

## Unit 5: Structuring Web Page Using HTML

---

### Tables

The HTML tables allow web authors to arrange data like text, images, links, other tables, etc. into rows and columns of cells.

The HTML tables are created using the **<table>** tag in which the **<tr>** tag is used to create table rows and **<td>** tag is used to create data cells. The elements under **<td>** are regular and left aligned by default

### Example

```
<!DOCTYPE html>
<html>

  <head>
    <title>HTML Tables</title>
  </head>

  <body>
    <table border = "1">
      <tr>
        <td>Row 1, Column 1</td>
        <td>Row 1, Column 2</td>
      </tr>

      <tr>
        <td>Row 2, Column 1</td>
        <td>Row 2, Column 2</td>
      </tr>
    </table>

  </body>
</html>
```

Here, the **border** is an attribute of **<table>** tag and it is used to put a border across all the cells. If you do not need a border, then you can use **border = "0"**.

### Table Heading

Table heading can be defined using **<th>** tag. This tag will be put to replace **<td>** tag, which is used to represent actual data cell. Normally you will put your top row as table heading as

shown below, otherwise you can use <th> element in any row. Headings, which are defined in <th> tag are centered and bold by default.

### Example

```
<!DOCTYPE html>
<html>

  <head>
    <title>HTML Table Header</title>
  </head>

  <body>
    <table border = "1">
      <tr>
        <th>Name</th>
        <th>Salary</th>
      </tr>
      <tr>
        <td>Ramesh Raman</td>
        <td>5000</td>
      </tr>

      <tr>
        <td>Shabbir Hussein</td>
        <td>7000</td>
      </tr>
    </table>
  </body>

</html>
```

### Cellpadding and Cellspacing Attributes:

There are two attributes called *cellpadding* and *cellspacing* which you will use to adjust the white space in your table cells. The cellspacing attribute defines space between table cells, while cellpadding represents the distance between cell borders and the content within a cell.

### Example:

```
<!DOCTYPE html>
<html>

  <head>
    <title>HTML Table Cellpadding</title>
```

```

</head>

<body>
  <table border = "1" cellpadding = "5" cellspacing = "5">
    <tr>
      <th>Name</th>
      <th>Salary</th>
    </tr>
    <tr>
      <td>Ramesh Raman</td>
      <td>5000</td>
    </tr>
    <tr>
      <td>Shabbir Hussein</td>
      <td>7000</td>
    </tr>
  </table>
</body>

</html>

```

## Colspan and Rowspan Attributes

You will use **colspan** attribute if you want to merge two or more columns into a single column. Similar way you will use **rowspan** if you want to merge two or more rows.

### Example

```

<!DOCTYPE html>
<html>

  <head>
    <title>HTML Table Colspan/Rowspan</title>
  </head>

  <body>
    <table border = "1">
      <tr>
        <th>Column 1</th>
        <th>Column 2</th>
        <th>Column 3</th>
      </tr>
      <tr>
        <td rowspan = "2">Row 1 Cell 1</td>
        <td>Row 1 Cell 2</td>
        <td>Row 1 Cell 3</td>
      </tr>
    </table>
  </body>
</html>

```

```

        </tr>
        <tr>
            <td>Row 2 Cell 2</td>
            <td>Row 2 Cell 3</td>
        </tr>
        <tr>
            <td colspan = "3">Row 3 Cell 1</td>
        </tr>
    </table>
</body>

</html>

```

## Tables Backgrounds

You can set table background using one of the following two ways –

- **bgcolor** attribute – You can set background color for whole table or just for one cell.
- **background** attribute – You can set background image for whole table or just for one cell.

You can also set border color also using **bordercolor** attribute.

