Schema documentation for OSDSpec.xsd

january 24, 2014

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Resource hierarchy:

Legend: *Import*, *Include*, *Redefine*, *Cycle detected*

OSDSpec.xsd

- protocol-types.xsd
  - result.xsd
    - xml.xsd
  - rdf.xsd

Namespace: "urn:openiot:osdspec:xsd:1"

Schema(s)

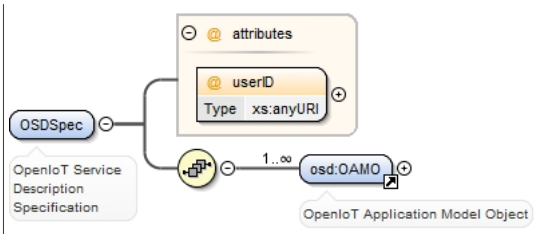
Main schema `OSDSpec.xsd`

Namespace	urn:openiot:osdspec:xsd:1
Properties	attribute form default: `unqualified` element form default: `qualified`

Element(s)

Element `osd:OSDSpec`

Namespace	urn:openiot:osdspec:xsd:1
Annotations	`OpenIoT Service Description Specification`

Diagram	
Properties	content: complex
Model	osd:OAMO+
Children	osd:OAMO

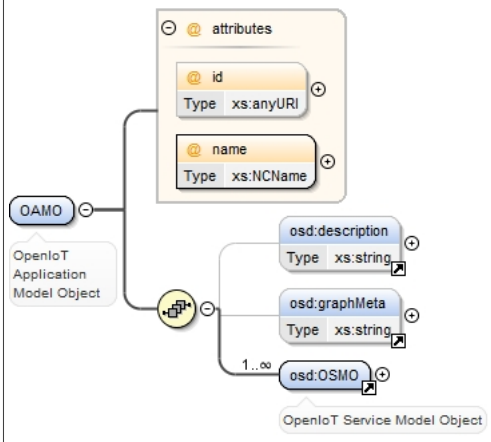
Instance	`<osd:OSDSpec userID="" xmlns:osd="urn:openiot:osdspec:xsd:1">`
	`  <osd:OAMO id="" name="">{1,unbounded}</osd:OAMO>`
	`</osd:OSDSpec>`

Attributes	QName	Type	Fixed	Default	Use
	userID	xs:anyURI			required

Source

```
<xs:element name="OSDSpec">
  <xs:annotation>
    <xs:documentation>OpenIoT Service Description Specification</xs:documentation>
  </xs:annotation>
  <xs:complexType>
    <xs:sequence>
      <xs:element maxOccurs="unbounded" ref="osd:OAMO"/>
    </xs:sequence>
    <xs:attribute name="userID" use="required" type="xs:anyURI"/>
  </xs:complexType>
</xs:element>
```

Element osd:OAMO

Namespace	urn:openiot:osdspec:xsd:1
Annotations	OpenIoT Application Model Object
Diagram	
Properties	content: complex
Used by	Element osd:OSDSpec
Model	osd:description{0,1} , osd:graphMeta{0,1} , osd:OSMO+
Children	osd:OSMO, osd:description, osd:graphMeta

Instance	`<osd:OAMO id="" name="" xmlns:osd="urn:openiot:osdspec:xsd:1">`
	`  <osd:description>{0,1}</osd:description>`
	`  <osd:graphMeta>{0,1}</osd:graphMeta>`
	`  <osd:OSMO id="" name="">{1,unbounded}</osd:OSMO>`
	`</osd:OAMO>`

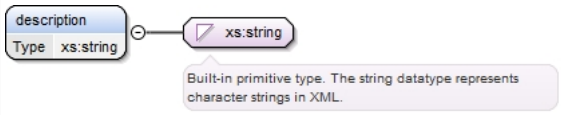
Attributes	QName	Type	Fixed	Default	Use
	id	xs:anyURI			optional
	name	xs:NCName			required

Source

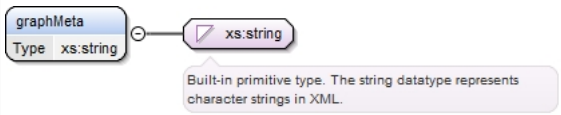
```
<xs:element name="OAMO">
  <xs:annotation>
```

```
    <xs:documentation>OpenIoT Application Model Object</xs:documentation>
  </xs:annotation>
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" ref="osd:description"/>
      <xs:element minOccurs="0" maxOccurs="1" ref="osd:graphMeta"/>
      <xs:element maxOccurs="unbounded" ref="osd:OSMO"/>
    </xs:sequence>
    <xs:attribute name="id" use="optional" type="xs:anyURI"/>
    <xs:attribute name="name" type="xs:NCName" use="required"/>
  </xs:complexType>
</xs:element>
```

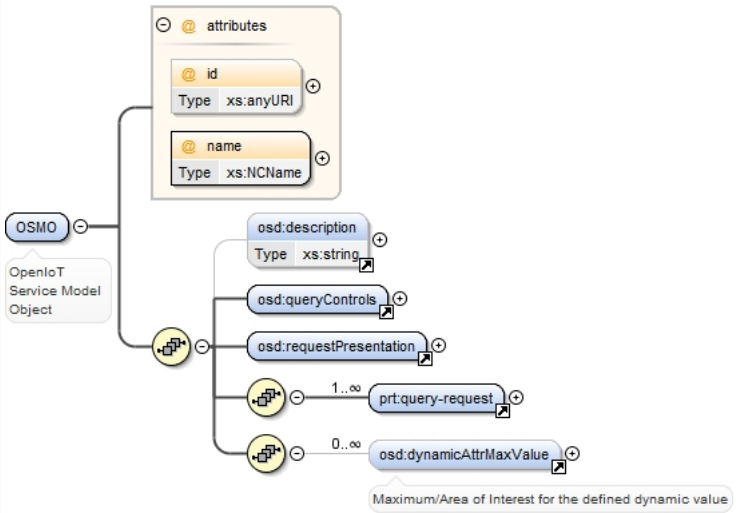
Element osd:description

Namespace	urn:openiot:osdspec:xsd:1
Diagram	
Type	xs:string
Properties	content: simple
Used by	Elements osd:OAMO, osd:OSMO
Source	`<xs:element name="description" type="xs:string"/>`

Element osd:graphMeta

Namespace	urn:openiot:osdspec:xsd:1
Diagram	
Type	xs:string
Properties	content: simple
Used by	Element osd:OAMO
Source	`<xs:element name="graphMeta" type="xs:string"/>`

Element osd:OSMO

Namespace	urn:openiot:osdspec:xsd:1
Annotations	OpenIoT Service Model Object
Diagram	
Properties	content: complex

