
**Session: 2**

# *Introduction to the HTML5*

# Objectives

- Explain the elements constituting an HTML tag
- Describe DOCTYPE declarations
- Explain the basic tags in HTML
- List the different data types, attributes, and entities of HTML5
- Describe container and standalone tags
- Explain the role of HTML5 in Mobile devices

# Elements 1-2

- An element organizes the content in a Web page hierarchically, which forms the basic HTML structure.

It consists of tags, attributes, and content. Tags denote the start and end of an HTML element.

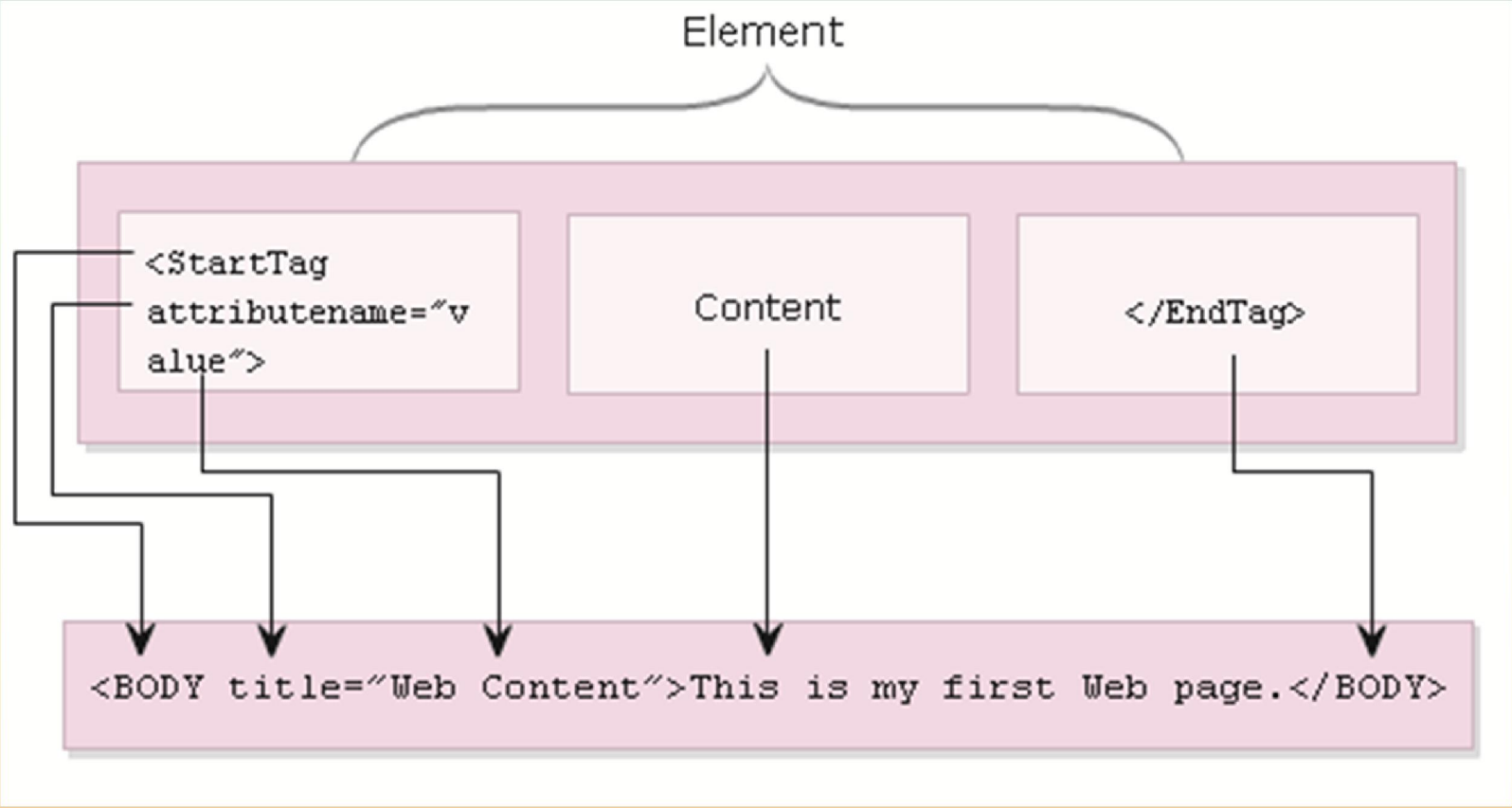
A start tag includes an opening angular bracket (<) followed by the element name, zero or more space separated attributes, and a closing angular bracket (>).