**Note** – The *bgcolor*, *background*, and *bordercolor* attributes deprecated in HTML5. Do not use these attributes.

## Example

```

<!DOCTYPE html>
<html>

    <head>
        <title>HTML Table Background</title>
    </head>

    <body>
        <table border = "1" bordercolor = "green" bgcolor = "yellow">
            <tr>
                <th>Column 1</th>
                <th>Column 2</th>
                <th>Column 3</th>
            </tr>
            <tr>
                <td rowspan = "2">Row 1 Cell 1</td>
                <td>Row 1 Cell 2</td>
                <td>Row 1 Cell 3</td>
            </tr>
        </table>
    </body>
</html>

```

```

        </tr>
        <tr>
            <td>Row 2 Cell 2</td>
            <td>Row 2 Cell 3</td>
        </tr>
        <tr>
            <td colspan = "3">Row 3 Cell 1</td>
        </tr>
    </table>
</body>

</html>

```

Here is an example of using **background** attribute. Here we will use an image available in /images directory.

```

<!DOCTYPE html>
<html>

    <head>
        <title>HTML Table Background</title>
    </head>

    <body>
        <table border = "1" bordercolor = "green" background =
"/images/test.png">
            <tr>
                <th>Column 1</th>
                <th>Column 2</th>
                <th>Column 3</th>
            </tr>
            <tr>
                <td rowspan = "2">Row 1 Cell 1</td>
                <td>Row 1 Cell 2</td><td>Row 1 Cell 3</td>
            </tr>
            <tr>
                <td>Row 2 Cell 2</td>
                <td>Row 2 Cell 3</td>
            </tr>
            <tr>
                <td colspan = "3">Row 3 Cell 1</td>
            </tr>
        </table>
    </body>

</html>

```

## Table Height and Width

You can set a table width and height using **width** and **height** attributes. You can specify table width or height in terms of pixels or in terms of percentage of available screen area.

### Example

```
<!DOCTYPE html>
<html>

  <head>
    <title>HTML Table Width/Height</title>
  </head>

  <body>
    <table border = "1" width = "400" height = "150">
      <tr>
        <td>Row 1, Column 1</td>
        <td>Row 1, Column 2</td>
      </tr>

      <tr>
        <td>Row 2, Column 1</td>
        <td>Row 2, Column 2</td>
      </tr>
    </table>
  </body>

</html>
```

## Table Caption

The **caption** tag will serve as a title or explanation for the table and it shows up at the top of the table. This tag is deprecated in newer version of HTML/XHTML.

### Example

```
<!DOCTYPE html>
<html>

  <head>
    <title>HTML Table Caption</title>
  </head>
```

```

<body>
  <table border = "1" width = "100%">
    <caption>This is the caption</caption>

    <tr>
      <td>row 1, column 1</td><td>row 1, columnn 2</td>
    </tr>

    <tr>
      <td>row 2, column 1</td><td>row 2, columnn 2</td>
    </tr>
  </table>
</body>
</html>

```

### Table Header, Body, and Footer

Tables can be divided into three portions – a header, a body, and a foot. The head and foot are rather similar to headers and footers in a word-processed document that remain the same for every page, while the body is the main content holder of the table.

The three elements for separating the head, body, and foot of a table are –

- **<thead>** – to create a separate table header.
- **<tbody>** – to indicate the main body of the table.
- **<tfoot>** – to create a separate table footer.

A table may contain several <tbody> elements to indicate *different pages* or groups of data. But it is notable that <thead> and <tfoot> tags should appear before <tbody>

### Example

```

<!DOCTYPE html>
<html>

  <head>
    <title>HTML Table</title>
  </head>

  <body>
    <table border = "1" width = "100%">
      <thead>
        <tr>
          <td colspan = "4">This is the head of the table</td>
        </tr>

```

```
</thead>

<tfoot>
  <tr>
    <td colspan = "4">This is the foot of the table</td>
  </tr>
</tfoot>

<tbody>
  <tr>
    <td>Cell 1</td>
    <td>Cell 2</td>
    <td>Cell 3</td>
    <td>Cell 4</td>
  </tr>
</tbody>

</table>
</body>

</html>
```

## Links and Bookmarks:

### Links:

A webpage can contain various links that take you directly to other pages and even specific parts of a given page. These links are known as hyperlinks.