Used by	Element osd:OAMO
Model	osd:description{0,1} , osd:queryControls , osd:requestPresentation , st:query-request+ , osd:dynamicAttrMaxValue*
Children	osd:description, osd:dynamicAttrMaxValue, osd:queryControls, osd:requestPresentation, st:query-request
Instance	<osd:OSMO id="" name="" xmlns:osd="urn:openiot:osdspec:xsd:1" xmlns:prt="http://www.w3.org/2007/SPARQL/protocol-types#"> <osd:description>{0,1}</osd:description> <osd:queryControls>{1,1}</osd:queryControls> <osd:requestPresentation>{1,1}</osd:requestPresentation> <prt:query-request>{1,unbounded}</prt:query-request> <osd:dynamicAttrMaxValue name="" value="">{0,unbounded}</osd:dynamicAttrMaxValue> </osd:OSMO>

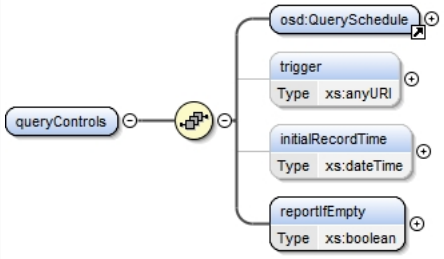
Attributes

QName	Type	Fixed	Default	Use
id	xs:anyURI			optional
name	xs:NCName			required

Source

```
<xs:element name="OSMO">
  <xs:annotation>
    <xs:documentation>OpenIoT Service Model Object</xs:documentation>
  </xs:annotation>
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" ref="osd:description"/>
      <xs:element ref="osd:queryControls"/>
      <xs:element ref="osd:requestPresentation"/>
      <xs:sequence>
        <xs:element ref="prt:query-request" maxOccurs="unbounded" minOccurs="1"/>
      </xs:sequence>
      <xs:sequence>
        <xs:element maxOccurs="unbounded" minOccurs="0" ref="osd:dynamicAttrMaxValue"/>
      </xs:sequence>
    </xs:sequence>
    <xs:attribute name="id" use="optional" type="xs:anyURI"/>
    <xs:attribute name="name" type="xs:NCName" use="required"/>
  </xs:complexType>
</xs:element>
```

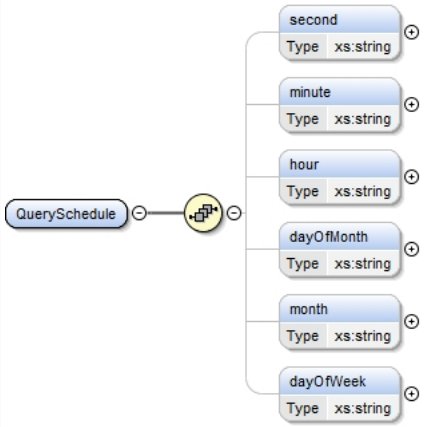
Element `osd:queryControls`

Namespace	urn:openiot:osdspec:xsd:1
Diagram	
Properties	content: complex
Used by	Element osd:OSMO
Model	osd:QuerySchedule , osd:trigger{0,1} , osd:initialRecordTime{0,1} , osd:reportIfEmpty
Children	osd:QuerySchedule, osd:initialRecordTime, osd:reportIfEmpty, osd:trigger
Instance	<osd:queryControls xmlns:osd="urn:openiot:osdspec:xsd:1"> <osd:QuerySchedule>{1,1}</osd:QuerySchedule> <osd:trigger>{0,1}</osd:trigger> <osd:initialRecordTime>{0,1}</osd:initialRecordTime> <osd:reportIfEmpty>{1,1}</osd:reportIfEmpty> </osd:queryControls>

