

HTML

What is HTML?

HTML stands for **Hypertext Markup Language**

A computer **language** understood by Web browsers to format Webpages

We describe the format of the Webpage by **marking it up** with special symbols we refer to as tags, e.g., the following **tags** format the text as bold:

****This text is bold****

What is HTML?

Page format is written in plain text as opposed to some proprietary binary format

Some text can be formatted to do some action and is referred to as hypertext to distinguish it from text that does not do any action

Creating an HTML Webpage

Creating an HTML Webpage is as easy as creating a text file

From your favorite text editor, create a new file and save it with the .html extension

Often HTML Webpages are referred to as HTML Documents

Here's a simple HTML document in file ***hello.html***:

```
Hello World!
```

Open the same file hello.html with a browser

The document type

The **DOCTYPE** declares the type of the document as html

Helps browsers making sure they open the right type of document

```
<!DOCTYPE html>
```

```
<html>
```

```
<head>
```

```
<title>This is the Page Title</title>
```

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

```
</head>
```

```
<body>
```

```
Hello World!
```

```
</body>
```

```
</html>
```

HTML Comments

Comments are short pieces of text developers add to document code

Help developers remember what thinking when they wrote the code

Comments are ignored by Web browsers since they only mean something to the developer

```
<!-- This is a short one line comment -->
```

```
<!-- This is a longer  
two line comment -->
```

Hello World!

The body tag

The **body** tag contains the main content of a Webpage and it's where we'll be spending most of our time

```
<!DOCTYPE html>
```

```
<html>
```

```
<head>
```

```
<title>This is the Page Title</title>
```

```
<link href="http://somewhere.in.europe/style.css" rel="stylesheet"/>
```

```
</head>
```

```
<body>
```

```
Hello World!
```

```
</body>
```

```
</html>
```

The structure of HTML documents

HTML Documents have the following structure

Rewrite hello.html so that the content is in the body tag

```
<!DOCTYPE html>
```

```
<html>
```

```
<head>
```

```
<title>This is the Page Title</title>
```

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

```
</head>
```

```
<body>
```

```
Hello World!
```

```
</body>
```

```
</html>
```


The HTML root tag

HTML Documents are **XML (eXtensible Markup Language)** documents with root tag **html**

```
<!DOCTYPE html>
```

```
<html>
```

```
  <head>
```

```
    <title>This is the Page Title</title>
```

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

```
  </head>
```

```
  <body>
```

```
    Hello World!
```

```
  </body>
```

```
</html>
```

The head tag

The head tag configures meta information about the document such as the author, document title, scripts, styling, etc

```
<!DOCTYPE html>
```

```
<html>
```

```
<head>
```

```
<title>This is the Page Title</title>
```

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

```
</head>
```

```
<body>
```

```
Hello World!
```

```
</body>
```

```
</html>
```

White spaces are ignored

We use white spaces to structure documents visually

Browsers only respect single spaces; tabs and newlines are ignored

`<body> <!-- we'll stop using body since it's implied -->`

Hello World!

Consider this paragraph of text. It's separated visually from the text above by a new line character that adds vertical spacing.

Also these paragraphs are indented from the left margin with tabs. Tabs and newlines are ignored so this whole content will render as a single paragraph.

`</body>`

Paragraphs

Use paragraphs to explicitly add vertical spacing between portions of text

<p>Lorem Ipsum is simply dummy text of the printing and typesetting industry. Lorem Ipsum has been the industry's standard dummy text ever since the 1500s, when an unknown printer took a galley of type and scrambled it to make a type specimen book**</p>**

<p>Lorem Ipsum is simply dummy text of the printing and typesetting industry. Lorem Ipsum has been the industry's standard dummy text ever since the 1500s, when an unknown printer took a galley of type and scrambled it to make a type specimen book**</p>**

HEADINGS

Headings

Use headings as titles to introduce distinct sections

Headings come in 6 sizes starting with h1, h2, through h6

H1 is the largest size, h6 is the smallest

<h1>This is the largest heading**</h1>**

<h2>This is the second largest heading**</h2>**

<h6>This is the smallest heading**</h6>**

Using headings

For instance we can use headings to introduce all the topics we've covered so far...

```
<h1>HTML</h1>
```

```
<h2>Paragraphs</h2>
```

```
<!-- content discussing paragraphs -->
```

```
<h2>Headings</h2>
```

```
<!-- content discussing headings -->
```

