

Package ‘ows4R’

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Title Interface to OGC Web-Services (OWS)

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Depends R (>= 3.3.0), methods, geometa

Imports R6, httr, openssl, XML (>= 3.96-1.1), sf, rgdal

Suggests testthat

Description Provides an Interface to Web-Services defined as standards by the Open Geospatial Consortium (OGC), including Web Feature Service (WFS) for vector data, Catalogue Service (CSW) for ISO/OGC metadata and associated standards such as the common web-service specification (OWS) and OGC Filter Encoding. The long-term purpose is to add support for additional OGC service standards such as Web Coverage Service (WCS) and Web Processing Service (WPS).

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URL <https://github.com/eblondel/ows4R>,
<http://www.opengeospatial.org/standards>

BugReports <https://github.com/eblondel/ows4R/issues>

LazyLoad yes

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And

And

Description

And

Usage

And

Format

[R6Class](#) object.

Value

Object of [R6Class](#) for modelling an And operator

Methods

`new(...)` This method is used to instantiate an And operator

Author(s)

Emmanuel Blondel <emmanuel.blondell@gmail.com>

Examples

```
expr1 <- PropertyIsEqualTo$new(PropertyName = "property1", Literal = "value1")
expr2 <- PropertyIsEqualTo$new(PropertyName = "property2", Literal = "value2")
and <- And$new(expr1,expr2)
and_xml <- and$encode() #see how it looks like in XML
```

BBOX

BBOX

Description

BBOX

Usage

BBOX

Format

R6Class object.

Value

Object of R6Class for modelling an BBOX

Methods

new(bbox, srsName) This method is used to instantiate an BBOX

Author(s)

Emmanuel Blondel <emmanuel.blondell@gmail.com>

Examples

```
bbox <- OWSUtils$toBBOX(-180,-90,180,90)
expr <- BBOX$new(bbox)
expr_xml <- expr$encode() #see how it looks like in XML
```

BinaryComparisonOpType

BinaryComparisonOpType

Description

BinaryComparisonOpType

Usage

BinaryComparisonOpType

Format

R6Class object.

Value

Object of R6Class for modelling an BinaryComparisonOpType

Methods

new(PropertyName, Literal, matchCase) This method is used to instantiate an BinaryComparisonOpType

Note

abstract super class of all the property operation classes

Author(s)

Emmanuel Blondel <emmanuel.blondel1@gmail.com>

BinaryLogicOpType

BinaryLogicOpType

Description

BinaryLogicOpType

Usage

BinaryLogicOpType

Format

[R6Class](#) object.

Value

Object of [R6Class](#) for modelling an BinaryLogicOpType

Methods

`new(...)` This method is used to instantiate an BinaryLogicOpType

Note

abstract super class of all the binary logical operation classes

CSWCapabilities

CSWCapabilities

Description

CSWCapabilities

Usage

CSWCapabilities

Format

[R6Class](#) object.

Value

Object of [R6Class](#) with methods for interfacing an OGC Catalogue Service for the Web (CSW) Get Capabilities document.

Methods

`new(url, version, logger)` This method is used to instantiate a `WFSGetCapabilities` object

Note

Class used to read a `CSWCapabilities` document. The use of `CSWClient` is recommended instead to benefit from the full set of capabilities associated to a CSW server.

Author(s)

Emmanuel Blondel <emmanuel.blondel1@gmail.com>

Examples

```
#example based on CSW endpoint responding at http://localhost:8000/csw
caps <- CSWCapabilities$new("http://localhost:8000/geonetwork/csw", version = "2.0.2")
```

CSWClient

CSWClient

Description

CSWClient

Usage

CSWClient

Format

[R6Class](#) object.

Value

Object of [R6Class](#) with methods for interfacing an OGC Catalogue Service for the Web.

