Package ‘rsdmx’

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Title Tools for Reading SDMX Data and Metadata
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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).
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VignetteBuilder knitr
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  Class-SDMXStructureType.R Class-SDMXHeader.R
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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)
# Description

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

## Usage

```r
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 "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

Description

Access the namespaces of the SDMX-ML object
**Usage**

```r
getNamespaces(obj)
```

```r
## 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, &lt;emmanuel.blondel1@gmail.com&gt;

**See Also**

- `SDMX-class`

---

**getRegistryInterfaceResult**

**Description**

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

**Usage**

```r
getRegistryInterfaceResult(xmlObj)
```

**Arguments**

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

**Value**

An object of class "XMLInternalDocument derived from XML package"
getSDMXServiceProviders

Warning

getRegistryInterfaceResult is a function used internally by readSDMX

Author(s)

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

See Also

SDMX-class readSDMX

---

getSDMXServiceProviders

getSDMXServiceProviders

---

Description

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

Usage

getSDMXServiceProviders()

Value

an object of class "list" (of SDMXServiceProvider)

Author(s)

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

See Also

addSDMXServiceProvider findSDMXServiceProvider readSDMX
getSoapRequestResult

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

Description
Access the subtype of SDMXStructureType object

Usage
getStructureType(obj)

Arguments
obj An object deriving from class "SDMXStructureType"
Description
dunction 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.blondell1@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"
Description

readSDMX is the main function to use to read SDMX data

Usage

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

Arguments

- **file**: path to SDMX-ML document that needs to be parsed
- **isURL**: a value of class "logical" either the path is an url, and data has to be downloaded from a SDMXweb-repository. Default value is TRUE. Ignored in case readSDMX is used with helpers (based on the embedded list of SDMXServiceProvider)
- **isRData**: a value of class "logical" either the path is local RData file handling an object of class "SDMX", previously saved with saveSDMX. Default value is FALSE.
- **provider**: an object of class "SDMXServiceProvider". If specified, file and isURL arguments will be ignored.
- **providerId**: an object of class "character" representing a provider id. It has to be match a default provider as listed in getSDMXServiceProviders()
**providerKey**
an object of class "character" giving a key to authenticate for the given provider endpoint. Some providers may require an authentication or subscription key to perform SDMX requests.

**agencyId**
an object of class "character" representing an agency id, for which data should be requested (from a particular service provider)

**resource**
an object of class "character" giving the SDMX service request resource to query e.g. "data". Recognized if a valid provider or provide id has been specified as argument.

**resourceId**
an object of class "character" giving a SDMX service resource Id, e.g. the id of a data structure

**version**
an object of class "character" giving a SDMX resource version, e.g. the version of a dataflow.

**flowRef**
an object of class "character" giving the SDMX flow ref id. Recognized if valid provider or provide id has been specified as argument.

**key**
an object of class "character" or "list" giving the SDMX data key/filter to apply. Recognized if a valid provider or provide id has been specified as argument. If key.mode is equal to "R" (default value), filter has to be an object of class "list" representing the filters to apply to the dataset, otherwise the filter will be a string.

**key.mode**
an object of class "character" indicating if the key has to be provided as an R object, 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.

**end**
an object of class "integer" or "character" giving the SDMX end time to apply. Recognized if a valid provider or provide id has been specified as argument.

**dsd**
an Object of class "logical" if an attempt to inherit the DSD should be performed. Active only if "readSDMX" is used as helper method (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

# 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)

## 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)

## End(Not run)

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

# SDMX DataStructureDefinition (DSD)
#-----------------------------------
## Not run:
# Not run by 'R CMD check'
# (reliable remote datasource but with possible occasional unavailability)
# using embedded providers
```r
sd <- readSDMX(providerId = "OECD", resource = "datastructure",
    resourceId = "WATER_ABSTRACT")

# get codelists from DSD
cls <- slot(sd, "codelists")
codelists <- sapply(slot(cl, "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(sd, "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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**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>
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

```r
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.
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
SDMXAgencyScheme

Class “SDMXAgencyScheme”

Description

A basic abstract class to handle a SDMXAgencyScheme

Usage

SDMXAgencyScheme(xmlObj, namespaces)

Arguments

xmlObj object of class “XMLInternalDocument” derived from XML package

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

Value

an object of class “SDMXAgencyScheme”

Slots

id Object of class “character” giving the ID of the concept scheme (required)

agencyID Object of class “character” giving the AgencyID

version Object of class “character” giving the version

uri Object of class “character” giving the concept uri

urn Object of class “character” giving the concept urn

isExternalReference Object of class “logical” indicating if the concept scheme is an external reference

isFinal Object of class “logical” indicating if the concept scheme is final

validFrom Object of class “character” indicating the start validity period

validTo Object of class “character” indicating the end validity period

Name Object of class “list” giving the agency scheme name (by language) - required

Description Object of class “list” giving the agency scheme description (by language)

agencies object of class “list” giving the list of SDMXAgency

Author(s)

