

# Forms

# HTML Forms

- An HTML form is used to collect user input. The user input is most often sent to a server for processing.

# The <form> Element

- The HTML <form> element is used to create an HTML form for user input:
- <form>
  - *form elements*
  - </form>
- The <form> element is a container for different types of input elements, such as: text fields, checkboxes, radio buttons, submit buttons, etc.

# The <input> Element

- An <input> element can be displayed in many ways, depending on the type attribute.

<input type="text">	Displays a single-line text input field
<input type="radio">	Displays a radio button (for selecting one of many choices)
<input type="checkbox">	Displays a checkbox (for selecting zero or more of many choices)
<input type="submit">	Displays a submit button (for submitting the form)
<input type="button">	Displays a clickable button

# Text Fields

- The `<input type="text">` defines a single-line input field for text input.

```
<form>
```

```
<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">
```

```
</form>
```

# The <label> Element

- The <label> tag defines a label for many form elements.
- The <label> element is useful for screen-reader users, because the screen-reader will read out loud the label when the user focus on the input element.
- The <label> element also help users who have difficulty clicking on very small regions (such as radio buttons or checkboxes) - because when the user clicks the text within the <label> element, it toggles the radio button/checkbox.
- The for attribute of the <label> tag should be equal to the id attribute of the <input> element to bind them together.

# Radio Buttons

```
<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>
```

# Checkboxes

- The `<input type="checkbox">` defines a checkbox.

```
<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>
```



# 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.

- `<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>`

# HTML Form Attributes

- The Action Attribute

The action attribute defines the action to be performed when the form is submitted.

Usually, the form data is sent to a file on the server when the user clicks on the submit button.

- `<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>`

# The Name Attribute for <input>

- Notice that each input field must have a name attribute to be submitted.
- If the name attribute is omitted, the value of the input field will not be sent at all.

```
<form action="/action_page.php">  
  <label for="fname">First name:</label><br>  
  <input type="text" id="fname" value="John"><br><br>  
  <input type="submit" value="Submit">  
</form>
```

# The Method Attribute

- The method attribute specifies the HTTP method to be used when submitting the form data.
- The form-data can be sent as URL variables (with method="get") or as HTTP post transaction (with method="post").
- The default HTTP method when submitting form data is GET.

```
<form action="/action_page.php" method="get">
```

- <!DOCTYPE html>
- <html>
- <body>
- <h2>The method Attribute</h2>
- <p>This form will be submitted using the GET method:</p>
- <form action="/action\_page.php" target="\_blank" method="get">
- <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>After you submit, notice that the form values is visible in the address bar of the new browser tab.</p>
- </body>
- </html>



- `<p>This form will be submitted using the POST method:</p>`
- `<form action="/action_page.php" target="_blank" method="post">`
- `<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>After you submit, notice that, unlike the GET method, the form values is NOT visible in the address bar of the new browser tab.</p>`

# The Autocomplete Attribute

- The autocomplete attribute specifies whether a form should have autocomplete on or off.
- When autocomplete is on, the browser automatically complete values based on values that the user has entered before.
- `<form action="/action_page.php" autocomplete="on">`

- `<p>Then, try to set autocomplete to "off".</p>`
- `<form action="/action_page.php" autocomplete="on">`
- `<label for="fname">First name:</label>`
- `<input type="text" id="fname" name="fname"><br><br>`
- `<label for="email">Email:</label>`
- `<input type="text" id="email" name="email"><br><br>`
- `<input type="submit">`
- `</form>`

# The HTML <form> Elements

- The HTML <form> element can contain one or more of the following form elements:
  - <input>
  - <label>
  - <select>
  - <textarea>
  - <button>
  - <fieldset>
  - <legend>
  - <datalist>
  - <output>
  - <option>
  - <optgroup>

# The <input> Element

- One of the most used form element is the <input> element.
- The <input> element can be displayed in several ways, depending on the type attribute.

```
<form action="/action_page.php">  
  <label for="fname">First name:</label><br>  
  <input type="text" id="fname" name="fname"><br><br>  
  <input type="submit" value="Submit">  
</form>
```

# The Action Attribute

- The action attribute defines the action to be performed when the form is submitted.

```
<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>
```

# The Target Attribute

- The target attribute specifies where to display the response that is received after submitting the form.