Methods

`new(url, serviceVersion, user, pwd, token, logger)` This method is used to instantiate a CSWClient with the url of the OGC service. Authentication is supported either with a basic (user/pwd) authentication or a token-based authentication. By default, the logger argument will be set to NULL (no logger). This argument accepts two possible values: INFO: to print only **ows4R** logs, DEBUG: to print more verbose logs

`getCapabilities()` Get service capabilities. Inherited from OWS Client

`reloadCapabilities()` Reload service capabilities

`describeRecord(namespace, ...)` Describe records. Retrieves the XML schema for CSW records. By default, returns the XML schema for the CSW records (<http://www.opengis.net/cat/csw/2.0.2>). For other schemas, specify the outputSchema required, e.g. <http://www.isotc211.org/2005/gmd> for ISO 19115/19139 schema

`getRecordById(id, elementSetName, ...)` Get a record by Id. By default, the record will be returned following the CSW schema (<http://www.opengis.net/cat/csw/2.0.2>). For other schemas, specify the outputSchema required, e.g. <http://www.isotc211.org/2005/gmd> for ISO 19115/19139 records. The parameter elementSetName should among values "full", "brief", "summary". The default "full" corresponds to the full metadata sheet returned. "brief" and "summary" will contain only a subset of the metadata content.

Author(s)

Emmanuel Blondel <emmanuel.blondel1@gmail.com>

Examples

```
#example based on CSW endpoint responding at http://localhost:8000/csw
csw <- CSWClient$new("http://localhost:8000/csw", serviceVersion = "2.0.2")

#get capabilities
caps <- csw$getCapabilities()

#get records
records <- csw$getRecords()

#get record by id
record <- csw$getRecordById("my-metadata-id")

#Advanced examples at https://github.com/eblondel/ows4R/wiki#csw
```

CSWConstraint

CSWConstraint

Description

CSWConstraint

Usage

CSWConstraint

Format

[R6Class](#) object.

Value

Object of [R6Class](#) for modelling an CSW Constraint

Methods

`new(cqlText, filter, serviceVersion)` This method is used to instantiate an CSWConstraint object.

Author(s)

Emmanuel Blondel <emmanuel.blondel1@gmail.com>

Examples

```
filter <- OGCFilter$new( PropertyIsEqualTo$new("apiso:Identifier", "12345") )
cons <- CSWConstraint$new(filter = filter)
cons_xml <- cons$encode() #how it looks like in XML
```

CSWDescribeRecord	<i>CSWDescribeRecord</i>
-------------------	--------------------------

Description

CSWDescribeRecord

Usage

CSWDescribeRecord

Format

[R6Class](#) object.

Value

Object of [R6Class](#) for modelling a CSW DescribeRecord request

Methods

`new(url, version, namespace, ...)` This method is used to instantiate a CSWDescribeRecord object

Note

Class used internally by **ows4R** to trigger a CSW DescribeRecord request

Author(s)

Emmanuel Blondel <emmanuel.blondell@gmail.com>

CSWGetRecordById

CSWGetRecordById

Description

CSWGetRecordById

Usage

CSWGetRecordById

Format[R6Class](#) object.**Value**Object of [R6Class](#) for modelling a CSW GetRecordById request**Methods**

`new(op, url, serviceVersion, user, pwd, token, id, elementSetName, logger, ...)` This method is used to instantiate a CSWGetRecordById object

NoteClass used internally by **ows4R** to trigger a CSW GetRecordById request**Author(s)**

Emmanuel Blondel <emmanuel.blondel1@gmail.com>

CSWGetRecords*CSWGetRecords*

Description

CSWGetRecords

Usage

CSWGetRecords

Format[R6Class](#) object.

Value

Object of [R6Class](#) for modelling a CSW GetRecords request

Methods

`new(op, url, serviceVersion, user, pwd, token, query, logger, ...)` This method is used to instantiate a CSWGetRecords object

Note

Class used internally by **ows4R** to trigger a CSW GetRecords request

Author(s)

Emmanuel Blondel <emmanuel.blondel1@gmail.com>

CSWHarvest

CSWHarvest

Description

CSWHarvest

Usage

CSWHarvest

Format

[R6Class](#) object.

Value

Object of [R6Class](#) for modelling a CSW Harvest request

Methods

`new(op, url, serviceVersion, user, pwd, source, resourceType, resourceFormat, logger, ...)`
This method is used to instantiate a CSWHarvest object

Note

Class used internally by **ows4R** to trigger a CSW Harvest request

Author(s)

Emmanuel Blondel <emmanuel.blondel1@gmail.com>

CSWQuery

CSWQuery

Description

CSWQuery

Usage

CSWQuery

Format

[R6Class](#) object.

