



## UNIT IV

# DHTML and CSS

### ❖ Introduction: Dynamic HTML, or DHTML:

It is a collection of technologies used together to create dynamic web sites by using a combination of a HTML, a client-side scripting language (such as JavaScript, VBScript), a CSS (Cascading Style Sheet) for designing, and the DOM (Document Object Model).

DHTML is not a language, it is a combination of:

**DHTML = HTML + Scripting Language + CSS + DOM**

1. HTML
2. JavaScript - the Web's standard scripting language
3. Cascading Style Sheets (CSS) - Making web page more attractive.
4. Document Object Model (DOM) - a means of accessing a document's individual elements

- The application of DHTML was introduced by Microsoft with the release of Internet Explorer 4 in 1997. We put HTML tags (paragraphs, images, etc.) in a specific order in the source code. The browser always showed all elements in this order. Positioning and styling was done by tables, div's and such aids. If we wanted to change the order or the positioning of the elements, we had to rewrite the HTML.

DHTML gives us the chance to re-organize our pages. In fact, we can take some tags out of the natural flow (Default behavior) of the page. The natural flow of the page is the page as the browser first shows it. It calculates the tables and paragraphs and other things we put in the page, then displays them in the best possible way, one by one, from the beginning to the end of the HTML document.



It provides a richer, more dynamic experience on web pages, making them more like dynamic applications and less like static content.

### ❖ Ramification/Components of DHTML:

**DHTML depends on these four component and these are:**

#### 1) **HTML:**

we have been using attributes, tags, and generating HTML in a structured fashion. HTML defines the structure of a Web page, using such tags as headings, forms, tables, paragraphs and links.

#### 2) **Scripting Language (Javascript, VBScript):**

Scripting provides the mechanisms to communicate user actions and produce client-side changes to a page. For example, scripts can handle mouse actions (such as the mouse passing over a specified area of a page through the event model such as onmouseover) and respond to the action by using a set of predefined instructions (such as highlighting the text or image activated by the mouse action) like rollover button. Although DHTML can communicate with several scripting languages, JavaScript is the standard for creating cross-browser DHTML pages.

#### 3) **Cascading Style Sheets (CSS):**

A style sheet controls the designing and formatting of HTML elements. We need to understand style sheets for attractively designing a html page. That means text and graphics can overlay each other, creating more visual effects.

#### 4) **Document Object Model (DOM):**

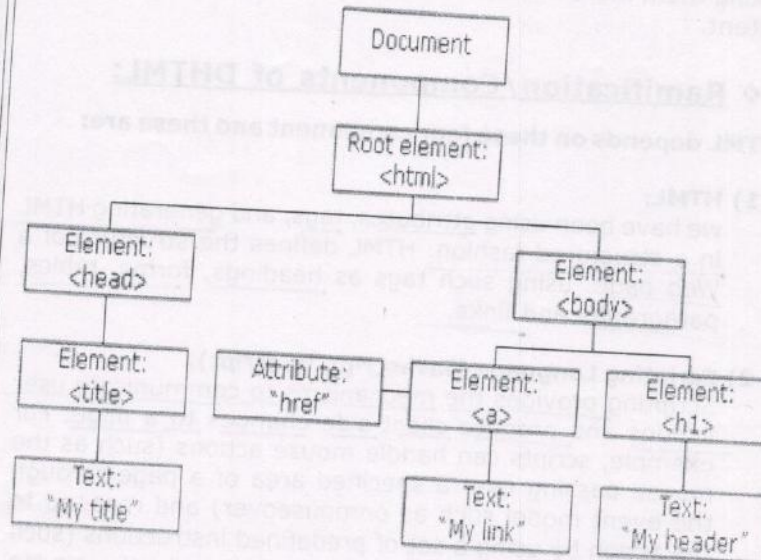
The Document Object Model. This means that we are developing a model in which the document or Web page contains objects (elements, links, etc.) that can be manipulated. So you will be able to delete, add, or change an element (as long as the document is still valid, of course!), change its content or add, delete or change an attribute.



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- With the Document Object Model, programmers can build documents, navigate their structure, and add, modify, or delete elements and content.
- Anything found in an HTML document can be accessed, changed, deleted, or added using the Document Object Model.

