

XML DTD Examples

Examples here are from: *XML for the World Wide Web: Visual Quickstart Guide*, Elisabeth Castro, Peachpit Press, 2001, Chapters 3&4.

```
<!ELEMENT population (#PCDATA)>
<!ATTLIST population year CDATA #IMPLIED>

<population>445</population>
<population year="1999">445</population>
<population year="1998">389</population>
<population year="Year of the Rabbit">445</population>
```

Which are valid?

All are valid -- #IMPLIED means the attribute is optional.

Now change the DTD:

```
<!ELEMENT population (#PCDATA)>
<!ATTLIST population year (1999 | 2000) #REQUIRED>
```

Of the same lines above, which are still valid?

Only the second line remains valid, since the attribute is now mandatory, and must be either 1999, or 2000.

Now, change the DTD again:

```
<!ELEMENT population (#PCDATA)>
<!ATTLIST population year CDATA "1999">
```

Which of the following are valid, and what is the value of the “year” attribute in each of the following?

```
<population>445</population>
<population year="1999">445</population>
<population year="1998">389</population>
```

All are valid. The year attribute has the value “1999” in the first two, but not the last, which is “1998”.

Add a small twist:

```
<!ELEMENT population (#PCDATA)>
<!ATTLIST population year CDATA #FIXED "1999" >
```

Which of these is valid, and what is the value of the “year” attribute in each?

```
<population>445</population>
<population year="1999">445</population>
<population year="1998">389</population>
```

The first two are valid, the last one is not. For the first two, the value of “year” is 1999. #FIXED means the value must be the given value (1999). I.e., the attribute is fixed to the value given.

The following DTD is from RFC 2629:

M. Rose, Writing I-Ds and RFCs using XML

```
<!ENTITY % NUMBER    "CDATA">
```

```
<!ENTITY % NUMBERS    "CDATA">
```

```
<!ENTITY % DAY        "CDATA">
```

```
<!ENTITY % MONTH      "CDATA">
```

```
<!ENTITY % YEAR       "CDATA">
```

```
<!ENTITY % URI        "CDATA">
```

```
<!ENTITY % ATEXT      "CDATA">
```

```
<!ENTITY % CTEXT      "#PCDATA">
```

```
<!ENTITY % TEXT       "#PCDATA">
```

```
<!ENTITY  rfc.number "2629">
```

```
<!--
```

```
The top-level
```

```
-->
```

```
<!--
```

```
attributes for the "rfc" element are supplied by the RFC editor. when preparing drafts, authors should leave them blank.
```

the "seriesNo" attribute is used if the category is, e.g., BCP.

-->

<!ELEMENT rfc (front,middle,back?)>

<!ATTLIST rfc

number %NUMBER; #IMPLIED

obsoletes %NUMBERS; ""

updates %NUMBERS; ""

*category (std/bcp/info/exp/historic)
"info"*

seriesNo %NUMBER; #IMPLIED

*ipr (full2026/noDerivativeWorks2026/none)
#IMPLIED*

docName %ATEXT; #IMPLIED>

<!--

Front matter

-->

<!ELEMENT front (title,author+,date,area,workgroup*,keyword*,
abstract?,note*)>*

<!-- the "abbrev" attribute is used for headers, etc. -->

<!ELEMENT title (%CTEXT;)>

<!ATTLIST title

abbrev %ATEXT; #IMPLIED>

<!ELEMENT author (organization,address?)>

<!ATTLIST author

initials %ATEXT; #IMPLIED

surname %ATEXT; #IMPLIED

fullname %ATEXT; #IMPLIED>

<!ELEMENT organization
(%CTEXT;)>

<!ATTLIST organization
abbrev %ATEXT; #IMPLIED>

<!ELEMENT address (postal?,phone?,facsimile?,email?,uri?)>

<!-- at most one of each the city, region, code, and country
elements may be present -->

<!ELEMENT postal (street+,(city/region/code/country)*)>

<!ELEMENT street (%CTEXT;)>

<!ELEMENT city (%CTEXT;)>

<!ELEMENT region (%CTEXT;)>

<!ELEMENT code (%CTEXT;)>

<!ELEMENT country (%CTEXT;)>

<!ELEMENT phone (%CTEXT;)>

<!ELEMENT facsimile (%CTEXT;)>

<!ELEMENT email (%CTEXT;)>

<!ELEMENT uri (%CTEXT;)>

<!ELEMENT date EMPTY>

<!ATTLIST date

day %DAY; #IMPLIED

month %MONTH; #REQUIRED

year %YEAR; #REQUIRED>

<!-- meta-data... -->

<!ELEMENT area (%CTEXT;)>

<!ELEMENT workgroup (%CTEXT;)>

<!ELEMENT keyword (%CTEXT;)>

<!ELEMENT abstract (t)+>

<!ELEMENT note (t)+>

*<!ATTLIST note
title %ATEXT; #REQUIRED>*

*<!--
The body
-->*

<!ELEMENT middle (section)+>

<!ELEMENT section (t/figure/section)>*

*<!ATTLIST section
anchor ID #IMPLIED
title %ATEXT; #REQUIRED>*

<!ELEMENT t (%TEXT;/list/figure/xref/eref/iref/vspace)>*

*<!ATTLIST t
hangText %ATEXT; #IMPLIED>*

*<!-- the value of the style attribute is inherited from the closest
parent -->*

<!ELEMENT list (t+)>

*<!ATTLIST list
style (numbers/symbols/hanging/empty)
"empty">*

<!ELEMENT xref (%CTEXT;)>

*<!ATTLIST xref
target IDREF #REQUIRED
pageno (true|false) "false">*

<!ELEMENT eref (%CTEXT;)>

*<!ATTLIST eref
target %URI; #REQUIRED>*

<!ELEMENT iref EMPTY>

*<!ATTLIST iref
item %ATEXT; #REQUIRED
subitem %ATEXT; "">*

<!ELEMENT vspace EMPTY>

*<!ATTLIST vspace
blankLines %NUMBER; "0">*

<!ELEMENT figure (preamble?,artwork,postamble?)>

*<!ATTLIST figure
anchor ID #IMPLIED
title %ATEXT; "">*

<!ELEMENT preamble (%TEXT;|xref|eref|iref)>*

<!ELEMENT artwork (%TEXT;)>*

*<!ATTLIST artwork
xml:space (default|preserve) "preserve">*

<!ELEMENT postamble (%TEXT;|xref|eref|iref)>*

<!--

Back matter

-->

<!-- sections, if present, are appendices -->

<!ELEMENT back (references?,section)>*

<!ELEMENT references (reference+)>

<!ELEMENT reference (front,seriesInfo)>*

<!ATTLIST reference

anchor ID #IMPLIED

target %URI; #IMPLIED>

<!ELEMENT seriesInfo EMPTY>

<!ATTLIST seriesInfo

name %ATEXT; #REQUIRED

value %ATEXT; #REQUIRED>