

# Package ‘rsdmx’

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**Title** Tools for Reading SDMX Data and Metadata

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**Depends** R (>= 2.15)

**Imports** methods, XML (>= 3.96-1.1), RCurl, plyr

**Suggests** testthat

**Description** rsdmx provides a set of classes and methods to read data and metadata documents exchanged through the Statistical Data and Metadata Exchange (SDMX) framework. The package currently focuses on the SDMX XML standard format (SDMX-ML).

**License** GPL (>= 2)

**URL** <https://github.com/opensdmx/rsdmx>, <http://www.sdmx.org>

**BugReports** <https://github.com/opensdmx/rsdmx/issues>

**LazyLoad** yes

**Collate** Class-SDMXSchema.R Class-SDMXType.R Class-SDMXStructureType.R  
Class-SDMXHeader.R Class-SDMX.R Class-SDMXGenericData.R  
Class-SDMXCompactData.R Class-SDMXUtilityData.R  
Class-SDMXMessageGroup.R Class-SDMXConcept.R  
Class-SDMXConceptScheme.R Class-SDMXConcepts.R Class-SDMXCode.R  
Class-SDMXCodelist.R Class-SDMXCodelists.R  
Class-SDMXDimension.R Class-SDMXTimeDimension.R  
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as.XML-methods            *as.XML*

**Description**

a convenience method to get SDMX as XML object

**Usage**

as.XML(obj)

**Arguments**

obj                      An object deriving from class "SDMX"

**Value**

a object of class "XMLInternalDocument"

**Methods**

**obj = "SDMX"** An object deriving from class "SDMX"

**Author(s)**

Emmanuel Blondel, <emmanuel.blondel1@gmail.com>

---

attributes.SDMXComponents  
*attributes.SDMXComponents*

---

**Description**

function used to parse the list of 'attribute' components of a SDMX-ML documents

**Usage**

attributes.SDMXComponents(xmlObj)

**Arguments**

xmlObj            an object of class "XMLInternalDocument"

**Warning**

attributes.SDMXComponents is a function used internally to parse the list of attributes during instantiation of "SDMXComponents" objects (used in DataStructures / KeyFamilies)

**Author(s)**

Emmanuel Blondel, <emmanuel.blondel1@gmail.com>

**See Also**

[SDMXComponents-class](#) [SDMXDataStructure-class](#)

---

class.SDMXMessageGroup  
*class.SDMXMessageGroup*

---

**Description**

function used to determine the wrapped object class of a SDMX-ML MessageGroup object

**Usage**

class.SDMXMessageGroup(xmlObj)

**Arguments**

xmlObj            an object of class "XMLInternalDocument"

**Value**

an object of class "character"

**Warning**

`class.SDMXMessageGroup` is a function used internally to determine appropriate methods to be used for `SDMXMessageGroup` objects. At now, the function has been tested to distinguish between embedded dataset objects, either `SDMXGenericData` or `SDMXCompactData`, and used to call appropriate `as.data.frame` method

**Author(s)**

Emmanuel Blondel, <emmanuel.blondel1@gmail.com>

**See Also**

[SDMXMessageGroup-class](#)

---

`codelists.SDMXCodelists`

*codelists.SDMXCodelists*

---

**Description**

function used to parse the list of codelists of a SDMX-ML document

**Usage**

```
codelists.SDMXCodelists(xmlObj)
```

**Arguments**

`xmlObj` an object of class "XMLInternalDocument"

**Warning**

`codelists.SDMXCodelists` is a function used internally to parse the list of codelists during instantiation of "SDMXCodelists" objects

**Author(s)**

Emmanuel Blondel, <emmanuel.blondel1@gmail.com>

**See Also**

[SDMXCodelists-class](#) [SDMXCodelist-class](#)

concepts.SDMXConcepts *concepts.SDMXConcepts*

---

**Description**

function used to parse the list of concepts of a SDMX-ML documents, to ensure backward compatibility with SDMX 1.0 that does not handle concepts in a concept scheme

**Usage**

```
concepts.SDMXConcepts(xmlObj)
```

**Arguments**

xmlObj            an object of class "XMLInternalDocument"

**Warning**

concepts.SDMXConcepts is a function used internally to parse the list of concepts during instantiation of "SDMXConcepts" objects

**Author(s)**

Emmanuel Blondel, <emmanuel.blondel1@gmail.com>

**See Also**

[SDMXConcepts-class](#) [SDMXConcept-class](#)

---

conceptSchemes.SDMXConcepts  
*conceptSchemes.SDMXConcepts*

---

**Description**

function used to parse the list of concepts Schemes of a SDMX-ML documents, as defined from SDMX 2.0 specifications

**Usage**

```
conceptSchemes.SDMXConcepts(xmlObj)
```

**Arguments**

xmlObj            an object of class "XMLInternalDocument"

**Warning**

`concepts.SDMXConcepts` is a function used internally to parse the list of concepts during instantiation of "SDMXConcepts" objects

**Author(s)**

Emmanuel Blondel, <emmanuel.blondel1@gmail.com>

**See Also**

[SDMXConcepts-class](#) [SDMXConceptScheme-class](#) [SDMXConcept-class](#)

---

`datastructures.SDMXDataStructures`

*datastructures.SDMXDataStructures*

---

**Description**

function used to parse the list of datastructures / keyfamilies of a SDMX-ML document

**Usage**

```
datastructures.SDMXDataStructures(xmlObj)
```

**Arguments**

`xmlObj`            an object of class "XMLInternalDocument"