Value

Object of [R6Class](#) for modelling an CSW Query

Methods

`new(filter, serviceVersion)` This method is used to instantiate an CSWQuery object.

Author(s)

Emmanuel Blondel <emmanuel.blondell@gmail.com>

Examples

```
#CSWQuery - elementSetName
query_full <- CSWQuery$new()
query_brief <- CSWQuery$new(elementSetName = "brief")
query_summary <- CSWQuery$new(elementSetName = "summary")

#CSWQuery - cqlText with title
cons <- CSWConstraint$new(cqlText = "dc:title like '%ips%'")
query <- CSWQuery$new(constraint = cons)

#CSW 2.0.2 - Query - Filter / AnyText
filter <- OGCFilter$new( PropertyIsLike$new("csw:AnyText", "%Physio%"))
cons <- CSWConstraint$new(filter = filter)
query <- CSWQuery$new(constraint = cons)

#CSW 2.0.2 - Query - Filter / AnyText Equal
filter <- OGCFilter$new( PropertyIsEqualTo$new("csw:AnyText", "species"))
cons <- CSWConstraint$new(filter = filter)
query <- CSWQuery$new(constraint = cons)

#CSW 2.0.2 - Query - Filter / AnyText And Not
```

```

filter <- OGCFilter$new(And$new(
  PropertyIsLike$new("csw:AnyText", "%lorem%"),
  PropertyIsLike$new("csw:AnyText", "%ipsum%"),
  Not$new(
    PropertyIsLike$new("csw:AnyText", "%dolor%")
  )
))
cons <- CSWConstraint$new(filter = filter)
query <- CSWQuery$new(constraint = cons)

#CSW 2.0.2 - Query - Filter / AnyText And nested Or
filter <- OGCFilter$new(And$new(
  PropertyIsEqualTo$new("dc:title", "Aliquam fermentum purus quis arcu"),
  PropertyIsEqualTo$new("dc:format", "application/pdf"),
  Or$new(
    PropertyIsEqualTo$new("dc:type", "http://purl.org/dc/dcmitype/Dataset"),
    PropertyIsEqualTo$new("dc:type", "http://purl.org/dc/dcmitype/Service"),
    PropertyIsEqualTo$new("dc:type", "http://purl.org/dc/dcmitype/Image"),
    PropertyIsEqualTo$new("dc:type", "http://purl.org/dc/dcmitype/Text")
  )
))
cons <- CSWConstraint$new(filter = filter)
query <- CSWQuery$new(elementSetName = "brief", constraint = cons)

#CSW 2.0.2 - Query - Filter / BBOX
bbox <- matrix(c(-180,180,-90,90), nrow = 2, ncol = 2, byrow = TRUE,
  dimnames = list(c("x", "y"), c("min","max")))
filter <- OGCFilter$new( BBOX$new(bbox = bbox) )
cons <- CSWConstraint$new(filter = filter)
query <- CSWQuery$new(elementSetName = "brief", constraint = cons)

```

CSWRecordProperty

CSWRecordProperty

Description

CSWRecordProperty

Usage

CSWRecordProperty

Format

[R6Class](#) object.

Value

Object of [R6Class](#) for modelling an CSW RecordProperty

Methods

`new(name, value)` This method is used to instantiate an `CSWRecordProperty` object.

Author(s)

Emmanuel Blondel <emmanuel.blondel1@gmail.com>

Examples

```
rp <- CSWRecordProperty$new(name = "NAME", value = "VALUE")
rp_xml <- rp$encode() #see how it looks in XML
```

CSWTransaction

CSWTransaction

Description

CSWTransaction

Usage

CSWTransaction

Format

[R6Class](#) object.

Value

Object of [R6Class](#) for modelling a CSW Transaction request

Methods

`new(url, version, id)` This method is used to instantiate a `CSWTransaction` object

Note

Class used internally by **ows4R** to trigger a CSW Transaction request

Author(s)

Emmanuel Blondel <emmanuel.blondel1@gmail.com>

Not	<i>Not</i>
-----	------------

Description

Not

Usage

Not

Format

[R6Class](#) object.