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

See Also

readSDMX
SDMXAttribute

**Class** "SDMXAttribute"

**Description**
A basic class to handle a SDMX Attribute

**Usage**
SDMXAttribute(xmlObj, namespaces)

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

**Value**
an object of class "SDMXAttribute"

**Slots**
- conceptRef Object of class "character" giving the attribute conceptRef (required)
- conceptVersion Object of class "character" giving the attribute concept version
- conceptAgency Object of class "character" giving the attribute concept agency
- conceptSchemeRef Object of class "character" giving the attribute conceptScheme ref
- conceptSchemeAgency Object of class "character" giving the attribute conceptScheme agency
- codelist Object of class "character" giving the codelist ref name
- codelistVersion Object of class "character" giving the codelist ref version
- codelistAgency Object of class "character" giving the codelist ref agency
- attachmentLevel Object of class "character" giving the attachment level (e.g. DataSet)
- assignmentStatus Object of class "character" giving the assignment status (e.g. Mandatory)
- isTimeFormat Object of class "logical"
- crossSectionalAttachDataset Object of class "logical"
- crossSectionalAttachGroup Object of class "logical"
- crossSectionalAttachSection Object of class "logical"
- crossSectionalAttachObservation Object of class "logical"
- isEntityAttribute Object of class "logical" indicating if the Attribute is an entity Attribute. Default value is FALSE
- isNonObservationTimeAttribute Object of class "logical" indicating if the Attribute is a non-observation Attribute. Default value is FALSE
isCountAttribute Object of class "logical" indicating if the Attribute is a count Attribute. Default value is FALSE.

isFrequencyAttribute Object of class "logical" indicating if the Attribute is a frequency 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: 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
**SDMXCompactData**

**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" giving the list of namespace URIs

Value

an object of class "SDMXComponents"

Slots

Dimensions Object of class "list" giving the list of dimensions (see SDMXDimension)
TimeDimension Object of class "SDMXTimeDimension"
PrimaryMeasure Object of class "SDMXPrimaryMeasure"
Attributes Object of class "list" giving the list of attributes (see SDMXAttribute)

Warning

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

Author(s)

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

See Also

readSDMX
**SDMXConcept**

**Class "SDMXConcept"**

**Description**
A basic class to handle a SDX Concept

**Usage**
SDMXConcept(xmlObj, namespaces)

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

**Value**
an object of class "SDMXConcept"

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

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

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

**See Also**
readSDMX
**SDMXConcepts**

**Class "SDMXConcepts"**

**Description**

A basic class to handle SDMX Concepts

**Usage**

```
SDMXConcepts(xmlObj, namespaces)
```

**Arguments**

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

**Value**

an object of class "SDMXConcepts"

**Slots**

- `concepts` Object of class "list" giving the list of "SDMXConcept". This slot is available to ensure backward compatibility with SDMX 1.0 in SDMX 2.0 or 2.1 documents
- `conceptSchemes` Object of class "list" giving the list of "SDMXConceptScheme", which will encapsulate the list of "SDMXConcept" (defined from SDMX 2.0)

**Warning**

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

**Author(s)**

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

**See Also**

- readSDMX
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>
**SDMXCrossSectionalData**

*Class "SDMXCrossSectionalData"*

**Description**

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

**Usage**

```r
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**

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

**Arguments**

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

an object of class "SDMXData"

Slots

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

Warning

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

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

See Also

readSDMX

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

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
Description

A basic class to handle a SDMX Dimension

Usage

SDMXDimension(xmlObj, namespaces)

Arguments

xmlObj object of class "XMLInternalDocument" derived from XML package

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

Value

an object of class "SDMXDimension"

Slots

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

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

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

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

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

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

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

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

isMeasureDimension Object of class "logical" indicating if the dimension is a measure dimension. Default value is FALSE

isFrequencyDimension Object of class "logical" indicating if the dimension is a frequency dimension. Default value is FALSE

isEntityDimension Object of class "logical" indicating if the dimension is an entity dimension. Default value is FALSE

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

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

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

crossSectionalAttachDataset Object of class "logical"
crossSectionalAttachGroup Object of class "logical"
crossSectionalAttachSection Object of class "logical"
crossSectionalAttachObservation Object of class "logical"

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

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

See Also
readSDMX

SDMXDotStatRequestBuilder

Class "SDMXDotStatRequestBuilder"

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

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

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

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

headers

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

Slots

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

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

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

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

Warning

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

Note

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

Author(s)

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

---

**SDMXFooter**

Class "SDMXFooter"

### Description

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

### Usage

SDMXFooter(xmlObj, namespaces)

### Arguments

xmlObj object of class "XMLInternalDocument" derived from XML package

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

an object of class "SDMXFooter"

**Slots**

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

**Warning**

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

**Note**

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

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

**Author(s)**

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

**See Also**

readSDMX

---

**SDMXFooterMessage**

*Class “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"
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" giving 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
**SDMXItemScheme**

- **ReportingBegin** Object of class "POSIXlt" giving the reporting begin date for the data retrieved in the SDMX-ML document
- **ReportingEnd** Object of class "POSIXlt" giving the reporting end date for the data retrieved in the SDMX-ML document
- **Source** Object of class "character" giving the source of the SDMX-ML document

**Warning**

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

**Note**

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

**Author(s)**

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

**See Also**

readSDMX

---

**SDMXItemScheme**  
*Class "SDMXItemScheme"*

**Description**

A basic abstract class to handle a SDMXItemScheme

**Warning**

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

**Author(s)**

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

Class "SDMXMessageGroup"

Description

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

Usage

SDMXMessageGroup(xmlObj, namespaces)

Arguments

xmlObj object of class "XMLInternalDocument" derived from XML package

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

Value

an object of class "SDMXMessageGroup"

Warning

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

Author(s)

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

See Also

readSDMX

SDMXOrganisation

Class "SDMXOrganisation"

Description

A basic class to handle a SDMX Concept

Usage

SDMXOrganisation(xmlObj, namespaces)
Arguments

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

Value

an object of class "SDMXOrganisation"

Slots

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

Warning

This class is not useful in itself, but other classes such as SDMxAAgency 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>
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
Class `"SDMXPrimaryMeasure"`

**Description**

A basic class to handle a SDMX PrimaryMeasure

**Usage**

