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
Encoding UTF-8

Collate Class-SDMXSchema.R Class-SDMXType.R Class-SDMXStructureType.R
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NeedsCompilation no
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addSDMXServiceProvider

Description

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

Usage

addSDMXServiceProvider(provider)

Arguments

provider an object of class "SDMXServiceProvider"

Author(s)

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

See Also

getSDMXServiceProviders findSDMXServiceProvider readSDMX

Examples

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

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

# add it
addSDMXServiceProvider(myProvider)

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

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

Usage
findNamespace(namespaces, messageType)

Arguments
namespaces object of class data.frame giving the namespaces URIs available in a SDMX-ML object, typically obtained with getNamespaces
messageType object of class character representing a message type

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

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

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

See Also
SDMX-class getNamespaces

findSDMXServiceProvider

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

Usage
findSDMXServiceProvider(agencyId)
Arguments
agencyId          an object of class "character" representing a provider identifier

Value
an object of class "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")

gtNamespaces

Description
Access the namespaces of the SDMX-ML object

Usage
gtNamespaces(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.

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**
geetSDMXServiceProviders()
getSoapRequestResult

Value
an object of class "list" (of SDMXServiceProvider)

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

See Also
addSDMXServiceProvider findSDMXServiceProvider readSDMX

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
**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`

---

**Description**

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

**Usage**

`isRegistryInterfaceEnvelope(xmlObj, nativeRoot)`
isSoapRequestEnvelope

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
Description

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

Usage

namespaces.SDMX(xmlObj)

Arguments

xmlObj an object of class "XMLInternalDocument"

Value

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

Warning

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

Author(s)

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

See Also

SDMXType-class getNamespaces
Description

readSDMX is the main function to use to read SDMX data

Usage

readSDMX(file, 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 getSDMXServiceProviders()

providerKey an object of class "character" giving a key to authenticate for the given provider endpoint. Some providers may require an authentication or subscription key to perform SDMX requests.

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

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

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

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

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

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

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

dsd an Object of class "logical" if an attempt to inherit the DSD should be performed. Active only if "readSDMX" is used as helper method (ie if data is fetched using an embedded service provider. Default is FALSE

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

```r
# SDMX datasets
#-----------------
## Not run:
## Not run
## Not run
# (local dataset examples)
#with SDMX 2.0
#with SDMX 2.0
#with SDMX 2.0
## Not run
## Not run
## Not run
## Not run
## Not run
```

#reliable remote datasource but with possible occasional unavailability

#reliable remote datasource but with possible occasional unavailability
```r
# examples using embedded providers
sdmx <- readSDMX(providerId = "OECD", resource = "data", flowRef = "MIG",
                 key = list("TOT", NULL, NULL), start = 2011, end = 2011)
stats <- as.data.frame(sdmx)
head(stats)

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

## End(**Not run**)
## End(Not run)

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

# using embedded providers
dsd <- readSDMX(providerId = "OECD", resource = "datastructure",
                 resourceId = "WATER_ABSTRACT")

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

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

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

## End(**Not run**)
## End(Not run)
```

---

**rsdmx**

*Tools for Reading SDMX Data and Metadata*
saveSDMX

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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<td>LazyLoad:</td>
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Author(s)

Emmanuel Blondel <emmanuel.blondel1@gmail.com>

saveSDMX

Description

saveSDMX is the function to save R SDMX object

Usage

saveSDMX(sdmxObj, file)

Arguments

<table>
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<th>sdmxObj</th>
<th>an object of class <code>SDMX-class</code> to save</th>
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<td>file</td>
<td>a connection or the name of the file where the R object is saved to</td>
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Author(s)

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

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

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

SDMX

Class "SDMX"

Description

An abstract class from which SDMX classes are derived

Usage

SDMX(xmlObj, namespaces)

Arguments

xmlObj object of class "XMLInternalDocument" derived from XML package

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

Value

an object of class "SDMX"

Slots

xmlObj Object of class "XMLInternalDocument" derived from XML package

schema Object of class "SDMXSchema", handles the version of SDMX-ML format

header Object of class "SDMXHeader", handles the SDMX-ML document header

footer Object of class "SDMXFooter", handles the SDMX-ML document footer

Warning

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

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

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

See Also

readSDMX

SDMXAgency

Class "SDMXAgency"

