

# Schema documentation for CDE\_schema.xsd

september 19, 2018

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## Schema(s)

### Main schema CDE\_schema.xsd

## Element(s)

### Element data\_element\_set

|          |   |
|----------|---|
| Diagram  |   |
| Model    | id , name , ( url   description   person   organization   (event*)) , elements  |
| Instance | <pre> &lt;data_element_set&gt;   &lt;id&gt;{1,1}&lt;/id&gt;   &lt;name&gt;{1,1}&lt;/name&gt;   &lt;url&gt;{1,1}&lt;/url&gt;   &lt;description&gt;{1,1}&lt;/description&gt;   &lt;person&gt;{1,1}&lt;/person&gt;   &lt;organization&gt;{1,1}&lt;/organization&gt;   &lt;event&gt;{0,unbounded}&lt;/event&gt;   &lt;elements&gt;{1,1}&lt;/elements&gt; &lt;/data_element_set&gt; </pre> |

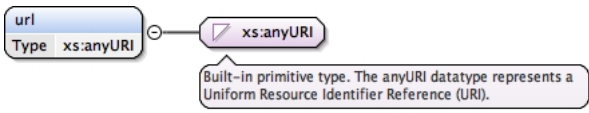
### Element data\_element\_set / id

|             |  |
|-------------|--|
| 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+  |

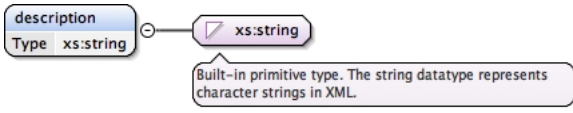
### Element name

|         |   |
|---------|---|
| Diagram |   |
| Type    | xs:string   |
| Used by | Elements data_element_set, element, organization, person, value_set/value |

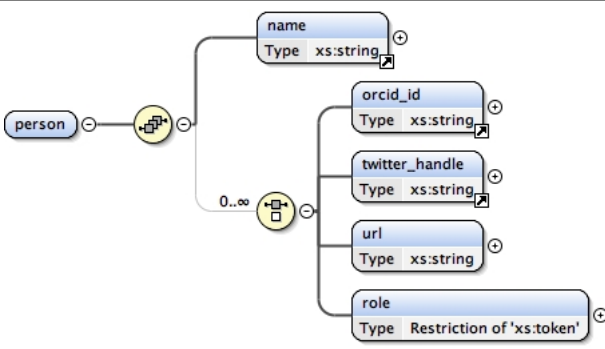
## Element data\_element\_set / url

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

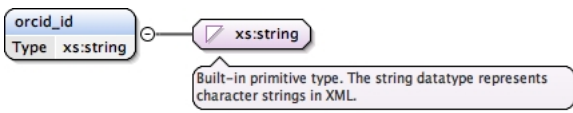
## Element description

|         |   |
|---------|---|
| Diagram |  |
| Type    | xs:string   |
| Used by | Element data_element_set  |

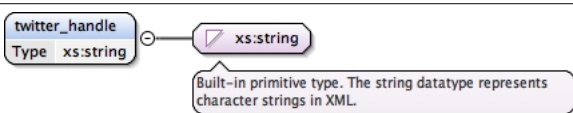
## Element person

|               |  |          |                         |               |         |
|---------------|--|----------|-------------------------|---------------|---------|
| Diagram       |    |          |                         |               |         |
| Used by       | <table border="1"> <tr> <td>Elements</td> <td>data_element_set, image</td> </tr> <tr> <td>Element Group</td> <td>authors</td> </tr> </table>   | Elements | data_element_set, image | Element Group | authors |
| Elements      | data_element_set, image  |          |                         |               |         |
| Element Group | authors  |          |                         |               |         |
| Model         | name , (orcid_id   twitter_handle   url   role)  |          |                         |               |         |
| Instance      | <pre> &lt;person&gt;   &lt;name&gt;{1,1}&lt;/name&gt;   &lt;orcid_id&gt;{1,1}&lt;/orcid_id&gt;   &lt;twitter_handle&gt;{1,1}&lt;/twitter_handle&gt;   &lt;url&gt;{1,1}&lt;/url&gt;   &lt;role&gt;{1,1}&lt;/role&gt; &lt;/person&gt; </pre> |          |                         |               |         |

