

Package ‘r sdmx’

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Title Tools for Reading SDMX Data and Metadata

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Suggests testthat, knitr, roxygen2, markdown

Description Set of classes and methods to read data and metadata documents exchanged through the Statistical Data and Metadata Exchange (SDMX) framework, currently focusing on the SDMX XML standard format (SDMX-ML).

License GPL (>= 2)

VignetteBuilder knitr

URL <https://github.com/opensdmx/r sdmx>, <https://sdmx.org>

BugReports <https://github.com/opensdmx/r sdmx/issues>

LazyLoad yes

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Collate r sdmx_logger.R Class-SDMXSchema.R Class-SDMXType.R
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 readSDMX.R saveSDMX.R profile.R rsdmx.R

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addSDMXServiceProvider

addSDMXServiceProvider

Description

function that allows configuring a new [SDMXServiceProvider](#) as part of the list of providers known by `rdsdmx`, hence by [readSDMX](#)

Usage

```
addSDMXServiceProvider(provider)
```

Arguments

provider an object of class "SDMXServiceProvider"

Author(s)

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

See Also

[getSDMXServiceProviders](#) [findSDMXServiceProvider](#) [readSDMX](#)

Examples

```
#create a provider
myBuilder <- SDMXREST20RequestBuilder(regUrl = "http://www.myorg.org/registry",
                                     repoUrl = "http://www.myorg.org/repository",
                                     compliant = TRUE)

myProvider <- SDMXServiceProvider(
  agencyId = "MYORG", name = "My Organization",
  builder = myBuilder
)

#add it
addSDMXServiceProvider(myProvider)
```

```
#check out the list of existing provider (only list the agency Ids)
sapply(slot(getSDMXServiceProviders(), "providers"), function(x){slot(x, "agencyId")})
```

findNamespace	<i>findNamespace</i>
---------------	----------------------

Description

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

Usage

```
findNamespace(namespaces, messageType)
```

Arguments

namespaces	object of class <code>data.frame</code> giving the namespaces URIs available in a SDMX-ML object, typically obtained with getNamespaces
messageType	object of class <code>character</code> 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](#)

findSDMXServiceProvider
findSDMXServiceProvider

Description

function that allows searching by provider id in the list of known [SDMXServiceProvider](#). This function can be used for interrogating the list of default providers known by **rsdmx**, and is used internally by [readSDMX](#)

Usage

```
findSDMXServiceProvider(agencyId)
```

Arguments

agencyId an object of class "character" representing a provider identifier

Value

an object of class "SDMXServiceProvider" (or NULL if no matching)

Author(s)

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

See Also

[getSDMXServiceProviders](#) [addSDMXServiceProvider](#) [readSDMX](#)

Examples

```
#find OECD provider  
oecd.provider <- findSDMXServiceProvider("OECD")
```

getNamespaces *getNamespaces*

Description

Access the namespaces of the SDMX-ML object

Usage

```
getNamespaces(obj)  
  
## S4 method for signature 'SDMX'  
getNamespaces(obj)
```

Arguments

obj An object deriving from class "SDMX"

Value

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

Methods (by class)

- `getNamespaces(SDMX)`: Access the namespaces of the SDMX-ML object

Author(s)

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

See Also

[SDMX-class](#)

`getRegistryInterfaceResult`
getRegistryInterfaceResult

Description

function used to extract the SDMX-ML message from a registry interface query

Usage

```
getRegistryInterfaceResult(xmlObj)
```

Arguments

xmlObj object of class "XMLInternalDocument derived from XML package"

Value

an object of class "XMLInternalDocument derived from XML package"

Warning

`getRegistryInterfaceResult` is a function used internally by [readSDMX](#)

Author(s)

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

See Also

[SDMX-class readSDMX](#)

`getSDMXServiceProviders`

getSDMXServiceProviders

Description

function used to get the list of [SDMXServiceProvider](#) known by **rsdmx** (hence known by [readSDMX](#) to query data or metadata in an easier way). This function can be easily used to interrogate the list of known providers, and eventually consider adding one at runtime with [addSDMXServiceProvider](#)

Usage

```
getSDMXServiceProviders()
```

Value

an object of class "list" (of [SDMXServiceProvider](#))

Author(s)

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

See Also

[addSDMXServiceProvider](#) [findSDMXServiceProvider](#) [readSDMX](#)

`getSoapRequestResult` *getSoapRequestResult*

Description

function used to extract the SDMX-ML message from a SOAP request response

Usage

`getSoapRequestResult(xmlObj)`

Arguments

`xmlObj` object of class "XMLInternalDocument derived from XML package"

Value

an object of class "XMLInternalDocument derived from XML package"

Warning

`getSoapRequestResult` is a function used internally by [readSDMX](#)

Author(s)

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

See Also

[SDMX-class readSDMX](#)

`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](#)

isRegistryInterfaceEnvelope

isRegistryInterfaceEnvelope

Description

function used to detect if the XML document corresponds to a registry interface query

Usage

```
isRegistryInterfaceEnvelope(xmlObj, nativeRoot)
```

Arguments

xmlObj	object of class "XMLInternalDocument" derived from XML package
nativeRoot	object of class "logical" indicating if it is the native document

Value

an object of class "logical"

Warning

isRegistryInterfaceEnvelope is a function used internally by [readSDMX](#)

Author(s)

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

See Also

[SDMX-class readSDMX](#)

isSoapRequestEnvelope *isSoapRequestEnvelope*

Description

function used to detect if the XML document corresponds to a SOAP request response

Usage

```
isSoapRequestEnvelope(xmlObj, namespaces)
```

Arguments

xmlObj	object of class "XMLInternalDocument derived from XML package"
namespaces	object of class "data.frame" given the list of namespace URIs