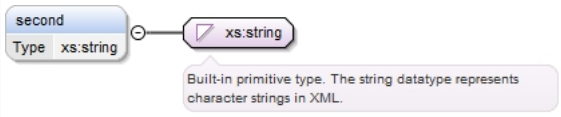
Source

```
<xs:element name="queryControls">
  <xs:complexType>
    <xs:sequence>
      <xs:element ref="osd:QuerySchedule"/>
      <xs:element name="trigger" type="xs:anyURI" minOccurs="0"/>
      <xs:element name="initialRecordTime" type="xs:dateTime" minOccurs="0"/>
      <xs:element name="reportIfEmpty" type="xs:boolean"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

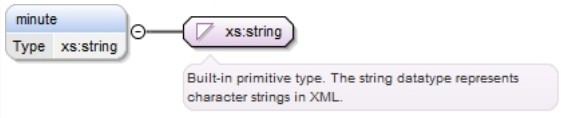
Element osd:QuerySchedule

Namespace	urn:openiot:osdspec:xsd:1
Diagram	
Properties	content: complex
Used by	Element osd:queryControls
Model	osd:second{0,1} , osd:minute{0,1} , osd:hour{0,1} , osd:dayOfMonth{0,1} , osd:month{0,1} , osd:dayOfWeek{0,1}
Children	osd:dayOfMonth, osd:dayOfWeek, osd:hour, osd:minute, osd:month, osd:second
Instance	<osd:QuerySchedule xmlns:osd="urn:openiot:osdspec:xsd:1"> <osd:second>{0,1}</osd:second> <osd:minute>{0,1}</osd:minute> <osd:hour>{0,1}</osd:hour> <osd:dayOfMonth>{0,1}</osd:dayOfMonth> <osd:month>{0,1}</osd:month> <osd:dayOfWeek>{0,1}</osd:dayOfWeek> </osd:QuerySchedule>
Source	<xs:element name="QuerySchedule"> <xs:complexType> <xs:sequence> <xs:element name="second" type="xs:string" minOccurs="0"/> <xs:element name="minute" type="xs:string" minOccurs="0"/> <xs:element name="hour" type="xs:string" minOccurs="0"/> <xs:element name="dayOfMonth" type="xs:string" minOccurs="0"/> <xs:element name="month" type="xs:string" minOccurs="0"/> <xs:element name="dayOfWeek" type="xs:string" minOccurs="0"/> </xs:sequence> </xs:complexType> </xs:element>

Element osd:QuerySchedule / osd:second

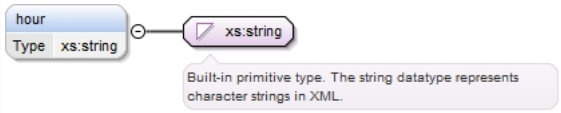
Namespace	urn:openiot:osdspec:xsd:1
Diagram	
Type	xs:string
Properties	content: simple minOccurs: 0
Source	<xs:element name="second" type="xs:string" minOccurs="0"/>

Element osd:QuerySchedule / osd:minute

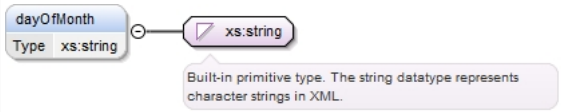
Namespace	urn:openiot:osdspec:xsd:1
Diagram	

Type	xs:string
Properties	content: simple minOccurs: 0
Source	`<xs:element name="minute" type="xs:string" minOccurs="0"/>`

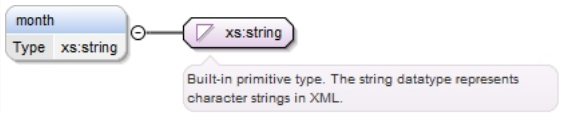
Element osd:QuerySchedule / osd:hour

Namespace	urn:openiot:osdspec:xsd:1
Diagram	
Type	xs:string
Properties	content: simple minOccurs: 0
Source	`<xs:element name="hour" type="xs:string" minOccurs="0"/>`

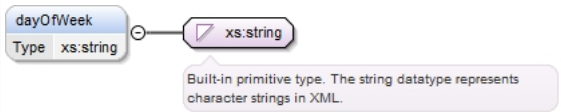
Element osd:QuerySchedule / osd:dayOfMonth

Namespace	urn:openiot:osdspec:xsd:1
Diagram	
Type	xs:string
Properties	content: simple minOccurs: 0
Source	`<xs:element name="dayOfMonth" type="xs:string" minOccurs="0"/>`

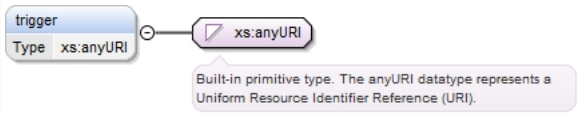
Element osd:QuerySchedule / osd:month

Namespace	urn:openiot:osdspec:xsd:1
Diagram	
Type	xs:string
Properties	content: simple minOccurs: 0
Source	`<xs:element name="month" type="xs:string" minOccurs="0"/>`

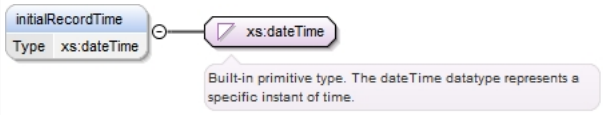
Element osd:QuerySchedule / osd:dayOfWeek

Namespace	urn:openiot:osdspec:xsd:1
Diagram	
Type	xs:string
Properties	content: simple minOccurs: 0
Source	`<xs:element name="dayOfWeek" type="xs:string" minOccurs="0"/>`

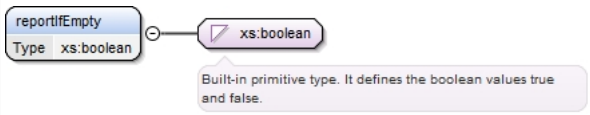
Element osd:queryControls / osd:trigger

Namespace	urn:openiot:osdspec:xsd:1
Diagram	
Type	xs:anyURI
Properties	content: simple minOccurs: 0
Source	`<xs:element name="trigger" type="xs:anyURI" minOccurs="0"/>`

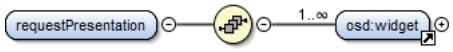
Element osd:queryControls / osd:initialRecordTime

Namespace	urn:openiot:osdspec:xsd:1
Diagram	
Type	xs:dateTime
Properties	content: simple minOccurs: 0
Source	`<xs:element name="initialRecordTime" type="xs:dateTime" minOccurs="0"/>`

Element osd:queryControls / osd:reportIfEmpty

Namespace	urn:openiot:osdspec:xsd:1
Diagram	
Type	xs:boolean
Properties	content: simple
Source	`<xs:element name="reportIfEmpty" type="xs:boolean"/>`

Element osd:requestPresentation

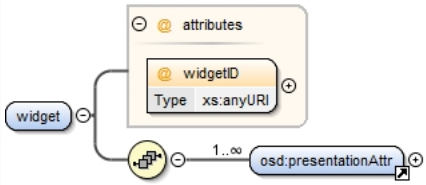
Namespace	urn:openiot:osdspec:xsd:1
Diagram	
Properties	content: complex
Used by	Element osd:OSMO
Model	osd:widget+
Children	osd:widget

Instance	`<osd:requestPresentation xmlns:osd="urn:openiot:osdspec:xsd:1">`
	`  <osd:widget widgetID="">{1,unbounded}</osd:widget>`
	`</osd:requestPresentation>`

Source	`<xs:element name="requestPresentation">`
	`  <xs:complexType>`
	`  <xs:sequence>`
	`  <xs:element maxOccurs="unbounded" ref="osd:widget"/>`
	`  </xs:sequence>`
	`  </xs:complexType>`
	`</xs:element>`

Element osd:widget

Namespace	urn:openiot:osdspec:xsd:1

Diagram	
Properties	content: complex
Used by	Element osd:requestPresentation
Model	osd:presentationAttr+
Children	osd:presentationAttr

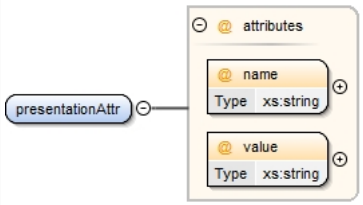
Instance	`<osd:widget widgetID="" xmlns:osd="urn:openiot:osdspec:xsd:1">`
	`  <osd:presentationAttr name="" value="">{1,unbounded}</osd:presentationAttr>`
	`</osd:widget>`

Attributes	QName	Type	Fixed	Default	Use
	widgetID	xs:anyURI			required

Source

```
<xs:element name="widget">
  <xs:complexType>
    <xs:sequence>
      <xs:element maxOccurs="unbounded" ref="osd:presentationAttr"/>
    </xs:sequence>
    <xs:attribute name="widgetID" use="required" type="xs:anyURI"/>
  </xs:complexType>
</xs:element>
```

Element osd:presentationAttr

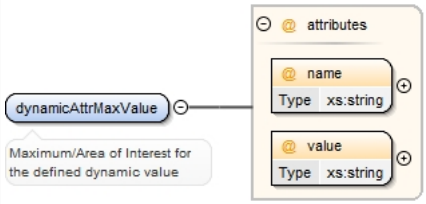
Namespace	urn:openiot:osdspec:xsd:1
Diagram	
Properties	content: complex
Used by	Element osd:widget

Attributes	QName	Type	Fixed	Default	Use
	name	xs:string			required
	value	xs:string			required

Source