**Warning**

`datastructures.SDMXDataStructures` is a function used internally to parse the list of datastructure / keyfamily during instantiation of "SDMXDataStructures" objects

**Author(s)**

Emmanuel Blondel, <emmanuel.blondel1@gmail.com>

**See Also**

[SDMXDataStructures-class](#) [SDMXDataStructure-class](#)

---

dimensions.SDMXComponents  
*dimensions.SDMXComponents*

---

**Description**

function used to parse the list of 'dimension' components of a SDMX-ML documents

**Usage**

dimensions.SDMXComponents(xmlObj)

**Arguments**

xmlObj            an object of class "XMLInternalDocument"

**Warning**

dimensions.SDMXComponents is a function used internally to parse the list of dimensions during instantiation of "SDMXComponents" objects (used in DataStructures / KeyFamilies)

**Author(s)**

Emmanuel Blondel, <emmanuel.blondel1@gmail.com>

**See Also**

[SDMXComponents-class](#) [SDMXDataStructure-class](#)

---

findNamespace            *findNamespace*

---

**Description**

function used to find a specific namespace within the available namespaces of an SDMX-ML object

**Usage**

findNamespace(namespaces, messageType)

**Arguments**

namespaces        A data.frame giving the id and uri of namespaces available in a SDMX-ML object, typically obtained with [getNamespaces](#)

messageType      a character representing a message type



**Value**

an object of class "character" giving the namespace uri if found in the available namespaces

**Warning**

findNamespace is a function used internally as utility function in SDMX-ML object parsers.

**Author(s)**

Emmanuel Blondel, <emmanuel.blondel1@gmail.com>

**See Also**

[SDMX-class getNamespaces](#)

---

*getNamespaces-methods*   *getNamespaces*

---

**Description**

Access the namespaces of the SDMX-ML object

**Usage**

`getNamespaces(obj)`

**Arguments**

`obj`                    An object deriving from class "SDMX"

**Value**

an data.frame giving the id and uri for each of the namespaces handled in the SDMX-ML document.

**Methods**

**obj** An object deriving from class "SDMX"

**Author(s)**

Emmanuel Blondel, <emmanuel.blondel1@gmail.com>

**See Also**

[SDMX-class](#)

getSDMXHeader-methods *getSDMXHeader*

---

**Description**

Access the SDMX header

**Usage**

getSDMXHeader(obj)

**Arguments**

obj                    An object deriving from class "SDMX"

**Value**

an object of class "SDMXHeader"

**Methods**

**obj = "SDMX"** An object deriving from class "SDMX"

**Author(s)**

Emmanuel Blondel, <emmanuel.blondel1@gmail.com>

**See Also**

[SDMXHeader-class](#)

---

getSDMXSchema-methods *getSDMXSchema*

---

**Description**

Access the SDMX-ML schema version

**Usage**

getSDMXSchema(obj)

**Arguments**

obj                    An object deriving from class "SDMX"

**Value**

an object of class "SDMXSchema"

**Methods**

**obj** = "SDMX" An object deriving from class "SDMX"

**Author(s)**

Emmanuel Blondel, <emmanuel.blondel1@gmail.com>

**See Also**

[SDMXSchema-class](#)

---

*getSDMXType-methods*     *getSDMXType*

---

**Description**

Access the type of SDMX object

**Usage**

`getSDMXType(obj)`

**Arguments**

**obj**                    An object deriving from class "SDMX"

**Value**

an object of class "SDMXType"

**Methods**

**obj** An object deriving from class "SDMX"

**Author(s)**

Emmanuel Blondel, <emmanuel.blondel1@gmail.com>

**See Also**

[SDMXType-class](#)

---

getStructureType-methods  
*getStructureType*

---

**Description**

Access the subtype of SDMXStructureType object

**Usage**

getStructureType(obj)

**Arguments**

obj                    An object deriving from class "SDMXStructureType"

**Value**

an object of class "character"

**Methods**

**obj** An object deriving from class "SDMXStructureType"

**Author(s)**

Emmanuel Blondel, <emmanuel.blondel1@gmail.com>

**See Also**

[SDMXStructureType-class](#)

---

getType-methods            *getType*

---

**Description**

Access the type of SDMXType object

**Usage**

getType(obj)

**Arguments**

obj                    An object deriving from class "SDMXType"

**Value**

an object of class "character"

**Methods**

**obj** An object deriving from class "SDMXType"

**Author(s)**

Emmanuel Blondel, <emmanuel.blondel1@gmail.com>

**See Also**

[SDMXType-class getVersion](#)

---

*getVersion-methods*      *getVersion*

---

**Description**

Access the version of a SDMXSchema object

**Usage**

`getVersion(obj)`

**Arguments**

**obj**                    An object deriving from class "SDMXSchema"

**Value**

an object of class "character"

**Methods**

**obj** An object deriving from class "SDMXSchema"

**Author(s)**

Emmanuel Blondel, <emmanuel.blondel1@gmail.com>

**See Also**

[SDMXSchema-class getVersion](#)

---

namespaces.SDMX	<i>namespaces.SDMX</i>
-----------------	------------------------

---

**Description**

function used to get the namespaces handled by an SDMX-ML object

**Usage**

namespaces.SDMX(xmlObj)

**Arguments**

xmlObj            an object of class "XMLInternalDocument"

**Value**

an object of class "data.frame" giving the namespace(s) id and uri

**Warning**

namespaces.SDMX is a function used internally to get the namespaces of the SDMX-ML object through [getNamespaces](#). This last function is used an utility re-used in the different SDMX document parsers.

