Web 2.0 應用技術-CSS, JavaScript 及 HTML

CM310.1-03-2013-C

Lesson 2

Outline

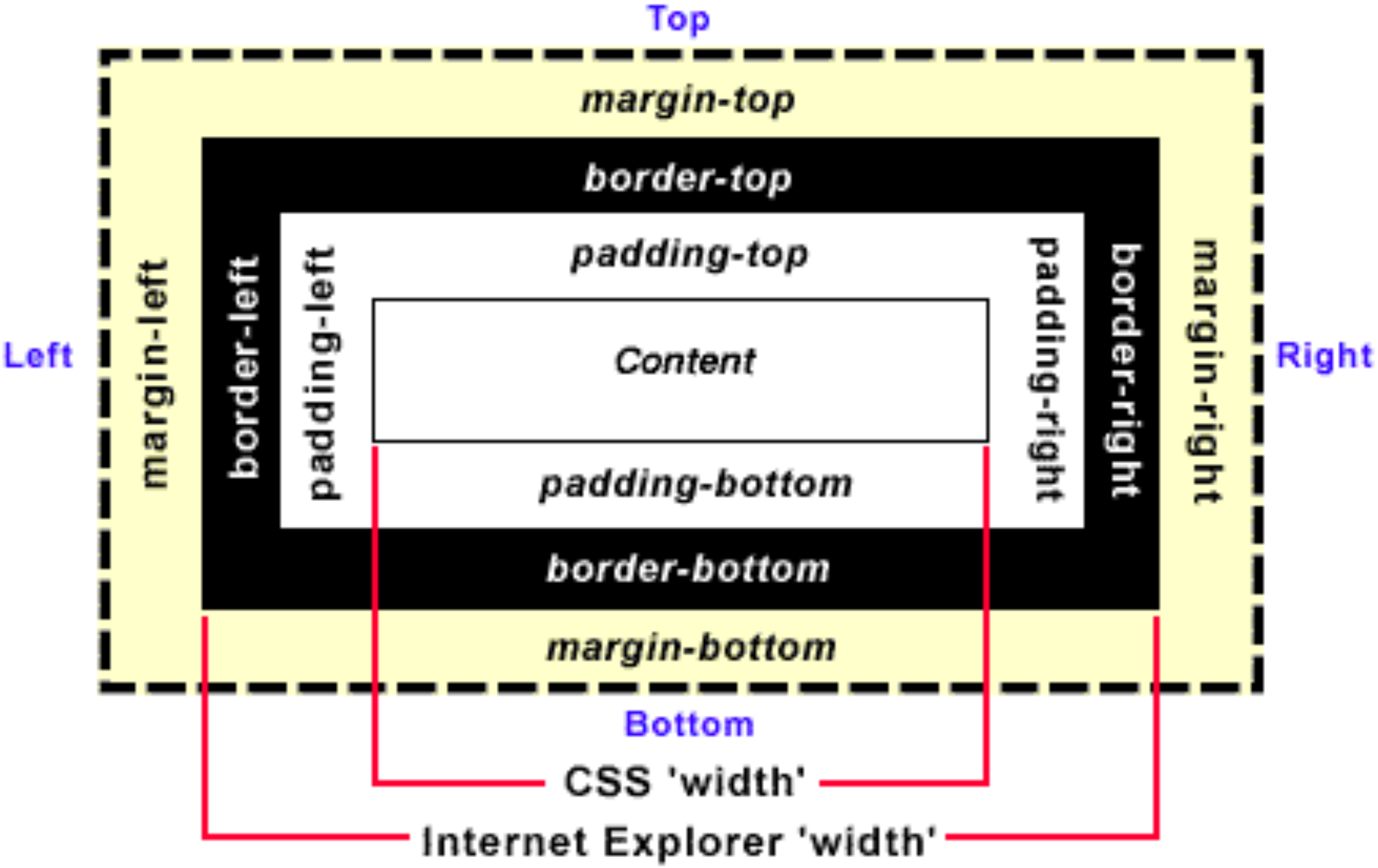
- CSS Properties
- CSS Box Model
- CSS Position
- Introduction to JavaScript
- Working with Object and Array in JavaScript
- jQuery Selector

CSS Properties

- Text and Fonts
- Colours and Backgrounds
- The Box Model
- Positioning and Display
- Lists
- Tables
- Generated Content
- Paged Media
- Misc.

