultPrecision)

  This function encodes a normal (not +/-INF or NaN) value of the XSD double or float type.

- int rtXmlEncDoubleValue (OSCTXT ∗pctxt, OSREAL value, const OSDoubleFmt ∗pFmtSpec, int defaultPrecision)

  This function encodes a value of the XSD double or float type.

- int rtXmlEncEmptyElement (OSCTXT ∗pctxt, const OSUTF8CHAR ∗elemName, OSXMLNamespace ∗pNS, OSRTDList ∗pNSAttrs, OSBOOL terminate)

  This function encodes an enpty element tag value (<elemName/>).

- int rtXmlEncEndDocument (OSCTXT ∗pctxt)

  This function adds trailor information and a null terminator at the end of the XML document being encoded.

- int rtXmlEncEndElement (OSCTXT ∗pctxt, const OSUTF8CHAR ∗elemName, OSXMLNamespace ∗pNS)

  This function encodes an end element tag value (</elemName>).

- int rtXmlEncEndSoapEnv (OSCTXT ∗pctxt)

  This function encodes a SOAP envelope end element tag (<SOAP-ENV:Envelope/>).

- int rtXmlEncEndSoapElems (OSCTXT ∗pctxt, OSXMLSOAPMsgType msgtype)

  This function encodes SOAP end element tags.

- int rtXmlEncFloat (OSCTXT ∗pctxt, OSREAL value, const OSUTF8CHAR ∗elemName, OSXMLNamespace ∗pNS, const OSDoubleFmt ∗pFmtSpec)

  This function encodes a variable of the XSD float type.

- int rtXmlEncFloatAttr (OSCTXT ∗pctxt, OSREAL value, const OSUTF8CHAR ∗attrName, size_t attrNameLen, const OSDoubleFmt ∗pFmtSpec)

  This function encodes a variable of the XSD float type as an attribute.

- int rtXmlEncGYear (OSCTXT ∗pctxt, const OSXSDDateTime ∗pvalue, const OSUTF8CHAR ∗elemName, OSXMLNamespace ∗pNS)

  This function encodes a numeric gYear element into an XML string representation.

- int rtXmlEncGYearMonth (OSCTXT ∗pctxt, const OSXSDDateTime ∗pvalue, const OSUTF8CHAR ∗elemName, OSXMLNamespace ∗pNS)

  This function encodes a numeric gYearMonth element into an XML string representation.

- int rtXmlEncGMonth (OSCTXT ∗pctxt, const OSXSDDateTime ∗pvalue, const OSUTF8CHAR ∗elemName, OSXMLNamespace ∗pNS)

  This function encodes a numeric gMonth element into an XML string representation.

- int rtXmlEncGMonthDay (OSCTXT ∗pctxt, const OSXSDDateTime ∗pvalue, const OSUTF8CHAR ∗elemName, OSXMLNamespace ∗pNS)

  This function encodes a numeric gMonthDay element into an XML string representation.

- int rtXmlEncGDay (OSCTXT ∗pctxt, const OSXSDDateTime ∗pvalue, const OSUTF8CHAR ∗elemName, OSXMLNamespace ∗pNS)

  This function encodes a numeric gDay element into an XML string representation.

- int rtXmlEncGYearValue (OSCTXT ∗pctxt, const OSXSDDateTime ∗pvalue)

  This function encodes a numeric gYear value into an XML string representation.

- int rtXmlEncGYearMonthValue (OSCTXT ∗pctxt, const OSXSDDateTime ∗pvalue)

  This function encodes a numeric gYearMonth value into an XML string representation.

- int rtXmlEncGMonthValue (OSCTXT ∗pctxt, const OSXSDDateTime ∗pvalue)

  This function encodes a numeric gMonth value into an XML string representation.

- int rtXmlEncGMonthDayValue (OSCTXT ∗pctxt, const OSXSDDateTime ∗pvalue)

  This function encodes a numeric gMonthDay value into an XML string representation.

- int rtXmlEncGDayValue (OSCTXT ∗pctxt, const OSXSDDateTime ∗pvalue)

  This function encodes a numeric gDay value into an XML string representation.

- int rtXmlEncHexBinary (OSCTXT ∗pctxt, OSUINT32 nocts, const OSOCTET ∗value, const OSUTF8CHAR ∗elemName, OSXMLNamespace ∗pNS)

  This function encodes a variable of the XSD hexBinary type.

- int rtXmlEncHexBinaryAttr (OSCTXT ∗pctxt, OSUINT32 nocts, const OSOCTET ∗value, const OSUTF8CHAR ∗attrName, size_t attrNameLen)

  This function encodes a variable of the XSD hexBinary type as an attribute.

- int rtXmlEncHexStrValue (OSCTXT ∗pctxt, OSUINT32 nocts, const OSOCTET ∗data)

  This function encodes a variable of the XSD hexBinary type.

- int rtXmlEncIndent (OSCTXT ∗pctxt)

  This function adds indentation whitespace to the output stream.

- int rtXmlEncInt (OSCTXT ∗pctxt, OSINT32 value, const OSUTF8CHAR ∗elemName, OSXMLNamespace ∗pNS)

  This function encodes a variable of the XSD integer type.

- int rtXmlEncIntValue (OSCTXT ∗pctxt, OSINT32 value)

  This function encodes a variable of the XSD integer type.

- int rtXmlEncIntAttr (OSCTXT ∗pctxt, OSINT32 value, const OSUTF8CHAR ∗attrName, size_t attrNameLen)

  This function encodes a variable of the XSD integer type as an attribute (name="value").

- int rtXmlEncIntPattern (OSCTXT ∗pctxt, OSINT32 value, const OSUTF8CHAR ∗elemName, OSXMLNamespace ∗pNS, const OSUTF8CHAR ∗pattern)

  This function encodes a variable of the XSD integer type using a pattern to specify the format of the integer value.

- int rtXmlEncInt64 (OSCTXT ∗pctxt, OSINT64 value, const OSUTF8CHAR ∗elemName, OSXMLNamespace ∗pNS)

  This function encodes a variable of the XSD integer type.

- int rtXmlEncInt64Value (OSCTXT ∗pctxt, OSINT64 value)

  This function encodes a variable of the XSD integer type.

- int rtXmlEncInt64Attr (OSCTXT ∗pctxt, OSINT64 value, const OSUTF8CHAR ∗attrName, size_t attrNameLen)

  This function encodes a variable of the XSD integer type as an attribute (name="value").

- int rtXmlEncNamedBits (OSCTXT ∗pctxt, const OSBitMapItem ∗pBitMap, OSUINT32 nbits, const OSOCTET ∗pvalue, const OSUTF8CHAR ∗elemName, OSXMLNamespace ∗pNS)

  This function encodes a variable of the ASN.1 BIT STRING type.

- int rtXmlEncNSAttrs (OSCTXT ∗pctxt, OSRTDList ∗pNSAttrs)

  This function encodes namespace declaration attributes at the beginning of an XML document.

- int rtXmlPrintNSAttrs (const char ∗name, const OSRTDList ∗data)

  This function prints a list of namespace attributes.

- int rtXmlEncReal10 (OSCTXT ∗pctxt, const OSUTF8CHAR ∗pvalue, const OSUTF8CHAR ∗elemName, OSXMLNamespace ∗pNS)

  This function encodes a variable of the ASN.1 REAL base 10 type.

- int rtXmlEncSoapArrayTypeAttr (OSCTXT ∗pctxt, const OSUTF8CHAR ∗name, const OSUTF8CHAR ∗value, size_t itemCount)

  This function encodes the special SOAP encoding attrType attribute which specifies the number and type of elements in a SOAP array.

- int rtXmlEncStartDocument (OSCTXT ∗pctxt)

  This function encodes the XML header text at the beginning of an XML document.

- int rtXmlEncBOM (OSCTXT ∗pctxt)

  This function encodes the Unicode byte order mark header at the start of the document.

- int rtXmlEncStartElement (OSCTXT ∗pctxt, const OSUTF8CHAR ∗elemName, OSXMLNamespace ∗pNS, OSRTDList ∗pNSAttrs, OSBOOL terminate)

  This function encodes a start element tag value (<elemName>).

- int rtXmlEncStartSoapEnv (OSCTXT ∗pctxt, OSRTDList ∗pNSAttrs)

  This function encodes a SOAP envelope start element tag.

- int rtXmlEncStartSoapElems (OSCTXT ∗pctxt, OSXMLSOAPMsgType msgtype)

  This function encodes a SOAP envelope start element tag and an optional SOAP body or fault tag.

- int rtXmlEncString (OSCTXT ∗pctxt, OSXMLSTRING ∗pxmlstr, const OSUTF8CHAR ∗elemName, OSXMLNamespace ∗pNS)

  This function encodes a variable of the XSD string type.

- int rtXmlEncStringValue (OSCTXT ∗pctxt, const OSUTF8CHAR ∗value)

  This function encodes a variable of the XSD string type.

- int rtXmlEncStringValue2 (OSCTXT ∗pctxt, const OSUTF8CHAR ∗value, size_t valueLen)

  This function encodes a variable of the XSD string type.

- int rtXmlEncTermStartElement (OSCTXT ∗pctxt)

  This function terminates a currently open XML start element by adding either a '>' or '/>' (if empty) terminator.

- int rtXmlEncUnicodeStr (OSCTXT ∗pctxt, const OSUNICHAR ∗value, OSUINT32 nchars, const OSUTF8CHAR ∗elemName, OSXMLNamespace ∗pNS)

  This function encodes a Unicode string value.

- int rtXmlEncUTF8Attr (OSCTXT ∗pctxt, const OSUTF8CHAR ∗name, const OSUTF8CHAR ∗value)

  This function encodes an attribute in which the name and value are given as a null-terminated UTF-8 strings.

- int rtXmlEncUTF8Attr2 (OSCTXT ∗pctxt, const OSUTF8CHAR ∗name, size_t nameLen, const OSUTF8CHAR ∗value, size_t valueLen)

  This function encodes an attribute in which the name and value are given as a UTF-8 strings with lengths.

- int rtXmlEncUTF8Str (OSCTXT ∗pctxt, const OSUTF8CHAR ∗value, const OSUTF8CHAR ∗elemName, OSXMLNamespace ∗pNS)

  This function encodes a UTF-8 string value.

- int rtXmlEncUInt (OSCTXT ∗pctxt, OSUINT32 value, const OSUTF8CHAR ∗elemName, OSXMLNamespace ∗pNS)

  This function encodes a variable of the XSD unsigned integer type.

- int rtXmlEncUIntValue (OSCTXT ∗pctxt, OSUINT32 value)

  This function encodes a variable of the XSD unsigned integer type.

- int rtXmlEncUIntAttr (OSCTXT ∗pctxt, OSUINT32 value, const OSUTF8CHAR ∗attrName, size_t attrNameLen)

  This function encodes a variable of the XSD unsigned integer type as an attribute (name="value").

- int rtXmlEncUInt64 (OSCTXT ∗pctxt, OSUINT64 value, const OSUTF8CHAR ∗elemName, OSXMLNamespace ∗pNS)

  This function encodes a variable of the XSD integer type.

- int rtXmlEncUInt64Value (OSCTXT ∗pctxt, OSUINT64 value)

  This function encodes a variable of the XSD integer type.

- int rtXmlEncUInt64Attr (OSCTXT ∗pctxt, OSUINT64 value, const OSUTF8CHAR ∗attrName, size_t attrNameLen)

  This function encodes a variable of the XSD integer type as an attribute (name="value").

- int rtXmlEncXSIAttrs (OSCTXT ∗pctxt, OSBOOL needXSI)

  This function encodes XML schema instance (XSI) attributes at the beginning of an XML document.

- int rtXmlEncXSITypeAttr (OSCTXT ∗pctxt, const OSUTF8CHAR ∗value)

  This function encodes an XML schema instance (XSI) type attribute value (xsi:type="value").

- int rtXmlEncXSITypeAttr2 (OSCTXT ∗pctxt, const OSUTF8CHAR ∗typeNsUri, const OSUTF8CHAR ∗typeName)

  This function encodes an XML schema instance (XSI) type attribute value (xsi:type="pfx:value").

- int rtXmlEncXSINilAttr (OSCTXT ∗pctxt)

  This function encodes an XML nil attribute (xsi:nil="true").

- int rtXmlFreeInputSource (OSCTXT ∗pctxt)

  This function closes an input source that was previously created with one of the create input source functions such as 'rtXmlCreateFileInputSource'.

- int rtXmlSetEncBufPtr (OSCTXT ∗pctxt, OSOCTET ∗bufaddr, size_t bufsiz)

  This function is used to set the internal buffer within the run-time library encoding context.

- int rtXmlGetIndent (OSCTXT ∗pctxt)

  This function returns current XML output indent value.

- OSBOOL rtXmlGetWriteBOM (OSCTXT ∗pctxt)

  This function returns whether the Unicode byte order mark will be encoded.

- int rtXmlGetIndentChar (OSCTXT ∗pctxt)

  This function returns current XML output indent character value (default is space).

6.2.1 Define Documentation

6.2.1.1 #define rtXmlGetEncBufLen(pctxt) (pctxt)->buffer.byteIndex

This macro returns the length of the encoded XML message.

Parameters

pctxt Pointer to a context structure.

Definition at line 2492 of file osrtxml.h.

6.2.1.2 #define rtXmlGetEncBufPtr(pctxt) (pctxt)->buffer.data

This macro returns the start address of the encoded XML message.

If a static buffer was used, this is simply the start address of the buffer. If dynamic encoding was done, this will return the start address of the dynamic buffer allocated by the encoder.

Parameters

pctxt Pointer to a context structure.

Definition at line 2485 of file osrtxml.h.

6.2.2 Function Documentation

6.2.2.1 int rtXmlEncAny (OSCTXT ∗ *pctxt*, OSXMLSTRING ∗ *pvalue*, const OSUTF8CHAR ∗ *elemName*, OSXMLNamespace ∗ *pNS*)

This function encodes a variable of the XSD any type.

This is considered to be a fully-wrapped element of any type (for example: <myType>myData</myType>)

Parameters

pctxt Pointer to context block structure.

pvalue Value to be encoded. This is a string containing the fully-encoded XML text to be copied to the output stream.

elemName XML element name. A name must be provided. If an empty string is passed (""), no element tag is added to the encoded value.

pNS Pointer to namespace structure.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.2.2.2 int rtXmlEncAnyAttr (OSCTXT ∗ *pctxt*, OSRTDList ∗ *pAnyAttrList*)

This function encodes a list of OSAnyAttr attributes in which the name and value are given as a UTF-8 string.

Parameters

pctxt Pointer to context block structure.

pAnyAttrList List of attributes.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.2.2.3 int rtXmlEncAnyTypeValue (OSCTXT ∗ *pctxt*, const OSUTF8CHAR ∗ *pvalue*)

This function encodes a variable of the XSD anyType type.

This is considered to be a fully-wrapped element of any type, possibly containing attributes. (for example: ∗ <myType>myData</myType>)

Parameters

pctxt Pointer to context block structure.

pvalue Value to be encoded.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.2.2.4 int rtXmlEncBase64Binary (OSCTXT ∗ *pctxt*, OSUINT32 *nocts*, const OSOCTET ∗ *value*, const OSUTF8CHAR ∗ *elemName*, OSXMLNamespace ∗ *pNS*)

This function encodes a variable of the XSD base64Binary type.

Parameters

pctxt Pointer to context block structure.

nocts Number of octets in the value string.

value Value to be encoded.

elemName XML element name. A name must be provided. If an empty string is passed (""), no element tag is added to the encoded value.

pNS Pointer to namespace structure.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.2.2.5 int rtXmlEncBase64BinaryAttr (OSCTXT ∗ *pctxt*, OSUINT32 *nocts*, const OSOCTET ∗ *value*, const OSUTF8CHAR ∗ *attrName*, size_t *attrNameLen*)

This function encodes a variable of the XSD base64Binary type as an attribute.

Parameters

pctxt Pointer to context block structure.

nocts Number of octets in the value string.

value Value to be encoded.

attrName XML attribute name. A name must be provided.

attrNameLen Length in bytes of the attribute name.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.2.2.6 int rtXmlEncBase64StrValue (OSCTXT * *pctxt*, OSUINT32 *nocts*, const OSOCTET * *value*)

This function encodes a variable of the XSD base64Binary type.

It just puts the encoded value in the destination buffer or stream without any tags.

Parameters

pctxt Pointer to context block structure.

nocts Number of octets in the value string.

value Value to be encoded.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.2.2.7 int rtXmlEncBigInt (OSCTXT * *pctxt*, const OSUTF8CHAR * *value*, const OSUTF8CHAR * *elemName*, OSXMLNamespace * *pNS*)

This function encodes a variable of the XSD integer type.

In this case, the integer is assumed to be of a larger size than can fit in a C or C++ long type (normally 32 or 64 bits). For example, parameters used to calculate security values are typically larger than these sizes.

Items of this type are stored in character string constant variables. They can be represented as decimal strings (with no prefixes), as hexadecimal strings starting with a "0x" prefix, as octal strings starting with a "0o" prefix or as binary strings starting with a "0b" prefix. Other radixes are currently not supported.

Parameters

pctxt Pointer to context block structure.

value A pointer to a character string containing the value to be encoded.

elemName XML element name. A name must be provided. If an empty string is passed (""), no element tag is added to the encoded value.

pNS Pointer to namespace structure.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.2.2.8 int rtXmlEncBigIntAttr (OSCTXT * *pctxt*, const OSUTF8CHAR * *value*, const OSUTF8CHAR * *attrName*, size_t *attrNameLen*)

This function encodes an XSD integer attribute value.

In this case, the integer is assumed to be of a larger size than can fit in a C or C++ long type (normally 32 or 64 bits).

Parameters

pctxt Pointer to context block structure.

value A pointer to a character string containing the value to be encoded.

attrName XML attribute name. A name must be provided.

attrNameLen Length in bytes of the attribute name.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.2.2.9 int rtXmlEncBigIntValue (OSCTXT ∗ *pctxt*, const OSUTF8CHAR ∗ *value*)

This function encodes an XSD integer attribute value.

In this case, the integer is assumed to be of a larger size than can fit in a C or C++ long type (normally 32 or 64 bits). This function just puts the encoded value in the destination buffer or stream without any tags.

Parameters

pctxt Pointer to context block structure.

value A pointer to a character string containing the value to be encoded.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.2.2.10 int rtXmlEncBinStrValue (OSCTXT ∗ *pctxt*, OSUINT32 *nbits*, const OSOCTET ∗ *data*)

This function encodes a binary string value as a sequence of '1's and '0's.

Parameters

pctxt Pointer to context block structure.

nbits Number of bits in the value string.

data Value to be encoded.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.2.2.11 int rtXmlEncBitString (OSCTXT ∗ *pctxt*, OSUINT32 *nbits*, const OSOCTET ∗ *value*, const OSUTF8CHAR ∗ *elemName*, OSXMLNamespace ∗ *pNS*)

This function encodes a variable of the ASN.1 BIT STRING type.

The encoded data is a sequence of '1's and '0's. This is only used if named bits are not specified in the string (

See also

rtXmlEncNamedBits).

Parameters

pctxt Pointer to context block structure.

nbits Number of bits in the bit string.

value Value to be encoded.

elemName XML element name. A name must be provided. If an empty string is passed (""), no element tag is added to the encoded value.

pNS Pointer to namespace structure.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.2.2.12 int rtXmlEncBOM (OSCTXT ∗ *pctxt*)

This function encodes the Unicode byte order mark header at the start of the document.

It is called by rtXmlEncStartDocument and does not need to be called manually.

Parameters

pctxt Pointer to context block structure.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.2.2.13 int rtXmlEncBool (OSCTXT ∗ *pctxt*, OSBOOL *value*, const OSUTF8CHAR ∗ *elemName*, OSXMLNamespace ∗ *pNS*)

This function encodes a variable of the XSD boolean type.

Parameters

pctxt Pointer to context block structure.

value Boolean value to be encoded.

elemName XML element name. A name must be provided. If an empty string is passed (""), no element tag is added to the encoded value.

pNS Pointer to namespace structure.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.2.2.14 int rtXmlEncBoolAttr (OSCTXT ∗ *pctxt*, OSBOOL *value*, const OSUTF8CHAR ∗ *attrName*, size_t *attrNameLen*)

This function encodes an XSD boolean attribute value.

Parameters

pctxt Pointer to context block structure.

value Boolean value to be encoded.

attrName XML attribute name. A name must be provided.

attrNameLen Length in bytes of the attribute name.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.2.2.15 int rtXmlEncBoolValue (OSCTXT ∗ *pctxt*, OSBOOL *value*)

This function encodes a variable of the XSD boolean type.

It just puts the encoded value in the destination buffer or stream without any tags.

Parameters

pctxt Pointer to context block structure.

value Boolean value to be encoded.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.2.2.16 int rtXmlEncComment (OSCTXT ∗ *pctxt*, const OSUTF8CHAR ∗ *comment*)

This function encodes an XML comment.

The given text will be inserted in between XML comment start and end elements ().

Parameters

pctxt Pointer to context block structure.

comment The comment text.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.2.2.17 int rtXmlEncDate (OSCTXT ∗ *pctxt*, const OSXSDDateTime ∗ *pvalue*, const OSUTF8CHAR ∗ *elemName*, OSXMLNamespace ∗ *pNS*)

This function encodes a variable of the XSD 'date' type as a string.

This version of the function is used to encode an OSXSDDateTime value into CCYY-MM-DD format.

Parameters

pctxt Pointer to context block structure.

pvalue OSXSDDateTime type pointer points to a OSXSDDateTime value to be encoded.

elemName XML element name. A name must be provided. If an empty string is passed (""), no element tag is added to the encoded value.

pNS Pointer to namespace structure.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.2.2.18 int rtXmlEncDateTime (OSCTXT ∗ *pctxt*, const OSXSDDateTime ∗ *pvalue*, const OSUTF8CHAR ∗ *elemName*, OSXMLNamespace ∗ *pNS*)

This function encodes a numeric date/time value into an XML string representation.

Parameters

pctxt Pointer to context block structure.

pvalue Pointer to value to be encoded.

elemName XML element name. A name must be provided. If an empty string is passed (""), no element tag is added to the encoded value.

pNS Pointer to namespace structure.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.2.2.19 int rtXmlEncDateTimeValue (OSCTXT ∗ *pctxt*, const OSXSDDateTime ∗ *pvalue*)

This function encodes a numeric date/time value into an XML string representation.

It just puts the encoded value in the destination buffer or stream without any tags.

Parameters

pctxt Pointer to context block structure.

pvalue Pointer to value to be encoded.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.2.2.20 int rtXmlEncDateValue (OSCTXT ∗ *pctxt*, const OSXSDDateTime ∗ *pvalue*)

This function encodes a variable of the XSD 'date' type as a string.

This version of the function is used to encode an OSXSDDateTime value into CCYY-MM-DD format. This function just puts the encoded value in the destination buffer or stream without any tags.

Parameters

pctxt Pointer to context block structure.

pvalue OSXSDDateTime type pointer points to a OSXSDDateTime value to be encoded.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.2.2.21 int rtXmlEncDecimal (OSCTXT ∗ *pctxt*, OSREAL *value*, const OSUTF8CHAR ∗ *elemName*, OSXMLNamespace ∗ *pNS*, const OSDecimalFmt ∗ *pFmtSpec*)

This function encodes a variable of the XSD decimal type.

Parameters

pctxt Pointer to context block structure.

value Value to be encoded.

elemName XML element name. A name must be provided. If an empty string is passed (""), no element tag is added to the encoded value.

pNS Pointer to namespace structure.

pFmtSpec Pointer to format specification structure.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.2.2.22 int rtXmlEncDecimalAttr (OSCTXT ∗ *pctxt*, OSREAL *value*, const OSUTF8CHAR ∗ *attrName*, size_t *attrNameLen*, const OSDecimalFmt ∗ *pFmtSpec*)

This function encodes a variable of the XSD decimal type as an attribute.

Parameters

pctxt Pointer to context block structure.

value Value to be encoded.

attrName XML attribute name. A name must be provided.

attrNameLen Length of XML attribute name.

pFmtSpec Pointer to format specification structure.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.2.2.23 int rtXmlEncDecimalValue (OSCTXT ∗ *pctxt*, OSREAL *value*, const OSDecimalFmt ∗ *pFmtSpec*, char ∗ *pDestBuf*, size_t *destBufSize*)

This function encodes a value of the XSD decimal type.

It just puts the encoded value in the destination buffer or stream without any tags.

Parameters

pctxt Pointer to context block structure.

value Value to be encoded.

pFmtSpec Pointer to format specification structure.

pDestBuf Pointer to a destination buffer. If NULL (destBufSize should be 0) the encoded value will be put in pctxt->buffer or in stream associated with the pctxt.

destBufSize The size of the destination buffer. Must be 0, if pDestBuf is NULL.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.2.2.24 int rtXmlEncDouble (OSCTXT ∗ *pctxt*, OSREAL *value*, const OSUTF8CHAR ∗ *elemName*, OSXMLNamespace ∗ *pNS*, const OSDoubleFmt ∗ *pFmtSpec*)

This function encodes a variable of the XSD double type.

Parameters

pctxt Pointer to context block structure.

value Value to be encoded.

elemName XML element name. A name must be provided. If an empty string is passed (""), no element tag is added to the encoded value.

pNS Pointer to namespace structure.

pFmtSpec Pointer to format specification structure.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.2.2.25 int rtXmlEncDoubleAttr (OSCTXT ∗ *pctxt*, OSREAL *value*, const OSUTF8CHAR ∗ *attrName*, size_t *attrNameLen*, const OSDoubleFmt ∗ *pFmtSpec*)

This function encodes a variable of the XSD double type as an attribute.

Parameters

pctxt Pointer to context block structure.

value Value to be encoded.

attrName XML attribute name. A name must be provided.

attrNameLen Length of XML attribute name.

pFmtSpec Pointer to format specification structure.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.2.2.26 int rtXmlEncDoubleNormalValue (OSCTXT ∗ *pctxt*, OSREAL *value*, const OSDoubleFmt ∗ *pFmtSpec*, int *defaultPrecision*)

This function encodes a normal (not +/-INF or NaN) value of the XSD double or float type.

It just puts the encoded value in the destination buffer or stream without any tags.

Parameters

pctxt Pointer to context block structure.

value Value to be encoded.

pFmtSpec Pointer to format specification structure.

defaultPrecision Default precision of the value. For float, it is 6, for double it is 15.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.2.2.27 int rtXmlEncDoubleValue (OSCTXT ∗ *pctxt*, OSREAL *value*, const OSDoubleFmt ∗ *pFmtSpec*, int *defaultPrecision*)

This function encodes a value of the XSD double or float type.

It just puts the encoded value in the destination buffer or stream without any tags. Special real values +/-INF and NaN are encoded as "INF", "-INF", and "NaN", respectively.

Parameters

pctxt Pointer to context block structure.

value Value to be encoded.

pFmtSpec Pointer to format specification structure.

defaultPrecision Default precision of the value. For float, it is 6, for double it is 15.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.2.2.28 int rtXmlEncEmptyElement (OSCTXT ∗ *pctxt*, const OSUTF8CHAR ∗ *elemName*, OSXMLNamespace ∗ *pNS*, OSRTDList ∗ *pNSAttrs*, OSBOOL *terminate*)

This function encodes an enpty element tag value (<elemName/>).

Parameters

pctxt Pointer to context block structure.

elemName XML element name.

pNS XML namespace information (prefix and URI).

pNSAttrs List of namespace attributes to be added to element.

terminate Add closing '>' character.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.2.2.29 int rtXmlEncEndDocument (OSCTXT ∗ *pctxt*)

This function adds trailor information and a null terminator at the end of the XML document being encoded.

Parameters

pctxt Pointer to context block structure.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.2.2.30 int rtXmlEncEndElement (OSCTXT ∗ *pctxt*, const OSUTF8CHAR ∗ *elemName*, OSXMLNamespace ∗ *pNS*)

This function encodes an end element tag value (</elemName>).

Parameters

pctxt Pointer to context block structure.

elemName XML element name.

pNS XML namespace information (prefix and URI).

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.2.2.31 int rtXmlEncEndSoapElems (OSCTXT ∗ *pctxt*, OSXMLSOAPMsgType *msgtype*)

This function encodes SOAP end element tags.

If will add a SOAP body or fault end tag based on the SOAP message type argument. It will then add an envelope end element tag.

Parameters

pctxt Pointer to context block structure.

msgtype SOAP message type (body, fault, or none)

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.2.2.32 int rtXmlEncEndSoapEnv (OSCTXT * *pctxt*)

This function encodes a SOAP envelope end element tag (<SOAP-ENV:Envelope/>).

Parameters

pctxt Pointer to context block structure.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.2.2.33 int rtXmlEncFloat (OSCTXT * *pctxt*, OSREAL *value*, const OSUTF8CHAR * *elemName*, OSXMLNamespace * *pNS*, const OSDoubleFmt * *pFmtSpec*)

This function encodes a variable of the XSD float type.

Parameters

pctxt Pointer to context block structure.

value Value to be encoded.

elemName XML element name. A name must be provided. If an empty string is passed (""), no element tag is added to the encoded value.

pNS XML namespace information (prefix and URI).

pFmtSpec Pointer to format specification structure.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.2.2.34 int rtXmlEncFloatAttr (OSCTXT * *pctxt*, OSREAL *value*, const OSUTF8CHAR * *attrName*, size_t *attrNameLen*, const OSDoubleFmt * *pFmtSpec*)

This function encodes a variable of the XSD float type as an attribute.

