Unit 2

HTML & XML

Content of Unit 2

- Introduction to HTML
- Introduction to DOM
- Structure of HTML Document
- Markup Tags
- Heading-Paragraphs, Line Breaks
- HTML Table
- HTML List
- Working of Hyperlinks
- HTML images and frames
- HTML form and control
- Audio, Video and Article Tags

Content of Unit 2 (Cont..)

- Introduction to Extended Mark up language (XML)
- XML DTD, Schema and Object model
- Tree, Syntax, Elements, Attributes, Display
- HTTP Request, Parser, DOM
- XPath, XSLT, XQuery, XLink, Validator
- DTD, Schema, Server

Unit Objective

Objective of Unit 2:

- To understand the concepts of web designing
- To understand the concepts of history of web
- To understand the concepts of tags of HTML

Topic's Objective:

To understand the concepts of HTML, List, Tables attributes and Borders.

HTML

- HTML stands for Hyper Text Markup Language
- HTML is the standard markup language for creating Web pages
- HTML describes the structure of a Web page
- HTML consists of a series of elements
- HTML elements tell the browser how to display the content
- HTML elements label pieces of content such as "this is a heading", "this is a paragraph", "this is a link", etc.

HTML is an acronym which stands for Hyper Text Markup Language which is used for creating web pages and web applications. Let's see what is meant by Hypertext Markup Language, and Web page.

HTML (Cont..)

- **Markup language:** A markup language is a computer language that is used to apply layout and formatting conventions to a text document. Markup language makes text more interactive and dynamic. It can turn text into images, tables, links, etc.

- **Web Page:** A web page is a document which is commonly written in HTML and translated by a web browser. A web page can be identified by entering an URL. A Web page can be of the static or dynamic type. **With the help of HTML only, we can create static web pages**.

HTML (Cont..)

An HTML document is made of many HTML tags and each HTML tag contains different content.

```
<!DOCTYPE html>
<html>
<head>
<title>Page Title</title>
</head>
<body>

<h1>My First Heading</h1>
<p>My first paragraph.</p>

</body>
</html>
```

HTML (Cont..)

Example Explained

- The <!DOCTYPE html> declaration defines that this document is an HTML5 document
- The <html> element is the root element of an HTML page
- The <head> element contains meta information about the HTML page
- The <title> element specifies a title for the HTML page (which is shown in the browser's title bar or in the page's tab)
- The <body> element defines the document's body, and is a container for all the visible contents, such as headings, paragraphs, images, hyperlinks, tables, lists, etc.
- The <h1> element defines a large heading
- The <p> element defines a paragraph

HTML (Cont..)

HTML Element

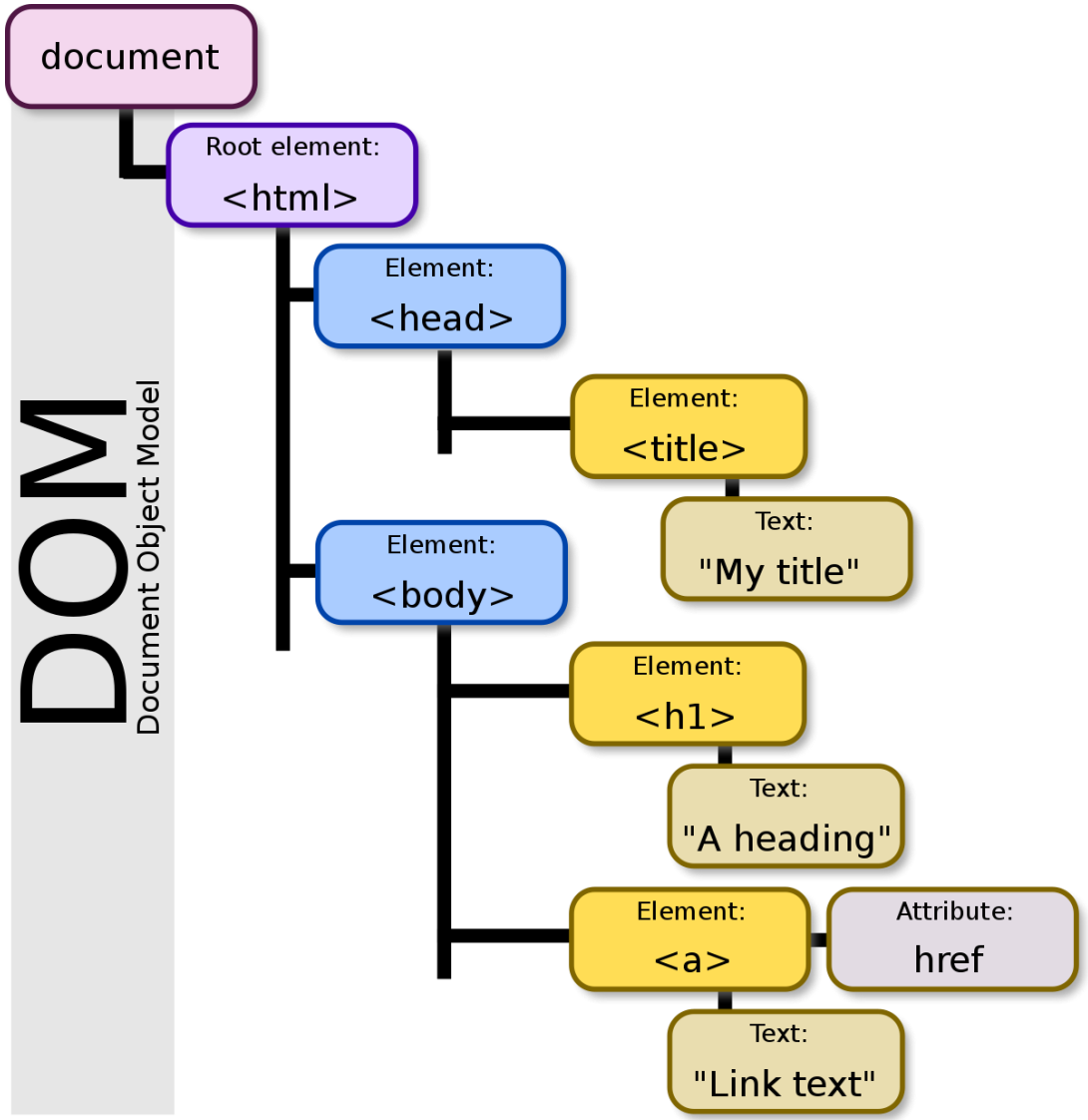
- An HTML element is defined by a start tag, some content, and an end tag:

<tagname> Content goes here... </tagname>

Document Object Model:

The Document Object Model is a cross-platform and language-independent interface that treats an XML or HTML document as a tree structure wherein each node is an object representing a part of the document. The DOM represents a document with a logical tree.

Document Object Model



Structure of HTML

```
<html>
<head>
<title>Page title</title>
</head>
<body>
<h1>This is a heading</h1>
<p>This is a paragraph.</p>
<p>This is another paragraph.</p>
</body>
</html>
```

The content inside the <body> section (the white area above) will be displayed in a browser. The content inside the <title> element will be shown in the browser's title bar or in the page's tab.

Markup Tags

A “markup tag” is the fundamental characteristic of HTML. Every markup tag is a command placed between “wickets” or “angle brackets”—a left bracket (<) and a right bracket (>). Markup tags are *not* revealed by a web browser; they are invisible.

In most cases, markup tags (containing *commands*) come in pairs, with text or a graphic image located between the *beginning* and *ending* tags:

<COMMAND>text or graphic image</COMMAND>: controls or regulates the text or graphic image information between the two non-empty markup tags.

Markup Tags (Cont..)

Pairs of markup tags are referred to as “non-empty” tags, because something is contained between the beginning tag and the ending tag. A beginning tag and an ending tag are identical, except a “slash” (/) is placed before the command of the ending tag to tell the browser that the command has been completed.

Paragraph:

A paragraph always starts on a new line, and browsers automatically add some white space (a margin) before and after a paragraph. HTML paragraph or HTML p tag is used to define a paragraph in a webpage.

An HTML <p> tag indicates starting of new paragraph.

HTML Paragraph and Break line

Example of HTML Paragraph Tag:

```
<p>This is a paragraph.</p>
<p>This is another paragraph.</p>
```

**Example of HTML Paragraph Tag: (
)**

- Used to insert single line breaks in a text.
- The
 tag inserts a single line break.
- The
 tag is useful for writing addresses or poems.
- The
 tag is an empty tag which means that it has no end tag.