Description
A basic class to handle a SDMX Concept

Usage

SDMXAgency(xmlObj, namespaces)

Arguments

xmlObj object of class "XMLInternalDocument derived from XML package"

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

Value

an object of class "SDMXAgency"

Author(s)

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

See Also

readSDMX
SDMXAgencyScheme

Class "SDMXAgencyScheme"

Description
A basic abstract class to handle a SDMXAgencyScheme

Usage
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
### 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"
SDMXCodelist

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
- **isNew**: Object of class "logical" indicating if the codelist is final
- **validFrom**: Object of class "character" indicating the start validity period
- **validTo**: Object of class "character" indicating the end validity period
- **Name**: Object of class "list" giving the codelist (by language) - required
- **Description**: Object of class "list" giving the codelist description (by language)
- **Code**: Object of class "list" giving the list of "SDMXCode" objects included in the codelist (see SDMXCode)

Warning

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

Author(s)

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

See Also

readSDMX

SDMXCodelists **Class "SDMXCodelists"**

Description

A basic class to handle SDMX Codelists

Usage

SDMXCodelists(xmlObj, namespaces)

Arguments

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

an object of class "SDMXCodelists"

**Slots**

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

**Warning**

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

**Author(s)**

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

**See Also**

`readSDMX`
**SDMXComponents**

**Class "SDMXComponents"**

**Description**
A basic class to handle SDMX Components

**Usage**

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

**Arguments**

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

**Value**

an object of class "SDMXComponents"

**Slots**

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

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

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

**See Also**
readSDMX
**SDMXConcept**

**SDMXConcept Class**

**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
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>
SDMXCrossSectionalData

Class "SDMXCrossSectionalData"

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

Usage
SDMXCrossSectionalData(xmlObj, namespaces)

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

Value
an object of class "SDMXCrossSectionalData"

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

See Also
readSDMX

SDMXData

Class "SDMXData"

Description
An abstract class from which SDMX Data classes are derived

Usage
SDMXData(xmlObj, namespaces)

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

Value

an object of class "SDMXData"

Slots

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

Warning

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

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

See Also

readSDMX

SDMXDataFlow

Class "SDMXDataFlow"

Description

A basic class to handle a SDMX DataFlow

Usage

SDMXDataFlow(xmlObj, namespaces)

Arguments

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

Value

an object of class "SDMXDataFlow"

Slots

id Object of class "character" giving the ID (required)
agencyID Object of class "character" giving the AgencyID
version Object of class "character" giving the version
uri Object of class "character" giving the uri
urn Object of class "character" giving the urn
isExternalReference Object of class "logical" indicating if the dataflow is an external reference
SDMXDataFlows

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)
SDMXDataStructures

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

See Also
readSDMX

SDMXDataStructures Class "SDMXDataStructures"

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

Usage
SDMXDataStructures(xmlObj, namespaces)

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

Value
an object of class "SDMXDataStructures"

Slots
datastructures Object of class "list" giving the list of DataStructures, (see SDMXDataStructure)

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

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

See Also
readSDMX
**SDMXDimension**

**Class “SDMXDimension”**

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

**Usage**

`SDMXDimension(xmlObj, namespaces)`

**Arguments**

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

**Value**
an object of class "SDMXDimension"

**Slots**

- `conceptRef` Object of class "character" giving the dimension conceptRef (required)
- `conceptVersion` Object of class "character" giving the dimension concept version
- `conceptAgency` Object of class "character" giving the dimension concept agency
- `conceptSchemeRef` Object of class "character" giving the dimension conceptScheme ref
- `conceptSchemeAgency` Object of class "character" giving the 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"
**SDMXDotStatRequestBuilder**

`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, 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
- `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>

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>
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
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)
SDMXOrganisation

Arguments

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

Value

an object of class "SDMXMessageGroup"

Warning

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

Author(s)

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

See Also

readSDMX

SDMXOrganisation Class "SDMXOrganisation"

Description

A basic class to handle a SDMX Concept

Usage

SDMXOrganisation(xmlObj, namespaces)

Arguments

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

Value

an object of class "SDMXOrganisation"

Slots

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

This class is not useful in itself, but other classes such as `SDMXAgency` will implement it.