Value

Object of [R6Class](#) for modelling an Not

Methods

`new(...)` This method is used to instantiate an Not operator

Author(s)

Emmanuel Blondel <emmanuel.blondell@gmail.com>

Examples

```
expr <- PropertyIsEqualTo$new(PropertyName = "property", Literal = "value")
not <- Not$new(expr)
not_xml <- not$encode() #see how it looks like in XML
```

OGCAbstractObject	<i>OGCAbstractObject</i>
-------------------	--------------------------

Description

OGCAbstractObject

Usage

OGCAbstractObject

Format

[R6Class](#) object.

Value

Object of [R6Class](#) for modelling an OGCAbstractObject

Methods

`new()` This method is used to instantiate an OGCAbstractObject

Note

abstract class used by **ows4R**

Author(s)

Emmanuel Blondel <emmanuel.blondel1@gmail.com>

OGCEXpression

OGCEXpression

Description

OGCEXpression

Usage

OGCEXpression

Format

[R6Class](#) object.

Value

Object of [R6Class](#) for modelling an OGC Expression

Methods

`new()` This method is used to instantiate an OGCEXpression object

Note

abstract class

Author(s)

Emmanuel Blondel <emmanuel.blondel1@gmail.com>

OGCFilter

OGCFilter

Description

OGCFilter

Usage

OGCFilter

Format

R6Class object.

Value

Object of R6Class for modelling an OGC Filter

Methods

`new(expr)` This method is used to instantiate an OGCFilter object. The unique argument should be an object of class `OGCExpression`

Author(s)

Emmanuel Blondel <emmanuel.blondell@gmail.com>

Examples

```
expr <- PropertyIsEqualTo$new(PropertyName = "property", Literal = "value")
not <- Not$new(expr)
not_xml <- not$encode() #see how it looks like in XML
```

Or

Or

Description

Or

Usage

Or

Format

`R6Class` object.

Value

Object of `R6Class` for modelling an Or operator

Methods

`new(...)` This method is used to instantiate an Or operator

Author(s)

Emmanuel Blondel <emmanuel.blondel1@gmail.com>

Examples

```
expr1 <- PropertyIsEqualTo$new(PropertyName = "property1", Literal = "value1")
expr2 <- PropertyIsEqualTo$new(PropertyName = "property2", Literal = "value2")
or <- Or$new(expr1,expr2)
or_xml <- or$encode() #see how it looks like in XML
```

ows4R

Interface to OGC Web-Services

Description

Provides an Interface to Web-Services defined as standards by the Open Geospatial Consortium (OGC), including Web Feature Service (WFS) for vector data, Catalogue Service (CSW) for ISO/OGC metadata and associated standards such as the common web-service specification (OWS) and OGC Filter Encoding. The long-term purpose is to add support for additional OGC service standards such as Web Coverage Service (WCS) and Web Processing Service (WPS).

Details

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License: MIT
LazyLoad: yes

Author(s)

Emmanuel Blondel <emmanuel.blondel1@gmail.com>

OWSCapabilities

OWSGetCapabilities

Description

OWSGetCapabilities

Usage

OWSCapabilities

Format

[R6Class](#) object.

Value

Object of [R6Class](#) with methods for interfacing an abstract OWS Get Capabilities document.

Methods

`new(url, service, serviceVersion, owsVersion, logger)` This method is used to instantiate a `OWSGetCapabilities` object

`getUrl()` Get URL

`getVersion()` Get version

`getRequest()` Get request

`getServiceIdentification()` Get the service identification

`getServiceProvider()` Get the service provider

`getOperationsMetadata()` Get the service operations metadata

Note

abstract class used by **ows4R**

Author(s)

Emmanuel Blondel <emmanuel.blondel1@gmail.com>

OWSClient

OWSClient

Description

OWSClient

Usage

OWSClient

Format[R6Class](#) object.**Value**Object of [R6Class](#) with methods for interfacing a Common OGC web-service.**Fields**

url the Base url of OWS service

version the version of OWS service

Methods

`new(url, service, serviceVersion, user, pwd, logger)` This method is used to instantiate a OWSClient with the url of the OGC service. Authentication (user/pwd) is not yet supported and will be added with the support of service transactional modes. By default, the logger argument will be set to NULL (no logger). This argument accepts two possible values: INFO: to print only **ows4R** logs, DEBUG: to print more verbose logs

