



## Well-formed documents

---

An XML document must be well formed, that is, it must comply with the syntax rules of the XML recommendation. For a document to be well formed, it must at least meet the following points:

1. The document contains only valid Unicode characters.
2. There is a root element that contains the rest of the elements.
3. The names of the elements and their attributes do not contain spaces.
4. The first character of an element or attribute name can be a letter, a colon (:) or underscore (\_).
5. The rest of the characters can also be numbers, hyphens (-) or periods (.).
6. The characters "<" and "&" are only used as the beginning of marks.
7. The opening, closing, and empty tags are properly nested (do not overlap) and no opening or closing tag is missing or left over.
8. The closing tags match the opening tags (even when capitalizing and lower case).
9. The closing tags do not contain attributes.
10. No tag has two attributes with the same name.
11. All attributes have some value.
12. Attribute values are enclosed in quotes (single or double).
13. There are no references in the attribute values.

If an XML document is not well formed, it is not an XML document. XML processors they should reject any document that contains errors.

### Well formed documents. Tasks

The following documents are not well formed. Correct the mistakes.

#### WFD - Task 1 - Athletes

```
<? xml version = "1.0" encoding = "UTF-8"?>
<sportsmen>
<sportsman>
<sport Athletics />
<name> Jesse Owens </name>
<sportsman>
<sport Swimming />
<name> Mark Spitz </name>
</sportsman>
</sportsmen>
```

#### WFD - Task 2 - Movies

```
<?xml version = "1.0" encoding = "UTF-8"?>
<movie>
<title>Some Like It Hot</tile>
<director>Billy Wilder</director>
</movie>
<movie>
<director>Leo McCarey</director>
<title>Duck soup</title>
</movie>
<author />barto</author>
```

### WFD - Task 3 - Text

```
<?xml version = "1.0" encoding = "UTF-8"?>
<text>
<title>XML explained to children</title>
<paragraph>The <abbreviation>XML</abbreviation> defines how to create
markup languages. </ paragraph>
<paragraph>Marks are added to a text document
to add information.</paragraph>
<http://>www.example.org </ http //>
</text>
```

### WFD - Exercise 4 - Geographic information

```
<?xml version = "1.0" encoding = "UTF-8"?>
<world geography>
<country>
<country>Spain</country>
<continent>Europe</continent>
<capital></ capital name="Madrid">
</country>
</ world geography>
```

### WFD - Exercise 5 - Programs

```
<?xml version = "1.0" encoding = "UTF-8"?>
<programs>
<program name="Firefox" license = "GPL" license = "MPL"/>
<program name="LibreOffice" license = "LGPL" />
<program name="Inkscape" license = GPL />
</programs>
```

### WFD - Exercise 6 - Soccer World Cups

```
<? xml version = "1.0" encoding = "UTF-8"?>
<football-world>
<world>
<country = "Spain" />
<1982 />
</world>
</football-world>
```

## WFD - Exercise 7 - Means of transport

```
<? xml version = "1.0" encoding = "UTF-8"?>
<TransportMeans>
<bike speed = "v<100km/h" />
<scooter maximum speed="50 km/h"
</meansoftransport>
```

## WFD - Exercise 8 - Library books

```
<? xml version = "1.0" encoding = "UTF-8"?>
<library>
<book id=2003-Blanken>
<title>Intelligent XML Search</title>
<editor>Henk A. Blanken et al.</editor>
<publisher>Springer Verlag</PUBLISHER>
</book>
<journal id="TODS_1_2003 publ_year="2003">
<title>ACM Transactions on Databases</title>
<volume>24<number>1</number></volume>
</journal>
<misc id="Dipl2002-12" id="TR2002-01-04">
<author>U. Known</author>
<title>The Diploma Thesis that didn't appear
<year>2002</year>
<pages>0</pages>
</misc>
</library>
```

## Credits

- Author: Bartolomé Sintés Marco
- Creative Commons Attribution-ShareAlike 4.0 International License (CC BY-SA 4.0)