

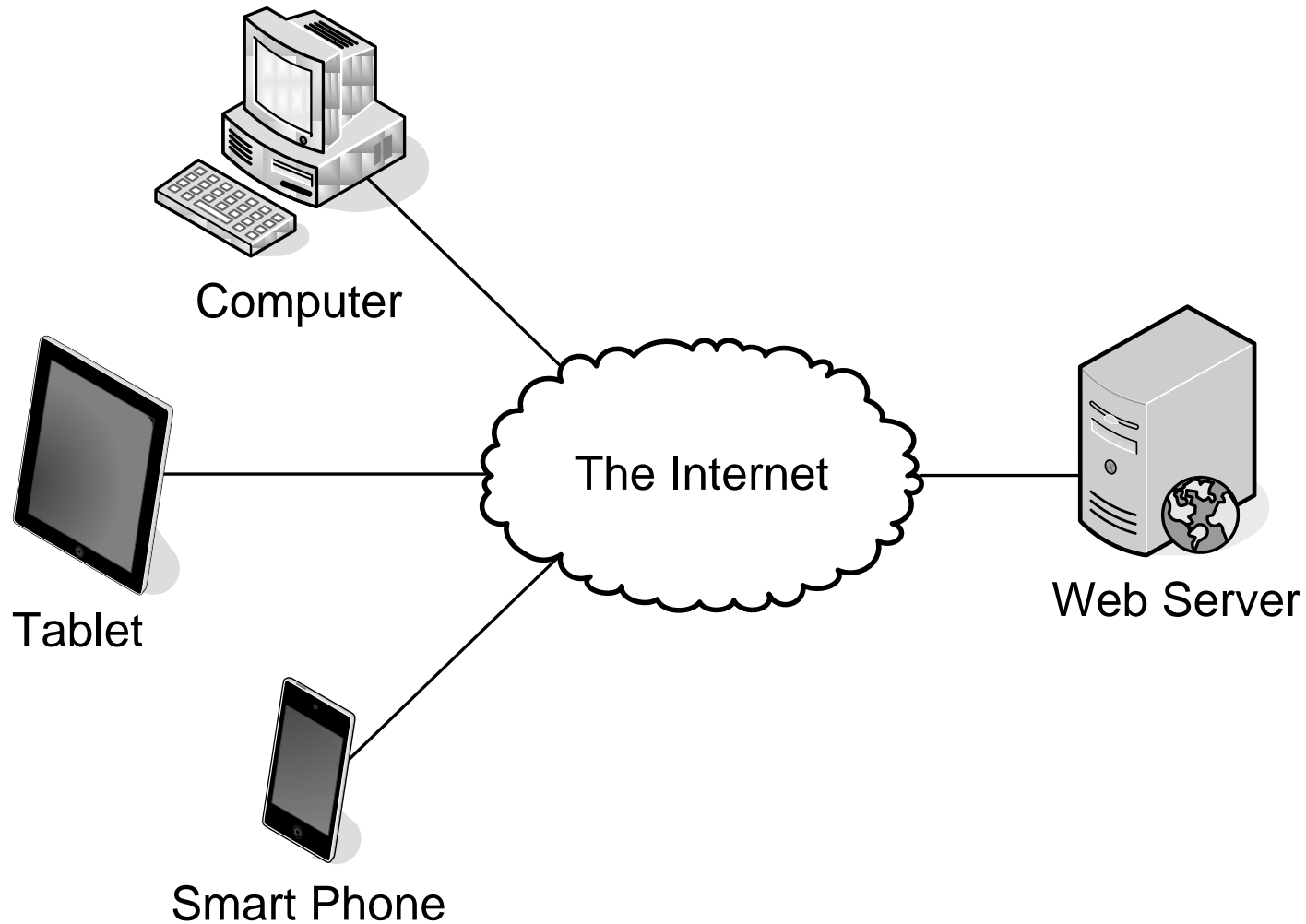
## Chapter 1

# Introduction to web development

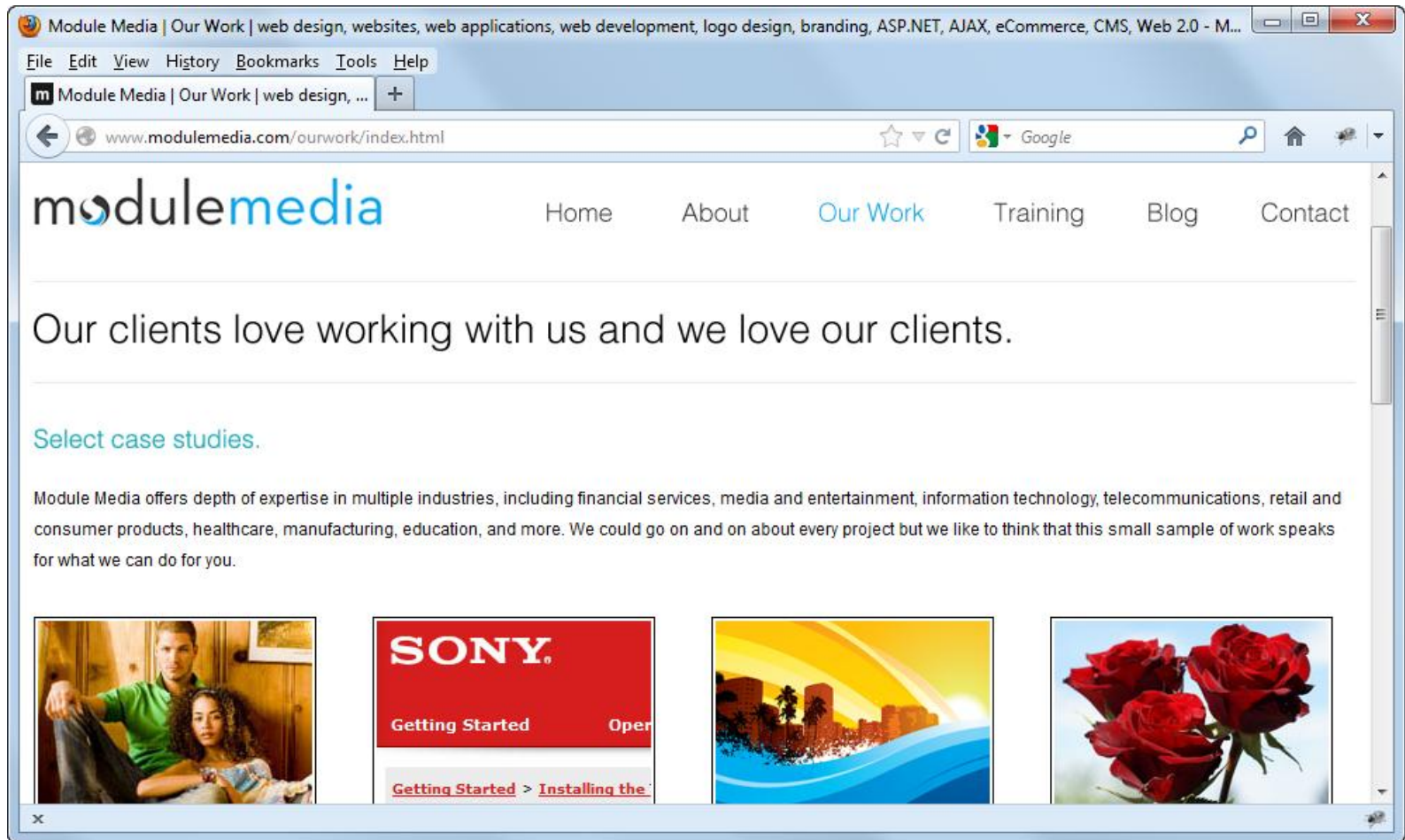
# **Section 1-10**

## **Web Applications**

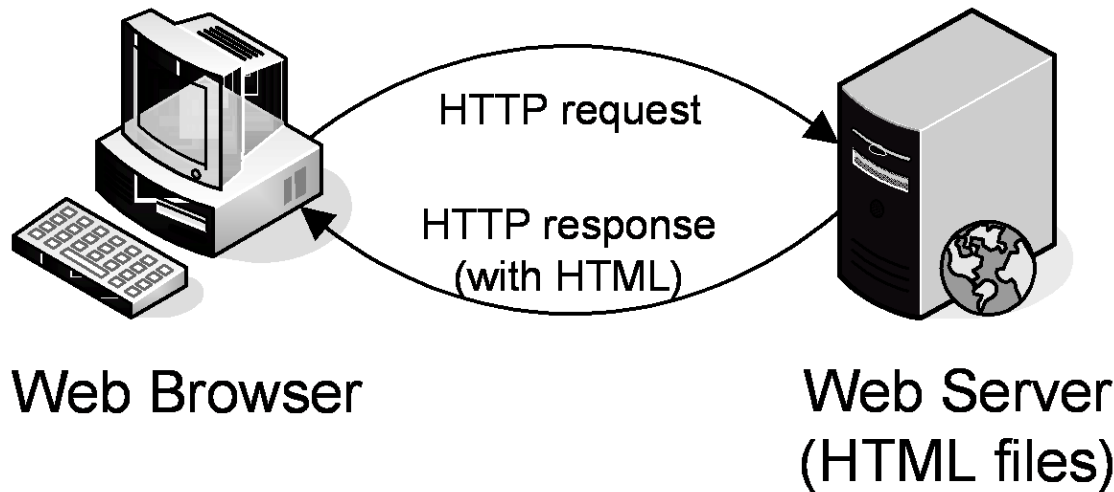
# The components of a web application



# A static web page at <http://www.modulemedia.com/ourwork/index.html>



# How a web server processes a static web page



## Terms

- Hypertext Markup Language (HTML)
- static web page
- HTTP request
- HTTP response
- rendering a page

# A dynamic web page at amazon.com

Amazon.com: Murach's HTML5 and CSS3 (9781890774660): Zak Ruvalcaba, Anne Boehm: Books - Mozilla Firefox

File Edit View History Bookmarks Tools Help

Amazon.com: Murach's HTML5 and CSS... +

www.amazon.com/Murachs-HTML5-CSS3-Zak-Ruvalcaba/dp/1890774669/ref=sr\_1\_20?s=books&ie=UTF8&qic

Google

amazon

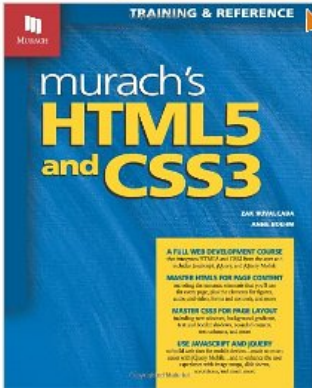
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Hello, Sign in Your Account Cart Wish List

Books Advanced Search Browse Subjects New Releases Best Sellers The New York Times® Best Sellers Children's Books Textbooks Sell Your Books

Click to LOOK INSIDE!