LISTS

Lists

<h2>Courses Spring 2018</h2>

CS5610

CS4500

CS5200

<h2>Semesters</h2>

Spring

Summer 1

Summer 2

Fall

Courses Spring 2018

- CS5610
- CS4500
- CS5200

Semesters

1. Spring
2. Summer 1
3. Summer 2
4. Fall

Ordered lists

Ordered lists enumerate line items

`<h2>Ordered lists</h1>`

Follow these steps

``

`Learn HTML`

`Learn JavaScript`

`Build cool stuff`

``

Ordered lists

Follow these steps

1. Learn HTML
2. Learn JavaScript
3. Build cool stuff

Unordered lists

Unordered lists render as bullet points

<h2>Unordered lists</h1>

Follow these steps

Learn HTML

Learn JavaScript

Build cool stuff

Unordered lists

Follow these steps

- Learn HTML
- Learn JavaScript
- Build cool stuff

TABLES

Tables

Use tables to display **tabular data**, their intended purpose, e.g., each row is a record, each column has same data types.

Do not use tables to layout content. Use DIVs and CSS instead

<table>

<thead></thead>

<tbody></tbody>

</table>

Table headings and rows

```
<table border="1"> <!-- border attribute sets border width -->
  <thead> <!-- contains table heading content -->
    <tr> <!-- heading can have several rows; 1 row is common -->
      <th>Username</th><th>Password</th><th>First Name</th>
      <th>Last Name</th><th>Role</th><th>&nbsp;</th>
    </tr>
  </thead>
</table>
```

Username	Password	First Name	Last Name	Role	
----------	----------	------------	-----------	------	--

Table body, table rows, and table data

```
<table border="1">
```

```
  <tbody>
```

```
    <tr>
```

```
      <td>alice</td>    <td>*****</td>  <td>Alice</td>
```

```
      <td>Wonderland</td> <td>Student</td> <td>Edit | Remove</td>
```

```
    </tr>
```

```
  </tbody>
```

```
</table>
```

Username	Password	First Name	Last Name	Role	
alice	*****	Alice	Wonderland	Student	Edit Remove
bob	*****	Bob	Marley	Faculty	Edit Remove

**INPUT, DATES &
DROP DOWNS**

Input fields and labels

```
<label for="usernameFld">
```

Username

```
</label>
```

```
<input id="usernameFld"
```

```
  type="text"
```

```
  title="Username"
```

```
  placeholder="alice" />
```

Username

alice

First Name

Alice

```
<label for="firstNameFld">
```

First Name</label>

```
<input id="firstNameFld"
```

```
  value="Alice" />
```

Last Name

Wonderland

Date input fields

<label

for="dobFld">

Date of Birth

</label>

<input

type="date"

id="dobFld"

value="2011-11-22" />

Date of Birth

11/22/2011

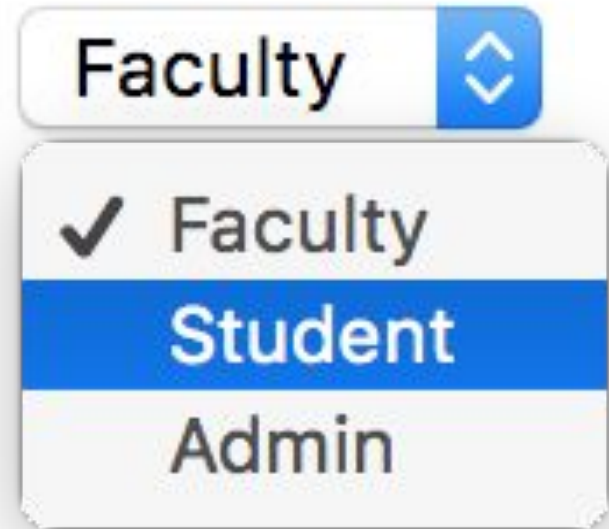
November 2011 ▼



Sun	Mon	Tue	Wed	Thu	Fri	Sat
30	31	1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	1	2	3