Hyperlinks allow visitors to navigate between Web sites by clicking on words, phrases, and images. Thus you can create hyperlinks using text or images available on a webpage.

### Linking Documents

A link is specified using HTML tag <a>. This tag is called **anchor tag** and anything between the opening <a> tag and the closing </a> tag becomes part of the link and a user can click that part to reach to the linked document. Following is the simple syntax to use <a> tag.

```
<a href = "Document URL" ... attributes-list>Link Text</a>
```

### The target Attribute

We have used **target** attribute in our previous example. This attribute is used to specify the location where linked document is opened. Following are the possible options –



Sr.No	Option & Description
1	<b>_blank</b> Opens the linked document in a new window or tab.
2	<b>_self</b> Opens the linked document in the same frame.
3	<b>_parent</b> Opens the linked document in the parent frame.
4	<b>_top</b> Opens the linked document in the full body of the window.
5	<b>targetframe</b> Opens the linked document in a named <i>targetframe</i> .

### Example

Try following example to understand basic difference in few options given for target attribute.

```
<!DOCTYPE html>
<html>

  <head>
    <title>Hyperlink Example</title>
    <base href = "https://www.tutorialspoint.com/">
  </head>

  <body>
    <p>Click any of the following links</p>
    <a href = "/html/index.htm" target = "_blank">Opens in
New</a> |
    <a href = "/html/index.htm" target = "_self">Opens in
Self</a> |
```

```
<a href = "/html/index.htm" target = "_parent">Opens in
Parent</a> |
<a href = "/html/index.htm" target = "_top">Opens in Body</a>

<a href = "https://www.tutorialspoint.com" target = "_self">
  <img src = "/images/logo.png" alt = "Tutorials Point"
border = "0"/>
</a>

</body>

</html>
```

## Bookmark:

Bookmarks can be useful if a web page is very long.

- To create a bookmark - first create the bookmark, then add a link to it.
- When the link is clicked, the page will scroll down or up to the location with the bookmark.

## Example:

First, use the id attribute to create a bookmark:

```
<h2 id="C4">Chapter 4</h2>
```

Then, add a link to the bookmark ("Jump to Chapter 4"), from within the same page:

```
<a href="#C4">Jump to Chapter 4</a>
```

You can also add a link to a bookmark on another page:

```
<a href="html_demo.html#C4">Jump to Chapter 4</a>
```

## 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. The back-end application will perform required processing on the passed data based on defined business logic inside the application.

There are various form elements available like text fields, textarea fields, drop-down menus, radio buttons, checkboxes, etc.

The HTML **<form>** tag is used to create an HTML form and it has following syntax –

```
<form action = "Script URL" method = "GET|POST">  
    form elements like input, textarea etc.  
</form>
```

## Form Attributes

Apart from common attributes, following is a list of the most frequently used form attributes –

Sr.No	Attribute & Description
1	<b>action</b> Backend script ready to process your passed data.
2	<b>method</b> Method to be used to upload data. The most frequently used are GET and POST methods.
3	<b>target</b> Specify the target window or frame where the result of the script will be displayed. It takes values like _blank, _self, _parent etc.
4	<b>enctype</b> You can use the enctype attribute to specify how the browser encodes the data before it sends it to the server. Possible values are – <b>application/x-www-form-urlencoded</b> – This is the standard method most forms use in

simple scenarios.

**multipart/form-data** – This is used when you want to upload binary data in the form of files like image, word file etc.

