HTML5 & CSS3 Intro

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HTML5 & CSS3 Intr

Outline

- The Web
- WebApp Components
- Web Server & Web Browser
- Static Web Pages
- Dynamic Web Pages
- JavaScript in Web Development
- HTML
  - Basic Structure
  - Some Basic Tags
  - Understanding Attributes
  - Nesting Elements
- CSS – Cascaded Style Sheets
  - Syntax & Selectors
- Getting Organized

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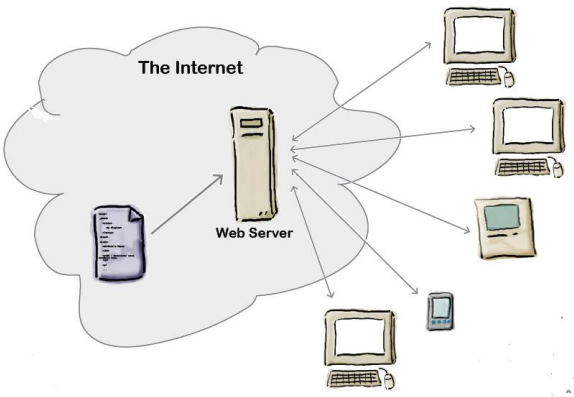
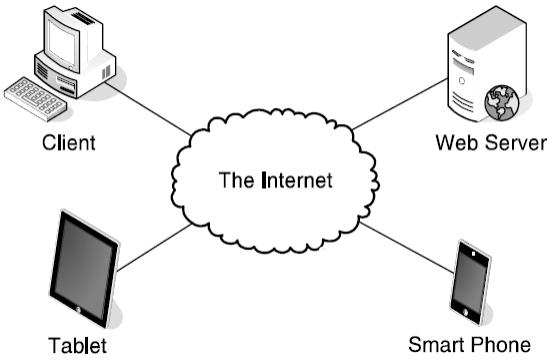
The Web

- The **Web** – Universal form of communication
- To use the Web effectively, we got to know about **HTML**



Web Application Components

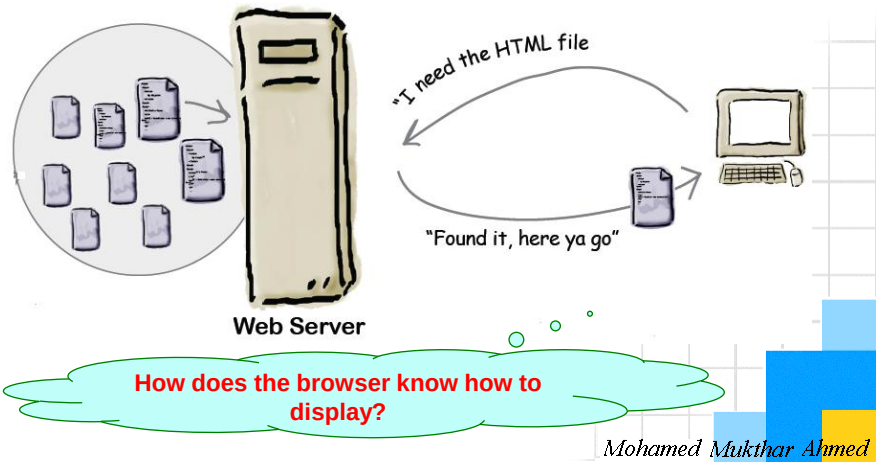
- Components of a Web Application



- A Web Application consists of clients, a web server and a network.