`getUrl()` Get the service URL

`getVersion()` Get the service version

`getCapabilities()` Get the service capabilities

NoteAbstract class used internally by **ows4R****Author(s)**

Emmanuel Blondel <emmanuel.blondel1@gmail.com>

OWSGetCapabilities	<i>OWSGetCapabilities</i>
--------------------	---------------------------

Description

OWSGetCapabilities

Usage

OWSGetCapabilities

Format

[R6Class](#) object.

Value

Object of [R6Class](#) for modelling a GetCapabilities request

Methods

`new(op, url, service, version)` This method is used to instantiate a OWSGetCapabilities object

Note

Abstract class used internally by **ows4R**

Author(s)

Emmanuel Blondel <emmanuel.blondell@gmail.com>

OWSOperation	<i>OWSOperation</i>
--------------	---------------------

Description

OWSOperation

Usage

OWSOperation

Format

[R6Class](#) object.

Value

Object of [R6Class](#) for modelling an OGC Operation

Methods

`new(xmlObj, serviceVersion)` This method is used to instantiate an OWSOperation object

`getName()` Get name

`getParameters()` Get the list of parameters

`getParameter(name)` Get a given parameter

Note

Abstract class used internally by **ows4R**

Author(s)

Emmanuel Blondel <emmanuel.blondel1@gmail.com>

OWSOperationsMetadata *OWSOperationsMetadata*

Description

OWSOperationsMetadata

Usage

OWSOperationsMetadata

Format

[R6Class](#) object.

Value

Object of [R6Class](#) for modelling an OGC Operations Metadata

Methods

`new(xmlObj, serviceVersion)` This method is used to instantiate a OWSOperationsMetadata object

`getOperations()` Get operations

Note

Abstract class used internally by **ows4R**

Author(s)

Emmanuel Blondel <emmanuel.blondel1@gmail.com>

OWSRequest

OWSRequest

Description

OWSRequest

Usage

OWSRequest

Format

[R6Class](#) object.

Value

Object of [R6Class](#) for modelling a generic OWS request

Methods

`new(op, type, url, request, user, pwd, namedParams, attrs, contentType, mimeType, logger)`

This method is used to instantiate a object for doing an OWS request

`getRequest()` Get the request payload

`getRequestHeaders()` Get the request headers

`getStatus()` Get the request status code

`getResponse()` Get the request response

`getException()` Get the exception (in case of request failure)

`getResult()` Get the result TRUE if the request is successful, FALSE otherwise

Note

Abstract class used internally by **ows4R**

Author(s)

Emmanuel Blondel <emmanuel.blondel1@gmail.com>

OWSServiceIdentification

OWSServiceIdentification

Description

OWSServiceIdentification

Usage

OWSServiceIdentification

Format

[R6Class](#) object.

Value

Object of [R6Class](#) for modelling an OGC Service Identification

Methods

`new(xmlObj, serviceVersion)` This method is used to instantiate a OWSServiceIdentification object

`getName()` Get service name

`getTitle()` Get service title

`getAbstract()` Get service abstract

`getKeywords()` Get service keywords

`getOnlineResource()` Get service online resource

`getServiceType` Get service type

`getServiceTypeVersion` Get service type version

Note

Abstract class used internally by **ows4R**

Author(s)

Emmanuel Blondel <emmanuel.blondell@gmail.com>

OWSServiceProvider *OWSServiceProvider*

Description

OWSServiceProvider

Usage

OWSServiceProvider

Format

[R6Class](#) object.

Value

Object of [R6Class](#) for modelling an OGC Service Provider

Methods

`new(xmlObj, version)` This method is used to instantiate a OWSServiceProvider object

`getProviderName()` Get the provider name

`getProviderSite()` Get the provide site

`getServiceContact()` Get the service contact, as object of class ISOResponsibleParty from package **geometa**

Note

Abstract class used internally by **ows4R**

Author(s)

Emmanuel Blondel <emmanuel.blondell@gmail.com>

OWSUtils

OWSUtils

Description

OWSUtils

Usage

OWSUtils

Format

R6Class object.