Value

an object of class "logical"

Warning

isSoapRequestEnvelope is a function used internally by [readSDMX](#)

Author(s)

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

See Also

[SDMX-class readSDMX](#)

namespaces.SDMX *namespaces.SDMX*

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](#)

readSDMX

readSDMX

Description

readSDMX is the main function to use to read SDMX data

Usage

```
readSDMX(file = NULL, isURL = TRUE, isRData = FALSE,
  provider = NULL, providerId = NULL, providerKey = NULL,
  agencyId = NULL, resource = NULL, resourceId = NULL, version = NULL,
  flowRef = NULL, key = NULL, key.mode = "R", start = NULL, end = NULL, dsd = FALSE,
  headers = list(), validate = FALSE,
  verbose = !is.null(logger), logger = "INFO", ...)
```

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. Ignored in case readSDMX is used with helpers (based on the embedded list of SDMXServiceProvider)
isRData	a value of class "logical" either the path is local RData file handling an object of class "SDMX", previously saved with saveSDMX . Default value is FALSE.
provider	an object of class "SDMXServiceProvider". If specified, file and isURL arguments will be ignored.
providerId	an object of class "character" representing a provider id. It has to be match a default provider as listed in getSDMXServiceProviders()

providerKey	an object of class "character" giving a key to authenticate for the given provider endpoint. Some providers may require an authentication or subscription key to perform SDMX requests.
agencyId	an object of class "character" representing an agency id, for which data should be requested (from a particular service provider)
resource	an object of class "character" giving the SDMX service request resource to query e.g. "data". Recognized if a valid provider or provide id has been specified as argument.
resourceId	an object of class "character" giving a SDMX service resource Id, e.g. the id of a data structure
version	an object of class "character" giving a SDMX resource version, e.g. the version of a dataflow.
flowRef	an object of class "character" giving the SDMX flow ref id. Recognized if valid provider or provide id has been specified as argument.
key	an object of class "character" or "list" giving the SDMX data key/filter to apply. Recognized if a valid provider or provide id has been specified as argument. If key.mode is equal to "R" (default value), filter has to be an object of class "list" representing the filters to apply to the dataset, otherwise the filter will be a string.
key.mode	an object of class "character" indicating if the key has to be provided as an R object, ie a object of class "list" representing the filter(s) to apply. Default value is "R". Alternative value is "SDMX"
start	an object of class "integer" or "character" giving the SDMX start time to apply. Recognized if a valid provider or provide id has been specified as argument.
end	an object of class "integer" or "character" giving the SDMX end time to apply. Recognized if a valid provider or provide id has been specified as argument.
dsd	an Object of class "logical" if an attempt to inherit the DSD should be performed. Active only if "readSDMX" is used as helper method (ie if data is fetched using an embedded service provider. Default is FALSE
headers	an object of class "list" that contains any additional headers for the request.
validate	an object of class "logical" indicating if a validation check has to be performed on the SDMX-ML document to check its SDMX compliance when reading it. Default is FALSE.
verbose	an Object of class "logical" that indicates if rsdmx logs should appear to user. Default is set to FALSE (see argument logger).
logger	reports if a logger has to be used to print log messages. Default is NULL (no logs). Use "INFO" to print rsdmx logs, and "DEBUG" to print verbose messages from SDMX web requests.
...	(any other parameter to pass to http::GET request)

Value

an object of class "SDMX"

Author(s)

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

Examples

```

# SDMX datasets
#-----
## Not run:
# Not run
# (local dataset examples)
#with SDMX 2.0
tmp <- system.file("extdata","Example_Eurostat_2.0.xml", package="rsdmx")
sdmx <- readSDMX(tmp, isURL = FALSE)
stats <- as.data.frame(sdmx)
head(stats)

#with SDMX 2.1
tmpnew <- system.file("extdata","Example_Eurostat_2.1.xml", package="rsdmx")
sdmx <- readSDMX(tmpnew, isURL = FALSE)
stats <- as.data.frame(sdmx)
head(stats)
## End(**Not run**)

## End(Not run)

## Not run:
# Not run by 'R CMD check'
# (reliable remote datasource but with possible occasional unavailability)

#examples using embedded providers
sdmx <- readSDMX(providerId = "OECD", resource = "data", flowRef = "MIG",
                 key = list("TOT", NULL, NULL), start = 2011, end = 2011)
stats <- as.data.frame(sdmx)
head(stats)

#examples using 'file' argument
#using url (Eurostat REST SDMX 2.1)
url <- paste("http://ec.europa.eu/eurostat/SDMX/diss-web/rest/data/",
            "cdh_e_fos/all/?startperiod=2000&endPeriod=2010",
            sep = "")
sdmx <- readSDMX(url)
stats <- as.data.frame(sdmx)
head(stats)

## End(**Not run**)

## End(Not run)

# SDMX DataStructureDefinition (DSD)
#-----
## Not run:
# Not run by 'R CMD check'
# (reliable remote datasource but with possible occasional unavailability)

#using embedded providers

```

```
dsd <- readSDMX(providerId = "OECD", resource = "datastructure",
               resourceId = "WATER_ABSTRACT")

#get codelists from DSD
cls <- slot(dsd, "codelists")
codelists <- sapply(slot(cls,"codelists"), slot, "id") #get list of codelists

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

#get concepts from DSD
concepts <- as.data.frame(slot(dsd, "concepts"))

## End(**Not run**)

## End(Not run)
```

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). - an web-service interface to well-known SDMX data providers

Author(s)

Emmanuel Blondel <emmanuel.blondel1@gmail.com>

rsdmxLogger

rsdmxLogger

Description

rsdmxLogger

Format

[R6Class](#) object.