Attributes are name/value pairs that describe the element and content format.

An end tag is written exactly as the start tag, but the forward slash (/) precedes the element name.

# Elements 2-2

- Following figure shows an element in HTML tag.



# DOCTYPE

- Informs the browser the HTML version number of your document.
- It is the first declaration in the HTML5 document before any other HTML code is written.
- Allows a browser to be more precise in the way it interprets and renders your pages.

The new HTML5 DOCTYPE is as follows:

```
<!DOCTYPE html>
```

- It is the new syntax of HTML5 as well as for all future versions of HTML.
- This DOCTYPE is compatible with the older browsers also.

# Basic Tags 1-6

- An HTML document is made up of different elements, tags, attributes, which specify the content and its format.
- HTML is both a structural and presentational markup language.
- Structural markup specifies the structure of the content, while the presentational markup specifies the format.
- An HTML page is saved with the `.html` extension.
- The basic structure of an HTML document mainly consists of seven basic elements. These are as follows:

## ➢ HTML

- The `HTML` element is the root element that marks the beginning of an HTML document.
- It contains the start and end tag in the form of `<HTML>` and `</HTML>` respectively.
- It is the largest container element as it contains various other elements.

# Basic Tags 2-6

## HEAD

- The HEAD element provides information about the Web page such as keywords and language used.
- Keywords are important terms existing in a Web page used by the search engines to identify the Web page with respect to the search criterion.

## TITLE

- The TITLE element allows you to specify the title of the Web page under the <TITLE> and </TITLE> tags.
- The title is displayed on the Title bar of the Web browser. The TITLE element is included within the HEAD element.

# Basic Tags 3-6

## META

- The meta tag is used for displaying information about the data.
- In HTML5, the content meta tag which was used for specifying the charset or character encoding has been simplified.
- The new <meta> tag is as follows:

```
<meta charset=”utf-8” />
```

- UTF-8 is the most commonly used character coding that supports many alphabets.
- There are several other attributes associated with the meta tag that can be used to declare general information about the page.
- This information is not displayed in the browser.
- Meta tags provide search engines, browsers, and Web services with the information that is required to preview or acquire a summary of the relevant data of your document.

# Basic Tags 4-6

## LINK

- The `<link>` tag is used to define the association between a document and an external resource.
- It is used to link stylesheets. Its type attribute is used to specify the type of link such as 'text/css' which points out to a stylesheet.

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

- The `type` attribute is not included in HTML5.
- The reason is that CSS has been declared as the default and standard style for HTML5. So, the new link is as follows:

```
<link rel="stylesheet" href="first.css">
```

# Basic Tags 5-6

## SCRIPT

- With HTML5, JavaScript is now the standard and default scripting language.
- The type attribute tag can be removed from the script tags.
- The new script tag is as follows:

```
<script src="first.js"></script>
```

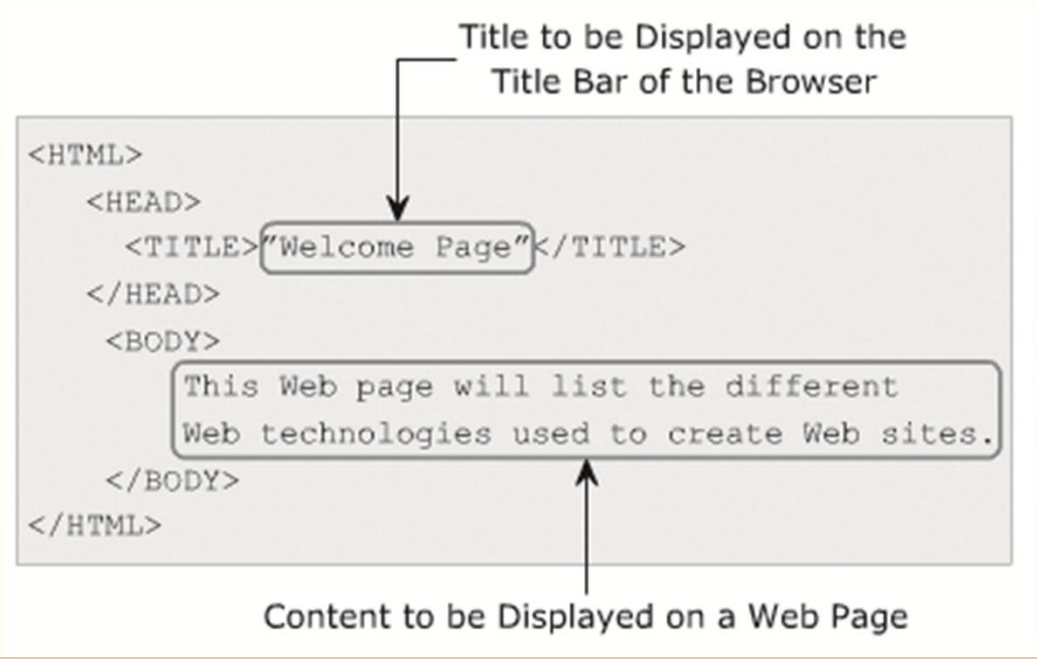
The following example shows the use of the script tag.

```
<!DOCTYPE html>
<html>
  <head>
    <meta charset="UTF-8">
    <title>HTML Webinar</title>
    <link rel="stylesheet" href="first.css">
          <script src="first.js"></script>
  </head>
</html>
```