**Author(s)**

Emmanuel Blondel, <emmanuel.blondel1@gmail.com>

**See Also**

[SDMXType-class getNamespaces](#)

---

primarymeasure.SDMXComponents	<i>primarymeasure.SDMXComponents</i>
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---

**Description**

function used to parse the primarymeasure of a SDMX-ML document

**Usage**

primarymeasure.SDMXComponents(xmlObj)

**Arguments**

xmlObj            an object of class "XMLInternalDocument"

**Warning**

primarymeasure.SDMXComponents is a function used internally to parse the primarymeasure during instantiation of "SDMXComponents" objects (used in DataStructures / KeyFamilies)

**Author(s)**

Emmanuel Blondel, <emmanuel.blondel1@gmail.com>

**See Also**

[SDMXComponents-class](#) [SDMXDataStructure-class](#)

---

readSDMX	<i>readSDMX</i>
----------	-----------------

---

**Description**

readSDMX is the main function to use to read SDMX data

**Usage**

```
readSDMX(file, isURL)
```

**Arguments**

file            path to SDMX-ML document that needs to be parsed  
isURL           a value of class "logical" either the path is an url, and data has to be downloaded from a SDMXweb-repository. Default value is TRUE.

**Author(s)**

Emmanuel Blondel, <emmanuel.blondel1@gmail.com>

**Examples**

```
# SDMX datasets  
#-----  
  
#using local files  
#with SDMX 2.0  
tmp <- system.file("extdata", "Example_Eurostat_2.0.xml", package="rsdmx")  
sdmx4 <- readSDMX(tmp, isURL = FALSE)  
stats4 <- as.data.frame(sdmx4)
```

```

head(stats4)

#with SDMX 2.1
tmpnew <- system.file("extdata","Example_Eurostat_2.1.xml", package="rSDMX")
sdmx5 <- readSDMX(tmpnew, isURL = FALSE)
stats5 <- as.data.frame(sdmx5)
head(stats5)

#example 1: FAO data
url1 <- paste("http://data.fao.org/sdmx/repository/data/",
             "CROP_PRODUCTION/.156.5312.515./FAO?startPeriod=2008&endPeriod=2008",
             sep = "")
sdmx1 <- readSDMX(url1)
stats1 <- as.data.frame(sdmx1)
head(stats1)

#example 2: OECD data
url2 <- paste("http://stats.oecd.org/restsdmx/sdmx.ashx/GetData/",
             "MIG/TOT.B11.TOT.FRA/OECD?startTime=2011&endTime=2011",
             sep = "")
sdmx2 <- readSDMX(url2)
stats2 <- as.data.frame(sdmx2)
head(stats2)

#example 3: Eurostat data
#using url (Eurostat REST SDMX 2.1)
url3 <- paste("http://ec.europa.eu/eurostat/SDMX/diss-web/rest/data/",
             "cdh_e_fos/..PC.FOS1.BE/?startperiod=2011&endPeriod=2011",
             sep = "")
sdmx3 <- readSDMX(url3)
stats3 <- as.data.frame(sdmx3)
head(stats3)

# SDMX Concepts / ConceptSchemes
#-----

csUrl <- paste("http://data.fao.org/sdmx/registry/conceptscheme",
             "/FAO/ALL/LATEST/?detail=full&references=none&version=2.1",
             sep = "")
csobj <- readSDMX(csUrl)
csdf <- as.data.frame(csobj)
head(csdf)

# SDMX Codelists
#-----

clUrl <- "http://data.fao.org/sdmx/registry/codelist/FAO/CL_FAO_MAJOR_AREA/0.1"
clobj <- readSDMX(clUrl)
cldf <- as.data.frame(clobj)
head(cldf)

```



```
# SDMX DataStructureDefinition (DSD)
#-----

dsdUrl <- paste("http://stats.oecd.org/restsdmx/sdmx.ashx/GetDataStructure/",
               "WATER_ABSTRACT",
               sep = "")
dsd <- readSDMX(dsdUrl)

#get codelists from DSD
cls <- dsd@codelists
codelists <- sapply(cls@codelists, function(x) x@id) #get list of codelists

#get a codelist
codelist <- as.data.frame(dsd@codelists,
                          codelistId = "CL_WATER_ABSTRACT_SOURCE")

#get concepts from DSD
concepts <- as.data.frame(dsd@concepts)
```

---

rsdmx

*Tools for Reading SDMX Data and Metadata*

---

## Description

RSDMX is a package to parse/read SDMX documents in R. It provides a set of classes and methods to read data and metadata documents exchanged through the Statistical Data and Metadata Exchange (SDMX) framework. The package currently focuses on the SDMX XML standard format (SDMX-ML).

## Details

Package:	rsdmx
Type:	Package
Version :	0.4-4
Date:	2015-01-13
License:	GPL(>=2.0)
LazyLoad:	yes

## Author(s)

Emmanuel Blondel <emmanuel.blondel1@gmail.com>

---

SDMX

*SDMX*

---

**Description**

create objects of class SDMX

**Usage**

SDMX(xmlObj)

**Arguments**

xmlObj            object of class "XMLInternalDocument derived from XML package"

**Value**

Returns an object of class "SDMX"

**Warning**

SDMX function is used as internal constructor by readSDMX to instantiate SDMX objects. This function should not be used.