Web Server

- The **Web Server** – accepts **requests** from Web browsers and **responds**

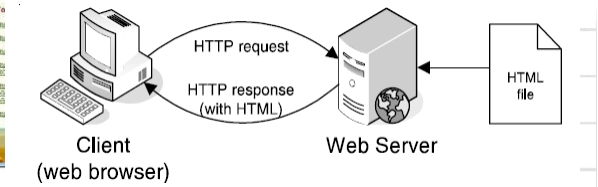


Web Browser

- Web servers store and serve web pages, which are created from HTML and CSS.
- Web Browsers retrieve pages and render their content based on the HTML and CSS

Static Web Pages

A static web page at http://www.valleytownhall.com/toobin.html



- A *static web page* is an HTML document that's stored on the web server and doesn't change. The filenames for static web pages have .htm or .html extensions.
- When the user requests a static web page, the browser sends an *HTTP request* to the web server that includes the name of the file that's being requested.
- When the web server receives the request, it retrieves the HTML for the web page and sends it back to the browser as part of an *HTTP response*.
- When the browser receives the HTTP response, it *renders* the HTML into a web page that is displayed in the browser.

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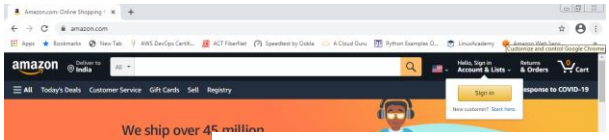
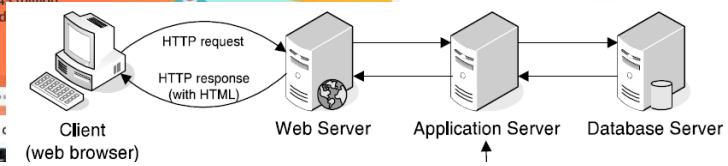
Dynamic Web Pages





- A *dynamic web page* is a web page that's generated by a server-side program or script.
- When a web server receives a request for a dynamic web page, it looks up the extension of the requested file to find out which *application server* should process the request.
- When the application server receives a request, it runs the specified script. Often, this script uses the data that it gets from the web browser to get the appropriate data from a *database server*. This script can also store the data that it receives in the database.
- When the application server finishes processing the data, it generates the HTML for a web page and returns it to the web server. Then, the web server returns the HTML to the web browser as part of an HTTP response.

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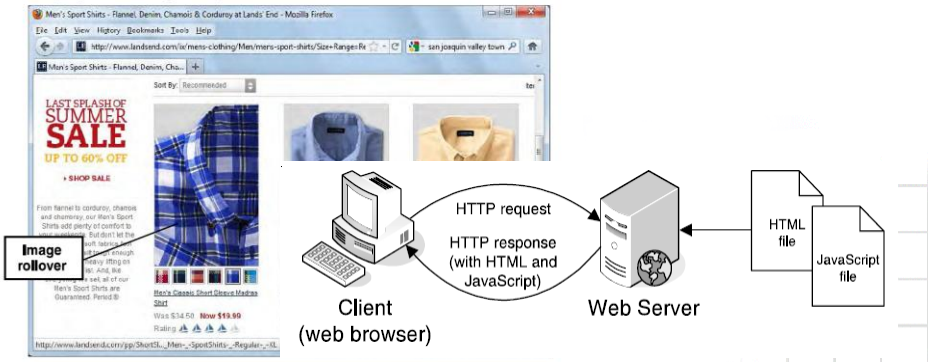
JavaScript in Web Development

A web page with image swaps and rollovers



- *JavaScript* is a *client-side scripting language* that is run by the *JavaScript engine* of a web browser and controls the operation of the browser.
- When the browser requests an HTML page that contains JavaScript or a link to a JavaScript file, both the HTML and the JavaScript are loaded into the browser.
- Because JavaScript runs on the client, not the server, it provides functions that don't require a trip back to the server. This can help an application run more efficiently.