### ➤ **Advantages of DHTML:-**

#### **1. Fast: -**

- DHTML loads content on very fast. That Your whole page does not loads, it load only the content part that needs to be access other non-accessible content remain untouched.

#### **2. No Additional Software Require:-**

- DHTML uses most of the features already present in the browsers, so there is no need to download any sort of Plug-ins or additional supporting software.



### 3. Dynamic Features:-

- The dynamic features provided by DHTML are helping web designers to create Web pages that carry compact looks, downloads fast, have graphic effects, provides greater functionality and can hold much more text or content all at the same time.

### ➤ Disadvantages of DHTML:-

#### 1. Long and Complex coding:-

DHTML coding is long and complex. Only the expert JavaScript and HTML programmers can write them and edit them.

#### 2. Browser Support problems:-

DHTML has browser support problems for different browsers. For example, a code written for Netscape might not work in Internet Explorer and Vice-Versa.

### ❖ Rollover Buttons:

— A feature available as dynamic buttons, commonly called rollover buttons, is one of the first common examples of dynamic page manipulation using JavaScript, and DHTML.

— A rollover button is a button that becomes active when the user positions the mouse over it.

— The button may also have a special activation state when it is pressed. To create a rollover button, you will first need at least two or three images, to represent each of the **button's states—inactive, active, and unavailable.**

— To run this concept we need three images, a sample set of rollover image is shown here:

#### **Step 1:**

Create three images as shown below and give name as shows.

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Image First

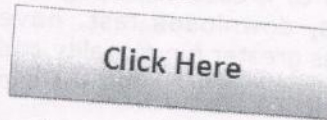


Image1.jpg

Image Second

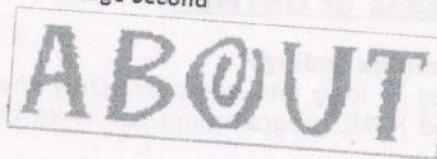


Image2.jpg

Image Third

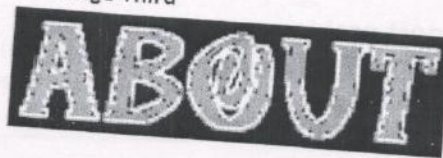


Image3.jpg

**Step 2:**

Take `<a>` tag and place `<img>` tag inside `<a>` tag then apply `onmouseover` and `onmouseout` event in `<a>` tag.

**Step 3:**

In order to add this rollover image to the page, simply use the `<IMG>` tag like another image it will display image1.jpg.

- The idea is to swap the image in and out when the user move mouse cursor over the image the `onmouseover` event will occur and image2.jpg will appear and when mouse pointer switch back from the image `onmouseout` event will occur and image3.jpg will appear.
- By literally swapping the value of the SRC attribute, you can achieve the rollover effect. This will happen dynamically without manually change any code and refresh or reload a web page.



- **Output Effect:** This will show effect as like image of ABOUT will blink as per action from white background to black background but technically image is not blinked but two individual images are swapping on action.

### Program for Rollover Buttons:

```
<html>
<head><title> Rollover Buttons without using javascript
</title></head>
<body>
  <a href="Destination URL" target="_top"
  onmouseover="document. Rollover.src='path/
  image2.jpg'"
  onmouseout="document. Rollover.src='path/
  image3.jpg'">

  </a>
</body>
</html>
```





### ❖ **Introduction to Cascading Style Sheets (CSS):**

- Cascading Style Sheets, commonly referred to as CSS, it is a simple design language used to simplify the process of making web pages presentable.
- CSS handles the look and feel/designing part of a web page. Using CSS, you can control the color of the text, the style of fonts, the spacing between paragraphs, how columns are sized and laid out, what background images or colors are used, layout designs, and variations in display for different devices and screen sizes as well as a variety of other effects.
- CSS is easy to learn and understand but it provides powerful control over the presentation of an HTML document. Most commonly, CSS is combined with the markup languages HTML.

#### **Advantages of CSS**

##### **1) CSS saves time –**

You can write CSS once and then reuse same sheet in multiple HTML pages. You can define a style for each HTML tags and apply it to as many Web pages as you want.

##### **2) Pages load faster –**

If you are using CSS, you do not need to write HTML tag attributes every time. Just write one CSS rule of a tag and apply it to all the occurrences of that tag. So less code means faster webpage download times.