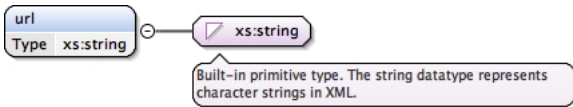
## Element orcid\_id

|         |   |
|---------|---|
| Diagram |  |
| Type    | xs:string   |
| Used by | Element person  |

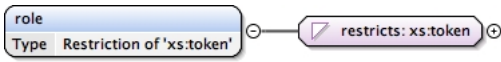
## Element twitter\_handle

|         |   |
|---------|---|
| Diagram |  |
| Type    | xs:string   |
| Used by | Element person  |

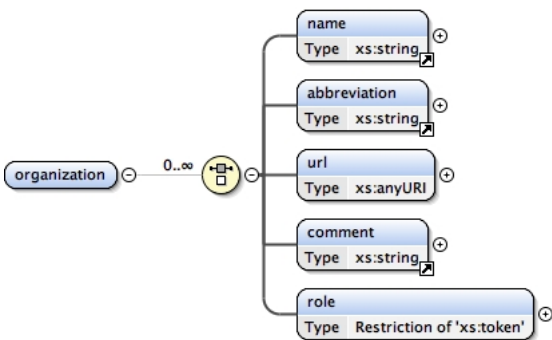
## Element person / url

|         |   |
|---------|---|
| Diagram |  |
| Type    | xs:string   |

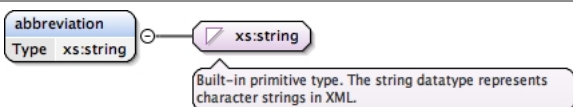
## Element person / role

|             |   |             |        |             |        |             |            |             |          |             |             |
|-------------|---|-------------|--------|-------------|--------|-------------|------------|-------------|----------|-------------|-------------|
| Diagram     |    |             |        |             |        |             |            |             |          |             |             |
| Type        | restriction of xs:token   |             |        |             |        |             |            |             |          |             |             |
| Facets      | <table border="1"> <tr><td>enumeration</td><td>author</td></tr> <tr><td>enumeration</td><td>editor</td></tr> <tr><td>enumeration</td><td>translator</td></tr> <tr><td>enumeration</td><td>reviewer</td></tr> <tr><td>enumeration</td><td>contributor</td></tr> </table> | enumeration | author | enumeration | editor | enumeration | translator | enumeration | reviewer | enumeration | contributor |
| enumeration | author  |             |        |             |        |             |            |             |          |             |             |
| enumeration | editor  |             |        |             |        |             |            |             |          |             |             |
| enumeration | translator  |             |        |             |        |             |            |             |          |             |             |
| enumeration | reviewer  |             |        |             |        |             |            |             |          |             |             |
| enumeration | contributor   |             |        |             |        |             |            |             |          |             |             |

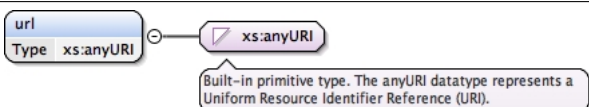
## Element organization

|               |  |          |                         |               |         |
|---------------|--|----------|-------------------------|---------------|---------|
| Diagram       |    |          |                         |               |         |
| Used by       | <table border="1"> <tr><td>Elements</td><td>data_element_set, image</td></tr> <tr><td>Element Group</td><td>authors</td></tr> </table>   | Elements | data_element_set, image | Element Group | authors |
| Elements      | data_element_set, image  |          |                         |               |         |
| Element Group | authors  |          |                         |               |         |
| Model         | name   abbreviation   url   comment   role   |          |                         |               |         |
| Instance      | <pre> &lt;organization&gt;   &lt;name&gt;{1,1}&lt;/name&gt;   &lt;abbreviation&gt;{1,1}&lt;/abbreviation&gt;   &lt;url&gt;{1,1}&lt;/url&gt;   &lt;comment&gt;{1,1}&lt;/comment&gt;   &lt;role&gt;{1,1}&lt;/role&gt; &lt;/organization&gt; </pre> |          |                         |               |         |

## Element abbreviation

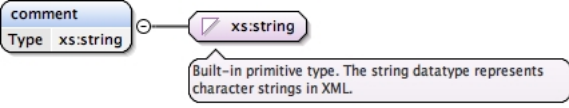
|         |   |         |              |
|---------|---|---------|--------------|
| Diagram |  |         |              |
| Type    | xs:string   |         |              |
| Used by | <table border="1"> <tr><td>Element</td><td>organization</td></tr> </table>          | Element | organization |
| Element | organization  |         |              |