## HTML Form Controls

There are different types of form controls that you can use to collect data using HTML form –

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

### Text Input Controls

There are three types of text input used on forms –

- **Single-line text input controls** – This control is used for items that require only one line of user input, such as search boxes or names. They are created using HTML `<input>` tag.
- **Password input controls** – This is also a single-line text input but it masks the character as soon as a user enters it. They are also created using HTML `<input>` tag.
- **Multi-line text input controls** – This is used when the user is required to give details that may be longer than a single sentence. Multi-line input controls are created using HTML `<textarea>` tag.

### Single-line text input controls

This control is used for items that require only one line of user input, such as search boxes or names. They are created using HTML `<input>` tag.

### Example

Here is a basic example of a single-line text input used to take first name and last name –

```

<!DOCTYPE html>
<html>

  <head>
    <title>Text Input Control</title>
  </head>

  <body>
    <form >
      First name: <input type = "text" name = "first_name" />
      <br>
      Last name: <input type = "text" name = "last_name" />
    </form>
  </body>

</html>

```

## Attributes

Following is the list of attributes for <input> tag for creating text field.

Sr.No	Attribute & Description
1	<b>type</b> Indicates the type of input control and for text input control it will be set to <b>text</b> .
2	<b>name</b> Used to give a name to the control which is sent to the server to be recognized and get the value.
3	<b>value</b> This can be used to provide an initial value inside the control.
4	<b>size</b> Allows to specify the width of the text-input control in terms of characters.
5	<b>maxlength</b>

	Allows to specify the maximum number of characters a user can enter into the text box.
--	--

## Password input controls

This is also a single-line text input but it masks the character as soon as a user enters it. They are also created using HTML `<input>` tag but type attribute is set to **password**.

## Example

Here is a basic example of a single-line password input used to take user password –

```
<!DOCTYPE html>
<html>

  <head>
    <title>Password Input Control</title>
  </head>

  <body>
    <form >
      User ID : <input type = "text" name = "user_id" />
      <br>
      Password: <input type = "password" name = "password" />
    </form>
  </body>

</html>
```

## Attributes

Following is the list of attributes for `<input>` tag for creating password field.

Sr.No	Attribute & Description
1	<b>type</b> Indicates the type of input control and for password input control it will be set to <b>password</b> .

2	<b>name</b> Used to give a name to the control which is sent to the server to be recognized and get the value.
3	<b>value</b> This can be used to provide an initial value inside the control.
4	<b>size</b> Allows to specify the width of the text-input control in terms of characters.
5	<b>maxlength</b> Allows to specify the maximum number of characters a user can enter into the text box.

## Multiple-Line Text Input Controls

This is used when the user is required to give details that may be longer than a single sentence. Multi-line input controls are created using HTML <textarea> tag.

### Example

Here is a basic example of a multi-line text input used to take item description –

```
<!DOCTYPE html>
<html>

  <head>
    <title>Multiple-Line Input Control</title>
  </head>

  <body>
    <form>
      Description : <br />
      <textarea rows = "5" cols = "50" name = "description">
        Enter description here...
      </textarea>
    </form>
  </body>
```

```
</html>
```

## Attributes

Following is the list of attributes for <textarea> tag.

Sr.No	Attribute & Description
1	<b>name</b> Used to give a name to the control which is sent to the server to be recognized and get the value.
2	<b>rows</b> Indicates the number of rows of text area box.
3	<b>cols</b> Indicates the number of columns of text area box

## Checkbox Control

Checkboxes are used when more than one option is required to be selected. They are also created using HTML <input> tag but type attribute is set to **checkbox**..

## Example

Here is an example HTML code for a form with two checkboxes –

```
<!DOCTYPE html>
<html>

  <head>
    <title>Checkbox Control</title>
  </head>

  <body>
    <form>
      <input type = "checkbox" name = "maths" value = "on">
      Maths
```



```
Physics <input type = "checkbox" name = "physics" value = "on">
</form>
</body>

</html>
```

## Attributes

Following is the list of attributes for <checkbox> tag.

