

Schema documentation for CDE_schema.xsd

june 3, 2020

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Schema(s)

Main schema CDE_schema.xsd

Element(s)

Element data_element_set

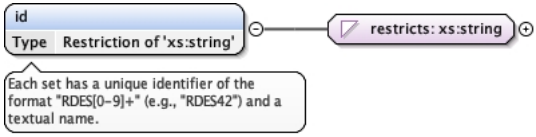
Diagram	
Model	id , name , description , version , references{0,1} , index_codes{0,1} , images{0,1} , modality* , biological_sex{0,1} , age_range{0,1} , authors{0,1} , event* , specialty+ , elements
Instance	<pre> <data_element_set> <id>{1,1}</id> <name>{1,1}</name> <description>{1,1}</description> <version>{1,1}</version> <references>{0,1}</references> <index_codes>{0,1}</index_codes> <images>{0,1}</images> <modality>{0,unbounded}</modality> </pre>

```

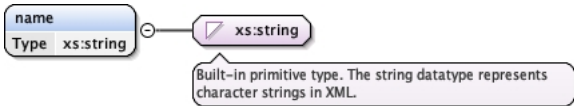
<biological_sex>{0,1}</biological_sex>
<age_range>{0,1}</age_range>
<authors>{0,1}</authors>
<event>{0,unbounded}</event>
<specialty>{1,unbounded}</specialty>
<elements>{1,1}</elements>
</data_element_set>

```

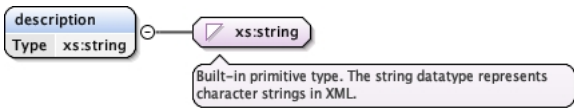
Element data_element_set / id

Annotations	Each set has a unique identifier of the format "RDES[0-9]+" (e.g., "RDES42") and a textual name.
Diagram	
Type	restriction of xs:string
Facets	pattern RDES\d+

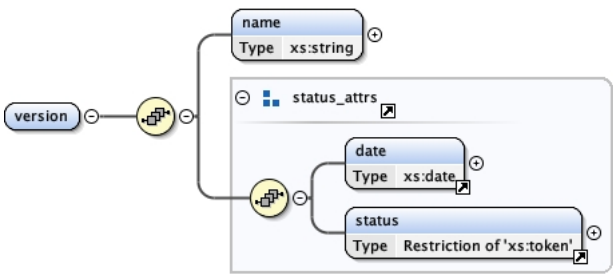
Element data_element_set / name

Diagram	
Type	xs:string

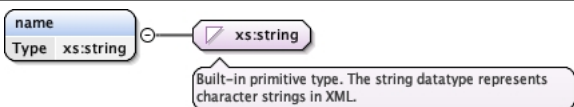
Element description

Diagram	
Type	xs:string
Used by	Element data_element_set

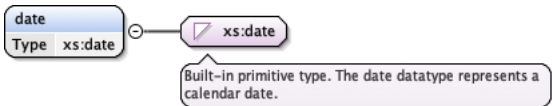
Element version

Diagram	
Used by	Elements data_element_set, element
Model	name , date , status
Instance	<pre> <version> <name>{1,1}</name> <date>{1,1}</date> <status>{1,1}</status> </version> </pre>

Element version / name

Diagram	
Type	xs:string


Element date

Diagram		
Type	xs:date	
Used by	Element Group	status_attrs

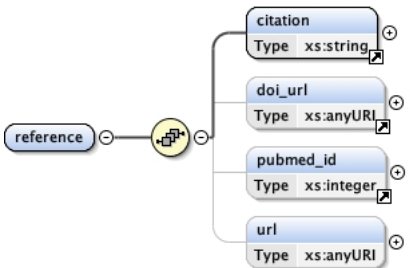
Element status

Diagram		
Type	restriction of xs:token	
Facets	enumeration	proposed
	enumeration	published
	enumeration	retired
Used by	Element Group	status_attrs