## Element organization / url

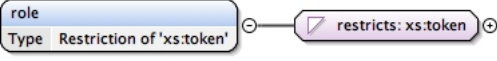
|         |   |
|---------|---|
| Diagram |  |
|---------|---|

|      |           |
|------|-----------|
| Type | xs:anyURI |
|------|-----------|

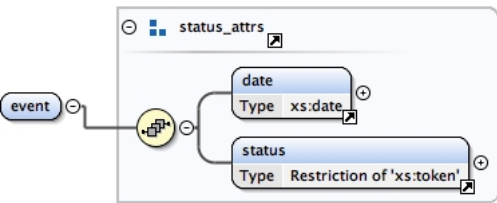
## Element comment

|         |   |              |
|---------|---|--------------|
| Diagram |  |              |
| Type    | xs:string   |              |
| Used by | Element   | organization |

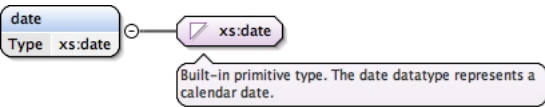
## Element organization / role

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

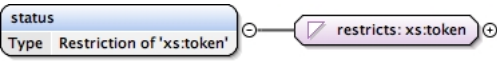
## Element event

|          |   |         |
|----------|---|---------|
| Diagram  |                             |         |
| Used by  | Element Group   | history |
| Model    | date , status   |         |
| Instance | <pre>&lt;event&gt;   &lt;date&gt;{1,1}&lt;/date&gt;   &lt;status&gt;{1,1}&lt;/status&gt; &lt;/event&gt;</pre> |         |

## Element date

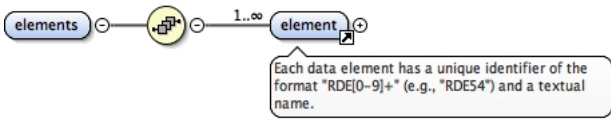
|         |   |              |
|---------|---|--------------|
| Diagram |  |              |
| Type    | xs:date   |              |
| Used by | Element Group   | status_attrs |

## Element status

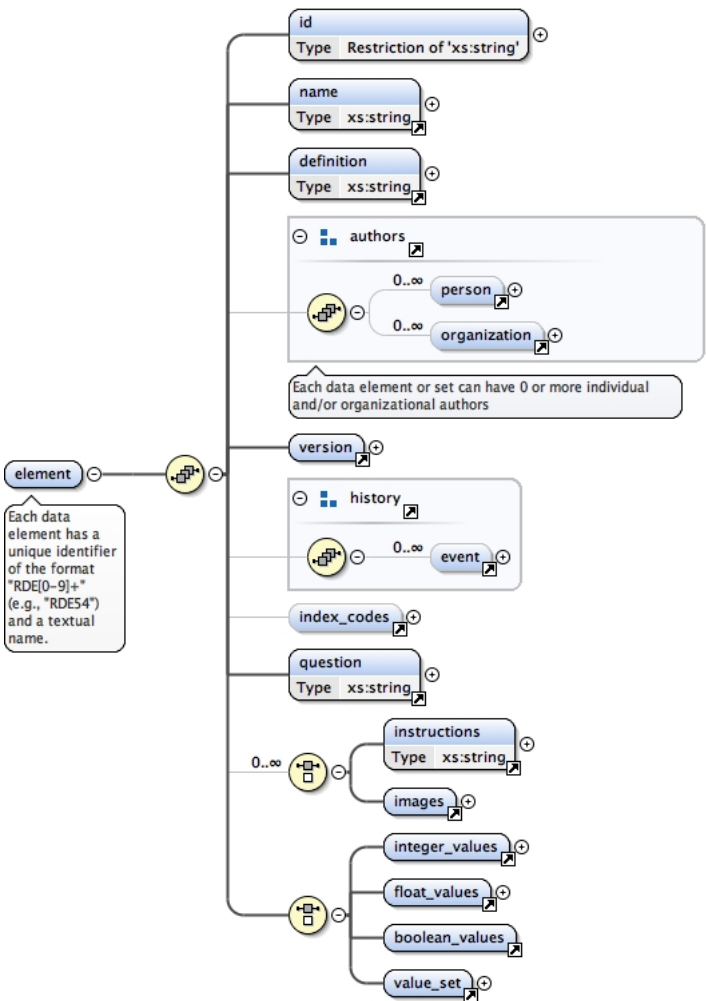
|         |   |            |
|---------|---|------------|
| Diagram |  |            |
| Type    | restriction of xs:token   |            |
| Facets  | enumeration   | proposed   |
|         | enumeration   | approved   |
|         | enumeration   | published  |
|         | enumeration   | deprecated |

