**HTML Forms**

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**HTML Forms** employ the <form> element to gather input data with interactive controls. It encompasses various input types such as text, numbers, email, password, checkboxes, radio buttons, and submit buttons. Essentially, it’s a container for diverse input elements facilitating user interaction.

**Syntax:**

<form>

<!--form elements-->

</form>

## ****Form Elements****

These are the following HTML <form> elements:

| **Elements** | **Descriptions** |
| --- | --- |
| [**<label>**](https://www.geeksforgeeks.org/html-label-tag/) | It defines labels for <form> elements. |
| [**<input>**](https://www.geeksforgeeks.org/html-input-tag/) | It is used to get input data from the form in various types such as text, password, email, etc by changing its type. |
| [**<button>**](https://www.geeksforgeeks.org/button-tag-vs-input-typebutton-attribute/) | It defines a clickable button to control other elements or execute a functionality. |
| [**<select>**](https://www.geeksforgeeks.org/html-select-tag/) | It is used to create a drop-down list. |
| [**<textarea>**](https://www.geeksforgeeks.org/html-textarea-name-attribute/) | It is used to get input long text content. |
| [**<fieldset>**](https://www.geeksforgeeks.org/html-fieldset-form-attribute/) | It is used to draw a box around other form elements and group the related data. |
| [**<legend>**](https://www.geeksforgeeks.org/html-legend-tag/) | It defines a caption for fieldset elements |
| [**<datalist>**](https://www.geeksforgeeks.org/html-datalist-tag/) | It is used to specify pre-defined list options for input controls. |
| [**<output>**](https://www.geeksforgeeks.org/html-output-tag/) | It displays the output of performed calculations. |
| [**<option>**](https://www.geeksforgeeks.org/html-option-tag/) | It is used to define options in a drop-down list. |
| [**<optgroup>**](https://www.geeksforgeeks.org/html-optgroup-tag/) | It is used to define group-related options in a drop-down list. |

## ID attribute:The id attribute specifies a unique id for an HTML element. The value of the id attribute must be unique within the HTML document. The id attribute is used to point to a specific style declaration in a style sheet. It is also used by JavaScript to access and manipulate the element with the specific id.

## Commonly Used Input Types in HTML Forms

In HTML forms, various input types are used to collect different types of data from users. Here are some commonly used input types:

input type=”text”>

| **Input Type** | **Description** |
| --- | --- |
| [<input type=”t**ext**“>](https://www.geeksforgeeks.org/html-input-typetext/) | Defines a one-line text input field |
| [<input type=”p**assword**“>](https://www.geeksforgeeks.org/html-input-typepassword/) | Defines a password field |
| [<input type=”s**ubmit**“>](https://www.geeksforgeeks.org/html-input-typesubmit/) | Defines a submit button |
| [<input type=”r**eset**“>](https://www.geeksforgeeks.org/html-input-typereset/) | Defines a reset button |
| [<input type=”r**adio**“>](https://www.geeksforgeeks.org/html-input-typeradio/) | Defines a radio button |
| [<input type=”e**mail**“>](https://www.geeksforgeeks.org/html-input-typeemail/) | Validates that the input is a valid email address. |
| [<input type=”n**umber**“>](https://www.geeksforgeeks.org/html-input-typenumber/) | Allows the user to enter a number. You can specify min, max, and step attributes for range. |
| [<input type=”c**heckbox**“>](https://www.geeksforgeeks.org/html-input-typecheckbox/) | Used for checkboxes where the user can select multiple options. |
| [<input type=”d**ate**“>](https://www.geeksforgeeks.org/html-input-typedate/) | Allows the user to select a date from a calendar. |
| [<input type=”t**ime**“>](https://www.geeksforgeeks.org/html-input-typetime/) | Allows the user to select a time. |
| [<input type=”f**ile**“>](https://www.geeksforgeeks.org/html-input-typefile/) | Allows the user to select a file to upload. |

## HTML Forms Example

### 1. Basic HTML Forms Example:

**Example:**This HTML forms collects the user personal information such as username and password with the button to submit the form.

