

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. 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	action Backend script ready to process your past data.
2	method Method to be used to upload data. The most frequently used are GET and POST methods. The GET method is limited to a maximum number of characters, while the POST method has no such limitation. This is because the GET method sends data through the resource URL , which is limited in length 2048, while the POST method sends data through the HTTP message body, which has no such limitation. GET is less secure compared to POST because data sent is part of the URL , So never use GET when sending passwords or other sensitive information!

HTML Form Controls

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

1. Text Input Controls
2. Checkboxes Controls
3. Radio Box Controls
4. Select Box Controls
5. File Select boxes
6. Hidden Controls
7. Clickable Buttons
8. Submit and Reset Button

1- 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

```
<!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	type Indicates the type of input control and for text input control it will be set to text .
2	name Used to give a name to the control which is sent to the server to be recognized and get the value.
3	value This can be used to provide an initial value inside the control.
4	size Allows to specify the width of the text-input control in terms of characters.

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

```
<!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>
```

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

```
<!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	name Used to give a name to the control which is sent to the server to be recognized and get the value.
2	rows Indicates the number of rows of text area box.
3	cols 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

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

Attributes

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

Sr.No	Attribute & Description
1	Type: Indicates the type of input control and for checkbox input control it will be set to checkbox ..
2	Name: Used to give a name to the control which is sent to the server to be recognized and get the value.
3	Value: The value that will be used if the checkbox is selected.
4	Checked: 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

```
<!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	type Indicates the type of input control and for checkbox input control it will be set to radio.
2	name Used to give a name to the control which is sent to the server to be recognized and get the value.
3	value The value that will be used if the radio box is selected.
4	checked 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 dropdown list, from where a user can select one or more options.

Example

```
<!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>
    <option value = "programming">programing </option>
    <option value = "OS">OS</option>
  </select>
</form>
</body>

</html>
```

Attributes

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

Sr.No	Attribute & Description
1	name Used to give a name to the control which is sent to the server to be recognized and get the value.
2	size This can be used to present a scrolling list box.
3	multiple 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	value The value that will be used if an option in the select box is selected.
2	selected Specifies that this option should be the initially selected value when the page loads.

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

```
<!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	name Used to give a name to the control which is sent to the server to be recognized and get the value.
2	accept Specifies the types of files that the server accepts.

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	submit This creates a button that automatically submits a form.
2	reset This creates a button that automatically resets form controls to their initial values.
3	button This creates a button that is used to trigger a client-side script when the user clicks that button.
4	image This creates a clickable button but we can use an image as background of the button.

Example

```
<!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>
```

Email Input:

`<input type="email" name="email" placeholder="Enter your email">`

Date Input:

`<input type="date" name="birthdate" min="1900-01-01" max="2024-12-31">`

- **min and max:**
 - Set the minimum and maximum date values.

Range Input:

`<input type="range" name="volume" min="0" max="100" value="50">`

- **min and max:**
 - Set the minimum and maximum values for the range.
- **value:**
 - Specifies the initial value of the range.

Number Input:

`<input type="number" name="quantity" min="1" max="10" placeholder="Enter a number between 1 and 10">`

- **min and max:**
 - Set the minimum and maximum values for the number input.

Color Input:

`<input type="color" name="bgcolor" value="#ff0000">`

- **value:**
 - Specifies the initial color value.

Additional Form Attributes:

- **required:**
 - Specifies that an input field must be filled out before submitting the form.

`<input type="text" name="username" required>`

- **placeholder:**
 - Provides a hint to the user about what can be entered in the input.

`<input type="text" name="username" placeholder="Enter your username">`