***Use the
 tag to enter line breaks, not to add space between paragraphs.***

HTML Paragraph and Break line

Example of Line Breaks:

```
<p>To force<br> line breaks<br> in a text,<br> use the br<br>
element.</p>
```

Output:

To force
line breaks
in a text,
use the br
element.

HTML List

HTML Lists are used to specify lists of information. All lists may contain one or more list elements. There are three different types of HTML lists:

- ❖Ordered List or Numbered List (ol)
- ❖Unordered List or Bulleted List (ul)
- ❖Description List or Definition List (dl)

HTML Ordered List:

In the ordered HTML lists, all the list items are marked with numbers by default. It is known as numbered list also. The ordered list starts with <ol> tag and the list items start with <li> tag.

HTML List (Cont..)

HTML Ordered List Example:

```
<ol>
 <li>Aries</li>
 <li>Bingo</li>
 <li>Leo</li>
 <li>Oracle</li>
</ol>
```

Output:

1. Aries
2. Bingo
3. Leo
4. Oracle

HTML List(cont..)

- **HTML Unordered List or Bulleted List**

  • In HTML Unordered list, all the list items are marked with bullets

  • It is also known as bulleted list also.

  • The Unordered list starts with <ul> tag and list items start with the <li> tag.

  •**Example of Unordered List:**

```
<ul>
 <li>Australia</li>
 <li>Japan</li>
 <li>India</li>
 <li>America</li>
</ul>
```

HTML List(cont..)

- **HTML Description List or Definition List**

  • HTML Description list is also a list style which is supported by HTML and XHTML

  • It is also known as definition.

  • The definition list is very appropriate when you want to present glossary, list of terms or other name-value list.

  •T he HTML definition list contains three tags as: <dl>, <dt> and <dd>

HTML List(cont..)

- **HTML Description List or Definition List Example**

```
<dl>
<dt>HTML</dt>
<dd>-One of the hypertext mark-up language.</dd>
<dt>Javascript</dt>
<dd>-One of my scripting language</dd>
<dt>Oracle</dt>
<dd>-It is  one of database</dd>
<dt>Java</dt>
<dd>-It is platform independent language.</dd>
</dl>
```

HTML Table

- HTML table tag is used to display data in tabular form (row * column).
- There can be many columns in a row.
- HTML tables are used to manage the layout of the page
- E.g. header section, navigation bar, body content, footer section etc.

HTML Table(cont..)

HTML Table Tags

- <table> It defines a table.
- <tr>It defines a row in a table.
- <th>It defines a header cell in a table.
- <td>It defines a cell in a table.
- <caption>It defines the table caption.
- <colgroup>It specifies a group of one or more columns in a table for formatting.

HTML Table(cont..)

HTML Table Example

```
<table>
<tr><th>First_Name</th><th>Last_Name</th><th>Marks</th></tr>
<tr><td>Sonoo</td><td>Jaiswal</td><td>60</td></tr>
<tr><td>James</td><td>William</td><td>80</td></tr>
<tr><td>Swati</td><td>Aggarwal</td><td>82</td></tr>
<tr><td>Chetna</td><td>Singh</td><td>72</td></tr>
</table>
```

HTML Table(cont..)

HTML Table with Border

- There are two ways to specify border for HTML tables.
    - By border attribute of table in HTML
    - By border property in CSS
- **HTML Border attribute**
    - You can use border attribute of table tag in HTML to specify border.
    - But it is not recommended now.

HTML Table(cont..)

HTML Border attribute Example

```
<table border="1">
<tr><th>First_Name</th><th>Last_Name</th><th>Marks</th>
</tr>
<tr><td>Sonoo</td><td>Jaiswal</td><td>60</td></tr>
<tr><td>James</td><td>William</td><td>80</td></tr>
<tr><td>Swati</td><td>Aggarwal</td><td>82</td></tr>
<tr><td>Chetna</td><td>Singh</td><td>72</td></tr>
</table>
```

HTML Table(cont..)

CSS Border property

- It is now recommended to use border property of CSS to specify border in table

- **CSS Border property Example:**

```
<style>
table, th, td {
    border: 1px solid black
;
}
</style>
```

```
 <style>
table, th, td {
    border: 2px solid black;
    border-
collapse: collapse;
}
</style>
```

HTML Table(cont..)

HTML Table with cell padding

- You can specify padding for table header and table data by two ways
  - By cellpadding attribute of table in HTML
  - By padding property in CSS
  - The cellpadding attribute of HTML table tag is obselete now.
  - It is recommended to use CSS

HTML Table(cont..)

- **Example of cell padding property in CSS**

```
<style>

table, th, td {
    border: 1px solid pink;
    border-collapse: collapse;
}
th, td {
    padding: 10px;
}

</style>
```

HTML Table(cont..)

HTML Table with colspan

• If you want to make a cell span more than one column, you can use the colspan attribute.

CSS code:

```
<style>
table, th, td {
    border: 1px solid black;
    border-collapse: collapse;
}
th, td {
    padding: 5px;
}
</style>
```

HTML Table(cont..)

HTML Table with colspan

HTML code:

```
<table style="width:100%">
  <tr>
    <th>Name</th>
    <th colspan="2">Mobile No.</th>
  </tr>
  <tr>
    <td>Ajeet Maurya</td>
    <td>7503520801</td>
    <td>9555879135</td>
  </tr>
</table>
```

HTML Table(cont..)

HTML Table with rowspan

CSS code:

```
<style>
table, th, td {
    border: 1px solid black;
    border-collapse: collapse;
}
th, td {
    padding: 10px;
}
</style>
```

HTML code:

```
<table>
<tr><th>Name</th><td>Ajeet Maurya</td></tr>
<tr><th  rowspan="2">Mobile No.</th><td>7503520801</td>
</tr>
<tr><td>9555879135</td></tr>

</table>
```

HTML Table(cont..)

HTML table with caption

- HTML caption is diplayed above the table.
- It must be used after table tag only.

```
table>
<caption>Student Records</caption>
<tr><th>First_Name</th><th>Last_Name</th><th>Marks</t
h></tr>
<tr><td>Vimal</td><td>Jaiswal</td><td>70</td></tr>
<tr><td>Mike</td><td>Warn</td><td>60</td></tr>
<tr><td>Shane</td><td>Warn</td><td>42</td></tr>
<tr><td>Jai</td><td>Malhotra</td><td>62</td></tr>
</table>
```

HTML Hyperlinks

- HTML links are hyperlinks.
- You can click on a link and jump to another document.
- When you move the mouse over a link, the mouse arrow will turn into a little hand.

A link does not have to be text. A link can be an image or any other HTML element!

```
<a href="url">link text</a>
```

The most important attribute of the <a> element is the href attribute, which indicates the link's destination.
The *link text* is the part that will be visible to the reader.
Clicking on the link text, will send the reader to the specified URL address.

HTML Images

•HTML img tag is used to display image on the web page.

• HTML img tag is an empty tag that contains attributes only,

• closing tags are not used in HTML image element.

Example

<h2>HTML Image Example</h2>

HTML Images(cont..)

Attributes of HTML img tag

- **src**

It is a necessary attribute that describes the source or path of the image.

It instructs the browser where to look for the image on the server.

- **alt**

The alt attribute defines an alternate text for the image.

The value of the alt attribute describe the image in words.

HTML Images(cont..)

- **Example of img tag**

```
<html>
<head>
<style>
  img { width:100%; }
</style>
</head>
<body>
<img src="html5.gif" alt="HTML5
Icon" style="width:128px;height:128px">
<img src="html5.gif" alt="HTML5
Icon" width="128" height="128">
</body>
</html>
```

Previous Topics: Recap

- The topic was focused on web designing concepts by using HTML in List which include:
  - ordered,
  - unordered,
  - Description
  - Definition
- Tables and its tags
- Borders and its attribute
- Cell padding
- Hyperlinks
- Images with its tags and example

UNIT 2

Topic's Objective:

- To understand the concepts of HTML in frames and forms

HTML Frames

• HTML frames are used to divide your browser window into multiple sections where each section can load a separate HTML document.

• A collection of frames in the browser window is known as a frameset.

• The window is divided into frames in a similar way the tables are organized: into rows and columns.

HTML Frames(cont..)

