# HTML Guide

## 1. HTML

### 1.1 Basics of HTML

#### 1.1.1 What is HTML, Use of HTML, and Different Web Browsers

* **HTML (HyperText Markup Language)**: A standard language for creating web pages. It uses a series of tags to structure content, such as headings, paragraphs, images, and links. HTML serves as the skeleton of a web page.
* **Use of HTML**: It defines the layout and content of a web page, such as placing text, images, tables, and interactive forms.
* **Different Web Browsers**: HTML content is displayed on various browsers like Chrome, Firefox, Safari, and Edge. These browsers interpret the HTML to render the webpage for the user.
* **Example**:

<!DOCTYPE html>  
**<html>**  
 **<head>**  
 **<title>**Sample Page**</title>**  
 **</head>**  
 **<body>**  
 **<h1>**Welcome to HTML!**</h1>**  
 **<p>**This is a paragraph.**</p>**  
 **</body>**  
**</html>**

**1.1.2 HTML Version**

• HTML has evolved over time, with major versions like **HTML 4.01**, **XHTML**, and **HTML5**.

• **HTML5** (current version) introduced new features for better multimedia support, semantic elements like <article>, <section>, and improved APIs.

• **Example**:

**<section>**  
 **<h2>**HTML5 Section**</h2>**  
 **<p>**HTML5 introduced new semantic tags for better content structure.**</p>**  
**</section>**

**1.1.3 Structure of HTML**

• **Structure**: The basic structure includes <!DOCTYPE html>, <html>, <head>, and <body> tags.

• **Example**:

<!DOCTYPE html>  
**<html>**  
 **<head>**  
 **<meta** **charset**="UTF-8" **/>**  
 **<title>**Page Structure**</title>**  
 **</head>**  
 **<body>**  
 **<h1>**Main Content**</h1>**  
 **</body>**  
**</html>**

**1.2 Basic Controls**

**1.2.1 Form**

• **Form**: Used to collect user input. Attributes include method (HTTP method: GET or POST) and action (URL to submit data).

• **Example**:

**<form** **method**="post" **action**="submit.php"**>**  
 **<label** **for**="name"**>**Name:**</label>**  
  
 **<input** **type**="text" **id**="name" **name**="name" **/>**  
**</form>**

**1.2.2 Input**

• **Input**: Collects user data, with types like text, password, email, number, etc.

• **Example**:

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

**1.2.3 Text Area**

• **Text Area**: Multiline text input field.

• **Example**:

**<textarea** **name**="message" **rows**="5" **cols**="30"**>**Enter your message here**</textarea>**

**1.2.4 Select Box**

• **Select Box**: Drop-down list to choose options.

• **Example**:

**<select** **name**="cars"**>**  
 **<option** **value**="volvo"**>**Volvo**</option>**  
  
 **<option** **value**="bmw"**>**BMW**</option>**  
**</select>**

**1.2.5 Checkbox**

• **Checkbox**: Select one or more options.

• **Example**:

**<input** **type**="checkbox" **id**="agree" **name**="terms" **/>**  
  
**<label** **for**="agree"**>**I agree to the terms and conditions**</label>**

**1.2.6 Radio Button**

• **Radio Button**: Choose one option from a set.

• **Example**:

**<input** **type**="radio" **name**="gender" **value**="male" **/>** Male  
  
**<input** **type**="radio" **name**="gender" **value**="female" **/>** Female

**1.2.7 Button**

• **Button**: Triggers an action when clicked.

• **Example**:

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

**1.2.8 Submit Input**

• **Submit Input**: Submits the form data.

• **Example**:

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

**1.2.9 File Control with Attributes**

• **File Input**: Used for file uploads. Attributes like accept specify file types.

• **Example**:

**<input** **type**="file" **name**="upload" **accept**=".jpg, .png, .pdf" **/>**

**1.3 Control’s Attributes**

**1.3.1 Name**

• **Name Attribute**: Specifies the name of an input element, used in form data submission.

• **Example**:

**<input** **type**="text" **name**="username" **/>**

**1.3.2 ID**

• **ID Attribute**: Unique identifier used for JavaScript and CSS targeting.

• **Example**:

**<input** **type**="text" **id**="userId" **/>**

**1.3.3 Value**

• **Value Attribute**: Defines the default value for an input element.

• **Example**:

**<input** **type**="text" **value**="Default Text" **/>**

**1.3.4 Class**

• **Class Attribute**: Defines a class name for styling with CSS.

• **Example**:

**<div** **class**="container"**>**Content here**</div>**

**1.4 Basic Tags with Attributes**

**1.4.1 Image (img) Tag and Anchor (a) Tag**

• **img Tag**: Embeds an image. Attributes: src (source), alt (text if image fails to load), width, height.

• **Example**:

**<img** **src**="image.jpg" **alt**="Sample Image" **width**="500" **height**="300" **/>**

• **a Tag**: Creates a hyperlink. Attributes: href (destination URL), target (specifies where to open the link).

• **Example**:

**<a** **href**="https://www.example.com" **target**="\_blank"**>**Visit Example**</a>**

**1.4.2 What is a Meta Tag, Use of Meta Tag**

• **Meta Tag**: Provides metadata about the HTML document, used for SEO, character set, and viewport settings.

• **Example**:

**<meta** **charset**="UTF-8" **/>**  
  
**<meta** **name**="description" **content**="Free tutorials on web development" **/>**

**1.4.3 What is a Responsive Website, How to Make It Responsive**

• **Responsive Website**: Adapts layout to different screen sizes using techniques like flexible grids, images, and CSS media queries.

• **How to Make It Responsive**: Use the

tag and CSS media queries.

• **Example**:

**<meta** **name**="viewport" **content**="width=device-width, initial-scale=1.0" **/>**  
  
**<style>**  
 **@media** (**max-width**: 600px) {  
 body {  
 **background-color**: lightblue;  
 }  
 }  
**</style>**