Value

Object of [R6Class](#) for modelling a simple logger

Abstract Methods

INFO(text) Logger to report information. Used internally

WARN(text) Logger to report warnings. Used internally

ERROR(text) Logger to report errors. Used internally

Note

Logger class used internally by rsdmx

saveSDMX

saveSDMX

Description

saveSDMX is the function to save R SDMX object

Usage

```
saveSDMX(sdmxObj, file)
```

Arguments

sdmxObj an object of class [SDMX-class](#) to save

file a connection or the name of the file where the R object is saved to

Author(s)

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

Examples

```
sdmx <- system.file("extdata", "Example_Eurostat_2.0.xml", package="rsdmx")
saveSDMX(sdmx, "sdmx.rda")
```

SDMX

Class "SDMX"

Description

An abstract class from which SDMX classes are derived

Usage

```
SDMX(xmlObj, namespaces)
```

Arguments

xmlObj	object of class "XMLInternalDocument" derived from XML package
namespaces	object of class "data.frame" given the list of namespace URIs

Value

an object of class "SDMX"

Slots

xmlObj	Object of class "XMLInternalDocument" derived from XML package
schema	Object of class "SDMXSchema", handles the version of SDMX-ML format
header	Object of class "SDMXHeader", handles the SDMX-ML document header
footer	Object of class "SDMXFooter", handles the SDMX-ML document footer

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 through the Simple API for XML (SAX) that could avoid to load the full 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 Emmanuel Blondel, <emmanuel.blondel1@gmail.com>

See Also

[readSDMX](#)

SDMXAgency *Class "SDMXAgency"*

Description

A basic class to handle a SDMX Concept

Usage

SDMXAgency(xmlObj, namespaces)

Arguments

xmlObj object of class "XMLInternalDocument derived from XML package"
namespaces object of class "data.frame" given the list of namespace URIs

Value

an object of class "SDMXAgency"

Author(s)

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

See Also

[readSDMX](#)

SDMXAgencyScheme *Class "SDMXAgencyScheme"*

Description

A basic abstract class to handle a SDMXAgencyScheme

Usage

SDMXAgencyScheme(xmlObj, namespaces)

Arguments

xmlObj object of class "XMLInternalDocument derived from XML package"
namespaces object of class "data.frame" given the list of namespace URIs

Value

an object of class "SDMXAgencyScheme"

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 agency scheme name (by language) - required
 Description Object of class "list" giving the agency scheme description (by language)
 agencies object of class "list" giving the list of SDMXAgency

Author(s)

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

See Also

[readSDMX](#)

SDMXAttribute

Class "SDMXAttribute"

Description

A basic class to handle a SDMX Attribute

Usage

```
SDMXAttribute(xmlObj, namespaces)
```

Arguments

xmlObj	object of class "XMLInternalDocument" derived from XML package
namespaces	object of class "data.frame" given the list of namespace URIs

Value

an object of class "SDMXAttribute"

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>

See Also

[readSDMX](#)

SDMXCode

Class "SDMXCode"

Description

A basic class to handle a SDMX Code

Usage

```
SDMXCode(xmlObj, namespaces)
```

Arguments

xmlObj	object of class "XMLInternalDocument derived from XML package"
namespaces	object of class "data.frame" given the list of namespace URIs

Value

an object of class "SDMXCode"

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. This property deprecated and kept now for backward compatibility.

name Object of class "list" giving the code name (by language).

description Object of class "list" giving the code 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 (Codelists, or DataStructureDefinition)

Author(s)

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

See Also

[readSDMX](#)

SDMXCodelist

Class "*SDMXCodelist*"

Description

A basic class to handle a SDMX Codelist

Usage

```
SDMXCodelist(xmlObj, namespaces)
```

Arguments

xmlObj	object of class "XMLInternalDocument derived from XML package"
namespaces	object of class "data.frame" given the list of namespace URIs

Value

an object of class "SDMXCodelist"

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](#))

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>

See Also[readSDMX](#)

`SDMXCodelists`*Class "SDMXCodelists"*

Description

A basic class to handle SDMX Codelists

Usage

```
SDMXCodelists(xmlObj, namespaces)
```

Arguments

<code>xmlObj</code>	object of class "XMLInternalDocument derived from XML package"
<code>namespaces</code>	object of class "data.frame" given the list of namespace URIs

Value

an object of class "SDMXCodelists"

Slots

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

Warning

This class is not useful in itself, but [SDMXDataStructureDefinition](#) objects will encapsulate it as slot, when parsing an SDMX-ML document.

Author(s)

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

See Also[readSDMX](#)

SDMXCompactData *Class "SDMXCompactData"*

Description

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

Usage

```
SDMXCompactData(xmlObj, namespaces)
```

Arguments

xmlObj	object of class "XMLInternalDocument derived from XML package"
namespaces	object of class "data.frame" given the list of namespace URIs

Value

an object of class "SDMXCompactData"

Author(s)

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

See Also

[readSDMX](#)

SDMXComponents *Class "SDMXComponents"*

Description

A basic class to handle SDMX Components

Usage

```
SDMXComponents(xmlObj, namespaces)
```

Arguments

xmlObj	object of class "XMLInternalDocument derived from XML package"
namespaces	object of class "data.frame" given the list of namespace URIs

Value

an object of class "SDMXComponents"

Slots

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

TimeDimension Object of class "SDMXTimeDimension"

PrimaryMeasure Object of class "SDMXPrimaryMeasure"

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

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>

See Also

[readSDMX](#)

SDMXConcept

Class "SDMXConcept"