Disadvantages of Frames

- Some smaller devices cannot cope with frames often because their screen is not big enough to be divided up.
- Sometimes your page will be displayed differently on different computers due to different screen resolution.
- The browser's *back button* might not work as the user hopes.
- There are still few browsers that do not support frame technology.

HTML Frames(cont..)

Creating Frames

- To use frames on a page we use <frameset> tag instead of <body> tag.

- The <frameset> tag defines how to divide the window into frames.

- The **rows** attribute of <frameset> tag defines horizontal frames and **cols** attribute defines vertical frames.

- Each frame is indicated by <frame> tag and it defines which HTML document shall open into the frame.

HTML Frames(cont..)

Example of Horizontal Frame

```
<html>
<frameset rows="10%,80%,10%">
  <frame name="top" src="top_frame.htm" />
  <frame name="main" src="main_frame.htm" />
  <frame name="bottom" src="bottom_frame.htm" />

  <noframes>
 <body>  Your browser does not support frames.
 </body>
 </noframes>
 </frameset>
 </html>
```

HTML Frames(cont..)

Example of Vertical Frame

```
<html>
<frameset  cols ="10%,80%,10%">
  <frame name="top" src="top_frame.htm" />
  <frame name="main" src=ols"main_frame.htm" />
  <frame name="bottom" src="bottom_frame.htm" />

  <noframes>
 <body>  Your browser does not support frames.
 </body>
 </noframes>
 </frameset>
 </html>
```

HTML Forms Control

HTML Forms

• HTML Forms are required when you want to collect some data from the site visitor.

• For example during user registration you would like to collect information such as name, email address, credit card, etc.

• A form will take input from the site visitor and then will post it to a back-end application such as CGI, ASP Script or PHP script etc.

Previous Topics: Recap

- The topic was focused on web designing concepts which include Frames

  - Disadvantage
  - Creating Frames
  - Example

UNIT 2

Topic's Objective:

- To understand the concepts of HTML in forms.

HTML Forms Control(cont..)

Elements of HTML Forms

- <input>
- <textarea>
- <button>
- <select>
- <option>
- <optgroup>
- <label>

HTML Forms Control(cont..)

Elements of HTML Forms(cont..)

- **HTML <input> Tag**

  • “The <input> tag specifies an input field where the user can enter data.

  • <input> elements are used within a <form> element to declare input controls that allow users to input data.

  • An input field can vary in many ways, depending on the type attribute”

HTML Forms Control(cont..)

Elements of HTML Forms(cont..)

- **HTML <input> Tag Example**

```
<form action="my.html">
  First name: <input type="text" name="fname"><br>
  Last name: <input type="text" name="lname"><br>
  <input type="submit" value="Submit">
</form>
```

HTML Forms Control(cont..)

Elements of HTML Forms(cont..)

- **HTML <textarea> tag**

- The <textarea> tag defines a multi-line text input control.

- A text area can hold an unlimited number of characters, and the text renders in a fixed-width font (usually Courier).

- The size of a text area can be specified by the cols and rows attributes, or even better;

- **Example:-**

```
<textarea rows="5" cols="50" name="description">Enter description here...</textarea>
```

HTML Forms Control(cont..)

Elements of HTML Forms(cont..)

- **HTML <button> Tag**

  - The <button> tag defines a clickable button.

  - I nside a <button> element you can put content, like text or images.

  - **Example** <button type="button">Click Me!</button>

HTML Forms Control(cont..)

Elements of HTML Forms(cont..)

- **HTML <select> Tag and <option> Tag**

  • The <select> element is used to create a drop-down list.

  • The <option tags inside the <select> element define the available options in the list.

  • The <option> tag defines an option in a select list.

HTML Forms Control(cont..)

Elements of HTML Forms(cont..)

- **HTML <select> Tag and <option> Tag Example**

```
<select>
  <option value="volvo">Volvo</option>
  <option value="safari">Saab</option>
  <option value="mercedes">Mercedes</option>
  <option value="audi">Audi</option>
</select>
```

HTML Forms Control(cont..)

Elements of HTML Forms(cont..)

- **HTML <optgroup> Example**

```
<select>
  <optgroup label="Indian Cars">
    <option value="volvo">Volvo</option>
    <option value="Alto">Saab</option>
  </optgroup>
  <optgroup label="German Cars">
    <option value="mercedes">Mercedes</option>
    <option value="audi">Audi</option>
  </optgroup>
</select>
```

HTML Forms Control(cont..)

Elements of HTML Forms(cont..)

- **HTML <label> Tag**

  - The <label> tag defines a label for an <input> element.

  - The <label> element does not render as anything special for the user.

HTML Forms Control(cont..)

Elements of HTML Forms(cont..)

- **HTML <label> Tag Example**

```
<form action="demo_form.asp">
  <label for="male">Male</label>
  <input type="radio" name="sex" id="male" value="male"><br>
  <label for="female">Female</label>
  <input type="radio" name="sex" id="female" value="female"><br>
  <input type="submit" value="Submit">
</form>
```

HTML Forms Control(cont..)

HTML Form Controls

- Text Input Controls
- Checkboxes Controls
- Radio Box Controls
- Select Box Controls
- File Select boxes
- Hidden Controls
- Clickable Buttons
- Submit and Reset Button

HTML Forms Control(cont..)

- **Example of Checkbox Control**

```
<html>
<head>
<title>Checkbox Contro
</title>
</head>
<body>
<form>
<input type="checkbox" name="maths" value="on"> Maths
<input type="checkbox" name="physics" value="on"> Physics
</form>
```

HTML Forms Control(cont..)

- **Example of Radio Button Control**

```
<html>
<head>
<title>Radio Box Control
</title>
</head>
<body>
<form>
<input type="radio" name="subject" value="maths">
Maths<input type="radio“ name="subject" value="physics">
Physics
</form>
</body>
</html>
```

HTML Forms Control(cont..)

- **Example of Select Box Control**

```
<html>
<head>
<title>Select Box Control</title>
</head>
<body>
<form>
<select name="dropdown">
<option value="Maths" selected>Maths</option>
<option value="Physics">Physics</option>
</select>
</form>
</body>
</html>
```

HTML Forms Control(cont..)

- **Example of Hidden Form Control**

```
<html>
<head>
<title>File Upload Box</title>
</head>
<body>
<form>
<p>This is page 10</p><input type="hidden" name="pagename" value="10" />
<input type="submit" name="submit" value="Submit" />
<input type="reset" name="reset"  value="Reset" />
</form>
</body>
</html>
```

New Form Elements

There are many new elements of form. Few of them as follows:

- Date
- Number
- Range
- Email
- Search and datalist

Date:

The <input type="date"> defines a date picker. The resulting value includes the year, month, and day.	<label for="birthday">Birthday:</label> <input type="date" id="birthday" name="birthday">

Number Elements

Define a field for entering a number (You can also set restrictions on what numbers are accepted):

```
<label for="quantity">Quantity (between 1 and 5):</label>
<input type="number" id="quantity" name="quantity" min="1" max="5">
```

The <input type="number"> defines a field for entering a number.
Use the following attributes to specify restrictions:

- max - specifies the maximum value allowed
- min - specifies the minimum value allowed
- step - specifies the legal number intervals
- value - Specifies the default value

Range Elements

Define a range control (like a slider control):

```
<label for="points">Points (between 0 and 10):</label>
<input type="range" id="points" name="points" min="0" max="10">
```

The <input type="range"> defines a control for entering a number whose exact value is not important (like a slider control).

Default range is 0 to 100. However, you can set restrictions on what numbers are accepted with the attributes below.

max - specifies the maximum value allowed
min - specifies the minimum value allowed
step - specifies the legal number intervals
value - Specifies the default value

Email Elements

Define a field for an e-mail address (validates automatically when submitted):

```
<label for="email">Enter your email:</label>
<input type="email" id="email" name="email">
```

The <input type="email"> defines a field for an e-mail address.

The input value is automatically validated to ensure it is a properly formatted e-mail address.

To define an e-mail field that allows multiple e-mail addresses, add the "multiple" attribute.

Search Elements

Define a search field (like a site search, or Google search):

```
<label for="gsearch">Search Google:</label>
<input type="search" id="gsearch" name="gsearch">
```

The <input type="search"> defines a text field for entering a search string.

Note: Remember to set a name for the search field, otherwise nothing will be submitted. The most common name for search inputs is q.