**Murach's HTML5 and CSS3 [Paperback]**  
[Zak Ruvalcaba](#) (Author), [Anne Boehm](#) (Author)  
★★★★☆ (35 customer reviews) | Like (20)

List Price: ~~\$54.50~~  
Price: **\$34.34** & this item ships for **FREE with Super Saver Shipping**. [Details](#)  
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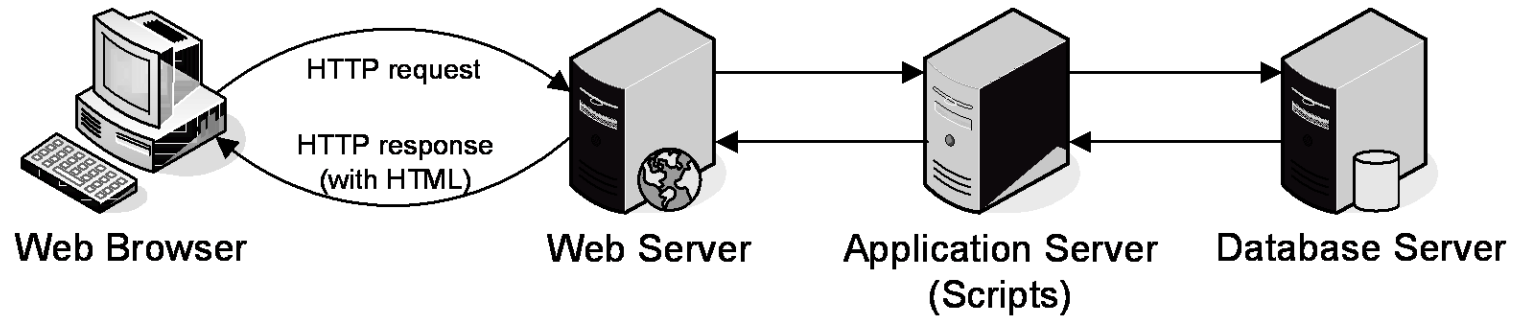
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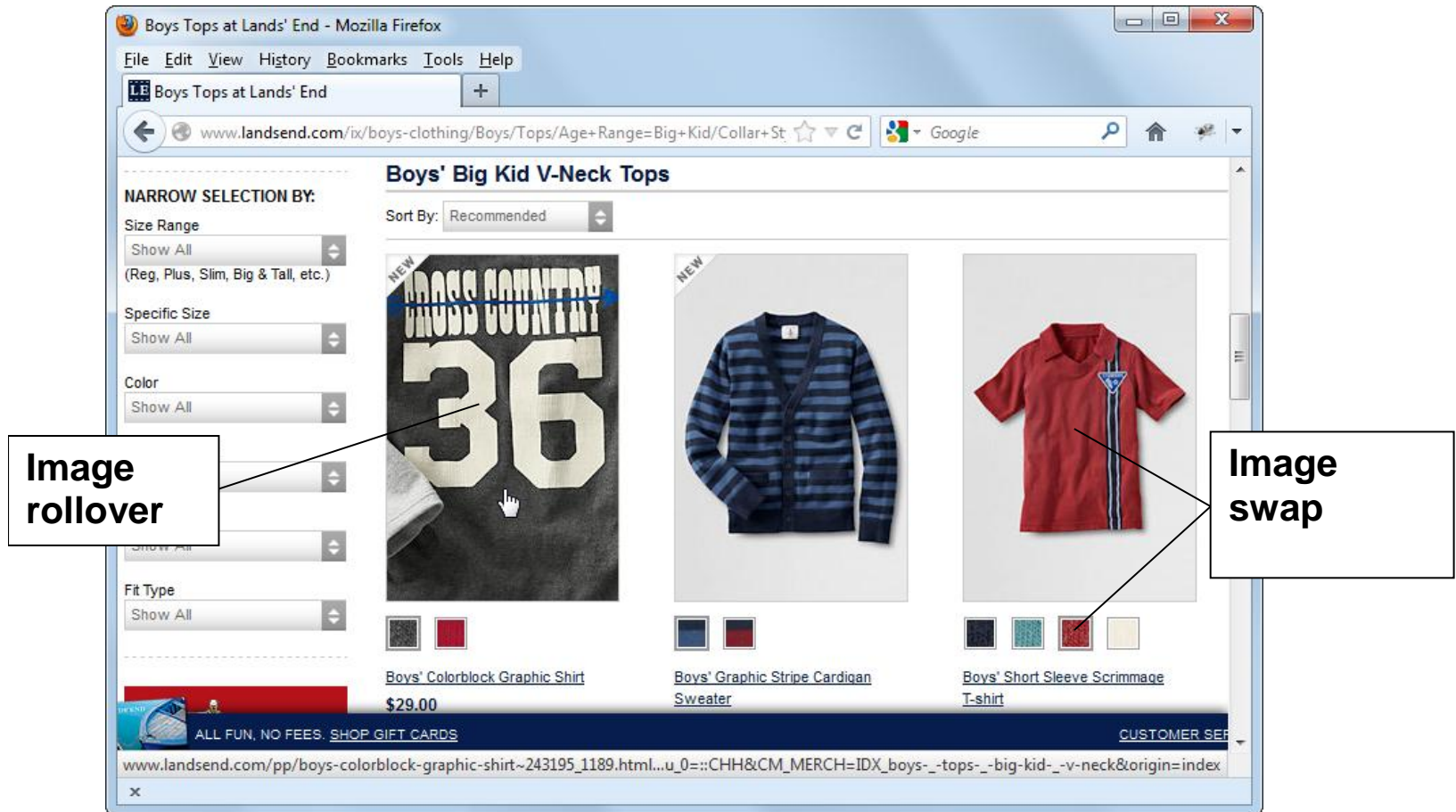
# How a web server processes a dynamic web page