http://www.htmldog.com/reference/cssproperties/

CSS Box Model



http://css-tricks.com/the-css-box-model/

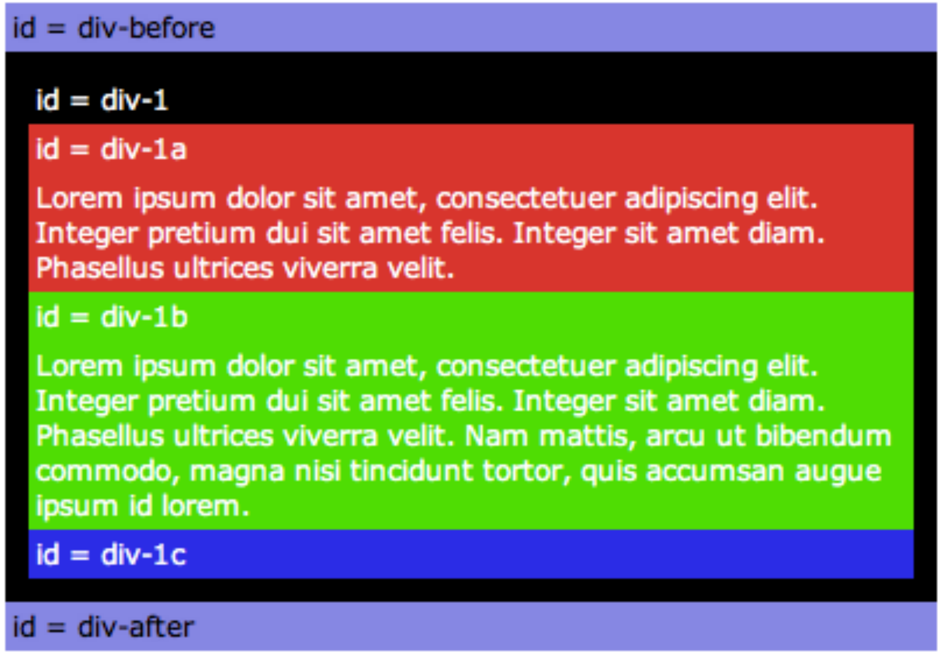
CSS Position

- Learn CSS Positioning in Ten Steps

  http://www.barelyfitz.com/screencast/html-training/css/positioning/

1. position:static

```
#div-1 {
    position:static;
}
```



id = div-before

id = div-1

id = div-1a

Lorem ipsum dolor sit amet, consectetuer adipiscing elit. Integer pretium dui sit amet felis. Integer sit amet diam. Phasellus ultrices viverra velit.

id = div-1b

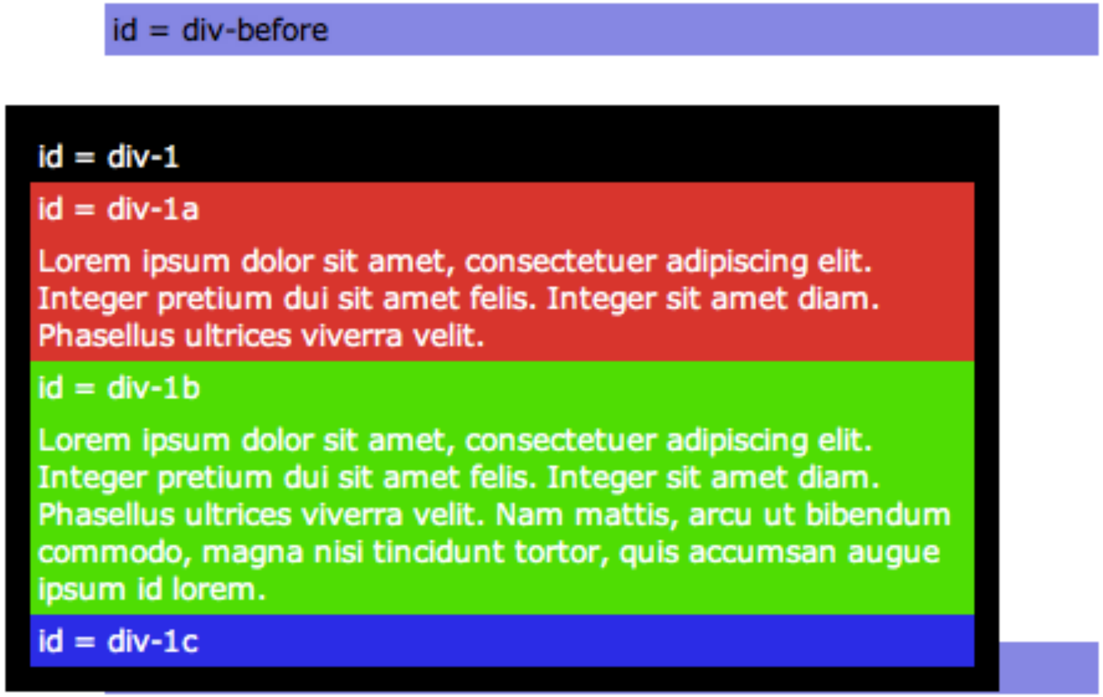
Lorem ipsum dolor sit amet, consectetuer adipiscing elit. Integer pretium dui sit amet felis. Integer sit amet diam. Phasellus ultrices viverra velit. Nam mattis, arcu ut bibendum commodo, magna nisi tincidunt tortor, quis accumsan augue ipsum id lorem.

