

Front End Development - HTML

Table of Content

- What is HTML?
- Features
- HTML Editor
- HTML Skeleton
- Comments
- HTML Elements
- Basic Tags
- Attributes

What is HTML?

- Stands for HyperText Markup Language
- HyperText: Link between web pages.
- Markup Language: Text between tags which defines structure.
- It is a language to create web pages
- HTML defines how the web page looks and how to display content with the help of elements
- It forms or defines the structure of our Web Page
- Need to save your file with .html extension

Features Of HTML

- The learning curve is very easy (easy to modify)
- Create effective presentations
- Add links wherein we can add references
- Can display documents on platforms like Mac , Windows, Linux etc
- Add videos, graphics and audios making it more attractive.
- Case insensitive language

HTML Editors

- Simple editor: Notepad
- Notepad++
- Atom
- Best editor: Sublime Text.

HTML Skeleton

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

</body>
</html>
```

<!DOCTYPE html>

Instruction to the browser about the HTML version.

<html>

Root element which acts as a container to hold all the code

Browser should know that this a HTML document

Permitted content: One head tag followed by one body tag

<head>

Everything written here will never be displayed in the browser

It contains general information about the document

Title, definitions of css and script sheets

Metadata(information about the document)

<body>

- Everything written here will be displayed in the browser
- Contains text, images, links which can be achieved through tags.
- Examples:
 - <p> This is our first paragraph. </p>
 - Go To Google
 -

HTML Comments

- Comments don't render on the browser
- Helps to understand our code better and makes it readable.
- Helps to debug our code
- Three ways to comment:
 - Single line
 - Multiple line
 - Comment tag //Supported by IE

HTML Element

- Elements are created using tags
- Elements are used to define semantics
- Can be nested and empty

Basic Structure

```
<p color="red"> This is our first Paragraph </p>
```

- Contains following things:
 - Start tag: <p>
 - Attributes: color ="red"
 - End tag: </p> // optional
 - Content: This is our first Paragraph

Element Types

- **Block Level :**
 - Takes up full block or width and adds structure in the web page
 - Always starts from new line
 - Always end before the new line
 - Example :
 - <p >
 - <div>
 - <h1>...<h6>
 -
 -

Element Types

- **Inline Level:**
 - Takes up what is requires and adds meaning to the web page
 - Always starts from where the previous element ended
 - Example :
 -
 -
 -
 -
 - <a>

Basic Tags:

- Enclosed within <>
- Different tags render different meaning .
- **<title> tag**
 - Whatever is written this tag comes up in the web page's tab
 - Defines the title of the page
 - Syntax: <title>Home </title>
- **<p> tag**
 - Defines the paragraph
 - Syntax:<p > This is our first Paragraph </p>

List of Self closing tags

- **<hr> tag**
 - Stands for horizontal rule
 - Dividing the web page
- **
 tag**
 - Stands for break line
 - Moving to next line
- ** tag**
 - To add images in the web page

- **<h1> tag** **<h6>tag**
 - Stands for heading tag
 - Defines heading of a page
 - h1 represents most important page in the page
 - h6 represents least important page in the page
- ** tag**
 - Defines the text to be bold
 - Replaced tag //HTML5
- ** tag**
 - Defines the text to be bold
 - Replaced <i>tag //HTML5

- ** tag**
 - Stands for ordered list
 - To define series of events that take place in some order
 - Example making a tea (like a flow chart)
 -
- ** tag**
 - Stands for unordered list
 - To define series of events that take place where order is not important.
 - Example your hobbies
 -

- ** tag**
 - Defines the list item
 - Used inside the ‘ol’ and ‘ul’ tag to define the events
 -
- **<div> and tags**
 - Both of these are used to group different tags .
 - Acts like a container.
 - Effective while styling.
 - <div>.....</div>
 -
 - Difference <div> is block level and is inline level.

- ** tag**
 - Used to add images in a web page
 - Syntax:
 - Self closing tag.
- **<a> tags**
 - Used to add links in a web page
 - Name of the link

- **<table> tag**

- Used to create a table on a web page
- Need other tags for completing the creation of a table
 - <tr> : for marking the table row
 - <th> : for table header
 - <td> : for table column data
- Everything is always enclosed within <tr>
 - <thead> : to keep all header data
 - <tbody> : to keep all body data

- <form> tag

- Action attribute: It specifies the URL to send form data to
- Method attribute: specifies the type of HTTP request(GET or POST)
- Example: <form action="/my-form-submitting-page" method="POST">
- <input>: used to accept data from the user
- Some types of inputs are:

- **Text:** used to store text data. Syntax: type="text"
- **Password:** used to enter a secure password. Syntax: type="password"
- **Placeholder:** temporary text in input fields. It is generally accompanied by "text" and "password" attributes. Syntax: placeholder="insert- text-here"
- **Button:** used to include buttons in the form. Syntax: type="button" value="insert-text-here"
- **Submit button:** For creating a submit button. All the data will get submitted when it is clicked. Syntax: type="submit"
- **Checkbox:** to provide the ability to check multiple options. Syntax: type="checkbox". To check options by default, set it with the checked attribute.

- **Radio Button:** allows one to choose a single option. Syntax: type="radio". Keep the name attribute of all the options the same.
- **<select>:** For every possible option to select, use an <option> tag<option>
- **Text Areas:** multi-line plain-text editing control. Syntax: <textarea>. You can specify how large the text area is by using the "rows" and "cols" attributes
- **Labels:** add captions for individual items in a form. Syntax: <label>. A label can be used by placing the control element inside the <label> element, or by using the "for" and "id" attributes.
- Validations ensure that users fill out forms in the correct format, e.g.:
 - a. **required:** The Boolean attribute which makes a field mandatory:
 - b. **email:** the browser will ensure that the field contains an @ symbol.

Attributes

- Properties associated with each tag.
- <tag name="value"></tag> is the structure.
- Global Attribute:
 - Title : Add extra information (hover)
 - Style: Add style information(font,background,color,size)
-
 - src is the attribute used in image tag to define path
 - Width is attribute used to define width in pixels
 - Alt i.e alternate text if image is not loaded
- Name of the link
 - href used to define path of the link.

Conclusion

- Introduction to HTML
- Comments
- HTML Elements
- Basic Tags
- Attributes

Thank You

Front End Development CSS

Table of Content

- What is CSS
- History of CSS
- CSS Editors
- CSS Basic Structure
- CSS Comments
- Different ways to write CSS
- CSS Selectors
- Color Property
- Background Property
- Border Property
- Box Model

What is CSS

- CSS stands for Cascading Style Sheets
- If HTML is the structure of the house then CSS is the look and feel of the house
- It's the language to make our web pages presentable
- Designed to make style sheets for web
- Now let's try to break the acronym:

Cascading: Falling of Styles

Style: Adding designs/Styling our HTML tags

Sheets: Writing our style in different documents

History

- 1994 : First Proposed by Hakon Wium Lie on 10th October
- 1996: CSS was published on 17th November with influencer Bert Bos
- Later he became co-author of CSS
- 1996 : CSS became official with CSS was published in December
- 1997 : Created CSS level 2 on 4th November
- 1998: Published on 12th May

CSS Editors

- Atom
- Brackets
- Espresso(Mac user)
- Notepad++(Great for HTML & CSS)
- Komodo Edit (Simple)
- Sublime Text

Basic Structure