## Terms

- dynamic web page
- application server
- database server
- round trip

# A web page with image swaps and rollovers





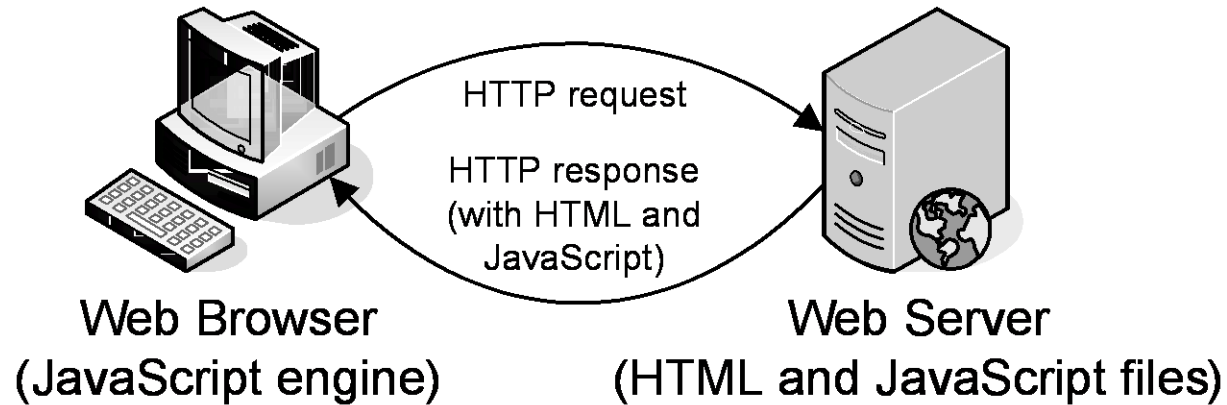
# Exercise 1-1

- Click on the link for Exercise\_1-1  
(shown to the right for the link to this presentation)

# **Section 1-20**

## **Components of a JavaScript Application**

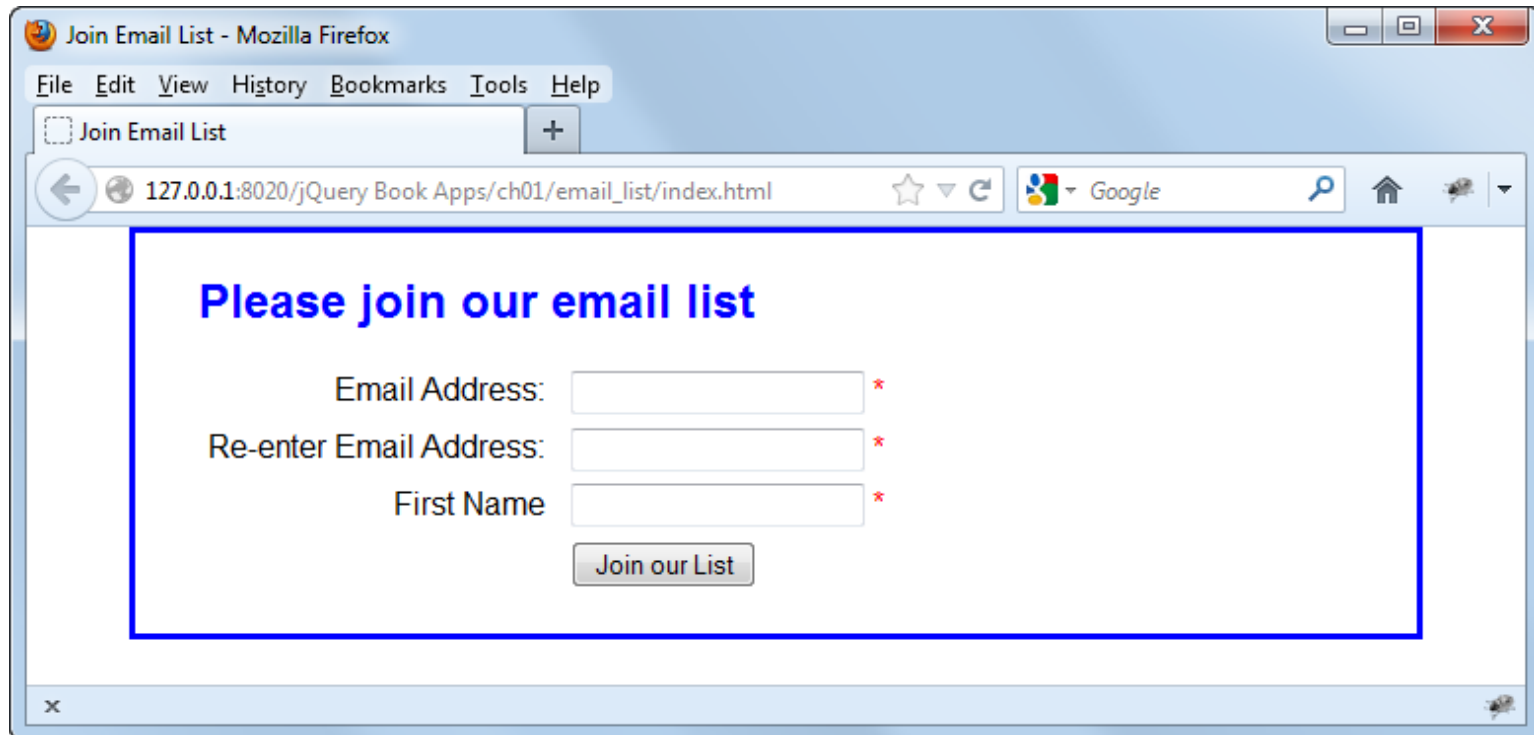
## How JavaScript fits into this architecture