id = div-1c

id = div-after

2. position:relative

```
#div-1 {
 position:relative;
 top:20px;
 left:-40px;
}
```



id = div-before

id = div-1

id = div-1a

Lorem ipsum dolor sit amet, consectetuer adipiscing elit. Integer pretium dui sit amet felis. Integer sit amet diam. Phasellus ultrices viverra velit.

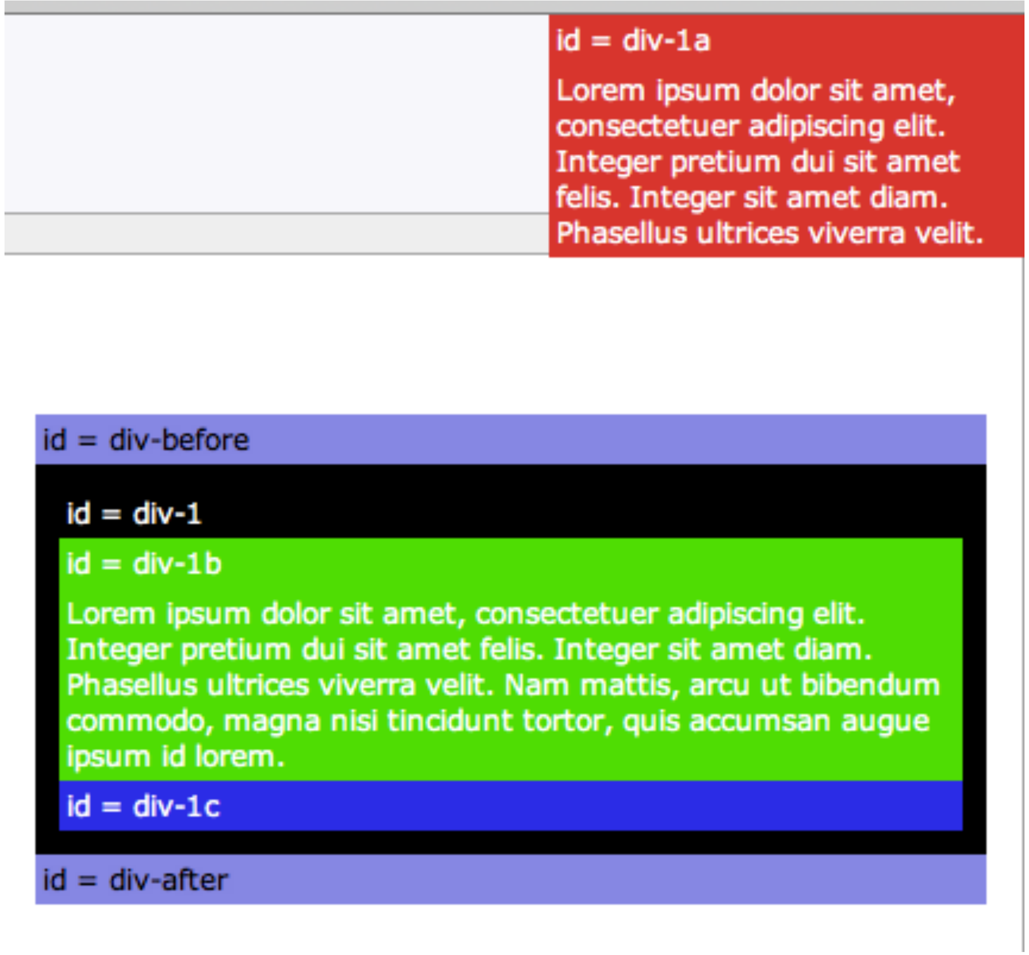
id = div-1b

Lorem ipsum dolor sit amet, consectetuer adipiscing elit. Integer pretium dui sit amet felis. Integer sit amet diam. Phasellus ultrices viverra velit. Nam mattis, arcu ut bibendum commodo, magna nisi tincidunt tortor, quis accumsan augue ipsum id lorem.

id = div-1c

3. position:absolute

```
#div-1a {
 position:absolute;
 top:0;
 right:0;
 width:200px;
}
```



id = div-1a

Lorem ipsum dolor sit amet, consectetuer adipiscing elit. Integer pretium dui sit amet felis. Integer sit amet diam. Phasellus ultrices viverra velit.