Value

set of OWS Utilities

Static methods

getNamespaces() Get the namespaces associated to a given XML object
findNamespace(namespaces, id, uri) Finds a namespace by id or by URI
toBBOX(xmin, xmax, ymin, ymax) Creates a bbox matrix from min/max x/y coordinates
findP4s(srsName, morphToESRI) Finds the PROJ4 string definition for a given srsName
toCRS(srsName) Converts a srsName into a CRS object
toEPSG(crs) Get the EPSG code from a CRS object
getAspectRatio(bbox) Get the aspect ratio for a given bbox

Author(s)

Emmanuel Blondel <emmanuel.blondel1@gmail.com>

Examples

```
#toBBOX
bbox <- OWSUtils$toBBOX(-180,-90,180,90)

#toCRS
crs <- OWSUtils$toCRS("EPSG:4326")
```

PropertyIsBetween *PropertyIsBetween*

Description

PropertyIsBetween

Usage

PropertyIsBetween

Format

[R6Class](#) object.

Value

Object of [R6Class](#) for modelling an PropertyIsBetween

Methods

`new(PropertyName, lower, upper)` This method is used to instantiate an PropertyIsBetween

Author(s)

Emmanuel Blondel <emmanuel.blondell@gmail.com>

Examples

```
expr <- PropertyIsBetween$new(PropertyName = "property", lower = 1, upper = 10)
expr_xml <- expr$encode() #see how it looks like in XML
```

PropertyIsEqualTo *PropertyIsEqualTo*

Description

PropertyIsEqualTo

Usage

PropertyIsEqualTo

Format

[R6Class](#) object.

Value

Object of [R6Class](#) for modelling an PropertyIsEqualTo

Methods

`new(PropertyName, Literal, matchCase)` This method is used to instantiate an PropertyIsEqualTo

Author(s)

Emmanuel Blondel <emmanuel.blondell@gmail.com>

Examples

```
expr <- PropertyIsEqualTo$new(PropertyName = "property", Literal = "value")
expr_xml <- expr$encode() #see how it looks like in XML
```

PropertyIsGreaterThan *PropertyIsGreaterThan*

Description

PropertyIsGreaterThan

Usage

PropertyIsGreaterThan

Format

[R6Class](#) object.

Value

Object of [R6Class](#) for modelling an PropertyIsGreaterThan

Methods

`new(PropertyName, Literal, matchCase)` This method is used to instantiate an PropertyIsGreaterThan

Author(s)

Emmanuel Blondel <emmanuel.blondell@gmail.com>

Examples

```
expr <- PropertyIsGreaterThan$new(PropertyName = "property", Literal = "value")
expr_xml <- expr$encode() #see how it looks like in XML
```

PropertyIsGreaterThanOrEqualTo
PropertyIsGreaterThanOrEqualTo

Description

PropertyIsGreaterThanOrEqualTo

Usage

PropertyIsGreaterThanOrEqualTo

Format

[R6Class](#) object.

Value

Object of [R6Class](#) for modelling an PropertyIsGreaterThanOrEqualTo

Methods

`new(PropertyName, Literal, matchCase)` This method is used to instantiate an PropertyIsGreaterThanOrEqualTo

Author(s)

Emmanuel Blondel <emmanuel.blondel1@gmail.com>

Examples

```
expr <- PropertyIsGreaterThanOrEqualTo$new(PropertyName = "property", Literal = "value")
expr_xml <- expr$encode() #see how it looks like in XML
```

PropertyIsLessThan *PropertyIsLessThan*

Description

PropertyIsLessThan

Usage

PropertyIsLessThan

Format

[R6Class](#) object.

