

HTML FORM

1. HTML Forms

An HTML form is a section of a document containing interactive controls (e.g., text fields, buttons) that allow users to submit information to a server. Forms are defined using the `<form>` tag and can include labels, input fields, and submit buttons. When submitted, data is sent via HTTP methods like GET or POST.

Key Features:

- **Purpose:** Collect and transmit user data.
- **Basic Structure:**

HTML

```
<form action="/submit" method="POST">
```

```
<!-- Form elements go here -->
```

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

```
</form>
```

- **How It Works:**
 1. User interacts with form controls.
 2. On submission, data is encoded and sent to the action URL.
 3. Server-side scripts (e.g., PHP, Node.js) process the data.

Common Use Cases:

- User registration.
- Search bars.
- Feedback surveys.

2. HTML Form Attributes

Form attributes define the behavior and properties of the entire `<form>` element. They are placed inside the opening `<form>` tag.

Common Attributes:

Attribute	Description	Example	Possible Values
action	URL where form data is sent for processing.	<code><form action="/process.php"></code>	URL string (required for submission).
method	HTTP method for sending data.	<code><form method="POST"></code>	GET (appends data to URL) or POST (sends in request body).
enctype	Encoding type for form data (used with POST).	<code><form enctype="multipart/form-data"></code>	application/x-www-form-urlencoded (default), multipart/form-data (for file uploads), text/plain.
target	Where to display the response.	<code><form target="_blank"></code>	_self (default), _blank (new window), _parent, _top, or frame name.
autocomplete	Enables/disables browser autofill.	<code><form autocomplete="on"></code>	on or off.
novalidate	Disables HTML5 client-side validation.	<code><form novalidate></code>	Boolean (no value needed).
accept-charset	Character encodings for form submission.	<code><form accept-charset="UTF-8"></code>	Comma-separated list (e.g., "UTF-8, ISO-8859-1").
rel	Relationship between form and action URL.	<code><form rel="external"></code>	Space-separated links (e.g., "nofollow", "external").

Example:

HTML

```
<form action="/submit" method="POST" enctype="multipart/form-data" target="_blank">
  <!-- Elements here -->
</form>
```

3. HTML Form Elements

Form elements are the building blocks inside a `<form>` tag. They capture different types of user input, such as text, selections, or files. Most elements use the `<input>` tag, but others like `<select>`, `<textarea>`, and `<button>` are also common.

Common Form Elements:

Element	Description	Example
<code><input></code>	Versatile input control (text, checkbox, etc.).	<code><input type="text" name="username"></code>
<code><label></code>	Associates text with a form control for accessibility.	<code><label for="username">Name:</label></code>
<code><select></code>	Dropdown list for options.	<code><select name="color"><option value="red">Red</option></select></code>
<code><option></code>	Individual item in a <code><select></code> or <code><datalist></code> .	<code><option value="blue">Blue</option></code>
<code><textarea></code>	Multi-line text input.	<code><textarea rows="4" cols="50">Enter text...</textarea></code>
<code><button></code>	Clickable button (submit or reset).	<code><button type="submit">Submit</button></code>
<code><fieldset></code>	Groups related elements with a border.	<code><fieldset><legend>Contact</legend></code>
<code><legend></code>	Caption for a <code><fieldset></code> .	See above.
<code><datalist></code>	Provides autocomplete suggestions for <code><input></code> .	<code><datalist id="fruits"><option value="apple"></datalist></code>

Example:

HTML

`<form>`

`<fieldset>`

`<legend>Personal Info</legend>`

```
<label for="name">Name:</label>
<input type="text" id="name" name="name">
<br>
<label for="email">Email:</label>
<input type="email" id="email" name="email">
</fieldset>
<button type="submit">Send</button>
</form>
```

4. HTML Input Types

The `type` attribute on `<input>` specifies the type of input control, which determines the UI and validation behavior. HTML5 introduced many new types for better usability and validation.

Common Input Types:

Type	Description	Example	Validation Notes
text	Single-line text field (default).	<code><input type="text" name="fname"></code>	None inherent.
password	Text field that obscures input.	<code><input type="password" name="pwd"></code>	None.
email	Email field with basic validation.	<code><input type="email" name="email"></code>	Must match email pattern.
number	Numeric input with spinner.	<code><input type="number" min="1" max="10"></code>	Numeric only.
date	Date picker.	<code><input type="date" name="birthday"></code>	YYYY-MM-DD format.
checkbox	Toggle for multiple selections.	<code><input type="checkbox" name="hobby"></code>	Boolean-like.