Parameters

pctxt Pointer to context block structure.

value Value to be encoded.

attrName XML attribute name. A name must be provided.

attrNameLen Length of XML attribute name.

pFmtSpec Pointer to format specification structure.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.2.2.35 int rtXmlEncGDay (OSCTXT * *pctxt*, const OSXSDDateTime * *pvalue*, const OSUTF8CHAR * *elemName*, OSXMLNamespace * *pNS*)

This function encodes a numeric gDay element into an XML string representation.

Parameters

pctxt Pointer to context block structure.

pvalue Pointer to value to be encoded.

elemName XML element name. A name must be provided. If an empty string is passed (""), no element tag is added to the encoded value.

pNS XML namespace information (prefix and URI).

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.2.2.36 int rtXmlEncGDayValue (OSCTXT * *pctxt*, const OSXSDDateTime * *pvalue*)

This function encodes a numeric gDay value into an XML string representation.

It just puts the encoded value into the buffer or stream without any tags.

Parameters

pctxt Pointer to context block structure.

pvalue Pointer to value to be encoded.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.2.2.37 int rtXmlEncGMonth (OSCTXT * *pctxt*, const OSXSDDateTime * *pvalue*, const OSUTF8CHAR * *elemName*, OSXMLNamespace * *pNS*)

This function encodes a numeric gMonth element into an XML string representation.

Parameters

pctxt Pointer to context block structure.

pvalue Pointer to value to be encoded.

elemName XML element name. A name must be provided. If an empty string is passed (""), no element tag is added to the encoded value.

pNS XML namespace information (prefix and URI).

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.2.2.38 int rtXmlEncGMonthDay (OSCTXT ∗ *pctxt*, const OSXSDDateTime ∗ *pvalue*, const OSUTF8CHAR ∗ *elemName*, OSXMLNamespace ∗ *pNS*)

This function encodes a numeric gMonthDay element into an XML string representation.

Parameters

pctxt Pointer to context block structure.

pvalue Pointer to value to be encoded.

elemName XML element name. A name must be provided. If an empty string is passed (""), no element tag is added to the encoded value.

pNS XML namespace information (prefix and URI).

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.2.2.39 int rtXmlEncGMonthDayValue (OSCTXT ∗ *pctxt*, const OSXSDDateTime ∗ *pvalue*)

This function encodes a numeric gMonthDay value into an XML string representation.

It just puts the encoded value into the buffer or stream without any tags.

Parameters

pctxt Pointer to context block structure.

pvalue Pointer to value to be encoded.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.2.2.40 int rtXmlEncGMonthValue (OSCTXT ∗ *pctxt*, const OSXSDDateTime ∗ *pvalue*)

This function encodes a numeric gMonth value into an XML string representation.

It just puts the encoded value into the buffer or stream without any tags.

Parameters

pctxt Pointer to context block structure.

pvalue Pointer to value to be encoded.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.2.2.41 int rtXmlEncGYear (OSCTXT ∗ *pctxt*, const OSXSDDateTime ∗ *pvalue*, const OSUTF8CHAR ∗ *elemName*, OSXMLNamespace ∗ *pNS*)

This function encodes a numeric gYear element into an XML string representation.

Parameters

pctxt Pointer to context block structure.

pvalue Pointer to value to be encoded.

elemName XML element name. A name must be provided. If an empty string is passed (""), no element tag is added to the encoded value.

pNS XML namespace information (prefix and URI).

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.2.2.42 int rtXmlEncGYearMonth (OSCTXT ∗ *pctxt*, const OSXSDDateTime ∗ *pvalue*, const OSUTF8CHAR ∗ *elemName*, OSXMLNamespace ∗ *pNS*)

This function encodes a numeric gYearMonth element into an XML string representation.

Parameters

pctxt Pointer to context block structure.

pvalue Pointer to value to be encoded.

elemName XML element name. A name must be provided. If an empty string is passed (""), no element tag is added to the encoded value.

pNS XML namespace information (prefix and URI).

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.2.2.43 int rtXmlEncGYearMonthValue (OSCTXT ∗ *pctxt*, const OSXSDDateTime ∗ *pvalue*)

This function encodes a numeric gYearMonth value into an XML string representation.

It just puts the encoded value into the buffer or stream without any tags.

Parameters

pctxt Pointer to context block structure.

pvalue Pointer to value to be encoded.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.2.2.44 int rtXmlEncGYearValue (OSCTXT ∗ *pctxt*, const OSXSDDateTime ∗ *pvalue*)

This function encodes a numeric gYear value into an XML string representation.

It just puts the encoded value into the buffer or stream without any tags.

Parameters

pctxt Pointer to context block structure.

pvalue Pointer to value to be encoded.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.2.2.45 int rtXmlEncHexBinary (OSCTXT ∗ *pctxt*, OSUINT32 *nocts*, const OSOCTET ∗ *value*, const OSUTF8CHAR ∗ *elemName*, OSXMLNamespace ∗ *pNS*)

This function encodes a variable of the XSD hexBinary type.

Parameters

pctxt Pointer to context block structure.

nocts Number of octets in the value string.

value Value to be encoded.

elemName XML element name. A name must be provided. If an empty string is passed (""), no element tag is added to the encoded value.

pNS XML namespace information (prefix and URI).

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.2.2.46 int rtXmlEncHexBinaryAttr (OSCTXT ∗ *pctxt*, OSUINT32 *nocts*, const OSOCTET ∗ *value*, const OSUTF8CHAR ∗ *attrName*, size_t *attrNameLen*)

This function encodes a variable of the XSD hexBinary type as an attribute.

Parameters

pctxt Pointer to context block structure.

nocts Number of octets in the value string.

value Value to be encoded.

attrName XML attribute name. A name must be provided.

attrNameLen Length of XML attribute name.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.2.2.47 int rtXmlEncHexStrValue (OSCTXT ∗ *pctxt*, OSUINT32 *nocts*, const OSOCTET ∗ *data*)

This function encodes a variable of the XSD hexBinary type.

It just puts the encoded value in the destination buffer or stream without any tags.

Parameters

pctxt Pointer to context block structure.

nocts Number of octets in the value string.

data Value to be encoded.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.2.2.48 int rtXmlEncIndent (OSCTXT ∗ *pctxt*)

This function adds indentation whitespace to the output stream.

The amount of indentation to add is determined by the level member variable in the context structure and the OSXMLINDENT constant value.

Parameters

pctxt Pointer to context block structure.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.2.2.49 int rtXmlEncInt (OSCTXT ∗ *pctxt*, OSINT32 *value*, const OSUTF8CHAR ∗ *elemName*, OSXMLNamespace ∗ *pNS*)

This function encodes a variable of the XSD integer type.

Parameters

pctxt Pointer to context block structure.

value Value to be encoded.

elemName XML element name. A name must be provided. If an empty string is passed (""), no element tag is added to the encoded value.

pNS XML namespace information (prefix and URI).

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.2.2.50 int rtXmlEncInt64 (OSCTXT ∗ *pctxt*, OSINT64 *value*, const OSUTF8CHAR ∗ *elemName*, OSXMLNamespace ∗ *pNS*)

This function encodes a variable of the XSD integer type.

This version of the function is used for 64-bit integer values.

Parameters

pctxt Pointer to context block structure.

value Value to be encoded.

elemName XML element name. A name must be provided. If an empty string is passed (""), no element tag is added to the encoded value.

pNS XML namespace information (prefix and URI).

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.2.2.51 int rtXmlEncInt64Attr (OSCTXT ∗ *pctxt*, OSINT64 *value*, const OSUTF8CHAR ∗ *attrName*, size_t *attrNameLen*)

This function encodes a variable of the XSD integer type as an attribute (name="value").

This version of the function is used for 64-bit integer values.

Parameters

pctxt Pointer to context block structure.

value Value to be encoded.

attrName XML attribute name.

attrNameLen Length (in bytes) of the attribute name.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.2.2.52 int rtXmlEncInt64Value (OSCTXT ∗ *pctxt*, OSINT64 *value*)

This function encodes a variable of the XSD integer type.

This version of the function is used for 64-bit integer values. It just puts the encoded value in the destination buffer or stream without any tags.

Parameters

pctxt Pointer to context block structure.

value Value to be encoded.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.2.2.53 int rtXmlEncIntAttr (OSCTXT ∗ *pctxt*, OSINT32 *value*, const OSUTF8CHAR ∗ *attrName*, size_t *attrNameLen*)

This function encodes a variable of the XSD integer type as an attribute (name="value").

Parameters

pctxt Pointer to context block structure.

value Value to be encoded.

attrName XML attribute name.

attrNameLen Length (in bytes) of the attribute name.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.2.2.54 int rtXmlEncIntPattern (OSCTXT ∗ *pctxt*, OSINT32 *value*, const OSUTF8CHAR ∗ *elemName*, OSXMLNamespace ∗ *pNS*, const OSUTF8CHAR ∗ *pattern*)

This function encodes a variable of the XSD integer type using a pattern to specify the format of the integer value.

Parameters

pctxt Pointer to context block structure.

value Value to be encoded.

elemName XML element name. A name must be provided. If an empty string is passed (""), no element tag is added to the encoded value.

pNS XML namespace information (prefix and URI).

pattern Pattern of the encoded value.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.2.2.55 int rtXmlEncIntValue (OSCTXT ∗ *pctxt*, OSINT32 *value*)

This function encodes a variable of the XSD integer type.

It just puts the encoded value in the destination buffer or stream without any tags.

Parameters

pctxt Pointer to context block structure.

value Value to be encoded.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.2.2.56 int rtXmlEncNamedBits (OSCTXT ∗ *pctxt*, const OSBitMapItem ∗ *pBitMap*, OSUINT32 *nbits*, const OSOCTET ∗ *pvalue*, const OSUTF8CHAR ∗ *elemName*, OSXMLNamespace ∗ *pNS*)

This function encodes a variable of the ASN.1 BIT STRING type.

In this case, a set of named bits was provided in the schema for the bit values. The encoding is a list of the named bit identifers corresponding to each set bit in the bit string value.

Parameters

pctxt Pointer to context block structure.

pBitMap Bit map equating symbolic bit names to bit numbers.

nbits Number of bits in the sit string value.

pvalue Bit string value to be encoded.

elemName XML element name. A name must be provided. If an empty string is passed (""), no element tag is added to the encoded value.

pNS Pointer to namespace structure.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.2.2.57 int rtXmlEncNSAttrs (OSCTXT ∗ *pctxt*, OSRTDList ∗ *pNSAttrs*)

This function encodes namespace declaration attributes at the beginning of an XML document.

The attributes to be encoded are stored in the namespace list provided, or within the context if a NULL pointer is passed for pNSAttrs. Namespaces are added to this list by using the namespace utility functions.

Parameters

pctxt Pointer to context block structure.

pNSAttrs Pointer to list of namespace attributes.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.2.2.58 int rtXmlEncReal10 (OSCTXT ∗ *pctxt*, const OSUTF8CHAR ∗ *pvalue*, const OSUTF8CHAR ∗ *elemName*, OSXMLNamespace ∗ *pNS*)

This function encodes a variable of the ASN.1 REAL base 10 type.

Parameters

pctxt A pointer to a context structure. This provides a storage area for the function to store all working variables that must be maintained between function calls.

pvalue A pointer to an REAL base 10 value.

elemName XML element name. A name must be provided. If an empty string is passed (""), no element tag is added to the encoded value.

pNS XML namespace information (prefix and URI).

Returns

Completion status of operation:

- 0 (0) = success,
- negative return value is error.

6.2.2.59 int rtXmlEncSoapArrayTypeAttr (OSCTXT ∗ *pctxt*, const OSUTF8CHAR ∗ *name*, const OSUTF8CHAR ∗ *value*, size_t *itemCount*)

This function encodes the special SOAP encoding attrType attribute which specifies the number and type of elements in a SOAP array.

The form of this attribute is 'attrType="<type>[count]"'.

Parameters

pctxt Pointer to context block structure.

name Attribute name (NS prefix + arrayType)

value UTF-8 string value to be encoded.

itemCount Count of the number of elements in the array.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.2.2.60 int rtXmlEncStartDocument (OSCTXT ∗ *pctxt*)

This function encodes the XML header text at the beginning of an XML document.

This is normally the following:

<?xml version="1.0" encoding="UTF-8"?>

Parameters

pctxt Pointer to context block structure.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.2.2.61 int rtXmlEncStartElement (OSCTXT ∗ *pctxt*, const OSUTF8CHAR ∗ *elemName*, OSXMLNamespace ∗ *pNS*, OSRTDList ∗ *pNSAttrs*, OSBOOL *terminate*)

This function encodes a start element tag value (<elemName>).

Parameters

pctxt Pointer to context block structure.

elemName XML element name. Empty string and null are treated equivalently.

pNS XML namespace information (prefix and URI). If the prefix is NULL, this method will search the context's namespace stack for a prefix to use.

pNSAttrs List of namespace attributes to be added to element.

terminate Add closing '>' character.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.2.2.62 int rtXmlEncStartSoapElems (OSCTXT ∗ *pctxt*, OSXMLSOAPMsgType *msgtype*)

This function encodes a SOAP envelope start element tag and an optional SOAP body or fault tag.

This includes all of the standard SOAP namespace attributes.

Parameters

pctxt Pointer to context block structure.

msgtype SOAP message type (body, fault, or none)

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.2.2.63 int rtXmlEncStartSoapEnv (OSCTXT ∗ *pctxt*, OSRTDList ∗ *pNSAttrs*)

This function encodes a SOAP envelope start element tag.

This includes all of the standard SOAP namespace attributes.

Parameters

pctxt Pointer to context block structure.

pNSAttrs List of namespace attributes to be added to SOAP envelope.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.2.2.64 int rtXmlEncString (OSCTXT ∗ *pctxt*, OSXMLSTRING ∗ *pxmlstr*, const OSUTF8CHAR ∗ *elemName*, OSXMLNamespace ∗ *pNS*)

This function encodes a variable of the XSD string type.

Parameters

pctxt Pointer to context block structure.

pxmlstr XML string value to be encoded.

elemName XML element name. If either null or empty string is passed, no element tag is added to the encoded value.

pNS XML namespace information (prefix and URI).

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.2.2.65 int rtXmlEncStringValue (OSCTXT ∗ *pctxt*, const OSUTF8CHAR ∗ *value*)

This function encodes a variable of the XSD string type.

Parameters

pctxt Pointer to context block structure.

value XML string value to be encoded.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.2.2.66 int rtXmlEncStringValue2 (OSCTXT ∗ *pctxt*, const OSUTF8CHAR ∗ *value*, size_t *valueLen*)

This function encodes a variable of the XSD string type.

Parameters

pctxt Pointer to context block structure.

value XML string value to be encoded.

valueLen UTF-8 string value length (in octets).

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.2.2.67 int rtXmlEncTermStartElement (OSCTXT ∗ *pctxt*)

This function terminates a currently open XML start element by adding either a '>' or '/>' (if empty) terminator. It will also add XSI attributes to the element.

Parameters

pctxt Pointer to context block structure.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.2.2.68 int rtXmlEncTime (OSCTXT $*$ *pctxt*, const OSXSDDateTime $*$ *pvalue*, const OSUTF8CHAR $*$ *elemName*, OSXMLNamespace $*$ *pNS*)

This function encodes a variable of the XSD 'time' type as an string.

This version of the function is used to encode OSXSDDateTime value into any of following format in different condition as stated below. (1) hh-mm-ss.ss used if tz_flag = false (2) hh-mm-ss.ssZ used if tz_flag = false and tzo = 0 (3) hh-mm-ss.ss+HH:MM if tz_flag = false and tzo $>$ 0 (4) hh-mm-ss.ss-HH:MM-HH:MM if tz_flag = false and tzo $<$ 0

Parameters

pctxt Pointer to context block structure.

pvalue OSXSDDateTime type pointer points to a OSXSDDateTime value to be encoded.

elemName XML element name. A name must be provided. If an empty string is passed (""), no element tag is added to the encoded value.

pNS Pointer to namespace structure.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.2.2.69 int rtXmlEncTimeValue (OSCTXT $*$ *pctxt*, const OSXSDDateTime $*$ *pvalue*)

This function encodes a variable of the XSD 'time' type as an string.

This version of the function just puts the encoded value in the destination buffer or stream without any tags.

Parameters

pctxt Pointer to context block structure.

pvalue OSXSDDateTime type pointer points to a OSXSDDateTime value to be encoded.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.2.2.70 int rtXmlEncUInt (OSCTXT $*$ *pctxt*, OSUINT32 *value*, const OSUTF8CHAR $*$ *elemName*, OSXMLNamespace $*$ *pNS*)

This function encodes a variable of the XSD unsigned integer type.

Parameters

pctxt Pointer to context block structure.

value Value to be encoded.

elemName XML element name. A name must be provided. If an empty string is passed (""), no element tag is added to the encoded value.

pNS XML namespace information (prefix and URI).

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.2.2.71 int rtXmlEncUInt64 (OSCTXT ∗ *pctxt*, OSUINT64 *value*, const OSUTF8CHAR ∗ *elemName*, OSXMLNamespace ∗ *pNS*)

This function encodes a variable of the XSD integer type.

This version of the function is used when constraints cause an unsigned 64-bit integer variable to be used.

Parameters

pctxt Pointer to context block structure.

value Value to be encoded.

elemName XML element name. A name must be provided. If an empty string is passed (""), no element tag is added to the encoded value.

pNS XML namespace information (prefix and URI).

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.2.2.72 int rtXmlEncUInt64Attr (OSCTXT ∗ *pctxt*, OSUINT64 *value*, const OSUTF8CHAR ∗ *attrName*, size_t *attrNameLen*)

This function encodes a variable of the XSD integer type as an attribute (name="value").

This version of the function is used for unsigned 64-bit integer values.

Parameters

pctxt Pointer to context block structure.

value Value to be encoded.

attrName XML attribute name.

attrNameLen Length (in bytes) of the attribute name.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.2.2.73 int rtXmlEncUInt64Value (OSCTXT ∗ *pctxt*, OSUINT64 *value*)

This function encodes a variable of the XSD integer type.

This version of the function is used when constraints cause an unsigned 64-bit integer variable to be used. It writes the encoded value to the destination buffer or stream without any tags.

Parameters

pctxt Pointer to context block structure.

value Value to be encoded.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.2.2.74 int rtXmlEncUIntAttr (OSCTXT ∗ *pctxt*, OSUINT32 *value*, const OSUTF8CHAR ∗ *attrName*, size_t *attrNameLen*)

This function encodes a variable of the XSD unsigned integer type as an attribute (name="value").

Parameters

pctxt Pointer to context block structure.

value Value to be encoded.

attrName XML attribute name.

attrNameLen Length (in bytes) of the attribute name.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.2.2.75 int rtXmlEncUIntValue (OSCTXT ∗ *pctxt*, OSUINT32 *value*)

This function encodes a variable of the XSD unsigned integer type.

It just puts the encoded value in the destination buffer or stream without any tags.

Parameters

pctxt Pointer to context block structure.

value Value to be encoded.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.2.2.76 int rtXmlEncUnicodeStr (OSCTXT ∗ *pctxt*, const OSUNICHAR ∗ *value*, OSUINT32 *nchars*, const OSUTF8CHAR ∗ *elemName*, OSXMLNamespace ∗ *pNS*)

This function encodes a Unicode string value.

Parameters

pctxt Pointer to context block structure.

value Value to be encoded. This is a pointer to an array of 16-bit integer values.

nchars Number of characters in value array.

elemName XML element name. A name must be provided. If an empty string is passed (""), no element tag is added to the encoded value.

pNS XML namespace information (prefix and URI).

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.2.2.77 int rtXmlEncUTF8Attr (OSCTXT ∗ *pctxt*, const OSUTF8CHAR ∗ *name*, const OSUTF8CHAR ∗ *value*)

This function encodes an attribute in which the name and value are given as a null-terminated UTF-8 strings.

Parameters

pctxt Pointer to context block structure.

name Attribute name.

value UTF-8 string value to be encoded.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.2.2.78 int rtXmlEncUTF8Attr2 (OSCTXT ∗ *pctxt*, const OSUTF8CHAR ∗ *name*, size_t *nameLen*, const OSUTF8CHAR ∗ *value*, size_t *valueLen*)

This function encodes an attribute in which the name and value are given as a UTF-8 strings with lengths.

Parameters

pctxt Pointer to context block structure.

name Attribute name.

nameLen Attribute name length (in octets).

value UTF-8 string value to be encoded.

valueLen UTF-8 string value length (in octets).

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.2.2.79 int rtXmlEncUTF8Str (OSCTXT * *pctxt*, const OSUTF8CHAR * *value*, const OSUTF8CHAR * *elemName*, OSXMLNamespace * *pNS*)

This function encodes a UTF-8 string value.

Parameters

pctxt Pointer to context block structure.

value Value to be encoded.

elemName XML element name. A name must be provided. If an empty string is passed (""), no element tag is added to the encoded value.

pNS XML namespace information (prefix and URI).

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.2.2.80 int rtXmlEncXSIAttrs (OSCTXT * *pctxt*, OSBOOL *needXSI*)

This function encodes XML schema instance (XSI) attributes at the beginning of an XML document.

The encoded attributes include the XSI namespace declaration, the XSD schema location attribute, and the XSD no namespace schema location attribute.

The XSI namespace declaration will only be added to the document if schema location attributes exist or the 'needXSI' flag (see below) is set.

Parameters

pctxt Pointer to context block structure.

needXSI This flag is set to true to indicate the XSI namespace declaration is required to support XML items in the main document body such as xsi:type or xsi:nil.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.2.2.81 int rtXmlEncXSINilAttr (OSCTXT $*$ *pctxt*)

This function encodes an XML nil attribute (xsi:nil="true").

Parameters

pctxt Pointer to context block structure.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.2.2.82 int rtXmlEncXSITypeAttr (OSCTXT $*$ *pctxt*, const OSUTF8CHAR $*$ *value*)

This function encodes an XML schema instance (XSI) type attribute value (xsi:type="value").

Parameters

pctxt Pointer to context block structure.

value XSI type attribute value.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.2.2.83 int rtXmlEncXSITypeAttr2 (OSCTXT $*$ *pctxt*, const OSUTF8CHAR $*$ *typeNsUri*, const OSUTF8CHAR $*$ *typeName*)

This function encodes an XML schema instance (XSI) type attribute value (xsi:type="pfx:value").

This will encode namespace declarations for the xsi namespace and for the typeNsUri namespace, if needed.

Parameters

pctxt Pointer to context block structure.

typeNsUri The type's namespace URI. Either null or empty if none.

typeName The type's name.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.2.2.84 int rtXmlFreeInputSource (OSCTXT $*$ *pctxt*)

This function closes an input source that was previously created with one of the create input source functions such as 'rtXmlCreateFileInputSource'.

Parameters

pctxt Pointer to context block structure.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.2.2.85 int rtXmlGetIndent (OSCTXT $*$ *pctxt*)

This function returns current XML output indent value.

Parameters

pctxt Pointer to OSCTXT structure

Returns

Current indent value (>= 0) if OK, negative status code if error.

6.2.2.86 int rtXmlGetIndentChar (OSCTXT $*$ *pctxt*)

This function returns current XML output indent character value (default is space).

Parameters

pctxt Pointer to OSCTXT structure

Returns

Current indent character ($>$ 0) if OK, negative status code if error.

6.2.2.87 OSBOOL rtXmlGetWriteBOM (OSCTXT $*$ *pctxt*)

This function returns whether the Unicode byte order mark will be encoded.

Parameters

pctxt Pointer to OSCTXT structure.

Returns

TRUE if BOM is to be encoded, FALSE if not or if context uninitialized.

6.2.2.88 int rtXmlPrintNSAttrs (const char ∗ *name*, const OSRTDList ∗ *data*)

This function prints a list of namespace attributes.

Parameters

name Name to print.

data List of namespace attributes.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.2.2.89 int rtXmlSetEncBufPtr (OSCTXT ∗ *pctxt*, OSOCTET ∗ *bufaddr*, size_t *bufsiz*)

This function is used to set the internal buffer within the run-time library encoding context.

It must be called after the context variable is initialized by the rtxInitContext function and before any other compiler generated or run-time library encode function.

Parameters

pctxt Pointer to a context structure. This provides a storage area for the function to store all working variables that must be maintained between function calls.

bufaddr A pointer to a memory buffer to use to encode a message. The buffer should be declared as an array of unsigned characters (OCTETs). This parameter can be set to NULL to specify dynamic encoding (i.e., the encode functions will dynamically allocate a buffer to hold the encoded message).

bufsiz The length of the memory buffer in bytes. Should be set to zero if NULL was specified for bufaddr (i.e. dynamic encoding was selected).

6.3 XML utility functions.

Functions

- int rtXmlWriteToFile (OSCTXT ∗pctxt, const char ∗filename)

  This function writes the encoded XML message stored in the context message buffer out to a file.

6.3.1 Function Documentation

6.3.1.1 int rtXmlWriteToFile (OSCTXT ∗ *pctxt*, const char ∗ *filename*)

This function writes the encoded XML message stored in the context message buffer out to a file.

Parameters

pctxt Pointer to OSCTXT structure.

filename Full path to file to which XML is to be written.

Returns

0 - if success, negative value if error.

6.4 XML pull-parser decode functions.

Functions

- int rtXmlpDecAny (OSCTXT ∗pctxt, const OSUTF8CHAR ∗∗pvalue)
  This function decodes an arbitrary XML section of code as defined by the XSD any type (xsd:any).
- int rtXmlpDecAny2 (OSCTXT ∗pctxt, OSUTF8CHAR ∗∗pvalue)
  This version of the rtXmlpDecAny function returns the string in a mutable buffer.
- int rtXmlpDecAnyAttrStr (OSCTXT ∗pctxt, const OSUTF8CHAR ∗∗ppAttrStr, size_t attrIndex)
  This function decodes an any attribute string.
- int rtXmlpDecAnyElem (OSCTXT ∗pctxt, const OSUTF8CHAR ∗∗pvalue)
  This function decodes an arbitrary XML section of code as defined by the XSD any type (xsd:any).
- int rtXmlpDecBase64Str (OSCTXT ∗pctxt, OSOCTET ∗pvalue, OSUINT32 ∗pnocts, OSINT32 bufsize)
  This function decodes a contents of a Base64-encode binary string into a static memory structure.
- int rtXmlpDecBigInt (OSCTXT ∗pctxt, const OSUTF8CHAR ∗∗pvalue)
  This function will decode a variable of the XSD integer type.
- int rtXmlpDecBitString (OSCTXT ∗pctxt, OSOCTET ∗pvalue, OSUINT32 ∗pnbits, OSUINT32 bufsize)
  This function decodes a bit string value.
- int rtXmlpDecBool (OSCTXT ∗pctxt, OSBOOL ∗pvalue)
  This function decodes a variable of the boolean type.
- int rtXmlpDecDate (OSCTXT ∗pctxt, OSXSDDateTime ∗pvalue)
  This function decodes a variable of the XSD 'date' type.
- int rtXmlpDecDateTime (OSCTXT ∗pctxt, OSXSDDateTime ∗pvalue)
  This function decodes a variable of the XSD 'dateTime' type.
- int rtXmlpDecDecimal (OSCTXT ∗pctxt, OSREAL ∗pvalue, int totalDigits, int fractionDigits)
  This function decodes the contents of a decimal data type.
- int rtXmlpDecDouble (OSCTXT ∗pctxt, OSREAL ∗pvalue)
  This function decodes the contents of a float or double data type.
- int rtXmlpDecDoubleExt (OSCTXT ∗pctxt, OSUINT8 flags, OSREAL ∗pvalue)
  This function decodes the contents of a float or double data type.
- int rtXmlpDecDynBase64Str (OSCTXT ∗pctxt, OSDynOctStr ∗pvalue)
  This function decodes a contents of a Base64-encode binary string.
- int rtXmlpDecDynBitString (OSCTXT ∗pctxt, OSDynOctStr ∗pvalue)
  This function decodes a bit string value.
- int rtXmlpDecDynHexStr (OSCTXT ∗pctxt, OSDynOctStr ∗pvalue)

This function decodes a contents of a hexBinary string.

- int rtXmlpDecDynUnicodeStr (OSCTXT ∗pctxt, const OSUNICHAR ∗∗ppdata, OSUINT32 ∗pnchars)

  This function decodes a Unicode string data type.

- int rtXmlpDecDynUTF8Str (OSCTXT ∗pctxt, const OSUTF8CHAR ∗∗outdata)

  This function decodes the contents of a UTF-8 string data type.

- int rtXmlpDecUTF8Str (OSCTXT ∗pctxt, OSUTF8CHAR ∗out, size_t max_len)

  This function decodes the contents of a UTF-8 string data type.

- int rtXmlpDecGDay (OSCTXT ∗pctxt, OSXSDDateTime ∗pvalue)

  This function decodes a variable of the XSD 'gDay' type.

- int rtXmlpDecGMonth (OSCTXT ∗pctxt, OSXSDDateTime ∗pvalue)

  This function decodes a variable of the XSD 'gMonth' type.

- int rtXmlpDecGMonthDay (OSCTXT ∗pctxt, OSXSDDateTime ∗pvalue)

  This function decodes a variable of the XSD 'gMonthDay' type.

- int rtXmlpDecGYear (OSCTXT ∗pctxt, OSXSDDateTime ∗pvalue)

  This function decodes a variable of the XSD 'gYear' type.

- int rtXmlpDecGYearMonth (OSCTXT ∗pctxt, OSXSDDateTime ∗pvalue)

  This function decodes a variable of the XSD 'gYearMonth' type.