**Author(s)**

Emmanuel Blondel, <emmanuel.blondel1@gmail.com>

**See Also**

[SDMX-class readSDMX](#)

---

SDMX-class

*Class "SDMX"*

---

**Description**

An abstract class from which SDMX classes are derived

**Arguments**

xmlObj            an object of class "XMLInternalDocument"

**Objects from the Class**

are never to be generated; only derived classes can be meaningful

**Slots**

xmlObj Object of class "XMLInternalDocument" derived from XML package  
schema Object of class "SDMXSchema" which handles the version of SDMX-ML implementation  
header Object of class "SDMXHeader"

**Methods**

**as.XML** signature(obj = "SDMX"): Retrieves the object of class "XMLInternalDocument" derived from XML package  
getSDMXSchema signature(obj = "SDMX"): Get the SDMX-ML schema version  
getSDMXHeader signature(obj = "SDMX"): Get the SDMX header object  
getSDMXType signature(obj = "SDMX"): Get an object of class "SDMXType"

**Warning**

this class is not useful in itself, but all SDMX classes in this package derive from it

**Note**

Currently, the approach drafted in [rsdmx](#) package was to rely on XML package, read the xml object and store it as part of the SDMX R object. Another approach being investigated is to use XML handlers that could avoid to load the entire XML tree in the SDMX R object (xmlObj). Indeed, SDMX data could be huge and causes issues of memory if the complete XML tree is loaded in the R user session.

**Author(s)**

Emmanuel Blondel, <emmanuel.blondel1@gmail.com>

---

SDMXAttribute-class    *Class "SDMXAttribute"*

---

**Description**

A basic class to handle a SDMX Attribute

**Usage**

```
SDMXAttribute(xmlObj)
```

**Arguments**

xmlObj            an object of class "XMLInternalDocument"

**Objects from the Class**

are never to be generated; used by SDMX derived [SDMXComponents-class](#) class

**Slots**

conceptRef Object of class "character" giving the attribute conceptRef (required)

conceptVersion Object of class "character" giving the attribute concept version

conceptAgency Object of class "character" giving the attribute concept agency

conceptSchemeRef Object of class "character" giving the attribute conceptScheme ref

conceptSchemeAgency Object of class "character" giving the attribute conceptScheme agency

codelist Object of class "character" giving the codelist ref name

codelistVersion Object of class "character" giving the codelist ref version

codelistAgency Object of class "character" giving the codelist ref agency

attachmentLevel Object of class "character" giving the attachment level (e.g. DataSet)

assignmentStatus Object of class "character" giving the assignment status (e.g. Mandatory)

isTimeFormat Object of class "logical"

crossSectionalAttachDataset Object of class "logical"

crossSectionalAttachGroup Object of class "logical"

crossSectionalAttachSection Object of class "logical"

crossSectionalAttachObservation Object of class "logical"

isEntityAttribute Object of class "logical" indicating if the Attribute is an entity Attribute.  
Default value is FALSE

isNonObservationTimeAttribute Object of class "logical" indicating if the Attribute is a non-  
observation Attribute. Default value is FALSE

isCountAttribute Object of class "logical" indicating if the Attribute is a count Attribute. Default  
value is FALSE

isFrequencyAttribute Object of class "logical" indicating if the Attribute is a frequency At-  
tribute. Default value is FALSE

isIdentityAttribute Object of class "logical" indicating if the Attribute is an identity Attribute.  
Default value is FALSE

**Warning**

this class is not useful in itself, but all SDMX non-abstract classes will encapsulate it as slot, when parsing an SDMX-ML document (DataStructures, or DataStructureDefinitions)

**Author(s)**

Emmanuel Blondel, <emmanuel.blondel1@gmail.com>

---

SDMXCode-class	Class "SDMXCode"
----------------	------------------

---

**Description**

A basic class to handle a SDMX Code

**Usage**

SDMXCode(xmlObj)

**Arguments**

xmlObj            an object of class "XMLInternalDocument"

**Objects from the Class**

are never to be generated; used by SDMX derived class [SDMXCodelists-class](#)

**Slots**

id Object of class "character" giving the ID of the code (required). In SDMX 2.0 documents, this slot will handle the 'value' attribute

urn Object of class "character" giving the code urn

parentCode Object of class "character" giving the parent code

label Object of class "list" giving the code label (by language). In SDMX 2.0, it takes the code 'Description' element vs. 'Name' element in SDMX 2.1

**Warning**

this class is not useful in itself, but all SDMX non-abstract classes will encapsulate it as slot, when parsing an SDMX-ML document (Codelists, or DataStructureDefinition)

**Author(s)**

Emmanuel Blondel, <emmanuel.blondel1@gmail.com>

---

SDMXCodelist-class      *Class "SDMXCodelist"*

---

**Description**

A basic class to handle a SDMX Codelist

**Usage**

```
SDMXCodelist(xmlObj)
```

**Arguments**

xmlObj                  an object of class "XMLInternalDocument"

**Objects from the Class**

are never to be generated; used by SDMX derived [SDMXCodelists-class](#) classes

**Slots**

id    Object of class "character" giving the ID of the codelist (required)  
agencyID    Object of class "character" giving the AgencyID  
version    Object of class "character" giving the version  
uri    Object of class "character" giving the codelist uri  
urn    Object of class "character" giving the codelist urn  
isExternalReference    Object of class "logical" indicating if the codelist is an external reference  
isFinal    Object of class "logical" indicating if the codelist is final  
validFrom    Object of class "character" indicating the start validity period  
validTo    Object of class "character" indicating the end validity period  
Name    Object of class "list" giving the codelist (by language) - required  
Description    Object of class "list" giving the codelist description (by language)  
Code    Object of class "list" giving the list of "SDMXCode" objects included in the codelist (see [SDMXCode-class](#))