Data list Elements

A datalist with pre-defined options (connected to an <input> element):

```
<label for="browser">Choose your browser from the list:</label>
<input list="browsers" name="browser" id="browser">

<datalist id="browsers">
  <option value="Edge">
  <option value="Firefox">
  <option value="Chrome">
  <option value="Opera">
  <option value="Safari">
</datalist>
```

Data list Elements (Cont..)

The <datalist> tag specifies a list of pre-defined options for an <input> element.

The <datalist> tag is used to provide an "autocomplete" feature for <input> elements. Users will see a drop-down list of pre-defined options as they input data.

The <datalist> element's id attribute must be equal to the <input> element's list attribute (this binds them together).

Audio & Video Tag

The HTML <audio> element is used to play an audio file on a web page.

```
<audio controls>
  <source src="horse.ogg" type="audio/ogg">
  <source src="horse.mp3" type="audio/mpeg">
Your browser does not support the audio element.
</audio>
```

The controls attribute adds audio controls, like play, pause, and volume.
The <source> element allows you to specify alternative audio files which the browser may choose from. The browser will use the first recognized format.
The text between the <audio> and </audio> tags will only be displayed in browsers that do not support the <audio> element.

Audio & Video Tag (Cont..)

To start an audio file automatically, use the autoplay attribute:

```
<audio controls autoplay>
  <source src="horse.ogg" type="audio/ogg">
  <source src="horse.mp3" type="audio/mpeg">
Your browser does not support the audio element.
</audio>
```

Chromium browsers do not allow autoplay in most cases. However, muted autoplay is always allowed.

Add muted after autoplay to let your audio file start playing automatically (but muted):

Audio & Video Tag (Cont..)

Add muted after autoplay to let your audio file start playing automatically (but muted):

```
<audio controls autoplay muted>
  <source src="horse.ogg" type="audio/ogg">
  <source src="horse.mp3" type="audio/mpeg">
Your browser does not support the audio element.
</audio>
```

Audio & Video Tag (Cont..)

The HTML <video> element is used to show a video on a web page.

```
<video width="320" height="240" controls>
  <source src="movie.mp4" type="video/mp4">
  <source src="movie.ogg" type="video/ogg">
Your browser does not support the video tag.
</video>
```

The controls attribute adds video controls, like play, pause, and volume.
It is a good idea to always include width and height attributes. If height and width are not set, the page might flicker while the video loads.
The <source> element allows you to specify alternative video files which the browser may choose from. The browser will use the first recognized format.
The text between the <video> and </video> tags will only be displayed in browsers that do not support the <video> element.

Article Tag

The **HTML <article> tag** defines *an independent self-contained content in a document, page, application or a site*.
The article tag content makes sense on its own. It is independent and complete from other content shown on the page. This tag is generally used on Forum post, Blog post, News story, comment etc.

```
<article>
 <h2>Narendra Modi</h2>
  <i>(Naam to suna hi hoga) </i>
  <p>Narendra DamodarDas Modi is the 15th and current Prime Mini
ster of India,
  Modi, a leader of the Bharatiya Janata Party (BJP), previously serve
d as the Chief Minister
  of Gujarat state from 2001 to 2014. He is currently the Member of P
arliament (MP) from Varanasi. </p>
</article>
```

Previous Topics: Recap

- HTML Forms
- Elements of HTML
  - Form Controls
  - Checkbox Control
  - Radio Button Control
  - Select Box Control
  - Hidden Box Control

New Form Elements:

- Date, Email, Range, Search, Data List
- **Audio, Video and Article Tag**

Previous Topics: Recap

The topic was focused on web designing concepts which include Frames

- Creating Frames
- HTML Forms
- Elements of HTML
- Form Controls
- Checkbox Control
- Radio Button Control
- Select Box Control
- Hidden Box Control
- New Form Elements
- Audio, Video and Article tag

UNIT 2

Topic's Objective:

- To learn the concept of XML DTD, XML schema

Introduction XML

XML Definition

- Xml (eXtensible Markup Language) is a mark up language.
- XML is designed to store and transport data.
- XML became a W3C Recommendation on February 10, 1998.
- XML is designed to be self-descriptive.
- XML is designed to carry data, not to display data.
- XML is platform independent and language independent.

Introduction XML(cont..)

Benefit and Feature Of XML

- XML separates data from HTML
- XML simplifies data sharing
- XML simplifies data transport
- XML simplifies Platform change

Introduction XML(cont..)

XML Validat*ion*

- A well formed XML document can be validated against DTD or Schema.
- A well-formed XML document is an XML document with correct syntax.
- It is very necessary to know about valid XML document before knowing XML validation.
- It must be well formed (satisfy all the basic syntax condition)
- It should be behave according to predefined DTD or XML schema

Introduction XML(cont..)

Rules for well formed XML

- It must begin with the XML declaration.
- It must have one unique root element.
- All start tags of XML documents must match end tags.
- XML tags are case sensitive.
- All elements must be closed.
- All elements must be properly nested.
- All attributes values must be quoted.

Introduction XML(cont..)

Example Of XML

```
<?xml version="1.0"?>
<employee>
  <firstname>vimal</firstname>
  <lastname>jaiswal</lastname>
<address>Gaziabad</address>
  <email>vima.jaiswal@gmail.com</email>
</employee>
```

Introduction XML(cont..)

XML DTD

- A DTD defines the legal elements of an XML document.
- XML schema is a XML based alternative to DTD.
- Actually DTD and XML schema both are used to form a well formed XML document.
- DTD stands for Document Type Definition.
- It defines the legal building blocks of an XML document.

Introduction XML(cont..)

XML DTD Syntax

• The XML Document Type Declaration, commonly known as DTD, is a way to describe XML language precisely.

• DTDs check vocabulary and validity of the structure of XML documents against grammatical rules of appropriate XML language.

```
<!DOCTYPE element DTD identifier
[
  declaration1
  declaration2
  ........
]>
```

Introduction XML(cont..)

Internal DTD Declaration XML

- A DTD is referred to as an internal DTD if elements are declared within the XML files.

- To refer it as internal DTD, *standalone* attribute in XML declaration must be set to **yes**.

- This means, the declaration works independent of external source.

Introduction XML(cont..)

Internal DTD Declaration XML Example

```
<?xml version="1.0" standalone="yes" ?>
<!DOCTYPE address [
  <!ELEMENT address (name,company,phone)>
  <!ELEMENT name (#PCDATA)>
  <!ELEMENT company (#PCDATA)>
  <!ELEMENT phone (#PCDATA)>

<address>
  <name>Devendra Kumar</name>
  <company>NIET</company>
  <phone>(011) 123-4567</phone>
</address>
```

Introduction XML(cont..)

External DTD

- In external DTD elements are declared outside the XML file.
- They are accessed by specifying the system attributes which may be either the legal *.dtd* file or a valid URL.
- To refer it as external DTD, *standalone* attribute in the XML declaration must be set as **no**.
- This means, declaration includes information from the external source.

Introduction XML(cont..)

External DTD Example

```
<?xml version="1.0" standalone="no" ?>
<!DOCTYPE address SYSTEM"address.dtd"><address>
<name>Anand Varshney</name><company>NIET</company>
<phone>(011) 123-4567</phone></address>
```

address.dtd

```
<!ELEMENT address
(name,company,phone)><!ELEMENT name
(#PCDATA)><!ELEMENT company
(#PCDATA)><!ELEMENT phone (#PCDATA)>
```

Introduction XML(cont..)

XML schema

- It is defined as an XML language.

- It uses namespaces to allow for reuses of existing definitions

- It supports a large number of built in data types and definition of derived data types

- XML Schema is commonly known as XML Schema Definition (XSD)

- **Syntax**

```
<xs:schema xmlns:xs="http://www.org/2001/XMLSchema">
```

Introduction XML(cont..)

- **XML schema Example**

```
<?xml version="1.0" encoding="UTF-8"?><xs:schema
xmlns:xs="http://www.w3.org/2001/XMLSchema"><xs:element
name="contact">    <xs:complexType>        <xs:sequence>
<xs:element name="name" type="xs:string" />          <xs:element
name="company" type="xs:string" />          <xs:element
name="phone" type="xs:int" />        </xs:sequence>
</xs:complexType></xs:element>
```

Introduction XML(cont..)

- **Ways to define XML schema elements**
  - Simple Type
  - Complex Type
  - Global Types
  - **XML Simple Types Example**

```
<xs:element name="phone_number" type="xs:int" />
```

Introduction XML(cont..)