- int rtXmlpDecHexStr (OSCTXT ∗pctxt, OSOCTET ∗pvalue, OSUINT32 ∗pnocts, OSINT32 bufsize)

  This function decodes the contents of a hexBinary string into a static memory structure.

- int rtXmlpDecInt (OSCTXT ∗pctxt, OSINT32 ∗pvalue)

  This function decodes the contents of a 32-bit integer data type.

- int rtXmlpDecInt8 (OSCTXT ∗pctxt, OSINT8 ∗pvalue)

  This function decodes the contents of an 8-bit integer data type (i.e.

- int rtXmlpDecInt16 (OSCTXT ∗pctxt, OSINT16 ∗pvalue)

  This function decodes the contents of a 16-bit integer data type.

- int rtXmlpDecInt64 (OSCTXT ∗pctxt, OSINT64 ∗pvalue)

  This function decodes the contents of a 64-bit integer data type.

- int rtXmlpDecNamedBits (OSCTXT ∗pctxt, const OSBitMapItem ∗pBitMap, OSOCTET ∗pvalue, OSUINT32 ∗pnbits, OSUINT32 bufsize)

  This function decodes the contents of a named bit field.

- int rtXmlpDecStrList (OSCTXT ∗pctxt, OSRTDList ∗plist)

  This function decodes a list of space-separated tokens and returns each token as a separate item on the given list.

- int rtXmlpDecTime (OSCTXT ∗pctxt, OSXSDDateTime ∗pvalue)

  This function decodes a variable of the XSD 'time' type.

- int rtXmlpDecUInt (OSCTXT ∗pctxt, OSUINT32 ∗pvalue)

  This function decodes the contents of an unsigned 32-bit integer data type.

- int rtXmlpDecUInt8 (OSCTXT ∗pctxt, OSOCTET ∗pvalue)

  This function decodes the contents of an unsigned 8-bit integer data type (i.e.

- int rtXmlpDecUInt16 (OSCTXT ∗pctxt, OSUINT16 ∗pvalue)

  This function decodes the contents of an unsigned 16-bit integer data type.

- int rtXmlpDecUInt64 (OSCTXT ∗pctxt, OSUINT64 ∗pvalue)

  This function decodes the contents of an unsigned 64-bit integer data type.

- int rtXmlpDecXmlStr (OSCTXT ∗pctxt, OSXMLSTRING ∗outdata)

  This function decodes the contents of an XML string data type.

- int rtXmlpDecXmlStrList (OSCTXT ∗pctxt, OSRTDList ∗plist)

  This function decodes a list of space-separated tokens and returns each token as a separate item on the given list.

- int rtXmlpDecXSIAttr (OSCTXT ∗pctxt, const OSXMLNameFragments ∗attrName)

  This function decodes XSI (XML Schema Instance) attributes that may be present in any arbitrary XML element within a document.

- int rtXmlpDecXSITypeAttr (OSCTXT ∗pctxt, const OSXMLNameFragments ∗attrName, const OSUTF8CHAR ∗∗ppAttrValue)

  This function decodes the contents of an XSI (XML Schema Instance) type attribute (xsi:type).

- int rtXmlpGetAttributeID (const OSXMLStrFragment ∗attrName, OSINT16 nsidx, size_t nAttr, const OSXMLAttrDescr attrNames[ ], OSUINT32 attrPresent[ ])

  This function finds an attribute in the descriptor table.

- int rtXmlpGetNextElem (OSCTXT ∗pctxt, OSXMLElemDescr ∗pElem, OSINT32 level)

  This function parse the next element start tag.

- int rtXmlpGetNextElemID (OSCTXT ∗pctxt, const OSXMLElemIDRec ∗tab, size_t nrows, OSINT32 level, OSBOOL continueParse)

  This function parses the next start tag and finds the index of the element name in the descriptor table.

- int rtXmlpMarkLastEventActive (OSCTXT ∗pctxt)

  This function marks current tag as unprocessed.

- int rtXmlpMatchStartTag (OSCTXT ∗pctxt, const OSUTF8CHAR ∗elemLocalName, OSINT16 nsidx)

  This function parses the next start tag that matches with given name.

- int rtXmlpMatchEndTag (OSCTXT ∗pctxt, OSINT32 level)

  This function parse next end tag that matches with given name.

- OSBOOL rtXmlpHasAttributes (OSCTXT ∗pctxt)

  This function checks accessibility of attributes.

- int rtXmlpGetAttributeCount (OSCTXT ∗pctxt)

This function returns number of attributes in last processed start tag.

- int rtXmlpSelectAttribute (OSCTXT ∗pctxt, OSXMLNameFragments ∗pAttr, OSINT16 ∗nsidx, size_t attrIndex)

  This function selects attribute to decode.

- OSINT32 rtXmlpGetCurrentLevel (OSCTXT ∗pctxt)

  This function returns current nesting level.

- void rtXmlpSetWhiteSpaceMode (OSCTXT ∗pctxt, OSXMLWhiteSpaceMode whiteSpaceMode)

  Sets the whitespace treatment mode.

- OSBOOL rtXmlpSetMixedContentMode (OSCTXT ∗pctxt, OSBOOL mixedContentMode)

  Sets mixed content mode.

- void rtXmlpSetListMode (OSCTXT ∗pctxt)

  Sets list mode.

- OSBOOL rtXmlpListHasItem (OSCTXT ∗pctxt)

  Check for end of decoded token list.

- void rtXmlpCountListItems (OSCTXT ∗pctxt, OSSIZE ∗itemCnt)

  Count tokens in list.

- int rtXmlpGetNextSeqElemID2 (OSCTXT ∗pctxt, const OSXMLElemIDRec ∗tab, const OSXMLGroupDesc ∗pGroup, int groups, int curID, int lastMandatoryID, OSBOOL groupMode, OSBOOL checkRepeat)

  This function parses the next start tag and finds index of element name in descriptor table.

- int rtXmlpGetNextSeqElemID (OSCTXT ∗pctxt, const OSXMLElemIDRec ∗tab, const OSXMLGroupDesc ∗pGroup, int curID, int lastMandatoryID, OSBOOL groupMode)

  This function parses the next start tag and finds index of element name in descriptor table.

- int rtXmlpGetNextSeqElemIDExt (OSCTXT ∗pctxt, const OSXMLElemIDRec ∗tab, const OSXMLGroupDesc ∗ppGroup, const OSBOOL ∗extRequired, int postExtRootID, int curID, int lastMandatoryID, OSBOOL groupMode)

  This is an ASN.1 extension-supporting version of rtXmlpGetNextSeqElemID.

- int rtXmlpGetNextAllElemID (OSCTXT ∗pctxt, const OSXMLElemIDRec ∗tab, size_t nrows, const OSUINT8 ∗pOrder, OSUINT32 nOrder, OSUINT32 maxOrder, int anyID)

  This function parses the next start tag and finds index of element name in descriptor table.

- int rtXmlpGetNextAllElemID16 (OSCTXT ∗pctxt, const OSXMLElemIDRec ∗tab, size_t nrows, const OSUINT16 ∗pOrder, OSUINT32 nOrder, OSUINT32 maxOrder, int anyID)

  This function parses the next start tag and finds index of element name in descriptor table.

- int rtXmlpGetNextAllElemID32 (OSCTXT ∗pctxt, const OSXMLElemIDRec ∗tab, size_t nrows, const OSUINT32 ∗pOrder, OSUINT32 nOrder, OSUINT32 maxOrder, int anyID)

  This function parses the next start tag and finds index of element name in descriptor table.

- void rtXmlpSetNamespaceTable (OSCTXT ∗pctxt, const OSUTF8CHAR ∗namespaceTable[ ], size_t nmNamespaces)

Sets user namespace table.

- int rtXmlpCreateReader (OSCTXT ∗pctxt)

  Creates pull parser reader structure within the context.

- void rtXmlpHideAttributes (OSCTXT ∗pctxt)

  Disable access to attributes.

- OSBOOL rtXmlpNeedDecodeAttributes (OSCTXT ∗pctxt)

  This function checks if attributes were previously decoded.

- void rtXmlpMarkPos (OSCTXT ∗pctxt)

  Save current decode position.

- void rtXmlpRewindToMarkedPos (OSCTXT ∗pctxt)

  Rewind to saved decode position.

- void rtXmlpResetMarkedPos (OSCTXT ∗pctxt)

  Reset saved decode position.

- int rtXmlpGetXSITypeAttr (OSCTXT ∗pctxt, const OSUTF8CHAR ∗∗ppAttrValue, OSINT16 ∗nsidx, size_t ∗pLocalOffs)

  This function decodes the contents of an XSI (XML Schema Instance) type attribute (xsi:type).

- int rtXmlpGetXmlnsAttrs (OSCTXT ∗pctxt, OSRTDList ∗pNSAttrs)

  This function decodes namespace attributes from start tag and adds them to the given list.

- int rtXmlpDecXSIAttrs (OSCTXT ∗pctxt)

  This function decodes XSI (XML Schema Instance) that may be present in any arbitrary XML element within a document.

- OSBOOL rtXmlpIsEmptyElement (OSCTXT ∗pctxt)

  Check element content: empty or not.

- int rtXmlEncAttrC14N (OSCTXT ∗pctxt)

  This function used only in C14 mode.

- struct OSXMLReader ∗ rtXmlpGetReader (OSCTXT ∗pctxt)

  This function fetches the XML reader structure from the context for use in low-level pull parser calls.

- OSBOOL rtXmlpIsLastEventDone (OSCTXT ∗pctxt)

  Check processing status of current tag.

- int rtXmlpGetXSITypeIndex (OSCTXT ∗pctxt, const OSXMLItemDescr typetab[ ], size_t typetabsiz)

  This function decodes the contents of an XSI (XML Schema Instance) type attribute (xsi:type) and find type index in descriptor table.

- int rtXmlpLookupXSITypeIndex (OSCTXT ∗pctxt, const OSUTF8CHAR ∗pXsiType, OSINT16 xsiTypeIdx, const OSXMLItemDescr typetab[ ], size_t typetabsiz)

  This function find index of XSI (XML Schema Instance) type in descriptor table.

- void rtXmlpForceDecodeAsGroup (OSCTXT ∗pctxt)

Disable skipping of unknown elements in optional sequence tail.

- OSBOOL rtXmlpIsDecodeAsGroup (OSCTXT ∗pctxt)

  This function checks if "decode as group" mode was forced.

- OSBOOL rtXmlpIsUTF8Encoding (OSCTXT ∗pctxt)

  This function checks if the encoding specified in XML header is UTF-8.

- int rtXmlpReadBytes (OSCTXT ∗pctxt, OSOCTET ∗pbuf, size_t nbytes)

  This function reads the specified number of bytes directly from the underlying XML parser stream.

6.4.1 Function Documentation

6.4.1.1 int rtXmlEncAttrC14N (OSCTXT ∗ *pctxt*)

This function used only in C14 mode.

It provide atributes sorting.

Parameters

pctxt Pointer to context block structure.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.4.1.2 void rtXmlpCountListItems (OSCTXT ∗ *pctxt*, OSSIZE ∗ *itemCnt*)

Count tokens in list.

Parameters

pctxt Pointer to context block structure.

itemCnt Pointer to number of elements in list.

Returns

Token number. For element content function check accessed part of content only. Returned value may be below then real token number.

6.4.1.3 int rtXmlpCreateReader (OSCTXT ∗ *pctxt*)

Creates pull parser reader structure within the context.

Parameters

pctxt Pointer to context block structure.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.4.1.4 int rtXmlpDecAny (OSCTXT ∗ *pctxt*, const OSUTF8CHAR ∗∗ *pvalue*)

This function decodes an arbitrary XML section of code as defined by the XSD any type (xsd:any).

The decoded XML fragment is returned as a string in the form as it appears in the document. Memory is allocated for the string using the rtxMemAlloc function.

Parameters

pctxt Pointer to context block structure.

pvalue Pointer to UTF8 character string pointer to receive decoded XML fragment. Memory is allocated for the string using the run-time memory manager.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.4.1.5 int rtXmlpDecAny2 (OSCTXT ∗ *pctxt*, OSUTF8CHAR ∗∗ *pvalue*)

This version of the rtXmlpDecAny function returns the string in a mutable buffer.

Parameters

pctxt Pointer to context block structure.

pvalue Pointer to UTF8 character string pointer to receive decoded XML fragment. Memory is allocated for the string using the run-time memory manager.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.4.1.6 int rtXmlpDecAnyAttrStr (OSCTXT ∗ *pctxt*, const OSUTF8CHAR ∗∗ *ppAttrStr*, size_t *attrIndex*)

This function decodes an any attribute string.

The full attribute string (name="value") is decoded and returned on the string output argument. Memory is allocated for the string using the rtxMemAlloc function.

Parameters

pctxt Pointer to context block structure.

ppAttrStr Pointer to UTF8 character string pointer to receive decoded attribute string. Memory is allocated for the string using the run-time memory manager.

attrIndex Index of attribute.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.4.1.7 int rtXmlpDecAnyElem (OSCTXT ∗ *pctxt*, const OSUTF8CHAR ∗∗ *pvalue*)

This function decodes an arbitrary XML section of code as defined by the XSD any type (xsd:any).

The decoded XML fragment is returned as a string in the form as it appears in the document. Memory is allocated for the string using the rtxMemAlloc function. The difference between this function and rtXmlpDecAny is that this function preserves the full encoded XML fragment including the start and end elements tags and attributes. rtXmlpDecAny decodes the contents within the start and end tags.

Parameters

pctxt Pointer to context block structure.

pvalue Pointer to UTF8 character string pointer to receive decoded XML fragment. Memory is allocated for the string using the run-time memory manager.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.4.1.8 int rtXmlpDecBase64Str (OSCTXT ∗ *pctxt*, OSOCTET ∗ *pvalue*, OSUINT32 ∗ *pnocts*, OSINT32 *bufsize*)

This function decodes a contents of a Base64-encode binary string into a static memory structure.

The octet string must be Base64 encoded. This function call is used to decode a sized base64Binary string production. Input is expected to be a string of OSUTF8CHAR characters returned by an XML pull parser.

Parameters

pctxt A pointer to a context structure. This provides a storage area for the function to store all working variables that must be maintained between function calls.

pvalue A pointer to a variable to receive the decoded bit string. This is assumed to be a static array large enough to hold the number of octets specified in the bufsize input parameter.

pnocts A pointer to an integer value to receive the decoded number of octets.

bufsize The size (in octets) of the sized octet string. An error will occur if the number of octets in the decoded string is larger than this value.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.4.1.9 int rtXmlpDecBigInt (OSCTXT ∗ *pctxt*, const OSUTF8CHAR ∗∗ *pvalue*)

This function will decode a variable of the XSD integer type.

In this case, the integer is assumed to be of a larger size than can fit in a C or C++ long type (normally 32 or 64 bits). For example, parameters used to calculate security values are typically larger than these sizes.

These variables are stored in character string constant variables. The radix should be 10. If it is necessary to convert to another radix, then use rtxBigIntSetStr or rtxBigIntToString functions. Input is expected to be a string of OSUTF8CHAR characters returned by an XML pull parser.

Parameters

pctxt Pointer to context block structure.

pvalue Pointer to a pointer to receive decoded UTF-8 string. Dynamic memory is allocated for the variable using the rtMemAlloc function. The decoded variable is represented as a string starting with appropriate prefix.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.4.1.10 int rtXmlpDecBitString (OSCTXT ∗ *pctxt*, OSOCTET ∗ *pvalue*, OSUINT32 ∗ *pnbits*, OSUINT32 *bufsize*)

This function decodes a bit string value.

The string consists of a series of ’1’ and ’0’ characters. This is the static version in which the user provides a pre-allocated memory buffer to receive the decoded data. One byte in a memory buffer can hold 8 characters of encoded data. Bits are stored from MSB to LSB order.

Parameters

pctxt Pointer to context block structure.

pvalue Pointer to a variable to receive the decoded boolean value.

pnbits Pointer to hold decoded number of bits.

bufsize Size of buffer passed in pvalue argument.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.4.1.11 int rtXmlpDecBool (OSCTXT ∗ *pctxt*, OSBOOL ∗ *pvalue*)

This function decodes a variable of the boolean type.

Input is expected to be a string of OSUTF8CHAR characters returned by an XML pull parser.

Parameters

pctxt Pointer to context block structure.

pvalue Pointer to a variable to receive the decoded boolean value.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.4.1.12 int rtXmlpDecDate (OSCTXT ∗ *pctxt*, OSXSDDateTime ∗ *pvalue*)

This function decodes a variable of the XSD ’date’ type.

Input is expected to be a string of characters returned by an XML pull parser. The string should have CCYY-MM-DD format.

Parameters

pctxt Pointer to context block structure.

pvalue OSXSDDateTime type pointer points to a OSXSDDateTime value to receive decoded result.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.4.1.13 int rtXmlpDecDateTime (OSCTXT ∗ *pctxt*, OSXSDDateTime ∗ *pvalue*)

This function decodes a variable of the XSD ’dateTime’ type.

Input is expected to be a string of characters returned by an XML pull parser.

Parameters

pctxt Pointer to context block structure.

pvalue OSXSDDateTime type pointer points to a OSXSDDateTime value to receive decoded result.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.4.1.14 int rtXmlpDecDecimal (OSCTXT ∗ *pctxt*, OSREAL ∗ *pvalue*, int *totalDigits*, int *fractionDigits*)

This function decodes the contents of a decimal data type.

Input is expected to be a string of OSUTF8CHAR characters returned by an XML pull parser.

Parameters

pctxt Pointer to context block structure.

pvalue Pointer to 64-bit double value to receive decoded result.

totalDigits Number of total digits in the decimal number from XSD totalDigits facet value. Argument should be set to -1 if facet not given.

fractionDigits Number of fraction digits in the decimal number from XSD fractionDigits facet value. Argument should be set to -1 if facet not given.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.4.1.15 int rtXmlpDecDouble (OSCTXT ∗ *pctxt*, OSREAL ∗ *pvalue*)

This function decodes the contents of a float or double data type.

Input is expected to be a string of OSUTF8CHAR characters returned by an XML pull parser.

Parameters

pctxt Pointer to context block structure.

pvalue Pointer to 64-bit double value to receive decoded result.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.4.1.16 int rtXmlpDecDoubleExt (OSCTXT ∗ *pctxt*, OSUINT8 *flags*, OSREAL ∗ *pvalue*)

This function decodes the contents of a float or double data type.

Input is expected to be a string of OSUTF8CHAR characters returned by an XML pull parser.

Parameters

pctxt Pointer to context block structure.

flags Specifies alternatives allowed in the lexical value. See OSXMLREALENC∗ constants. bit 0 (rightmost) set: recognize INF, -INF, NaN text values bit 1 set: recognize leading '+' on normal reals bit 2 set: recognize leading '+' on INF bit 3 set: recognize leading zeros in exponent bit 4 set: recognize exponents

pvalue Pointer to 64-bit double value to receive decoded result.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.4.1.17 int rtXmlpDecDynBase64Str (OSCTXT ∗ *pctxt*, OSDynOctStr ∗ *pvalue*)

This function decodes a contents of a Base64-encode binary string.

The octet string must be Base64 encoded. This function will allocate dynamic memory to store the decoded result. Input is expected to be a string of OSUTF8CHAR characters returned by an XML pull parser.

Parameters

pctxt A pointer to a context structure. This provides a storage area for the function to store all working variables that must be maintained between function calls.

pvalue A pointer to a dynamic octet string structure to receive the decoded octet string. Dynamic memory is allocated for the string using the rtxMemAlloc function.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.4.1.18 int rtXmlpDecDynBitString (OSCTXT ∗ *pctxt*, OSDynOctStr ∗ *pvalue*)

This function decodes a bit string value.

The string consists of a series of '1' and '0' characters. This is the dynamic version in which memory is allocated for the returned binary string variable. Bits are stored from MSB to LSB order.

Parameters

pctxt Pointer to context block structure.

pvalue Pointer to a variable to receive the decoded boolean value.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.4.1.19 int rtXmlpDecDynHexStr (OSCTXT ∗ *pctxt*, OSDynOctStr ∗ *pvalue*)

This function decodes a contents of a hexBinary string.

This function will allocate dynamic memory to store the decoded result. Input is expected to be a string of OS-UTF8CHAR characters returned by an XML pull parser.

Parameters

pctxt A pointer to a context structure. This provides a storage area for the function to store all working variables that must be maintained between function calls.

pvalue A pointer to a dynamic octet string structure to receive the decoded octet string. Dynamic memory is allocated to hold the string using the rtxMemAlloc function.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.4.1.20 int rtXmlpDecDynUnicodeStr (OSCTXT ∗ *pctxt*, const OSUNICHAR ∗∗ *ppdata*, OSUINT32 ∗ *pnchars*)

This function decodes a Unicode string data type.

The input is assumed to be in UTF-8 format. This function reads each character and converts it into its Unicode equivalent.

Parameters

pctxt Pointer to context block structure.

ppdata Pointer to Unicode character string. A Unicode character string is represented as an array of unsigned 16-bit integers in C. Memory is allocated for the string using the run-time memory manager.

pnchars Pointer to integer variables to receive the number of characters in the string.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.4.1.21 int rtXmlpDecDynUTF8Str (OSCTXT ∗ *pctxt*, const OSUTF8CHAR ∗∗ *outdata*)

This function decodes the contents of a UTF-8 string data type.

Input is expected to be a string of OSUTF8CHAR characters returned by an XML pull parser.

Parameters

pctxt Pointer to context block structure.

outdata Pointer to a pointer to receive decoded UTF-8 string. Memory is allocated for this string using the run-time memory manager.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.4.1.22 int rtXmlpDecGDay (OSCTXT ∗ *pctxt*, OSXSDDateTime ∗ *pvalue*)

This function decodes a variable of the XSD ’gDay’ type.

Input is expected to be a string of characters returned by an XML pull parser. The string should have ---DD[-+hh:mm|Z] format.

Parameters

pctxt Pointer to context block structure.

pvalue OSXSDDateTime type pointer points to a OSXSDDateTime value to receive decoded result.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.4.1.23 int rtXmlpDecGMonth (OSCTXT ∗ *pctxt*, OSXSDDateTime ∗ *pvalue*)

This function decodes a variable of the XSD 'gMonth' type.

Input is expected to be a string of characters returned by an XML pull parser. The string should have --MM[-+hh:mm|Z] format.

Parameters

pctxt Pointer to context block structure.

pvalue OSXSDDateTime type pointer points to a OSXSDDateTime value to receive decoded result.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.4.1.24 int rtXmlpDecGMonthDay (OSCTXT ∗ *pctxt*, OSXSDDateTime ∗ *pvalue*)

This function decodes a variable of the XSD 'gMonthDay' type.

Input is expected to be a string of characters returned by an XML pull parser. The string should have --MM-DD[-+hh:mm|Z] format.

Parameters

pctxt Pointer to context block structure.

pvalue OSXSDDateTime type pointer points to a OSXSDDateTime value to receive decoded result.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.4.1.25 int rtXmlpDecGYear (OSCTXT ∗ *pctxt*, OSXSDDateTime ∗ *pvalue*)

This function decodes a variable of the XSD 'gYear' type.

Input is expected to be a string of characters returned by an XML pull parser. The string should have CCYY[-+hh:mm|Z] format.

Parameters

pctxt Pointer to context block structure.

pvalue OSXSDDateTime type pointer points to a OSXSDDateTime value to receive decoded result.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.4.1.26 int rtXmlpDecGYearMonth (OSCTXT ∗ *pctxt*, OSXSDDateTime ∗ *pvalue*)

This function decodes a variable of the XSD 'gYearMonth' type.

Input is expected to be a string of characters returned by an XML pull parser. The string should have CCYY-MM[-+hh:mm|Z] format.

Parameters

pctxt Pointer to context block structure.

pvalue OSXSDDateTime type pointer points to a OSXSDDateTime value to receive decoded result.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.4.1.27 int rtXmlpDecHexStr (OSCTXT ∗ *pctxt*, OSOCTET ∗ *pvalue*, OSUINT32 ∗ *pnocts*, OSINT32 *bufsize*)

This function decodes the contents of a hexBinary string into a static memory structure.

Input is expected to be a string of OSUTF8CHAR characters returned by an XML pull parser.

Parameters

pctxt A pointer to a context structure. This provides a storage area for the function to store all working variables that must be maintained between function calls.

pvalue A pointer to a variable to receive the decoded bit string. This is assumed to be a static array large enough to hold the number of octets specified in the bufsize input parameter.

pnocts A pointer to an integer value to receive the decoded number of octets.

bufsize The size (in octets) of the sized octet string. An error will occur if the number of octets in the decoded string is larger than this value.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.4.1.28 int rtXmlpDecInt (OSCTXT ∗ *pctxt*, OSINT32 ∗ *pvalue*)

This function decodes the contents of a 32-bit integer data type.

Input is expected to be a string of OSUTF8CHAR characters returned by an XML pull parser.

Parameters

pctxt Pointer to context block structure.

pvalue Pointer to 32-bit integer value to receive decoded result.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.4.1.29 int rtXmlpDecInt16 (OSCTXT ∗ *pctxt*, OSINT16 ∗ *pvalue*)

This function decodes the contents of a 16-bit integer data type.

Input is expected to be a string of OSUTF8CHAR characters returned by an XML pull parser.

Parameters

pctxt Pointer to context block structure.

pvalue Pointer to 16-bit integer value to receive decoded result.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.4.1.30 int rtXmlpDecInt64 (OSCTXT ∗ *pctxt*, OSINT64 ∗ *pvalue*)

This function decodes the contents of a 64-bit integer data type.

Input is expected to be a string of OSUTF8CHAR characters returned by an XML pull parser.

Parameters

pctxt Pointer to context block structure.

pvalue Pointer to 64-bit integer value to receive decoded result.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.4.1.31 int rtXmlpDecInt8 (OSCTXT ∗ *pctxt*, OSINT8 ∗ *pvalue*)

This function decodes the contents of an 8-bit integer data type (i.e.

a signed byte type in the range of -128 to 127). Input is expected to be a string of OSUTF8CHAR characters returned by an XML pull parser.

Parameters

pctxt Pointer to context block structure.

pvalue Pointer to 8-bit integer value to receive decoded result.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.4.1.32 int rtXmlpDecNamedBits (OSCTXT ∗ *pctxt*, const OSBitMapItem ∗ *pBitMap*, OSOCTET ∗ *pvalue*, OSUINT32 ∗ *pnbits*, OSUINT32 *bufsize*)

This function decodes the contents of a named bit field.

This is a space-separated list of token values in which each token corresponds to a bit field in a bit map.

Parameters

pctxt Pointer to context block structure.

pBitMap Pointer to bit map structure that defined token to bit mappings.

pvalue Pointer to buffer to recieve decoded bit map.

pnbits Number of bits in decoded bit map.

bufsize Size of buffer passed in to received decoded bit values.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.4.1.33 int rtXmlpDecStrList (OSCTXT ∗ *pctxt*, OSRTDList ∗ *plist*)

This function decodes a list of space-separated tokens and returns each token as a separate item on the given list.

Memory is allocated for the list nodes and token values using the rtx memory management functions.

Parameters

pctxt A pointer to a context structure. This provides a storage area for the function to store all working variables that must be maintained between function calls.

plist A pointer to a linked list structure to which the parsed token values will be added.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.4.1.34 int rtXmlpDecTime (OSCTXT ∗ *pctxt*, OSXSDDateTime ∗ *pvalue*)

This function decodes a variable of the XSD 'time' type.

Input is expected to be a string of characters returned by an XML pull parser. The string should have one of following formats:

(1) hh-mm-ss.ss used if tz_flag = false (2) hh-mm-ss.ssZ used if tz_flag = false and tzo = 0 (3) hh-mm-ss.ss+HH:MM if tz_flag = false and tzo > 0 (4) hh-mm-ss.ss-HH:MM-HH:MM if tz_flag = false and tzo < 0

Parameters

pctxt Pointer to context block structure.

pvalue OSXSDDateTime type pointer points to a OSXSDDateTime value to receive decoded result.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.4.1.35 int rtXmlpDecUInt (OSCTXT ∗ *pctxt*, OSUINT32 ∗ *pvalue*)

This function decodes the contents of an unsigned 32-bit integer data type.

Input is expected to be a string of OSUTF8CHAR characters returned by an XML pull parser.

Parameters

pctxt Pointer to context block structure.

pvalue Pointer to unsigned 32-bit integer value to receive decoded result.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.4.1.36 int rtXmlpDecUInt16 (OSCTXT ∗ *pctxt*, OSUINT16 ∗ *pvalue*)

This function decodes the contents of an unsigned 16-bit integer data type.

Input is expected to be a string of OSUTF8CHAR characters returned by an XML pull parser.

Parameters

pctxt Pointer to context block structure.

pvalue Pointer to unsigned 16-bit integer value to receive decoded result.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.4.1.37 int rtXmlpDecUInt64 (OSCTXT ∗ *pctxt*, OSUINT64 ∗ *pvalue*)

This function decodes the contents of an unsigned 64-bit integer data type.

Input is expected to be a string of OSUTF8CHAR characters returned by an XML pull parser.

Parameters

pctxt Pointer to context block structure.

pvalue Pointer to unsigned 64-bit integer value to receive decoded result.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.4.1.38 int rtXmlpDecUInt8 (OSCTXT ∗ *pctxt*, OSOCTET ∗ *pvalue*)

This function decodes the contents of an unsigned 8-bit integer data type (i.e.

a signed byte type in the range of 0 to 255). Input is expected to be a string of OSUTF8CHAR characters returned by an XML pull parser.