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HTML

- To use the Web effectively, we got to know about **HTML**
- HTML is an abbreviation for HyperText Markup Language and is used to structure your web page
- Using HTML, we mark up content with tags to provide structure
- The basic **structure** of any HTML document will look as shown below:

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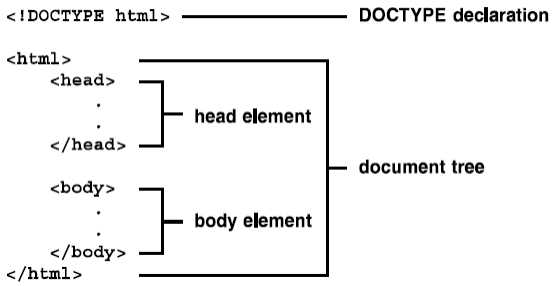
Basic HTML Strutcure

The basic structure of an HTML5 document




```
<!DOCTYPE html>
<html lang="en">
    <head>
        <meta charset="utf-8">
        <title>San Joaquin Valley Town Hall</title>
    </head>
    <body>
        <h1>San Joaquin Valley Town Hall</h1>
        <p>Welcome to San Joaquin Valley Town Hall.</p>
        <p>We have some amazing speakers in store for you this season!</p>
        <p><a href="speakers.html">Speaker information</a></p>
    </body>
</html>
```

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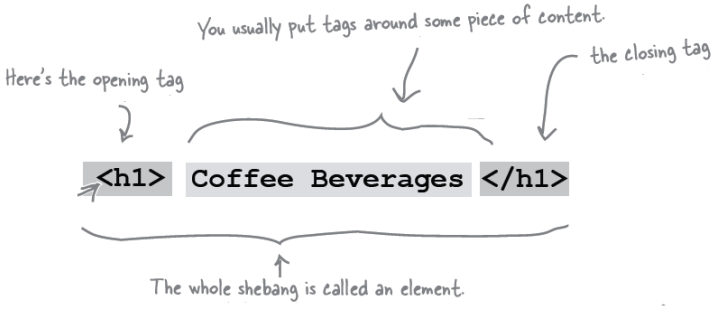
Some Basic Tags

- **Heading** tags
  - <H1> <H2> <H3> … <H6>
- **Paragraph** tag
  - <p>
- Tags dissected



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Tags Dissected

- Remember
  - Element = Opening Tag + Content + Closing Tag
- Opening tags can have attributes
- Closing tags have a "/" after the left angle bracket, in front of the tag name

The Line Break Element

- Whitespaces and line breaks are not displayed by the browser
- To insert carriage return use the **
** element
- **Recall**
  - Tags dissected
  - Element = Opening Tag + Content + Closing Tag
- When an element doesn't have any real content by design, we just use a shorthand to represent the element
- They are called **void elements**

The Anchor Element

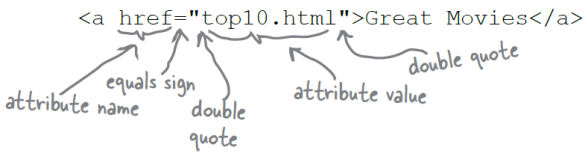
- Use the **<a>** – element to create a hypertext link to another web page
- The content of the **<a>** element becomes clickable
- The **href** attribute tell the browser the destination of the link

Understanding Attributes

- Attributes give you a way to specify additional information about an element

```
<style type="text/css">
<a href="irule.html">
<img src="sweetphoto.gif">
```

Do this (best practice)



Not this

```
<a href=top10.html>Great Movies</a>
```

No double quotes around the attribute value

Understanding Attributes

- Common attributes for identifying HTML elements.

An opening tag with an id attribute

```
<div id="page">
```

An opening tag with a class attribute

```
<a href="contact.html" title="Click to Contact Us" class="nav_link">
```

- *Attributes* can be coded within opening or empty tags to supply optional values.
- A *Boolean attribute* represents either an on or off value.
- The id attribute is used to identify a single HTML element so its value can be used for just one HTML element.
- A class attribute with the same value can be used for more than one HTML element.

Nesting Elements

- Putting one element inside another is called nesting

- While nesting make sure your tags match

How can we display a HTML tag?