Dropdowns with SELECT

```
<select name="role">  
  <option value="FACULTY">  
    Faculty  
  </option>  
  <option value="STUDENT">  
    Student  
  </option>  
  <option value="ADMIN">  
    Admin  
  </option>  
</select>
```



BUTTONS, RADIOS & CHECKBOXES

Buttons

```
<button type="button">
```

Delete

```
</button>
```

```
<button type="button">
```

Edit

```
</button>
```

```
<button type="submit">
```

Update

```
</button>
```

A rectangular button with a light gray border and the text "Delete" in black.A rectangular button with a light gray border and the text "Edit" in black.A rectangular button with a light gray border and the text "Update" in black.

Default submit behavior won't be used in course

Checkbox and radio buttons

```
<label>  
  <input name="b" type="checkbox"/> Tenured  
</label>
```



```
Tenured:  
<label>  
  <input name="a" type="radio"/> Yes  
</label>  
<label>  
  <input name="a" type="radio" checked/> No  
</label>
```

Tenured:



Wrap with label to increase click area

ANCHORS

Anchors

Hyperlink documents with anchors, i.e., clickable text to navigate elsewhere to other documents

All lectures available

``

on my YouTube channel

``

All lectures available on my YouTube channel

DEMO

USER
ADMIN

Create table headings

```
<table>
  <thead>
    <tr>
      <th>Username</th>
      <th>Password</th>
      <th>First Name</th>
      <th>Last Name</th>
      <th>Role</th>
      <th>DOB</th>
      <th>&nbsp;</th>
    </tr>
    ...
```

Username

Password

First Name

Last Name

Role

DOB

Add form row

```
<tr>
  <th><input placeholder="username"/></th>
  <th><input placeholder="password"/></th>
  <th><input placeholder="first name"/></th>
  <th><input placeholder="last name"/></th>
  <th><select><option>Faculty</option>
    <option>Student</option>
    <option>Admin</option></select></th>
  <th><input type="date"/></th>
  <th><button>Update</button>
    <button>Create</button></th></tr>
</thead>
```

Username	Password	First Name	Last Name	Role	DOB		
<input type="text" value="username"/>	<input type="password" value="password"/>	<input type="text" value="first name"/>	<input type="text" value="last name"/>	Faculty 	<input type="text" value="mm/dd/yyyy"/>	<input type="button" value="Update"/>	<input type="button" value="Create"/>

Add table body content

```
<tbody><tr><td>alice</td><td>****</td><td>Alice</td><td>Wonderland</td><td>Faculty</td><td>11/22/1968</td><td><button>Delete</button><button>Edit</button></td></tr><tr><td>bob</td><td>****</td><td>Bob</td><td>Marley</td><td>Student</td><td>10/12/1982</td><td><button>Delete</button><button>Edit</button></td></tr></tbody></table>
```

Username	Password	First Name	Last Name	Role	DOB	
<input type="text" value="username"/>	<input type="password" value="password"/>	<input type="text" value="first name"/>	<input type="text" value="last name"/>	<input type="text" value="Faculty"/>	<input type="text" value="mm/dd/yyyy"/>	<input type="button" value="Update"/> <input type="button" value="Create"/>
alice	****	Alice	Wonderland	Faculty	11/22/1968	<input type="button" value="Delete"/> <input type="button" value="Edit"/>
bob	****	Bob	Marley	Student	10/12/1982	<input type="button" value="Delete"/> <input type="button" value="Edit"/>

Column span

Column span

<table>

<thead></thead>

<tbody></tbody>

</table>

Row span

Row span

<table>

<thead></thead>

<tbody></tbody>

</table>

Table footer

Table footer

<table>

<thead></thead>

<tbody></tbody>

<tfoot></tfoot>

</table>

Column layout with tables

Column layout

<table>

<thead></thead>

<tbody></tbody>

<tfoot></tfoot>

</table>

Border layout with tables

Border layout

<table>

<thead></thead>

<tbody></tbody>

<tfoot></tfoot>

</table>

Layout with CSS

Layout with CSS

<table>

<thead></thead>

<tbody></tbody>

<tfoot></tfoot>

</table>

HTML



CSS