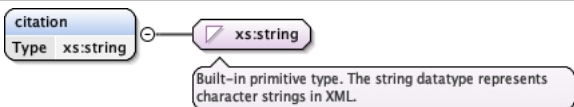
Element references

Diagram		
Used by	Elements	data_element_set, element, image, value_set/value
Model	reference+	
Instance	<pre><references> <reference>{1,unbounded}</reference> </references></pre>	

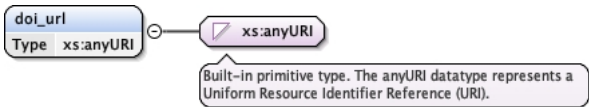
Element reference

Diagram		
Used by	Element	references
Model	citation , doi_url{0,1} , pubmed_id{0,1} , url{0,1}	
Instance	<pre><reference> <citation>{1,1}</citation> <doi_url>{0,1}</doi_url> <pubmed_id>{0,1}</pubmed_id> <url>{0,1}</url> </reference></pre>	

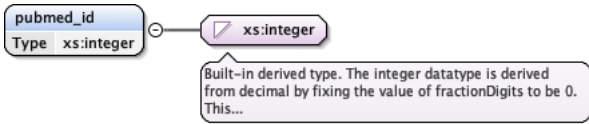
Element citation

Diagram		
Type	xs:string	
Used by	Element	reference

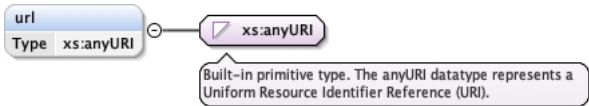
Element doi_url

Diagram		
Type	xs:anyURI	
Used by	Element	reference


Element pubmed_id

Diagram		
Type	xs:integer	
Used by	Element	reference

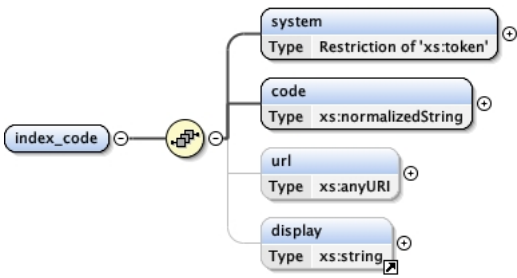
Element reference / url

Diagram		
Type	xs:anyURI	

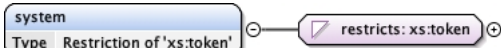
Element index_codes

Diagram		
Used by	Elements	data_element_set, element, value_set/value
Model	index_code+	
Instance	<pre><index_codes> <index_code>{1,unbounded}</index_code> </index_codes></pre>	

Element index_code

Diagram		
Used by	Element	index_codes
Model	system , code , url{0,1} , display{0,1}	
Instance	<pre><index_code> <system>{1,1}</system> <code>{1,1}</code> <url>{0,1}</url> <display>{0,1}</display> </index_code></pre>	

Element index_code / system

Diagram		
---------	---	--

Type	restriction of xs:token	
Facets	enumeration	RADLEX
	enumeration	SNOMEDCT
	enumeration	LOINC

Element `index_code` / `code`

Diagram	
Type	xs:normalizedString

Element `index_code` / `url`

Diagram	
Type	xs:anyURI

Element `display`

Diagram	
Type	xs:string
Used by	Element <code>index_code</code>

Element `images`

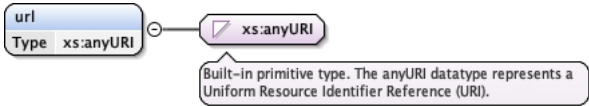
Diagram	
Used by	Elements <code>data_element_set</code> , <code>element</code> , <code>value_set/value</code>
Model	image+
Instance	<pre><images> <image>{1,unbounded}</image> </images></pre>

Element `image`

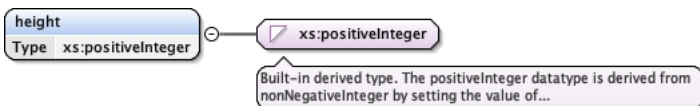
Diagram	
Used by	Element <code>images</code>
Model	url height width caption rights authors references

