

PYTHON JAVA

PHP

HOW TO



JAVASCRIPT SQL

Previous

CSS

= .

Next >

W3.CSS

The syntax rules of XML are very simple and logical. The rules are easy to learn, and easy to use.

## XML Documents Must Have a Root Element

XML documents must contain one **root** element that is the **parent** of all other elements:

```
<root>
     <child>
          <subchild>.....</subchild>
          </child>
     </root>
```

In this example **<note>** is the root element:

```
<?xml version="1.0" encoding="UTF-8"?>
<note>
     <to>Tove</to>
     <from>Jani</from>
     <heading>Reminder</heading>
```



Tutorials **▼** 

Exercises **▼** 

Services **▼** 

 $\bigcirc$ 

**1** 

PHP

Sign Up

Log in

=

CSS JAVASCRIPT

SQL

PYTHON

JAVA

HOW TO

W3.CSS

## The XML Prolog

This line is called the XML **prolog**:

```
<?xml version="1.0" encoding="UTF-8"?>
```

The XML prolog is optional. If it exists, it must come first in the document.

XML documents can contain international characters, like Norwegian øæå or French êèé.

To avoid errors, you should specify the encoding used, or save your XML files as UTF-8.

UTF-8 is the default character encoding for XML documents.

Character encoding can be studied in our Character Set Tutorial.

UTF-8 is also the default encoding for HTML5, CSS, JavaScript, PHP, and SQL.

**ADVERTISEMENT** 

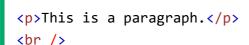
PYTHON

JAVA

PHP

HOW TO

W3.CSS



CSS

**Note:** The XML prolog does not have a closing tag! This is not an error. The prolog is not a part of the XML document.

## XML Tags are Case Sensitive

JAVASCRIPT SQL

XML tags are case sensitive. The tag <Letter> is different from the tag <letter>.

Opening and closing tags must be written with the same case:

```
<message>This is correct</message>
```

"Opening and closing tags" are often referred to as "Start and end tags". Use whatever you prefer. It is exactly the same thing.

# XML Elements Must be Properly Nested

In HTML, you might see improperly nested elements:

```
<br/>this text is bold and italic</b></i>
```

In XML, all elements **must** be properly nested within each other:



CSS JAVASCRIPT SQL PYTHON JAVA PHP HOW TO W3.CSS

In the example above, "Properly nested" simply means that since the <i> element is opened inside the <b> element, it must be closed inside the <b> element.

# XML Attribute Values Must Always be Quoted

XML elements can have attributes in name/value pairs just like in HTML.

In XML, the attribute values must always be quoted:

```
<note date="12/11/2007">
    <to>Tove</to>
    <from>Jani</from>
    </note>
```

# **Entity References**

Some characters have a special meaning in XML.

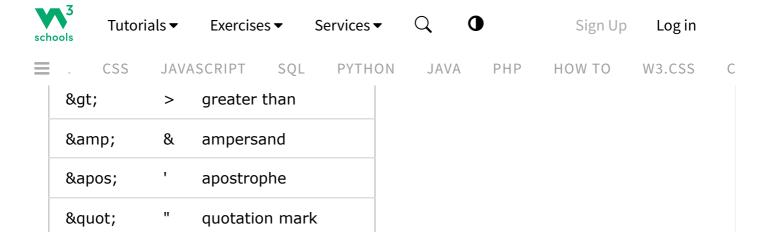
If you place a character like "<" inside an XML element, it will generate an error because the parser interprets it as the start of a new element.

This will generate an XML error:

```
<message>salary < 1000</message>
```

To avoid this error, replace the "<" character with an **entity reference**:

```
<message>salary &lt; 1000</message>
```



Only < and & are strictly illegal in XML, but it is a good habit to replace > with &gt; as well.

### Comments in XML

The syntax for writing comments in XML is similar to that of HTML:

```
<!-- This is a comment -->
```

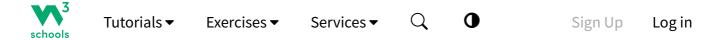
Two dashes in the middle of a comment are not allowed:

```
<!-- This is an invalid -- comment -->
```

# White-space is Preserved in XML

XML does not truncate multiple white-spaces (HTML truncates multiple white-spaces to one single white-space):

XML:	Hello	Tove	
HTML:	Hello Tove	Hello Tove	



PYTHON JAVA

PHP

Windows applications store a new line as: carriage return and line feed (CR+LF).

SQL

Unix and Mac OSX use LF.

JAVASCRIPT

CSS

Old Mac systems use CR.

XML stores a new line as LF.

### Well Formed XML

XML documents that conform to the syntax rules above are said to be "Well Formed" XML documents.

Previous

Next >

С

W3schools Pathfinder
Track your progress - it's free! Sign Up Log in

**ADVERTISEMENT** 



Q Tutorials **▼** Exercises **▼** Services **▼** Sign Up Log in

W3.CSS  $\equiv$ CSS JAVASCRIPT SQL PYTHON JAVA PHP HOW TO С



**COLOR PICKER** 



■ . CSS JAVASCRIPT SQL PYTHON JAVA PHP HOW TO W3.CSS C

ADVERTISEMENT



Tutorials **▼** Exercises **▼** Services ▼ Q Sign Up Log in

= . CSS

JAVASCRIPT SQL

PYTHON

JAVA PHP

HOW TO

W3.CSS

C

### **ADVERTISEMENT**



SPACES

UPGRADE AD-FREE

NEWSLETTER GET CERTIFIED

**CONTACT US** 

### **Top Tutorials**

**HTML Tutorial CSS Tutorial JavaScript Tutorial** How To Tutorial **SQL Tutorial Python Tutorial** W3.CSS Tutorial **Bootstrap Tutorial** PHP Tutorial Java Tutorial C++ Tutorial jQuery Tutorial





SQL Reference
Python Reference
W3.CSS Reference
Bootstrap Reference
PHP Reference
HTML Colors
Java Reference
Angular Reference
jQuery Reference

### **Top Examples**

HTML Examples
CSS Examples
JavaScript Examples
How To Examples
SQL Examples
Python Examples
W3.CSS Examples
Bootstrap Examples
PHP Examples
Java Examples
XML Examples
jQuery Examples

### **Get Certified**

HTML Certificate
CSS Certificate
JavaScript Certificate
Front End Certificate
SQL Certificate
Python Certificate
PHP Certificate
jQuery Certificate
Java Certificate
C++ Certificate
C# Certificate
XML Certificate











#### FORUM ABOUT CLASSROOM

W3Schools is optimized for learning and training. Examples might be simplified to improve reading and learning.

Tutorials, references, and examples are constantly reviewed to avoid errors, but we cannot warrant full correctness

of all content. While using W3Schools, you agree to have read and accepted our terms of use, cookie and privacy policy.

 $\underline{\text{Copyright 1999-2024}}$  by Refsnes Data. All Rights Reserved.  $\underline{\text{W3Schools is Powered by W3.CSS}}$ .