Value	Description
_blank	The response is displayed in a new window or tab
_self	The response is displayed in the current window
_parent	The response is displayed in the parent frame
_top	The response is displayed in the full body of the window
framename	The response is displayed in a named iframe

# The Method Attribute



# The HTML <form> Elements

- The HTML <form> element can contain one or more of the following form elements:
- <input>
- <label>
- <select>
- <textarea>
- <button>
- <fieldset>
- <legend>
- <datalist>
- <output>
- <option>
- <optgroup>

# The <input> Element

- The <input> element can be displayed in several ways, depending on the type attribute.

```
<input type="text" id="fname" name="fname"><br><br>  
<input type="submit" value="Submit">
```

- `<!DOCTYPE html>`
- `<html>`
- `<body>`
- `<h2>The select Element</h2>`
- `<p>The select element defines a drop-down list:</p>`
- `<form action="action">`
- `<label for="cars">Choose a car:</label>`
- `<select id="cars" name="cars">`
- `<option value="English">English</option>`
- `<option value="Hindi">Hindi</option>`
- `<option value="Maths">Maths</option>`
- `<option value="Punjabi">Punjabi</option>`
- `</select>`
- `<input type="submit">`
- `</form>`
- `</body>`
- `</html>`

# The <select> Element

- The <select> element defines a drop-down list:
- The <option> elements defines an option that can be selected.
- By default, the first item in the drop-down list is selected.

- <p>You can preselect an option with the selected attribute:</p>
- <form action="/action\_page.php">
- <label for="cars">Choose a car:</label>
- <select id="cars" name="cars">
- <option value="volvo">Volvo</option>
- <option value="saab">Saab</option>
- <option value="fiat" selected>Fiat</option>
- <option value="audi">Audi</option>
- </select>
- <input type="submit">
- </form>

# Visible Values

- Use the size attribute to specify the number of visible values:
- `<form action="/action_page.php">`
- `<label for="cars">Choose a car:</label>`
- `<select id="cars" name="cars" size="3">`
- `<option value="volvo">Volvo</option>`
- `<option value="saab">Saab</option>`
- `<option value="fiat">Fiat</option>`
- `<option value="audi">Audi</option>`
- `</select><br><br>`
- `<input type="submit">`
- `</form>`

# Allow Multiple Selections

- Use the multiple attribute to allow the user to select more than one value:

```
<form action="/action_page.php">
  <label for="cars">Choose a car:</label>
  <select id="cars" name="cars" size="4" multiple>
    <option value="volvo">Volvo</option>
    <option value="saab">Saab</option>
    <option value="fiat">Fiat</option>
    <option value="audi">Audi</option>
  </select><br><br>
  <input type="submit">
</form>
```

# 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="10">The cat was playing in the garden.</textarea>  
  <br><br>  
  <input type="submit">  
</form>
```

Or