```
Selector {  
    Property1 : value;  
    Property2 : value;  
    Property3 : value;  
}
```

- Selector: selects the element you want to target
- There are few basic selectors like tags, id's, and classes
- All forms this key - value pair
- Keys : properties(attributes) like color, font-size, background, width, height,etc
- Value : values associated with these properties
- Always remains same whether we apply internal or external styling

Comments

- Comments don't render on the browser
- Helps to understand our code better and makes it readable.
- Helps to debugging our code
- Two ways to comment:
 - Single line
 - Multiple line

Different ways to Write CSS

- There are 3 ways to write Css in our HTML file.
 - Inline Css
 - Internal Css
 - External Css
- Priority order
 - Inline > Internal > External

Inline CSS

- Before Css this was the only way to apply styles
- Not an efficient way to write as it has lot a redundancy
- Self contained
- Uniquely applied on each element
- Idea of separation of concerns was lost
- Example:

```
<h3 style=" color:red"> Have a great day </h3>
```

```
<p style =" color: green"> I did this , I did that </p>
```

Internal CSS

- With the help of style tag we can apply styles within the HTML file
- Redundancy is removed
- But idea of separation of concerns still lost
- Uniquely applied on single document
- Example:

```
< style>
    h1{
        color:red;
    }
</style>
<h3> Have a great day </h3>
```

External CSS

- With the help of <link> tag in head tag we can apply styles
- Reference is added
- File saved with .css extension
- Redundancy is removed
- Idea of separation of concerns is maintained
- Uniquely applied on each document
- Example:

```
<link rel="stylesheet" type="text/css" href="">
```

```
h1{  
    color:red;      //css file  
}
```

CSS Selectors

- Selector are used target elements and apply Css
- Three simple selectors
 - Element Selector
 - Id Selector
 - Class Selector
- Priority of Selectors
Id > Class>Element

Element Selector

- Used to select HTML elements by its name
- How we do it

```
h1
{
    Color: red;
}
```

We selected the heading tag and then changed the color property i.e text color to red. Now whatever is written in this tag (content) will have the text color as red

ID Selector

- Id attribute is used to select HTML element
- Used to target specific or unique element
- How we do it