Sr.No	Attribute & Description
1	<b>type</b> Indicates the type of input control and for checkbox input control it will be set to <b>checkbox</b> ..
2	<b>name</b> Used to give a name to the control which is sent to the server to be recognized and get the value.
3	<b>value</b> The value that will be used if the checkbox is selected.
4	<b>checked</b> Set to <i>checked</i> if you want to select it by default.

## Radio Button Control

Radio buttons are used when out of many options, just one option is required to be selected. They are also created using HTML <input> tag but type attribute is set to **radio**.

## Example

Here is example HTML code for a form with two radio buttons –

```

<!DOCTYPE html>
<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>

```

## Attributes

Following is the list of attributes for radio button.

Sr.No	Attribute & Description
1	<b>type</b> Indicates the type of input control and for checkbox input control it will be set to radio.
2	<b>name</b> Used to give a name to the control which is sent to the server to be recognized and get the value.
3	<b>value</b> The value that will be used if the radio box is selected.
4	<b>checked</b> Set to <i>checked</i> if you want to select it by default.

## Select Box Control

A select box, also called drop down box which provides option to list down various options in the form of drop down list, from where a user can select one or more options.

## Example

Here is example HTML code for a form with one drop down box

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

## Attributes

Following is the list of important attributes of <select> tag –

Sr.No	Attribute & Description
1	<b>name</b> Used to give a name to the control which is sent to the server to be recognized and get the value.
2	<b>size</b> This can be used to present a scrolling list box.
3	<b>multiple</b>

	If set to "multiple" then allows a user to select multiple items from the menu.
--	---

Following is the list of important attributes of <option> tag –

Sr.No	Attribute & Description
1	<b>value</b> The value that will be used if an option in the select box box is selected.
2	<b>selected</b> Specifies that this option should be the initially selected value when the page loads.
3	<b>label</b> An alternative way of labeling options

## File Upload Box

If you want to allow a user to upload a file to your web site, you will need to use a file upload box, also known as a file select box. This is also created using the <input> element but type attribute is set to **file**.

### Example

Here is example HTML code for a form with one file upload box –

```
<!DOCTYPE html>
<html>

  <head>
    <title>File Upload Box</title>
  </head>

  <body>
    <form>
      <input type = "file" name = "fileupload" accept =
"image/*" />
    </form>
  </body>
```

```
</html>
```

## Attributes

Following is the list of important attributes of file upload box –

Sr.No	Attribute & Description
1	<b>name</b>  Used to give a name to the control which is sent to the server to be recognized and get the value.

## Button Controls

There are various ways in HTML to create clickable buttons. You can also create a clickable button using <input>tag by setting its type attribute to **button**. The type attribute can take the following values –

Sr.No	Type & Description
1	<b>submit</b>  This creates a button that automatically submits a form.
2	<b>reset</b>  This creates a button that automatically resets form controls to their initial values.
3	<b>button</b>  This creates a button that is used to trigger a client-side script when the user clicks that button.
4	<b>image</b>  This creates a clickable button but we can use an image as background of the button.

## Example

Here is example HTML code for a form with three types of buttons –

```

<!DOCTYPE html>
<html>

  <head>
    <title>File Upload Box</title>
  </head>

  <body>
    <form>
      <input type = "submit" name = "submit" value = "Submit" />
      <input type = "reset" name = "reset" value = "Reset" />
      <input type = "button" name = "ok" value = "OK" />
      <input type = "image" name = "imagebutton" src =
"/html/images/logo.png" />
    </form>
  </body>

</html>

```

## Hidden Form Controls

Hidden form controls are used to hide data inside the page which later on can be pushed to the server. This control hides inside the code and does not appear on the actual page. For example, following hidden form is being used to keep current page number. When a user will click next page then the value of hidden control will be sent to the web server and there it will decide which page will be displayed next based on the passed current page.

### Example

Here is example HTML code to show the usage of hidden control –

```

<!DOCTYPE html>
<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>

```