Value

Object of [R6Class](#) for modelling an PropertyIsLessThan

Methods

`new(PropertyName, Literal, matchCase)` This method is used to instantiate an PropertyIsLessThan

Author(s)

Emmanuel Blondel <emmanuel.blondel1@gmail.com>

Examples

```
expr <- PropertyIsLessThan$new(PropertyName = "property", Literal = "value")
expr_xml <- expr$encode() #see how it looks like in XML
```

PropertyIsLessThanOrEqualTo
PropertyIsLesserThanOrEqualTo

Description

PropertyIsLesserThanOrEqualTo

Usage

PropertyIsLessThanOrEqualTo

Format

[R6Class](#) object.

Value

Object of [R6Class](#) for modelling an PropertyIsLesserThanOrEqualTo

Methods

`new(PropertyName, Literal, matchCase)` This method is used to instantiate an PropertyIsLesserThanOrEqualTo

Author(s)

Emmanuel Blondel <emmanuel.blondel1@gmail.com>

Examples

```
expr <- PropertyIsLessThanOrEqualTo$new(PropertyName = "property", Literal = "value")
expr_xml <- expr$encode() #see how it looks like in XML
```

PropertyIsLike	<i>PropertyIsLike</i>
----------------	-----------------------

Description

PropertyIsLike

Usage

PropertyIsLike

Format

[R6Class](#) object.

Value

Object of [R6Class](#) for modelling an PropertyIsLike

Methods

```
new(PropertyOperator, PropertyName, Literal, escapeChar, singleChar, wildCard, matchCase)
```

This method is used to instantiate an PropertyIsLike

Author(s)

Emmanuel Blondel <emmanuel.blondell@gmail.com>

Examples

```
expr <- PropertyIsLike$new(PropertyName = "property", Literal = "value")
expr_xml <- expr$encode() #see how it looks like in XML
```

PropertyIsNotEqualTo *PropertyIsNotEqualTo*

Description

PropertyIsNotEqualTo

Usage

PropertyIsNotEqualTo

Format

[R6Class](#) object.

Value

Object of [R6Class](#) for modelling an PropertyIsNotEqualTo

Methods

`new(PropertyName, Literal, matchCase)` This method is used to instantiate an PropertyIsNotEqualTo

Author(s)

Emmanuel Blondel <emmanuel.blondell@gmail.com>

Examples

```
expr <- PropertyIsNotEqualTo$new(PropertyName = "property", Literal = "value")
expr_xml <- expr$encode() #see how it looks like in XML
```

PropertyIsNull *PropertyIsNull*

Description

PropertyIsNull

Usage

PropertyIsNull

Format

[R6Class](#) object.

Value

Object of [R6Class](#) for modelling an PropertyIsNull

Methods

`new(PropertyName)` This method is used to instantiate an PropertyIsNull

Author(s)

Emmanuel Blondel <emmanuel.blondell@gmail.com>

Examples

```
expr <- PropertyIsNull$new(PropertyName = "property")
expr_xml <- expr$encode() #see how it looks like in XML
```

UnaryLogicOpType

UnaryLogicOpType

Description

UnaryLogicOpType

Usage

UnaryLogicOpType

Format

[R6Class](#) object.

Value

Object of [R6Class](#) for modelling an UnaryLogicOpType

Methods

`new(...)` This method is used to instantiate an UnaryLogicOpType

Note

abstract super class of all the unary logical operation classes

WFSCapabilities

WFSCapabilities

Description

WFSCapabilities

Usage

WFSCapabilities

Format

[R6Class](#) object.

Value

Object of [R6Class](#) with methods for interfacing an OGC Web Feature Service Get Capabilities document.

Methods

`new(url, version)` This method is used to instantiate a `WFSCapabilities` object

`getFeatureTypes(pretty)` List the feature types available. If `pretty` is `TRUE`, the output will be an object of class `data.frame`

`findFeatureTypeByName(name, exact)` Find feature type(s) by name.

Note

Class used to read a `WFSCapabilities` document. The use of `WFSCClient` is recommended instead to benefit from the full set of capabilities associated to a WFS server.

Author(s)

Emmanuel Blondel <emmanuel.blondel1@gmail.com>

Examples

```
#example based on CSW endpoint responding at http://localhost:8080/geoserver/wfs
caps <- WFSCapabilities$new("http://localhost:8080/geoserver/wfs", version = "1.1.1")
```

WFSCClient

WFSCClient

Description

WFSCClient

Usage

WFSCClient

Format

[R6Class](#) object.