**Warning**

this class is not useful in itself, but all SDMX non-abstract classes will encapsulate it as slot, when parsing an SDMX-ML document (Codelists, or DataStructureDefinition)

**Author(s)**

Emmanuel Blondel, <emmanuel.blondel1@gmail.com>

---

SDMXCodelists-class    *Class "SDMXCodelists"*

---

**Description**

A basic class to handle SDMX Codelists

**Usage**

SDMXCodelists(xmlObj)

**Arguments**

xmlObj                  an object of class "XMLInternalDocument"

**Objects from the Class**

are never to be generated; used as target object by [readSDMX](#) , or intend to be used by SDMX derived classes like SDMXDataStructureDefinition (DSD)

**Slots**

codelists    Object of class "list" giving the list of "SDMXCodelist"

**Author(s)**

Emmanuel Blondel, <emmanuel.blondel1@gmail.com>

---

SDMXCompactData-class    *Class "SDMXCompactData"*

---

**Description**

A basic class to handle a SDMX-ML compact data set

**Usage**

SDMXCompactData(xmlObj)

**Arguments**

xmlObj                  an object of class "XMLInternalDocument"

**Objects from the Class**

are never to be generated; will be used by the [readSDMX](#) main parser function

**Author(s)**

Emmanuel Blondel, <emmanuel.blondel1@gmail.com>

---

SDMXComponents-class    *Class "SDMXComponents"*

---

**Description**

A basic class to handle SDMX Components

**Usage**

SDMXComponents(xmlObj)

**Arguments**

xmlObj                    an object of class "XMLInternalDocument"

**Objects from the Class**

are never to be generated; used by SDMX derived [SDMXDataStructure-class](#) class

**Slots**

Dimensions    Object of class "list" giving the list of dimensions (see [SDMXDimension-class](#))

TimeDimension    Object of class "SDMXTimeDimension"

PrimaryMeasure    Object of class "SDMXPrimaryMeasure"

Attributes    Object of class "list" giving the list of attributes (see [SDMXAttribute-class](#))

**Warning**

this class is not useful in itself, but all SDMX non-abstract classes will encapsulate it as slot, when parsing an SDMX-ML document (DataStructures, or DataStructureDefinitions)

**Author(s)**

Emmanuel Blondel, <emmanuel.blondel1@gmail.com>



---

SDMXConcept-class	Class "SDMXConcept"
-------------------	---------------------

---

**Description**

A basic class to handle a SDMX Concept

**Usage**

```
SDMXConcept(xmlObj)
```

**Arguments**

xmlObj            an object of class "XMLInternalDocument"

**Objects from the Class**

are never to be generated; used by SDMX derived [SDMXConceptScheme-class](#) and [SDMXConcepts-class](#) classes

**Slots**

id    Object of class "character" giving the ID of the concept (required)  
agencyID    Object of class "character" giving the AgencyID  
version    Object of class "character" giving the concept version  
uri    Object of class "character" giving the concept uri  
urn    Object of class "character" giving the concept urn  
isExternalReference    Object of class "logical" indicating if the concept is an external reference  
coreRepresentation    Object of class "character" giving the core representation  
coreRepresentationAgency    Object of class "character" giving the core representation agency  
parent    Object of class "character" giving the concept parent  
parentAgency    Object of class "character" giving the parentAgency  
Name    Object of class "list" giving the concept name (by language) - required  
Description    Object of class "list" giving the concept description (by language)

**Warning**

this class is not useful in itself, but all SDMX non-abstract classes will encapsulate it as slot, when parsing an SDMX-ML document (Concepts, or DataStructureDefinition)

**Author(s)**

Emmanuel Blondel, <emmanuel.blondel1@gmail.com>

---

SDMXConcepts-class      *Class "SDMXConcepts"*

---

**Description**

A basic class to handle SDMX Concepts

**Usage**

SDMXConcepts(xmlObj)

**Arguments**

xmlObj                  an object of class "XMLInternalDocument"

**Objects from the Class**

are never to be generated; used as target object by [readSDMX](#) (in case of conceptSchemes document), or intend to be used by SDMX derived classes like SDMXDataStructureDefinition (DSD)

**Slots**

concepts Object of class "list" giving the list of "SDMXConcept". This slot is available to ensure backward compatibility with SDMX 1.0 in SDMX 2.0 or 2.1 documents

conceptSchemes Object of class "list" giving the list of "SDMXConceptScheme", which will encapsulate the list of "SDMXConcept" (defined from SDMX 2.0)

**Author(s)**

Emmanuel Blondel, <emmanuel.blondel1@gmail.com>

---

SDMXConceptScheme-class  
*Class "SDMXConceptScheme"*

---

**Description**

A basic class to handle a SDMX Concept scheme

**Usage**

SDMXConceptScheme(xmlObj)

**Arguments**

xmlObj                  an object of class "XMLInternalDocument"