|         |               |              |
|---------|---------------|--------------|
| Used by | Element Group | status_attrs |
|---------|---------------|--------------|

## Element elements

|          |  |                  |
|----------|--|------------------|
| Diagram  |             |                  |
| Used by  | Element  | data_element_set |
| Model    | element+   |                  |
| Instance | <pre>&lt;elements&gt;   &lt;element&gt;{1,unbounded}&lt;/element&gt; &lt;/elements&gt;</pre> |                  |

## Element element

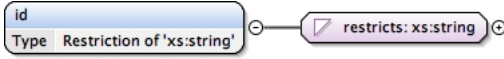
|             |  |          |
|-------------|--|----------|
| Annotations | Each data element has a unique identifier of the format "RDE[0-9]+" (e.g., "RDE54") and a textual name .   |          |
| Diagram     |   |          |
| Used by     | Element  | elements |
| Model       | id , name , definition , person* , organization* , version , event* , index_codes{0,1} , question , (instructions   images) , (integer_values   float_values   boolean_values   value_set)   |          |
| Instance    | <pre>&lt;element&gt;   &lt;id&gt;{1,1}&lt;/id&gt;   &lt;name&gt;{1,1}&lt;/name&gt;   &lt;definition&gt;{1,1}&lt;/definition&gt;   &lt;person&gt;{0,unbounded}&lt;/person&gt;   &lt;organization&gt;{0,unbounded}&lt;/organization&gt;   &lt;version&gt;{1,1}&lt;/version&gt;</pre> |          |

```

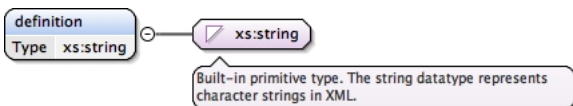
<event>{0,unbounded}</event>
<index_codes>{0,1}</index_codes>
<question>{1,1}</question>
<instructions>{1,1}</instructions>
<images>{1,1}</images>
<integer_values>{1,1}</integer_values>
<float_values>{1,1}</float_values>
<boolean_values>{1,1}</boolean_values>
<value_set>{1,1}</value_set>
</element>

```

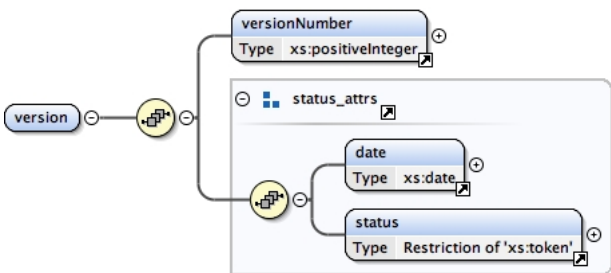
## Element element / id

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

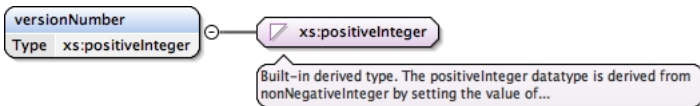
## Element definition

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


## Element version

|          |  |
|----------|--|
| Diagram  |   |
| Used by  | Element element  |
| Model    | versionNumber , date , status  |
| Instance | <pre> &lt;version&gt;   &lt;versionNumber&gt;{1,1}&lt;/versionNumber&gt;   &lt;date&gt;{1,1}&lt;/date&gt;   &lt;status&gt;{1,1}&lt;/status&gt; &lt;/version&gt; </pre> |

## Element versionNumber

|         |  |
|---------|--|
| Diagram |  |
| Type    | xs:positiveInteger   |
| Used by | Element version  |

## Element index\_codes

|         |   |
|---------|---|
| Diagram |  |
| Used by | Elements element, value_set/value   |
| Model   | index_code+   |

|          |  |
|----------|--|
| Instance | <pre>&lt;index_codes&gt;   &lt;index_code&gt;{1,unbounded}&lt;/index_code&gt; &lt;/index_codes&gt;</pre> |
|----------|--|