Instance	<pre> <image> <url>{1,1}</url> <height>{1,1}</height> <width>{1,1}</width> <caption>{1,1}</caption> <rights>{1,1}</rights> <authors>{1,1}</authors> <references>{1,1}</references> </image> </pre>
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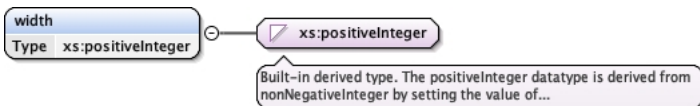
Element image / url

Diagram	
Type	xs:anyURI

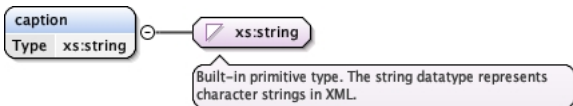
Element height

Diagram	
Type	xs:positiveInteger
Used by	Element image

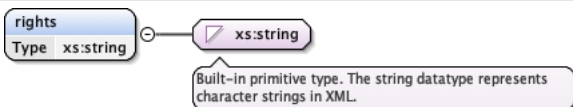
Element width

Diagram	
Type	xs:positiveInteger
Used by	Element image

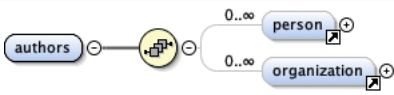
Element caption

Diagram	
Type	xs:string
Used by	Element image

Element rights

Diagram	
Type	xs:string
Used by	Element image

Element authors

Diagram	
Used by	Elements data_element_set, element, image

Model	person*, organization*
Instance	<pre> <authors> <person>{0,unbounded}</person> <organization>{0,unbounded}</organization> </authors> </pre>

Element person

Diagram	
Used by	Element authors
Model	name, (orcid_id twitter_handle url role)
Instance	<pre> <person> <name>{1,1}</name> <orcid_id>{1,1}</orcid_id> <twitter_handle>{1,1}</twitter_handle> <url>{1,1}</url> <role>{1,1}</role> </person> </pre>

Element person / name

Diagram	
Type	xs:string

Element orcid_id

Diagram	
Type	xs:string
Used by	Element person

Element twitter_handle


Diagram	
Type	xs:string
Used by	Element person

Element person / url

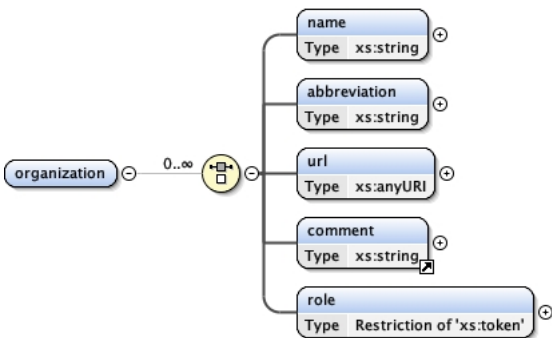
Diagram	
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Type	xs:string
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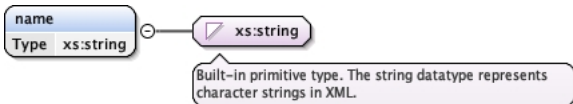
Element person / role

Diagram		
Type	restriction of xs:token	
Facets	enumeration	author
	enumeration	editor
	enumeration	translator
	enumeration	reviewer
	enumeration	contributor

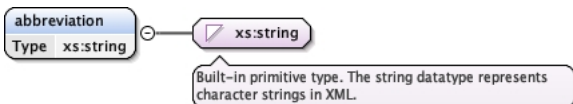
Element organization

Diagram		
Used by	Element	authors
Model	name abbreviation url comment role	
Instance	<pre> <organization> <name>{1,1}</name> <abbreviation>{1,1}</abbreviation> <url>{1,1}</url> <comment>{1,1}</comment> <role>{1,1}</role> </organization> </pre>	