Parameters

pctxt Pointer to context block structure.

pvalue Pointer to unsigned 8-bit integer value to receive decoded result.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.4.1.39 int rtXmlpDecUTF8Str (OSCTXT ∗ *pctxt*, OSUTF8CHAR ∗ *out*, size_t *max_len*)

This function decodes the contents of a UTF-8 string data type.

Input is expected to be a string of OSUTF8CHAR characters returned by an XML pull parser.

Parameters

pctxt Pointer to context block structure.

out Pointer to an array of OSUTF8CHAR to receive decoded UTF-8 string.

max_len Length of out array.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.4.1.40 int rtXmlpDecXmlStr (OSCTXT ∗ *pctxt*, OSXMLSTRING ∗ *outdata*)

This function decodes the contents of an XML string data type.

This type contains a pointer to a UTF-8 characer string plus flags that can be set to alter the encoding of the string (for example, the cdata flag allows the string to be encoded in a CDATA section). Input is expected to be a string of UTF-8 characters returned by an XML parser.

Parameters

pctxt Pointer to context block structure.

outdata Pointer to an XML string structure to receive the decoded string. Memory is allocated for the string using the run-time memory manager.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.4.1.41 int rtXmlpDecXmlStrList (OSCTXT ∗ *pctxt*, OSRTDList ∗ *plist*)

This function decodes a list of space-separated tokens and returns each token as a separate item on the given list.

Memory is allocated for the list nodes and token values using the rtx memory management functions. List contains OSXMLSTRING structures.

Parameters

pctxt A pointer to a context structure. This provides a storage area for the function to store all working variables that must be maintained between function calls.

plist A pointer to a linked list structure to which the parsed token values will be added.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.4.1.42 int rtXmlpDecXSIAttr (OSCTXT ∗ *pctxt*, const OSXMLNameFragments ∗ *attrName*)

This function decodes XSI (XML Schema Instance) attributes that may be present in any arbitrary XML element within a document.

Parameters

pctxt A pointer to a context structure. This provides a storage area for the function to store all working variables that must be maintained between function calls.

attrName A pointer to a structure holding various parts of an attribute name. The parts are in the form of string fragments meaning they are not null terminated. The user must be careful to use the value and length when working with them.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.4.1.43 int rtXmlpDecXSIAttrs (OSCTXT ∗ *pctxt*)

This function decodes XSI (XML Schema Instance) that may be present in any arbitrary XML element within a document.

Parameters

pctxt Pointer to context block structure.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.4.1.44 int rtXmlpDecXSITypeAttr (OSCTXT ∗ *pctxt*, const OSXMLNameFragments ∗ *attrName*, const OSUTF8CHAR ∗∗ *ppAttrValue*)

This function decodes the contents of an XSI (XML Schema Instance) type attribute (xsi:type).

Parameters

pctxt A pointer to a context structure. This provides a storage area for the function to store all working variables that must be maintained between function calls.

attrName A pointer to a structure holding various parts of an attribute name. The parts are in the form of string fragments meaning they are not null terminated. The user must be careful to use the value and length when working with them.

ppAttrValue A pointer to a pointer to a UTF8 character string to received the decoded XSI type name.

Returns

Completion status of operation:

- 0 = success,
- 1 = OK, but attrName was not xsi:type (i.e. no attribute match)
- negative return value is error.

6.4.1.45 void rtXmlpForceDecodeAsGroup (OSCTXT ∗ *pctxt*)

Disable skipping of unknown elements in optional sequence tail.

Function used in outer types to break decode on first unknown element after decoding mandatory sequence part.

Parameters

pctxt Pointer to context block structure.

6.4.1.46 int rtXmlpGetAttributeCount (OSCTXT ∗ *pctxt*)

This function returns number of attributes in last processed start tag.

Parameters

pctxt Pointer to context block structure.

Returns

Completion status of operation:

- zero or positive value is atributes number,
- negative return value is error.

6.4.1.47 int rtXmlpGetAttributeID (const OSXMLStrFragment ∗ *attrName*, OSINT16 *nsidx*, size_t *nAttr*, const OSXMLAttrDescr *attrNames*[ ], OSUINT32 *attrPresent*[ ])

This function finds an attribute in the descriptor table.

Parameters

attrName A pointer to a structure holding various parts of an attribute name. The parts are in the form of string fragments meaning they are not null terminated. The user must be careful to use the value and length when working with them.

nsidx Namespace index:

- 0 = attribute is unqualified,
- positive value is user namespace from generated namespace table,
- negative value is predefined namespace like XSD instance and ect.

nAttr Number of descriptors in table.

attrNames Attributes descriptor table.

attrPresent Bit array to mark already decoded attributes. It is used to identify duplicate attributes.

Returns

Completion status of operation:

- positive or zero return value is attribute index in descriptor table,
- negative return value is error.

6.4.1.48 OSINT32 rtXmlpGetCurrentLevel (OSCTXT ∗ *pctxt*)

This function returns current nesting level.

Parameters

pctxt Pointer to context block structure.

Returns

Current nesting level.

6.4.1.49 int rtXmlpGetNextAllElemID (OSCTXT ∗ *pctxt*, const OSXMLElemIDRec ∗ *tab*, size_t *nrows*, const OSUINT8 ∗ *pOrder*, OSUINT32 *nOrder*, OSUINT32 *maxOrder*, int *anyID*)

This function parses the next start tag and finds index of element name in descriptor table.

It used for decode "all" content model in strict mode.

Parameters

pctxt Pointer to context block structure.

tab Elements descriptor table.

nrows Number of descriptors in table.

pOrder Pointer to array to receive elements order.

nOrder Last element's index in order array.

maxOrder Size of order array.

anyID Identifier of xsd:any element.

Returns

Completion status of operation:

- positive or zero value is element identifier,
- negative return value is error.

6.4.1.50 int rtXmlpGetNextAllElemID16 (OSCTXT ∗ *pctxt*, const OSXMLElemIDRec ∗ *tab*, size_t *nrows*, const OSUINT16 ∗ *pOrder*, OSUINT32 *nOrder*, OSUINT32 *maxOrder*, int *anyID*)

This function parses the next start tag and finds index of element name in descriptor table.

It used for decode "all" content model in strict mode. This variant used when xsd:all has above 256 elements.

Parameters

pctxt Pointer to context block structure.

tab Elements descriptor table.

nrows Number of descriptors in table.

pOrder Pointer to array to receive elements order.

nOrder Last element's index in order array.

maxOrder Size of order array.

anyID Identifier of xsd:any element.

Returns

Completion status of operation:

- positive or zero value is element identifier,
- negative return value is error.

6.4.1.51 int rtXmlpGetNextAllElemID32 (OSCTXT ∗ *pctxt*, const OSXMLElemIDRec ∗ *tab*, size_t *nrows*, const OSUINT32 ∗ *pOrder*, OSUINT32 *nOrder*, OSUINT32 *maxOrder*, int *anyID*)

This function parses the next start tag and finds index of element name in descriptor table.

It used for decode "all" content model in strict mode.

Parameters

pctxt Pointer to context block structure.

tab Elements descriptor table.

nrows Number of descriptors in table.

pOrder Pointer to array to receive elements order.

nOrder Last element's index in order array.

maxOrder Size of order array.

anyID Identifier of xsd:any element.

Returns

Completion status of operation:

- positive or zero value is element identifier,
- negative return value is error.

6.4.1.52 int rtXmlpGetNextElem (OSCTXT ∗ *pctxt*, OSXMLElemDescr ∗ *pElem*, OSINT32 *level*)

This function parse the next element start tag.

Parameters

pctxt Pointer to context block structure.

pElem Pointer to a structure to receive the decoded element descriptor.

level Nesting level of parsed start tag. When value equal -1 parsed next start tag.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.4.1.53 int rtXmlpGetNextElemID (OSCTXT ∗ *pctxt*, const OSXMLElemIDRec ∗ *tab*, size_t *nrows*, OSINT32 *level*, OSBOOL *continueParse*)

This function parses the next start tag and finds the index of the element name in the descriptor table.

If this reaches the closing tag for the current level, it returns XML_OK_EOB. If this encounters an unexpected element and !continueParse, it returns RTERR_UNEXPELEM (without logging it).

Parameters

pctxt Pointer to context block structure.

tab Elements descriptor table.

nrows Number of descriptors in table.

level Nesting level of parsed start tag. When value equal -1 function parse next start tag.

continueParse When value equals TRUE function skips unrecognized elements; skipped elements are logged, but an error is not returned.

Returns

Completion status of operation:

- positive or zero value is element identifier,
- negative return value is error.

6.4.1.54 int rtXmlpGetNextSeqElemID (OSCTXT ∗ *pctxt*, const OSXMLElemIDRec ∗ *tab*, const OSXMLGroupDesc ∗ *pGroup*, int *curID*, int *lastMandatoryID*, OSBOOL *groupMode*)

This function parses the next start tag and finds index of element name in descriptor table.

It is used to decode sequences in strict mode.

Handling of unexpected elements:

- If the current decode group includes an any case, unexpected elements will be matched against it (the any case id will be returned).
- Otherwise, if groupMode is true, and the element identified by lastMandatoryID has been reached, XML_OK_-EOB is returned. The unexpected element may belong to something following the elements in tab.
- If neither of the above applies, unknown elements will be logged and skipped over, with this method continuing as if the unexpected element were not present. Handling of the case of reaching closing tag for current level:
- If the last mandatory element is reached, return XML_OK_EOB.
- Otherwise, log and return XML_E_ELEMSMISRQ.

This function is equivalent to: rtXmlpGetNextSeqElemID2(pctxt, tab, pGroup, curID, lastMandatoryID, groupMode, FALSE);

Parameters

pctxt Pointer to context block structure.

tab Elements descriptor table.

pGroup Decode groups table.

curID Current decode group.

lastMandatoryID Identifier of last mandatory element.

groupMode This parameter must be setted to TRUE when decoding groups or base types.

Returns

Completion status of operation:

- positive or zero value is element identifier,
- negative return value is error.

6.4.1.55 int rtXmlpGetNextSeqElemID2 (OSCTXT ∗ *pctxt*, const OSXMLElemIDRec ∗ *tab*, const OSXMLGroupDesc ∗ *pGroup*, int *groups*, int *curID*, int *lastMandatoryID*, OSBOOL *groupMode*, OSBOOL *checkRepeat*)

This function parses the next start tag and finds index of element name in descriptor table.

It is used to decode sequences in strict mode.

Parameters

pctxt Pointer to context block structure.

tab Elements descriptor table.

pGroup Decode groups table.

groups Number of groups in groups table. If checkRepeat is FALSE, you can pass 0 for this if the value is unknown.

curID Current decode group.

lastMandatoryID Identifier of last mandatory element.

groupMode This parameter must be setted to TRUE when decode groups or base types.

checkRepeat If true, this method is being called to check for a repeat of curID. In this case, we do not treat curID as being required. Otherwise, curID is required if curId <= lastMandatoryID.

Returns

Completion status of operation:

- positive or zero value is element identifier,
- negative return value is error.

6.4.1.56 int rtXmlpGetNextSeqElemIDExt (OSCTXT ∗ *pctxt*, const OSXMLElemIDRec ∗ *tab*, const OSXMLGroupDesc ∗ *ppGroup*, const OSBOOL ∗ *extRequired*, int *postExtRootID*, int *curID*, int *lastMandatoryID*, OSBOOL *groupMode*)

This is an ASN.1 extension-supporting version of rtXmlpGetNextSeqElemID.

It allows required extension elements to be absent, except that when an extension group is present, all required extension elements in that group must be present. It otherwise behaves the same as rtXmlpGetNextSeqElemID.

Parameters

pctxt Pointer to context block structure.

tab Elements descriptor table.

pGroup Decode groups table.

extRequired extRequired[i] corresponds to pGroup[i]. This is TRUE if and only if the decode group ends with a non-optional, non-default extension element that must be present in the encoding (because it is inside an extension group for which some element has already been decoded).

postExtRootID This is the group id corresponding to the decode group that begins with the first root element that follows the extension additions. If there is no such element, this is -1.

curID Current decode group.

lastMandatoryID Identifier of last mandatory element.

groupMode This parameter must be setted to TRUE when decoding groups or base types.

Returns

Completion status of operation:

- positive or zero value is element identifier,
- negative return value is error.

6.4.1.57 struct OSXMLReader$*$ rtXmlpGetReader (OSCTXT $*$ *pctxt*) `[read]`

This function fetches the XML reader structure from the context for use in low-level pull parser calls.

If the reader structure does not exist, it is created and initialized.

Parameters

pctxt Pointer to context block structure.

Returns

Pointer to XML reader structure or NULL if an error occurred.

6.4.1.58 int rtXmlpGetXmlnsAttrs (OSCTXT $*$ *pctxt*, OSRTDList $*$ *pNSAttrs*)

This function decodes namespace attributes from start tag and adds them to the given list.

Parameters

pctxt Pointer to context block structure.

pNSAttrs A pointer to a linked list of OSXMLNamespace structures.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.4.1.59 int rtXmlpGetXSITypeAttr (OSCTXT ∗ *pctxt*, const OSUTF8CHAR ∗∗ *ppAttrValue*, OSINT16 ∗ *nsidx*, size_t ∗ *pLocalOffs*)

This function decodes the contents of an XSI (XML Schema Instance) type attribute (xsi:type).

Parameters

pctxt Pointer to context block structure.

ppAttrValue A pointer to a pointer to a UTF8 character string to received the decoded XSI type QName.

nsidx A pointer to OSINT16 value to received the decoded XSI type namespace index.

pLocalOffs A pointer to size_t value to received the local name offset in ppAttrValue. When pLocalOffs value equal NULL function return in ppAttrValue local name only.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.4.1.60 int rtXmlpGetXSITypeIndex (OSCTXT ∗ *pctxt*, const OSXMLItemDescr *typetab*[ ], size_t *typetabsiz*)

This function decodes the contents of an XSI (XML Schema Instance) type attribute (xsi:type) and find type index in descriptor table.

Parameters

pctxt Pointer to context block structure.

typetab XSI types descriptor table.

typetabsiz Number of descriptors in table.

Returns

Completion status of operation:

- positive or zero value is type index,
- negative return value is error.

6.4.1.61 OSBOOL rtXmlpHasAttributes (OSCTXT ∗ *pctxt*)

This function checks accessibility of attributes.

Parameters

pctxt Pointer to context block structure.

Returns

Completion status of operation:

- TRUE = attributes are present and access is enabled,
- FALSE = attributes are absent or access is disabled.

6.4.1.62 void rtXmlpHideAttributes (OSCTXT ∗ *pctxt*)

Disable access to attributes.

Function used in derived types to disable repeated decode in base type.

Parameters

pctxt Pointer to context block structure.

6.4.1.63 OSBOOL rtXmlpIsDecodeAsGroup (OSCTXT ∗ *pctxt*)

This function checks if "decode as group" mode was forced.

Parameters

pctxt Pointer to context block structure.

Returns

State of mode:

- TRUE = need decode as group,
- FALSE = normal sequence decoding.

6.4.1.64 OSBOOL rtXmlpIsEmptyElement (OSCTXT ∗ *pctxt*)

Check element content: empty or not.

Parameters

pctxt Pointer to context block structure.

Returns

Status of element content:

- TRUE = element is empty,
- FALSE = element has content.

6.4.1.65 OSBOOL rtXmlpIsLastEventDone (OSCTXT ∗ *pctxt*)

Check processing status of current tag.

Parameters

pctxt Pointer to context block structure.

Returns

Status of element content:

- TRUE = tag marked as processed,
- FALSE = tag will be processed again.

6.4.1.66 OSBOOL rtXmlpIsUTF8Encoding (OSCTXT ∗ *pctxt*)

This function checks if the encoding specified in XML header is UTF-8.

Parameters

pctxt Pointer to context block structure.

Returns

State of mode:

- TRUE = is in UTF-8 encoding,
- FALSE = is not in UTF-8 encoding.

6.4.1.67 OSBOOL rtXmlpListHasItem (OSCTXT ∗ *pctxt*)

Check for end of decoded token list.

Parameters

pctxt Pointer to context block structure.

Returns

State of decoded list:

- TRUE = list is not finished,
- FALSE = all tokens was decoded.

6.4.1.68 int rtXmlpLookupXSITypeIndex (OSCTXT ∗ *pctxt*, const OSUTF8CHAR ∗ *pXsiType*, OSINT16 *xsiTypeIdx*, const OSXMLItemDescr *typetab*[ ], size_t *typetabsiz*)

This function find index of XSI (XML Schema Instance) type in descriptor table.

Parameters

pctxt Pointer to context block structure.

pXsiType A pointer to XSI type name.

xsiTypeIdx A XSI type namespace index.

typetab XSI types descriptor table.

typetabsiz Number of descriptors in table.

Returns

Completion status of operation:

- positive or zero value is type index,
- negative return value is error.

6.4.1.69 int rtXmlpMarkLastEventActive (OSCTXT ∗ *pctxt*)

This function marks current tag as unprocessed.

This will cause the element to be processed again in the next pull-parser function.

Parameters

pctxt Pointer to context block structure.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.4.1.70 void rtXmlpMarkPos (OSCTXT ∗ *pctxt*)

Save current decode position.

Parameters

pctxt Pointer to context block structure.

6.4.1.71 int rtXmlpMatchEndTag (OSCTXT ∗ *pctxt*, OSINT32 *level*)

This function parse next end tag that matches with given name.

Parameters

pctxt Pointer to context block structure.

level Nesting level of parsed start tag. When value equal -1 function parse next end tag with current level.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.4.1.72 int rtXmlpMatchStartTag (OSCTXT ∗ *pctxt*, const OSUTF8CHAR ∗ *elemLocalName*, OSINT16 *nsidx*)

This function parses the next start tag that matches with given name.

Parameters

pctxt Pointer to context block structure.

elemLocalName Name of parsed element.

nsidx Namespace index:

- 0 = attribute is unqualified,

        - positive value is user namespace from generated namespace table,
        - negative value is predefined namespace like XSD instance and ect.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

6.4.1.73 OSBOOL rtXmlpNeedDecodeAttributes (OSCTXT ∗ *pctxt*)

This function checks if attributes were previously decoded.

Parameters

pctxt Pointer to context block structure.

Returns

State of attributes:

- TRUE = attributes was not decoded,
- FALSE = attributes had been decoded.

6.4.1.74 int rtXmlpReadBytes (OSCTXT ∗ *pctxt*, OSOCTET ∗ *pbuf*, size_t *nbytes*)

This function reads the specified number of bytes directly from the underlying XML parser stream.

It has no effect on any of the parser state variables.

Parameters

pctxt Pointer to context block structure.

pbuf Pointer to static buffer (byte array) to receive data. The buffer must be at least large enough to hold the requested number of bytes.

nbytes Number of bytes to read.

Returns

State of mode:

- TRUE = is in UTF-8 encoding,
- FALSE = is not in UTF-8 encoding.

6.4.1.75 void rtXmlpResetMarkedPos (OSCTXT ∗ *pctxt*)

Reset saved decode position.

Parameters

pctxt Pointer to context block structure.

6.4.1.76 void rtXmlpRewindToMarkedPos (OSCTXT ∗ *pctxt*)

Rewind to saved decode position.

Parameters

pctxt Pointer to context block structure.

6.4.1.77 int rtXmlpSelectAttribute (OSCTXT ∗ *pctxt*, OSXMLNameFragments ∗ *pAttr*, OSINT16 ∗ *nsidx*, size_t *attrIndex*)

This function selects attribute to decode.

Parameters

pctxt Pointer to context block structure.

pAttr Pointer to structure to receive the various parts of an attribute name.

nsidx Pointer to value to receive namespace index:

- 0 = attribute is unqualified,
- positive value is user namespace from generated namespace table,
- negative value is predefined namespace like XSD instance and ect (see enum OSXMLNsIndex)

attrIndex Index of selected attribute.

Returns

Completion status of operation:

- positive or zero return value is attribute index in descriptor table,
- negative return value is error.

6.4.1.78 void rtXmlpSetListMode (OSCTXT ∗ *pctxt*)

Sets list mode.

Attribute value or element content is decoded by tokens.

Parameters

pctxt Pointer to context block structure.

6.4.1.79 OSBOOL rtXmlpSetMixedContentMode (OSCTXT ∗ *pctxt*, OSBOOL *mixedContentMode*)

Sets mixed content mode.

Parameters

pctxt Pointer to context block structure.

mixedContentMode Enable/disable mixed mode.

Returns

Previously state of mixed mode.

6.4.1.80 void rtXmlpSetNamespaceTable (OSCTXT ∗ *pctxt*, const OSUTF8CHAR ∗ *namespaceTable*[ ], size_t *nmNamespaces*)

Sets user namespace table.

Parameters

pctxt Pointer to context block structure.

namespaceTable Array of namespace URI strings.

nmNamespaces Number of namespaces in table.

6.4.1.81 void rtXmlpSetWhiteSpaceMode (OSCTXT ∗ *pctxt*, OSXMLWhiteSpaceMode *whiteSpaceMode*)

Sets the whitespace treatment mode.

This mode affects the content and attribute values reading. For example, if OSXMLWSM_COLLAPSE mode is set then all spaces in returned data will be already collapsed.

Parameters

pctxt Pointer to context block structure.

whiteSpaceMode White space mode.

Returns

Previously set whitespace mode.

Chapter 7

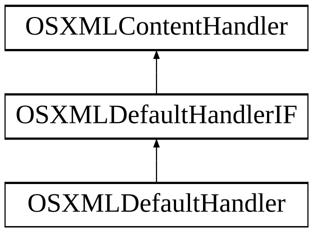
Class Documentation

7.1 OSXMLContentHandler Class Reference

Receive notification of general document events.

`#include <rtSaxCppParserIF.h>`

Inheritance diagram for OSXMLContentHandler:



Public Member Functions

The virtual document handler interface

- virtual int characters (const OSUTF8CHAR ∗const chars, unsigned int length)=0
  Receive notification of character data.
- virtual int endElement (const OSUTF8CHAR ∗const uri, const OSUTF8CHAR ∗const localname, const OSUTF8CHAR ∗const qname)=0
  Receive notification of the end of an element.
- virtual int startElement (const OSUTF8CHAR ∗const uri, const OSUTF8CHAR ∗const localname, const OSUTF8CHAR ∗const qname, const OSUTF8CHAR ∗const ∗attrs)=0
  Receive notification of the beginning of an element.

7.1.1 Detailed Description

Receive notification of general document events.

Definition at line 112 of file rtSaxCppParserIF.h.

7.1.2 Member Function Documentation

7.1.2.1 virtual int OSXMLContentHandler::characters (const OSUTF8CHAR ∗const *chars*, unsigned int *length*) `[pure virtual]`

Receive notification of character data.

The Parser will call this method to report each chunk of character data. SAX parsers may return all contiguous character data in a single chunk, or they may split it into several chunks; however, all of the characters in any single event must come from the same external entity, so that the Locator provides useful information.

Parameters

chars The characters from the XML document.

length The length of chars.

Implemented in OSXMLDefaultHandler.

7.1.2.2 virtual int OSXMLContentHandler::endElement (const OSUTF8CHAR ∗const *uri*, const OSUTF8CHAR ∗const *localname*, const OSUTF8CHAR ∗const *qname*) `[pure virtual]`

Receive notification of the end of an element.

The SAX parser will invoke this method at the end of every element in the XML document; there will be a corresponding startElement() event for every endElement() event (even when the element is empty).

Parameters

uri The URI of the asscioated namespace for this element

localname The local part of the element name

qname The QName of this element

Implemented in OSXMLDefaultHandler.

7.1.2.3 virtual int OSXMLContentHandler::startElement (const OSUTF8CHAR ∗const *uri*, const OSUTF8CHAR ∗const *localname*, const OSUTF8CHAR ∗const *qname*, const OSUTF8CHAR ∗const ∗ *attrs*) `[pure virtual]`

Receive notification of the beginning of an element.

The Parser will invoke this method at the beginning of every element in the XML document; there will be a corresponding endElement() event for every startElement() event (even when the element is empty). All of the element's content will be reported, in order, before the corresponding endElement() event.

Parameters

uri The URI of the asscioated namespace for this element

localname The local part of the element name

qname The QName of this element

attrs The attributes name/value pairs attached to the element, if any.

See also

endElement

Implemented in OSXMLDefaultHandler.

The documentation for this class was generated from the following file:

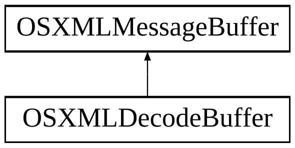
- rtSaxCppParserIF.h

7.2 OSXMLDecodeBuffer Class Reference

The OSXMLDecodeBuffer class is derived from the OSXMLMessageBuffer base class.

`#include <OSXMLDecodeBuffer.h>`

Inheritance diagram for OSXMLDecodeBuffer:



Public Member Functions

- OSXMLDecodeBuffer (const char ∗xmlFile)

  This version of the OSXMLDecodeBuffer constructor takes a name of a file that contains XML data to be decoded and constructs a buffer.

- OSXMLDecodeBuffer (const OSOCTET ∗msgbuf, size_t bufsiz)

  This version of the OSXMLDecodeBuffer constructor takes parameters describing a message in memory to be decoded and constructs a buffer.

- OSXMLDecodeBuffer (OSRTInputStream &inputStream)

  This version of the OSXMLDecodeBuffer constructor takes a reference to the OSInputStream object.

- EXTXMLMETHOD int decodeXML (OSXMLReaderClass ∗pReader)

  This method decodes an XML message associated with this buffer.

- virtual EXTXMLMETHOD int init ()

  This method initializes the decode message buffer.

- EXTXMLMETHOD OSBOOL isWellFormed ()

  This method determines if an XML fragment is well-formed.

- EXTXMLMETHOD int parseElementName (OSUTF8CHAR ∗∗ppName)

  This method parses the initial tag from an XML message.

- EXTXMLMETHOD int parseElemQName (OSXMLQName ∗pQName)

  This method parses the initial tag from an XML message.

- EXTXMLMETHOD OSUINT32 setMaxErrors (OSUINT32 maxErrors)

  This method sets the maximum number of errors returned by the SAX parser.

- virtual OSBOOL isA (Type bufferType)

  This is a virtual method that must be overridden by derived classes to allow identification of the class.

Protected Attributes

- OSRTInputStream ∗ mpInputStream

  Input source for message to be decoded.

- OSBOOL mbOwnStream

  This is set to true if this object creates the underlying stream object.

7.2.1 Detailed Description

The OSXMLDecodeBuffer class is derived from the OSXMLMessageBuffer base class. It contains variables and methods specific to decoding XML messages. It is used to manage an input buffer or stream containing a message to be decoded.

Note that the XML decode buffer object does not take a message buffer argument because buffer management is handled by the XML parser.

Definition at line 45 of file OSXMLDecodeBuffer.h.

7.2.2 Constructor & Destructor Documentation

7.2.2.1 OSXMLDecodeBuffer::OSXMLDecodeBuffer (const char ∗ *xmlFile*)

This version of the OSXMLDecodeBuffer constructor takes a name of a file that contains XML data to be decoded and constructs a buffer.

Parameters

xmlFile A pointer to name of file to be decoded.

7.2.2.2 OSXMLDecodeBuffer::OSXMLDecodeBuffer (const OSOCTET ∗ *msgbuf*, size_t *bufsiz*)

This version of the OSXMLDecodeBuffer constructor takes parameters describing a message in memory to be decoded and constructs a buffer.

Parameters

msgbuf A pointer to a buffer containing an XML message.

bufsiz Size of the message buffer.

7.2.2.3 OSXMLDecodeBuffer::OSXMLDecodeBuffer (OSRTInputStream & *inputStream*)

This version of the OSXMLDecodeBuffer constructor takes a reference to the OSInputStream object.

The stream is assumed to have been previuously initialized to point at an encoded XML message.

Parameters

inputStream reference to the OSInputStream object

7.2.3 Member Function Documentation

7.2.3.1 EXTXMLMETHOD int OSXMLDecodeBuffer::decodeXML (OSXMLReaderClass ∗ *pReader*)

This method decodes an XML message associated with this buffer.

Returns

stat Status of the operation. Possible values are 0 if successful or one of the negative error status codes defined in Appendix A of the C/C++ runtime Common Functions Reference Manual.

Parameters

pReader Pointer to OSXMLReaderClass object.

Returns

Completion status.

7.2.3.2 virtual EXTXMLMETHOD int OSXMLDecodeBuffer::init () `[virtual]`

This method initializes the decode message buffer.

Returns

Completion status of operation:

- 0 (0) = success,
- negative return value is error.

7.2.3.3 virtual OSBOOL OSXMLDecodeBuffer::isA (Type *bufferType*) `[inline, virtual]`

This is a virtual method that must be overridden by derived classes to allow identification of the class.

The base class variant is abstract. This method matches an enumerated identifier defined in the base class. One identifier is declared for each of the derived classes.

Parameters

bufferType Enumerated identifier specifying a derived class. This type is defined as a public access type in the OSRTMessageBufferIF base interface. Possible values include BEREncode, BERDecode, PEREncode, PERDecode, XMLEncode, and XMLDecode.

Returns

Boolean result of the match operation. True if the `bufferType` argument is `XMLDecode`. argument.

Definition at line 169 of file OSXMLDecodeBuffer.h.

7.2.3.4 EXTXMLMETHOD OSBOOL OSXMLDecodeBuffer::isWellFormed ()

This method determines if an XML fragment is well-formed.

The stream is reset to the start position following the test.

Returns

Boolean result true if fragment well-formed; false otherwise.

