

XML

XML (Extensible Markup Language) is a markup language similar to HTML, but without pre-defined tags to use. Instead, you define your own tags designed specifically for your needs. This is a powerful way to store data in a format that can be stored, searched, and shared. Most importantly, since the fundamental format of XML is standardized, if you share or transmit XML across systems or platforms, either locally or over the internet, the recipient can still parse the data due to the standardized XML syntax.

There are many languages based on XML, including XHTML, MathML, SVG, RSS, and RDF. You can also define your own.

① Structure of an XML document:-

XML is not a tag. It is used for the transmission of the meta-data of a document.
<?xml version="1.0" encoding="UTF-8"?>

Attributes version :- Used version XML in this document.

encoding: Used encoding in this document.

Comments <!-- comment -->

"Correct" XML (valid and well-formed)

Correct design rules

For an XML document to be correct, the following conditions must be fulfilled:

- Documents must be well-formed.
- Documents must conform to all XML syntax rules.
- Documents must conform to semantic rules, which are usually set in an XML schema or a DTD (Document Type Definition).

Example:

```
<?xml version="1.0" encoding="UTF-8"?>
<message>
  <warning>
    Hello world
  <!-- missing </warning> -->
</message>
```

A document that contains an undefined tag is invalid. For example, if we never defined the <warning> tag, the document above wouldn't be valid.

Most browsers offer a debugger that can identify poorly-formed XML documents.

Entities

Like HTML, XML offers methods (called entities) for referring to some special reserved characters (such as a greater than sign which is used for tags). There are five of these characters that

Entity	Character	Description
<lt;	<	less than sign
>gt;	>	Greater than sign
&	&	Ampersand
"	"	one double-quotation
'	'	one apostrophe

You can also use numeric character references to specify special characters; for example, © is the "©" symbol.

Displaying XML

XML is usually used for descriptive purposes, but there are ways to display XML data. If you don't define a specific way for XML to be rendered, the raw XML is displayed in the browser.

One way to style XML output is to specify CSS to apply to the documents using the XML-stylesheet processing instruction.

```
<?xml-stylesheet type="text/css" href="stylesheet.css" ?>
```

```
<?xml-stylesheet type="text/xsl" href="transform.xsl" ?>
```