**Author(s)**

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

**See Also**

`readSDMX`

---

**SDMXOrganisationScheme**

*Class "SDMXOrganisationScheme"*

---

**Description**

A basic abstract class to handle a SDMXOrganisationScheme

**Information**

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

**Author(s)**

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

---

**SDMXOrganisationSchemes**

*Class "SDMXOrganisationSchemes"*

---

**Description**

A basic class to handle a SDMX OrganisationSchemes

**Usage**

`SDMXOrganisationSchemes(xmlObj, namespaces)`

**Arguments**

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

**Value**

an object of class "OrganisationSchemes"

**Slots**

organisationSchemes Object of class "list" giving the list of SDMXAgencyScheme

**Warning**

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

**Author(s)**

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

**See Also**

readSDMX

---

**SDMXPrimaryMeasure**   **Class "SDMXPrimaryMeasure"**

**Description**

A basic class to handle a SDMX PrimaryMeasure

**Usage**

SDMXPrimaryMeasure(xmlObj, namespaces)

**Arguments**

xmlObj object of class "XMLInternalDocument" derived from XML package

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

**Value**

an object of class "SDMXPrimaryMeasure"
Slots
conceptRef  Object of class "character" giving the dimension conceptRef (required)
conceptVersion  Object of class "character" giving the dimension concept version
conceptAgency  Object of class "character" giving the dimension concept agency
conceptSchemeRef  Object of class "character" giving the dimension conceptScheme ref
conceptSchemeAgency  Object of class "character" giving the dimension conceptScheme agency
codelist  Object of class "character" giving the codelist ref name
codelistVersion  Object of class "character" giving the codelist ref version
codelistAgency  Object of class "character" giving the codelist ref agency

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

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

See Also
readSDMX

---

SDMXRequestBuilder  Class "SDMXRequestBuilder"

Description
A basic class to handle a SDMX service request builder

Usage
SDMXRequestBuilder(regUrl, repoUrl, accessKey,
        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 handler generic handlers. At now, the available embedded builders are: SDMXREST20RequestBuilder (connector for SDMX 2.0 web-services), SDMXREST21RequestBuilder (connector for SDMX 2.1 web-services), SDMXDotStatRequestBuilder (connector for SDMX .Stat web-services implementations)

Slots

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

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
#defaul 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

```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
- `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

```r
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

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

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

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

SDMXServiceProviders

Class "SDMXServiceProviders"

Description

A class to wrap a list of SDMX service providers

Usage

SDMXServiceProviders(providers)

Arguments

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

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

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

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

Usage
SDMXStructureSpecificTimeSeriesData(xmlObj, namespaces)
SDMXStructureType

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.
Description

A basic class to handle a SDMX TimeDimension

Usage

SDMXTimeDimension(xmlObj, namespaces)

Arguments

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

Value

an object of class "SDMXTimeDimension"

Slots

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

SDMXType

Class "SDMXType"

Description

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

Usage

SDMXType(xmlObj)

Arguments

xmlObj object of class "XMLInternalDocument" derived from XML package

Value

an object of class "SDMXType"

Slots

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

Warning

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

Note

At now, the following types have been implemented and successfully tested: - StructureType, - GenericDataType, - CompactDataType, - StructureSpecificDataType, - CrossSectionalDataType, - UtilityDataType, - MessageGroupType

Author(s)

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

**Class "SDMXUtilityData"**

**Description**

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

**Usage**

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

**Arguments**

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

**Value**

an object of class "SDMXUtilityData"

**Warning**

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

**Author(s)**

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

**See Also**

- `readSDMX`
**setDSD**

Description

set the 'dsd' slot of a SDMXData object

Usage

```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

Author(s)

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

See Also

SDMXData-class

---

**setSDMXServiceProviders**

Description

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

```r
setSDMXServiceProviders()
```

Author(s)

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

getSDMXServiceProviders addSDMXServiceProvider findSDMXServiceProvider readSDMX

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