- **XML Complex Types Example**

```
<xs:element
name="Address"><xs:complexType><xs:sequence>
<xs:element name="name" type="xs:string" />
<xs:element name="company" type="xs:string" />
<xs:element name="phone" type="xs:int" />
</xs:sequence>     </xs:complexType></xs:element>
```

Introduction XML(cont..)

- **XML Global Types Example**

```
<xs:element name="Address1">
<xs:complexType>
<xs:sequence>
<xs:element name="address"
type="AddressType" />
<xs:element name="phone1"
type="xs:int" />
</xs:sequence>
</xs:complexType></xs:element
> <xs:element
name="Address2">
<xs:complexType>
<xs:sequence>
<xs:element name="address"
type="AddressType" />
<xs:element name="phone2"
type="xs:int" />
</xs:sequence>
</xs:complexType></xs:element
>
```

Previous Topics: Recap

- The topic was focused on CSS concepts in XML which includes
  - Introduction
  - XML Examples
  - Syntax
  - Features
  - Benefits
- Validations and its rules with examples
- XML Schema with its syntax.
- XML DTD and its
  - Syntax
  - Types
  - Declaration

UNIT 2

Topic's Objective:

- To learn the concept of XML document object model and its presentation using XML.

Introduction XML(cont..)

XML Document Object Model (DOM)

- It defines a standard way to access and manipulate documents.

- The Document Object Model (DOM) is a programming API for HTML and XML documents.

- It defines the logical structure of documents and the way a document is accessed and manipulated.

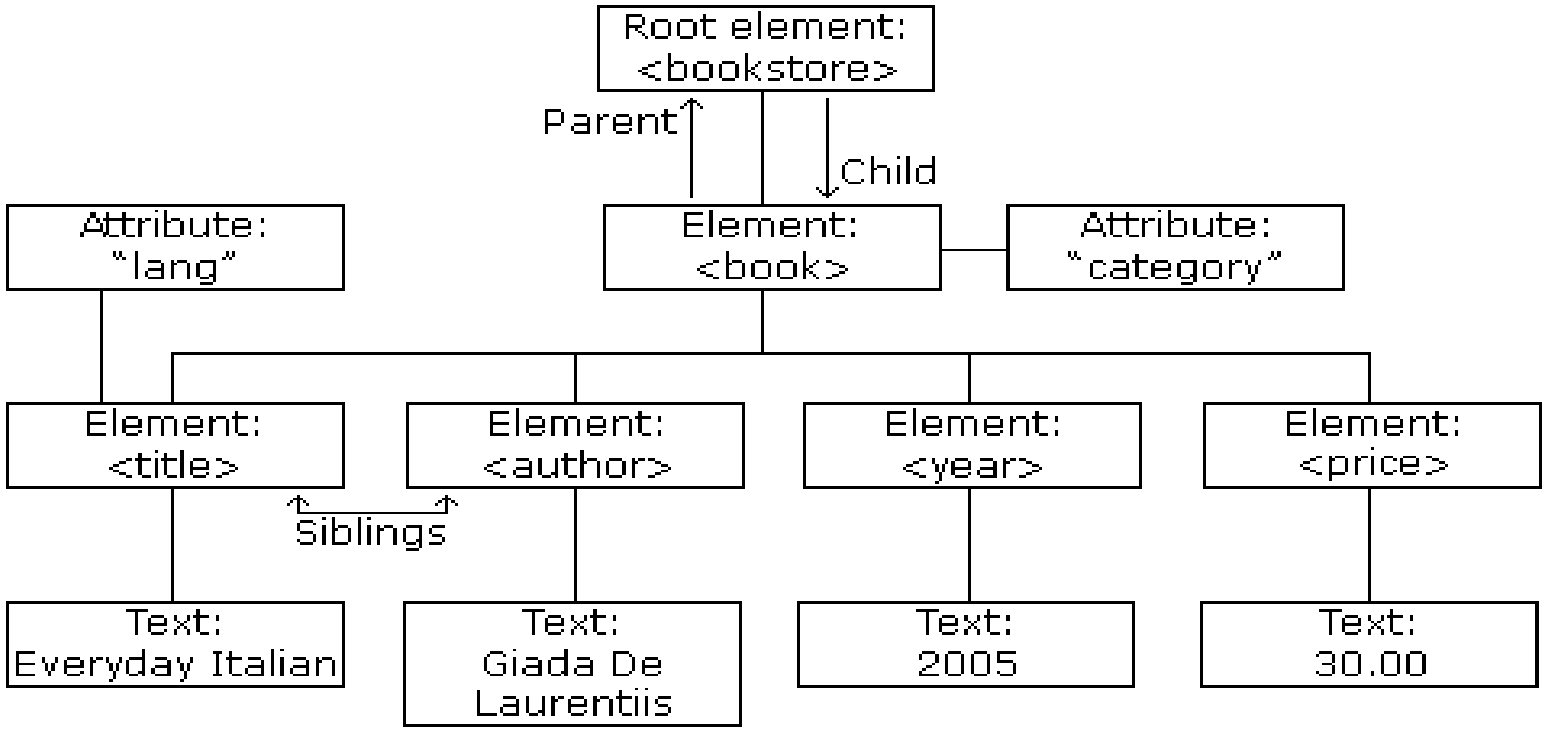
- XML DOM defines a standard way to access and manipulate XML documents.

Introduction XML(cont..)

- **XML Document Object Model (DOM)(cont..)**
  - **The XML DOM is:**
    - A standard object model for XML
    - A standard programming interface for XML
    - Platform- and language-independent
    - A W3C standard

Introduction XML(cont..)

- **Example Of XML DOM**



Introduction XML(cont..)

- **Example Of XML DOM(cont..)**

```
<!DOCTYPE html>
<html>
<body>

<p id="demo"></p>

<script>
var xhttp
= new XMLHttpRequest();
xhttp.onreadystatechange = function
() {
    if (this.readyState == 4 && this.s
tatus == 200) {
    myFunction(this); } }
```

Introduction XML(cont..)

- **Example Of XML DOM(cont..)**

```
xhttp.open("GET", "books.xml", true);
xhttp.send();

function myFunction(xml) {
    var xmlDoc = xml.responseXML;
    document.getElementById("demo").innerHTML =
    xmlDoc.getElementsByTagName("title")[0].childN
odes[0].nodeValue;
}
</script>
</body>
</html>
```

Introduction XML(cont..)

- **Presenting and using XML**

  - Presenting XML is a Java web application framework for presenting HTML, PDF, WML etc. in a device independent manner.

  - It aims to achieve a complete separation of content and presentation.

  - It supports various kinds of content including XML files, dynamic content, SQL result sets and flat files.

  - Presenting XML may be used as a command line tool or as a framework for a servlet-based web application

Previous Topics: Recap

- The topic was focused on Object Model concepts in XML which includes
  - Introduction
  - XML Examples
  - Syntax
  - Features
  - Benefits
- Presentation using XML.
- It was also discussed about XML DTD, XML Schema and XML Document Object Model(DOM).

UNIT 2

Topic's Objective:

- To learn the concepts about presenting and using XML by DOM and SAX parsers.

Introduction XML(cont..)

XML Processors

• When a software program reads an XML document and takes actions accordingly, this is called *processing* the XML.

• Any program that can read and process XML documents is known as an *XML processor*.

• An XML processor reads the XML file and turns it into in-memory structures that the rest of the program can access.

•This is called a *parser*, and it is an important component of every XML processing program.

Introduction XML(cont..)