**Objects from the Class**

are never to be generated; used by SDMX derived [SDMXConcepts-class](#) classes

**Slots**

id Object of class "character" giving the ID of the concept scheme (required)  
 agencyID Object of class "character" giving the AgencyID  
 version Object of class "character" giving the version  
 uri Object of class "character" giving the concept uri  
 urn Object of class "character" giving the concept urn  
 isExternalReference Object of class "logical" indicating if the concept scheme is an external reference  
 isFinal Object of class "logical" indicating if the concept scheme is final  
 validFrom Object of class "character" indicating the start validity period  
 validTo Object of class "character" indicating the end validity period  
 Name Object of class "list" giving the concept scheme name (by language) - required  
 Description Object of class "list" giving the concept scheme description (by language)  
 Concept Object of class "list" giving the list of "SDMXConcept" objects (see [SDMXConcept-class](#))

**Warning**

this class is not useful in itself, but all SDMX non-abstract classes will encapsulate it as slot, when parsing an SDMX-ML document (Concepts, or DataStructureDefinition)

**Author(s)**

Emmanuel Blondel, <emmanuel.blondel1@gmail.com>

---

SDMXDataStructure-class

*Class "SDMXDataStructure"*

---

**Description**

A basic class to handle a SDMX DataStructure (or KeyFamily)

**Usage**

SDMXDataStructure(xmlObj)

**Arguments**

xmlObj                    an object of class "XMLInternalDocument"

**Objects from the Class**

are never to be generated; used by SDMX derived [SDMXCodelists-class](#) classes

**Slots**

id Object of class "character" giving the ID (required)  
agencyID Object of class "character" giving the AgencyID  
version Object of class "character" giving the version  
uri Object of class "character" giving the uri  
urn Object of class "character" giving the urn  
isExternalReference Object of class "logical" indicating if the datastructure / keyfamily is an external reference  
isFinal Object of class "logical" indicating if the datastructure / keyfamily is final  
validFrom Object of class "character" indicating the start validity period  
validTo Object of class "character" indicating the end validity period  
Name Object of class "list" giving the codelist (by language) - required  
Description Object of class "list" giving the codelist description (by language)  
Components Object of class "SDMXComponents" (see [SDMXComponents-class](#))

**Warning**

this class is not useful in itself, but all SDMX non-abstract classes will encapsulate it as slot, when parsing an SDMX-ML document (DataStructures, or DataStructureDefinition)

**Note**

This class is named according to SDMX 2.1 specifications. The SDMX 2.0 KeyFamily type is handled with this unique class, the 'DataStructure' being the new term for 'KeyFamily'

**Author(s)**

Emmanuel Blondel, <emmanuel.blondel1@gmail.com>

---

SDMXDataStructureDefinition-class

*Class "SDMXDataStructureDefinition"*

---

**Description**

A basic class to handle a SDMX DataStructureDefinition (DSD)

**Usage**

SDMXDataStructureDefinition(xmlObj)

**Arguments**

xmlObj            an object of class "XMLInternalDocument"

**Objects from the Class**

are never to be generated; retrieved by [readSDMX](#)

**Slots**

concepts Object of class "SDMXConcepts" giving the list of concepts or conceptSchemes (see [SDMXConcepts-class](#))

codelists Object of class "SDMXCodelists" giving the list of codelists (see [SDMXCodelists-class](#))

datastructures Object of class "SDMXDataStructures" giving the list of datastructures /key families (see [SDMXDataStructures-class](#))

**Author(s)**

Emmanuel Blondel, <emmanuel.blondel1@gmail.com>

---

SDMXDataStructures-class

*Class "SDMXDataStructures"*

---

**Description**

A basic class to handle a SDMX DataStructures (or KeyFamilies)

**Usage**

SDMXDataStructures(xmlObj)

**Arguments**

xmlObj            an object of class "XMLInternalDocument"

**Objects from the Class**

are never to be generated; retrieved by [readSDMX](#) for DataStructures documents, or as part of a DataStructureDefinitions (DSD)

**Slots**

datastructures Object of class "list" giving the list of DataStructures, (see [SDMXDataStructure-class](#))

**Note**

This class is named according to SDMX 2.1 specifications. The SDMX 2.0 KeyFamilies type is handled with this unique class, the 'DataStructures' being the new term for 'KeyFamilies'

**Author(s)**

Emmanuel Blondel, <emmanuel.blondel1@gmail.com>

---

SDMXDimension-class    *Class "SDMXDimension"*

---

**Description**

A basic class to handle a SDMX Dimension

**Usage**

SDMXDimension(xmlObj)

**Arguments**

xmlObj                    an object of class "XMLInternalDocument"

**Objects from the Class**

are never to be generated; used by SDMX derived [SDMXComponents-class](#) class

**Slots**

conceptRef Object of class "character" giving the dimension conceptRef (required)  
conceptVersion Object of class "character" giving the dimension concept version  
conceptAgency Object of class "character" giving the dimension concept agency  
conceptSchemeRef Object of class "character" giving the dimension conceptScheme ref  
conceptSchemeAgency Object of class "character" giving the dimension conceptScheme agency  
odelist Object of class "character" giving the codelist ref name  
odelistVersion Object of class "character" giving the codelist ref version  
odelistAgency Object of class "character" giving the codelist ref agency  
isMeasureDimension Object of class "logical" indicating if the dimension is a measure dimension.  
Default value is FALSE  
isFrequencyDimension Object of class "logical" indicating if the dimension is a frequency dimension.  
Default value is FALSE  
isEntityDimension Object of class "logical" indicating if the dimension is an entity dimension.  
Default value is FALSE

isCountDimension Object of class "logical" indicating if the dimension is a count dimension. Default value is FALSE

isNonObservationTimeDimension Object of class "logical" indicating if the dimension is a non-observation dimension. Default value is FALSE

isIdentityDimension Object of class "logical" indicating if the dimension is an identity dimension. Default value is FALSE

crossSectionalAttachDataset Object of class "logical"

crossSectionalAttachGroup Object of class "logical"

crossSectionalAttachSection Object of class "logical"

crossSectionalAttachObservation Object of class "logical"

