An **HTML form** is *a section of a document* which contains controls such as text fields, password fields, checkboxes, radio buttons, submit button, menus etc.

An HTML form facilitates the user to enter data that is to be sent to the server for processing such as name, email address, password, phone number, etc. .

## Why use HTML Form

HTML forms are required if you want to collect some data from of the site visitor.

For example: If a user want to purchase some items on internet, he/she must fill the form such as shipping address and credit/debit card details so that item can be sent to the given address.

HTML Form Syntax

```
<form action="server url" method="get|post">
  //input controls e.g. textfield, textarea, radiobutton, button
</form>
```

## HTML Form Tags

Let's see the list of HTML 5 form tags.

| Tag | Description |
|-----|-------------|
| <form> | It defines an HTML form to enter inputs by the used side. |
| <input> | It defines an input control. |
| <textarea> | It defines a multi-line input control. |
| <label> | It defines a label for an input element. |
| <fieldset> | It groups the related element in a form. |
| <legend> | It defines a caption for a <fieldset> element. |

| | |
|---|---|
| <select> | It defines a drop-down list. |
| <optgroup> | It defines a group of related options in a drop-down list. |
| <option> | It defines an option in a drop-down list. |
| <button> | It defines a clickable button. |

**HTML 5 Form Tags**

Let's see the list of HTML 5 form tags.

| Tag | Description |
|---|---|
| <datalist> | It specifies a list of pre-defined options for input control. |
| <keygen> | It defines a key-pair generator field for forms. |
| <output> | It defines the result of a calculation. |

**HTML <form> element**

The HTML <form> element provides a document section to take input from user. It provides various interactive controls for submitting information to web server such as text field, text area, password field, etc.

**Syntax:**

**<form>**

//Form elements

**</form>**

### HTML <input> element

The HTML <input> element is fundamental form element. It is used to create form fields, to take input from user. We can apply different input filed to gather different information form user. Following is the example to show the simple text input.

**Example**:

```
<body>
 <form>
   Enter your name  <br>
    <input type="text" name="username">
  </form>
 </body>
```

### HTML TextField Control

The type="text" attribute of input tag creates textfield control also known as single line textfield control. The name attribute is optional, but it is required for the server side component such as JSP, ASP, PHP etc.

```
<form>
    First Name: <input type="text" name="firstname"/> <br/>
    Last Name:  <input type="text" name="lastname"/> <br/>
  </form>
```

### HTML <textarea> tag in form

The <textarea> tag in HTML is used to insert multiple-line text in a form. The size of <textarea> can be specify either using "rows" or "cols" attribute or by CSS.

**Example:**

```
<!DOCTYPE html>
<html>
<head>
   <title>Form in HTML</title>
```

```
    </head>
    <body>
      <form>
         Enter your address:<br>
          <textarea rows="2" cols="20"></textarea>
        </form>
      </body>
    </html>
```

## Label Tag in Form

It is considered better to have label in form. As it makes the code parser/browser/user friendly.

If you click on the label tag, it will focus on the text control. To do so, you need to have for attribute in label tag that must be same as id attribute of input tag.

```
  <form>
    <label for="firstname">First Name: </label> <br/>
          <input type="text" id="firstname" name="firstname"/> <br/>
     <label for="lastname">Last Name: </label>
          <input type="text" id="lastname" name="lastname"/> <br/>
  </form>
```

## HTML Password Field Control

The password is not visible to the user in password field control.

```
  <form>
    <label for="password">Password: </label>
          <input type="password" id="password" name="password"/> <br/>
  </form>
```

## HTML 5 Email Field Control

The email field in new in HTML 5. It validates the text for correct email address. You must use @ and . in this field.

```html
<form>
    <label for="email">Email: </label>
        <input type="email" id="email" name="email"/> <br/>
</form>
```

## Radio Button Control

The radio button is used to select one option from multiple options. It is used for selection of gender, quiz questions etc.

If you use one name for all the radio buttons, only one radio button can be selected at a time.

Using radio buttons for multiple options, you can only choose a single option at a time.

```html
<form>
    <label for="gender">Gender: </label>
        <input type="radio" id="gender" name="gender" value="male"/>Male
        <input type="radio" id="gender" name="gender" value="female"/>Female <br/>
</form>
```

## Submit button control

HTML **<input type="submit">** are used to add a submit button on web page. When user clicks on submit button, then form get submit to the server.

Syntax:

```html
<input type="submit" value="submit">
```

The type = submit , specifying that it is a submit button

The value attribute can be anything which we write on button on web page.

The name attribute can be omit here.

**Example:**

```html
<form>
    <label for="name">Enter name</label><br>
    <input type="text" id="name" name="name"><br>
    <label for="pass">Enter Password</label><br>
    <input type="Password" id="pass" name="pass"><br>
    <input type="submit" value="submit">
</form>
```

**HTML <fieldset> element:**

The <fieldset> element in HTML is used to group the related information of a form. This element is used with <legend> element which provide caption for the grouped elements.