- **XML Parsers**

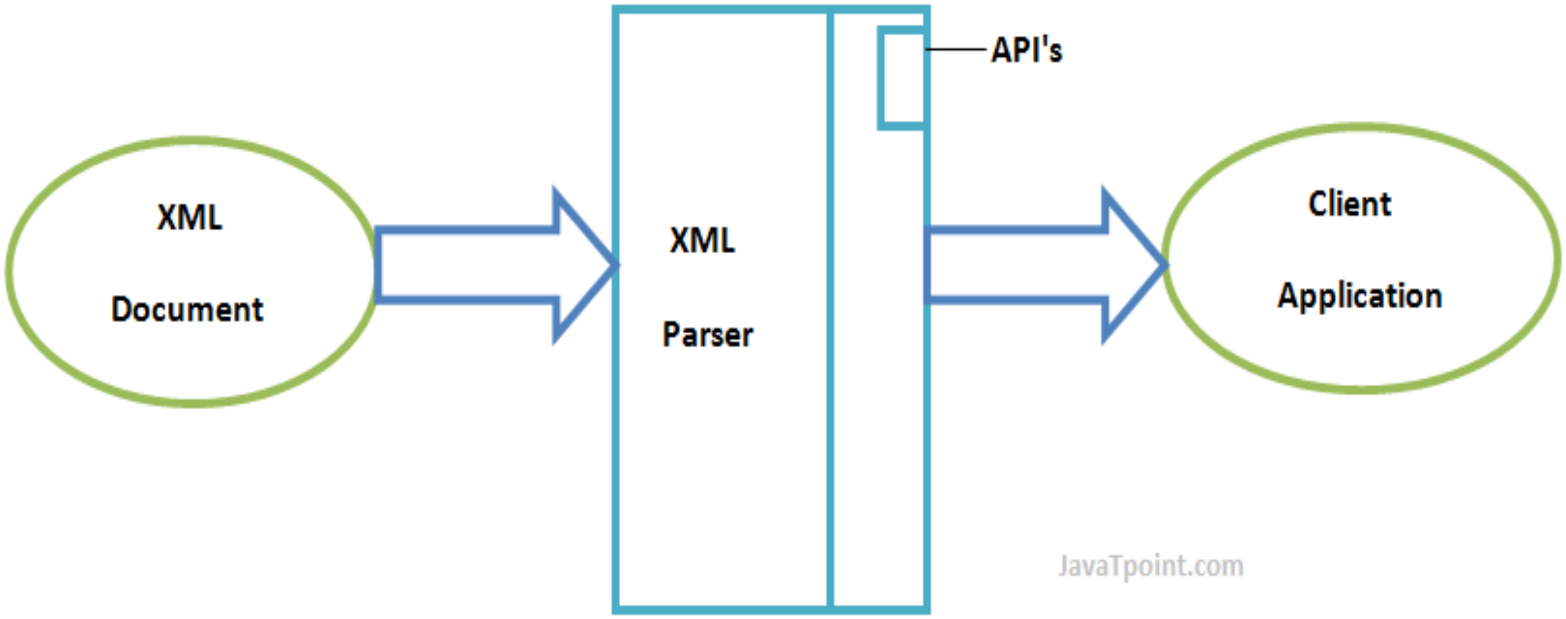
  • An XML parser is a software library or package that provides interfaces for client applications to work with an XML document.

  • The XML Parser is designed to read the XML and create a way for programs to use XML.

  • XML parser validates the document and check that the document is well formatted.

Introduction XML(cont..)

- **XML Parsers(cont..)**



Introduction XML(cont..)

- **DOM (Document Object Model) parser**

  - A DOM document is an object which contains all the information of an XML document.

  - It is composed like a tree structure.

  - The DOM Parser implements a DOM API.

  - This API is very simple to use.

Introduction XML(cont..)

- **DOM (Document Object Model) parser(cont..)**

Advantages

- It supports both read and write operations and the API is very simple to use.

- It is preferred when random access to widely separated parts of a document is required.

Disadvantages

- It consumes more memory because the whole XML document needs to loaded into memory.

- It is comparatively slower than other parsers.

Introduction XML(cont..)

- **SAX (Simple API for XML) parser**
  - A SAX Parser implements SAX API.
  - This API is an event based API and less intuitive.
  - It does not create any internal structure.
  - Clients does not know what methods to call, they just overrides the methods of the API and place his own code inside method.
  - It is an event based parser, that works like an event handler in Java.

Introduction XML(cont..)

- **SAX (Simple API for XML) parser(cont..)**

Advantages

- It is simple and memory efficient.
- It is very fast and works for huge documents.

Disadvantages

- It is event-based so its API is less intuitive.
- Clients never know the full information because the data is broken into pieces.

Previous Topics: Recap

- The topic was focused on XML processor which includes
  - Introduction
  - Syntax
  - Features
  - Benefits
- The topic focused on Parser and DOM Parser
- Also discussed about SAX (Simple API for XML)
- It was discussed the concepts about presenting and using XML by DOM and SAX parsers.

UNIT 2

Objective of the above topics: To learn the concepts of following points

- Namespace
- Attribute
- Tree
- Elements
- Display
- HTTP Request
- Parser
- DOM
- Xpath
- XSLT
- XQuery

UNIT 2

Objective of the above topics: To learn the concepts of following points

- Xlink
- Validator
- Schema
- Server

Introduction XML(cont..)

- **Namespaces**

XML Namespaces provide a method to avoid element name conflicts.

Name Conflicts
In XML, element names are defined by the developer. This often results in a conflict when trying to mix XML documents from different XML applications.
This XML carries HTML table information:

```
<table>
  <tr>
    <td>Apples</td>
    <td>Bananas</td>
  </tr>
</table>
```

This XML carries information about a table (a piece of furniture):

```
<table>
  <name>African Coffee Table</name>
  <width>80</width>
  <length>120</length>
</table>
```

Introduction XML(cont..)

If these XML fragments were added together, there would be a name conflict. Both contain a <table> element, but the elements have different content and meaning.
A user or an XML application will not know how to handle these differences.

Solving the Name Conflict Using a Prefix:
Name conflicts in XML can easily be avoided using a name prefix.
This XML carries information about an HTML table, and a piece of furniture:

Introduction XML(cont..)

```
<h:table>
  <h:tr>
    <h:td>Apples</h:td>
    <h:td>Bananas</h:td>
  </h:tr>
</h:table>

<f:table>
  <f:name>African Coffee
Table</f:name>
  <f:width>80</f:width>
  <f:length>120</f:length>
</f:table>
```

In the example above, there will be no conflict because the two <table> elements have different names.

XML DISPLAY

Raw XML files can be viewed in all major browsers.
Don't expect XML files to be displayed as HTML pages.

Viewing XML Files:

```
<?xml version="1.0" encoding="UTF-8"?>
- <note>
  <to>Tove</to>
  <from>Jani</from>
  <heading>Reminder</heading>
  <body>Don't forget me this
weekend!</body>
</note>
```

XML DISPLAY

Look at the XML file above in your browser: note.xml

Most browsers will display an XML document with color-coded elements.

Often a plus (+) or minus sign (-) to the left of the elements can be clicked to expand or collapse the element structure.

To view raw XML source, try to select "View Page Source" or "View Source" from the browser menu.

Note: In Safari 5 (and earlier), only the element text will be displayed. To view the raw XML, you must right click the page and select "View Source".

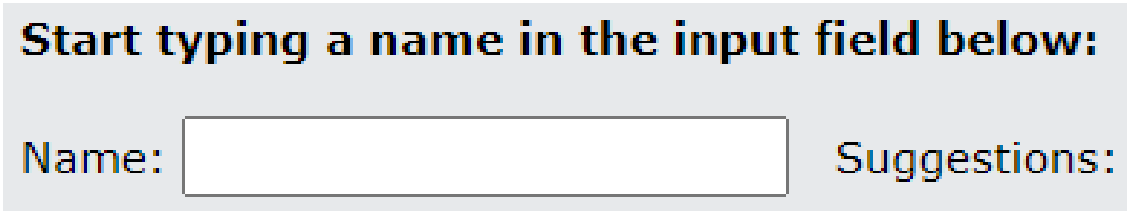
XML :HTTP Request

The XMLHttpRequest object can be used to request data from a web server.

The XMLHttpRequest object is **a developers dream**, because you can:

- Update a web page without reloading the page
- Request data from a server - after the page has loaded
- Receive data from a server - after the page has loaded
- Send data to a server - in the background

When you type a character in the input field below, an XMLHttpRequest is sent to the server, and some name suggestions are returned (from the server):



XML :HTTP Request

Sending an XMLHttpRequest:

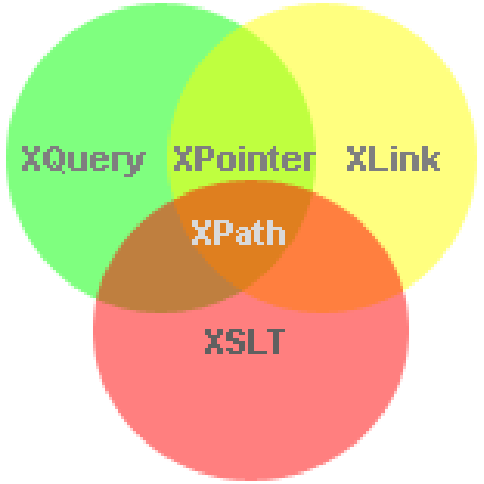
A common JavaScript syntax for using the XMLHttpRequest object looks much like this:

```
var xhttp = new XMLHttpRequest();
xhttp.onreadystatechange = function() {
    if (this.readyState == 4 && this.status == 200) {
      // Typical action to be performed when the document is
ready:
      document.getElementById("demo").innerHTML =
xhttp.responseText;
    }
};
xhttp.open("GET", "filename", true);
xhttp.send();
```

XML :XPath

XPath is a major element in the XSLT standard.
XPath can be used to navigate through elements and attributes in an XML document.