```r
SDMXPrimaryMeasure(xmlObj, namespaces)
```

**Arguments**

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

**Value**

an object of class "SDMXPrimaryMeasure"

**Slots**

- `conceptRef`: Object of class "character" giving the dimension conceptRef (required)
- `conceptVersion`: Object of class "character" giving the dimension concept version
- `conceptAgency`: Object of class "character" giving the dimension concept agency
- `conceptSchemeRef`: Object of class "character" giving the dimension conceptScheme ref
- `conceptSchemeAgency`: Object of class "character" giving the dimension conceptScheme agency
- `codelist`: Object of class "character" giving the codelist ref name
- `codelistVersion`: Object of class "character" giving the codelist ref version
- `codelistAgency`: Object of class "character" giving the codelist ref agency

**Warning**

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

**Author(s)**

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

**See Also**

`readSDMX`
SDMXRequestBuilder

Class "SDMXRequestBuilder"

Description

A basic class to handle a SDMX service request builder

Usage

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

Arguments

regUrl an object of class "character" giving the base Url of the SDMX service registry
repoUrl an object of class "character" giving the base Url of the SDMX service repository
accessKey an object of class "character" indicating the name of request parameter for which
an authentication or subscription user key/token has to be provided to perform
requests
formatter an object of class "list" giving a formatting function (for each resource) that
takes an object of class "SDMXRequestParams" as single argument. Such pa-
rameter 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 compli-
ant with a service specification
unsupportedResources an object of class "list" giving one or more resources not supported by the Re-
quest 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), SDMXDotStatRequest-
Builder (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

```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
    return(obj)
  }
)

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

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

SDMXRequestParams Class "SDMXRequestParams"

Description
A class to handle a SDMX service request params

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

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

```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**

```r
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)
```

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)
**Arguments**

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

**Value**

an object of class "SDMXSchema"

**Slots**

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

**Warning**

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

**Author(s)**

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

**See Also**

readSDMX

---

**SDMXServiceProvider**  
*Class* "SDMXServiceProvider"

**Description**

A basic class to handle a SDMX service provider

**Usage**

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

**Arguments**

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

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

scale an object of class "character" giving the scale of the datasource, either "international" or "national". Default value is "international".

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

builder an object of class "SDMXRequestBuilder" that will performs the web request building for this specific provider
Value

an object of class "SDMXServiceProvider"

Slots

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

Author(s)

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

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`

---

**SDMXTimeDimension**

*Class "SDMXTimeDimension"*

**Description**

A basic class to handle a SDMX TimeDimension

**Usage**

`SDMXTimeDimension(xmlObj, namespaces)`

**See Also**

`readSDMX`
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 "SDMXT imeDimension"

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
SDMXTypede

SDMXTypede   Class "SDMXTypede"

Description

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

Usage

SDMXTypede(xmlObj)

Arguments

xmlObj object of class "XMLInternalDocument derived from XML package"

Value

an object of class "SDMXTypede"

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**

**Description**
set the 'dsd' slot of a SDMXData object

**Usage**
```r  
setDSD(obj, dsd)  
## 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

dataflow' resource (path="dataset/resourceId/def.sdmx.xml")
datastructure' resource (path="dataset/resourceID.structure.sdmx.xml")
dataflow' resource (path="/"")
datastructure' resource (path="/resourceID")
data' resource (path="getdata?dataflow=flowRef&key=key")
dataflow' resource (path="/"")
datastructure' resource (path="/resourceID")
data' resource (path="getdata?dataflow=flowRef&key=key")
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