**Example:**

```html
<form>
    <fieldset>
    <legend>User Information:</legend>
    <label for="name">Enter name</label><br>
<input type="text" id="name" name="name"><br>
<label for="pass">Enter Password</label><br>
<input type="Password" id="pass" name="pass"><br>
<input type="submit" value="submit">
</fieldset>
```

## HTML Form Example

Following is the example for a simple form of registration.

```html
<!DOCTYPE html>
<html>
<head>
<title>Form in HTML</title>
</head>
<body>
   <h2>Registration form</h2>
  <form>
   <fieldset>
     <legend>User personal information</legend>
     <label>Enter your full name</label><br>
     <input type="text" name="name"><br>
      <label>Enter your email</label><br>
      <input type="email" name="email"><br>
      <label>Enter your password</label><br>
      <input type="password" name="pass"><br>
      <label>confirm your password</label><br>
      <input type="password" name="pass"><br>
      <br><label>Enter your gender</label><br>
      <input type="radio" id="gender" name="gender" value="male"/>Male  <br>          <input type="radio" id="gender" name="gender" value="female"/>Female <br/>
      <input type="radio" id="gender" name="gender" value="others"/>others <br/>
       <br>Enter your Address:<br>
      <textarea></textarea><br>
      <input type="submit" value="sign-up">
    </fieldset>
  </form>
 </body>
 </html>
```

# HTML CSS

## Introduction

HTML Stands for Hypertext Markup Language. We also call it the backbone of the internet. It is one of the markup languages which is used to create web pages and applications. One of the most essential and powerful features of HTML is its CSS. We can design our HTML page with the help of CSS.

## What is CSS?

CSS stands for Cascading Style Sheets. It is used to design the layout of the webpage. CSS helps the developer to save a lot of work. With the help of CSS, we can control the background images or background colors to be used, the spacing between elements, different displays for different devices and screen sizes, color, font, how elements are positioned and laid out, and many more.

Here the word "Cascading" means if we apply some style to the parent element, then a similar style is automatically applied to the child elements.

## Using CSS

We can apply the CSS property to our HTML page in 3 ways. These ways are as follows.

1. **Inline CSS.**
2. **Internal CSS.**
3. **External CSS.**

## Inline CSS

We can implement the CSS property by writing the CSS code in a particular line. This can be done with the help of inline CSS. In inline CSS, we can use style attributes to implement the CSS property.

**Example:**

```html
<DOCTYPE html>
<html lang="en">
<head> <!-- Document Header Starts -->
  <meta charset="UTF-8">
  <meta http-equiv="X-UA-Compatible" content="IE=edge">
```

```
    <meta name="viewport" content="width=device-width, initial-scale=1.0">

    <title>Document</title>


  </head> <!-- Document Header Ends -->

  <body>

    <h2 style="color:blue;">WELCOME TO MERN STACK</h2>

    <p style="color:red;">A red paragraph.</p>


    </body>

    </html>
```

## Internal CSS

Internal CSS is used to implement the CSS property in a single HTML page. We can write the internal CSS within the head tag of the HTML page. We have to write the code inside the <style> tag.

With the help of the below process, we can implement the internal CSS in HTML code.

**Step 1:** First, we have to open our HTML page; then, we have to search for the <head> opening tag.

**Step 2:** We have to write the below code inside the <head> tag.

```
    <style type= "text/css">
```

**Step 3:** We have to write the required CSS code inside the <style> tag. The example is as below.

```
    body {

        background-color: blue;

    }

    h1 {

        color: red;

        padding: 60px;

    }
```

**Step 4:** Then we have to close the style tag.

**</style>**

**Example:**

**<DOCTYPE** html**>**

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

**<head>** <!-- Document Header Starts -->

  **<meta** charset=**"UTF-8">**

  **<meta** http-equiv=**"X-UA-Compatible"** content=**"IE=edge">**

  **<meta** name=**"viewport"** content=**"width=device-width, initial-scale=1.0">**

  **<title>**Document**</title>**

  **<style>**

    body {background-color: powderblue;}

    h2 {color: blue;}

    p {color: red;}

    **</style>**

    **</head>** <!-- Document Header Ends -->

**<body>**

  **<h2>**WELCOME TO MERN STACK**</h2>**

  **<p>**A red paragraph.**</p>**

   **</body>**

 **</html>**

## External CSS

With the help of external CSS, we have to write another file where we have to write the CSS code with the help of any text editor, and then we have to link that file to the HTML code with the help of syntax.

This method is a more efficient and reliable method that is followed by all the developers. When we want to change the design of the webpage, then we have to just go to the. CSS file, and then we have to modify that file according to our needs.

With the help of the below steps, we can implement the external CSS in our HTML code.

**Step 1:** First, we have to create a file and name that file with the help of a .css extension with the help of any text editor.

**Step 2:** Then we have to go to the <head> tag in the HTML file; then, we have to create a reference path to that CSS file after the <title> tag.

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

**HTML code**

```html
<DOCTYPE html>
<html lang="en">
<head> <!-- Document Header Starts -->
  <meta charset="UTF-8">
  <meta http-equiv="X-UA-Compatible" content="IE=edge">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Document</title>
  <link rel="stylesheet" href="./style.css">
   </head> <!-- Document Header Ends -->
<body>
  <h2>WELCOME TO MERN STACK</h2>
  <p>A red paragraph.</p>
   </body>
  </html>
```

**CSS code**

```css
  body {   background-color: powderblue;   }
  h2 {   color: blue;   }
  p {   color: red;   }
```