```
<xs:element name="presentationAttr">
  <xs:complexType>
    <xs:attribute name="name" use="required" type="xs:string"/>
    <xs:attribute name="value" use="required" type="xs:string"/>
  </xs:complexType>
</xs:element>
```

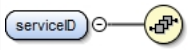
Element osd:dynamicAttrMaxValue

Namespace	urn:openiot:osdspec:xsd:1
Annotations	Maximum/Area of Interest for the defined dynamic value
Diagram	
Properties	content: complex

Used by	Element osd:OSMO
Attributes	**QName** / **Type** / **Fixed** / **Default** / **Use** **name** / xs:string / / / required **value** / xs:string / / / required

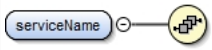
Source	`<xs:element name="dynamicAttrMaxValue">`
	`  <xs:annotation>`
	`  <xs:documentation>Maximum/Area of Interest for the defined dynamic value</xs:documentation>`
	`  </xs:annotation>`
	`  <xs:complexType>`
	`  <xs:attribute name="name" use="required" type="xs:string"/>`
	`  <xs:attribute name="value" use="required" type="xs:string"/>`
	`  </xs:complexType>`
	`</xs:element>`

Element osd:serviceID

Namespace	urn:openiot:osdspec:xsd:1
Diagram	
Properties	content: complex
Model	

Source	`<xs:element name="serviceID">`
	`  <xs:complexType>`
	`  <xs:sequence>`
	`  </xs:sequence>`
	`  </xs:complexType>`
	`</xs:element>`

Element osd:serviceName

Namespace	urn:openiot:osdspec:xsd:1
Diagram	
Properties	content: complex
Model	

Source	`<xs:element name="serviceName">`
	`  <xs:complexType>`
	`  <xs:sequence>`
	`  </xs:sequence>`
	`  </xs:complexType>`
	`</xs:element>`

Element osd:serviceDescription

Namespace	urn:openiot:osdspec:xsd:1
Diagram	
Properties	content: complex
Model	

Source	`<xs:element name="serviceDescription">`
	`  <xs:complexType>`
	`  <xs:sequence>`
	`  </xs:sequence>`
	`  </xs:complexType>`
	`</xs:element>`

Namespace: "http://www.w3.org/2007/SPARQL/protocol-types#"

Schema(s)

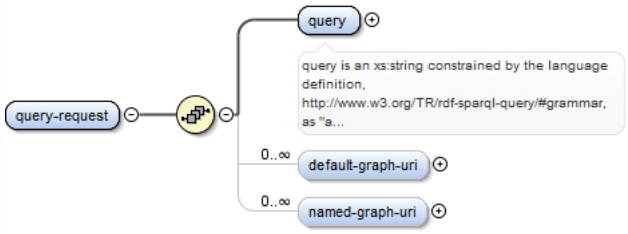
Imported schema protocol-types.xsd

Namespace	http://www.w3.org/2007/SPARQL/protocol-types#

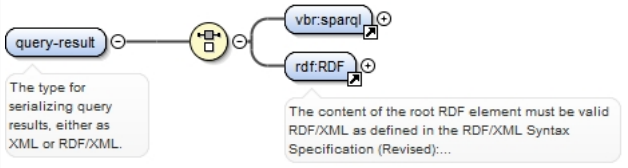
Properties		
	attribute form default:	unqualified
	element form default:	unqualified
	version:	$Id: protocol-types.xsd,v 1.2 2007/10/17 17:17:35 eric Exp $

Element(s)

Element st:query-request

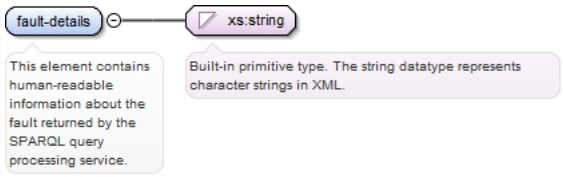
Namespace	http://www.w3.org/2007/SPARQL/protocol-types#
Diagram	
Properties	content: complex
Used by	Element osd:OSMO
Model	query , default-graph-uri* , named-graph-uri*
Children	default-graph-uri, named-graph-uri, query
Instance	<st:query-request xmlns:st="http://www.w3.org/2007/SPARQL/protocol-types#"> <query>{1,1}</query> <default-graph-uri>{0,unbounded}</default-graph-uri> <named-graph-uri>{0,unbounded}</named-graph-uri> </st:query-request>
Source	<xs:element name="query-request"> <xs:complexType> <xs:sequence> <xs:element minOccurs="1" maxOccurs="1" name="query" type="xs:string"> <xs:annotation> <xs:documentation>query is an xs:string constrained by the language definition, http://www.w3.org/TR/rdf-sparql-query/#grammar, as "a sequence of characters in the language defined by the [SPARQL] grammar, starting with the Query production"</xs:documentation> </xs:annotation> </xs:element> <xs:element minOccurs="0" maxOccurs="unbounded" name="default-graph-uri" type="xs:anyURI"/> <xs:element minOccurs="0" maxOccurs="unbounded" name="named-graph-uri" type="xs:anyURI"/> </xs:sequence> </xs:complexType> </xs:element>

Element st:query-result

Namespace	http://www.w3.org/2007/SPARQL/protocol-types#
Annotations	The type for serializing query results, either as XML or RDF/XML.
Diagram	
Properties	content: complex
Model	res:sparql | rdf:RDF
Children	rdf:RDF, res:sparql
Instance	<st:query-result xmlns:st="http://www.w3.org/2007/SPARQL/protocol-types#" xmlns:vbr="http://www.w3.org/2007/SPARQL/results#" xmlns:rdf="http://www.w3.org/1999/02/22-rdf-syntax-ns#"> <vbr:sparql>{1,1}</vbr:sparql> <rdf:RDF>{1,1}</rdf:RDF> </st:query-result>
Source	<xs:element name="query-result"> <xs:annotation> <xs:documentation>The type for serializing query results, either as XML or RDF/XML.</xs:documentation>