# Basic Tags 6-6

## BODY

- The BODY element enables you to add content on the Web page specified under the <BODY> and </BODY> tags.
- Content can include text, hyperlinks, and images. You can display the content using various formatting options such as alignment, color, and background.
- Following figure shows the basic HTML elements.



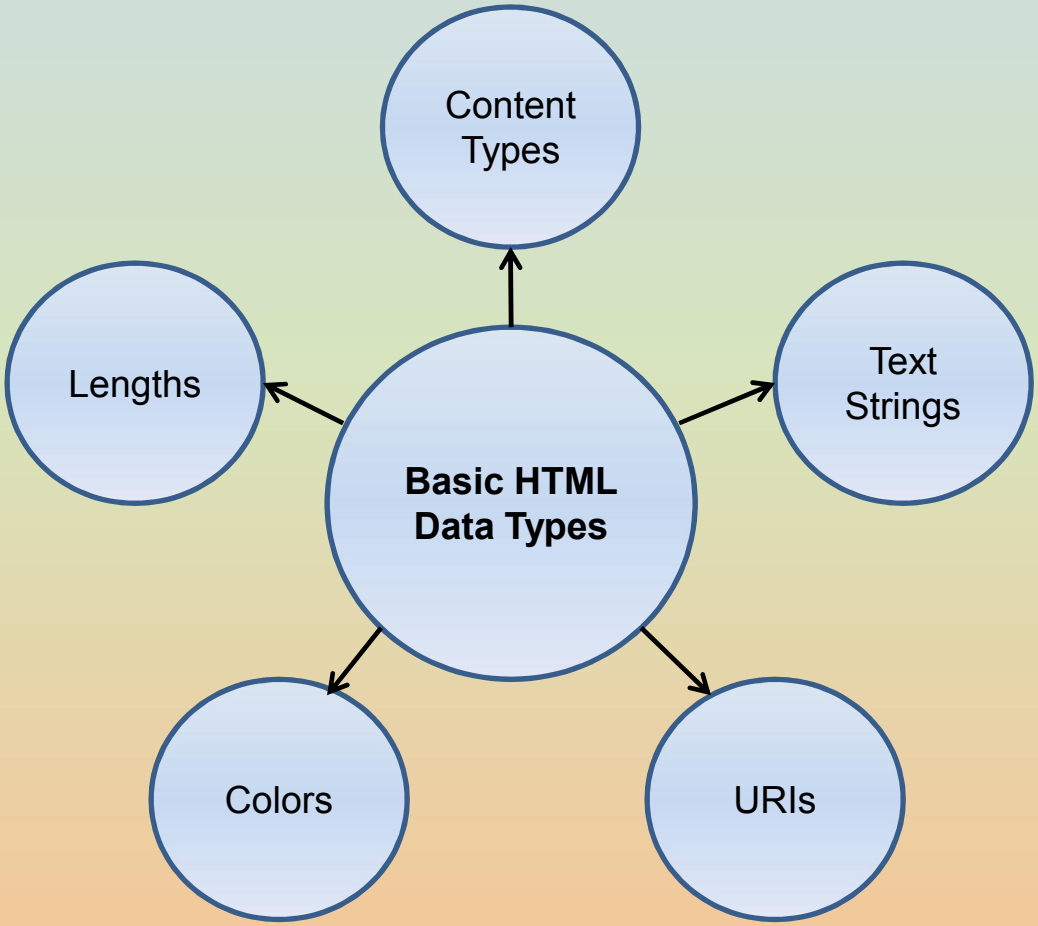
# Data Types 1-2

- A data type specifies the type of value assigned to the attributes and the type of content that is to be displayed on the Web page.
- Data types help in identifying the type of formatting such as color and length of data.
- Following table describes the different types of content.