Description

A basic class to handle a SDMX Concept

Usage

```
SDMXConcept(xmlObj, namespaces)
```

Arguments

xmlObj object of class "XMLInternalDocument" derived from XML package

namespaces object of class "data.frame" given the list of namespace URIs

Value

an object of class "SDMXConcept"

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>

See Also

[readSDMX](#)

SDMXConcepts

Class "SDMXConcepts"

Description

A basic class to handle SDMX Concepts

Usage

SDMXConcepts(xmlObj, namespaces)

Arguments

xmlObj	object of class "XMLInternalDocument derived from XML package
namespaces	object of class "data.frame" given the list of namespace URIs

Value

an object of class "SDMXConcepts"

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)

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.blondel@gmail.com>

See Also

[readSDMX](#)

SDMXConceptScheme *Class "SDMXConceptScheme"*

Description

A basic class to handle a SDMX Concept scheme

Usage

```
SDMXConceptScheme(xmlObj, namespaces)
```

Arguments

xmlObj	object of class "XMLInternalDocument derived from XML package"
namespaces	object of class "data.frame" given the list of namespace URIs

Value

an object of class "SDMXConceptScheme"

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](#))

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>

See Also

[readSDMX](#)

SDMXCrossSectionalData

Class "SDMXCrossSectionalData"

Description

A basic class to handle a SDMX-ML cross sectional data set

Usage

```
SDMXCrossSectionalData(xmlObj, namespaces)
```

Arguments

xmlObj	object of class "XMLInternalDocument" derived from XML package
namespaces	object of class "data.frame" given the list of namespace URIs

Value

an object of class "SDMXCrossSectionalData"

Author(s)

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

See Also

[readSDMX](#)

SDMXData

Class "SDMXData"

Description

An abstract class from which SDMX Data classes are derived

Usage

```
SDMXData(xmlObj, namespaces)
```

Arguments

xmlObj	object of class "XMLInternalDocument derived from XML package"
namespaces	object of class "data.frame" given the list of namespace URIs

Value

an object of class "SDMXData"

Slots

dsdRef Object of class "character" giving the DSD Reference
dsd Object of class "SDMXDataStructureDefinition"

Warning

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

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

See Also

[readSDMX](#)

SDMXDataFlow

Class "SDMXDataFlow"

Description

A basic class to handle a SDMX DataFlow

Usage

```
SDMXDataFlow(xmlObj, namespaces)
```

Arguments

xmlObj	object of class "XMLInternalDocument derived from XML package"
namespaces	object of class "data.frame" given the list of namespace URIs

Value

an object of class "SDMXDataFlow"

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 dataflow is an external reference
 isFinal Object of class "logical" indicating if the dataflow 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 dataflow (by available language) - required
 Description Object of class "list" giving the dataflow description (by available language)
 dsdRef Object of class "character" giving the reference datastructure Id
 dsd Object of class "SDMXDataStructureDefinition"

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>

See Also[readSDMX](#)

`SDMXDataFlows`*Class "SDMXDataFlows"*

Description

A basic class to handle a SDMX DataFlows

Usage

```
SDMXDataFlows(xmlObj, namespaces)
```

Arguments

<code>xmlObj</code>	object of class "XMLInternalDocument derived from XML package"
<code>namespaces</code>	object of class "data.frame" given the list of namespace URIs

Value

an object of class "SDMXDataFlows"

Slots

`dataflows` Object of class "list" giving the list of DataFlows (datasets), (see [SDMXDataFlow](#))

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>

See Also[readSDMX](#)

SDMXDataStructure *Class "SDMXDataStructure"*

Description

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

Usage

SDMXDataStructure(xmlObj, namespaces)

Arguments

xmlObj object of class "XMLInternalDocument derived from XML package
 namespaces object of class "data.frame" given the list of namespace URIs

Value

an object of class "SDMXDataStructure"

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](#))

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>

See Also[readSDMX](#)

SDMXDataStructureDefinition

Class "SDMXDataStructureDefinition"

Description

A basic class to handle a SDMX DataStructureDefinition (DSD)

Usage

```
SDMXDataStructureDefinition(xmlObj, namespaces)
```

Arguments

xmlObj	object of class "XMLInternalDocument derived from XML package"
namespaces	object of class "data.frame" given the list of namespace URIs

Value

an object of class "SDMXDataStructureDefinition"

Slots

organisationSchemes Object of class "SDMXOrganisationSchemes" giving the list of agencies (see [SDMXAgencyScheme](#) and [SDMXAgency](#))

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

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

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

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>

See Also[readSDMX](#)

SDMXDataStructures *Class "SDMXDataStructures"*

Description

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

Usage

```
SDMXDataStructures(xmlObj, namespaces)
```

Arguments

xmlObj	object of class "XMLInternalDocument derived from XML package"
namespaces	object of class "data.frame" given the list of namespace URIs

Value

an object of class "SDMXDataStructures"

Slots

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

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>

See Also

[readSDMX](#)

SDMXDimension	Class "SDMXDimension"
---------------	-----------------------

Description

A basic class to handle a SDMX Dimension

Usage

```
SDMXDimension(xmlObj, namespaces)
```

Arguments

xmlObj	object of class "XMLInternalDocument derived from XML package"
namespaces	object of class "data.frame" given the list of namespace URIs

Value

an object of class "SDMXDimension"

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

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 (Concepts, or DataStructureDefinition)

Author(s)

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

See Also

[readSDMX](#)

SDMXDotStatRequestBuilder

Class "SDMXDotStatRequestBuilder"

Description

A experimental class to handle a SDMX DotStat (*.Stat) service request builder

Usage

```
SDMXDotStatRequestBuilder(regUrl, repoUrl, accessKey = NULL,
  unsupportedResources = list(), skipProviderId = FALSE, forceProviderId = FALSE,
  headers = list())
```