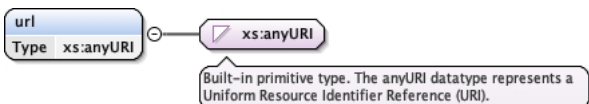
Element organization / name

Diagram		
Type	xs:string	

Element organization / abbreviation

Diagram		
Type	xs:string	

Element organization / url

Diagram		
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Type	xs:anyURI
------	-----------

Element comment

Diagram		
Type	xs:string	
Used by	Element	organization

Element organization / role

Diagram		
Type	restriction of xs:token	
Facets	enumeration	contributor
	enumeration	sponsor
	enumeration	translator
	enumeration	reviewer
	enumeration	author

Element modality

Diagram	<pre> graph TD modality[modality] --- system1[system] modality --- group1(()) modality --- group2(()) modality --- group3(()) modality --- group4(()) modality --- group5(()) modality --- group6(()) modality --- group7(()) system1 --- code1[code] system1 --- name1[name] system1 --- url1[url] group1 --- code2[code] group1 --- name2[name] group1 --- url2[url] group2 --- code3[code] group2 --- name3[name] group2 --- url3[url] group3 --- code4[code] group3 --- name4[name] group3 --- url4[url] group4 --- code5[code] group4 --- name5[name] group4 --- url5[url] group5 --- code6[code] group5 --- name6[name] group5 --- url6[url] group6 --- code7[code] group6 --- name7[name] group6 --- url7[url] group7 --- code8[code] group7 --- name8[name] group7 --- url8[url] style modality fill:#add8e6,stroke:#000,stroke-width:1px style system1 fill:#add8e6,stroke:#000,stroke-width:1px style code1 fill:#add8e6,stroke:#000,stroke-width:1px style name1 fill:#add8e6,stroke:#000,stroke-width:1px style url1 fill:#add8e6,stroke:#000,stroke-width:1px style code2 fill:#add8e6,stroke:#000,stroke-width:1px style name2 fill:#add8e6,stroke:#000,stroke-width:1px style url2 fill:#add8e6,stroke:#000,stroke-width:1px style code3 fill:#add8e6,stroke:#000,stroke-width:1px style name3 fill:#add8e6,stroke:#000,stroke-width:1px style url3 fill:#add8e6,stroke:#000,stroke-width:1px style code4 fill:#add8e6,stroke:#000,stroke-width:1px style name4 fill:#add8e6,stroke:#000,stroke-width:1px style url4 fill:#add8e6,stroke:#000,stroke-width:1px style code5 fill:#add8e6,stroke:#000,stroke-width:1px style name5 fill:#add8e6,stroke:#000,stroke-width:1px style url5 fill:#add8e6,stroke:#000,stroke-width:1px style code6 fill:#add8e6,stroke:#000,stroke-width:1px style name6 fill:#add8e6,stroke:#000,stroke-width:1px style url6 fill:#add8e6,stroke:#000,stroke-width:1px style code7 fill:#add8e6,stroke:#000,stroke-width:1px style name7 fill:#add8e6,stroke:#000,stroke-width:1px style url7 fill:#add8e6,stroke:#000,stroke-width:1px style code8 fill:#add8e6,stroke:#000,stroke-width:1px style name8 fill:#add8e6,stroke:#000,stroke-width:1px style url8 fill:#add8e6,stroke:#000,stroke-width:1px style group1 fill:#ffff00,stroke:#000,stroke-width:1px style group2 fill:#ffff00,stroke:#000,stroke-width:1px style group3 fill:#ffff00,stroke:#000,stroke-width:1px style group4 fill:#ffff00,stroke:#000,stroke-width:1px style group5 fill:#ffff00,stroke:#000,stroke-width:1px style group6 fill:#ffff00,stroke:#000,stroke-width:1px style group7 fill:#ffff00,stroke:#000,stroke-width:1px </pre>
Used by	Elements data_element_set, element
Model	system , code , name , url , code , name , url , code , name , url , code , name , url , code , name , url , code , name , url , code , name , url
Instance	<pre> <modality> <system>{1,1}</system> <code>{1,1}</code> <name>{1,1}</name> <url>{1,1}</url> <code>{1,1}</code> </pre>

```

<name>{1,1}</name>
<url>{1,1}</url>
<code>{1,1}</code>
<name>{1,1}</name>
<url>{1,1}</url>
<code>{1,1}</code>
<name>{1,1}</name>
<url>{1,1}</url>
<code>{1,1}</code>
<name>{1,1}</name>
<url>{1,1}</url>
<code>{1,1}</code>
<name>{1,1}</name>
<url>{1,1}</url>
<code>{1,1}</code>
<name>{1,1}</name>
<url>{1,1}</url>
</modality>