## Element index\_code

|          |   |
|----------|---|
| Diagram  |   |
| Used by  | Element <code>index_codes</code>  |
| Model    | <code>system</code> , <code>code</code> , <code>href</code> {0,1} , <code>display</code> {0,1}  |
| Instance | <pre>&lt;index_code&gt;   &lt;system&gt;{1,1}&lt;/system&gt;   &lt;code&gt;{1,1}&lt;/code&gt;   &lt;href&gt;{0,1}&lt;/href&gt;   &lt;display&gt;{0,1}&lt;/display&gt; &lt;/index_code&gt;</pre> |

## Element system

|             |  |             |        |             |          |             |       |
|-------------|--|-------------|--------|-------------|----------|-------------|-------|
| Diagram     |  |             |        |             |          |             |       |
| Type        | restriction of xs:token  |             |        |             |          |             |       |
| Facets      | <table border="1"> <tr> <td>enumeration</td><td>RADLEX</td></tr> <tr> <td>enumeration</td><td>SNOMEDCT</td></tr> <tr> <td>enumeration</td><td>LOINC</td></tr> </table> | enumeration | RADLEX | enumeration | SNOMEDCT | enumeration | LOINC |
| enumeration | RADLEX   |             |        |             |          |             |       |
| enumeration | SNOMEDCT   |             |        |             |          |             |       |
| enumeration | LOINC  |             |        |             |          |             |       |
| Used by     | Element <code>index_code</code>  |             |        |             |          |             |       |

## Element code

|         |                                 |
|---------|---------------------------------|
| Diagram |                                 |
| Type    | xs:normalizedString             |
| Used by | Element <code>index_code</code> |

## Element href

|         |                                 |
|---------|---------------------------------|
| Diagram |                                 |
| Type    | xs:anyURI                       |
| Used by | Element <code>index_code</code> |

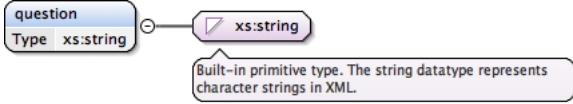
## Element display

|         |  |
|---------|--|
| Diagram |  |
|---------|--|

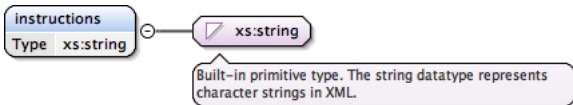


|         |                       |
|---------|-----------------------|
| Type    | xs:string             |
| Used by | Element<br>index_code |

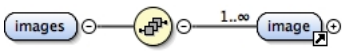
## Element question

|         |   |
|---------|---|
| Diagram |  |
| Type    | xs:string   |
| Used by | Element<br>element  |

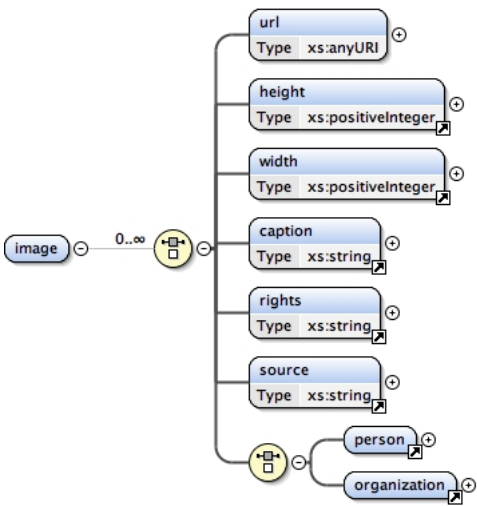
## Element instructions

|         |   |
|---------|---|
| Diagram |  |
| Type    | xs:string   |
| Used by | Element<br>element  |

## Element images

|          |  |
|----------|--|
| Diagram  |    |
| Used by  | Elements<br>element, value_set/value   |
| Model    | image+   |
| Instance | <pre>&lt;images&gt;   &lt;image&gt;{1,unbounded}&lt;/image&gt; &lt;/images&gt;</pre> |