```
<textarea name="message" style="width:200px; height:600px;">The cat was playing in the  
garden.</textarea>
```



# The <button> Element

- <!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.

- `<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>`  
    `<input type="submit" value="Submit">`  
  `</fieldset>`  
 `</form>`

# The <datalist> Element

- The <datalist> element specifies a list of pre-defined options for an <input> element.
- Users will see a drop-down list of the pre-defined options as they input data.
- The list attribute of the <input> element, must refer to the id attribute of the <datalist> element.

- `<form action="/action_page.php">`
- `<input list="browsers">`
- `<datalist id="browsers">`
- `<option value="Internet Explorer">`
- `<option value="Firefox">`
- `<option value="Chrome">`
- `<option value="Opera">`
- `<option value="Safari">`
- `</datalist>`
- `</form>`

# The <output> Element

- <form action="/action\_page.php"
- oninput="x.value=parseInt(a.value)+parseInt(b.value)">
- 0
- <input type="range" id="a" name="a" value="50">
- 100 +
- <input type="number" id="b" name="b" value="50">
- =
- <output name="x" for="a b"></output>
- <br><br>
- <input type="submit">
- </form>

# The <optgroup> Tag

- The <optgroup> tag is used to group related options in a <select> element (drop-down list).
- ```
<label for="cars">Choose a car:</label>
<select name="cars" id="cars">
  <optgroup label="Swedish Cars">
    <option value="volvo">Volvo</option>
    <option value="saab">Saab</option>
  </optgroup>
  <optgroup label="German Cars">
    <option value="mercedes">Mercedes</option>
    <option value="audi">Audi</option>
  </optgroup>
</select>
```

# HTML Input Types

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



# Input Type Reset

- `<input type="reset">` defines a reset button that will reset all form values to their default values:
- ```
<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">  
  <input type="reset">  
</form>
```

# Input Type Color

- The `<input type="color">` is used for input fields that should contain a color.
- `<form>`  
    `<label for="favcolor">Select your favorite color:</label>`  
    `<input type="color" id="favcolor" name="favcolor">`  
    `</form>`

# Input Type Date

- The `<input type="date">` is used for input fields that should contain a date.
- `<form>`
  - `<label for="birthday">Birthday:</label>`
  - `<input type="date" id="birthday" name="birthday">`
  - `</form>`

# Min-max attribute

- <form>

<label for="datemax">Enter a date before 1980-01-01:</label>

<input type="date" id="datemax" name="datemax" max="1979-12-31"> <br><br>

<label for="datemin">Enter a date after 2000-01-01:</label>

<input type="date" id="datemin" name="datemin" min="2000-01-2">  
</form>

# Input Type Datetime-local

- The `<input type="datetime-local">` specifies a date and time input field, with no time zone.
- `<form>`  
`<label for="birthdaytime">Birthday (date and time):</label>`  
`<input type="datetime-local" id="birthdaytime" name="birthdaytime">`  
`</form>`

# Input Type Email

- The `<input type="email">` is used for input fields that should contain an e-mail address.
- `<form>`
  - `<label for="email">Enter your email:</label>`
  - `<input type="email" id="email" name="email">`
  - `</form>`

# Input Type Image

- The `<input type="image">` defines an image as a submit button.
- The path to the image is specified in the `src` attribute.
- `<form>`  
`<input type="image" src="img_submit.gif" alt="Submit" width="48" height="48">`  
`</form>`

# Input Type File

- The `<input type="file">` defines a file-select field and a "Browse" button for file uploads.
- `<form>`
  - `<label for="myfile">Select a file:</label>`
  - `<input type="file" id="myfile" name="myfile">`
  - `</form>`



# Input Type Hidden

- The `<input type="hidden">` defines a hidden input field (not visible to a user).
- A hidden field lets web developers include data that cannot be seen or modified by users when a form is submitted.
- A hidden field often stores what database record that needs to be updated when the form is submitted.

- `<form>`  
    `<label for="fname">First name:</label>`  
    `<input type="text" id="fname" name="fname"><br><br>`  
    `<input type="hidden" id="custId" name="custId" value="3487">`  
    `<input type="submit" value="Submit">`  
    `</form>`

# Input Type Month

- The `<input type="month">` allows the user to select a month and year.

- `<form>`

`<label for="bdaymonth">Birthday (month and year):</label>`

`<input type="month" id="bdaymonth" name="bdaymonth">`

`</form>`

# Input Type Number

- The `<input type="number">` defines a numeric input field.
- You can also set restrictions on what numbers are accepted.

- `<form>`

`<label for="quantity">Quantity (between 1 and 5):</label>`

`<input type="number" id="quantity" name="quantity" min="1" max="5">`

`</form>`

# Input Type Range

- The `<input type="range">` defines a control for entering a number whose exact value is not important (like a slider control).
- Default range is 0 to 100. However, you can set restrictions on what numbers are accepted with the `min`, `max`, and `step` attributes.

- `<form>`

`<label for="vol">Volume (between 0 and 50):</label>`

`<input type="range" id="vol" name="vol" min="0" max="50">`

`</form>`

# Input Type Search

- The `<input type="search">` is used for search fields (a search field behaves like a regular text field).

- `<form>`

`<label for="gsearch">Search Google:</label>`

`<input type="search" id="gsearch" name="gsearch">`

`</form>`

# Input Type Tel

- The `<input type="tel">` is used for input fields that should contain a telephone number.

- `<form>`

`<label for="phone">Enter your phone number:</label>`

`<input type="tel" id="phone" name="phone" pattern="[0-9]{3}-[0-9]{2}-[0-9]{3}">`

`</form>`

# Input Type Time

- The `<input type="time">` allows the user to select a time (no time zone).

```
<form>
```

```
  <label for="appt">Select a time:</label>
```

```
  <input type="time" id="appt" name="appt">
```

```
</form>
```



# Input Type Url

- The `<input type="url">` is used for input fields that should contain a URL address.
- Depending on browser support, the url field can be automatically validated when submitted.
- `<form>`  
`<label for="homepage">Add your homepage:</label>`  
`<input type="url" id="homepage" name="homepage">`  
`</form>`

# Input Type Week

- The `<input type="week">` allows the user to select a week and year.

- `<form>`

`<label for="week">Select a week:</label>`

`<input type="week" id="week" name="week">`

`</form>`

# Input Type Password

- <form>

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

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

<label for="pwd">Password:</label><br>

<input type="password" id="pwd" name="pwd">

</form>

# HTML Input Attributes

## Value Attribute

- The input value attribute specifies an initial value for an input field

```
<form>
```

```
  <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">
```

```
</form>
```

# The readonly Attribute

- The input readonly attribute specifies that an input field is read-only.

```
<form>
```

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

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

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

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

```
</form>
```

# The value Attribute

- The input value attribute specifies an initial value for an input field:

```
<form>
```

```
<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">
```

```
</form>
```

# The readonly Attribute

- The input readonly attribute specifies that an input field is read-only.
- A read-only input field cannot be modified (however, a user can tab to it, highlight it, and copy the text from it).