##### **3) Easy maintenance –**

To make a global change, simply change the style, and all tags in all the web pages will be updated automatically.

##### **4) Superior styles to HTML –**

CSS has a lot of attributes than HTML, so you can give a best look to your HTML page in comparison to HTML attributes.

**5) Multiple Device Compatibility –**

Style sheets allow content to be displayed for Mobiles, Tablets, laptops, Desktop Computers, etc.

**6) Global web standards –**

Css supported by World Wide Web Standards.

**7) Platform Independence –**

The CSS Script offer consistent platform independence and can support latest browsers as well as all operating systems.

**❖ Types of CSS:**

There are three types of CSS:

**1) Embedded CSS Styles:**

- Embedded style always used inside <HEAD> tag, for using embedded css you have to use <style> tag inside <head> tag, then insert css code in to <style> tag.
- This type of css applies for complete webpage and for all tags, suppose you write a css code for h1, h2, p tag then all h1, h2 and p tags are available inside that web page are applied by css effect.
- Embedded css is easy way to apply designing for all tags with short and one time written code. That means you have to write only once as css code in style tag and it applies for all tags so it's a short cut method to write designing code.
- Suppose after developing a web page, customer wants to make changes as like color of a h1 then you can easily change the code of css and fulfill the requirement of customer.

**Program for applying CSS in HTML:**





```
<html>
<head>
  <style>
    h1, h2, p
    {
      text-align: center;
      color: red;
    }
  </style>
</head>

<body>
  <h1>Main Heading</h1>
  <h2>Smaller heading!</h2>
  <p>This is a paragraph.</p>
</body>
</html>
```

**Main Heading**

**Smaller heading!**

This is a paragraph

## 2) Inline CSS Styles:

- Inline Styles can be applied directly to tags in the body of a document. Rather than set <style> tag for the <H1> element inside <Head>, that means you should not write <style>tag inside <Head> tag.
- Inline style applies css code inside the tag, we can say it is a tag specific css. It is a single tag oriented css code, which does not disturb the other same tags. it is possible to set the style for an individual tag.
- For using this css you have to write style attribute inside a start tag of any valid HTML tag, then apply css code as shown below in example.

```
<H1 STYLE="font-size: 48pt; font-family: Arial; color: green">
```

```
  CSS Test Text
```

```
</H1>
```

- Consider you have a webpage which contain more than one <H1> tag, and the css design code apply only one <H1> tag among them all tags, so css design effect



apply only for that H1 tag which has above example css code, remaining H1 does not give css output effect.

### 3) External CSS Styles:

- External css means css code present externally in individual file as style.css and applied in webpage which is html code where <LINK> tag is present inside of <head> tag.
- CSS can be used as external style sheet linked to a document or a set of document, as shown in the following example. Linked information should be placed inside the <HEAD> tag with the help of <LINK> tag.

#### EXAMPLE:

```
<LINK REL="stylesheet" TYPE="text/css"
  HREF="newstyle.css">
```

#### Procedure Steps for External CSS:

##### Step1:

Open notepad application and write css code there, then use saveas option and give filename style.css. In this way you created a css code file. Following code is present in that style.css file.

```
h1
{
  font-size: 40pt;
  font-family: Arial;
  color: green;
}
```

##### Step 2: Create a webpage and write below code.

```
<html>
<head><title> All types of CSS Example</title>
  <LINK REL="stylesheet" TYPE="text/css"
  HREF="c:/style.css">
</head>
<body>
<H1 >Heading Tag Text 1- External CSS Example
</H1>
<p>This is demo text</p>
<H1 >Heading Tag Text 2- External CSS Example
</H1>
```





```
<p>This is demo text</p>
</body>
</html>
```

**Program for All types of CSS Example :**

```
<html>
<head><title> All types of CSS Example</title>
<LINK REL="stylesheet" TYPE="text/css"
  HREF="c:/style.css">
<style>
  b
  {
    font-size: 20pt;
    font-family: Arial;
    color: blue;
  }
</style>
</head>
<body>
<b> Bold Tag Text- Embeded CSS Example</b>
<br>
<p STYLE="font-size: 30pt; font-family: Arial;
  color: red">Paragraph Tag Text- Inline CSS
  Example</p>
<H1 >Heading Tag Text- External CSS Example </
  H1>
</body>
</html>
```

-----THE END-----