## Element image

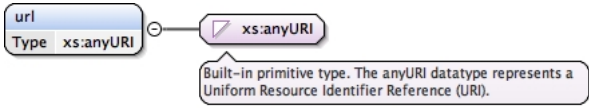
|          |   |
|----------|---|
| Diagram  |    |
| Used by  | Element<br>images   |
| Model    | url   height   width   caption   rights   source   person   organization  |
| Instance | <pre>&lt;image&gt;   &lt;url&gt;{1,1}&lt;/url&gt;   &lt;height&gt;{1,1}&lt;/height&gt;   &lt;width&gt;{1,1}&lt;/width&gt;   &lt;caption&gt;{1,1}&lt;/caption&gt;   &lt;rights&gt;{1,1}&lt;/rights&gt;</pre> |

```

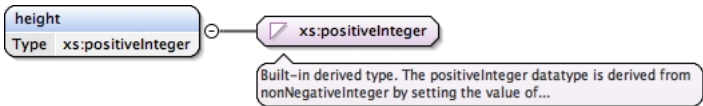
<source>{1,1}</source>
<person>{1,1}</person>
<organization>{1,1}</organization>
</image>

```

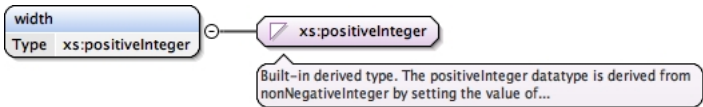
## Element image / url

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

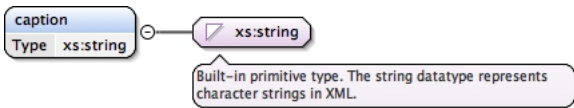
## Element height

|         |  |
|---------|--|
| Diagram |  |
| Type    | xs:positiveInteger   |
| Used by | Element image  |

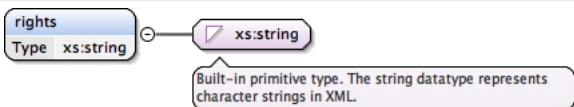
## Element width

|         |   |
|---------|---|
| Diagram |  |
| Type    | xs:positiveInteger  |
| Used by | Element image   |

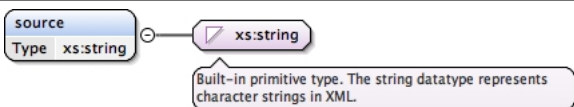
## Element caption

|         |   |
|---------|---|
| Diagram |  |
| Type    | xs:string   |
| Used by | Element image   |

## Element rights

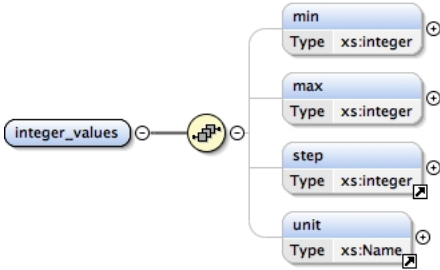
|         |   |
|---------|---|
| Diagram |  |
| Type    | xs:string   |
| Used by | Element image   |

## Element source

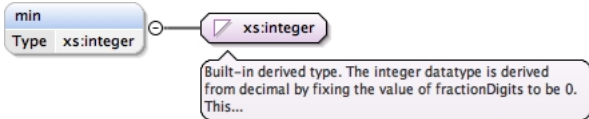
|         |   |
|---------|---|
| Diagram |  |
| Type    | xs:string   |

|         |         |       |
|---------|---------|-------|
| Used by | Element | image |
|---------|---------|-------|

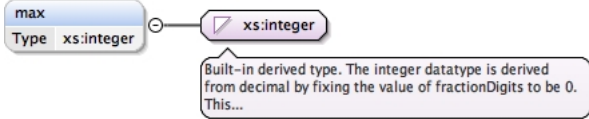
## Element integer\_values

|          |   |         |
|----------|---|---------|
| Diagram  |    |         |
| Used by  | Element   | element |
| Model    | min{0,1} , max{0,1} , step{0,1} , unit{0,1}   |         |
| Instance | <pre>&lt;integer_values&gt;   &lt;min&gt;{0,1}&lt;/min&gt;   &lt;max&gt;{0,1}&lt;/max&gt;   &lt;step&gt;{0,1}&lt;/step&gt;   &lt;unit&gt;{0,1}&lt;/unit&gt; &lt;/integer_values&gt;</pre> |         |