**Warning**

this class is not useful in itself, but all SDMX non-abstract classes will encapsulate it as slot, when parsing an SDMX-ML document (DataStructures, or DataStructureDefinitions)

**Author(s)**

Emmanuel Blondel, <emmanuel.blondel1@gmail.com>

---

SDMXGenericData-class *Class "SDMXGenericData"*

---

**Description**

A basic class to handle a SDMX-ML generic data set

**Usage**

```
SDMXGenericData(xmlObj)
```

**Arguments**

xmlObj            an object of class "XMLInternalDocument"

**Objects from the Class**

are never to be generated; will be used by the [readSDMX](#) main parser function

**Author(s)**

Emmanuel Blondel, <emmanuel.blondel1@gmail.com>

---

SDMXHeader-class      *Class "SDMXHeader"*

---

### Description

A basic class to handle the header of a SDMX-ML document

### Usage

SDMXHeader(xmlObj)

### Arguments

xmlObj                  an object of class "XMLInternalDocument"

### Objects from the Class

are never to be generated; used by SDMX derived classes

### Slots

ID Object of class "character" giving the ID of the SDMX-ML document

Test Object of class "logical" indicating if the SDMX-ML document is disseminated for test purpose

Truncated Object of class "logical" indicating if the SDMX-ML document is truncated

Name Object of class "character" giving the name of SDMX-ML document

Sender Object of class "list" giving the id of the sender and eventually its in name, possibly in multi-languages

Receiver Object of class "list" giving the id of the receiver and eventually its in name, possibly in multi-languages

Prepared Object of class "POSIXlt" giving the preparation date of the SDMX-ML document

Extracted Object of class "POSIXlt" giving the extraction date of the SDMX-ML document

ReportingBegin Object of class "POSIXlt" giving the reporting begin date for the data retrieved in the SDMX-ML document

ReportingEnd Object of class "POSIXlt" giving the reporting end date for the data retrieved in the SDMX-ML document

Source Object of class "character" giving the source of the SDMX-ML document

### Warning

this class is not useful in itself, but all SDMX non-abstract classes will encapsulate it as slot, when parsing an SDMX-ML document



**Note**

Some SDMXHeader properties are not yet supported and thus not available as "slots". These are "KeyFamilyRef", "KeyFamilyAgency", "DataSetAgency", "DataSetID", "DataSetAction"

**Author(s)**

Emmanuel Blondel, <emmanuel.blondel1@gmail.com>

---

SDMXMessageGroup-class

*Class "SDMXMessageGroup"*

---

**Description**

A basic class to handle a SDMX-ML message group

**Usage**

SDMXMessageGroup(xmlObj)

**Arguments**

xmlObj            an object of class "XMLInternalDocument"

**Objects from the Class**

are never to be generated; will be used by the [readSDMX](#) main parser function

**Author(s)**

Emmanuel Blondel, <emmanuel.blondel1@gmail.com>

---

SDMXPrimaryMeasure-class

*Class "SDMXPrimaryMeasure"*

---

**Description**

A basic class to handle a SDMX PrimaryMeasure

**Usage**

SDMXPrimaryMeasure(xmlObj)

**Arguments**

xmlObj                    an object of class "XMLInternalDocument"

**Objects from the Class**

are never to be generated; used by SDMX derived [SDMXComponents-class](#) class

**Slots**

conceptRef    Object of class "character" giving the dimension conceptRef (required)  
conceptVersion    Object of class "character" giving the dimension concept version  
conceptAgency    Object of class "character" giving the dimension concept agency  
conceptSchemeRef    Object of class "character" giving the dimension conceptScheme ref  
conceptSchemeAgency    Object of class "character" giving the dimension conceptScheme agency  
odelist    Object of class "character" giving the codelist ref name  
odelistVersion    Object of class "character" giving the codelist ref version  
odelistAgency    Object of class "character" giving the codelist ref agency

**Warning**

this class is not useful in itself, but all SDMX non-abstract classes will encapsulate it as slot, when parsing an SDMX-ML document (DataStructures, or DataStructureDefinitions)

**Author(s)**

Emmanuel Blondel, <emmanuel.blondel1@gmail.com>

---

SDMXSchema-class            *Class "SDMXSchema"*

---

**Description**

A basic class to handle the version of the SDMX-ML Schema

**Usage**

SDMXSchema(xmlObj)

**Arguments**

xmlObj                    an object of class "XMLInternalDocument"

**Objects from the Class**

are never to be generated; used by SDMX derived classes

**Slots**

version Object of class "character" giving the SDMX-ML schema version

**Methods**

getVersion Retrieves the version of the SDMX-ML schema version

**Warning**

this class is not useful in itself, but all SDMX non-abstract classes will encapsulate it as slot, when parsing an SDMX-ML document

**Author(s)**

Emmanuel Blondel, <emmanuel.blondel1@gmail.com>

---

SDMXStructureType-class

*Class "SDMXStructureType"*

---

**Description**

A basic abstract class to handle the type of a SDMX-ML structure document

**Usage**

SDMXStructureType(xmlObj)

**Arguments**

xmlObj an object of class "XMLInternalDocument"

