Package ‘rsdmx’

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Title Tools for Reading SDMX Data and Metadata
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Depends R (>= 2.15)
Imports methods, XML (>= 3.98-1.3), RCurl, plyr, utils
Suggests testthat, knitr, roxygen2
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
BugReports https://github.com/opensdmx/rsdmx/issues
LazyLoad yes
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R topics documented:

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Class-SDMXDataFlow.R Class-SDMXDataFlows.R
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addSDMXMLayerProvider

Description
function that allows configuring a new SDMXMLayerProvider as part of the list of providers known by rdsdm, hence by readSDMX

Usage
addSDMXMLayerProvider(provider)

Arguments
provider an object of class "SDMXMLayerProvider"

Author(s)
Emmanuel Blondel, <emmanuel.blondel1@gmail.com>

See Also
getSDMXMLayerProviders findSDMXMLayerProvider readSDMX

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

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

# add it
addSDMXMLayerProvider(myProvider)

# check out the list of existing provider (only list the agency Ids)
sapply(slot(getSDMXMLayerProviders(), "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`

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**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)

- SDMX:
getRegistryInterfaceResult

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
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

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"
getStructureType-methods

Warning

getSoapRequestResult is a function used internally by readSDMX

Author(s)

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

See Also

SDMX-class readSDMX

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**

**Description**

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

**Usage**

```r
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`

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**isSoapRequestEnvelope**

**Description**

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

**Usage**

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

---
namespaces.SDMX

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>
**Description**

`readSDMX` is the main function to use to read SDMX data.

**Usage**

```r
readSDMX(file, isURL, isRData, provider, providerId, providerKey, 
agencyId, resource, resourceId, version, 
flowRef, key, key.mode, start, end, dsd, validate, verbose)
```

**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 `getSDMXServiceProvider()`.
- `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.

ddsd

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

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 messages should appear to user. Default is TRUE.

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 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**)
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

Package: rsdmx
Type: Package
Version: 0.5-13
Date: 2018-09-21
License: GPL(>=2.0)
LazyLoad: yes

Author(s)

Emmanuel Blondel <emmanuel.blondel1@gmail.com>

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

```r
# 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.

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.
SDMXAgency

Author(s)

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`
Class "SDMXAttribute"

**Description**

A basic class to handle a SDMX Attribute

**Usage**

```r
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 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 is 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**

_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" giving 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
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
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 SDX non-abstract classes will encapsulate it as slot, when parsing an SDX-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.blondel1@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.blondel@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(s)

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

See Also

- `readSDMX`

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

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

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

cconceptRef 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
cconceptSchemeAgency 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.blond11@gmail.com>

See Also
readSDMX
**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.

**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.

**Author(s)**

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

**Examples**

```r
# how to create a SDMXDotStatRequestBuilder
requestBuilder <- SDMXDotStatRequestBuilder(
    regUrl = "http://www.myorg/registry",
    repoUrl = "http://www.myorg/repository")
```
**Description**

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

**Usage**

```r
SDMXFooter(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 "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**

```r
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

xmllobj  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 SDX 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" 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

customRef  Object of class "character" giving the dimension conceptRef (required)
customVersion  Object of class "character" giving the dimension concept version
customAgency  Object of class "character" giving the dimension concept agency
customSchemeRef  Object of class "character" giving the dimension conceptScheme ref
customSchemeAgency  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,
                     formatter, handler, compliant, unsupportedResources)

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
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 handle 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

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

```r
#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
```
SDMXRequestParams

### Description

A class to handle a SDMX service request params

### Usage

```r
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
**SDMXRequestParams**

- **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**

```r
#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, compliant, unsupportedResources, skipProviderId, forceProviderId)

**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

**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 SDMXREST21RequestBuilder
requestBuilder <- SDMXREST21RequestBuilder(
  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, compliant, unsupportedResources, skipProviderId, forceProviderId)
```

**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.

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

<table>
<thead>
<tr>
<th>Argument</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>agencyId</td>
<td>an object of class &quot;character&quot; giving the provider identifier</td>
</tr>
<tr>
<td>name</td>
<td>an object of class &quot;character&quot; giving the name of the provider</td>
</tr>
<tr>
<td>scale</td>
<td>an object of class &quot;character&quot; giving the scale of the datasource, either &quot;international&quot; or &quot;national&quot;. Default value is &quot;international&quot;.</td>
</tr>
<tr>
<td>country</td>
<td>an object of class &quot;character&quot; giving the ISO 3-alpha code of the country (if scale is &quot;national&quot;). Default value is NA</td>
</tr>
<tr>
<td>builder</td>
<td>an object of class &quot;SDMXRequestBuilder&quot; that will performs the web request building for this specific provider</td>
</tr>
</tbody>
</table>

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)

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Examples

#let's create a SDMXRESTRequestBuilder
#(assuming that "My Organization" implements SDMX REST web-services)
myBuilder <- SDMXREST2OResourceBuilder(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

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

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

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`
**SDMXType**

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

**Usage**
```r
SDMXType(xmlobj)
```

**Arguments**
- `xmlobj` object of class "XMLInternalDocument derived from XML package"

**Value**
- an object of class "SDMXType"

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

**Warning**
This class is not useful in itself, but 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
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.
**Description**

set the 'dsd' slot of a SDMXData object

**Usage**

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

## S4 method for signature 'SDMXData'

```r
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)**

- SDMXData:

**Author(s)**

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

**See Also**

SDMXData-class
setSDMXServiceProviders

setSDMXServiceProviders

Description

function used internally by rsdmx, when loading the package, to set the list of SDMXServiceProvider 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
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