```

Element modality / system

Diagram	
Type	restriction of xs:token
Facets	enumeration RadLex

Element modality / code

Diagram	
Type	restriction of xs:token
Facets	enumeration CT

Element modality / name

Diagram	
Type	restriction of xs:token
Facets	enumeration Computed Tomography

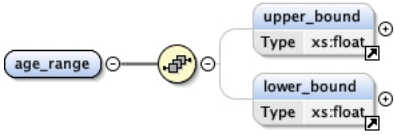
Element modality / url

Diagram	
Type	restriction of xs:token
Facets	enumeration http://radlex.org/RID/RID10321

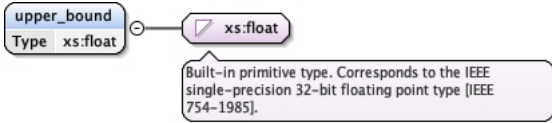
Element biological_sex

Diagram	
Type	restriction of xs:token
Facets	enumeration M enumeration F
Used by	Elements data_element_set, element

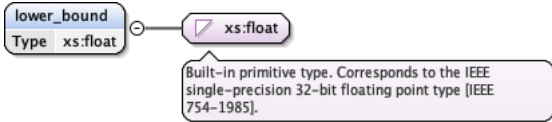
Element `age_range`

Diagram	 The diagram shows the <code>age_range</code> element connected to a choice container. This container has two children: <code>upper_bound</code> (Type <code>xs:float</code>) and <code>lower_bound</code> (Type <code>xs:float</code>). Both children have a cardinality of 1..1.
Used by	Elements <code>data_element_set</code> , <code>element</code>
Model	<code>upper_bound{0,1}</code> , <code>lower_bound{0,1}</code>
Instance	<pre><age_range> <upper_bound>{0,1}</upper_bound> <lower_bound>{0,1}</lower_bound> </age_range></pre>

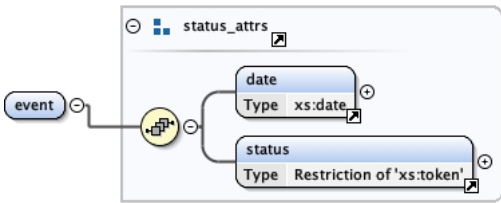
Element `upper_bound`

Diagram	 The diagram shows the <code>upper_bound</code> element (Type <code>xs:float</code>) connected to a <code>xs:float</code> type node. A callout box explains: "Built-in primitive type. Corresponds to the IEEE single-precision 32-bit floating point type [IEEE 754-1985]."
Type	<code>xs:float</code>
Used by	Element <code>age_range</code>

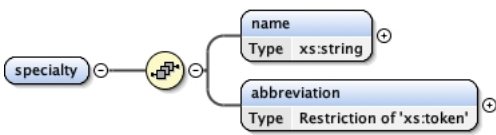
Element `lower_bound`

Diagram	 The diagram shows the <code>lower_bound</code> element (Type <code>xs:float</code>) connected to a <code>xs:float</code> type node. A callout box explains: "Built-in primitive type. Corresponds to the IEEE single-precision 32-bit floating point type [IEEE 754-1985]."
Type	<code>xs:float</code>
Used by	Element <code>age_range</code>