# Some of the uses of JavaScript and jQuery

- Data validation
- Image swaps and rollovers
- Accordions
- Carousels
- Slide shows
- Collapsible panels
- Tabs

## An HTML file (index.html) in a browser after CSS has been applied to it



## The code for the HTML file named index.html

```
<!DOCTYPE html>
<html>
<head>
  <meta charset="UTF-8">
  <title>Join Email List</title>
  <link rel="stylesheet" href="email_list.css">
  <script src="email_list.js"></script>
</head>
<body>
<section>
  <h1>Please join our email list</h1>
  <form id="email_form" name="email_form"
    action="join.html" method="get">
    <label for="email_address1">Email Address:</label>
    <input type="text" id="email_address1"
      name="email_address1">
    <span id="email_address1_error">*</span><br>
```

## The HTML file named index.html (continued)

```
<label for="email_address2">
    Re-enter Email Address:</label>
    <input type="text" id="email_address2"
        name="email_address2">
    <span id="email_address2_error">*</span><br>

    <label for="first_name">First Name</label>
    <input type="text" id="first_name"
        name="first_name">
    <span id="first_name_error">*</span><br>

    <label>&nbsp;</label>
    <input type="button" id="join_list"
        value="Join our List">
    </form>
</section>
</body>
</html>
```

## The code for the CSS file named email\_list.css

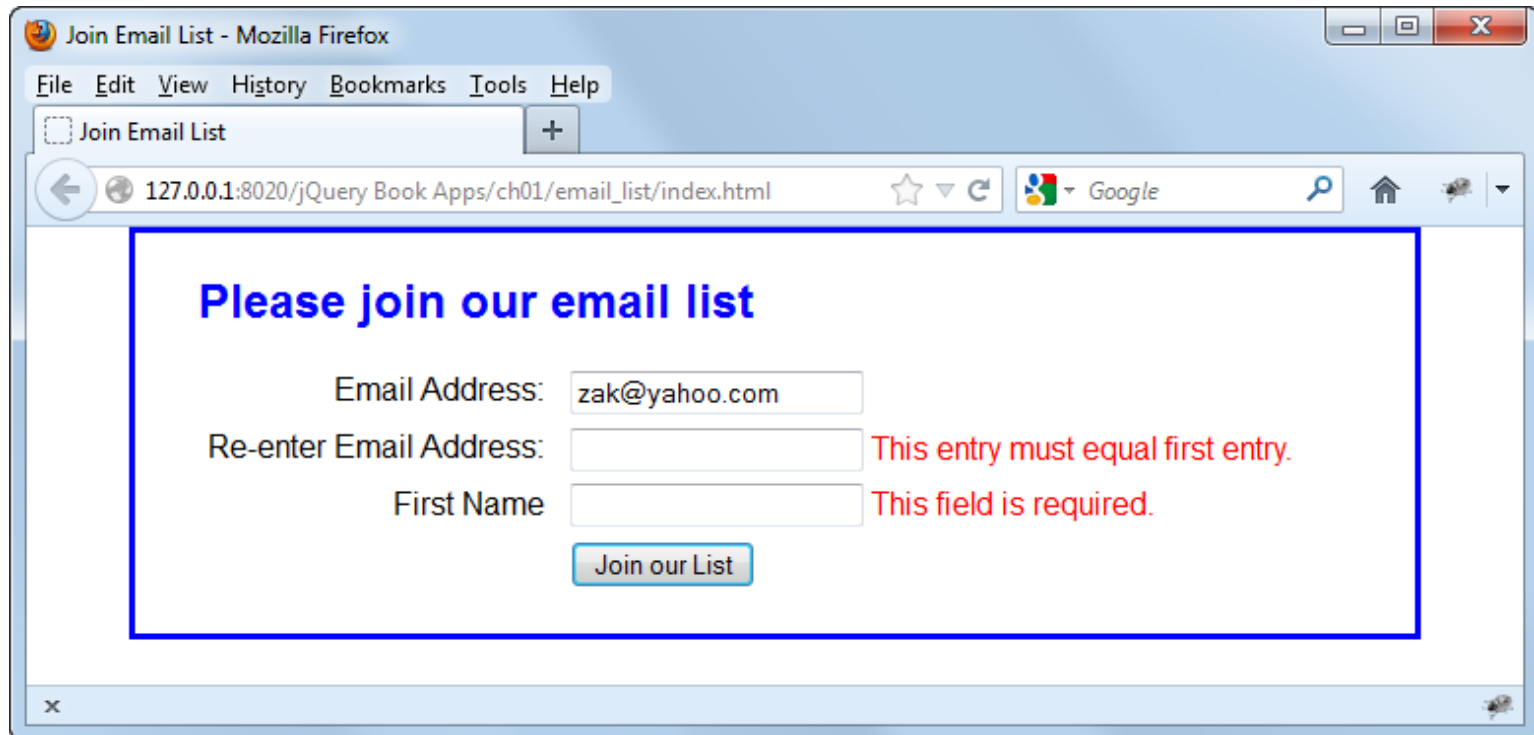
```
body {  
    font-family: Arial, Helvetica, sans-serif;  
    background-color: white;  
    margin: 0 auto;  
    width: 650px;  
    border: 3px solid blue;  
}  
h1 {  
    color: blue;  
}  
section {  
    padding: 0 2em 1em;  
}
```