HTML

<!DOCTYPE html>

<**html** lang="en">

<**head**>

<**title**>Html Forms</**title**>

</**head**>

<**body**>

<**h2**>HTML Forms</**h2**>

<**form**>

<**label** for="username">Username:</**label**><**br**>

<**input** type="text" id="username" name="username"><**br**><**br**>

<**label** for="password">Password:</**label**><**br**>

<**input** type="password" id="password" name="password"><**br**><**br**>

<**input** type="submit" value="Submit">

</**form**>

</**body**>

</**html**>

## Radio Buttons

The <input type="radio"> defines a radio button.

Radio buttons let a user select ONE of a limited number of choices.

<!DOCTYPE html>

<html>

<body>

<h2>Radio Buttons</h2>

<p>Choose your favorite Web language:</p>

<form>

  <input type="radio" id="html" name="fav\_language" value="HTML">

  <label for="html">HTML</label><br>

  <input type="radio" id="css" name="fav\_language" value="CSS">

  <label for="css">CSS</label><br>

  <input type="radio" id="javascript" name="fav\_language" value="JavaScript">

  <label for="javascript">JavaScript</label>

</form>

</body>

</html>

## Checkboxes

The <input type="checkbox"> defines a **checkbox**.

Checkboxes let a user select ZERO or MORE options of a limited number of choices.

<!DOCTYPE html>

<html>

<body>

<h2>Checkboxes</h2>

<p>The <strong>input type="checkbox"</strong> defines a checkbox:</p>

<form action="/action\_page.php">

<input type="checkbox" id="vehicle1" name="vehicle1" value="Bike">

<label for="vehicle1"> I have a bike</label><br>

<input type="checkbox" id="vehicle2" name="vehicle2" value="Car">

<label for="vehicle2"> I have a car</label><br>

<input type="checkbox" id="vehicle3" name="vehicle3" value="Boat">

<label for="vehicle3"> I have a boat</label><br><br>

<input type="submit" value="Submit">

</form>

</body>

</html>

## The Submit Button

The <input type="submit"> defines a button for submitting the form data to a form-handler.

The form-handler is typically a file on the server with a script for processing input data.

The form-handler is specified in the form's action attribute.

<!DOCTYPE html>

<html>

<body>

<h2>HTML Forms</h2>

<form action="/action\_page.php">

<label for="fname">First name:</label><br>

<input type="text" id="fname" name="fname" value="John"><br>

<label for="lname">Last name:</label><br>

<input type="text" id="lname" name="lname" value="Doe"><br><br>

<input type="submit" value="Submit">

</form>

<p>If you click the "Submit" button, the form-data will be sent to a page called "/action\_page.php".</p>

</body>

</html>

## The <textarea> Element

The <textarea> element defines a multi-line input field (a text area):

<form action="/action\_page.php">

<textarea name="message" rows="10" cols="30">The cat was playing in the garden.</textarea>

<br><br>

<input type="submit">

</form>

The rows attribute specifies the visible number of lines in a text area.

The cols attribute specifies the visible width of a text area.

## The <button> Element

The <button> element defines a clickable button:

<!DOCTYPE html>

<html>

<body>

<h2>The button Element</h2>

<button type="button" onclick="alert('Hello World!')">Click Me!</button>

</body>

</html>

## The <fieldset> and <legend> Elements

The <fieldset> element is used to group related data in a form.

The <legend> element defines a caption for the <fieldset> element.

<!DOCTYPE html>

<html>

<body>

<h2>Grouping Form Data with Fieldset</h2>

<p>The fieldset element is used to group related data in a form, and the legend element defines a caption for the fieldset element.</p>

<form action="/action\_page.php">

<fieldset>

<legend>Personalia:</legend>

<label for="fname">First name:</label><br>

<input type="text" id="fname" name="fname" value="John"><br>

<label for="lname">Last name:</label><br>

<input type="text" id="lname" name="lname" value="Doe"><br><br>

<input type="submit" value="Submit">

</fieldset>

</form>

</body>

</html>