Element `event`

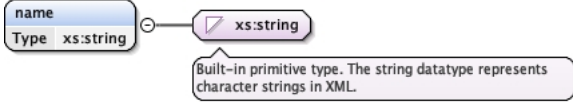
Diagram	 The diagram shows the <code>event</code> element connected to a choice container. This container is part of a group named <code>status_attrs</code> and has two children: <code>date</code> (Type <code>xs:date</code>) and <code>status</code> (Type <code>Restriction of 'xs:token'</code>). Both children have a cardinality of 1..1.
Used by	Element Group <code>history</code>
Model	<code>date</code> , <code>status</code>
Instance	<pre><event> <date>{1,1}</date> <status>{1,1}</status> </event></pre>

Element `specialty`


Diagram	 The diagram shows the <code>specialty</code> element connected to a choice container. This container has two children: <code>name</code> (Type <code>xs:string</code>) and <code>abbreviation</code> (Type <code>Restriction of 'xs:token'</code>). Both children have a cardinality of 1..1.
Used by	Elements <code>data_element_set</code> , <code>element</code>

Model	name , abbreviation
Instance	<pre><specialty> <name>{1,1}</name> <abbreviation>{1,1}</abbreviation> </specialty></pre>

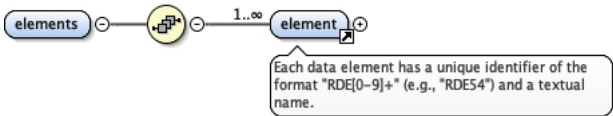
Element specialty / name

Diagram	
Type	xs:string

Element specialty / abbreviation

Diagram																																							
Type	restriction of xs:token																																						
Facets	<table border="1"> <tbody> <tr><td>enumeration</td><td>AB</td></tr> <tr><td>enumeration</td><td>BR</td></tr> <tr><td>enumeration</td><td>CA</td></tr> <tr><td>enumeration</td><td>CH</td></tr> <tr><td>enumeration</td><td>ER</td></tr> <tr><td>enumeration</td><td>GI</td></tr> <tr><td>enumeration</td><td>GU</td></tr> <tr><td>enumeration</td><td>HN</td></tr> <tr><td>enumeration</td><td>IR</td></tr> <tr><td>enumeration</td><td>MI</td></tr> <tr><td>enumeration</td><td>MK</td></tr> <tr><td>enumeration</td><td>NR</td></tr> <tr><td>enumeration</td><td>OB</td></tr> <tr><td>enumeration</td><td>OI</td></tr> <tr><td>enumeration</td><td>OT</td></tr> <tr><td>enumeration</td><td>PD</td></tr> <tr><td>enumeration</td><td>QI</td></tr> <tr><td>enumeration</td><td>RS</td></tr> <tr><td>enumeration</td><td>VI</td></tr> </tbody> </table>	enumeration	AB	enumeration	BR	enumeration	CA	enumeration	CH	enumeration	ER	enumeration	GI	enumeration	GU	enumeration	HN	enumeration	IR	enumeration	MI	enumeration	MK	enumeration	NR	enumeration	OB	enumeration	OI	enumeration	OT	enumeration	PD	enumeration	QI	enumeration	RS	enumeration	VI
enumeration	AB																																						
enumeration	BR																																						
enumeration	CA																																						
enumeration	CH																																						
enumeration	ER																																						
enumeration	GI																																						
enumeration	GU																																						
enumeration	HN																																						
enumeration	IR																																						
enumeration	MI																																						
enumeration	MK																																						
enumeration	NR																																						
enumeration	OB																																						
enumeration	OI																																						
enumeration	OT																																						
enumeration	PD																																						
enumeration	QI																																						
enumeration	RS																																						
enumeration	VI																																						

Element elements

Diagram	
Used by	Element data_element_set
Model	element+
Instance	<pre><elements> <element>{1,unbounded}</element> </elements></pre>