7.2.3.5 EXTXMLMETHOD int OSXMLDecodeBuffer::parseElementName (OSUTF8CHAR ** *ppName*)

This method parses the initial tag from an XML message.

If the tag is a QName, only the local part of the name is returned.

Parameters

ppName Pointer to a pointer to receive decoded UTF-8 string. Dynamic memory is allocated for the variable using the rtxMemAlloc function.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

7.2.3.6 EXTXMLMETHOD int OSXMLDecodeBuffer::parseElemQName (OSXMLQName * *pQName*)

This method parses the initial tag from an XML message.

Parameters

pQName Pointer to a QName structure to receive parsed name prefix and local name. Dynamic memory is allocated for both name parts using the rtxMemAlloc function.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

7.2.3.7 EXTXMLMETHOD OSUINT32 OSXMLDecodeBuffer::setMaxErrors (OSUINT32 *maxErrors*)

This method sets the maximum number of errors returned by the SAX parser.

Parameters

maxErrors The desired number of maximum errors.

Returns

The previously set maximum number of errors.

7.2.4 Member Data Documentation

7.2.4.1 OSBOOL OSXMLDecodeBuffer::mbOwnStream `[protected]`

This is set to true if this object creates the underlying stream object.

In this case, the stream will be deleted in the object's destructor.

Definition at line 57 of file OSXMLDecodeBuffer.h.

The documentation for this class was generated from the following file:

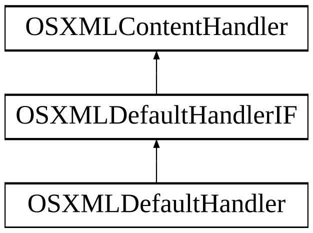
- OSXMLDecodeBuffer.h

7.3 OSXMLDefaultHandler Class Reference

This class is derived from the SAX class DefaultHandler base class.

`#include <rtSaxCppParser.h>`

Inheritance diagram for OSXMLDefaultHandler:



Public Member Functions

- virtual EXTXMLMETHOD int startElement (const OSUTF8CHAR ∗const uri, const OSUTF8CHAR ∗const localname, const OSUTF8CHAR ∗const qname, const OSUTF8CHAR ∗const ∗attrs)

  Receive notification of the beginning of an element.

- virtual EXTXMLMETHOD int characters (const OSUTF8CHAR ∗const chars, unsigned int length)

  Receive notification of character data.

- virtual EXTXMLMETHOD int endElement (const OSUTF8CHAR ∗const uri, const OSUTF8CHAR ∗const localname, const OSUTF8CHAR ∗const qname)

  Receive notification of the end of an element.

- OSINT16 getState ()

  This method returns the current state of the decoding process.

7.3.1 Detailed Description

This class is derived from the SAX class DefaultHandler base class. It contains variables and methods specific to decoding XML messages. It is used to intercept standard SAX parser events, such as startElement, characters, endElement. This class is used as a base class for XBinder generated global element control classes (<elem>_CC).

Definition at line 58 of file rtSaxCppParser.h.

7.3.2 Member Function Documentation

7.3.2.1 virtual EXTXMLMETHOD int OSXMLDefaultHandler::characters (const OSUTF8CHAR ∗const *chars*, unsigned int *length*) `[virtual]`

Receive notification of character data.

The Parser will call this method to report each chunk of character data. SAX parsers may return all contiguous character data in a single chunk, or they may split it into several chunks; however, all of the characters in any single event must come from the same external entity, so that the Locator provides useful information.

Parameters

chars The characters from the XML document.

length The length of chars.

Implements OSXMLContentHandler.

7.3.2.2 virtual EXTXMLMETHOD int OSXMLDefaultHandler::endElement (const OSUTF8CHAR ∗const *uri*, const OSUTF8CHAR ∗const *localname*, const OSUTF8CHAR ∗const *qname*) `[virtual]`

Receive notification of the end of an element.

The SAX parser will invoke this method at the end of every element in the XML document; there will be a corresponding startElement() event for every endElement() event (even when the element is empty).

Parameters

uri The URI of the asscioated namespace for this element

localname The local part of the element name

qname The QName of this element

Implements OSXMLContentHandler.

7.3.2.3 OSINT16 OSXMLDefaultHandler::getState () `[inline]`

This method returns the current state of the decoding process.

Returns

The state of the decoding process as type OSXMLState. Can be XMLINIT, XMLSTART, XMLDATA, or XMLEND.

Definition at line 124 of file rtSaxCppParser.h.

7.3.2.4 virtual EXTXMLMETHOD int OSXMLDefaultHandler::startElement (const OSUTF8CHAR ∗const *uri*, const OSUTF8CHAR ∗const *localname*, const OSUTF8CHAR ∗const *qname*, const OSUTF8CHAR ∗const ∗ *attrs*) `[virtual]`

Receive notification of the beginning of an element.

The Parser will invoke this method at the beginning of every element in the XML document; there will be a corresponding endElement() event for every startElement() event (even when the element is empty). All of the element's content will be reported, in order, before the corresponding endElement() event.

Parameters

uri The URI of the asscioated namespace for this element

localname The local part of the element name

qname The QName of this element

attrs The attributes name/value pairs attached to the element, if any.

See also

endElement

Implements OSXMLContentHandler.

The documentation for this class was generated from the following file:

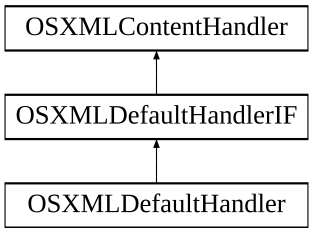
- rtSaxCppParser.h

7.4 OSXMLDefaultHandlerIF Class Reference

This class is derived from the SAX class DefaultHandler base class.

`#include <rtSaxCppParserIF.h>`

Inheritance diagram for OSXMLDefaultHandlerIF:



7.4.1 Detailed Description

This class is derived from the SAX class DefaultHandler base class. It contains variables and methods specific to decoding XML messages. It is used to intercept standard SAX parser events, such as startElement, characters, endElement. This class is used as a base class for XBinder generated global element control classes (<elem>_CC).

Definition at line 260 of file rtSaxCppParserIF.h.

The documentation for this class was generated from the following file:

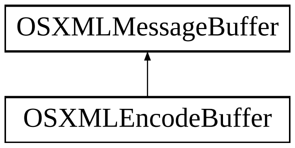
- rtSaxCppParserIF.h

7.5 OSXMLEncodeBuffer Class Reference

The OSXMLEncodeBuffer class is derived from the OSXMLMessageBuffer base class.

`#include <OSXMLEncodeBuffer.h>`

Inheritance diagram for OSXMLEncodeBuffer:



Public Member Functions

- EXTXMLMETHOD OSXMLEncodeBuffer ()

  Default constructor.

- EXTXMLMETHOD OSXMLEncodeBuffer (OSOCTET ∗pMsgBuf, size_t msgBufLen)

  This constructor allows a static message buffer to be specified to receive the encoded message.

- int addXMLHeader (const OSUTF8CHAR ∗version=OSUTF8("1.0"), const OSUTF8CHAR ∗encoding=OSUTF8(OSXMLHDRUTF8), OSBOOL newLine=TRUE)

  This method adds XML header text to the output buffer with the given version number and encoding attributes.

- EXTXMLMETHOD int addXMLText (const OSUTF8CHAR ∗text)

  This method adds encoded XML text to the encode buffer.

- virtual size_t getMsgLen ()

  This method returns the length of a previously encoded XML message.

- virtual EXTXMLMETHOD int init ()

  This method reinitializes the encode buffer to allow a new message to be encoded.

- virtual OSBOOL isA (Type bufferType)

  This is a virtual method that must be overridden by derived classes to allow identification of the class.

- void nullTerminate ()

  This method adds a null-terminator character (”) at the current buffer position.

- EXTXMLMETHOD void setFragment (OSBOOL value=TRUE)

  This method sets a flag indicating that the data is to be encoded as ax XML fragment instead of as a complete XML document (i.e.

- virtual EXTXMLMETHOD long write (const char ∗filename)

  This method writes the encoded message to the given file.

- virtual EXTXMLMETHOD long write (FILE ∗fp)

  This version of the write method writes to a file that is specified by a FILE pointer.

7.5.1 Detailed Description

The OSXMLEncodeBuffer class is derived from the OSXMLMessageBuffer base class. It contains variables and methods specific to encoding XML messages. It is used to manage the buffer into which a message is to be encoded.

Definition at line 38 of file OSXMLEncodeBuffer.h.

7.5.2 Constructor & Destructor Documentation

7.5.2.1 EXTXMLMETHOD OSXMLEncodeBuffer::OSXMLEncodeBuffer (OSOCTET ∗ *pMsgBuf*, size_t *msgBufLen*)

This constructor allows a static message buffer to be specified to receive the encoded message.

Parameters

pMsgBuf A pointer to a fixed size message buffer to receive the encoded message.

msgBufLen Size of the fixed-size message buffer.

7.5.3 Member Function Documentation

7.5.3.1 int OSXMLEncodeBuffer::addXMLHeader (const OSUTF8CHAR ∗ *version* = `OSUTF8("1.0")`, const OSUTF8CHAR ∗ *encoding* = `OSUTF8(OSXMLHDRUTF8)`, OSBOOL *newLine* = `TRUE`)

This method adds XML header text to the output buffer with the given version number and encoding attributes.

Parameters

version XML version (default is 1.0)

encoding Character encoding (default is UTF-8)

newLine Add newline char at end of header

Returns

Zero if success or negative error code.

7.5.3.2 EXTXMLMETHOD int OSXMLEncodeBuffer::addXMLText (const OSUTF8CHAR ∗ *text*)

This method adds encoded XML text to the encode buffer.

It is assumed that the user has already processed the text to do character escaping, etc.. The text is copied directly to the buffer as-is.

Parameters

text Encoded XML text to be added to the buffer.

Returns

Zero if success or negative error code.

7.5.3.3 virtual size_t OSXMLEncodeBuffer::getMsgLen () `[inline, virtual]`

This method returns the length of a previously encoded XML message.

Returns

Length of the XML message encapsulated within this buffer object.

Definition at line 90 of file OSXMLEncodeBuffer.h.

7.5.3.4 virtual EXTXMLMETHOD int OSXMLEncodeBuffer::init () `[virtual]`

This method reinitializes the encode buffer to allow a new message to be encoded.

This makes it possible to reuse one message buffer object in a loop to encode multiple messages. After this method is called, any previously encoded message in the buffer will be overwritten on the next encode call.

7.5.3.5 virtual OSBOOL OSXMLEncodeBuffer::isA (Type *bufferType*) `[inline, virtual]`

This is a virtual method that must be overridden by derived classes to allow identification of the class.

The base class variant is abstract. This method matches an enumerated identifier defined in the base class. One identifier is declared for each of the derived classes.

Parameters

bufferType Enumerated identifier specifying a derived class. This type is defined as a public access type in the OSRTMessageBufferIF base interface. Possible values include BEREncode, BERDecode, PEREncode, PERDecode, XMLEncode, and XMLDecode.

Returns

Boolean result of the match operation. True if the `bufferType` argument is `XMLEncode`. argument.

Definition at line 118 of file OSXMLEncodeBuffer.h.

7.5.3.6 EXTXMLMETHOD void OSXMLEncodeBuffer::setFragment (OSBOOL *value* = `TRUE`)

This method sets a flag indicating that the data is to be encoded as ax XML fragment instead of as a complete XML document (i.e.

an XML header will not be added).

7.5.3.7 virtual EXTXMLMETHOD long OSXMLEncodeBuffer::write (FILE ∗ *fp*) `[virtual]`

This version of the write method writes to a file that is specified by a FILE pointer.

Parameters

fp Pointer to FILE structure to which the encoded message will be written.

Returns

Number of octets actually written. This value may be less than the actual message length if an error occurs.

7.5.3.8 virtual EXTXMLMETHOD long OSXMLEncodeBuffer::write (const char * *filename*) `[virtual]`

This method writes the encoded message to the given file.

Parameters

filename The name of file to which the encoded message will be written.

Returns

Number of octets actually written. This value may be less than the actual message length if an error occurs.

The documentation for this class was generated from the following file:

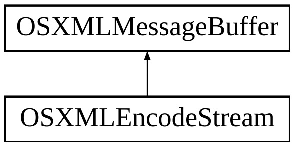
- OSXMLEncodeBuffer.h

7.6 OSXMLEncodeStream Class Reference

The OSXMLEncodeStream class is derived from the OSXMLMessageBuffer base class.

`#include <OSXMLEncodeStream.h>`

Inheritance diagram for OSXMLEncodeStream:



Public Member Functions

- EXTXMLMETHOD OSXMLEncodeStream (OSRTOutputStream &outputStream)

  This version of the OSXMLEncodeStream constructor takes a reference to the OSOutputStream object.

- OSXMLEncodeStream (OSRTOutputStream ∗pOutputStream, OSBOOL ownStream=TRUE)

  This version of the OSXMLEncodeStream constructor takes a pointer to the OSRTOutputStream object.

- EXTXMLMETHOD int encodeAttr (const OSUTF8CHAR ∗name, const OSUTF8CHAR ∗value)

  This function encodes an attribute in which the name and value are given as null-terminated UTF-8 strings.

- EXTXMLMETHOD int encodeText (const OSUTF8CHAR ∗value)

  This method encodes XML textual content.

- EXTXMLMETHOD int endDocument ()

  This method ends an XML document by flushing any remaining data to the stream.

- EXTXMLMETHOD int endElement (const OSUTF8CHAR ∗elemName, OSXMLNamespace ∗pNS=0)

  This method encodes an end element tag value (</elemName>).

- virtual EXTXMLMETHOD int init ()

  This method reinitializes the encode stream to allow a new message to be encoded.

- virtual OSBOOL isA (Type bufferType)

  This is a virtual method that must be overridden by derived classes to allow identification of the class.

- virtual const OSOCTET ∗ getMsgPtr ()

  This is a virtual method that must be overridden by derived classes to allow access to the stored message.

- OSRTOutputStream ∗ getStream () const

  This method returns the output stream associated with the object.

- EXTXMLMETHOD int startDocument ()

  This method writes information to start an XML document to the encode stream.

- EXTXMLMETHOD int startElement (const OSUTF8CHAR ∗elemName, OSXMLNamespace ∗pNS=0, OS-RTDList ∗pNSAttrs=0, OSBOOL terminate=FALSE)

This method writes information to start an XML element to the encode stream.

- EXTXMLMETHOD int termStartElement ()

  This metod terminates a currently open XML start element by adding either a '>' or '/>' (if empty) terminator.

Protected Attributes

- OSRTOutputStream ∗ mpStream

  A pointer to an OSRTOutputStream object.

- OSBOOL mbOwnStream

  TRUE if the OSXMLEncodeStream object will close and free the stream in the destructor.

- OSCTXT ∗ mpCtxt

  Internal pointer to the context structure associated with the stream for making C function calls.

7.6.1 Detailed Description

The OSXMLEncodeStream class is derived from the OSXMLMessageBuffer base class. It contains variables and methods specific to streaming encoding XML messages. It is used to manage the stream into which a message is to be encoded.

Definition at line 40 of file OSXMLEncodeStream.h.

7.6.2 Constructor & Destructor Documentation

7.6.2.1 EXTXMLMETHOD OSXMLEncodeStream::OSXMLEncodeStream (OSRTOutputStream & *outputStream*)

This version of the OSXMLEncodeStream constructor takes a reference to the OSOutputStream object.

The stream is assumed to have been previously initialized.

Parameters

outputStream reference to the OSOutputStream object

7.6.2.2 OSXMLEncodeStream::OSXMLEncodeStream (OSRTOutputStream ∗ *pOutputStream*, OSBOOL *ownStream* = `TRUE`)

This version of the OSXMLEncodeStream constructor takes a pointer to the OSRTOutputStream object.

The stream is assumed to have been previously initialized. If ownStream is set to TRUE, then stream will be closed and freed in the destructor.

Parameters

pOutputStream reference to the OSOutputStream object

ownStream set ownership for the passed stream object.

7.6.3 Member Function Documentation

7.6.3.1 EXTXMLMETHOD int OSXMLEncodeStream::encodeAttr (const OSUTF8CHAR ∗ *name*, const OSUTF8CHAR ∗ *value*)

This function encodes an attribute in which the name and value are given as null-terminated UTF-8 strings.

Parameters

name Attribute name.

value UTF-8 string value to be encoded.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

7.6.3.2 EXTXMLMETHOD int OSXMLEncodeStream::encodeText (const OSUTF8CHAR ∗ *value*)

This method encodes XML textual content.

XML metadata characters such as '<' are escaped. The input value is specified in UTF-8 character format but may be transformed if a different character encoding is enabled.

Parameters

value UTF-8 string value to be encoded.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

7.6.3.3 EXTXMLMETHOD int OSXMLEncodeStream::endElement (const OSUTF8CHAR ∗ *elemName*, OSXMLNamespace ∗ *pNS* = 0)

This method encodes an end element tag value (</elemName>).

Parameters

elemName XML element name.

pNS XML namespace information (prefix and URI).

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

7.6.3.4 virtual const OSOCTET∗ OSXMLEncodeStream::getMsgPtr () `[inline, virtual]`

This is a virtual method that must be overridden by derived classes to allow access to the stored message.

The base class implementation returns a null value.

Returns

A pointer to the stored message.

Definition at line 154 of file OSXMLEncodeStream.h.

7.6.3.5 OSRTOutputStream∗ OSXMLEncodeStream::getStream () const `[inline]`

This method returns the output stream associated with the object.

Returns

A pointer to the output stream.

Definition at line 161 of file OSXMLEncodeStream.h.

7.6.3.6 virtual EXTXMLMETHOD int OSXMLEncodeStream::init () `[virtual]`

This method reinitializes the encode stream to allow a new message to be encoded.

This makes it possible to reuse one stream object in a loop to encode multiple messages.

7.6.3.7 virtual OSBOOL OSXMLEncodeStream::isA (Type *bufferType*) `[inline, virtual]`

This is a virtual method that must be overridden by derived classes to allow identification of the class.

The base class variant is abstract. This method matches an enumerated identifier defined in the base class. One identifier is declared for each of the derived classes.

Parameters

bufferType Enumerated identifier specifying a derived class. This type is defined as a public access type in the OSRTMessageBufferIF base interface. Possible values include BEREncode, BERDecode, PEREncode, PERDecode, XMLEncode, and XMLDecode.

Returns

Boolean result of the match operation. True if the `bufferType` argument is `XMLEncode`. argument.

Definition at line 143 of file OSXMLEncodeStream.h.

7.6.3.8 EXTXMLMETHOD int OSXMLEncodeStream::startDocument ()

This method writes information to start an XML document to the encode stream.

This includes the XML header declaration.

7.6.3.9 EXTXMLMETHOD int OSXMLEncodeStream::startElement (const OSUTF8CHAR ∗ *elemName*, OSXMLNamespace ∗ *pNS* = `0`, OSRTDList ∗ *pNSAttrs* = `0`, OSBOOL *terminate* = `FALSE`)

This method writes information to start an XML element to the encode stream.

It can leave the element open so that attributes can be added.

Parameters

elemName XML element name.

pNS XML namespace information (prefix and URI). If the prefix is NULL, this method will search the context's namespace stack for a prefix to use.

pNSAttrs List of namespace attributes to be added to element.

terminate Add closing '>' character.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

7.6.3.10 EXTXMLMETHOD int OSXMLEncodeStream::termStartElement ()

This metod terminates a currently open XML start element by adding either a '>' or '/>' (if empty) terminator.

It will also add XSI attributes to the element. Note that is important to use this method to terminate the element rather than writng a closing angle bracket text to the stream directly due to the way state is maintained in the context.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

7.6.4 Member Data Documentation

7.6.4.1 OSBOOL OSXMLEncodeStream::mbOwnStream `[protected]`

TRUE if the OSXMLEncodeStream object will close and free the stream in the destructor.

Definition at line 47 of file OSXMLEncodeStream.h.

7.6.4.2 OSCTXT∗ OSXMLEncodeStream::mpCtxt `[protected]`

Internal pointer to the context structure associated with the stream for making C function calls.

Definition at line 51 of file OSXMLEncodeStream.h.

7.6.4.3 OSRTOutputStream* OSXMLEncodeStream::mpStream `[protected]`

A pointer to an OSRTOutputStream object.

Definition at line 43 of file OSXMLEncodeStream.h.

The documentation for this class was generated from the following file:

- OSXMLEncodeStream.h

7.7 OSXMLGroupDesc Struct Reference

OSXMLGroupDesc describes how entries in an OSXMLElemIDRec array make up a group.

```
#include <osrtxml.h>
```

7.7.1 Detailed Description

OSXMLGroupDesc describes how entries in an OSXMLElemIDRec array make up a group. Here, "group" means a set of elements, any of which may be matched next. This does not correspond directly to an XSD group.

For example, if elementA is optional and followed by non-optional elementB, then there will be a group that contains both elements. There will also be a group that contains only elementB; this will be the group of interest after elementA is matched.

Definition at line 142 of file osrtxml.h.

The documentation for this struct was generated from the following file:

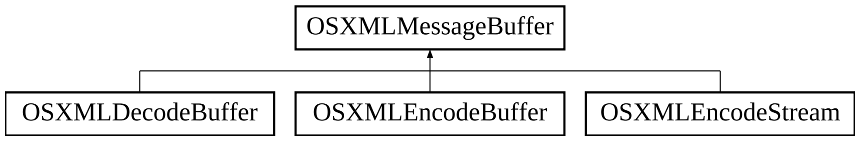
- osrtxml.h

7.8 OSXMLMessageBuffer Class Reference

The XML message buffer class is derived from the OSMessageBuffer base class.

`#include <OSXMLMessageBuffer.h>`

Inheritance diagram for OSXMLMessageBuffer:



Public Member Functions

- virtual EXTXMLMETHOD void ∗ getAppInfo ()

  The getAppInfo method returns the pointer to application context information.

- EXTXMLMETHOD int getIndent ()

  This method returns current XML output indent value.

- EXTXMLMETHOD int getIndentChar ()

  This method returns current XML output indent character value (default is space).

- EXTXMLMETHOD OSBOOL getWriteBOM ()

  This function returns whether writing the Unicode BOM is currently enabled or disabled.

- virtual EXTXMLMETHOD void setNamespace (const OSUTF8CHAR ∗prefix, const OSUTF8CHAR ∗uri, OSRTDList ∗pNSAttrs=0)

  This method sets a namespace in the context namespace list.

- virtual EXTXMLMETHOD void setAppInfo (void ∗pXMLInfo)

  This method sets application specific context information within the common context structure.

- EXTXMLMETHOD void setFormatting (OSBOOL doFormatting)

  This method sets XML output formatting to the given value.

- EXTXMLMETHOD void setIndent (OSUINT8 indent)

  This method sets XML output indent to the given value.

- EXTXMLMETHOD void setIndentChar (char indentChar)

  This method sets XML output indent character to the given value.

- EXTXMLMETHOD void setWriteBOM (OSBOOL write)

  This method sets whether to write the Unicode byte order mark before the XML header.

Protected Member Functions

- EXTXMLMETHOD OSXMLMessageBuffer (Type bufferType, OSRTContext ∗pContext=0)

  The protected constructor creates a new context and sets the buffer class type.

7.8.1 Detailed Description

The XML message buffer class is derived from the OSMessageBuffer base class. It is the base class for the OSXMLEncodeBuffer and OSXMLDecodeBuffer classes. It contains variables and methods specific to encoding or decoding XML messages. It is used to manage the buffer into which a message is to be encoded or decoded.

Definition at line 42 of file OSXMLMessageBuffer.h.

7.8.2 Constructor & Destructor Documentation

7.8.2.1 EXTXMLMETHOD OSXMLMessageBuffer::OSXMLMessageBuffer (Type *bufferType*, OSRTContext ∗ *pContext* = `0`) `[protected]`

The protected constructor creates a new context and sets the buffer class type.

Parameters

bufferType Type of message buffer that is being created (for example, XMLEncode or XMLDecode).

pContext Pointer to a context to use. If NULL, new context will be allocated.

7.8.3 Member Function Documentation

7.8.3.1 EXTXMLMETHOD int OSXMLMessageBuffer::getIndent ()

This method returns current XML output indent value.

Returns

Current indent value (>= 0) if OK, negative status code if error.

7.8.3.2 EXTXMLMETHOD int OSXMLMessageBuffer::getIndentChar ()

This method returns current XML output indent character value (default is space).

Returns

Current indent character (> 0) if OK, negative status code if error.

7.8.3.3 EXTXMLMETHOD OSBOOL OSXMLMessageBuffer::getWriteBOM ()

This function returns whether writing the Unicode BOM is currently enabled or disabled.

Returns

TRUE if writing BOM is enabled, FALSE otherwise.

7.8.3.4 virtual EXTXMLMETHOD void OSXMLMessageBuffer::setAppInfo (void ∗ *pXMLInfo*) `[virtual]`

This method sets application specific context information within the common context structure.

For XML encoding/decoding, this is a structure of type *OSXMLCtxtInfo*.

Parameters

pXMLInfo Pointer to context information.

7.8.3.5 EXTXMLMETHOD void OSXMLMessageBuffer::setFormatting (OSBOOL *doFormatting*)

This method sets XML output formatting to the given value.

If TRUE (the default), the XML document is formatted with indentation and newlines. If FALSE, all whitespace between elements is suppressed. Turning formatting off can provide more compressed documents and also a more canonical representation which is important for security applications.

Parameters

doFormatting Boolean value indicating if formatting is to be done

Returns

Status of operation: 0 if OK, negative status code if error.

7.8.3.6 EXTXMLMETHOD void OSXMLMessageBuffer::setIndent (OSUINT8 *indent*)

This method sets XML output indent to the given value.

Parameters

indent Number of spaces per indent. Default is 3.

7.8.3.7 EXTXMLMETHOD void OSXMLMessageBuffer::setIndentChar (char *indentChar*)

This method sets XML output indent character to the given value.

Parameters

indentChar Indent character. Default is space.

7.8.3.8 virtual EXTXMLMETHOD void OSXMLMessageBuffer::setNamespace (const OSUTF8CHAR ∗ *prefix*, const OSUTF8CHAR ∗ *uri*, OSRTDList ∗ *pNSAttrs* = `0`) `[virtual]`

This method sets a namespace in the context namespace list.

If the given namespace URI does not exist in the list, the namespace is added. If the URI is found, the value of the namespace prefix will be changed to the given prefix.

Parameters

prefix Namespace prefix

uri Namespace URI

pNSAttrs Namespace list to which namespace is to be added

7.8.3.9 EXTXMLMETHOD void OSXMLMessageBuffer::setWriteBOM (OSBOOL *write*)

This method sets whether to write the Unicode byte order mark before the XML header.

Parameters

write TRUE if BOM should be written, FALSE otherwise.

The documentation for this class was generated from the following file:

- OSXMLMessageBuffer.h

7.9 OSXMLNamespaceClass Class Reference

This class is used to hold an XML namespace prefix to URI mapping.

```
#include <rtXmlCppNamespace.h>
```

Public Member Functions

- OSXMLNamespaceClass ()

  The default constructor sets the namespace prefix and URI values to empty values.

- ∼OSXMLNamespaceClass ()

  The destructor deletes the prefix and uri string variables.

- OSXMLNamespaceClass (const OSUTF8CHAR ∗nsPrefix, const OSUTF8CHAR ∗nsURI)

  The parameterized constructor sets the namespace prefix and URI values to the given values.

- OSXMLNamespaceClass (const OSUTF8CHAR ∗nsPrefix, size_t nsPrefixBytes, const OSUTF8CHAR ∗nsURI, size_t nsURIBytes)

  The parameterized constructor sets the namespace prefix and URI values to the given values.

- OSXMLNamespaceClass (const OSXMLNamespaceClass &o)

  The copy constructor make a deep-copy of the prefix and URI values.

- const OSUTF8CHAR ∗ getPrefix () const

  This method is used to get the namespace prefix value.

- const OSUTF8CHAR ∗ getURI () const

  This method is used to get the namespace URI value.

- void setPrefix (const OSUTF8CHAR ∗nsPrefix)

  This method is used to set the namespace prefix value.

- void setURI (const OSUTF8CHAR ∗nsURI)

  This method is used to set the namespace URI value.

7.9.1 Detailed Description

This class is used to hold an XML namespace prefix to URI mapping.

Definition at line 38 of file rtXmlCppNamespace.h.

7.9.2 Constructor & Destructor Documentation

7.9.2.1 OSXMLNamespaceClass::OSXMLNamespaceClass (const OSUTF8CHAR ∗ *nsPrefix*, const OSUTF8CHAR ∗ *nsURI*)

The parameterized constructor sets the namespace prefix and URI values to the given values.

A deep copy of the values is done.

Parameters

nsPrefix Namespace prefix value.

nsURI Namespace URI value.

7.9.2.2 OSXMLNamespaceClass::OSXMLNamespaceClass (const OSUTF8CHAR ∗ *nsPrefix*, size_t *nsPrefixBytes*, const OSUTF8CHAR ∗ *nsURI*, size_t *nsURIBytes*)

The parameterized constructor sets the namespace prefix and URI values to the given values.

A deep copy of the values is done.

Parameters

nsPrefix Namespace prefix value.

nsPrefixBytes Namespace prefix value size in bytes.

nsURI Namespace URI value.

nsURIBytes Namespace URI value size in bytes.

The documentation for this class was generated from the following file:

- rtXmlCppNamespace.h

7.10 OSXMLStrListHandler Class Reference

OSXMLStrListHandler.

```
#include <rtSaxCppStrList.h>
```

7.10.1 Detailed Description

OSXMLStrListHandler.