## The CSS file named email\_list.css (continued)

```
label {  
    float: left;  
    width: 11em;  
    text-align: right;  
}  
input {  
    margin-left: 1em;  
    margin-bottom: .5em;  
}  
span {  
    color: red;  
}
```

## The web page in a browser with JavaScript used for data validation



## The HTML script element for the JavaScript file

```
<script src="email_list.js"></script>
```

## The code for the JavaScript file (email\_list.js)

```
var $ = function (id) {  
    return document.getElementById(id);  
}  
var joinList = function () {  
    var emailAddress1 = $("#email_address1").value;  
    var emailAddress2 = $("#email_address2").value;  
    var isValid = true;  
  
    if (emailAddress1 == "") {  
        $("#email_address1_error").firstChild.nodeValue =  
            "This field is required.";  
        isValid = false; }  
    else {  
        $("#email_address1_error").firstChild.nodeValue =  
            "";  
    }  
}
```

## The JavaScript file (continued)

```
if (emailAddress1 !== emailAddress2) {
    $("#email_address2_error").firstChild.nodeValue =
        "This entry must equal first entry.";
    isValid = false; }
else {
    $("#email_address2_error").firstChild.nodeValue
        = ""; }

if ($("#first_name").value == "") {
    $("#first_name_error").firstChild.nodeValue =
        "This field is required.";
    isValid = false;
} else {
    $("#first_name_error").firstChild.nodeValue = ""; }

if (isValid) {
    $("#email_form").submit(); }
}

window.onload = function () {
    $("#join_list").onclick = joinList;
    $("#email_address").focus(); }
```

# Exercise 1-2

- Click on the link for Exercise\_1-2  
(shown to the right for the link to this presentation)

# **Section 1-30**

## **HTML Skills You Need for this Class**

# The primary HTML5 semantic elements

header

section

article

nav

aside

figure

footer

HTML5 Tutorial

<http://www.w3schools.com/html/default.asp>

HTML 5 Reference

<http://www.w3schools.com/tags/default.asp>

## A page that's structured with HTML5 elements

```
<body>
  <header>
    <h1>San Joaquin Valley Town Hall</h1>
  </header>
  <section>
    <p>Welcome to San Joaquin Valley Town Hall.
      We have some fascinating speakers for you this
      season!
    </p>
  </section>
  <footer>
    <p>&copy; San Joaquin Valley Town Hall.</p>
  </footer>
</body>
```



## The HTML in a web browser

# San Joaquin Valley Town Hall

Welcome to San Joaquin Valley Town Hall. We have some fascinating speakers for you this season!

© San Joaquin Valley Town Hall.

## The JavaScript shiv that tells older browsers about the HTML5 elements

```
<script  
  src="http://html5shiv.googlecode.com/svn/trunk/html5.js">  
</script>
```

# HTML div elements for a JavaScript application

```
<section id="faqs">
  <h1>jQuery FAQs</h1>
  <h2>What is jQuery?</h2>
  <div>
    // contents
  </div>
  <h2>Why is jQuery becoming so popular?</h2>
  <div>
    // contents
  </div>
  <h2>Which is harder to learn: jQuery or JavaScript?
</h2>
  <div>
    // contents
  </div>
</section>
```

# The basic HTML attributes

|                    |  |
|--------------------|--|
| <code>id</code>    | - identifier for a single element                      |
| <code>class</code> | - identifier that can be applied to multiple elements  |
| <code>title</code> | - used for tooltips                                    |
| <code>for</code>   | - a label element                                      |
| <code>name</code>  | - a unique name for an element used by server programs |

# HTML span elements for a JavaScript application

```
<label for="email_address1">Email Address:</label>
<input type="text" id="email_address1"
      name="email_address1">
<span id="email_address1_error">*</span><br>
```

```
<label for="email_address2">Re-enter Email Address:
</label>
<input type="text" id="email_address2"
      name="email_address2">
<span id="email_address2_error">*</span><br>
```

```
<label for="first_name">First Name</label>
<input type="text" id="first_name" name="first_name">
<span id="first_name_error">*</span>
```

