

## XSD

```
<?xml version="1.0" encoding="UTF-8"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema"
elementFormDefault="qualified">
<!--ELEMENTO RAIZ XS CONTENDRÁ ELEMENTO X-->
  <xs:element name="XS">
    <xs:complexType>
      <xs:sequence|choice>
        <xs:element type="xs:string" name="" maxOccurs="unbounded" />
      </xs:sequence>
    </xs:complexType>
  </xs:element>

<!--ELEMENTO X CONTENDRÁ ELEMENTOS K, A, CON ATRIBUTOS W Q-->
  <xs:element name="X">
    <xs:complexType>
      <xs:sequence>
        <xs:element type="xs:string" name="K" minOccurs="0" maxOccurs="2" />
        <xs:element type="xs:string" name="A" minOccurs="0" />
      </xs:sequence>
      <xs:attribute name="W" type="xs:Integer" use="required"/>
      <xs:attribute name="Q" type="xs:Integer" use="required"/>
    </xs:complexType>
  </xs:element>

<!--RESTRICCIONES DE ATRIBUTOS-->
  <xs:element name="W">
    <xs:simpleType>
      <xs:restriction>
        <xs:length value="30"/>
      </xs:restriction>
    </xs:simpleType>
  </xs:element>

  <xs:element name="Q">
    <xs:simpleType>
      <xs:restriction>
        <xs:minLength value="1"/>
        <xs:maxLength value="10"/>
      </xs:restriction>
    </xs:simpleType>
  </xs:element>

  <xs:element name="W">
    <xs:simpleType>
      <xs:restriction>
        <xs:pattern value="[A-Z]\d{2}\-\d{2}" />
        <xs:pattern value="[a-zA-Z0-9]{8}" />
      </xs:restriction>
    </xs:simpleType>
  </xs:element>
```

</xs:element>

</xs:schema>

- xs:string
- xs:decimal
- xs:integer
- xs:positiveInteger
- xs:boolean
- xs:date
- xs:time

all	Specifies that the child elements can appear in any order. Each child element can occur 0 or 1 time
annotation	Specifies the top-level element for schema comments
any	Enables the author to extend the XML document with elements not specified by the schema
anyAttribute	Enables the author to extend the XML document with attributes not specified by the schema
appinfo	Specifies information to be used by the application (must go inside annotation)
attribute	Defines an attribute
attributeGroup	Defines an attribute group to be used in complex type definitions
choice	Allows only one of the elements contained in the <choice> declaration to be present within the containing element
complexContent	Defines extensions or restrictions on a complex type that contains mixed content or elements only
complexType	Defines a complex type element
documentation	Defines text comments in a schema (must go inside annotation)
element	Defines an element
extension	Extends an existing simpleType or complexType element
field	Specifies an XPath expression that specifies the value used to define an identity constraint
group	Defines a group of elements to be used in complex type definitions
import	Adds multiple schemas with different target namespace to a document
include	Adds multiple schemas with the same target namespace to a document
key	Specifies an attribute or element value as a key (unique, non-nullable, and always present) within the containing element in an instance document
keyref	Specifies that an attribute or element value correspond to those of the specified key or unique element
list	Defines a simple type element as a list of values
notation	Describes the format of non-XML data within an XML document

redefine	Redefines simple and complex types, groups, and attribute groups from an external schema
restriction	Defines restrictions on a simpleType, simpleContent, or a complexContent
schema	Defines the root element of a schema
selector	Specifies an XPath expression that selects a set of elements for an identity constraint
sequence	Specifies that the child elements must appear in a sequence. Each child element can occur from 0 to any number of times
simpleContent	Contains extensions or restrictions on a text-only complex type or on a simple type as content and contains no elements
simpleType	Defines a simple type and specifies the constraints and information about the values of attributes or text-only elements
union	Defines a simple type as a collection (union) of values from specified simple data types
unique	Defines that an element or an attribute value must be unique within the scope
enumeration	Defines a list of acceptable values
fractionDigits	Specifies the maximum number of decimal places allowed. Must be equal to or greater than zero
length	Specifies the exact number of characters or list items allowed. Must be equal to or greater than zero
maxExclusive	Specifies the upper bounds for numeric values (the value must be less than this value)
maxInclusive	Specifies the upper bounds for numeric values (the value must be less than or equal to this value)
maxLength	Specifies the maximum number of characters or list items allowed. Must be equal to or greater than zero
minExclusive	Specifies the lower bounds for numeric values (the value must be greater than this value)
minInclusive	Specifies the lower bounds for numeric values (the value must be greater than or equal to this value)
minLength	Specifies the minimum number of characters or list items allowed. Must be equal to or greater than zero
pattern	Defines the exact sequence of characters that are acceptable
totalDigits	Specifies the exact number of digits allowed. Must be greater than zero
whiteSpace	Specifies how white space (line feeds, tabs, spaces, and carriage returns) is handled

## DTD

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE XS [
  <!ELEMENT XS (X*)>
  <!ELEMENT X (A, B?)>
  <!ELEMENT A (#PCDATA)>
  <!ELEMENT B (#PCDATA)>

  <!ATTLIST X cod ID #REQUIRED>
  <!ATTLIST W pos NMTOKEN #REQUIRED>
]>
```

(xxx +) mínimo 1  
(xxx) solo 1  
(xxx \*) 0 o más ocurrencias  
(xxx ?) 0 o una ocurrencia  
(xx, xx, (xx|xx)) cualquiera... o...  
(xx1,xx2,...) secuencia

CDATA	The value is character data
( <i>en1 en2 ..</i> )	The value must be one from an enumerated list
ID	The value is a unique id
IDREF	The value is the id of another element
IDREFS	The value is a list of other ids
NMTOKEN	cadena de caracteres, pudiendo contener letras minúsculas, letras mayúsculas, números, puntos ".", guiones medios "-", guiones bajos "_" o el carácter dos puntos ":"
NMTOKENS	cadena de caracteres, pudiendo contener letras minúsculas, letras mayúsculas, números, puntos ".", guiones medios "-", guiones bajos "_" o el carácter dos puntos ":" y espacios en blanco
ENTITY	The value is an entity
ENTITIES	The value is a list of entities
NOTATION	The value is a name of a notation

<i>value</i>	The default value of the attribute
#REQUIRED	The attribute is required
#IMPLIED	The attribute is optional
#FIXED <i>value</i>	The attribute value is fixed

## XML

```
<?xml version="1.0" encoding="UTF-8"?>
<?xml-stylesheet type="text/xml" href="XS.xml">
<XS xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:noNamespaceSchemaLocation="XS.xsd">
  <X>
    <Y>
      <A W=""></A>
      <B Q=""></B>
    </Y>
  </X>
</XS>
```