```
  </xs:annotation>
  <xs:complexType>
    <xs:choice>
      <xs:element maxOccurs="1" ref="vbr:sparql"/>
      <xs:element maxOccurs="1" ref="rdf:RDF"/>
    </xs:choice>
  </xs:complexType>
</xs:element>
```

Element st:fault-details

Namespace	http://www.w3.org/2007/SPARQL/protocol-types#
Annotations	This element contains human-readable information about the fault returned by the SPARQL query processing service.
Diagram	
Type	xs:string
Properties	content: simple
Used by	Elements st:malformed-query, st:query-request-refused

Source	`<xs:element type="xs:string" name="fault-details">`
	`  <xs:annotation>`
	`  <xs:documentation>This element contains human-readable information about the fault returned by the SPARQL query processing service.</xs:documentation>`
	`  </xs:annotation>`
	`</xs:element>`

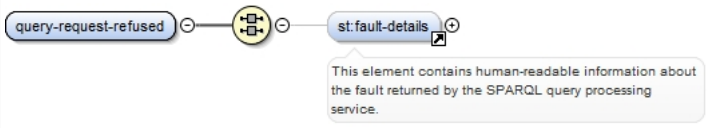
Element st:malformed-query

Namespace	http://www.w3.org/2007/SPARQL/protocol-types#
Diagram	
Properties	content: complex
Model	ALL(st:fault-details{0,1})
Children	st:fault-details

Instance	`<st:malformed-query xmlns:st="http://www.w3.org/2007/SPARQL/protocol-types#">`
	`  <st:fault-details>{0,1}</st:fault-details>`
	`</st:malformed-query>`

Source	`<xs:element name="malformed-query">`
	`  <xs:complexType>`
	`  <xs:all>`
	`  <xs:element minOccurs="0" maxOccurs="1" ref="st:fault-details"/>`
	`  </xs:all>`
	`  </xs:complexType>`
	`</xs:element>`

Element st:query-request-refused

Namespace	http://www.w3.org/2007/SPARQL/protocol-types#
Diagram	
Properties	content: complex
Model	ALL(st:fault-details{0,1})
Children	st:fault-details

Instance	<st:query-request-refused xmlns:st="http://www.w3.org/2007/SPARQL/protocol-types#"> <st:fault-details>{0,1}</st:fault-details> </st:query-request-refused>
Source	<xs:element name="query-request-refused"> <xs:complexType> <xs:all> <xs:element minOccurs="0" maxOccurs="1" ref="st:fault-details"/> </xs:all> </xs:complexType> </xs:element>

Namespace: "http://www.w3.org/2007/SPARQL/results#"

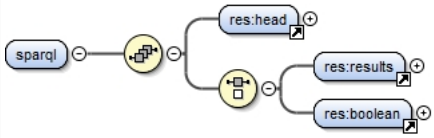
Schema(s)

Imported schema `result.xsd`

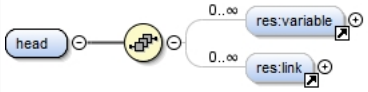
Namespace	http://www.w3.org/2007/SPARQL/results#	
Properties	attribute form default:	unqualified
	element form default:	qualified

Element(s)

Element `res:sparql`

Namespace	http://www.w3.org/2007/SPARQL/results#
Diagram	
Properties	content: complex
Used by	Element st:query-result
Model	res:head , (res:results | res:boolean)
Children	res:boolean, res:head, res:results
Instance	<res:sparql xmlns:res="http://www.w3.org/2007/SPARQL/results#"> <res:head>{1,1}</res:head> <res:results>{1,1}</res:results> <res:boolean>{1,1}</res:boolean> </res:sparql>
Source	<xs:element name="sparql"> <xs:complexType> <xs:sequence> <xs:element ref="res:head"/> <xs:choice> <xs:element ref="res:results"/> <xs:element ref="res:boolean"/> </xs:choice> </xs:sequence> </xs:complexType> </xs:element>

Element `res:head`

Namespace	http://www.w3.org/2007/SPARQL/results#
Diagram	
Properties	content: complex
Used by	Element res:sparql
Model	res:variable* , res:link*
Children	res:link, res:variable

Instance	<res:head xmlns:res="http://www.w3.org/2007/SPARQL/results#"> <res:variable name="">{0,unbounded}</res:variable> <res:link href="">{0,unbounded}</res:link> </res:head>
Source	<xs:element name="head"> <xs:complexType> <xs:sequence> <xs:element minOccurs="0" maxOccurs="unbounded" ref="res:variable"/> <xs:element minOccurs="0" maxOccurs="unbounded" ref="res:link"/> </xs:sequence> </xs:complexType> </xs:element>

Element `res:variable`

Namespace	http://www.w3.org/2007/SPARQL/results#				
Diagram					
Properties	content:	complex			
Used by	Element	res:head			
Attributes	**QName**	**Type**	**Fixed**	**Default**	**Use**
	name	xs:NMTOKEN			required
Source	<xs:element name="variable"> <xs:complexType> <xs:attributeGroup ref="res:nameAttr"/> </xs:complexType> </xs:element>				

Element `res:link`

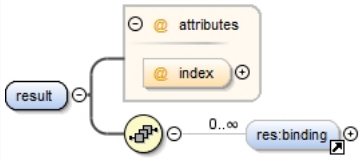
Namespace	http://www.w3.org/2007/SPARQL/results#				
Diagram					
Properties	content:	complex			
Used by	Element	res:head			
Attributes	**QName**	**Type**	**Fixed**	**Default**	**Use**
	href	res:URI-reference			required
Source	<xs:element name="link"> <xs:complexType> <xs:attributeGroup ref="res:hrefAttr"/> </xs:complexType> </xs:element>				

Element `res:results`

Namespace	http://www.w3.org/2007/SPARQL/results#
Diagram	
Properties	content: complex
Used by	Element res:sparql
Model	res:result*
Children	res:result
Instance	<res:results xmlns:res="http://www.w3.org/2007/SPARQL/results#"> <res:result index="">{0,unbounded}</res:result> </res:results>
Source	<xs:element name="results">

```
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="unbounded" ref="res:result"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

Element `res:result`

Namespace	http://www.w3.org/2007/SPARQL/results#
Diagram	
Properties	content: complex
Used by	Element res:results
Model	res:binding*
Children	res:binding

Instance	`<res:result index="" xmlns:res="http://www.w3.org/2007/SPARQL/results#">`
	`  <res:binding name="">{0,unbounded}</res:binding>`
	`</res:result>`

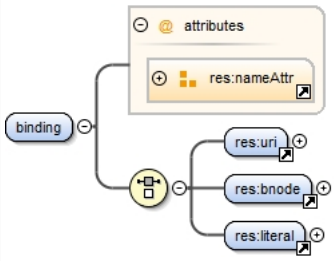
Attributes

QName	Type	Fixed	Default	Use
index	xs:positiveInteger			optional

Source

```
<xs:element name="result">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="unbounded" ref="res:binding"/>
    </xs:sequence>
    <xs:attribute name="index" type="xs:positiveInteger"/>
  </xs:complexType>
</xs:element>
```

Element `res:binding`

Namespace	http://www.w3.org/2007/SPARQL/results#
Diagram	
Properties	content: complex
Used by	Element res:result
Model	res:uri | res:bnode | res:literal
Children	res:bnode, res:literal, res:uri

Instance	`<res:binding name="" xmlns:res="http://www.w3.org/2007/SPARQL/results#">`
	`  <res:uri>{1,1}</res:uri>`
	`  <res:bnode>{1,1}</res:bnode>`
	`  <res:literal datatype="" xml:lang="">{1,1}</res:literal>`
	`</res:binding>`

Attributes

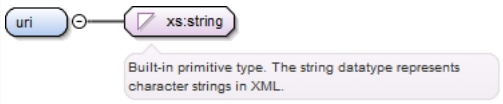
QName	Type	Fixed	Default	Use
name	xs:NMTOKEN			required

Source

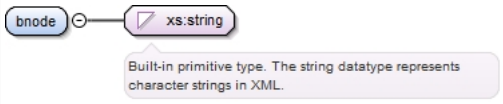
```
<xs:element name="binding">
  <xs:complexType>
    <xs:choice>
      <xs:element ref="res:uri"/>
      <xs:element ref="res:bnode"/>
```

```
      <xs:element ref="res:literal"/>
    </xs:choice>
    <xs:attributeGroup ref="res:nameAttr"/>
  </xs:complexType>
</xs:element>
```

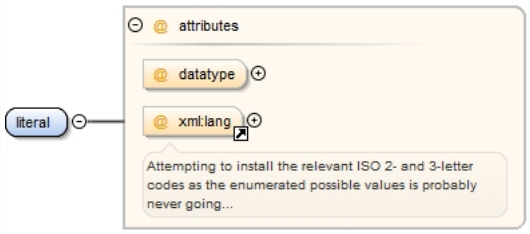
Element `res:uri`

Namespace	http://www.w3.org/2007/SPARQL/results#
Diagram	
Type	xs:string
Properties	content: simple
Used by	Element res:binding
Source	`<xs:element name="uri" type="xs:string"/>`