Definition at line 41 of file rtSaxCppStrList.h.

The documentation for this class was generated from the following file:

- rtSaxCppStrList.h

7.11 OSXSDGlobalElement Class Reference

XSD global element base class.

`#include <rtXmlCppXSDElement.h>`

Public Member Functions

- OSXSDGlobalElement (OSRTMessageBufferIF &msgBuf)

  This constructor sets the internal message buffer pointer to point at the given message buffer or stream object.

- OSXSDGlobalElement (const OSXSDGlobalElement &o)

  The copy constructor sets the internal message buffer pointer and context to point at the message buffer and context from the original OSCType object.

- virtual ∼OSXSDGlobalElement ()

  The virtual destructor does nothing.

- int decode ()

  The `decode` method decodes the message described by the encapsulated message buffer object.

- virtual int decodeFrom (OSRTMessageBufferIF &)

  The `decodeFrom` method decodes a message from the given message buffer or stream argument.

- int encode ()

  The `encode` method encodes a message using the encoding rules specified by the derived message buffer object.

- virtual int encodeTo (OSRTMessageBufferIF &)

  The `encodeTo` method encodes a message into the given message buffer or stream argument.

- OSCTXT ∗ getCtxtPtr ()

  The getCtxtPtr method returns the underlying C runtime context.

- void ∗ memAlloc (size_t numocts)

  The memAlloc method allocates memory using the C runtime memory management functions.

- void memFreePtr (void ∗ptr)

  The memFreePtr method frees the memory at a specific location.

- void setDefaultNamespace (const OSUTF8CHAR ∗uri)

  The setDefaultNamespace method sets the default namespace for the element to the given value.

- void setDiag (OSBOOL value=TRUE)

  The setDiag method turns diagnostic tracing on or off.

- void setEncXSINamespace (OSBOOL value=TRUE)

  The setEncXSINamespace method sets a flag in the internal context that indicates the xsi namespace attribute must be encoded.

- void setNamespace (const OSUTF8CHAR ∗prefix, const OSUTF8CHAR ∗uri)

The setNamespace method adds or modifies the namespace with the given URI in the namespace list to contain the given prefix.

- void setNoNSSchemaLocation (const OSUTF8CHAR ∗uri)

  The setNoNSSchemaLocation method adds an xsi:noNamespaceSchemaLocation attribute to the document.

- void setSchemaLocation (const OSUTF8CHAR ∗uri)

  The setSchemaLocation method adds an xsi:schemaLocation attribute to the document.

- void setXSIType (const OSUTF8CHAR ∗typeName)

  The setXSIType method sets a type name to be used in the xsi:type attribute in the top-level module element declaration.

- int validate ()

  The `validate` method validates the message described by the encapsulated message buffer object.

- virtual int validateFrom (OSRTMessageBufferIF &)

  The `validateFrom` method validates a message from the given message buffer or stream argument.

Protected Member Functions

- OSXSDGlobalElement ()

  The default constructor sets the message pointer member variable to NULL and creates a new context object.

- OSXSDGlobalElement (OSRTContext &ctxt)

  This constructor sets the message pointer member variable to NULL and initializes the context object to point at the given context value.

- void setMsgBuf (OSRTMessageBufferIF &msgBuf)

  The setMsgBuf method is used to set the internal message buffer pointer to point at the given message buffer or stream object.

Protected Attributes

- OSRTCtxtPtr mpContext

  The mpContext member variable holds a reference-counted C runtime variable.

- OSRTMessageBufferIF ∗ mpMsgBuf

  The mpMsgBuf member variable is a pointer to a derived message buffer or stream class that will manage the message being encoded or decoded.

7.11.1 Detailed Description

XSD global element base class. This is the main base class for all generated global element control classes. It holds a variable of a generated data type as well as the associated message buffer or stream class to which a message will be encoded or from which a message will be decoded.

Definition at line 57 of file rtXmlCppXSDElement.h.

7.11.2 Constructor & Destructor Documentation

7.11.2.1 OSXSDGlobalElement::OSXSDGlobalElement (OSRTContext & *ctxt*) `[inline, protected]`

This constructor sets the message pointer member variable to NULL and initializes the context object to point at the given context value.

Parameters

ctxt - Reference to a context object.

Definition at line 85 of file rtXmlCppXSDElement.h.

7.11.2.2 OSXSDGlobalElement::OSXSDGlobalElement (OSRTMessageBufferIF & *msgBuf*) `[inline]`

This constructor sets the internal message buffer pointer to point at the given message buffer or stream object.

The context is set to point at the context contained within the message buffer object. Thus, the message buffer and control class object share the context. It will not be released until both objects are destroyed.

Parameters

msgBuf - Reference to a message buffer or stream object.

Definition at line 105 of file rtXmlCppXSDElement.h.

7.11.2.3 OSXSDGlobalElement::OSXSDGlobalElement (const OSXSDGlobalElement & *o*) `[inline]`

The copy constructor sets the internal message buffer pointer and context to point at the message buffer and context from the original OSCType object.

Parameters

o - Reference to a global element object.

Definition at line 116 of file rtXmlCppXSDElement.h.

7.11.2.4 virtual OSXSDGlobalElement::~OSXSDGlobalElement () `[inline, virtual]`

The virtual destructor does nothing.

It is overridden by derived versions of this class.

Definition at line 123 of file rtXmlCppXSDElement.h.

7.11.3 Member Function Documentation

7.11.3.1 virtual int OSXSDGlobalElement::decodeFrom (OSRTMessageBufferIF &) `[inline, virtual]`

The `decodeFrom` method decodes a message from the given message buffer or stream argument.

Parameters

- Message buffer or stream containing message to decode.

Definition at line 138 of file rtXmlCppXSDElement.h.

7.11.3.2 virtual int OSXSDGlobalElement::encodeTo (OSRTMessageBufferIF &) `[inline, virtual]`

The `encodeTo` method encodes a message into the given message buffer or stream argument.

Parameters

- Message buffer or stream to which the message is to be encoded.

Definition at line 153 of file rtXmlCppXSDElement.h.

7.11.3.3 OSCTXT∗ OSXSDGlobalElement::getCtxtPtr () `[inline]`

The getCtxtPtr method returns the underlying C runtime context.

This context can be used in calls to C runtime functions.

Definition at line 159 of file rtXmlCppXSDElement.h.

7.11.3.4 void∗ OSXSDGlobalElement::memAlloc (size_t *numocts*) `[inline]`

The memAlloc method allocates memory using the C runtime memory management functions.

The memory is tracked in the underlying context structure. When both this OSXSDGlobalElement derived control class object and the message buffer object are destroyed, this memory will be freed.

Parameters

numocts - Number of bytes of memory to allocate

Definition at line 172 of file rtXmlCppXSDElement.h.

7.11.3.5 void OSXSDGlobalElement::memFreePtr (void ∗ *ptr*) `[inline]`

The memFreePtr method frees the memory at a specific location.

This memory must have been allocated using the memAlloc method described earlier.

Parameters

ptr - Pointer to a block of memory allocated with `memAlloc`

Definition at line 200 of file rtXmlCppXSDElement.h.

7.11.3.6 void OSXSDGlobalElement::setDefaultNamespace (const OSUTF8CHAR ∗ *uri*) `[inline]`

The setDefaultNamespace method sets the default namespace for the element to the given value.

Parameters

uri - Default namespace URI

Definition at line 210 of file rtXmlCppXSDElement.h.

7.11.3.7 void OSXSDGlobalElement::setDiag (OSBOOL *value* = `TRUE`) `[inline]`

The setDiag method turns diagnostic tracing on or off.

Parameters

value - Boolean on/off value (default = on)

Definition at line 219 of file rtXmlCppXSDElement.h.

7.11.3.8 void OSXSDGlobalElement::setEncXSINamespace (OSBOOL *value* = `TRUE`) `[inline]`

The setEncXSINamespace method sets a flag in the internal context that indicates the xsi namespace attribute must be encoded.

Parameters

value - Boolean on/off value (default = on)

Definition at line 229 of file rtXmlCppXSDElement.h.

References rtXmlSetEncXSINamespace().

7.11.3.9 void OSXSDGlobalElement::setMsgBuf (OSRTMessageBufferIF & *msgBuf*) `[protected]`

The setMsgBuf method is used to set the internal message buffer pointer to point at the given message buffer or stream object.

Parameters

msgBuf - Reference to a message buffer or stream object.

7.11.3.10 void OSXSDGlobalElement::setNamespace (const OSUTF8CHAR ∗ *prefix*, const OSUTF8CHAR ∗ *uri*) `[inline]`

The setNamespace method adds or modifies the namespace with the given URI in the namespace list to contain the given prefix.

Parameters

prefix - Namespace prefix

uri - Namespace URI

Definition at line 240 of file rtXmlCppXSDElement.h.

7.11.3.11 void OSXSDGlobalElement::setNoNSSchemaLocation (const OSUTF8CHAR ∗ *uri*) `[inline]`

The setNoNSSchemaLocation method adds an xsi:noNamespaceSchemaLocation attribute to the document.

Parameters

uri - URI for noNamespaceSchemaLocation.

Definition at line 250 of file rtXmlCppXSDElement.h.

References rtXmlSetNoNSSchemaLocation().

7.11.3.12 void OSXSDGlobalElement::setSchemaLocation (const OSUTF8CHAR ∗ *uri*) `[inline]`

The setSchemaLocation method adds an xsi:schemaLocation attribute to the document.

Parameters

uri - URI for schemaLocation.

Definition at line 260 of file rtXmlCppXSDElement.h.

References rtXmlSetSchemaLocation().

7.11.3.13 void OSXSDGlobalElement::setXSIType (const OSUTF8CHAR ∗ *typeName*) `[inline]`

The setXSIType method sets a type name to be used in the xsi:type attribute in the top-level module element declaration.

Parameters

typeName - XSI type name

Definition at line 270 of file rtXmlCppXSDElement.h.

References rtXmlSetXSITypeAttr().

7.11.3.14 virtual int OSXSDGlobalElement::validateFrom (OSRTMessageBufferIF &) `[inline, virtual]`

The `validateFrom` method validates a message from the given message buffer or stream argument.

Parameters

- Message buffer or stream containing message to validate.

Definition at line 287 of file rtXmlCppXSDElement.h.

7.11.4 Member Data Documentation

7.11.4.1 OSRTCtxtPtr OSXSDGlobalElement::mpContext `[protected]`

The mpContext member variable holds a reference-counted C runtime variable.

This context is used in calls to all C run-time functions. The context pointed at by this smart-pointer object is shared with the message buffer object contained within this class.

Definition at line 65 of file rtXmlCppXSDElement.h.

The documentation for this class was generated from the following file:

- rtXmlCppXSDElement.h

Chapter 8

File Documentation

8.1 osrtxml.h File Reference

XML low-level C encode/decode functions.

```
#include "rtxsrc/rtxCommon.h"
#include "rtxmlsrc/rtSaxDefs.h"
#include "rtxsrc/rtxDList.h"
#include "rtxsrc/rtxMemBuf.h"
#include "rtxmlsrc/rtXmlExternDefs.h"
#include "rtxmlsrc/rtXmlErrCodes.h"
#include "rtxmlsrc/rtXmlNamespace.h"
```

Classes

- struct OSXMLGroupDesc

  OSXMLGroupDesc describes how entries in an OSXMLElemIDRec array make up a group.

Defines

- #define rtXmlGetEncBufPtr(pctxt) (pctxt)->buffer.data

  This macro returns the start address of the encoded XML message.

- #define rtXmlGetEncBufLen(pctxt) (pctxt)->buffer.byteIndex

  This macro returns the length of the encoded XML message.

Typedefs

- typedef struct OSXMLGroupDesc OSXMLGroupDesc

  OSXMLGroupDesc describes how entries in an OSXMLElemIDRec array make up a group.

Enumerations

- enum OSXMLWhiteSpaceMode

  Whitespace treatment options.

Functions

- int rtXmlInitContext (OSCTXT ∗pctxt)

  This function initializes a context variable for XML encoding or decoding.

- int rtXmlInitContextUsingKey (OSCTXT ∗pctxt, const OSOCTET ∗key, size_t keylen)

  This function initializes a context using a run-time key.

- int rtXmlInitCtxtAppInfo (OSCTXT ∗pctxt)

  This function initializes the XML application info section of the given context.

- int rtXmlCreateFileInputSource (OSCTXT ∗pctxt, const char ∗filepath)

  This function creates an XML document file input source.

- void rtXmlMemFreeAnyAttrs (OSCTXT ∗pctxt, OSRTDList ∗pAnyAttrList)

  This function frees a list of anyAttribute that is a member of OSXSDAnyType structure.

- int rtXmlDecBase64Binary (OSRTMEMBUF ∗pMemBuf, const OSUTF8CHAR ∗inpdata, int length)

  This function decodes the contents of a Base64-encoded binary data type into a memory buffer.

- int rtXmlDecBase64Str (OSCTXT ∗pctxt, OSOCTET ∗pvalue, OSUINT32 ∗pnocts, OSINT32 bufsize)

  This function decodes a contents of a Base64-encode binary string into a static memory structure.

- int rtXmlDecBase64StrValue (OSCTXT ∗pctxt, OSOCTET ∗pvalue, OSUINT32 ∗pnocts, size_t bufSize, size_t srcDataLen)

  This function decodes a contents of a Base64-encode binary string into the specified octet array.

- int rtXmlDecBigInt (OSCTXT ∗pctxt, const OSUTF8CHAR ∗∗ppvalue)

  This function will decode a variable of the XSD integer type.

- int rtXmlDecBool (OSCTXT ∗pctxt, OSBOOL ∗pvalue)

  This function decodes a variable of the boolean type.

- int rtXmlDecDate (OSCTXT ∗pctxt, OSXSDDateTime ∗pvalue)

  This function decodes a variable of the XSD 'date' type.

- int rtXmlDecTime (OSCTXT ∗pctxt, OSXSDDateTime ∗pvalue)

  This function decodes a variable of the XSD 'time' type.

- int rtXmlDecDateTime (OSCTXT ∗pctxt, OSXSDDateTime ∗pvalue)

  This function decodes a variable of the XSD 'dateTime' type.

- int rtXmlDecDecimal (OSCTXT ∗pctxt, OSREAL ∗pvalue)

  This function decodes the contents of a decimal data type.

- int rtXmlDecDouble (OSCTXT ∗pctxt, OSREAL ∗pvalue)

  This function decodes the contents of a float or double data type.

- int rtXmlDecDynBase64Str (OSCTXT ∗pctxt, OSDynOctStr ∗pvalue)

  This function decodes a contents of a Base64-encode binary string.

- int rtXmlDecDynHexStr (OSCTXT ∗pctxt, OSDynOctStr ∗pvalue)

  This function decodes a contents of a hexBinary string.

- int rtXmlDecEmptyElement (OSCTXT ∗pctxt)

  This function is used to enforce a requirement that an element be empty.

- int rtXmlDecUTF8Str (OSCTXT ∗pctxt, OSUTF8CHAR ∗outdata, size_t max_len)

  This function decodes the contents of a UTF-8 string data type.

- int rtXmlDecDynUTF8Str (OSCTXT ∗pctxt, const OSUTF8CHAR ∗∗outdata)

  This function decodes the contents of a UTF-8 string data type.

- int rtXmlDecHexBinary (OSRTMEMBUF ∗pMemBuf, const OSUTF8CHAR ∗inpdata, int length)

  This function decodes the contents of a hex-encoded binary data type into a memory buffer.

- int rtXmlDecHexStr (OSCTXT ∗pctxt, OSOCTET ∗pvalue, OSUINT32 ∗pnocts, OSINT32 bufsize)

  This function decodes the contents of a hexBinary string into a static memory structure.

- int rtXmlDecGYear (OSCTXT ∗pctxt, OSXSDDateTime ∗pvalue)

  This function decodes a variable of the XSD 'gYear' type.

- int rtXmlDecGYearMonth (OSCTXT ∗pctxt, OSXSDDateTime ∗pvalue)

  This function decodes a variable of the XSD 'gYearMonth' type.

- int rtXmlDecGMonth (OSCTXT ∗pctxt, OSXSDDateTime ∗pvalue)

  This function decodes a variable of the XSD 'gMonth' type.

- int rtXmlDecGMonthDay (OSCTXT ∗pctxt, OSXSDDateTime ∗pvalue)

  This function decodes a variable of the XSD 'gMonthDay' type.

- int rtXmlDecGDay (OSCTXT ∗pctxt, OSXSDDateTime ∗pvalue)

  This function decodes a variable of the XSD 'gDay' type.

- int rtXmlDecInt (OSCTXT ∗pctxt, OSINT32 ∗pvalue)

  This function decodes the contents of a 32-bit integer data type.

- int rtXmlDecInt8 (OSCTXT ∗pctxt, OSINT8 ∗pvalue)

  This function decodes the contents of an 8-bit integer data type (i.e.

- int rtXmlDecInt16 (OSCTXT ∗pctxt, OSINT16 ∗pvalue)

  This function decodes the contents of a 16-bit integer data type.

- int rtXmlDecInt64 (OSCTXT ∗pctxt, OSINT64 ∗pvalue)

This function decodes the contents of a 64-bit integer data type.

- int rtXmlDecUInt (OSCTXT ∗pctxt, OSUINT32 ∗pvalue)

  This function decodes the contents of an unsigned 32-bit integer data type.

- int rtXmlDecUInt8 (OSCTXT ∗pctxt, OSUINT8 ∗pvalue)

  This function decodes the contents of an unsigned 8-bit integer data type (i.e.

- int rtXmlDecUInt16 (OSCTXT ∗pctxt, OSUINT16 ∗pvalue)

  This function decodes the contents of an unsigned 16-bit integer data type.

- int rtXmlDecUInt64 (OSCTXT ∗pctxt, OSUINT64 ∗pvalue)

  This function decodes the contents of an unsigned 64-bit integer data type.

- int rtXmlDecNSAttr (OSCTXT ∗pctxt, const OSUTF8CHAR ∗attrName, const OSUTF8CHAR ∗attrValue, OSRTDList ∗pNSAttrs, const OSUTF8CHAR ∗nsTable[ ], OSUINT32 nsTableRowCount)

  This function decodes an XML namespac attribute (xmlns).

- const OSUTF8CHAR ∗ rtXmlDecQName (OSCTXT ∗pctxt, const OSUTF8CHAR ∗qname, const OS-UTF8CHAR ∗∗prefix)

  This function decodes an XML qualified name string (QName) type.

- int rtXmlDecXSIAttr (OSCTXT ∗pctxt, const OSUTF8CHAR ∗attrName, const OSUTF8CHAR ∗attrValue)

  This function decodes XML schema instance (XSI) attribute.

- int rtXmlDecXSIAttrs (OSCTXT ∗pctxt, const OSUTF8CHAR ∗const ∗attrs, const char ∗typeName)

  This function decodes XML schema instance (XSI) attributes.

- int rtXmlDecXmlStr (OSCTXT ∗pctxt, OSXMLSTRING ∗outdata)

  This function decodes the contents of an XML string data type.

- int rtXmlParseElementName (OSCTXT ∗pctxt, OSUTF8CHAR ∗∗ppName)

  This function parses the initial tag from an XML message.

- int rtXmlParseElemQName (OSCTXT ∗pctxt, OSXMLQName ∗pQName)

  This function parses the initial tag from an XML message.

- int rtXmlEncAny (OSCTXT ∗pctxt, OSXMLSTRING ∗pvalue, const OSUTF8CHAR ∗elemName, OSXML-Namespace ∗pNS)

  This function encodes a variable of the XSD any type.

- int rtXmlEncAnyTypeValue (OSCTXT ∗pctxt, const OSUTF8CHAR ∗pvalue)

  This function encodes a variable of the XSD anyType type.

- int rtXmlEncAnyAttr (OSCTXT ∗pctxt, OSRTDList ∗pAnyAttrList)

  This function encodes a list of OSAnyAttr attributes in which the name and value are given as a UTF-8 string.

- int rtXmlEncBase64Binary (OSCTXT ∗pctxt, OSUINT32 nocts, const OSOCTET ∗value, const OS-UTF8CHAR ∗elemName, OSXMLNamespace ∗pNS)

  This function encodes a variable of the XSD base64Binary type.

- int rtXmlEncBase64BinaryAttr (OSCTXT ∗pctxt, OSUINT32 nocts, const OSOCTET ∗value, const OSUTF8CHAR ∗attrName, size_t attrNameLen)

  This function encodes a variable of the XSD base64Binary type as an attribute.

- int rtXmlEncBase64StrValue (OSCTXT ∗pctxt, OSUINT32 nocts, const OSOCTET ∗value)

  This function encodes a variable of the XSD base64Binary type.

- int rtXmlEncBigInt (OSCTXT ∗pctxt, const OSUTF8CHAR ∗value, const OSUTF8CHAR ∗elemName, OSXMLNamespace ∗pNS)

  This function encodes a variable of the XSD integer type.

- int rtXmlEncBigIntAttr (OSCTXT ∗pctxt, const OSUTF8CHAR ∗value, const OSUTF8CHAR ∗attrName, size_t attrNameLen)

  This function encodes an XSD integer attribute value.

- int rtXmlEncBigIntValue (OSCTXT ∗pctxt, const OSUTF8CHAR ∗value)

  This function encodes an XSD integer attribute value.

- int rtXmlEncBitString (OSCTXT ∗pctxt, OSUINT32 nbits, const OSOCTET ∗value, const OSUTF8CHAR ∗elemName, OSXMLNamespace ∗pNS)

  This function encodes a variable of the ASN.1 BIT STRING type.

- int rtXmlEncBinStrValue (OSCTXT ∗pctxt, OSUINT32 nbits, const OSOCTET ∗data)

  This function encodes a binary string value as a sequence of '1's and '0's.

- int rtXmlEncBool (OSCTXT ∗pctxt, OSBOOL value, const OSUTF8CHAR ∗elemName, OSXMLNamespace ∗pNS)

  This function encodes a variable of the XSD boolean type.

- int rtXmlEncBoolValue (OSCTXT ∗pctxt, OSBOOL value)

  This function encodes a variable of the XSD boolean type.

- int rtXmlEncBoolAttr (OSCTXT ∗pctxt, OSBOOL value, const OSUTF8CHAR ∗attrName, size_t attrNameLen)

  This function encodes an XSD boolean attribute value.

- int rtXmlEncComment (OSCTXT ∗pctxt, const OSUTF8CHAR ∗comment)

  This function encodes an XML comment.

- int rtXmlEncDate (OSCTXT ∗pctxt, const OSXSDDateTime ∗pvalue, const OSUTF8CHAR ∗elemName, OSXMLNamespace ∗pNS)

  This function encodes a variable of the XSD 'date' type as a string.

- int rtXmlEncDateValue (OSCTXT ∗pctxt, const OSXSDDateTime ∗pvalue)

  This function encodes a variable of the XSD 'date' type as a string.

- int rtXmlEncTime (OSCTXT ∗pctxt, const OSXSDDateTime ∗pvalue, const OSUTF8CHAR ∗elemName, OSXMLNamespace ∗pNS)

  This function encodes a variable of the XSD 'time' type as an string.

- int rtXmlEncTimeValue (OSCTXT ∗pctxt, const OSXSDDateTime ∗pvalue)

This function encodes a variable of the XSD 'time' type as an string.

- int rtXmlEncDateTime (OSCTXT ∗pctxt, const OSXSDDateTime ∗pvalue, const OSUTF8CHAR ∗elemName, OSXMLNamespace ∗pNS)

  This function encodes a numeric date/time value into an XML string representation.

- int rtXmlEncDateTimeValue (OSCTXT ∗pctxt, const OSXSDDateTime ∗pvalue)

  This function encodes a numeric date/time value into an XML string representation.

- int rtXmlEncDecimal (OSCTXT ∗pctxt, OSREAL value, const OSUTF8CHAR ∗elemName, OSXMLNamespace ∗pNS, const OSDecimalFmt ∗pFmtSpec)

  This function encodes a variable of the XSD decimal type.

- int rtXmlEncDecimalAttr (OSCTXT ∗pctxt, OSREAL value, const OSUTF8CHAR ∗attrName, size_t attrNameLen, const OSDecimalFmt ∗pFmtSpec)

  This function encodes a variable of the XSD decimal type as an attribute.

- int rtXmlEncDecimalValue (OSCTXT ∗pctxt, OSREAL value, const OSDecimalFmt ∗pFmtSpec, char ∗pDestBuf, size_t destBufSize)

  This function encodes a value of the XSD decimal type.

- int rtXmlEncDouble (OSCTXT ∗pctxt, OSREAL value, const OSUTF8CHAR ∗elemName, OSXMLNamespace ∗pNS, const OSDoubleFmt ∗pFmtSpec)

  This function encodes a variable of the XSD double type.

- int rtXmlEncDoubleAttr (OSCTXT ∗pctxt, OSREAL value, const OSUTF8CHAR ∗attrName, size_t attrNameLen, const OSDoubleFmt ∗pFmtSpec)

  This function encodes a variable of the XSD double type as an attribute.

- int rtXmlEncDoubleNormalValue (OSCTXT ∗pctxt, OSREAL value, const OSDoubleFmt ∗pFmtSpec, int defaultPrecision)

  This function encodes a normal (not +/-INF or NaN) value of the XSD double or float type.

- int rtXmlEncDoubleValue (OSCTXT ∗pctxt, OSREAL value, const OSDoubleFmt ∗pFmtSpec, int defaultPrecision)

  This function encodes a value of the XSD double or float type.

- int rtXmlEncEmptyElement (OSCTXT ∗pctxt, const OSUTF8CHAR ∗elemName, OSXMLNamespace ∗pNS, OSRTDList ∗pNSAttrs, OSBOOL terminate)

  This function encodes an enpty element tag value (<elemName/>).

- int rtXmlEncEndDocument (OSCTXT ∗pctxt)

  This function adds trailor information and a null terminator at the end of the XML document being encoded.

- int rtXmlEncEndElement (OSCTXT ∗pctxt, const OSUTF8CHAR ∗elemName, OSXMLNamespace ∗pNS)

  This function encodes an end element tag value (</elemName>).

- int rtXmlEncEndSoapEnv (OSCTXT ∗pctxt)

  This function encodes a SOAP envelope end element tag (<SOAP-ENV:Envelope/>).

- int rtXmlEncEndSoapElems (OSCTXT ∗pctxt, OSXMLSOAPMsgType msgtype)

This function encodes SOAP end element tags.

- int rtXmlEncFloat (OSCTXT ∗pctxt, OSREAL value, const OSUTF8CHAR ∗elemName, OSXMLNamespace ∗pNS, const OSDoubleFmt ∗pFmtSpec)

  This function encodes a variable of the XSD float type.

- int rtXmlEncFloatAttr (OSCTXT ∗pctxt, OSREAL value, const OSUTF8CHAR ∗attrName, size_t attrNameLen, const OSDoubleFmt ∗pFmtSpec)

  This function encodes a variable of the XSD float type as an attribute.

- int rtXmlEncGYear (OSCTXT ∗pctxt, const OSXSDDateTime ∗pvalue, const OSUTF8CHAR ∗elemName, OSXMLNamespace ∗pNS)

  This function encodes a numeric gYear element into an XML string representation.

- int rtXmlEncGYearMonth (OSCTXT ∗pctxt, const OSXSDDateTime ∗pvalue, const OSUTF8CHAR ∗elemName, OSXMLNamespace ∗pNS)

  This function encodes a numeric gYearMonth element into an XML string representation.

- int rtXmlEncGMonth (OSCTXT ∗pctxt, const OSXSDDateTime ∗pvalue, const OSUTF8CHAR ∗elemName, OSXMLNamespace ∗pNS)

  This function encodes a numeric gMonth element into an XML string representation.

- int rtXmlEncGMonthDay (OSCTXT ∗pctxt, const OSXSDDateTime ∗pvalue, const OSUTF8CHAR ∗elemName, OSXMLNamespace ∗pNS)

  This function encodes a numeric gMonthDay element into an XML string representation.

- int rtXmlEncGDay (OSCTXT ∗pctxt, const OSXSDDateTime ∗pvalue, const OSUTF8CHAR ∗elemName, OSXMLNamespace ∗pNS)

  This function encodes a numeric gDay element into an XML string representation.

- int rtXmlEncGYearValue (OSCTXT ∗pctxt, const OSXSDDateTime ∗pvalue)

  This function encodes a numeric gYear value into an XML string representation.

- int rtXmlEncGYearMonthValue (OSCTXT ∗pctxt, const OSXSDDateTime ∗pvalue)

  This function encodes a numeric gYearMonth value into an XML string representation.

- int rtXmlEncGMonthValue (OSCTXT ∗pctxt, const OSXSDDateTime ∗pvalue)

  This function encodes a numeric gMonth value into an XML string representation.

- int rtXmlEncGMonthDayValue (OSCTXT ∗pctxt, const OSXSDDateTime ∗pvalue)

  This function encodes a numeric gMonthDay value into an XML string representation.

- int rtXmlEncGDayValue (OSCTXT ∗pctxt, const OSXSDDateTime ∗pvalue)

  This function encodes a numeric gDay value into an XML string representation.

- int rtXmlEncHexBinary (OSCTXT ∗pctxt, OSUINT32 nocts, const OSOCTET ∗value, const OSUTF8CHAR ∗elemName, OSXMLNamespace ∗pNS)

  This function encodes a variable of the XSD hexBinary type.

- int rtXmlEncHexBinaryAttr (OSCTXT ∗pctxt, OSUINT32 nocts, const OSOCTET ∗value, const OSUTF8CHAR ∗attrName, size_t attrNameLen)

This function encodes a variable of the XSD hexBinary type as an attribute.