```
#unique
{
    Color: red;
}
<p id="unique"> Hi </p>
```

We selected id and then changed the color property i.e text color to red. Now whatever is written in this tag (content) will have the text color as red

Class Selector

- Class attribute is used to select HTML element
- Used to target specific class of element
- How we do it

```
.group
{
    color: red;
}
<p class="group"> Hi </p>
```

We selected class and then changed the color property i.e text color to red. Now whatever is written in this tag (content) will have the text color as red

Universal Selector

- Wild card character
- Used to target specific all the elements
- How we do it

```
*  
{  
    color: red;  
}  
<h1> Hi </h1>  
<p> Bye </p>
```

We selected all the elements then change the color property i.e text color to red. Now whatever is written in all the tags (content) will have the text color as red

Group Selector

- Group selector minimizes code
- Used to target specific group of elements
- How we do it

```
h1,p {  
        color: red;  
    }  
<h1> Hi </h1>  
<p> Bye </p>
```

We selected these elements and then changed the color property i.e text color to red. Now whatever is written in these tags (content) will have the text color as red

Descendant Combinator Selector

- Combine two or more selectors
- How we do it

```
<div id="out">  
    <div class="in">Hi </div>  
</div>
```

We selected class inside id then changed the color property i.e text color to red. Now whatever is written (content) will have the text color as red

```
#out .in {  
    color: red;  
}
```

Child Combinator Selector

- Combine two or more selectors like Descendant
- It only targets immediate child.
- How we do it

```
<div id="out">  
    <div class="in">Hi </div>  
</div>
```

We selected class inside id then changed the color property i.e text color to red. Now whatever is written (content) will have the text color as red

```
#out > .in {  
    color: red;
```

Pseudo-class Selector

- Used to target state of element
- How we do it

```
p : hover  
{  
    color: red;  
}  
<p> Hi </p>
```

We selected element and then changed the color property i.e text color to red. Now whatever is written in this tag (content) will have the text color as red.

CSS Color

- There are different colouring schemes in CSS
- 2 widely used techniques are as follows
 - **RGB**
 - This starts with rgb and takes 3 parameter
 - 3 parameter basically corresponds to red, green and blue
 - Value of each parameter may vary from 0 to 255.
 - Eg: `rgb(255,0,0)`; means color red
 - **HEX**
 - Hex code starts with # and comprises of 6 numbers which is further divided into 3 sets
 - Sets basically corresponds to Red, Green and Blue
 - A single set value can vary from 00 to ff
 - Eg: `#ff0000`, means color red

CSS Background

- There are different ways by which CSS can have effect on HTML elements
- Few of them are as follows:
 - Color - used to set the color of the background
 - Repeat - used to determine if image has to repeat or not and if it is repeating then how it should do that
 - Image - used to set image as the background
 - Position - used to determine the position of the image
 - Attachment - It basically helps in controlling the mechanism of scrolling

CSS Background Demo

```
html{  
    background: #ff9900;  
}  
  
p{  
    background: url("https://encrypted-  
tbn0.gstatic.com/images?q=tbn%3AANd9GcRT8t-o6oUJ-  
E9YRhimOvTU2TSH7vIBnRWBN554_rX30dZah466&usqp=CAU");  
  
    background-position: left;  
    background-repeat: no-repeat;  
    background-attachment: fixed;  
}
```

CSS Border

- Helps in setting up the border for HTML elements
- There are 4 properties that can help in setting up of border:
 - Width - sets the width of the border
 - Style - sets the style of border; Eg: solid, dashed etc.
 - Color - sets the color of the border
 - Radius - determines the roundness of the border
- You can set the border for specifically top, right, bottom and left
- We can also club top and bottom together and same goes for left and right
 - Eg: border-width: 2px 5px; sets top and bottom 2px; left and right 5px
- Border can also be set in a single line
 - Eg: border : 2px solid blue;

CSS Border Example

```
p{  
    border-style: solid;  
    border-color: blue;  
    border-width: 2px 5px;  
    border-radius: 10%;  
}
```

Box Model

- Every element in CSS can be represented using BOX model
- It helps developer to develop and manipulate the elements
- It consists of 4 edges
 - Content edge - It comprises of the actual content
 - Padding edge - It lies in between content and border edge
 - Border edge - Padding is followed by the border edge
 - Margin edge - It is outside border and controls margin of the element
- Example:

```
#styled{  
    border: 2px solid blue;  
    margin: 5px;  
    padding: 20px;  
    width: 20px;  
    height: 20px;
```

Conclusion

- Introduction to CSS
- CSS Basic Structure
- Different ways to write CSS
- CSS Selectors
- Color Property
- Background Property
- Border Property
- Box Model

Thank You