- XPath is a syntax for defining parts of an XML document
- XPath uses path expressions to navigate in XML documents
- XPath contains a library of standard functions
- XPath is a major element in XSLT and in XQuery
- XPath is a W3C recommendation



XML :Xpath (Cont..)

XPath Path Expressions

XPath uses path expressions to select nodes or node-sets in an XML document. These path expressions look very much like the expressions you see when you work with a traditional computer file system.

XPath expressions can be used in JavaScript, Java, XML Schema, PHP, Python, C and C++, and lots of other languages.

XPath is Used in XSLT

XPath is a major element in the XSLT standard.

With XPath knowledge you will be able to take great advantage of XSL.

XML :Xpath (Cont..)

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

<bookstore>

<book category="cooking">
  <title lang="en">Everyday Italian</title>
  <author>Giada De Laurentiis</author>
  <year>2005</year>
  <price>30.00</price>
</book>

<book category="children">
  <title lang="en">Harry Potter</title>
  <author>J K. Rowling</author>
  <year>2005</year>
  <price>29.99</price>
</book>

<book category="web">
  <title lang="en">XQuery Kick Start</title>
  <author>James McGovern</author>
  <author>Per Bothner</author>
  <author>Kurt Cagle</author>
  <author>James Linn</author>
  <author>Vaidyanathan Nagarajan</author>
  <year>2003</year>
  <price>49.99</price>
</book>
<book category="web">
  <title lang="en">Learning XML</title>
  <author>Erik T. Ray</author>
  <year>2003</year>
  <price>39.95</price>
</book>
</bookstore>
```

XML :Xpath (Cont..)

In the table below we have listed some XPath expressions and the result of the expressions:

XPath Expression	Result
/bookstore/book[1]	Selects the first book element that is the child of the bookstore element
/bookstore/book[last()]	Selects the last book element that is the child of the bookstore element
/bookstore/book[last()-1]	Selects the last but one book element that is the child of the bookstore element
/bookstore/book[position()<3]	Selects the first two book elements that are children of the bookstore element
//title[@lang]	Selects all the title elements that have an attribute named lang
//title[@lang='en']	Selects all the title elements that have a "lang" attribute with a value of "en"

XML :Xpath (Cont..)

In the table below we have listed some XPath expressions and the result of the expressions:

XPath Expression	Result
/bookstore/book[price>35.00]	Selects all the book elements of the bookstore element that have a price element with a value greater than 35.00
/bookstore/book[price>35.00] /title	Selects all the title elements of the book elements of the bookstore element that have a price element with a value greater than 35.00

XML :XSLT

XSLT (eXtensible Stylesheet Language Transformations) is the recommended style sheet language for XML.

XSLT is far more sophisticated than CSS. With XSLT you can add/remove elements and attributes to or from the output file. You can also rearrange and sort elements, perform tests and make decisions about which elements to hide and display, and a lot more.

XSLT uses XPath to find information in an XML document.

XML :XSLT (Cont..)

```
<?xml version="1.0" encoding="UTF-8"?>
<breakfast_menu>
<food>
<name>Belgian Waffles</name>
<price>$5.95</price>
<description>Two of our famous Belgian Waffles with plenty of real maple syrup</description>
<calories>650</calories>
</food>
<food>
<name>Strawberry Belgian Waffles</name>
<price>$7.95</price>
<description>Light Belgian waffles covered with strawberries and whipped cream</description>
<calories>900</calories>
</food>
<food>
<name>Berry-Berry Belgian Waffles</name>
<price>$8.95</price>
<description>Light Belgian waffles covered with an assortment of fresh berries and whipped cream</description>
<calories>900</calories>
</food>
<food>
<name>French Toast</name>
<price>$4.50</price>
<description>Thick slices made from our homemade sourdough bread</description>
<calories>600</calories>
</food>
<food>
<name>Homestyle Breakfast</name>
<price>$6.95</price>
<description>Two eggs, bacon or sausage, toast, and our ever-popular hash browns</description>
<calories>950</calories>
</food>
</breakfast_menu>
```

XML :XSLT (Cont..)

Use XSLT to transform XML into HTML, before it is displayed in a browser:

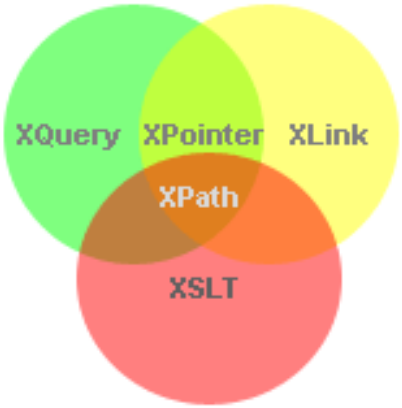
```
<?xml version="1.0" encoding="UTF-8"?>
<html xsl:version="1.0" xmlns:xsl="http://www.w3.org/1999/XSL/Transform">
<body style="font-family:Arial;font-size:12pt;background-color:#EEEEEE">
<xsl:for-each select="breakfast_menu/food">
  <div style="background-color:teal;color:white;padding:4px">
    <span style="font-weight:bold"><xsl:value-of select="name"/> - </span>
    <xsl:value-of select="price"/>
    </div>
  <div style="margin-left:20px;margin-bottom:1em;font-size:10pt">
    <p>
    <xsl:value-of select="description"/>
    <span style="font-style:italic"> (<xsl:value-of select="calories"/> calories per
serving)</span>
    </p>
  </div>
</xsl:for-each>
</body>
</html>
```

XML :XQuery

- XQuery is to XML what SQL is to databases.
- XQuery was designed to query XML data.

```
for $x in doc("books.xml")/bookstore/book
where $x/price>30
order by $x/title
return $x/title
```

- XQuery is ***the*** language for querying XML data
- XQuery for XML is like SQL for databases
- XQuery is built on XPath expressions
- XQuery is supported by all major databases
- XQuery is a W3C Recommendation



XML :XQuery (Cont..)

XQuery is About Querying XML

XQuery is a language for finding and extracting elements and attributes from XML documents.

Here is an example of what XQuery could solve:

"Select all CD records with a price less than $10 from the CD collection stored in cd_catalog.xml"

XQuery and XPath

XQuery 1.0 and XPath 2.0 share the same data model and support the same functions and operators. If you have already studied XPath you will have no problems with understanding XQuery.

XQuery - Examples of Use

XQuery can be used to:

Extract information to use in a Web Service

Generate summary reports

Transform XML data to XHTML

Search Web documents for relevant information

XML :XLink

XLink is used to create hyperlinks in XML documents.

- XLink is used to create hyperlinks within XML documents
- Any element in an XML document can behave as a link
- With XLink, the links can be defined outside the linked files
- XLink is a W3C Recommendation

XLink Syntax

In HTML, the <a> element defines a hyperlink. However, this is not how it works in XML. In XML documents, you can use whatever element names you want - therefore it is impossible for browsers to predict what link elements will be called in XML documents.

Below is a simple example of how to use XLink to create links in an XML document:

XML :Xlink (Cont..)

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

<homepages xmlns:xlink="http://www.w3.org/1999/xlink">
  <homepage xlink:type="simple" xlink:href="https://www.w3schools.com"
>Visit W3Schools</homepage>
  <homepage xlink:type="simple" xlink:href="http://www.w3.org">Visit
W3C</homepage>
</homepages>
```

XML :Xlink (Cont..)