- int rtXmlEncHexStrValue (OSCTXT ∗pctxt, OSUINT32 nocts, const OSOCTET ∗data)

    This function encodes a variable of the XSD hexBinary type.

- int rtXmlEncIndent (OSCTXT ∗pctxt)

    This function adds indentation whitespace to the output stream.

- int rtXmlEncInt (OSCTXT ∗pctxt, OSINT32 value, const OSUTF8CHAR ∗elemName, OSXMLNamespace ∗pNS)

    This function encodes a variable of the XSD integer type.

- int rtXmlEncIntValue (OSCTXT ∗pctxt, OSINT32 value)

    This function encodes a variable of the XSD integer type.

- int rtXmlEncIntAttr (OSCTXT ∗pctxt, OSINT32 value, const OSUTF8CHAR ∗attrName, size_t attrNameLen)

    This function encodes a variable of the XSD integer type as an attribute (name="value").

- int rtXmlEncIntPattern (OSCTXT ∗pctxt, OSINT32 value, const OSUTF8CHAR ∗elemName, OSXMLNamespace ∗pNS, const OSUTF8CHAR ∗pattern)

    This function encodes a variable of the XSD integer type using a pattern to specify the format of the integer value.

- int rtXmlEncInt64 (OSCTXT ∗pctxt, OSINT64 value, const OSUTF8CHAR ∗elemName, OSXMLNamespace ∗pNS)

    This function encodes a variable of the XSD integer type.

- int rtXmlEncInt64Value (OSCTXT ∗pctxt, OSINT64 value)

    This function encodes a variable of the XSD integer type.

- int rtXmlEncInt64Attr (OSCTXT ∗pctxt, OSINT64 value, const OSUTF8CHAR ∗attrName, size_t attrNameLen)

    This function encodes a variable of the XSD integer type as an attribute (name="value").

- int rtXmlEncNamedBits (OSCTXT ∗pctxt, const OSBitMapItem ∗pBitMap, OSUINT32 nbits, const OSOCTET ∗pvalue, const OSUTF8CHAR ∗elemName, OSXMLNamespace ∗pNS)

    This function encodes a variable of the ASN.1 BIT STRING type.

- int rtXmlEncNSAttrs (OSCTXT ∗pctxt, OSRTDList ∗pNSAttrs)

    This function encodes namespace declaration attributes at the beginning of an XML document.

- int rtXmlPrintNSAttrs (const char ∗name, const OSRTDList ∗data)

    This function prints a list of namespace attributes.

- int rtXmlEncReal10 (OSCTXT ∗pctxt, const OSUTF8CHAR ∗pvalue, const OSUTF8CHAR ∗elemName, OSXMLNamespace ∗pNS)

    This function encodes a variable of the ASN.1 REAL base 10 type.

- int rtXmlEncSoapArrayTypeAttr (OSCTXT ∗pctxt, const OSUTF8CHAR ∗name, const OSUTF8CHAR ∗value, size_t itemCount)

This function encodes the special SOAP encoding attrType attribute which specifies the number and type of elements in a SOAP array.

- int rtXmlEncStartDocument (OSCTXT ∗pctxt)

  This function encodes the XML header text at the beginning of an XML document.

- int rtXmlEncBOM (OSCTXT ∗pctxt)

  This function encodes the Unicode byte order mark header at the start of the document.

- int rtXmlEncStartElement (OSCTXT ∗pctxt, const OSUTF8CHAR ∗elemName, OSXMLNamespace ∗pNS, OSRTDList ∗pNSAttrs, OSBOOL terminate)

  This function encodes a start element tag value (<elemName>).

- int rtXmlEncStartSoapEnv (OSCTXT ∗pctxt, OSRTDList ∗pNSAttrs)

  This function encodes a SOAP envelope start element tag.

- int rtXmlEncStartSoapElems (OSCTXT ∗pctxt, OSXMLSOAPMsgType msgtype)

  This function encodes a SOAP envelope start element tag and an optional SOAP body or fault tag.

- int rtXmlEncString (OSCTXT ∗pctxt, OSXMLSTRING ∗pxmlstr, const OSUTF8CHAR ∗elemName, OSXMLNamespace ∗pNS)

  This function encodes a variable of the XSD string type.

- int rtXmlEncStringValue (OSCTXT ∗pctxt, const OSUTF8CHAR ∗value)

  This function encodes a variable of the XSD string type.

- int rtXmlEncStringValue2 (OSCTXT ∗pctxt, const OSUTF8CHAR ∗value, size_t valueLen)

  This function encodes a variable of the XSD string type.

- int rtXmlEncTermStartElement (OSCTXT ∗pctxt)

  This function terminates a currently open XML start element by adding either a '>' or '/>' (if empty) terminator.

- int rtXmlEncUnicodeStr (OSCTXT ∗pctxt, const OSUNICHAR ∗value, OSUINT32 nchars, const OSUTF8CHAR ∗elemName, OSXMLNamespace ∗pNS)

  This function encodes a Unicode string value.

- int rtXmlEncUTF8Attr (OSCTXT ∗pctxt, const OSUTF8CHAR ∗name, const OSUTF8CHAR ∗value)

  This function encodes an attribute in which the name and value are given as a null-terminated UTF-8 strings.

- int rtXmlEncUTF8Attr2 (OSCTXT ∗pctxt, const OSUTF8CHAR ∗name, size_t nameLen, const OSUTF8CHAR ∗value, size_t valueLen)

  This function encodes an attribute in which the name and value are given as a UTF-8 strings with lengths.

- int rtXmlEncUTF8Str (OSCTXT ∗pctxt, const OSUTF8CHAR ∗value, const OSUTF8CHAR ∗elemName, OSXMLNamespace ∗pNS)

  This function encodes a UTF-8 string value.

- int rtXmlEncUInt (OSCTXT ∗pctxt, OSUINT32 value, const OSUTF8CHAR ∗elemName, OSXMLNamespace ∗pNS)

  This function encodes a variable of the XSD unsigned integer type.

- int rtXmlEncUIntValue (OSCTXT ∗pctxt, OSUINT32 value)

  This function encodes a variable of the XSD unsigned integer type.

- int rtXmlEncUIntAttr (OSCTXT ∗pctxt, OSUINT32 value, const OSUTF8CHAR ∗attrName, size_t attrNameLen)

  This function encodes a variable of the XSD unsigned integer type as an attribute (name="value").

- int rtXmlEncUInt64 (OSCTXT ∗pctxt, OSUINT64 value, const OSUTF8CHAR ∗elemName, OSXMLNamespace ∗pNS)

  This function encodes a variable of the XSD integer type.

- int rtXmlEncUInt64Value (OSCTXT ∗pctxt, OSUINT64 value)

  This function encodes a variable of the XSD integer type.

- int rtXmlEncUInt64Attr (OSCTXT ∗pctxt, OSUINT64 value, const OSUTF8CHAR ∗attrName, size_t attrNameLen)

  This function encodes a variable of the XSD integer type as an attribute (name="value").

- int rtXmlEncXSIAttrs (OSCTXT ∗pctxt, OSBOOL needXSI)

  This function encodes XML schema instance (XSI) attributes at the beginning of an XML document.

- int rtXmlEncXSITypeAttr (OSCTXT ∗pctxt, const OSUTF8CHAR ∗value)

  This function encodes an XML schema instance (XSI) type attribute value (xsi:type="value").

- int rtXmlEncXSITypeAttr2 (OSCTXT ∗pctxt, const OSUTF8CHAR ∗typeNsUri, const OSUTF8CHAR ∗typeName)

  This function encodes an XML schema instance (XSI) type attribute value (xsi:type="pfx:value").

- int rtXmlEncXSINilAttr (OSCTXT ∗pctxt)

  This function encodes an XML nil attribute (xsi:nil="true").

- int rtXmlFreeInputSource (OSCTXT ∗pctxt)

  This function closes an input source that was previously created with one of the create input source functions such as 'rtXmlCreateFileInputSource'.

- int rtXmlSetEncBufPtr (OSCTXT ∗pctxt, OSOCTET ∗bufaddr, size_t bufsiz)

  This function is used to set the internal buffer within the run-time library encoding context.

- int rtXmlGetIndent (OSCTXT ∗pctxt)

  This function returns current XML output indent value.

- OSBOOL rtXmlGetWriteBOM (OSCTXT ∗pctxt)

  This function returns whether the Unicode byte order mark will be encoded.

- int rtXmlGetIndentChar (OSCTXT ∗pctxt)

  This function returns current XML output indent character value (default is space).

- int rtXmlPrepareContext (OSCTXT ∗pctxt)

  This function prepares the context for another encode by setting the state back to OSXMLINIT and moving the buffer's cursor back to the beginning of the buffer.

- int rtXmlSetEncC14N (OSCTXT ∗pctxt, OSBOOL value)

  This function sets the option to encode in C14N mode.

- int rtXmlSetEncXSINamespace (OSCTXT ∗pctxt, OSBOOL value)

  This function sets a flag in the context that indicates the XSI namespace declaration (xmlns:xsi) should be added to the encoded XML instance.

- int rtXmlSetEncXSINilAttr (OSCTXT ∗pctxt, OSBOOL value)

  This function sets a flag in the context that indicates the XSI attribute declaration (xmlns:xsi) should be added to the encoded XML instance.

- int rtXmlSetEncDocHdr (OSCTXT ∗pctxt, OSBOOL value)

  This function sets the option to add the XML document header (i.e.

- int rtXmlSetEncodingStr (OSCTXT ∗pctxt, const OSUTF8CHAR ∗encodingStr)

  This function sets the XML output encoding to the given value.

- int rtXmlSetFormatting (OSCTXT ∗pctxt, OSBOOL doFormatting)

  This function sets XML output formatting to the given value.

- int rtXmlSetIndent (OSCTXT ∗pctxt, OSUINT8 indent)

  This function sets XML output indent to the given value.

- int rtXmlSetIndentChar (OSCTXT ∗pctxt, char indentChar)

  This function sets XML output indent character to the given value.

- void rtXmlSetNamespacesSet (OSCTXT ∗pctxt, OSBOOL value)

  This function sets the context 'namespaces are set' flag.

- int rtXmlSetNSPrefixLinks (OSCTXT ∗pctxt, OSRTDList ∗pNSAttrs)

  This function sets namespace prefix/URI links in the namspace prefix stack in the context structure.

- int rtXmlSetSchemaLocation (OSCTXT ∗pctxt, const OSUTF8CHAR ∗schemaLocation)

  This function sets the XML Schema Instance (xsi) schema location attribute to be added to an encoded document.

- int rtXmlSetNoNSSchemaLocation (OSCTXT ∗pctxt, const OSUTF8CHAR ∗schemaLocation)

  This function sets the XML Schema Instance (xsi) no namespace schema location attribute to be added to an encoded document.

- void rtXmlSetSoapVersion (OSCTXT ∗pctxt, OSUINT8 version)

  This function sets the SOAP version number.

- int rtXmlSetXSITypeAttr (OSCTXT ∗pctxt, const OSUTF8CHAR ∗xsiType)

  This function sets the XML Schema Instance (xsi) type attribute value.

- int rtXmlSetWriteBOM (OSCTXT ∗pctxt, OSBOOL write)

  This function sets whether the Unicode byte order mark is encoded.

- int rtXmlMatchHexStr (OSCTXT ∗pctxt, size_t minLength, size_t maxLength)

  This function tests the context buffer for containing a correct hexadecimal string.

- int rtXmlMatchBase64Str (OSCTXT ∗pctxt, size_t minLength, size_t maxLength)

  This function tests the context buffer for containing a correct base64 string.

- int rtXmlMatchDate (OSCTXT ∗pctxt)

  This function tests the context buffer for containing a correct date string.

- int rtXmlMatchTime (OSCTXT ∗pctxt)

  This function tests the context buffer for containing a correct time string.

- int rtXmlMatchDateTime (OSCTXT ∗pctxt)

  This function tests the context buffer for containing a correct dateTime string.

- int rtXmlMatchGYear (OSCTXT ∗pctxt)

  This function tests the context buffer for containing a correct gYear string.

- int rtXmlMatchGYearMonth (OSCTXT ∗pctxt)

  This function tests the context buffer for containing a correct gYearMonth string.

- int rtXmlMatchGMonth (OSCTXT ∗pctxt)

  This function tests the context buffer for containing a correct gMonth string.

- int rtXmlMatchGMonthDay (OSCTXT ∗pctxt)

  This function tests the context buffer for containing a correct gMonthDay string.

- int rtXmlMatchGDay (OSCTXT ∗pctxt)

  This function tests the context buffer for containing a correct gDay string.

- OSUTF8CHAR ∗ rtXmlNewQName (OSCTXT ∗pctxt, const OSUTF8CHAR ∗localName, const OS-UTF8CHAR ∗prefix)

  This function creates a new QName given the localName and prefix parts.

- OSBOOL rtXmlCmpBase64Str (OSUINT32 nocts1, const OSOCTET ∗data1, const OSUTF8CHAR ∗data2)

  This function compares an array of octets to a base64 string.

- OSBOOL rtXmlCmpHexStr (OSUINT32 nocts1, const OSOCTET ∗data1, const OSUTF8CHAR ∗data2)

  This function compares an array of octets to a hex string.

- const OSUTF8CHAR ∗ rtSaxGetAttrValue (const OSUTF8CHAR ∗attrName, const OSUTF8CHAR ∗const ∗attrs)

  This function looks up an attribute in the attribute array returned by SAX to the startElement function.

- OSINT16 rtSaxGetElemID (OSINT16 ∗pState, OSINT16 prevElemIdx, const OSUTF8CHAR ∗localName, OSINT32 nsidx, const OSSAXElemTableRec idtab[ ], const OSINT16 ∗fstab, OSINT16 fstabRows, OSINT16 fstabCols)

  This function looks up a sequence element name in the given element info array.

- OSINT16 rtSaxGetElemID8 (OSINT16 ∗pState, OSINT16 prevElemIdx, const OSUTF8CHAR ∗localName, OSINT32 nsidx, const OSSAXElemTableRec idtab[ ], const OSINT8 ∗fstab, OSINT16 fstabRows, OSINT16 fstabCols)

  This function is a space optimized version of `rtSaxGetElemID`.

- OSBOOL rtSaxHasXMLNSAttrs (const OSUTF8CHAR ∗const ∗attrs)

  This function checks if the given attribute list contains one or more XML namespace attributes (xmlns).

- OSBOOL rtSaxIsEmptyBuffer (OSCTXT ∗pctxt)

  This function checks if the buffer in the context is empty or not.

- int rtSaxStrListParse (OSCTXT ∗pctxt, OSRTMEMBUF ∗pMemBuf, OSRTDList ∗pvalue)

  This function parses the list of strings.

- int rtSaxSortAttrs (OSCTXT ∗pctxt, const OSUTF8CHAR ∗const ∗attrs, OSUINT16 ∗∗order)

  This function sorts a SAX attribute list in ascending order based on attribute name.

- int rtSaxStrListMatch (OSCTXT ∗pctxt)

  This function mathes the list of strings.

- int rtXmlWriteToFile (OSCTXT ∗pctxt, const char ∗filename)

  This function writes the encoded XML message stored in the context message buffer out to a file.

- int rtXmlpDecAny (OSCTXT ∗pctxt, const OSUTF8CHAR ∗∗pvalue)

  This function decodes an arbitrary XML section of code as defined by the XSD any type (xsd:any).

- int rtXmlpDecAny2 (OSCTXT ∗pctxt, OSUTF8CHAR ∗∗pvalue)

  This version of the rtXmlpDecAny function returns the string in a mutable buffer.

- int rtXmlpDecAnyAttrStr (OSCTXT ∗pctxt, const OSUTF8CHAR ∗∗ppAttrStr, size_t attrIndex)

  This function decodes an any attribute string.

- int rtXmlpDecAnyElem (OSCTXT ∗pctxt, const OSUTF8CHAR ∗∗pvalue)

  This function decodes an arbitrary XML section of code as defined by the XSD any type (xsd:any).

- int rtXmlpDecBase64Str (OSCTXT ∗pctxt, OSOCTET ∗pvalue, OSUINT32 ∗pnocts, OSINT32 bufsize)

  This function decodes a contents of a Base64-encode binary string into a static memory structure.

- int rtXmlpDecBigInt (OSCTXT ∗pctxt, const OSUTF8CHAR ∗∗pvalue)

  This function will decode a variable of the XSD integer type.

- int rtXmlpDecBitString (OSCTXT ∗pctxt, OSOCTET ∗pvalue, OSUINT32 ∗pnbits, OSUINT32 bufsize)

  This function decodes a bit string value.

- int rtXmlpDecBool (OSCTXT ∗pctxt, OSBOOL ∗pvalue)

  This function decodes a variable of the boolean type.

- int rtXmlpDecDate (OSCTXT ∗pctxt, OSXSDDateTime ∗pvalue)

  This function decodes a variable of the XSD 'date' type.

- int rtXmlpDecDateTime (OSCTXT ∗pctxt, OSXSDDateTime ∗pvalue)

  This function decodes a variable of the XSD 'dateTime' type.

- int rtXmlpDecDecimal (OSCTXT ∗pctxt, OSREAL ∗pvalue, int totalDigits, int fractionDigits)

  This function decodes the contents of a decimal data type.

- int rtXmlpDecDouble (OSCTXT ∗pctxt, OSREAL ∗pvalue)

  This function decodes the contents of a float or double data type.

- int rtXmlpDecDoubleExt (OSCTXT ∗pctxt, OSUINT8 flags, OSREAL ∗pvalue)

  This function decodes the contents of a float or double data type.

- int rtXmlpDecDynBase64Str (OSCTXT ∗pctxt, OSDynOctStr ∗pvalue)

  This function decodes a contents of a Base64-encode binary string.

- int rtXmlpDecDynBitString (OSCTXT ∗pctxt, OSDynOctStr ∗pvalue)

  This function decodes a bit string value.

- int rtXmlpDecDynHexStr (OSCTXT ∗pctxt, OSDynOctStr ∗pvalue)

  This function decodes a contents of a hexBinary string.

- int rtXmlpDecDynUnicodeStr (OSCTXT ∗pctxt, const OSUNICHAR ∗∗ppdata, OSUINT32 ∗pnchars)

  This function decodes a Unicode string data type.

- int rtXmlpDecDynUTF8Str (OSCTXT ∗pctxt, const OSUTF8CHAR ∗∗outdata)

  This function decodes the contents of a UTF-8 string data type.

- int rtXmlpDecUTF8Str (OSCTXT ∗pctxt, OSUTF8CHAR ∗out, size_t max_len)

  This function decodes the contents of a UTF-8 string data type.

- int rtXmlpDecGDay (OSCTXT ∗pctxt, OSXSDDateTime ∗pvalue)

  This function decodes a variable of the XSD 'gDay' type.

- int rtXmlpDecGMonth (OSCTXT ∗pctxt, OSXSDDateTime ∗pvalue)

  This function decodes a variable of the XSD 'gMonth' type.

- int rtXmlpDecGMonthDay (OSCTXT ∗pctxt, OSXSDDateTime ∗pvalue)

  This function decodes a variable of the XSD 'gMonthDay' type.

- int rtXmlpDecGYear (OSCTXT ∗pctxt, OSXSDDateTime ∗pvalue)

  This function decodes a variable of the XSD 'gYear' type.

- int rtXmlpDecGYearMonth (OSCTXT ∗pctxt, OSXSDDateTime ∗pvalue)

  This function decodes a variable of the XSD 'gYearMonth' type.

- int rtXmlpDecHexStr (OSCTXT ∗pctxt, OSOCTET ∗pvalue, OSUINT32 ∗pnocts, OSINT32 bufsize)

  This function decodes the contents of a hexBinary string into a static memory structure.

- int rtXmlpDecInt (OSCTXT ∗pctxt, OSINT32 ∗pvalue)

  This function decodes the contents of a 32-bit integer data type.

- int rtXmlpDecInt8 (OSCTXT ∗pctxt, OSINT8 ∗pvalue)

  This function decodes the contents of an 8-bit integer data type (i.e.

- int rtXmlpDecInt16 (OSCTXT ∗pctxt, OSINT16 ∗pvalue)

This function decodes the contents of a 16-bit integer data type.

- int rtXmlpDecInt64 (OSCTXT ∗pctxt, OSINT64 ∗pvalue)

  This function decodes the contents of a 64-bit integer data type.

- int rtXmlpDecNamedBits (OSCTXT ∗pctxt, const OSBitMapItem ∗pBitMap, OSOCTET ∗pvalue, OSUINT32 ∗pnbits, OSUINT32 bufsize)

  This function decodes the contents of a named bit field.

- int rtXmlpDecStrList (OSCTXT ∗pctxt, OSRTDList ∗plist)

  This function decodes a list of space-separated tokens and returns each token as a separate item on the given list.

- int rtXmlpDecTime (OSCTXT ∗pctxt, OSXSDDateTime ∗pvalue)

  This function decodes a variable of the XSD 'time' type.

- int rtXmlpDecUInt (OSCTXT ∗pctxt, OSUINT32 ∗pvalue)

  This function decodes the contents of an unsigned 32-bit integer data type.

- int rtXmlpDecUInt8 (OSCTXT ∗pctxt, OSOCTET ∗pvalue)

  This function decodes the contents of an unsigned 8-bit integer data type (i.e.

- int rtXmlpDecUInt16 (OSCTXT ∗pctxt, OSUINT16 ∗pvalue)

  This function decodes the contents of an unsigned 16-bit integer data type.

- int rtXmlpDecUInt64 (OSCTXT ∗pctxt, OSUINT64 ∗pvalue)

  This function decodes the contents of an unsigned 64-bit integer data type.

- int rtXmlpDecXmlStr (OSCTXT ∗pctxt, OSXMLSTRING ∗outdata)

  This function decodes the contents of an XML string data type.

- int rtXmlpDecXmlStrList (OSCTXT ∗pctxt, OSRTDList ∗plist)

  This function decodes a list of space-separated tokens and returns each token as a separate item on the given list.

- int rtXmlpDecXSIAttr (OSCTXT ∗pctxt, const OSXMLNameFragments ∗attrName)

  This function decodes XSI (XML Schema Instance) attributes that may be present in any arbitrary XML element within a document.

- int rtXmlpDecXSITypeAttr (OSCTXT ∗pctxt, const OSXMLNameFragments ∗attrName, const OSUTF8CHAR ∗∗ppAttrValue)

  This function decodes the contents of an XSI (XML Schema Instance) type attribute (xsi:type).

- int rtXmlpGetAttributeID (const OSXMLStrFragment ∗attrName, OSINT16 nsidx, size_t nAttr, const OSXMLAttrDescr attrNames[ ], OSUINT32 attrPresent[ ])

  This function finds an attribute in the descriptor table.

- int rtXmlpGetNextElem (OSCTXT ∗pctxt, OSXMLElemDescr ∗pElem, OSINT32 level)

  This function parse the next element start tag.

- int rtXmlpGetNextElemID (OSCTXT ∗pctxt, const OSXMLElemIDRec ∗tab, size_t nrows, OSINT32 level, OSBOOL continueParse)

  This function parses the next start tag and finds the index of the element name in the descriptor table.

- int rtXmlpMarkLastEventActive (OSCTXT ∗pctxt)

  This function marks current tag as unprocessed.

- int rtXmlpMatchStartTag (OSCTXT ∗pctxt, const OSUTF8CHAR ∗elemLocalName, OSINT16 nsidx)

  This function parses the next start tag that matches with given name.

- int rtXmlpMatchEndTag (OSCTXT ∗pctxt, OSINT32 level)

  This function parse next end tag that matches with given name.

- OSBOOL rtXmlpHasAttributes (OSCTXT ∗pctxt)

  This function checks accessibility of attributes.

- int rtXmlpGetAttributeCount (OSCTXT ∗pctxt)

  This function returns number of attributes in last processed start tag.

- int rtXmlpSelectAttribute (OSCTXT ∗pctxt, OSXMLNameFragments ∗pAttr, OSINT16 ∗nsidx, size_t attrIndex)

  This function selects attribute to decode.

- OSINT32 rtXmlpGetCurrentLevel (OSCTXT ∗pctxt)

  This function returns current nesting level.

- void rtXmlpSetWhiteSpaceMode (OSCTXT ∗pctxt, OSXMLWhiteSpaceMode whiteSpaceMode)

  Sets the whitespace treatment mode.

- OSBOOL rtXmlpSetMixedContentMode (OSCTXT ∗pctxt, OSBOOL mixedContentMode)

  Sets mixed content mode.

- void rtXmlpSetListMode (OSCTXT ∗pctxt)

  Sets list mode.

- OSBOOL rtXmlpListHasItem (OSCTXT ∗pctxt)

  Check for end of decoded token list.

- void rtXmlpCountListItems (OSCTXT ∗pctxt, OSSIZE ∗itemCnt)

  Count tokens in list.

- int rtXmlpGetNextSeqElemID2 (OSCTXT ∗pctxt, const OSXMLElemIDRec ∗tab, const OSXMLGroupDesc ∗pGroup, int groups, int curID, int lastMandatoryID, OSBOOL groupMode, OSBOOL checkRepeat)

  This function parses the next start tag and finds index of element name in descriptor table.

- int rtXmlpGetNextSeqElemID (OSCTXT ∗pctxt, const OSXMLElemIDRec ∗tab, const OSXMLGroupDesc ∗pGroup, int curID, int lastMandatoryID, OSBOOL groupMode)

  This function parses the next start tag and finds index of element name in descriptor table.

- int rtXmlpGetNextSeqElemIDExt (OSCTXT ∗pctxt, const OSXMLElemIDRec ∗tab, const OSXMLGroupDesc ∗ppGroup, const OSBOOL ∗extRequired, int postExtRootID, int curID, int lastMandatoryID, OSBOOL groupMode)

  This is an ASN.1 extension-supporting version of rtXmlpGetNextSeqElemID.

- int rtXmlpGetNextAllElemID (OSCTXT ∗pctxt, const OSXMLElemIDRec ∗tab, size_t nrows, const OSUINT8 ∗pOrder, OSUINT32 nOrder, OSUINT32 maxOrder, int anyID)

  This function parses the next start tag and finds index of element name in descriptor table.

- int rtXmlpGetNextAllElemID16 (OSCTXT ∗pctxt, const OSXMLElemIDRec ∗tab, size_t nrows, const OSUINT16 ∗pOrder, OSUINT32 nOrder, OSUINT32 maxOrder, int anyID)

  This function parses the next start tag and finds index of element name in descriptor table.

- int rtXmlpGetNextAllElemID32 (OSCTXT ∗pctxt, const OSXMLElemIDRec ∗tab, size_t nrows, const OSUINT32 ∗pOrder, OSUINT32 nOrder, OSUINT32 maxOrder, int anyID)

  This function parses the next start tag and finds index of element name in descriptor table.

- void rtXmlpSetNamespaceTable (OSCTXT ∗pctxt, const OSUTF8CHAR ∗namespaceTable[ ], size_t nmNamespaces)

  Sets user namespace table.

- int rtXmlpCreateReader (OSCTXT ∗pctxt)

  Creates pull parser reader structure within the context.

- void rtXmlpHideAttributes (OSCTXT ∗pctxt)

  Disable access to attributes.

- OSBOOL rtXmlpNeedDecodeAttributes (OSCTXT ∗pctxt)

  This function checks if attributes were previously decoded.

- void rtXmlpMarkPos (OSCTXT ∗pctxt)

  Save current decode position.

- void rtXmlpRewindToMarkedPos (OSCTXT ∗pctxt)

  Rewind to saved decode position.

- void rtXmlpResetMarkedPos (OSCTXT ∗pctxt)

  Reset saved decode position.

- int rtXmlpGetXSITypeAttr (OSCTXT ∗pctxt, const OSUTF8CHAR ∗∗ppAttrValue, OSINT16 ∗nsidx, size_t ∗pLocalOffs)

  This function decodes the contents of an XSI (XML Schema Instance) type attribute (xsi:type).

- int rtXmlpGetXmlnsAttrs (OSCTXT ∗pctxt, OSRTDList ∗pNSAttrs)

  This function decodes namespace attributes from start tag and adds them to the given list.

- int rtXmlpDecXSIAttrs (OSCTXT ∗pctxt)

  This function decodes XSI (XML Schema Instance) that may be present in any arbitrary XML element within a document.

- OSBOOL rtXmlpIsEmptyElement (OSCTXT ∗pctxt)

  Check element content: empty or not.

- int rtXmlEncAttrC14N (OSCTXT ∗pctxt)

  This function used only in C14 mode.

- struct OSXMLReader ∗ rtXmlpGetReader (OSCTXT ∗pctxt)

This function fetches the XML reader structure from the context for use in low-level pull parser calls.

- OSBOOL rtXmlpIsLastEventDone (OSCTXT ∗pctxt)

  Check processing status of current tag.

- int rtXmlpGetXSITypeIndex (OSCTXT ∗pctxt, const OSXMLItemDescr typetab[ ], size_t typetabsiz)

  This function decodes the contents of an XSI (XML Schema Instance) type attribute (xsi:type) and find type index in descriptor table.

- int rtXmlpLookupXSITypeIndex (OSCTXT ∗pctxt, const OSUTF8CHAR ∗pXsiType, OSINT16 xsiTypeIdx, const OSXMLItemDescr typetab[ ], size_t typetabsiz)

  This function find index of XSI (XML Schema Instance) type in descriptor table.

- void rtXmlpForceDecodeAsGroup (OSCTXT ∗pctxt)

  Disable skipping of unknown elements in optional sequence tail.

