

2013

XML



XML:

- we have to define our own tags
- It is used for store data and transform data
- If you want to change the data in HTML, that takes more time. But you can define data in XML and load in HTML dynamically.
- XML is like - not like a Database

Ex:
 <note> - - - -> root
 <to> satya </to>
 <from> Johnny </from>
 <msg> Hello </msg>
 </note> } -> child

Syntax Rules

- must have closing tag
- It is case sensitive. [<msg> , <MSG> different]
- must have "root" element, should be properly nested
- Attribute values must be "Quoted". Ex: <note = "12-mar-2023"> ✓ <note = 12-mar-2023> ✗
- DONT USE SYMBOLS [<, >, >=, <=, ',] ✗
- use [<, >, &]
- comments <!-- this is comment -->
- It removes WHITE SPACES [Ex: Hello satya = Hello - - - Satya]

Elements VS Attributes

<note date = "jan-12"> } Attributes
 <person sex = "male">
 <name> satya </name> } Elements
 <age> 25 </age>
 </person>

✓ Better to avoid Attributes

Adding CSS to XML

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

XSLT

It is used for applying styles to XML and displays as HTML doc

XML - Java Script

- 1. XMLHttpRequest Object, used to exchange data with a Server
 - Sends / Receives the data with Server in Background.

Ex: xml-http = new XMLHttpRequest(); [New Browsers]

xml-http = new ActiveXObject("microsoft.XMLHTTP"); [old-Brow]

XML to HTML

- Create XMLHttpRequest Object : `xmlHttp = new XMLHttpRequest;`
- open xml ~~http~~ object
 `xmlHttp.open ("GET", "cd.xml", "true");`
- send xml http req. to server
 `xmlHttp.send();`
- Create Response xml object
 `xmlDoc = xmlHttp.responseXML;`

XML DATA

PCDATA → processed character set data

CDATA → unprocessed character set data

XML-Related Techs

XSL, DTD, XSD, XLink, XPointer, SOAP, WSDL, RDF, RSS, SVG.

② XML-DOM

- It defines standard way to accessing and manipulating xml documents
- It describes the xml as Tree Structure

Properties

- `x.nodeName` - the name of x
- `x.nodeValue` - value of x
- `x.parentNode` - parent of x
- `x.childNodes` - children of x
- `x.attributes` - attributes of x

methods

- `x.getElementsByTagName (name)` - get by tag name
- `x.appendChild (node)` - insert child node to x
- `x.removeChild (node)` - remove child node from x

③ DTD - document type Definition

- It is used to define building blocks to an xml document.
- It defines document structure and for validating xml

Internal DTD

```
<?xml version="1.0"?>
<!DOCTYPE nok [
  <!ELEMENT nok (to, age)>
  <!ELEMENT to (#PCDATA)>
  <!ELEMENT age (#PCDATA)>
]>
<nok>
  <to> abc </to>
  <age> 20 </age>
```

External DTD

```
<!DOCTYPE nok SYSTEM "nok.dtd">
```

④ XSLT → styling xml

⑤ XPATH → navigates through elements and attributes in an xml

⑥ XQuery → is designed to query xml data

Functions:

doc("books.xml"): used to open xml file

select all nodes from xml: `doc("books.xml")/Parent/child/subchild`
`doc("note.xml")/note/to`

Condition: `doc("books.xml")/bookstore/book[price < 30]`

⑦ XLink → standard way of creating Hyperlinks in xml documents
→ It points to whole page

→ Ex: `xlink href = "http://www.google.com"`

⑧ XPointer → points the Hyperlink to a specific part of a document.
→ It doesn't point to whole page

→ Ex:

⑨ XSL-FO → formats the xml (styling) to print on paper / visible on screen

⑩ XML-Schema → defines structure of xml document
→ like Data Types

⑪ SVG → Draw graphs using xml
→ Scalable vector graphs

Syntax

`<svg height="100" width="100">`
`<dimensions>`
`</svg>`

⑫ RSS → for News updations. Ex. News sites, Cricket Score sites

⑬ WSDL → web service description language