Element element


Annotations	Each data element has a unique identifier of the format "RDE[0-9]+'" (e.g., "RDE54") and a textual name.
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Diagram	
Used by	Element elements
Model	id, parent_set, name, definition, version, references{0,1}, index_codes{0,1}, images{0,1}, modality*, biological_sex{0,1}, age_range{0,1}, authors{0,1}, event*, specialty*, (integer_values float_values boolean_values value_set)
Instance	<pre> <element> <id>{1,1}</id> <parent_set>{1,1}</parent_set> <name>{1,1}</name> <definition>{1,1}</definition> <version>{1,1}</version> <references>{0,1}</references> <index_codes>{0,1}</index_codes> <images>{0,1}</images> <modality>{0,unbounded}</modality> <biological_sex>{0,1}</biological_sex> <age_range>{0,1}</age_range> <authors>{0,1}</authors> <event>{0,unbounded}</event> <specialty>{0,unbounded}</specialty> <integer_values>{1,1}</integer_values> <float_values>{1,1}</float_values> <boolean_values>{1,1}</boolean_values> <value_set>{1,1}</value_set> </element> </pre>

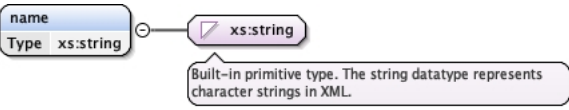
Element element / id

Diagram	
Type	restriction of xs:string
Facets	pattern RDE\d+

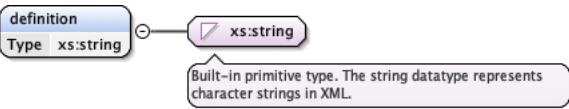
Element parent_set

Diagram		
Type	restriction of xs:string	
Facets	pattern	RDES\d+
Used by	Element	element

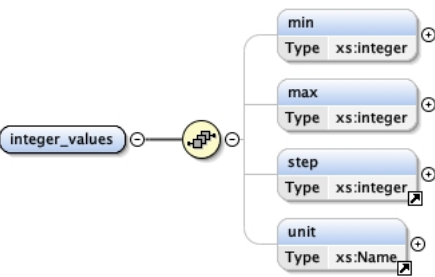
Element element / name

Diagram		
Type	xs:string	

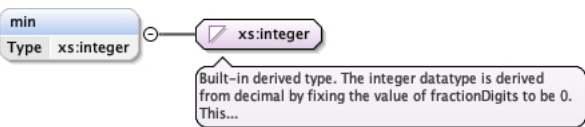
Element definition

Diagram		
Type	xs:string	
Used by	Elements	element, value_set/value

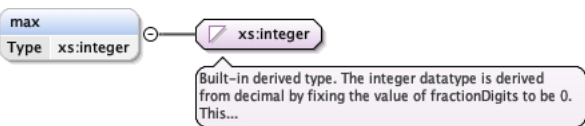
Element integer_values

Diagram		
Used by	Element	element
Model	min{0,1} , max{0,1} , step{0,1} , unit{0,1}	
Instance	<pre><integer_values> <min>{0,1}</min> <max>{0,1}</max> <step>{0,1}</step> <unit>{0,1}</unit> </integer_values></pre>	

Element integer_values / min

Diagram		
Type	xs:integer	

Element integer_values / max

Diagram		
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Type	xs:integer
------	------------

Element step

Diagram	
Type	xs:integer
Used by	Elements float_values, integer_values

Element unit

Diagram	
Type	xs:Name
Used by	Elements float_values, integer_values

Element float_values

Diagram	
Used by	Element element
Model	min{0,1} , max{0,1} , step{0,1} , unit{0,1}
Instance	<pre><float_values> <min>{0,1}</min> <max>{0,1}</max> <step>{0,1}</step> <unit>{0,1}</unit> </float_values></pre>