Type	Description	Example	Validation Notes
radio	Single selection from a group.	<code><input type="radio" name="gender" value="male"></code>	Same name for group.
file	File upload.	<code><input type="file" accept="image/*"></code>	Filters file types.
submit	Submit button.	<code><input type="submit" value="Send"></code>	Triggers form submission.
range	Slider for values.	<code><input type="range" min="0" max="100"></code>	Numeric range.
color	Color picker.	<code><input type="color" name="bgcolor"></code>	Hex color code.
search	Search field (often with clear button).	<code><input type="search" name="query"></code>	Text-like.
tel	Telephone number.	<code><input type="tel" name="phone"></code>	None inherent.
url	URL field.	<code><input type="url" name="site"></code>	Must start with <code>http://</code> or <code>https://</code> .
hidden	Hidden field for data not visible to user.	<code><input type="hidden" name="user_id" value="123"></code>	None.

Example:

HTML

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

```
<input type="checkbox" checked> Agree to terms
```

5. HTML Input Attributes

Input attributes customize the behavior, appearance, and validation of `<input>` elements. They are added to the `<input>` tag.

Common Attributes:

Attribute	Description	Example	Notes
name	Identifies the field for submission.	<code><input name="username"></code>	Required for data submission.
value	Default or submitted value.	<code><input value="John Doe"></code>	For text/radio/checkbox.
placeholder	Hint text that disappears on focus.	<code><input placeholder="Enter name"></code>	Not submitted.
required	Makes field mandatory.	<code><input required></code>	Triggers validation.
disabled	Disables the input (grayed out).	<code><input disabled></code>	Not submitted.
readonly	Prevents editing but allows viewing.	<code><input readonly value="Fixed"></code>	Submitted.
size	Width in characters (deprecated in favor of CSS).	<code><input size="20"></code>	For text/password.
maxlength	Maximum character length.	<code><input maxlength="50"></code>	User can't exceed.
min / max	Minimum/maximum value (for number/date).	<code><input type="number" min="0" max="100"></code>	Validation enforced.
pattern	Regex for validation (text/email/tel/url/search).	<code><input pattern="[A-Za-z]{3}"></code>	Must match for validity.
multiple	Allows multiple selections (email/file/select).	<code><input type="file" multiple></code>	Comma-separated values.
autocomplete	Enables autofill suggestions.	<code><input autocomplete="email"></code>	Values like "on", "off", or specific (e.g., "cc-number").
form	Associates input with a form by ID (if outside).	<code><input form="myform"></code>	For inputs outside <code><form></code> .
accept	File types for file input.	<code><input type="file" accept=".pdf,.doc"></code>	MIME types or extensions.
checked	Pre-selects checkbox/radio.	<code><input type="checkbox" checked></code>	Boolean.

Example:

HTML

```
<input type="text" name="age" placeholder="Your age" required min="18" maxlength="3">
```

6. Input Form Attributes

These are attributes specifically for inputs that relate to form integration or global form behavior when applied to inputs. They overlap with general form attributes but are often used on individual inputs for finer control. (Note: This may refer to attributes like `formaction`, `formmethod` that override the parent form's settings.)

Key Input-Specific Form Attributes:

Attribute	Description	Example	Notes
<code>formaction</code>	Overrides the form's action URL (for submit inputs).	<code><input type="submit" formaction="/alt-submit"></code>	Useful for multiple submit buttons.
<code>formmethod</code>	Overrides the form's method.	<code><input type="submit" formmethod="GET"></code>	GET or POST.
<code>formenctype</code>	Overrides the form's enctype.	<code><input type="submit" formenctype="text/plain"></code>	For specific submissions.
<code>formtarget</code>	Overrides the form's target.	<code><input type="submit" formtarget="_blank"></code>	Where to open response.
<code>form</code>	Links input to a specific form by ID.	<code><input form="orderForm"></code>	Allows inputs outside forms.

Example:

HTML

```
<form id="mainForm" action="/save">
  <input type="text" name="data">
  <input type="submit" value="Save" formaction="/save-draft">
  <input type="submit" value="Publish" formmethod="POST">
</form>
```