Arguments

regUrl	an object of class "character" giving the base Url of the SDMX service registry
repoUrl	an object of class "character" giving the base Url of the SDMX service repository
accessKey	an object of class "character" indicating the name of request parameter for which an authentication or subscription user key (token) has to be provided to perform requests
unsupportedResources	an object of class "list" giving eventual unsupported REST resources. Default is an empty list object
skipProviderId	an object of class "logical" indicating that the provider agencyId should be skipped. Used to control lack of strong SDMX REST compliance from data providers. For now, it applies only for the "data" resource.

forceProviderId	an object of class "logical" indicating if the provider agencyId has to be added at the end of the request. Default value is FALSE. For some providers, the all value for the provider agency id is not allowed, in this case, the agencyId of the data provider has to be forced in the web-request
headers	an object of class "list" that contains any additional headers for the request.

Slots

regUrl	an object of class "character" giving the base Url of the SDMX service registry
repoUrl	an object of class "character" giving the base Url of the SDMX service repository
accessKey	an object of class "character" indicating the name of request parameter for which an authentication or subscription user key/token has to be provided to perform requests
compliant	an object of class "logical" indicating if the request builder is somehow compliant with a service specification

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

Internal class

dataflow' resource (path="GetKeyFamily/resourceID") datastructure' resource (path="GetDataStructure/resourceID/agencyID") data' resource (path="GetData/flowRef/key/agencyID")

Author(s)

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

SDMXFooter

Class "SDMXFooter"

Description

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

Usage

```
SDMXFooter(xmlObj, namespaces)
```

Arguments

xmlObj	object of class "XMLInternalDocument" derived from XML package
namespaces	object of class "data.frame" given the list of namespace URIs

Value

an object of class "SDMXFooter"

Slots

messages Object of class "SDMXFooterMessage" giving the list of messages

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

This class is especially useful for SDMX 2.1 compliant documents. Footer messages are not supported in SDMX 2.0 standard format. In this case, the footer will return an empty message list().

According to the SDMX 2.1 standard, the message severity takes one of the following values: "Error", "Warning", "Information". Given the possible typos handled by data providers, rsdmx adopts a permissive strategy and does not validate the object according to such controlled terms.

Author(s)

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

See Also

[readSDMX](#)

SDMXFooterMessage	Class " <i>SDMXFooterMessage</i> "
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Description

A basic class to handle a footer message of a SDMX-ML document

Usage

```
SDMXFooterMessage(xmlObj)
```

Arguments

xmlObj object of class "XMLInternalDocument derived from XML package"

Value

an object of class "SDMXFooterMessage"

Slots

code Object of class "character" giving the status code
severity Object of class "character" giving the severity of the message
messages Object of class "list" giving the list of messages

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

This class is especially useful for SDMX 2.1 compliant documents. Footer messages are not supported in SDMX 2.0 standard format.

According to the SDMX 2.1 standard, the message severity takes one of the following values: "Error", "Warning", "Information". Given the possible typos handled by data providers, rsdmx adopts a permissive strategy and does not validate the object according to such controlled terms.

Author(s)

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

See Also

[SDMXFooter readSDMX](#)

SDMXGenericData *Class "SDMXGenericData"*

Description

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

Usage

```
SDMXGenericData(xmlObj, namespaces)
```

Arguments

xmlObj object of class "XMLInternalDocument derived from XML package
namespaces object of class "data.frame" given the list of namespace URIs

Value

an object of class "SDMXGenericData"

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>

See Also

[readSDMX](#)

SDMXHeader

Class "SDMXHeader"

Description

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

Usage

SDMXHeader(xmlObj, namespaces)

Arguments

xmlObj	object of class "XMLInternalDocument derived from XML package"
namespaces	object of class "data.frame" given the list of namespace URIs

Value

an object of class "SDMXHeader"

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>

See Also

[readSDMX](#)

SDMXItemScheme

Class "SDMXItemScheme"

Description

A basic abstract class to handle a SDMXItemScheme

Warning

This class is not useful in itself, but all SDMX non-abstract "scheme" classes should implement it. Added for the sake of complying with the SDMX information structure model

Author(s)

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

SDMXMessageGroup *Class "SDMXMessageGroup"*

Description

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

Usage

SDMXMessageGroup(xmlObj, namespaces)

Arguments

xmlObj object of class "XMLInternalDocument derived from XML package"
namespaces object of class "data.frame" given the list of namespace URIs

Value

an object of class "SDMXMessageGroup"

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>

See Also

[readSDMX](#)

SDMXOrganisation *Class "SDMXOrganisation"*

Description

A basic class to handle a SDMX Concept

Usage

SDMXOrganisation(xmlObj, namespaces)

Arguments

xmlObj object of class "XMLInternalDocument derived from XML package"
namespaces object of class "data.frame" given the list of namespace URIs

Value

an object of class "SDMXOrganisation"

Slots

id Object of class "character" giving the ID of the concept (required)
uri Object of class "character" giving the concept uri
urn Object of class "character" giving the concept urn
Name Object of class "list" giving the organisation name (by language) - required
Description Object of class "list" giving the organisation description (by language)

Warning

This class is not useful in itself, but other classes such as [SDMXAgency](#) will implement it.