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

<bookstore xmlns:xlink="http://www.w3.org/1999/xlink">

<book title="Harry Potter">
  <description
  xlink:type="simple"
  xlink:href="/images/HPotter.gif"
  xlink:show="new">
  As his fifth year at Hogwarts School of Witchcraft and
  Wizardry approaches, 15-year-old Harry Potter is.....
  </description>
</book>
```

```
<book title="XQuery Kick Start">
  <description
  xlink:type="simple"
  xlink:href="/images/XQuery.gif"
  xlink:show="new">
  XQuery Kick Start delivers a concise introduction
  to the XQuery standard.....
  </description>
</book>

</bookstore>
```

XML :Xlink (Cont..)

Example explained:

The XLink namespace is declared at the top of the document (xmlns:xlink="http://www.w3.org/1999/xlink")

The xlink:type="simple" creates a simple "HTML-like" link

The xlink:href attribute specifies the URL to link to (in this case - an image)

The xlink:show="new" specifies that the link should open in a new window

XML :Validator

An XML document with correct syntax is called "Well Formed".

The syntax rules were described in the previous chapters:

- XML documents must have a root element
- XML elements must have a closing tag
- XML tags are case sensitive
- XML elements must be properly nested
- XML attribute values must be quoted

```
<?xml version="1.0" encoding="UTF-8"?>
<note>
<to>Tove</to>
<from>Jani</from>
<heading>Reminder</heading>
<body>Don't forget me this weekend!</body>
</note>
```

XML :Server

XML files are plain text files just like HTML files.
XML can easily be stored and generated by a standard web server.

Storing XML Files on the Server
XML files can be stored on an Internet server exactly the same way as HTML files.
Start Windows Notepad and write the following lines:

```
<?xml version="1.0" encoding="UTF-8"?>
<note>
  <from>Jani</from>
  <to>Tove</to>
  <message>Remember me this weekend</message>
</note>
```

Youtube & NPTEL Video Links and Online Courses Details

- https://www.youtube.com/watch?v=uEmF74eHRO8
- https://www.youtube.com/watch?v=7GjHjZuYuAo
- https://www.youtube.com/watch?v=ukazLQCyArY
- https://www.youtube.com/watch?v=itRkLa2kq6w
- https://www.youtube.com/watch?v=itRkLa2kq6w
- https://www.youtube.com/watch?v=KJHYdkKtafU
- https://www.youtube.com/watch?v=uUhOEj4z8Fo
- https://www.youtube.com/watch?v=cXtUhpZJYz8&list=PLfn3cNtmZdPOe3R_wO_h540QNfMkCQ0ho&index=18

Daily Quiz

- The following elements <header>, <footer>, <article>, <section> are the new elements in HTML5. These elements are called,

  A) Control attributes
  B) Semantic elements
  C) Graphic elements
  D) Multimedia elements

- Which among the following browsers does the HTML5 supports?

  A) Safari
  B) Firefox
  C) Internet Explorer
  D) All the mentioned above

Daily Quiz(cont..)

- HTML5 does not use SGML or XHTML it's completely a new thing so you do not need to refer DTD.

  A) Yes
  B) No

- What is the replacement for cookies in HTML5?

  A) Web beacons
  B) Java scripts
  C) Local Storage
  D) All the above

Daily Quiz(cont..)

- Which of the following tags below are used for a multi-line text input control?

  A. textml tag
  B. text tag
  C. textarea tag
  D. Both b and c above

- Which of the following attributes below are used for a font name?

  A. fontname
  B. fn
  C. font
  D.face

Daily Quiz(cont..)

- Each list item in an ordered or unordered list has which tag?

  A. list tag
  B. ls tag
  C. li tag
  D. ol tag

- HTML Practice Test - HTML Online Test - HTML Quiz Test

  A. What is the difference between XML and HTML?
  B. HTML is used for exchanging data, XML is not.
  C. XML is used for exchanging data, HTML is not.
  D. HTML can have user defined tags, XML cannot
  E. Both b and c above

Daily Quiz(cont..)

- Which type attribute of input element sets the element's value to a string representing a number?
  - A. range
  - B. email
  - C. file
  - D. date

- The World Wide Web's markup language has always been HTML.
  - A. True
  - B. False

Daily Quiz(cont..)

- **What does DTD stand for?**
  A. Dynamic Type Definition.
  B.Document Type Definition.
  C.Do The Dance.
  D.Direct Type Definition.

- Which statement is true?
  A. XML tags are case sensitive.
  B. XML documents must have a root tag
  C. XML elements must be properly closed
  D. All of the above.

Daily Quiz(cont..)

- **What does XSL stand for?**
  - A. eXtra Style Languagee
  - B. Xpandable Style Languagee
  - C. Xtensible Style Listinge
  - D. Xtensible Stylesheet Language

- **XML is a _____ Recommendation**
  - A. Microsoft
  - B. Sun
  - C. W3C
  - D. None of these

Weekly Assignment

- Discuss various types of list in HTML with example
- How ca you design various types of frame in HTML.
- Discuss various types ways to define xml schema with example
- List the various types of parser available in xml.
- Discuss XML Document Object Model in details
- Describe the benefit to use CSS on your web page.

Unit 2 MCQ s

1. The attribute used to define a new namespace is.
   a. XMLNS
   b. XmlNameSpace
   c. Xmlns
   d. XmlNs

2. Which of these tags are all <table> tags?
   a. <table><head><tfoot>
   b. <table><tr><td>
   c. <table><tr><tt>
   d. <thead><body><tr>

Unit 2 MCQ s(cont..)

3. How do I add scrolling text to my page?

a. <scroll>

b. <marquee>

c. <ciruler>

d. <tab>

4. Can a data cell contain images?

a. Yes

b. No

Unit 2 MCQ s(cont..)

5. Choose the correct HTML tag for the largest heading
   a. <h6>
   b. <heading>
   c. <head>
   d. <h1>

6. Which HTML attribute is used to define inline styles?

   a. font
   b. class
   c. styles
   d. style

Unit 2 MCQ s(cont..)

7. Which are the main features of XML?

a. Text data description

b. Human- and computer-friendly format

c. Handles data in a tree structure having one-and only one-root element

d**. All mentioned above**

8. Which is a language for finding information in an XML document?

a. **Xpath**

b. XSLT

c. XLink

d. XPointer

Unit 2 MCQ s(cont..)

9. Which file controls how your frames will appear?

a. Frameset

b. Master Document

c. Template

d. Timeline

10. A CSS combinator is the one which explains the relationship between the selectors.

a. True

b. False

Unit 2 MCQ s(cont..)

11. Which is used about text data that should not be parsed by the XML parser

a. CDATA

b. PCDATA

c. None of the above

12. Which is a language for finding information in an XML document?

a. Xpath

b. XSLT

c. XLink

d. XPointer

Unit 2 MCQ s(cont..)

13. Find the correct syntax of the declaration which defines the XML Version?

a. < ?xml version= "1.0" ? >

b. < xml version="1.0"/ >

c. < ?xml version="1.0" / >

d. None of the above

14. An XML parser converts an XML document into an XML DOM object, which can then be manipulated with JavaScript.

a. True

b. False

Unit 2 MCQ s(cont..)

15.Which language is case sensitive?

a. HTML

b. XML

c. Both A & B

d. None of the above

16. Which are the techniques for defining the structure of a specific type of XML documents?

a. Schema

b. DTD

c. Both A & B

d. None of the above

Glossary Questions

HTML is stand for _____
a) Hyper Text Markup Language
b) Holistick Technical Method Library
c) Hyper Tax Makes Line
d) None of the above

HTML is a subset of _____
a) SGMD
b) SGML
c) SGMH
d) None of the above

ALL HTML tags are enclosed in what?
a) # and #
b) ? and !
c) < and >
d) { and }

Glossary Questions (Cont..)

To add a plain color background to your web page, use which of the following?

a) <body bgcolor= “36,24,35”>
b) <body color= “# FF000”>
c) <body bgcolor= “# FF000”>
d) All of the above

The first tag inside <TABLE> tag is

_____

a) <HEAD>
b) <CAPTION>
c) <TH>
d) <TD>

Which program do you need to write HTML?

a) A graphics program
b) Any text editor
c) HTML -development suite 4
d) All of the above

Glossary Questions (Cont..)

The main container for <TR>, <TD> and <TH> is _____

a) <DATA>
b) <GROUP>
c) <TABLE>
d) None of the above

What does XML Stands for…….

a) EXtra Modern Link
b) EXtensible Markup Language
c) Example Markup Language
d) X-Markup Language

Which is not a XML function…….

a) Transport Information
b) Style Information
c) Store Information
d) Structure Information