```
<form>
```

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

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

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

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

```
</form>
```

# The disabled Attribute

- The input disabled attribute specifies that an input field should be disabled.
- A disabled input field is unusable and un-clickable.

```
<form action="/action_page.php">  
  <label for="fname">First name:</label><br>  
  <input type="text" id="fname" name="fname" value="John" disabled><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>
```



# The size Attribute

- The input size attribute specifies the visible width, in characters, of an input field.
- The default value for size is 20.
- Note: The size attribute works with the following input types: text, search, tel, url, email, and password. <form>

```
<label for="fname">First name:</label><br>
<input type="text" id="fname" name="fname" size="50"><br>
<label for="pin">PIN:</label><br>
<input type="text" id="pin" name="pin" size="4">
</form>
```

# The maxlength Attribute

- The input maxlength attribute specifies the maximum number of characters allowed in an input field.

```
<form>
```

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

```
  <input type="text" id="fname" name="fname" size="50"><br>
```

```
  <label for="pin">PIN:</label><br>
```

```
  <input type="text" id="pin" name="pin" maxlength="4" size="4">
```

```
</form>
```

# The min and max Attributes

- The input min and max attributes specify the minimum and maximum values for an input field.
- The min and max attributes work with the following input types: number, range, date, datetime-local, month, time and week.

```
<form>
```

```
<label for="datemax">Enter a date before 1980-01-01:</label>
```

```
<input type="date" id="datemax" name="datemax" max="1979-12-31"><br><br>
```

```
<label for="datemin">Enter a date after 2000-01-01:</label>
```

```
<input type="date" id="datemin" name="datemin" min="2000-01-02"><br><br>
```

```
<label for="quantity">Quantity (between 1 and 5):</label>
```

```
<input type="number" id="quantity" name="quantity" min="1" max="5">
```

```
</form>
```

# The multiple Attribute

- The input multiple attribute specifies that the user is allowed to enter more than one value in an input field.
- The multiple attribute works with the following input types: email, and file.

```
<form>  
  <label for="files">Select files:</label>  
  <input type="file" id="files" name="files" multiple>  
</form>
```

# The pattern Attribute

- The input pattern attribute specifies a regular expression that the input field's value is checked against, when the form is submitted.
- The pattern attribute works with the following input types: text, date, search, url, tel, email, and password.

```
<form>
```

```
  <label for="country_code">Country code:</label>
```

```
  <input type="text" id="country_code" name="country_code"  
    pattern="[A-Za-z]{3}" title="Three letter country code">
```

```
</form>
```

# The placeholder Attribute

- The input placeholder attribute specifies a short hint that describes the expected value of an input field (a sample value or a short description of the expected format).
- The short hint is displayed in the input field before the user enters a value.
- The placeholder attribute works with the following input types: text, search, url, tel, email, and password.

- `<form>`  
    `<label for="phone">Enter a phone number:</label>`  
    `<input type="tel" id="phone" name="phone"`  
    `placeholder="123-45-678"`  
    `pattern="[0-9]{3}-[0-9]{2}-[0-9]{3}">`  
    `</form>`

# The required Attribute

- The input required attribute specifies that an input field must be filled out before submitting the form.
- The required attribute works with the following input types: text, search, url, tel, email, password, date pickers, number, checkbox, radio, and file.

```
<form>  
  <label for="username">Username:</label>  
  <input type="text" id="username" name="username" required>  
</form>
```



# The step Attribute

- The input step attribute specifies the legal number intervals for an input field.
- Example: if step="3", legal numbers could be -3, 0, 3, 6, etc.

```
<form>  
  <label for="points">Points:</label>  
  <input type="number" id="points" name="points" step="3">  
</form>
```

# The autofocus Attribute

- The input autofocus attribute specifies that an input field should automatically get focus when the page loads.

```
<form action="/action_page.php">  
  <label for="fname">First name:</label><br>  
  <input type="text" id="fname" name="fname" autofocus><br>  
  <label for="lname">Last name:</label><br>  
  <input type="text" id="lname" name="lname"><br><br>  
  <input type="submit" value="Submit">  
</form>
```

# The height and width Attributes

- The input height and width attributes specify the height and width of an `<input type="image">` element.

```
<form>
  <label for="fname">First name:</label>
  <input type="text" id="fname" name="fname"><br><br>
  <label for="lname">Last name:</label>
  <input type="text" id="lname" name="lname"><br><br>
  <input type="image" src="img_submit.gif" alt="Submit" width="48" height="48">
</form>
```