Author(s)

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

See Also

[readSDMX](#)

SDMXOrganisationScheme

Class "SDMXOrganisationScheme"

Description

A basic abstract class to handle a SDMXOrganisationScheme

Information

This class is implemented in both SDMX 2.0 and 2.1. In the latter, it is extended by other specific classes such as AgencyScheme, DataConsumerScheme, DataProviderScheme and OrganisationUnitScheme. **rsdmx** covers the support in SDMX 2.1

Author(s)

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

SDMXOrganisationSchemes

Class "SDMXOrganisationSchemes"

Description

A basic class to handle a SDMX OrganisationSchemes

Usage

```
SDMXOrganisationSchemes(xmlObj, namespaces)
```

Arguments

xmlObj	object of class "XMLInternalDocument derived from XML package"
namespaces	object of class "data.frame" given the list of namespace URIs

Value

an object of class "OrganisationSchemes"

Slots

organisationSchemes Object of class "list" giving the list of [SDMXAgencyScheme](#)

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>

See Also

[readSDMX](#)

SDMXPrimaryMeasure *Class "SDMXPrimaryMeasure"*

Description

A basic class to handle a SDMX PrimaryMeasure

Usage

SDMXPrimaryMeasure(xmlObj, namespaces)

Arguments

xmlObj object of class "XMLInternalDocument derived from XML package"
namespaces object of class "data.frame" given the list of namespace URIs

Value

an object of class "SDMXPrimaryMeasure"

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

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>

See Also

[readSDMX](#)

SDMXRequestBuilder *Class "SDMXRequestBuilder"*

Description

A basic class to handle a SDMX service request builder

Usage

```
SDMXRequestBuilder(regUrl, repoUrl, accessKey = NULL,
  formatter, handler, compliant, unsupportedResources = list(),
  headers = list())
```

Arguments

regUrl	an object of class "character" giving the base Url of the SDMX service registry
repoUrl	an object of class "character" giving the base Url of the SDMX service repository
accessKey	an object of class "character" indicating the name of request parameter for which an authentication or subscription user key/token has to be provided to perform requests
formatter	an object of class "list" giving a formatting function (for each resource) that takes an object of class "SDMXRequestParams" as single argument. Such parameter allows to customize eventual params (e.g. specific data provider rules)
handler	an object of class "list" that will be in charge of build a web request.
compliant	an object of class "logical" indicating if the request builder is somehow compliant with a service specification
unsupportedResources	an object of class "list" giving one or more resources not supported by the Request builder for a given provider
headers	an object of class "list" that contains any additional headers for the request.

Details

The handler function will list the resource methods. Each method will accept a single object of class [SDMXRequestParams](#) as argument. This object will give the different request params as slots (baseUrl, agencyId, resource, resourceId, version, flowRef, key, start, end, compliant) to build the output (a string representing the web request to build).

The rsdmx package will as much as possible try to handler generic handlers. At now, the available embedded builders are: [SDMXREST20RequestBuilder](#) (connector for SDMX 2.0 web-services), [SDMXREST21RequestBuilder](#) (connector for SDMX 2.1 web-services), [SDMXDotStatRequestBuilder](#) (connector for SDMX .Stat web-services implementations)

Slots

regUrl an object of class "character" giving the base Url of the SDMX service registry

repoUrl an object of class "character" giving the base Url of the SDMX service repository

accessKey an object of class "character" indicating the name of request parameter for which an authentication or subscription user key/token has to be provided to perform requests

formatter an object of class "list" giving a formatting function (for each resource) that takes an object of class "SDMXRequestParams" as single argument. Such parameter allows to customize eventual params (e.g. specific data provider rules)

handler an object of class "list" that will be in charge of build a web request.

compliant an object of class "logical" indicating if the request builder is somehow compliant with a service specification

unsupportedResources an object of class "character" giving one or more resources not supported by the Request builder for a given provider

headers an object of class "list" that contains any additional headers for the request.

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>

Examples

```
#default formatter
myFormatter = list(
  dataflow = function(obj){
    #format some obj slots here
    return(obj)
  },
  datastructure = function(obj){
    #format some obj slots here
    return(obj)
  },
  data = function(obj){
    #format some obj slots here
    return(obj)
  }
)

#an handler
#where each element of the list is a function taking as argument an object
#of class "SDMXRequestParams"
myHandler <- list(
  "dataflow" = function(obj){return(obj@regUrl)},
  "datastructure" = function(obj){return(obj@regUrl)},
```

```

    "data" = function(obj){return(obj@repoUrl)}
  )

#how to create a SDMXRequestBuilder
requestBuilder <- SDMXRequestBuilder(
  regUrl = "http://www.myorg.org/registry",
  repoUrl = "http://www.myorg.org/repository",
  accessKey = NULL,
  formatter = myFormatter, handler = myHandler, compliant = FALSE)

```

SDMXRequestParams *Class "SDMXRequestParams"*

Description

A class to handle a SDMX service request params

Usage

```
SDMXRequestParams(regUrl, repoUrl, accessKey,
                  providerId, agencyId, resource, resourceId, version,
                  flowRef, key, start, end, compliant)
```

Arguments

regUrl	an object of class "character" giving the base Url of the SDMX service registry
repoUrl	an object of class "character" giving the base Url of the SDMX service repository
accessKey	an object of class "character" giving the eventual authentication or subscription user key (or token) to provide in order to perform the SDMX request. This key may be mandatory for some service providers.
providerId	an object of class "character" giving the provider agency id
agencyId	an object of class "character" giving an agency id
resource	an object of class "character" giving the type of resource to be queried
resourceId	an object of class "character" giving the resource to be queried
version	an object of class "character" giving the resource version
flowRef	an object of class "character" giving the flowRef to be queried
key	an object of class "character" giving the key (SDMX url formatted) to be used for the query
start	an object of class "character" giving the start time
end	an object of class "character" giving the end time
compliant	an object of class "logical" indicating if the web-service is compliant with the SDMX REST web-service specifications