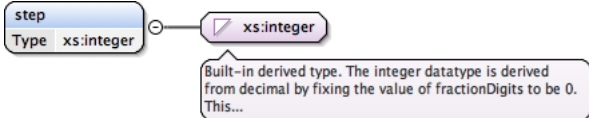
## Element integer\_values / min

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

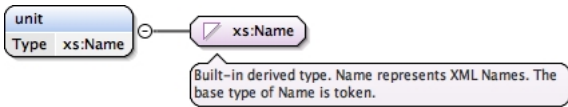
## Element integer\_values / max

|         |   |  |
|---------|---|--|
| Diagram |  |  |
| 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  | <p>The diagram shows the <b>float_values</b> element (blue box) connected to a container (yellow circle with a plus sign). This container is connected to four child elements: <b>min</b> (Type xs:float), <b>max</b> (Type xs:float), <b>step</b> (Type xs:integer), and <b>unit</b> (Type xs.Name). Each child element has a small circle with a plus sign next to it.</p> |
| Used by  | Element <b>element</b>   |
| Model    | min , max , step , unit  |
| Instance | <pre> &lt;float_values&gt;   &lt;min&gt;{1,1}&lt;/min&gt;   &lt;max&gt;{1,1}&lt;/max&gt;   &lt;step&gt;{1,1}&lt;/step&gt;   &lt;unit&gt;{1,1}&lt;/unit&gt; &lt;/float_values&gt; </pre>  |

### Element float\_values / min

|         |  |
|---------|--|
| Diagram | <p>The diagram shows the <b>min</b> element (blue box, Type xs:float) connected to a container (yellow circle with a plus sign). This container is connected to a child element <b>xs:float</b> (purple box). A callout box points to the <b>xs:float</b> element with the text: "Built-in primitive type. Corresponds to the IEEE single-precision 32-bit floating point type [IEEE 754-1985]."</p> |
| Type    | xs:float   |

### Element float\_values / max

|         |  |
|---------|--|
| Diagram | <p>The diagram shows the <b>max</b> element (blue box, Type xs:float) connected to a container (yellow circle with a plus sign). This container is connected to a child element <b>xs:float</b> (purple box). A callout box points to the <b>xs:float</b> element with the text: "Built-in primitive type. Corresponds to the IEEE single-precision 32-bit floating point type [IEEE 754-1985]."</p> |
| Type    | xs:float   |

## Element boolean\_values

|         |  |
|---------|--|
| Diagram | <p>The diagram shows the <b>boolean_values</b> element (blue box).</p> |
| Used by | Element <b>element</b>   |

## Element value\_set

|          |   |
|----------|---|
| Diagram  | <p>The diagram shows the <b>value_set</b> element (blue box) connected to a container (yellow circle with a plus sign). This container is connected to a child element <b>value</b> (blue box). The <b>value</b> element has a small circle with a plus sign next to it. A line with "1..∞" connects the container to the <b>value</b> element.</p> |
| Used by  | Element <b>element</b>  |
| Model    | value+  |
| Instance | <pre> &lt;value_set&gt;   &lt;value&gt;{1,unbounded}&lt;/value&gt; &lt;/value_set&gt; </pre>  |

## Element value\_set / value

|          |  |
|----------|--|
| Diagram  |  |
| Model    | value , name , definition{0,1} , images{0,1} , index_codes{0,1}  |
| Instance | <pre> &lt;value&gt;   &lt;value&gt;{1,1}&lt;/value&gt;   &lt;name&gt;{1,1}&lt;/name&gt;   &lt;definition&gt;{0,1}&lt;/definition&gt;   &lt;images&gt;{0,1}&lt;/images&gt;   &lt;index_codes&gt;{0,1}&lt;/index_codes&gt; &lt;/value&gt; </pre> |

## Element value\_set / value / value

|         |         |
|---------|---------|
| Diagram |         |
| Type    | xs:Name |

## Element Group(s)

### Element Group history

|         |                                    |
|---------|------------------------------------|
| Diagram |                                    |
| Used by | Elements data_element_set, element |
| Model   | event*                             |

### Element Group status\_attrs

|         |                         |
|---------|-------------------------|
| Diagram |                         |
| Used by | Elements event, version |
| Model   | date , status           |

### Element Group authors

|             |  |
|-------------|--|
| Annotations | Each data element or set can have 0 or more individual and/or organizational authors |
| Diagram     |  |
| Used by     | Element element  |
| Model       | person* , organization*  |