## HTML that uses these attributes

```
<body>
  <h1>San Joaquin Valley Town Hall</h1>
  <h2 class="first_h2">
    Welcome to San Joaquin Valley Town Hall.</h2>
  <p>Please enter your e-mail address to subscribe
    to our newsletter.</p>
  <form id="email_form" name="email_form"
    action="join.html" method="get">
    <label for="email">E-Mail: </label>
    <input type="text" id="email" name="email"
      title="Enter e-mail address here.">
    <input type="button" value="Subscribe">
  </form>
</body>
```

The HTML in a web browser  
with a tooltip displayed for the text box

# San Joaquin Valley Town Hall

Welcome to San Joaquin Valley Town Hall.

Please enter your e-mail address to subscribe to our newsletter.

E-Mail:

Enter e-mail address here.

# Exercise 1-3

- Click on the link for Exercise\_1-3  
(shown to the right for the link to this presentation)



# **Section 1-40**

## **CSS Skills You Need for this Class**

## Two ways to provide styles

Use an external style sheet  
by coding a link element in the head section

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

Embed the styles in the head section

```
<style>
  body {
    font-family: Arial, Helvetica, sans-serif;
    font-size: 87.5%; }
  h1 { font-size: 250%; }
</style>
```

## The sequence in which styles are applied

- Styles from an external style sheet
- Embedded styles

## A head element that includes two style sheets

```
<head>  
  <title>San Joaquin Valley Town Hall</title>  
  <link rel="stylesheet" href="../styles/main.css">  
  <link rel="stylesheet" href="../styles/speaker.css">  
</head>
```

## The sequence in which styles are applied

- From the first external style sheet to the last

# HTML that can be selected by type, id, or class

```
<body>
  <section>
    <h1 id="first_heading">The Speaker Lineup</h1>
    <p class="blue">October 19: Jeffrey Toobin</p>
    <p class="blue">November 16: Andrew Ross Sorkin</p>
  </section>
  <footer>
    <p class="blue right">Copyright SJV Town Hall</p>
  </footer>
</body>
```

# CSS rule sets that select by type, id, and class

## Type selectors

```
body {  
    font-family: Arial, Helvetica, sans-serif;  
    width: 400px;  
    margin: 1em auto; }  
section {  
    border: 2px solid black;  
    padding: 1em; }  
p { margin: .25em 0 .25em 3em; }
```

## ID selectors

```
#first_heading { margin: 0 1em .25em; }
```

## Class selectors

```
.blue { color: blue; }  
.right { text-align: right; }
```

## The HTML elements in a browser

### **The Speaker Lineup**

October 19: Jeffrey Toobin

November 16: Andrew Ross Sorkin

Copyright SJV Town Hall

## The CSS file for a typical application in this book

```
/* The CSS workaround for HTML5 semantic elements */
article, aside, figure, footer, header, nav, section {
    display: block;
}
body {
    font-family: Arial, Helvetica, sans-serif;
    background-color: white;
    margin: 0 auto;
    width: 650px;
    border: 3px solid blue;
}
h1 {
    color: blue;
}
section {
    padding: 0 2em 1em;
}
```

## The CSS file for a typical application (continued)

```
label {  
    float: left;  
    width: 11em;  
    text-align: right;  
}  
input {  
    margin-left: 1em;  
    margin-bottom: .5em;  
}  
span {  
    color: red;  
}
```