Slots

regUrl an object of class "character" giving the base Url of the SDMX service registry

repoUrl an object of class "character" giving the base Url of the SDMX service repository

accessKey an object of class "character" indicating the name of request parameter for which an authentication or subscription user key/token has to be provided to perform requests

providerId an object of class "character" giving the provider agency Id

agencyId an object of class "character" giving an agency Id

resource an object of class "character" giving the type of resource to be queried

resourceId an object of class "character" giving the resource to be queried

version an object of class "character" giving the resource version

flowRef an object of class "character" giving the flowRef to be queried

key an object of class "character" giving the key (SDMX url formatted) to be used for the query

start an object of class "character" giving the start time

end an object of class "character" giving the end time

compliant an object of class "logical" indicating if the web-service is compliant with the SDMX REST web-service specifications

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>

Examples

```
#how to create a SDMXRequestParams object
params <- SDMXRequestParams(
  regUrl = "", repoUrl = "", accessKey = NULL,
  providerId = "", agencyId = "", resource = "data", resourceId = "",
  version = "", flowRef = "", key = NULL, start = NULL, end = NULL, compliant = FALSE
)
```

 SDMXREST20RequestBuilder

Class "SDMXREST20RequestBuilder"

Description

A experimental class to handle a SDMX 2.0 service request builder

Usage

```
SDMXREST20RequestBuilder(regUrl, repoUrl, accessKey = NULL, compliant,
  unsupportedResources = list(), skipProviderId = FALSE, forceProviderId = FALSE,
  headers = list())
```

Arguments

regUrl	an object of class "character" giving the base Url of the SDMX service registry
repoUrl	an object of class "character" giving the base Url of the SDMX service repository
accessKey	an object of class "character" indicating the name of request parameter for which an authentication or subscription user key/token has to be provided to perform requests
compliant	an object of class "logical" indicating if the web-service is compliant with the SDMX REST web-service specifications
unsupportedResources	an object of class "list" giving eventual unsupported REST resources. Default is an empty list object
skipProviderId	an object of class "logical" indicating that the provider agencyId should be skipped. Used to control lack of strong SDMX REST compliance from data providers. For now, it applies only for the "data" resource.
forceProviderId	an object of class "logical" indicating if the provider agencyId has to be added at the end of the request. Default value is FALSE. For some providers, the all value for the provider agency id is not allowed, in this case, the agencyId of the data provider has to be forced in the web-request
headers	an object of class "list" that contains any additional headers for the request.

Slots

regUrl	an object of class "character" giving the base Url of the SDMX service registry
repoUrl	an object of class "character" giving the base Url of the SDMX service repository
accessKey	an object of class "character" indicating the name of request parameter for which an authentication or subscription user key/token has to be provided to perform requests
compliant	an object of class "logical" indicating if the web-service is compliant with the SDMX REST web-service specifications

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>

Examples

```
#how to create a SDMXREST20RequestBuilder
requestBuilder <- SDMXREST20RequestBuilder(
  regUrl = "http://www.myorg/registry",
  repoUrl = "http://www.myorg/repository", compliant = FALSE)
```

SDMXREST21RequestBuilder

Class "SDMXREST21RequestBuilder"

Description

A experimental class to handle a SDMX 2.1 service request builder

Usage

```
SDMXREST21RequestBuilder(regUrl, repoUrl, accessKey = NULL, compliant,
  unsupportedResources = list(), skipProviderId = FALSE, forceProviderId = FALSE,
  headers = list())
```

Arguments

regUrl	an object of class "character" giving the base Url of the SDMX service registry
repoUrl	an object of class "character" giving the base Url of the SDMX service repository
accessKey	an object of class "character" indicating the name of request parameter for which an authentication or subscription user key/token has to be provided to perform requests
compliant	an object of class "logical" indicating if the web-service is compliant with the SDMX REST web-service specifications
unsupportedResources	an object of class "list" giving eventual unsupported REST resources. Default is an empty list object
skipProviderId	an object of class "logical" indicating that the provider agencyId should be skipped. Used to control lack of strong SDMX REST compliance from data providers. For now, it applies only for the "data" resource.

forceProviderId	an object of class "logical" indicating if the provider agencyId has to be added at the end of the request. Default value is FALSE. For some providers, the all value for the provider agency id is not allowed, in this case, the agencyId of the data provider has to be forced in the web-request.
headers	an object of class "list" that contains any additional headers for the request.

Slots

regUrl	an object of class "character" giving the base Url of the SDMX service registry
repoUrl	an object of class "character" giving the base Url of the SDMX service repository
accessKey	an object of class "character" indicating the name of request parameter for which an authentication or subscription user key/token has to be provided to perform requests
compliant	an object of class "logical" indicating if the web-service is compliant with the SDMX REST web-service specifications

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>

Examples

```
#how to create a SDMXREST21RequestBuilder
requestBuilder <- SDMXREST21RequestBuilder(
  regUrl = "http://www.myorg/registry",
  repoUrl = "http://www.myorg/repository",
  compliant = TRUE)
```

SDMXSchema

Class "SDMXSchema"

Description

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

Usage

```
SDMXSchema(xmlObj, namespaces)
```

Arguments

xmlObj	object of class "XMLInternalDocument derived from XML package"
namespaces	object of class "data.frame" given the list of namespace URIs

Value

an object of class "SDMXSchema"

Slots

version Object of class "character" giving 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>

See Also

[readSDMX](#)

