Package ‘rsdmx’

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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
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Class-SDMXStructureType.R Class-SDMXHeader.R
Class-SDMXFooterMessage.R Class-SDMXFooter.R Class-SDMX.R
Class-SDMXConcept.R Class-SDMXConceptScheme.R
Class-SDMXConcepts.R Class-SDMXCode.R Class-SDMXCodelist.R
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Class-SDMXDataStructureDefinition.R Class-SDMXData.R
Class-SDMXGenericData.R Class-SDMXCompactData.R
Class-SDMXUtilityData.R Class-SDMXStructureSpecificData.R
R topics documented:

- addSDMXServiceProvider
- findNamespace
- findSDMXServiceProvider
- getNamespaces
- getRegistryInterfaceResult
- readSDMX
- saveSDMX
- profile
- rsdmx

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addSDMXServiceProvider

addSDMXServiceProvider

Description

function that allows configuring a new SDMXServiceProvider as part of the list of providers known by rsdmx, 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)
findNamespace

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

findNamespace

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 `data.frame` giving the namespaces URIs available in a SDMX-ML object, typically obtained with `getNamespaces`

messageType object of class 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`
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 "SDMXServiceProviders" (or NULL if no matching)

Author(s)

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

See Also

getSDMXServiceProviders addSDMXServiceProvider readSDMX

Examples

#find OECD provider
ocecd.provider <- findSDMXServiceProvider("OECD")

getNamespaces
getNamespaces

Description

Access the namespaces of the SDMX-ML object
getRegistryInterfaceResult

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)

• SDMX: Access the namespaces of the SDMX-ML object

Author(s)

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

See Also

SDMX-class

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

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

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

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

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

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
isURL
isRData
provider
providerId
path to SDMX-ML document that needs to be parsed
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)
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.
an object of class "SDMXServiceProvider". If specified, file and isURL arguments will be ignored.
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, i.e. 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.

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 (i.e. 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 httr::GET request)

Value

an object of class "SDMX"

Author(s)

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

```r
# 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)
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
```
```r

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

### Details

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<thead>
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<td>License</td>
<td>GPL(&gt;=2.0)</td>
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<tr>
<td>LazyLoad</td>
<td>yes</td>
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</tbody>
</table>

### Author(s)

Emmanuel Blondel <emmanuel.blondel1@gmail.com>
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

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>
# 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)
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.
SDMXAgency

**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**

```r
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`
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
**SDMXCode**

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 Attribute. 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**

- **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 "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
Class "SDMXConcept"

Description

A basic class to handle a SDX Concept

Usage

SDMXConcept(xmlObj, namespaces)

Arguments

xmlObj  object of class "XMLInternalDocument" derived from XML package
namespaces  object of class "data.frame" giving 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**

```r
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.blondel1@gmail.com>

**See Also**

readSDMX
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
SDMXDataFlow

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

---

**SMXDataFlows**  
Class "SMXDataFlows"

Description

A basic class to handle a SDMX DataFlows

Usage

SMXDataFlows(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 "SMXDataFlows"

Slots

dataflows Object of class "list" giving the list of DataFlows (datasets), (see SMXDataFlow)
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

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.blondell1@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)

categories 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
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

customRef 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.blondell@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

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"
SDMXGenericData

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
**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)`

**See Also**

`readSDMX`
Arguments

xmlObj object of class "XMLInternalDocument" derived from XML package
namespaces object of class "data.frame" giving 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**

```r
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@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
SDMXRequestParams

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

```r
#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

```r
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)
**SDMXServiceProvider**

**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 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 perform the web request building for this specific provider
SDMXServiceProviders

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>
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 rsdmx
SDMXStructureSpecificData

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>
SDMXStructureSpecificTimeSeriesData

Class "SDMXStructureSpecificTimeSeriesData"

Description

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

Usage

SDMXStructureSpecificTimeSeriesData(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 "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

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

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)

calendarRef Object of class "character" giving the dimension calendarRef

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 non-abstract classes willencapsulate it as slot, when parsing an
SDMX-ML document (Concepts, or DataStructureDefinition)

Author(s)

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

See Also

readSDMX
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**

```r
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**

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

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

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)

- **SDMXData**: set the 'dsd' slot of a SDMXData object

Author(s)

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

See Also

SDMXData-class

---

setSDMXServiceProviders

Description

function used internally by rsdmx, when loading the package, to set the list of SDMXService-Provider known by rsdmx (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 dataflow’ resource (path="dataset/resourceId/def.sdmx.xml") datastructure’ resource (path="dataset/resourceID.structure.sdmx.xml") data’ resource (path="dataset/resourceID.generic.sdmx.xml") dataflow’ resource (path="/resourceID.dataflow=flowRef&key=key") datastructure’ resource (path="/resourceID.datastructure=resourceId") data’ resource (path="getdata?dataflow=flowRef&key=key")
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