Element `res:bnode`

Namespace	http://www.w3.org/2007/SPARQL/results#
Diagram	
Type	xs:string
Properties	content: simple
Used by	Element res:binding
Source	`<xs:element name="bnode" type="xs:string"/>`

Element `res:literal`

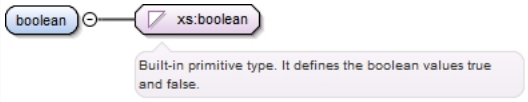
Namespace	http://www.w3.org/2007/SPARQL/results#
Diagram	
Properties	content: complex mixed: true
Used by	Element res:binding
Model	

Attributes

QName	Type	Fixed	Default	Use
datatype	res:URI-reference			optional
xml:lang	union of(xs:language, restriction of xs:string)			optional
	Attempting to install the relevant ISO 2- and 3-letter codes as the enumerated possible values is probably never going to be a realistic possibility. See RFC 3066 at http://www.ietf.org/rfc/rfc3066.txt and the IANA registry at http://www.iana.org/assignments/lang-tag-apps.htm for further information. The union allows for the 'un-declaration' of xml:lang with the empty string.			

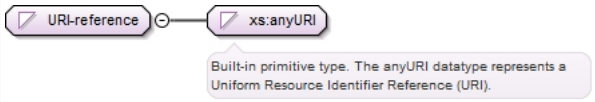
Source	<xs:element name="literal"> <xs:complexType mixed="true"> <xs:attribute name="datatype" type="res:URI-reference"/> <xs:attribute ref="xml:lang"/> </xs:complexType> </xs:element>

Element `res:boolean`

Namespace	http://www.w3.org/2007/SPARQL/results#
Diagram	
Type	xs:boolean
Properties	content: simple
Used by	Element res:sparql
Source	<xs:element name="boolean" type="xs:boolean"/>

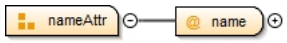
Simple Type(s)

Simple Type `res:URI-reference`

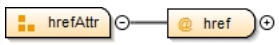
Namespace	http://www.w3.org/2007/SPARQL/results#
Diagram	
Type	xs:anyURI
Used by	Attributes res:datatypeAttr/@datatype, res:hrefAttr/@href, res:literal/@datatype
Source	<xs:simpleType name="URI-reference"> <xs:restriction base="xs:anyURI"/> </xs:simpleType>

Attribute Group(s)

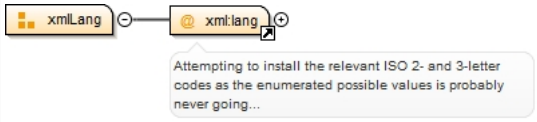
Attribute Group `res:nameAttr`

Namespace	http://www.w3.org/2007/SPARQL/results#
Diagram	
Used by	Elements res:binding, res:variable
Attributes	**QName** / **Type** / **Fixed** / **Default** / **Use** **name** / xs:NMTOKEN / / / required
Source	<xs:attributeGroup name="nameAttr"> <xs:attribute name="name" use="required" type="xs:NMTOKEN"/> </xs:attributeGroup>

Attribute Group `res:hrefAttr`

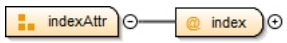
Namespace	http://www.w3.org/2007/SPARQL/results#
Diagram	
Used by	Element res:link
Attributes	**QName** / **Type** / **Fixed** / **Default** / **Use** **href** / res:URI-reference / / / required
Source	<xs:attributeGroup name="hrefAttr"> <xs:attribute name="href" use="required" type="res:URI-reference"/> </xs:attributeGroup>

Attribute Group `res:xmlLang`

Namespace	http://www.w3.org/2007/SPARQL/results#
Diagram	
Attributes	**QName** / **Type** / **Fixed** / **Default** / **Use** **xml:lang** / union of(xs:language, restriction of xs:string) / / / required `Attempting to install the relevant ISO 2- and 3-letter codes as the enumerated possible values is probably never going to be a realistic possibility. See RFC 3066 at http://www.ietf.org/rfc/rfc3066.txt and the IANA registry at http://www.iana.org/assignments/lang-tag-apps.htm for further information.` `The union allows for the 'un-declaration' of xml:lang with the empty string.`

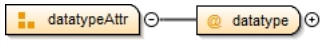
Source	`<xs:attributeGroup name="xmlLang">`
	`  <xs:attribute ref="xml:lang" use="required"/>`
	`</xs:attributeGroup>`

Attribute Group `res:indexAttr`

Namespace	http://www.w3.org/2007/SPARQL/results#
Diagram	
Attributes	**QName** / **Type** / **Fixed** / **Default** / **Use** **index** / xs:positiveInteger / / / required

Source	`<xs:attributeGroup name="indexAttr">`
	`  <xs:attribute name="index" use="required" type="xs:positiveInteger"/>`
	`</xs:attributeGroup>`

Attribute Group `res:datatypeAttr`

Namespace	http://www.w3.org/2007/SPARQL/results#
Diagram	
Attributes	**QName** / **Type** / **Fixed** / **Default** / **Use** **datatype** / res:URI-reference / / / required

Source	`<xs:attributeGroup name="datatypeAttr">`
	`  <xs:attribute name="datatype" use="required" type="res:URI-reference"/>`
	`</xs:attributeGroup>`

Namespace: "http://www.w3.org/XML/1998/namespace"

Schema(s)

Imported schema `xml.xsd`

Namespace	http://www.w3.org/XML/1998/namespace

Annotations	`See http://www.w3.org/XML/1998/namespace.html and`
	`  http://www.w3.org/TR/REC-xml for information about this namespace.`
	`This schema document describes the XML namespace, in a form suitable for import by other schema documents.`
	`Note that local names in this namespace are intended to be defined only by the World Wide Web Consortium or its subgroups. The following names are currently defined in this namespace and should not be used with conflicting semantics by any Working Group, specification, or document instance:`