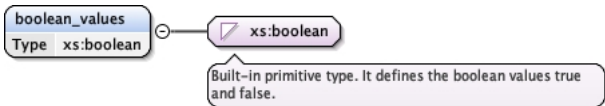
Element float_values / min

Diagram	
Type	xs:float

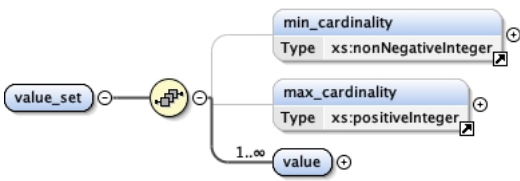
Element float_values / max

Diagram	
Type	xs:float

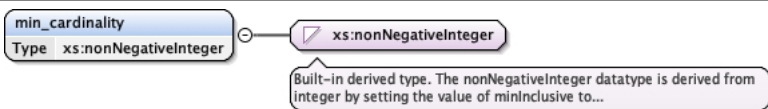
Element boolean_values

Diagram	 <p>The diagram shows the boolean_values element with type <code>xs:boolean</code>. It is connected to the <code>xs:boolean</code> datatype, which is noted as a built-in primitive type defining true and false values.</p>	
Type	xs:boolean	
Used by	Element	element

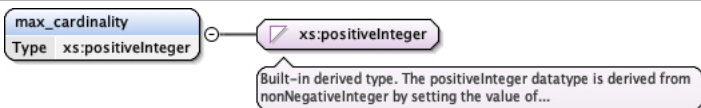
Element value_set

Diagram	 <p>The diagram shows the value_set element with a complex type. It contains three child elements: min_cardinality (type <code>xs:nonNegativeInteger</code>), max_cardinality (type <code>xs:positiveInteger</code>), and value (type <code>1..∞</code>).</p>	
Used by	Element	element
Model	min_cardinality{0,1} , max_cardinality{0,1} , value+	
Instance	<pre><value_set> <min_cardinality>{0,1}</min_cardinality> <max_cardinality>{0,1}</max_cardinality> <value>{1,unbounded}</value> </value_set></pre>	

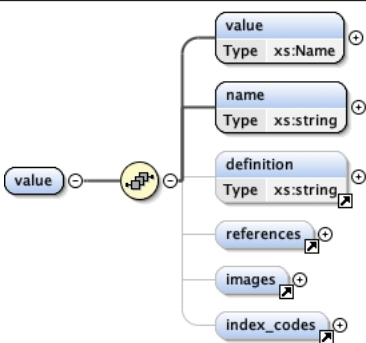
Element min_cardinality

Diagram	 <p>The diagram shows the min_cardinality element with type <code>xs:nonNegativeInteger</code>. It is connected to the <code>xs:nonNegativeInteger</code> datatype, which is noted as a built-in derived type derived from <code>integer</code> by setting the value of <code>minInclusive</code> to...</p>	
Type	xs:nonNegativeInteger	
Used by	Element	value_set

Element max_cardinality

Diagram	 <p>The diagram shows the max_cardinality element with type <code>xs:positiveInteger</code>. It is connected to the <code>xs:positiveInteger</code> datatype, which is noted as a built-in derived type derived from <code>nonNegativeInteger</code> by setting the value of...</p>	
Type	xs:positiveInteger	
Used by	Element	value_set

Element value_set / value

Diagram	 <p>The diagram shows the value element with type <code>xs:string</code>. It is connected to the <code>xs:string</code> datatype. The element has several child elements: value (type <code>xs:string</code>), name (type <code>xs:string</code>), definition (type <code>xs:string</code>), references, images, and index_codes.</p>	
Model	value , name , definition{0,1} , references{0,1} , images{0,1} , index_codes{0,1}	
Instance	<pre><value></pre>	

```

<value>{1,1}</value>
<name>{1,1}</name>
<definition>{0,1}</definition>
<references>{0,1}</references>
<images>{0,1}</images>
<index_codes>{0,1}</index_codes>
</value>

```

Element value_set / value / value

Diagram	
Type	xs:Name

Element value_set / value / name

Diagram	
Type	xs:string

Element Group(s)

Element Group status_attrs

Diagram	
Used by	Elements event, version
Model	date , status

Element Group history

Diagram	
Used by	Elements data_element_set, element
Model	event*