**Objects from the Class**

are never to be generated; used by SDMX derived classes

**Slots**

type Object of class "character" giving the super type "SDMXStructure"

subtype Object of class "character" giving the structure type of the SDMX-ML document

**Methods**

getStructureType Returns the structure type of the SDMX-ML document

**Author(s)**

Emmanuel Blondel, <emmanuel.blondel1@gmail.com>

---

SDMXTimeDimension-class

*Class "SDMXTimeDimension"*

---

**Description**

A basic class to handle a SDMX TimeDimension

**Usage**

SDMXTimeDimension(xmlObj)

**Arguments**

xmlObj            an object of class "XMLInternalDocument"

**Objects from the Class**

are never to be generated; used by SDMX derived [SDMXComponents-class](#) class

**Slots**

conceptRef Object of class "character" giving the dimension conceptRef (required)  
conceptVersion Object of class "character" giving the dimension concept version  
conceptAgency Object of class "character" giving the dimension concept agency  
conceptSchemeRef Object of class "character" giving the dimension conceptScheme ref  
conceptSchemeAgency Object of class "character" giving the dimension conceptScheme agency  
codelist Object of class "character" giving the codelist ref name  
codelistVersion Object of class "character" giving the codelist ref version  
codelistAgency Object of class "character" giving the codelist ref agency  
crossSectionalAttachDataset Object of class "logical"  
crossSectionalAttachGroup Object of class "logical"  
crossSectionalAttachSection Object of class "logical"  
crossSectionalAttachObservation Object of class "logical"

**Warning**

this class is not useful in itself, but all SDMX non-abstract classes will encapsulate it as slot, when parsing an SDMX-ML document (DataStructures, or DataStructureDefinitions)

**Author(s)**

Emmanuel Blondel, <emmanuel.blondel1@gmail.com>

---

SDMXType-class	Class "SDMXType"
----------------	------------------

---

**Description**

A basic class to handle the type of a SDMX-ML document

**Usage**

SDMXType(xmlObj)

**Arguments**

xmlObj            an object of class "XMLInternalDocument"

**Objects from the Class**

are never to be generated; used by SDMX derived classes

**Slots**

type Object of class "character" giving the type of the SDMX-ML document

**Methods**

getType Returns the type of the SDMX-ML document

**Warning**

this class is not useful in itself, but all SDMX non-abstract classes will encapsulate it as slot, when parsing an SDMX-ML document

**Note**

At now, the following types have been implemented and tested: GenericDataType, CompactDataType, UtilityDataType and MessageGroupType.

The MessageGroupType was only modeled to allow reading OECD generic data which is provided. Other message types handled in MessageGroup document type are not yet supported.

**Author(s)**

Emmanuel Blondel, <emmanuel.blondel1@gmail.com>

SDMXUtilityData-class *Class "SDMXUtilityData"*

---

**Description**

A basic class to handle a SDMX-ML utility data set

**Usage**

SDMXUtilityData(xmlObj)

**Arguments**

xmlObj            an object of class "XMLInternalDocument"

**Objects from the Class**

are never to be generated; will be used by the [readSDMX](#) main parser function

**Author(s)**

Emmanuel Blondel, <emmanuel.blondel1@gmail.com>

---

timedimension.SDMXComponents

*timedimension.SDMXComponents*

---

**Description**

function used to parse the timedimension of a SDMX-ML document

**Usage**

timedimension.SDMXComponents(xmlObj)

**Arguments**

xmlObj            an object of class "XMLInternalDocument"

**Warning**

timedimension.SDMXComponents is a function used internally to parse the timedimension during instantiation of "SDMXComponents" objects (used in DataStructures / KeyFamilies)

**Author(s)**

Emmanuel Blondel, <emmanuel.blondel1@gmail.com>

**See Also**

[SDMXComponents-class](#) [SDMXDataStructure-class](#)

---

`type.SDMXStructureType`  
*type.SDMXStructureType*

---

**Description**

function used to parse the structure type of an SDMX-ML object

**Usage**

`type.SDMXStructureType(xmlObj)`

**Arguments**

`xmlObj`            an object of class "XMLInternalDocument"

**Value**

an object of class "character"

**Warning**

`type.SDMXStructureType` is a function used internally to parse the SDMX structure type during instantiation of SDMX objects

**Author(s)**

Emmanuel Blondel, <emmanuel.blondel1@gmail.com>

**See Also**

[SDMXStructureType-class](#)

type.SDMXType            *type.SDMXType*

---

**Description**

function used to parse the type of an SDMX-ML object

**Usage**

```
type.SDMXType(xmlObj)
```

**Arguments**

xmlObj            an object of class "XMLInternalDocument"

**Value**

an object of class "character"

**Warning**

type.SDMXType is a function used internally to parse the SDMX type during instantiation of SDMX objects

**Author(s)**

Emmanuel Blondel, <emmanuel.blondel1@gmail.com>

**See Also**

[SDMXType-class getSDMXType](#)

---

version.SDMXSchema    *version.SDMXSchema*

---

**Description**

function used to parse the schema of an SDMX-ML object

**Usage**

```
version.SDMXSchema(xmlObj)
```

**Arguments**

xmlObj            an object of class "XMLInternalDocument"



**Warning**

*version.SDMXSchema* is a function used internally to parse the SDMX schema during instantiation of SDMX objects

**Author(s)**

Emmanuel Blondel, <[emmanuel.blondel1@gmail.com](mailto:emmanuel.blondel1@gmail.com)>

**See Also**

[SDMXSchema-class getSDMXSchema](#)

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