- OSBOOL rtXmlpIsDecodeAsGroup (OSCTXT ∗pctxt)

  This function checks if "decode as group" mode was forced.

- OSBOOL rtXmlpIsUTF8Encoding (OSCTXT ∗pctxt)

  This function checks if the encoding specified in XML header is UTF-8.

- int rtXmlpReadBytes (OSCTXT ∗pctxt, OSOCTET ∗pbuf, size_t nbytes)

  This function reads the specified number of bytes directly from the underlying XML parser stream.

8.1.1 Detailed Description

XML low-level C encode/decode functions.

Definition in file osrtxml.h.

8.1.2 Typedef Documentation

8.1.2.1 typedef struct OSXMLGroupDesc OSXMLGroupDesc

OSXMLGroupDesc describes how entries in an OSXMLElemIDRec array make up a group.

Here, "group" means a set of elements, any of which may be matched next. This does not correspond directly to an XSD group.

For example, if elementA is optional and followed by non-optional elementB, then there will be a group that contains both elements. There will also be a group that contains only elementB; this will be the group of interest after elementA is matched.

8.1.3 Function Documentation

8.1.3.1 const OSUTF8CHAR∗ rtSaxGetAttrValue (const OSUTF8CHAR ∗ *attrName*, const OSUTF8CHAR ∗const ∗ *attrs*)

This function looks up an attribute in the attribute array returned by SAX to the startElement function.

Parameters

attrName Name of the attribute to find.

attrs Attribute array returned in SAX startElement function. This is an array of character strings containing name1, value1, name2, value2, ... List is terminated by a null name.

Returns

Pointer to character string containing attribute value or NULL if attrName not found.

8.1.3.2 OSINT16 rtSaxGetElemID (OSINT16 ∗ *pState*, OSINT16 *prevElemIdx*, const OSUTF8CHAR ∗ *localName*, OSINT32 *nsidx*, const OSSAXElemTableRec *idtab*[ ], const OSINT16 ∗ *fstab*, OSINT16 *fstabRows*, OSINT16 *fstabCols*)

This function looks up a sequence element name in the given element info array.

If ensures elements are received in the correct order and also sets the required element count variable.

Parameters

pState The pointer to state variable to be changed.

prevElemIdx Previous index of element. The search will be started from this element for better performance.

localName Local name of XML element

nsidx Namespace index

idtab Element ID table

fstab Finite state table

fstabRows Number of rows in `fstab`.

fstabCols Number of columns in `fstab`.

8.1.3.3 OSINT16 rtSaxGetElemID8 (OSINT16 ∗ *pState*, OSINT16 *prevElemIdx*, const OSUTF8CHAR ∗ *localName*, OSINT32 *nsidx*, const OSSAXElemTableRec *idtab*[ ], const OSINT8 ∗ *fstab*, OSINT16 *fstabRows*, OSINT16 *fstabCols*)

This function is a space optimized version of `rtSaxGetElemID`.

It operates with array of 8-bit integers (OSINT8) instead of 32-bit integers (int).

Parameters

pState The pointer to state variable to be changed.

prevElemIdx Previous index of element. The search will be started from this element + 1 for better performance.

localName Local name of XML element

nsidx Namespace index

idtab Element ID table

fstab Finite state table (array of 8-bit integers)

fstabRows Number of rows in `fstab`.

fstabCols Number of columns in `fstab`.

8.1.3.4 OSBOOL rtSaxHasXMLNSAttrs (const OSUTF8CHAR ∗const ∗ *attrs*)

This function checks if the given attribute list contains one or more XML namespace attributes (xmlns).

Parameters

attrs Attribute list in form passed by parser into SAX startElement function.

Returns

TRUE, if xmlns attribute found in list.

8.1.3.5 OSBOOL rtSaxIsEmptyBuffer (OSCTXT ∗ *pctxt*)

This function checks if the buffer in the context is empty or not.

Parameters

pctxt Pointer to OSCTXT structure

Returns

TRUE, if the buffer contains empty string.

8.1.3.6 int rtSaxSortAttrs (OSCTXT ∗ *pctxt*, const OSUTF8CHAR ∗const ∗ *attrs*, OSUINT16 ∗∗ *order*)

This function sorts a SAX attribute list in ascending order based on attribute name.

It currently only supports unqualified attributes.

Parameters

pctxt Pointer to OSCTXT structure.

attrs Standard SAX attribute list. Entry i is attribute name and i+1 is value. List is terminated by a null name.

order Order array containing the order of sorted attributes. This array is allocated using rtxMemAlloc, it can be freed using rtxMemFreePtr or will be freed when the context is freed. The list holds indicies to name items in the attribute list that is passed in.

Returns

If success, positive value contains number of attributes in attrs; if failure, negative status code.

8.1.3.7 int rtSaxStrListMatch (OSCTXT ∗ *pctxt*)

This function mathes the list of strings.

It is used for matching NMTOKENS, IDREFS, NMENTITIES.

Parameters

pctxt Pointer to OSCTXT structure

Returns

0 - if success, negative value is error.

8.1.3.8 int rtSaxStrListParse (OSCTXT ∗ *pctxt*, OSRTMEMBUF ∗ *pMemBuf*, OSRTDList ∗ *pvalue*)

This function parses the list of strings.

It is used for parsing NMTOKENS, IDREFS, NMENTITIES.

Parameters

pctxt Pointer to OSCTXT structure. Can be NULL, if pMemBuf is not NULL.

pMemBuf Pointer to memory buffer structure. Can be NULL, if pctxt is not NULL.

pvalue Doubly-linked list for parsed strings.

Returns

0 - if success, negative value is error.

8.1.3.9 OSBOOL rtXmlCmpBase64Str (OSUINT32 *nocts1*, const OSOCTET ∗ *data1*, const OSUTF8CHAR ∗ *data2*)

This function compares an array of octets to a base64 string.

Parameters

nocts1 Number of octets in data1.

data1 Pointer to array of OSOCTET.

data2 Pointer to null-terminated array of OSUTF8CHAR.

Returns

TRUE if data2 is a base64 string representation of data1, false otherwise.

8.1.3.10 OSBOOL rtXmlCmpHexStr (OSUINT32 *nocts1*, const OSOCTET ∗ *data1*, const OSUTF8CHAR ∗ *data2*)

This function compares an array of octets to a hex string.

Parameters

nocts1 Number of octets in data1.

data1 Pointer to array of OSOCTET.

data2 Pointer to null-terminated array of OSUTF8CHAR.

Returns

TRUE if data2 is a hex string representation of data1, false otherwise.

8.1.3.11 int rtXmlCreateFileInputSource (OSCTXT ∗ *pctxt*, const char ∗ *filepath*)

This function creates an XML document file input source.

The document can then be decoded by invoking an XML decode function.

Parameters

pctxt Pointer to context block structure.

filepath Full pathname of XML document file to open.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

8.1.3.12 int rtXmlInitContext (OSCTXT ∗ *pctxt*)

This function initializes a context variable for XML encoding or decoding.

Parameters

pctxt Pointer to OSCTXT structure

8.1.3.13 int rtXmlInitContextUsingKey (OSCTXT ∗ *pctxt*, const OSOCTET ∗ *key*, size_t *keylen*)

This function initializes a context using a run-time key.

This form is required for evaluation and limited distribution software. The compiler will generate a macro for rtXmlInitContext in the rtkey.h file that will invoke this function with the generated run-time key.

Parameters

pctxt The pointer to the context structure variable to be initialized.

key Key data generated by ASN1C compiler.

keylen Key data field length.

Returns

Completion status of operation:

- 0 (ASN_OK) = success,
- negative return value is error.

8.1.3.14 int rtXmlInitCtxtAppInfo (OSCTXT ∗ *pctxt*)

This function initializes the XML application info section of the given context.

Parameters

pctxt Pointer to OSCTXT structure

8.1.3.15 int rtXmlMatchBase64Str (OSCTXT ∗ *pctxt*, size_t *minLength*, size_t *maxLength*)

This function tests the context buffer for containing a correct base64 string.

It does not decode the value.

Parameters

pctxt Pointer to OSCTXT structure

minLength A minimal length of expected string.

maxLength A maximal length of expected string.

Returns

If the string in the context buffer is a correct one, function returns zero. Error code (negative) will be returned otherwise. Note, error record will NOT be added in the error's list of the context.

8.1.3.16 int rtXmlMatchDate (OSCTXT ∗ *pctxt*)

This function tests the context buffer for containing a correct date string.

It does not decode the value.

Parameters

pctxt Pointer to OSCTXT structure

Returns

If the string in the context buffer is a correct one, function returns zero. Error code (negative) will be returned otherwise. Note, error record will NOT be added in the error's list of the context.

8.1.3.17 int rtXmlMatchDateTime (OSCTXT ∗ *pctxt*)

This function tests the context buffer for containing a correct dateTime string.

It does not decode the value.

Parameters

pctxt Pointer to OSCTXT structure

Returns

If the string in the context buffer is a correct one, function returns zero. Error code (negative) will be returned otherwise. Note, error record will NOT be added in the error's list of the context.

8.1.3.18 int rtXmlMatchGDay (OSCTXT ∗ *pctxt*)

This function tests the context buffer for containing a correct gDay string.

It does not decode the value.

Parameters

pctxt Pointer to OSCTXT structure

Returns

If the string in the context buffer is a correct one, function returns zero. Error code (negative) will be returned otherwise. Note, error record will NOT be added in the error's list of the context.

8.1.3.19 int rtXmlMatchGMonth (OSCTXT $*$ *pctxt*)

This function tests the context buffer for containing a correct gMonth string.

It does not decode the value.

Parameters

pctxt Pointer to OSCTXT structure

Returns

If the string in the context buffer is a correct one, function returns zero. Error code (negative) will be returned otherwise. Note, error record will NOT be added in the error's list of the context.

8.1.3.20 int rtXmlMatchGMonthDay (OSCTXT $*$ *pctxt*)

This function tests the context buffer for containing a correct gMonthDay string.

It does not decode the value.

Parameters

pctxt Pointer to OSCTXT structure

Returns

If the string in the context buffer is a correct one, function returns zero. Error code (negative) will be returned otherwise. Note, error record will NOT be added in the error's list of the context.

8.1.3.21 int rtXmlMatchGYear (OSCTXT $*$ *pctxt*)

This function tests the context buffer for containing a correct gYear string.

It does not decode the value.

Parameters

pctxt Pointer to OSCTXT structure

Returns

If the string in the context buffer is a correct one, function returns zero. Error code (negative) will be returned otherwise. Note, error record will NOT be added in the error's list of the context.

8.1.3.22 int rtXmlMatchGYearMonth (OSCTXT ∗ *pctxt*)

This function tests the context buffer for containing a correct gYearMonth string.

It does not decode the value.

Parameters

pctxt Pointer to OSCTXT structure

Returns

If the string in the context buffer is a correct one, function returns zero. Error code (negative) will be returned otherwise. Note, error record will NOT be added in the error's list of the context.

8.1.3.23 int rtXmlMatchHexStr (OSCTXT ∗ *pctxt*, size_t *minLength*, size_t *maxLength*)

This function tests the context buffer for containing a correct hexadecimal string.

It does not decode the value.

Parameters

pctxt Pointer to OSCTXT structure

minLength A minimal length of expected string.

maxLength A maximal length of expected string.

Returns

If the string in the context buffer is a correct one, function returns zero. Error code (negative) will be returned otherwise. Note, error record will NOT be added in the error's list of the context.

8.1.3.24 int rtXmlMatchTime (OSCTXT ∗ *pctxt*)

This function tests the context buffer for containing a correct time string.

It does not decode the value.

Parameters

pctxt Pointer to OSCTXT structure

Returns

If the string in the context buffer is a correct one, function returns zero. Error code (negative) will be returned otherwise. Note, error record will NOT be added in the error's list of the context.

8.1.3.25 void rtXmlMemFreeAnyAttrs (OSCTXT ∗ *pctxt*, OSRTDList ∗ *pAnyAttrList*)

This function frees a list of anyAttribute that is a member of OSXSDAnyType structure.

Parameters

pctxt Pointer to context block structure.

pAnyAttrList Pointer to list of anyAttribute that is to be freed.

8.1.3.26 OSUTF8CHAR∗ rtXmlNewQName (OSCTXT ∗ *pctxt*, const OSUTF8CHAR ∗ *localName*, const OSUTF8CHAR ∗ *prefix*)

This function creates a new QName given the localName and prefix parts.

Parameters

pctxt Pointer to a context structure.
localName Element local name.
prefix Namespace prefix.

Returns

QName value. Memory for the value will have been allocated by rtxMemAlloc and thus must be freed using one of the rtxMemFree functions. The value will be NULL if no dynamic memory was available.

8.1.3.27 int rtXmlPrepareContext (OSCTXT ∗ *pctxt*)

This function prepares the context for another encode by setting the state back to OSXMLINIT and moving the buffer's cursor back to the beginning of the buffer.

Parameters

pctxt Pointer to OSCTXT structure

Returns

0 if OK, negative status code if error.

8.1.3.28 int rtXmlSetEncC14N (OSCTXT ∗ *pctxt*, OSBOOL *value*)

This function sets the option to encode in C14N mode.

Parameters

pctxt Pointer to OSCTXT structure
value Boolean value: true = C14N mode enabled.

Returns

Status of operation: 0 if OK, negative status code if error.

8.1.3.29 int rtXmlSetEncDocHdr (OSCTXT ∗ *pctxt*, OSBOOL *value*)

This function sets the option to add the XML document header (i.e.

<?xml version="1.0" encoding="UTF-8"?>) to the XML output stream.

Parameters

pctxt Pointer to OSCTXT structure
value Boolean value: true = add document header

Returns

Status of operation: 0 if OK, negative status code if error.

8.1.3.30 int rtXmlSetEncodingStr (OSCTXT ∗ *pctxt*, const OSUTF8CHAR ∗ *encodingStr*)

This function sets the XML output encoding to the given value.

Currently, UTF-8/UTF-16/ISO-8859-1 encodings are supported.

Parameters

pctxt Pointer to OSCTXT structure

encodingStr XML output encoding format

Returns

Status of operation: 0 if OK, negative status code if error.

8.1.3.31 int rtXmlSetEncXSINamespace (OSCTXT ∗ *pctxt*, OSBOOL *value*)

This function sets a flag in the context that indicates the XSI namespace declaration (xmlns:xsi) should be added to the encoded XML instance.

Parameters

pctxt Pointer to OSCTXT structure

value Boolean value: true = encode XSI namespace attribute.

Returns

Status of operation: 0 if OK, negative status code if error.

Referenced by OSXSDGlobalElement::setEncXSINamespace().

8.1.3.32 int rtXmlSetEncXSINilAttr (OSCTXT ∗ *pctxt*, OSBOOL *value*)

This function sets a flag in the context that indicates the XSI attribute declaration (xmlns:xsi) should be added to the encoded XML instance.

Parameters

pctxt Pointer to OSCTXT structure

value Boolean value: true = encode xsi:nil attribute.

Returns

Status of operation: 0 if OK, negative status code if error.

8.1.3.33 int rtXmlSetFormatting (OSCTXT ∗ *pctxt*, OSBOOL *doFormatting*)

This function sets XML output formatting to the given value.

If TRUE (the default), the XML document is formatted with indentation and newlines. If FALSE, all whitespace between elements is suppressed. Turning formatting off can provide more compressed documents and also a more canonical representation which is important for security applications. Also the function ’rtXmlSetIndent’ might be used to set the exact size of identation.

Parameters

pctxt Pointer to OSCTXT structure

doFormatting Boolean value indicating if formatting is to be done

Returns

Status of operation: 0 if OK, negative status code if error.

8.1.3.34 int rtXmlSetIndent (OSCTXT ∗ *pctxt*, OSUINT8 *indent*)

This function sets XML output indent to the given value.

Parameters

pctxt Pointer to OSCTXT structure

indent Number of spaces per indent. Default is 3.

Returns

Status of operation: 0 if OK, negative status code if error.

8.1.3.35 int rtXmlSetIndentChar (OSCTXT ∗ *pctxt*, char *indentChar*)

This function sets XML output indent character to the given value.

Parameters

pctxt Pointer to OSCTXT structure

indentChar Indent character. Default is space.

Returns

Status of operation: 0 if OK, negative status code if error.

8.1.3.36 void rtXmlSetNamespacesSet (OSCTXT ∗ *pctxt*, OSBOOL *value*)

This function sets the context 'namespaces are set' flag.

This indicates that namespace declarations have been set either by the decoder or externally by the end user. It is used by the encoder to know not to set the default namespaces specified in the schema before starting encoding.

Parameters

pctxt Pointer to OSCTXT structure.

value Boolean value to which flag is to be set.

8.1.3.37 int rtXmlSetNoNSSchemaLocation (OSCTXT ∗ *pctxt*, const OSUTF8CHAR ∗ *schemaLocation*)

This function sets the XML Schema Instance (xsi) no namespace schema location attribute to be added to an encoded document.

This attribute is optional: if not set, no xsi:noNamespaceSchemaLocation attribute will be added.

Parameters

pctxt Pointer to OSCTXT structure
schemaLocation Schema location attribute value

Returns

Status of operation: 0 if OK, negative status code if error.

Referenced by OSXSDGlobalElement::setNoNSSchemaLocation().

8.1.3.38 int rtXmlSetNSPrefixLinks (OSCTXT ∗ *pctxt*, OSRTDList ∗ *pNSAttrs*)

This function sets namespace prefix/URI links in the namspace prefix stack in the context structure.

Parameters

pctxt Pointer to OSCTXT structure.
pNSAttrs List of namespace attributes.

Returns

Status of operation: 0 if OK, negative status code if error.

8.1.3.39 int rtXmlSetSchemaLocation (OSCTXT ∗ *pctxt*, const OSUTF8CHAR ∗ *schemaLocation*)

This function sets the XML Schema Instance (xsi) schema location attribute to be added to an encoded document.

This attribute is optional: if not set, no xsi:schemaLocation attribute will be added.

Parameters

pctxt Pointer to OSCTXT structure
schemaLocation Schema location attribute value

Returns

Status of operation: 0 if OK, negative status code if error.

Referenced by OSXSDGlobalElement::setSchemaLocation().

8.1.3.40 void rtXmlSetSoapVersion (OSCTXT ∗ *pctxt*, OSUINT8 *version*)

This function sets the SOAP version number.

Parameters

pctxt Pointer to OSCTXT structure
version SOAP version number as 2 digit integer (for example, 11 is SOAP version 1.1, 12 is version 1.2, etc.)

8.1.3.41 int rtXmlSetWriteBOM (OSCTXT ∗ *pctxt*, OSBOOL *write*)

This function sets whether the Unicode byte order mark is encoded.

Parameters

pctxt Pointer to OSCTXT structure

write TRUE to encode BOM, FALSE to not encode BOM.

Returns

Status of operation: 0 if OK, negative status code if error.

8.1.3.42 int rtXmlSetXSITypeAttr (OSCTXT ∗ *pctxt*, const OSUTF8CHAR ∗ *xsiType*)

This function sets the XML Schema Instance (xsi) type attribute value.

This will cause an xsi:type attribute to be added to the top level element in an encoded XML instance.

Parameters

pctxt Pointer to OSCTXT structure

xsiType xsi:type attribute value

Returns

Status of operation: 0 if OK, negative status code if error.

Referenced by OSXSDGlobalElement::setXSIType().

8.2 OSXMLDecodeBuffer.h File Reference

XML decode buffer or stream class definition.

```
#include "rtxsrc/OSRTInputStream.h"
#include "rtxmlsrc/OSXMLMessageBuffer.h"
#include "rtxmlsrc/rtSaxCppParserIF.h"
```

Classes

- class OSXMLDecodeBuffer

  The OSXMLDecodeBuffer class is derived from the OSXMLMessageBuffer base class.

8.2.1 Detailed Description

XML decode buffer or stream class definition.

Definition in file OSXMLDecodeBuffer.h.

8.3 OSXMLEncodeBuffer.h File Reference

XML encode message buffer class definition.

```
#include "rtxmlsrc/OSXMLMessageBuffer.h"
```

Classes

- class OSXMLEncodeBuffer

  The OSXMLEncodeBuffer class is derived from the OSXMLMessageBuffer base class.

8.3.1 Detailed Description

XML encode message buffer class definition.

Definition in file OSXMLEncodeBuffer.h.

8.4 OSXMLEncodeStream.h File Reference

XML encode stream class definition.

`#include "rtxsrc/OSRTOutputStream.h"`

`#include "rtxmlsrc/OSXMLMessageBuffer.h"`

Classes

- class OSXMLEncodeStream

  The OSXMLEncodeStream class is derived from the OSXMLMessageBuffer base class.

8.4.1 Detailed Description

XML encode stream class definition.

Definition in file OSXMLEncodeStream.h.

8.5 OSXMLMessageBuffer.h File Reference

XML encode/decode buffer and stream base class.

`#include "rtxsrc/OSRTMsgBuf.h"`

`#include "rtxmlsrc/osrtxml.h"`

Classes

- class OSXMLMessageBuffer

  The XML message buffer class is derived from the OSMessageBuffer base class.

8.5.1 Detailed Description

XML encode/decode buffer and stream base class.

Definition in file OSXMLMessageBuffer.h.

8.6 rtSaxCppAny.h File Reference

```
#include "rtxsrc/OSRTContext.h"
#include "rtxmlsrc/osrtxml.h"
#include "rtxmlsrc/rtSaxCppParser.h"
#include "rtxmlsrc/rtXmlCppMsgBuf.h"
#include "rtxsrc/rtxCppXmlString.h"
#include "rtxmlsrc/OSXSDAnyTypeClass.h"
#include "rtxmlsrc/rtSaxCppAnyType.h"
```

8.6.1 Detailed Description

Definition in file rtSaxCppAny.h.

8.7 rtSaxCppAnyType.h File Reference

```
#include "rtxsrc/OSRTContext.h"
#include "rtxmlsrc/osrtxml.h"
#include "rtxmlsrc/rtSaxCppParser.h"
#include "rtxmlsrc/rtXmlCppMsgBuf.h"
#include "rtxsrc/rtxCppXmlString.h"
#include "rtxmlsrc/OSXSDAnyTypeClass.h"
```

8.7.1 Detailed Description

Definition in file rtSaxCppAnyType.h.

8.8 rtSaxCppSimpleType.h File Reference

```
#include "rtxmlsrc/osrtxml.h"
#include "rtxmlsrc/rtSaxCppParser.h"
```

8.8.1 Detailed Description

Definition in file rtSaxCppSimpleType.h.

8.9 rtSaxCppSoap.h File Reference

```
#include "rtxsrc/rtxCppDynOctStr.h"
#include "rtxsrc/OSRTContext.h"
#include "rtxsrc/OSRTMemBuf.h"
#include "rtxsrc/rtxCppXmlString.h"
#include "rtxmlsrc/osrtxml.h"
#include "rtxmlsrc/rtSaxCppParser.h"
#include "rtxmlsrc/rtXmlCppMsgBuf.h"
```

8.9.1 Detailed Description

Definition in file rtSaxCppSoap.h.

8.10 rtSaxCppStrList.h File Reference

```
#include "rtxsrc/rtxCppDList.h"
#include "rtxmlsrc/osrtxml.h"
#include "rtxmlsrc/rtSaxCppParser.h"
```

Classes

- class OSXMLStrListHandler
  OSXMLStrListHandler.

8.10.1 Detailed Description

Definition in file rtSaxCppStrList.h.

8.11 rtXmlCppEncFuncs.h File Reference

XML low-level C++ encode functions.

`#include "rtxmlsrc/osrtxml.h"`

`#include "rtxsrc/rtxCppDList.h"`

Functions

- int rtXmlCppEncAnyAttr (OSCTXT ∗pctxt, OSRTObjListClass ∗pAnyAttrList)

  This function encodes a variable of the XSD any attribute type.

- int rtXmlEncAny (OSCTXT ∗pctxt, OSXMLStringClass ∗pxmlstr, const OSUTF8CHAR ∗elemName, OSXMLNamespace ∗pNS)

  This function encodes a variable of the XSD any type.

- int rtXmlCppEncAnyTypeValue (OSCTXT ∗pctxt, OSXSDAnyTypeClass ∗pvalue)

  This function encodes a variable of the XSD anyType type.

- int rtXmlCppEncStartElement (OSCTXT ∗pctxt, const OSUTF8CHAR ∗elemName, OSXMLNamespace ∗pNS, OSRTDListClass ∗pNSAttrs, OSBOOL terminate)

  This function encodes a start element tag value (<elemName>).

- int rtXmlEncString (OSCTXT ∗pctxt, OSXMLStringClass ∗pxmlstr, const OSUTF8CHAR ∗elemName, OSXMLNamespace ∗pNS)

  This function encodes a variable of the XSD string type.

8.11.1 Detailed Description

XML low-level C++ encode functions. These are overloaded versions of C XML encode functions for use with C++.

Definition in file rtXmlCppEncFuncs.h.

8.11.2 Function Documentation

8.11.2.1 int rtXmlCppEncAnyAttr (OSCTXT ∗ *pctxt*, OSRTObjListClass ∗ *pAnyAttrList*)

This function encodes a variable of the XSD any attribute type.

This is expressed as list of name/value pairs.

Parameters

pctxt Pointer to context block structure.
pAnyAttrList List of name/value pair objects.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

8.11.2.2 int rtXmlCppEncAnyTypeValue (OSCTXT ∗ *pctxt*, OSXSDAnyTypeClass ∗ *pvalue*)

This function encodes a variable of the XSD anyType type.

This is considered to be a fully-wrapped element of anyType type (for example: ∗ <myType>myData</myType>)

Parameters

pctxt Pointer to context block structure.

pvalue Value to be encoded. This is a pointer to a OSXSDAnyTypeClass containing the fully-encoded XML text to be copied to the output stream.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

8.11.2.3 int rtXmlCppEncStartElement (OSCTXT ∗ *pctxt*, const OSUTF8CHAR ∗ *elemName*, OSXMLNamespace ∗ *pNS*, OSRTDListClass ∗ *pNSAttrs*, OSBOOL *terminate*)

This function encodes a start element tag value (<elemName>).

This function is for use with C++ which uses OSRTDListClass instead of OSRTList (as in the C version of this function).

Parameters

pctxt Pointer to context block structure.

elemName XML element name.

pNS XML namespace information (prefix and URI). If the prefix is NULL, this method will search the context's namespace stack for a prefix to use.

pNSAttrs List of namespace attributes to be added to element.

terminate Add closing '>' character.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

8.11.2.4 int rtXmlEncAny (OSCTXT ∗ *pctxt*, OSXMLStringClass ∗ *pxmlstr*, const OSUTF8CHAR ∗ *elemName*, OSXMLNamespace ∗ *pNS*)

This function encodes a variable of the XSD any type.

This is considered to be a fully-wrapped element of any type (for example: <myType>myData</myType>)

Parameters

pctxt Pointer to context block structure.

pxmlstr Value to be encoded. This is a string containing the fully-encoded XML text to be copied to the output stream.

elemName XML element name. A name must be provided. If an empty string is passed (""), no element tag is added to the encoded value.

pNS Pointer to namespace structure.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

8.11.2.5 int rtXmlEncString (OSCTXT ∗ *pctxt*, OSXMLStringClass ∗ *pxmlstr*, const OSUTF8CHAR ∗ *elemName*, OSXMLNamespace ∗ *pNS*)

This function encodes a variable of the XSD string type.

Parameters

pctxt Pointer to context block structure.

pxmlstr XML string value to be encoded.

elemName XML element name. A name must be provided. If an empty string is passed (""), no element tag is added to the encoded value.

pNS Pointer to namespace structure.

Returns

Completion status of operation:

- 0 = success,
- negative return value is error.

8.12 rtXmlCppMsgBuf.h File Reference

This file is deprecated.

```
#include "rtxmlsrc/OSXMLEncodeBuffer.h"
#include "rtxmlsrc/OSXMLEncodeStream.h"
#include "rtxmlsrc/OSXMLDecodeBuffer.h"
```

8.12.1 Detailed Description

This file is deprecated. Users should use one or more of the individual headers files defined in the include statements below.

Definition in file rtXmlCppMsgBuf.h.

8.13 rtXmlCppNamespace.h File Reference

XML namespace handling structures and function definitions.

```
#include "rtxmlsrc/osrtxml.h"
#include "rtxsrc/OSRTBaseType.h"
#include "rtxsrc/OSRTString.h"
```

Classes

- class OSXMLNamespaceClass

  This class is used to hold an XML namespace prefix to URI mapping.

8.13.1 Detailed Description

XML namespace handling structures and function definitions.

Definition in file rtXmlCppNamespace.h.

8.14 rtXmlCppXSDElement.h File Reference

C++ run-time XML schema global element class definition.

```
#include "rtxsrc/OSRTContext.h"
#include "rtxsrc/OSRTMsgBufIF.h"
#include "rtxsrc/rtxDiag.h"
#include "rtxsrc/rtxErrCodes.h"
#include "rtxmlsrc/osrtxml.h"
```

Classes

- class OSXSDGlobalElement

  XSD global element base class.

8.14.1 Detailed Description

C++ run-time XML schema global element class definition.

Definition in file rtXmlCppXSDElement.h.

8.15 rtXmlpCppDecFuncs.h File Reference

XML low-level C++ decode functions.

```
#include "rtxmlsrc/osrtxml.h"
#include "rtxmlsrc/OSXSDComplexType.h"
```

8.15.1 Detailed Description

XML low-level C++ decode functions. These are overloaded versions of C XML encode functions for use with C++.

Definition in file rtXmlpCppDecFuncs.h.

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