

# Lecture 5

## Topics: Form

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An HTML form is a section of a webpage that **allows users to enter and submit data**. Forms are used for tasks like **signing up** for a newsletter, **logging in**, **submitting feedback**, or **placing an order**. When a user submits a form, the data is sent to a server for processing.

### Basic Structure of an HTML Form

An HTML form is created using the `<form>` element, which can contain various input elements like text fields, radio buttons, checkboxes, and submit buttons.

#### *Example of a Simple HTML Form:*

```
<!DOCTYPE html>
<html>
<head>
  <title>Simple HTML Form</title>
</head>
<body>

  <h1>Contact Us</h1>

  <!-- Form starts here -->
  <form action="submit\_form.php" method="post">

    <!-- Text input field -->
    <label for="name">Name:</label>
    <input type="text" id="name" name="name"><br><br>

    <!-- Email input field -->
    <label for="email">Email:</label>
    <input type="email" id="email" name="email"><br><br>

    <!-- Radio buttons for selecting gender -->
    <label>Gender:</label>
    <input type="radio" id="male" name="gender" value="male">
    <label for="male">Male</label>
    <input type="radio" id="female" name="gender" value="female">
    <label for="female">Female</label><br><br>

    <!-- Checkbox for agreeing to terms -->
    <input type="checkbox" id="agree" name="agree">
    <label for="agree">I agree to the terms and conditions</label><br><br>

    <!-- Submit button -->
    <input type="submit" value="Submit">

  </form>
  <!-- Form ends here -->

</body>
</html>
```

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## Common Form Input Types

- `<input type="text">`: Single-line text input.
- `<input type="password">`: Single-line text input that masks characters for privacy.
- `<input type="email">`: Email input with validation for proper email format.
- `<input type="number">`: Numeric input, allowing only numbers.
- `<input type="radio">`: Radio button for selecting one option from a group.
- `<input type="checkbox">`: Checkbox for selecting or deselecting an option.
- `<input type="submit">`: Button to submit the form data to the server.
- `<textarea> </textarea>`: Multi-line text input.
- `<select></select>`: Dropdown menu for selecting one option from a list.

## HTML Form Attributes:

HTML form attributes are used to configure the behavior and functionality of forms. These attributes are added to the `<form>` element to control how the form data is processed, validated, and submitted. Below are the key attributes commonly used with HTML forms, along with explanations and examples.

### 1. **action:**

- Specifies the URL of the server-side script that will handle the form data when the form is submitted.
- If the action attribute is not specified, the form will submit to the same URL as the current page.
- Example: `<form action="submit_form.php" method="post">`

### 2. **method:**

- Defines the HTTP method to be used when submitting the form.
- Common values: POST and GET
- **GET:**
  - Appends the form data to the URL, in name/value pairs
  - NEVER use GET to send sensitive data! (the submitted form data is visible in the URL!)
  - The length of a URL is limited (2048 characters)
  - Useful for form submissions where a user wants to bookmark the result
  - GET is good for non-secure data, like query strings in Google
- **POST:**
  - Appends the form data inside the body of the HTTP request (the submitted form data is not shown in the URL)
  - POST has no size limitations, and can be used to send large amounts of data.
  - Form submissions with POST cannot be bookmarked

## HTML Input Types:

- `<input type="text">`
- `<input type="number">`
- `<input type="password">`
- `<input type="date">`
- `<input type="email">`
- `<input type="file">`
- `<input type="checkbox">`
- `<input type="radio">`
- `<input type="reset">`
- `<input type="search">`
- `<input type="submit">`
- `<input type="button">`
- `<input type="hidden">`
- `<input type="color">`
- `<input type="datetime-local">`
- `<input type="image">`
- `<input type="month">`
- `<input type="range">`
- `<input type="tel">`
- `<input type="time">`
- `<input type="url">`
- `<input type="week">`

## Attributes of Input Element:

### 1. type

- **Description:** Specifies the type of input element. Common values include text, password, email, number, checkbox, radio, file, submit, etc.
- **Example:** `<input type="text" name="username">`

### 2. name:

- **Description:** Defines the name of the input element, which is used to identify the data when the form is submitted.
- **Example:** `<input type="text" name="username">`

### 3. value:

- **Description:** Specifies the initial value of the input field or the value submitted with the form.
- **Example:** `<input type="text" name="username" value="JohnDoe">`

### 4. placeholder:

- **Description:** Provides a short hint that describes the expected value of the input. The hint is displayed in the input field when it is empty.
- **Example:** `<input type="text" name="username" placeholder="Enter your username">`

### 5. required:

- **Description:** Indicates that the input field must be filled out before the form can be submitted.
- **Example:** `<input type="text" name="username" required>`

### Sample Quiz Questions:

1. **What does the <html> tag represent in an HTML document?**
  - A) The document's title
  - B) The body content of the document
  - C) The root element of an HTML document
  - D) A paragraph element
  - **Answer:** C) The root element of an HTML document
2. **Which of the following is the correct way to add an attribute to an HTML element?**
  - A) <p class="text">This is a paragraph.</p>
  - B) <p class=text>This is a paragraph.</p>
  - C) <p.class="text">This is a paragraph.</p>
  - D) <p (class="text")>This is a paragraph.</p>
  - **Answer:** A) <p class="text">This is a paragraph.</p>
3. The <head> element in an HTML document is where the metadata and links to external resources like stylesheets are placed.
  - **Answer:** True
4. The id attribute is used to define a unique identifier for an HTML element and can be used multiple times in a document.
  - **Answer:** False (The id attribute must be unique within a document)
5. What is the full form of HTML?
  - **Answer:** Hypertext Markup Language
6. Design a login form using HTML with username, password and login button.