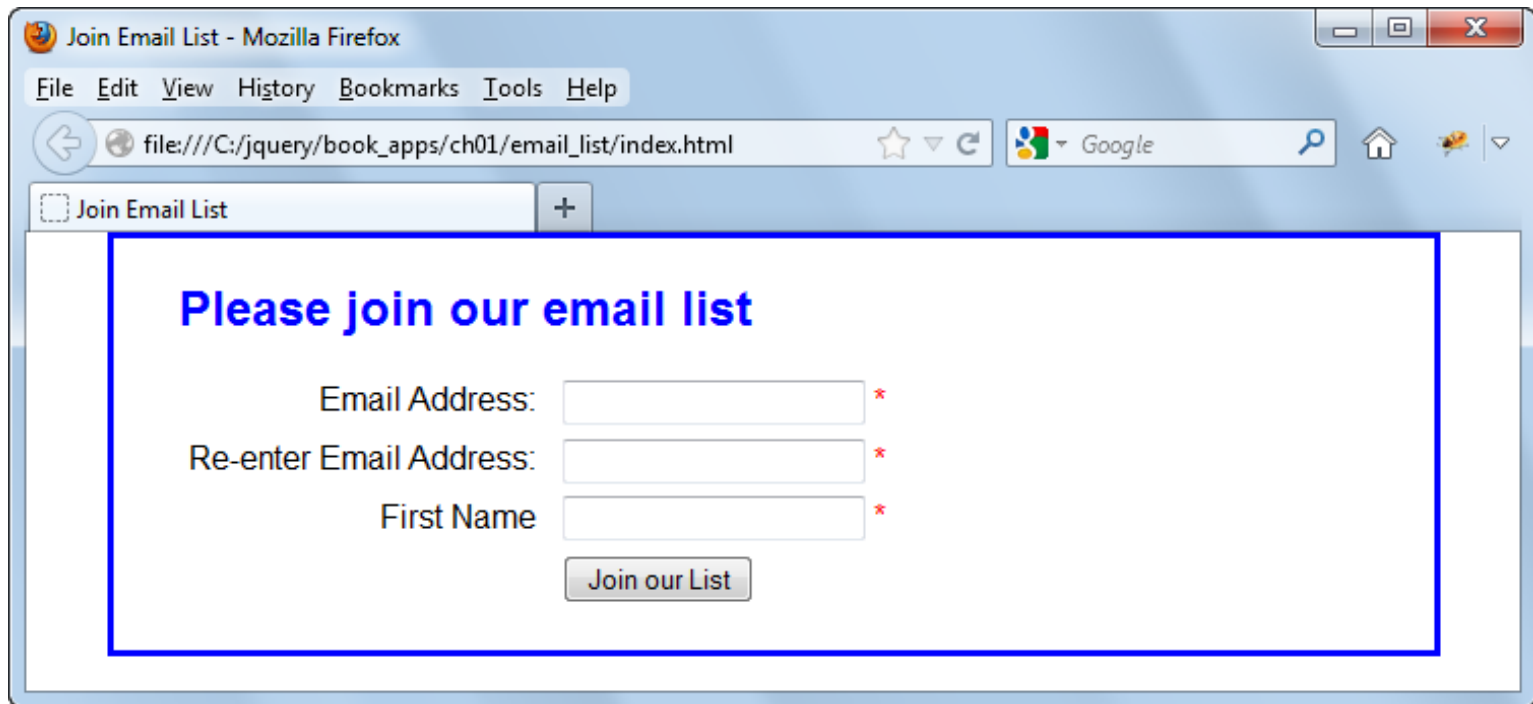
# Exercise 1-4

- Click on the link for Exercise\_1-4  
(shown to the right for the link to this presentation)

# **Section 1-50**

## **How to Test a JavaScript Application**

# The web page at c:/jquery/book\_apps/ch01/email\_list.html



The screenshot shows a Mozilla Firefox browser window titled "Join Email List - Mozilla Firefox". The address bar displays the file path "file:///C:/jquery/book\_apps/ch01/email\_list/index.html". The browser's menu bar includes File, Edit, View, History, Bookmarks, Tools, and Help. A search bar with the Google logo is visible. Below the browser window, a form titled "Join Email List" is displayed. The form contains the following elements:

- A blue heading: **Please join our email list**
- Three input fields, each with a red asterisk (\*) indicating a required field:
  - Email Address:
  - Re-enter Email Address:
  - First Name:
- A "Join our List" button located below the input fields.

## Four ways to run an HTML page that's on your own server or computer

- Use the File→Open command or the File→Open File.
- Find the file in the Windows Explorer and double-click on it.
- Use the features of your text editor or IDE.
- Click on a link in the current web page to load the next web page.

## Two ways to run an HTML page on the Internet

- Enter the URL of a web page into the browser's address bar.
- Click on a link in the current web page to load the next web page.

## The components of an HTTP URL on the Internet

`http://www.modulemedia.com/ourwork/index.html`

protocol                      domain name                      path                      filename

## What happens if you omit parts of a URL

- If you omit the protocol, `http://` will be used.
- If you omit the filename, the default document name for the web server will be used.
- The default document name is typically `index.html`, `default.htm`, or some variation.

## The HTML5 ratings of current browsers

Perfect score is 500

| Browser | Release | HTML5 Test Rating |
|---------|---------|-------------------|
| Chrome  | 22      | 437               |
| Opera   | 12      | 385               |
| Firefox | 15      | 346               |
| Safari  | 6       | 376               |
| IE      | 9       | 138               |

## The web site for these ratings

<http://www.html5test.com>

## Guidelines for cross-browser compatibility

- Test your web pages on all of the major browsers, including older versions.
- Use the HTML5 and CSS3 features that are supported by all of the modern browsers.
- Use the workarounds so HTML5 pages will run on the older browsers too.



# The workarounds for using HTML5 semantics

## The JavaScript shiv

```
<script  
src="http://html5shiv.googlecode.com/svn/trunk/html5.js">  
</script>
```

## The CSS rule set

```
article, aside, figure, figcaption, footer,  
header, nav, section {  
    display: block;  
}
```

# What tool should you use to code JavaScript

- Use a Plain Text Editor

- Never use a Word Processor!

- Textpad (*[textpad.com](http://textpad.com)*)

- Notepad++ (*[notepad-plus-plus.org/](http://notepad-plus-plus.org/)*)

- TextWrangler (Mac Only)

*<http://www.barebones.com/products/textwrangler/>*

## Firefox's Web Console

The Web Console will show you any JavaScript Errors found on your page.

This is a great Debugging tool!

Some JavaScript errors will bring your program to a **dead stop**. Often parts of your program will just not work.

The "Web Console" is found either...

- as a menu item under the "Tools" menu
- as a menu item under the "Web Developer" menu
- you can also get to it by keying in: **Shift-Ctrl-K**

Click the JS tab and select "Errors" from the Dropdown list

# Exercise 1-5

- Click on the link for Exercise\_1-5

(shown to the right for the link to this presentation)

# End of Chapter 1