Value

Object of [R6Class](#) with methods for interfacing an OGC Web Feature Service.

Methods

`new(url, serviceVersion, user, pwd, logger)` This method is used to instantiate a WFSCClient with the url of the OGC service. Authentication (user/pwd) is not yet supported and will be added with the support of service transactional modes. By default, the logger argument will be set to NULL (no logger). This argument accepts two possible values: INFO: to print only **ows4R** logs, DEBUG: to print more verbose logs

`getCapabilities()` Get service capabilities. Inherited from OWS Client

`reloadCapabilities()` Reload service capabilities

`describeFeatureType(typeName)` Get the description of a given featureType

`getFeatures(typeName, ...)` Retrieves the features for a given feature type.

`getFeatureTypes(pretty)` List the feature types available. If pretty is TRUE, the output will be an object of class data.frame

Author(s)

Emmanuel Blondel <emmanuel.blondel1@gmail.com>

Examples

```
#example based on a WFS endpoint responding at http://localhost:8080/geoserver/wfs
wfs <- WFSCClient$new("http://localhost:8080/geoserver/wfs", serviceVersion = "1.1.1")

#get capabilities
caps <- wfs$getCapabilities()

#find feature type
```

```
ft <- caps$findFeatureTypeByName("mylayer")
if(length(ft)>0){
  data <- ft$getFeatures()
  data_with_filter <- ft$getFeatures(cql_filter = "somefilter")
}

#Advanced examples at https://github.com/eblondel/ows4R/wiki#wfs
```

WFSDescribeFeatureType

WFSDescribeFeatureType

Description

WFSDescribeFeatureType

Usage

WFSDescribeFeatureType

Format

[R6Class](#) object.

Value

Object of [R6Class](#) for modelling a WFS DescribeFeatureType request

Methods

`new(op, url, version, typeName, logger, ...)` This method is used to instantiate a WFSDescribeFeatureType object

Note

Abstract class used by **ows4R** to trigger a WFS DescribeFeatureType request

Author(s)

Emmanuel Blondel <emmanuel.blondel1@gmail.com>

WFSFeatureType	<i>WFSFeatureType</i>
----------------	-----------------------

Description

WFSFeatureType

Usage

WFSFeatureType

Format

[R6Class](#) object.

Value

Object of [R6Class](#) modelling a WFS feature type

Methods

`new(xmlObj, capabilities, version, logger)` This method is used to instantiate a WFSFeatureType object

`getName()` Get feature type name

`getTitle()` Get feature type title

`getAbstract()` Get feature type abstract

`getKeywords()` Get feature type keywords

`getDefaultCRS()` Get feature type default CRS

`getBoundingBox()` Get feature type bounding box

`getDescription(pretty)` Get feature type description. If pretty is TRUE, the output will be an object of class `data.frame`

`getFeatures()` Get features

Note

Abstract class used by **ows4R**

Author(s)

Emmanuel Blondel <emmanuel.blondel1@gmail.com>

WFSFeatureTypeElement *WFSFeatureTypeElement*

Description

WFSFeatureTypeElement

Usage

WFSFeatureTypeElement

Format

[R6Class](#) object.

Value

Object of [R6Class](#) modelling a WFS feature type element

Methods

`new(xmlObj)` This method is used to instantiate a WFSFeatureTypeElement object

`getMinOccurs()` Get min occurs

`getMaxOccurs()` Get max occurs

`isNillable()` Get TRUE if nillable, FALSE otherwise

`getName()` Get element name

`getType()` Get element type

Note

Abstract class used by **ows4R**

Author(s)

Emmanuel Blondel <emmanuel.blondel1@gmail.com>

WFSGetFeature

WFSGetFeature

Description

WFSGetFeature

Usage

WFSGetFeature

Format

[R6Class](#) object.

Value

Object of [R6Class](#) for modelling a WFS GetFeature request

Methods

`new(op, url, version, typeName, logger, ...)` This method is used to instantiate a WFSGetFeature object

Note

Abstract class used by **ows4R** to trigger a WFS DescribeFeatureType request

Author(s)

Emmanuel Blondel <emmanuel.blondel1@gmail.com>

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