	base (as an attribute name): denotes an attribute whose value provides a URI to be used as the base for interpreting any relative URIs in the scope of the element on which it appears; its value is inherited. This name is reserved by virtue of its definition in the XML Base specification. id (as an attribute name): denotes an attribute whose value should be interpreted as if declared to be of type ID. This name is reserved by virtue of its definition in the xml:id specification. lang (as an attribute name): denotes an attribute whose value is a language code for the natural language of the content of any element; its value is inherited. This name is reserved by virtue of its definition in the XML specification. space (as an attribute name): denotes an attribute whose value is a keyword indicating what whitespace processing discipline is intended for the content of the element; its value is inherited. This name is reserved by virtue of its definition in the XML specification. Father (in any context at all): denotes Jon Bosak, the chair of the original XML Working Group. This name is reserved by the following decision of the W3C XML Plenary and XML Coordination groups: In appreciation for his vision, leadership and dedication the W3C XML Plenary on this 10th day of February, 2000 reserves for Jon Bosak in perpetuity the XML name xml:Father This schema defines attributes and an attribute group suitable for use by schemas wishing to allow xml:base, xml:lang, xml:space or xml:id attributes on elements they define. To enable this, such a schema must import this schema for the XML namespace, e.g. as follows: <schema . . .> . . . <import namespace="http://www.w3.org/XML/1998/namespace" schemaLocation="http://www.w3.org/2001/xml.xsd"/> Subsequently, qualified reference to any of the attributes or the group defined below will have the desired effect, e.g. <type . . .> . . . <attributeGroup ref="xml:specialAttrs"/> will define a type which will schema-validate an instance element with any of those attributes In keeping with the XML Schema WG's standard versioning policy, this schema document will persist at http://www.w3.org/2007/08/xml.xsd. At the date of issue it can also be found at http://www.w3.org/2001/xml.xsd. The schema document at that URI may however change in the future, in order to remain compatible with the latest version of XML Schema itself, or with the XML namespace itself. In other words, if the XML Schema or XML namespaces change, the version of this document at http://www.w3.org/2001/xml.xsd will change accordingly; the version at http://www.w3.org/2007/08/xml.xsd will not change.
Properties	attribute form default: unqualified element form default: unqualified

Attribute(s)

Attribute @xml:lang

Namespace	http://www.w3.org/XML/1998/namespace
Annotations	Attempting to install the relevant ISO 2- and 3-letter codes as the enumerated possible values is probably never going to be a realistic possibility. See RFC 3066 at http://www.ietf.org/rfc/rfc3066.txt and the IANA registry

	at http://www.iana.org/assignments/lang-tag-apps.htm for further information. The union allows for the 'un-declaration' of xml:lang with the empty string.
Type	union of(xs:language, restriction of xs:string)
Properties	content: simple
Used by	Element res:literal Attribute Groups res:xmlLang, xml:specialAttrs
Source	<xs:attribute name="lang"> <xs:annotation> <xs:documentation>Attempting to install the relevant ISO 2- and 3-letter codes as the enumerated possible values is probably never going to be a realistic possibility. See RFC 3066 at http://www.ietf.org/rfc/rfc3066.txt and the IANA registry at http://www.iana.org/assignments/lang-tag-apps.htm for further information. The union allows for the 'un-declaration' of xml:lang with the empty string.</xs:documentation> </xs:annotation> <xs:simpleType> <xs:union memberTypes="xs:language"> <xs:simpleType> <xs:restriction base="xs:string"> <xs:enumeration value=""/> </xs:restriction> </xs:simpleType> </xs:union> </xs:simpleType> </xs:attribute>

Attribute @xml:space

Namespace	http://www.w3.org/XML/1998/namespace
Type	restriction of xs:NCName
Properties	content: simple
Facets	enumeration default enumeration preserve
Used by	Attribute Group xml:specialAttrs
Source	<xs:attribute name="space"> <xs:simpleType> <xs:restriction base="xs:NCName"> <xs:enumeration value="default"/> <xs:enumeration value="preserve"/> </xs:restriction> </xs:simpleType> </xs:attribute>

Attribute @xml:base

Namespace	http://www.w3.org/XML/1998/namespace
Annotations	See http://www.w3.org/TR/xmlbase/ for information about this attribute.
Type	xs:anyURI
Properties	content: simple
Used by	Attribute Group xml:specialAttrs
Source	<xs:attribute name="base" type="xs:anyURI"> <xs:annotation> <xs:documentation>See http://www.w3.org/TR/xmlbase/ for information about this attribute.</xs:documentation> </xs:annotation> </xs:attribute>

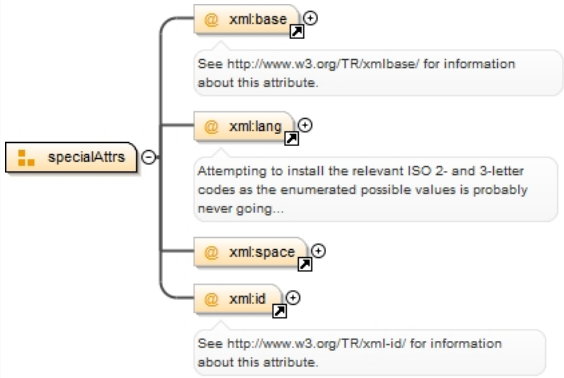
Attribute @xml:id

Namespace	http://www.w3.org/XML/1998/namespace
Annotations	See http://www.w3.org/TR/xml-id/ for information about this attribute.

Type	xs:ID
Properties	content: simple
Used by	Attribute Group xml:specialAttrs
Source	<xs:attribute name="id" type="xs:ID"> <xs:annotation> <xs:documentation>See http://www.w3.org/TR/xml-id/ for information about this attribute.</xs:documentation> </xs:annotation> </xs:attribute>

Attribute Group(s)

Attribute Group `xml:specialAttrs`

Namespace	http://www.w3.org/XML/1998/namespace
Diagram	

Attributes

QName	Type	Fixed	Default	Use
xml:base	xs:anyURI			optional
	See http://www.w3.org/TR/xmlbase/ for information about this attribute.			
xml:id	xs:ID			optional
	See http://www.w3.org/TR/xml-id/ for information about this attribute.			
xml:lang	union of(xs:language, restriction of xs:string)			optional
	Attempting to install the relevant ISO 2- and 3-letter codes as the enumerated possible values is probably never going to be a realistic possibility. See RFC 3066 at http://www.ietf.org/rfc/rfc3066.txt and the IANA registry at http://www.iana.org/assignments/lang-tag-apps.htm for further information. The union allows for the 'un-declaration' of xml:lang with the empty string.			
xml:space	restriction of xs:NCName			optional

Source

```
<xs:attributeGroup name="specialAttrs">
  <xs:attribute ref="xml:base"/>
  <xs:attribute ref="xml:lang"/>
  <xs:attribute ref="xml:space"/>
  <xs:attribute ref="xml:id"/>
</xs:attributeGroup>
```

Namespace: "http://www.w3.org/1999/02/22-rdf-syntax-ns#"

Schema(s)

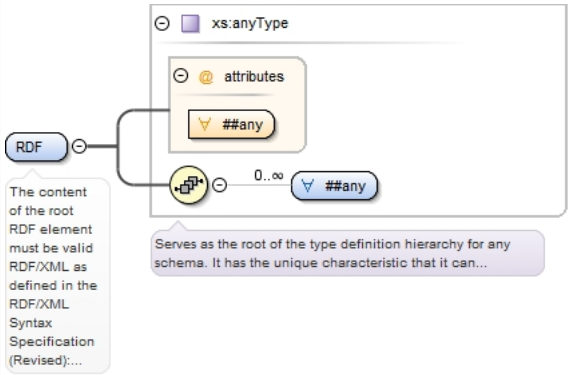
Imported schema `rdf.xsd`

Namespace	http://www.w3.org/1999/02/22-rdf-syntax-ns#
Properties	attribute form default: unqualified

	element form default:	unqualified
	version:	$Id: rdf.xsd,v 1.1 2007/10/17 14:48:47 eric Exp $