CSS – Cascaded Style Sheet

- CSS – used for presentation
  - Describes how the content should be presented

- To add style use the <style> element
  - Generally placed inside the head of the HTML

```
<html>
        <head>
                <title>                    </title>
                <style type="text/css">


                </style>
        </head>
```

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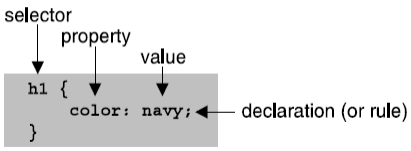
CSS Syntax

- A CSS consists of rule sets.

The parts of a CSS rule set



- A CSS *rule set* consists of a selector and a declaration block.
- A CSS *selector* consists of the identifiers that are coded at the beginning of the rule set.
- A CSS *declaration block* consists of an opening brace, zero or more declarations, and a closing brace.
- A CSS *declaration* (or *rule*) consists of a *property*, a colon, a *value*, and a semicolon.
- To make your code easier to read, you can use spaces, indentation, and blank lines within a rule set.
- CSS *comments* begin with the characters /* and end with the characters */. A CSS comment can be coded on a single line, or it can span multiple lines.

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CSS Selectors

Description

- To code a selector for an HTML element, you simply name the element. This is referred to as a *type selector*.
- If an element is coded with an id attribute, you can code a selector for that id by coding a pound sign (#) followed by the id value, as in #main.
- If an element is coded with a class attribute, you can code a selector for that class by coding a period followed by the class name, as in .base_color.

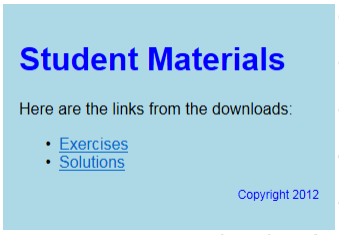
CSS Example

```
<!doctype html>
<html lang="en">
    <head>
        <meta charset="utf-8">
        <title>Basic Selectors</title>
        <link rel="stylesheet" href="basic_selectors.css">
    </head>

    <body>
        <div id="main">
            <h1 class="base_color">Student Materials</h1>
            <p>Here are the links from the downloads:</p>
            <ul id="links">
                <li><a href="exercises.html">Exercises</a></li>
                <li><a href="solutions.html">Solutions</a></li>
            </ul>
            <p id="copyright" class="base_color">Copyright 2012</p>
        </div>
    </body>
</html>
```

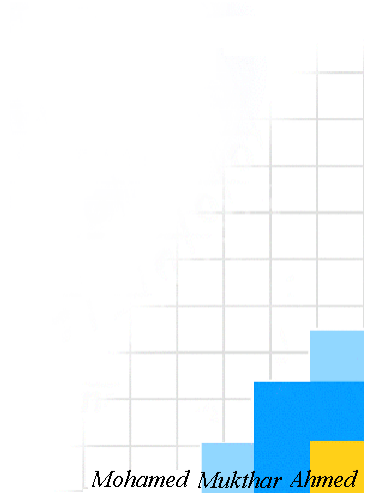
CSS Example

```
1  body {
2      font-family: Arial, sans-serif;
3  }
4  #main {
5      width: 300px;
6      padding: 1em;
7      background-color: lightblue;
8  }
9  #copyright {
10     font-size: 75%;
11     text-align: right;
12 }
13 .base_color {
14     color: blue;
15 }
```



Getting Organized

- Things are much more manageable if you organize your web pages, graphics, and other resources into a set of folders.
- Tell the browser the new location
- Plan the paths
  - Identify the source and the destination
  - Trace a path from the source to the destination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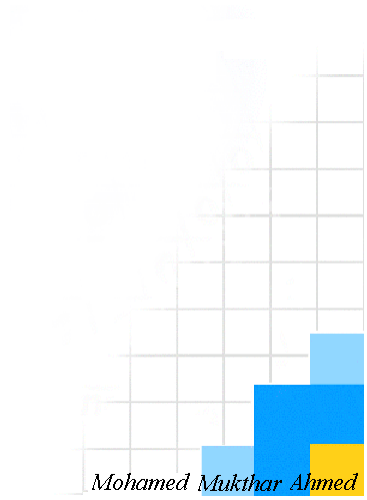
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