SDMXServiceProvider *Class "SDMXServiceProvider"*

Description

A basic class to handle a SDMX service provider

Usage

```
SDMXServiceProvider(agencyId, name, scale, country, builder)
```

Arguments

agencyId	an object of class "character" giving the a provider identifier
name	an object of class "character" giving the name of the provider
scale	an object of class "character" giving the scale of the datasource, either "international" or "national". Default value is "international".
country	an object of class "character" giving the ISO 3-alpha code of the country (if scale is "national"). Default value is NA
builder	an object of class "SDMXRequestBuilder" that will performs the web request building for this specific provider

Value

an object of class "SDMXServiceProvider"

Slots

agencyId an object of class "character" giving the a provider identifier

name an object of class "character" giving the name of the provider

scale an object of class "character" giving the scale of the datasource, either "international" or "national"

country an object of class "character" giving the ISO 3-alpha code of the country (if scale is "national")

builder an object of class "SDMXRequestBuilder" that will performs the web request building

Author(s)

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

Examples

```
#let's create a SDMXRESTRequestBuilder
#(assuming that "My Organization" implements SDMX REST web-services)
myBuilder <- SDMXREST20RequestBuilder(regUrl = "http://www.myorg.org/registry",
                                     repoUrl = "http://www.myorg.org/repository",
                                     compliant = TRUE)

#create a SDMXServiceProvider
provider <- SDMXServiceProvider(agencyId = "MYORG", name = "My Organization",
                               builder = myBuilder)
```

SDMXServiceProviders *Class "SDMXServiceProviders"*

Description

A class to wrap a list of SDMX service providers

Usage

```
SDMXServiceProviders(providers)
```

Arguments

providers an object of class "list" (of [SDMXServiceProvider](#)) configured by default and/or at runtime in **rdsdmx**

Value

an object of class "SDMXServiceProviders"

Slots

providers an object of class "list" (of [SDMXServiceProvider](#)) configured by default and/or at runtime in **rsdmx**

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>

SDMXStructureSpecificData

Class "SDMXStructureSpecificData"

Description

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

Usage

```
SDMXStructureSpecificData(xmlObj, namespaces)
```

Arguments

xmlObj	object of class "XMLInternalDocument derived from XML package"
namespaces	object of class "data.frame" given the list of namespace URIs

Value

an object of class "SDMXStructureSpecificData"

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>

See Also[readSDMX](#)

`SDMXStructureSpecificTimeSeriesData`*Class "SDMXStructureSpecificTimeSeriesData"*

Description

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

Usage

```
SDMXStructureSpecificTimeSeriesData(xmlObj, namespaces)
```

Arguments

<code>xmlObj</code>	object of class "XMLInternalDocument" derived from XML package
<code>namespaces</code>	object of class "data.frame" given the list of namespace URIs

Value

an object of class "SDMXStructureSpecificTimeSeriesData"

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>

See Also[readSDMX](#)

SDMXStructureType *Class "SDMXStructureType"*

Description

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

Usage

```
SDMXStructureType(xmlObj, namespaces, resource)
```

Arguments

xmlObj	object of class "XMLInternalDocument derived from XML package"
namespaces	object of class "data.frame" given the list of namespace URIs
resource	object of class "character" giving the REST resource to be queried (required to distinguish between dataflows and datastructures in SDMX 2.0)

Value

an object of class "SDMXStructureType"

Warning

This class is not useful in itself, but it will be used by [readSDMX](#) to deal with SDMX-ML Structure documents.

Author(s)

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

See Also

[readSDMX](#)

SDMXTimeDimension *Class "SDMXTimeDimension"*

Description

A basic class to handle a SDMX TimeDimension

Usage

```
SDMXTimeDimension(xmlObj, namespaces)
```

Arguments

xmlObj	object of class "XMLInternalDocument derived from XML package"
namespaces	object of class "data.frame" given the list of namespace URIs

Value

an object of class "SDMXTimeDimension"

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
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 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>

See Also

[readSDMX](#)

SDMXType

Class "SDMXType"

Description

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

Usage

SDMXType(xmlObj)

Arguments

xmlObj object of class "XMLInternalDocument derived from XML package"

Value

an object of class "SDMXType"

Slots

type Object of class "character" giving 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 successfully tested: - StructureType, - GenericDataType, - CompactDataType, - StructureSpecificDataType, - CrossSectionalDataType, - UtilityDataType, - MessageGroupType

Author(s)

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

See Also

[readSDMX](#)

SDMXUtilityData *Class "SDMXUtilityData"*

Description

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

Usage

```
SDMXUtilityData(xmlObj, namespaces)
```

Arguments

xmlObj object of class "XMLInternalDocument derived from XML package"
namespaces object of class "data.frame" given the list of namespace URIs

Value

an object of class "SDMXUtilityData"

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>

See Also

[readSDMX](#)

setDSD *setDSD*

Description

set the 'dsd' slot of a SDMXData object

Usage

```
setDSD(obj, dsd)
```

```
## S4 method for signature 'SDMXData'  
setDSD(obj, dsd)
```

Arguments

obj An object deriving from class "SDMXData"
 dsd An object of class "SDMXDataStructureDefinition"

Value

the 'obj' object of class "SDMXData" enriched with the dsd

Methods (by class)

- setDSD(SDMXData): set the 'dsd' slot of a SDMXData object

Author(s)

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

See Also

[SDMXData-class](#)

setSDMXServiceProviders

setSDMXServiceProviders

Description

function used internally by **r sdmx**, when loading the package, to set the list of [SDMXService-Provider](#) known by **r sdmx** (hence known by [readSDMX](#) to query data/metadata in an easier way). For internal use only (this function does not provide any value for the end user, but it is here documented for transparency, and to explain how the package works.)

Usage

```
setSDMXServiceProviders()
```

Author(s)

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

See Also

[getSDMXServiceProviders](#) [addSDMXServiceProvider](#) [findSDMXServiceProvider](#) [readSDMX](#)

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