Element(s)

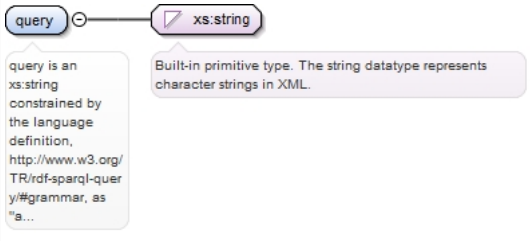
Element rdf:RDF

Namespace	http://www.w3.org/1999/02/22-rdf-syntax-ns#
Annotations	The content of the root RDF element must be valid RDF/XML as defined in the RDF/XML Syntax Specification (Revised): http://www.w3.org/TR/rdf-syntax-grammar/
Diagram	
Used by	Element st:query-result
Source	<xs:element name="RDF" type="xs:anyType"> <xs:annotation> <xs:documentation xml:lang="en">The content of the root RDF element must be valid RDF/XML as defined in the RDF/XML Syntax Specification (Revised): http://www.w3.org/TR/rdf-syntax-grammar/</xs:documentation> </xs:annotation> </xs:element>

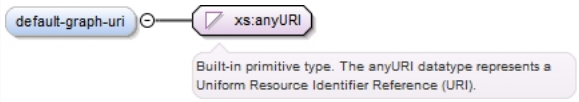
Namespace: ""

Element(s)

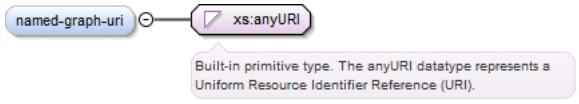
Element st:query-request / query

Namespace	No namespace
Annotations	query is an xs:string constrained by the language definition, http://www.w3.org/TR/rdf-sparql-query/#grammar, as "a sequence of characters in the language defined by the [SPARQL] grammar, starting with the Query production"
Diagram	
Type	xs:string
Properties	content: simple minOccurs: 1 maxOccurs: 1
Source	<xs:element minOccurs="1" maxOccurs="1" name="query" type="xs:string"> <xs:annotation> <xs:documentation>query is an xs:string constrained by the language definition, http://www.w3.org/TR/rdf-sparql-query/#grammar, as "a sequence of characters in the language defined by the [SPARQL] grammar, starting with the Query production"</xs:documentation> </xs:annotation> </xs:element>

Element st:query-request / default-graph-uri

Namespace	No namespace
Diagram	
Type	xs:anyURI
Properties	content: simple minOccurs: 0 maxOccurs: unbounded
Source	`<xs:element minOccurs="0" maxOccurs="unbounded" name="default-graph-uri" type="xs:anyURI"/>`

Element st:query-request / named-graph-uri

Namespace	No namespace
Diagram	
Type	xs:anyURI
Properties	content: simple minOccurs: 0 maxOccurs: unbounded
Source	`<xs:element minOccurs="0" maxOccurs="unbounded" name="named-graph-uri" type="xs:anyURI"/>`

Attribute(s)

Attribute osd:presentationAttr / @name

Namespace	No namespace
Type	xs:string
Properties	use: required
Used by	Element osd:presentationAttr
Source	`<xs:attribute name="name" use="required" type="xs:string"/>`

Attribute osd:presentationAttr / @value

Namespace	No namespace
Type	xs:string
Properties	use: required
Used by	Element osd:presentationAttr
Source	`<xs:attribute name="value" use="required" type="xs:string"/>`

Attribute osd:widget / @widgetID

Namespace	No namespace
Type	xs:anyURI
Properties	use: required
Used by	Element osd:widget
Source	`<xs:attribute name="widgetID" use="required" type="xs:anyURI"/>`

Attribute osd:dynamicAttrMaxValue / @name

Namespace	No namespace

Type	xs:string
Properties	use: required
Used by	Element osd:dynamicAttrMaxValue
Source	`<xs:attribute name="name" use="required" type="xs:string"/>`

Attribute osd:dynamicAttrMaxValue / @value

Namespace	No namespace
Type	xs:string
Properties	use: required
Used by	Element osd:dynamicAttrMaxValue
Source	`<xs:attribute name="value" use="required" type="xs:string"/>`

Attribute osd:OSMO / @id

Namespace	No namespace
Type	xs:anyURI
Properties	use: optional
Used by	Element osd:OSMO
Source	`<xs:attribute name="id" use="optional" type="xs:anyURI"/>`

Attribute osd:OSMO / @name

Namespace	No namespace
Type	xs:NCName
Properties	use: required
Used by	Element osd:OSMO
Source	`<xs:attribute name="name" type="xs:NCName" use="required"/>`

Attribute osd:OAMO / @id

Namespace	No namespace
Type	xs:anyURI
Properties	use: optional
Used by	Element osd:OAMO
Source	`<xs:attribute name="id" use="optional" type="xs:anyURI"/>`

Attribute osd:OAMO / @name

Namespace	No namespace
Type	xs:NCName
Properties	use: required
Used by	Element osd:OAMO
Source	`<xs:attribute name="name" type="xs:NCName" use="required"/>`

Attribute osd:OSDSpec / @userID

Namespace	No namespace
Type	xs:anyURI
Properties	use: required
Used by	Element osd:OSDSpec

Source	`<xs:attribute name="userID" use="required" type="xs:anyURI"/>`

Attribute `res:nameAttr / @name`

Namespace	No namespace
Type	xs:NMTOKEN
Properties	use: `required`
Used by	Attribute Group res:nameAttr
Source	`<xs:attribute name="name" use="required" type="xs:NMTOKEN"/>`

Attribute `res:hrefAttr / @href`

Namespace	No namespace
Type	res:URI-reference
Properties	use: `required`
Used by	Attribute Group res:hrefAttr
Source	`<xs:attribute name="href" use="required" type="res:URI-reference"/>`

Attribute `res:literal / @datatype`

Namespace	No namespace
Type	res:URI-reference
Properties	content: `simple`
Used by	Element res:literal
Source	`<xs:attribute name="datatype" type="res:URI-reference"/>`

Attribute `res:result / @index`

Namespace	No namespace
Type	xs:positiveInteger
Properties	content: `simple`
Used by	Element res:result
Source	`<xs:attribute name="index" type="xs:positiveInteger"/>`

Attribute `res:indexAttr / @index`

Namespace	No namespace
Type	xs:positiveInteger
Properties	use: `required`
Used by	Attribute Group res:indexAttr
Source	`<xs:attribute name="index" use="required" type="xs:positiveInteger"/>`

Attribute `res:datatypeAttr / @datatype`

Namespace	No namespace
Type	res:URI-reference
Properties	use: `required`
Used by	Attribute Group res:datatypeAttr
Source	`<xs:attribute name="datatype" use="required" type="res:URI-reference"/>`