| Data Type | Description |
|---|---|
| **Text Strings** | Specifies textual content, which is readable by the user. |
| **Uniform Resource Identifiers (URIs)** | Specifies the location of Web pages or network files. |
| **Colors** | Specifies the color to be applied to the content on the Web page. |
| **Lengths** | Specifies the spacing among HTML elements. Length values can be in Pixels, Length, or MultiLength. Pixels refer to the smallest dot on the screen. |
| **Content Types** | Specifies the type of content to be displayed on a Web page. Content types include 'text/html' for displaying text, 'image/gif' for displaying image of a .gif format, 'video/mpg' for displaying a video file of .mpg format. |

# Data Types 2-2

- Following figure shows the different data types:



# Attributes

- HTML attributes help to provide some meaning and context to the elements.
- Following table describes some of the global attributes used in HTML5 elements.

| Attribute | Description |
|---|---|
| **class** | Specifies class names for an element. |
| **contextmenu** | Specifies the context menu for an element. |
| **dir** | Specifies the direction of the text present for the content. |
| **draggable** | Specifies the draggable function of an element. |
| **dropzone** | Specifies whether the data when dragged is copied, moved, or linked, when dropped. |
| **style** | Specifies the inline CSS style for an element. |
| **title** | Specifies additional information about the element. |

# HTML Entities

- Entities are special characters that are reserved in HTML.
- These entities can be displayed on a HTML5 Web site using the following syntax:

**Syntax:**

`&entity_name;` **or** `&#entity_number;`

- Following table shows some of the commonly used HTML entities.

| Output | Description | Entity Name | Entity Number |
|---|---|---|---|
| | non-breaking space |   |   |
| < | less than | &lt; | &#60; |
| > | greater than | &gt; | &#62; |
| & | ampersand | &amp; | &#38; |
| € | euro | &euro; | &#8364; |
| © | copyright | &copy; | &#169; |

# Container and Standalone Tags

There are two types of HTML elements namely, container and standalone elements.

A container element includes the start tag, contents, sub-elements, and end tag.

All the basic HTML elements are container elements.

A standalone element consists of the start tag and attributes followed by the end tag as /> without any content.

# HTML5 and Mobile Devices

HTML5 helps to create better and richer mobile applications by using APIs that support advanced Web application features for mobile browsers.

New age smartphones with Apple iOS and Google Android as operating systems support HTML5 compliant browsers.

HTML5 tries to integrate all the features to deploy mobile applications that would be compatible in all the platforms.

HTML5 provides features such as drag-and-drop functionality, video embedding in an application, and even offline capabilities.

As HTML5 is compatible with most mobile operating systems, upto 30% of the cost for development for different operating systems is saved.

Also, there is a reduced dependency in third-party components, thus reducing the licensing costs.

All the required components will be readily available through the browser in HTML5.

# Benefits of HTML5 for Mobile Development

The benefits of HTML5 for mobile developments are as follows:

- HTML5 has included APIs, hence additional plug-ins are not required for mobile browsers.
- Mobile development is easier as knowledge of only HTML5, CSS, and JavaScript is majorly required.
- There is a rising growth of HTML5 for mobile applications due to its enhanced compatibility.
- HTML5 is compatible with most operating system platforms.
- The HTML5 based mobile applications can run on browsers of Android, iOS, Blackberry, Windows Phone, and other mobile operating systems.
- The development cost for creating applications in HTML5 is low.
- Applications based on location and maps will have greater support in HTML5.
- Third-party programs are not required in HTML5.

# Summary

- An element organizes the content in a Web page hierarchically, which forms the basic HTML structure.
- The DOCTYPE tells the browser the type of your document.
- A data type specifies the type of value assigned to the attributes and the type of content that is to be displayed on the Web page.
- Entities are special characters that are reserved in HTML.
- A container element includes the start tag, contents, sub-elements, and the end tag.
- A standalone element consists of the start tag and attributes followed by the end tag as /> without any content.
- HTML5 provides features such as drag-and-drop functionality, video embedding in an application, and even offline capabilities for mobile devices.