id = div-before

id = div-1

id = div-1b

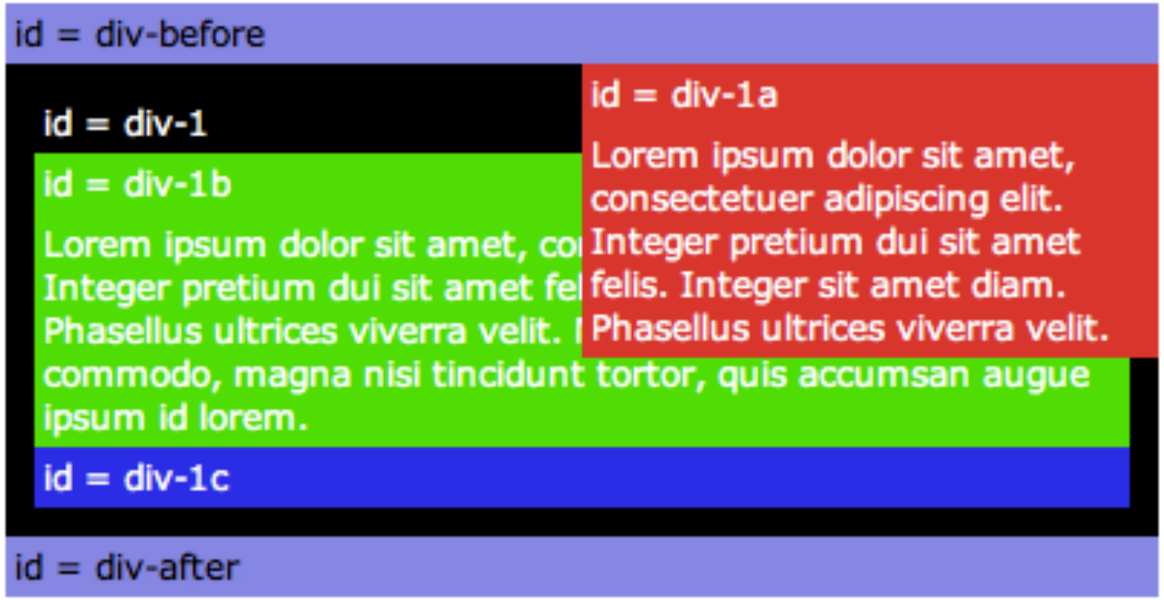
Lorem ipsum dolor sit amet, consectetuer adipiscing elit. Integer pretium dui sit amet felis. Integer sit amet diam. Phasellus ultrices viverra velit. Nam mattis, arcu ut bibendum commodo, magna nisi tincidunt tortor, quis accumsan augue ipsum id lorem.

id = div-1c

id = div-after

4. position:relative + position:absolute

```
#div-1 {
 position:relative;
}
#div-1a {
 position:absolute;
 top:0;
 right:0;
 width:200px;
}
```



id = div-before

id = div-1

id = div-1b

Lorem ipsum dolor sit amet, co
Integer pretium dui sit amet fel
Phasellus ultrices viverra velit. I
commodo, magna nisi tincidunt tortor, quis accumsan augue
ipsum id lorem.

id = div-1a

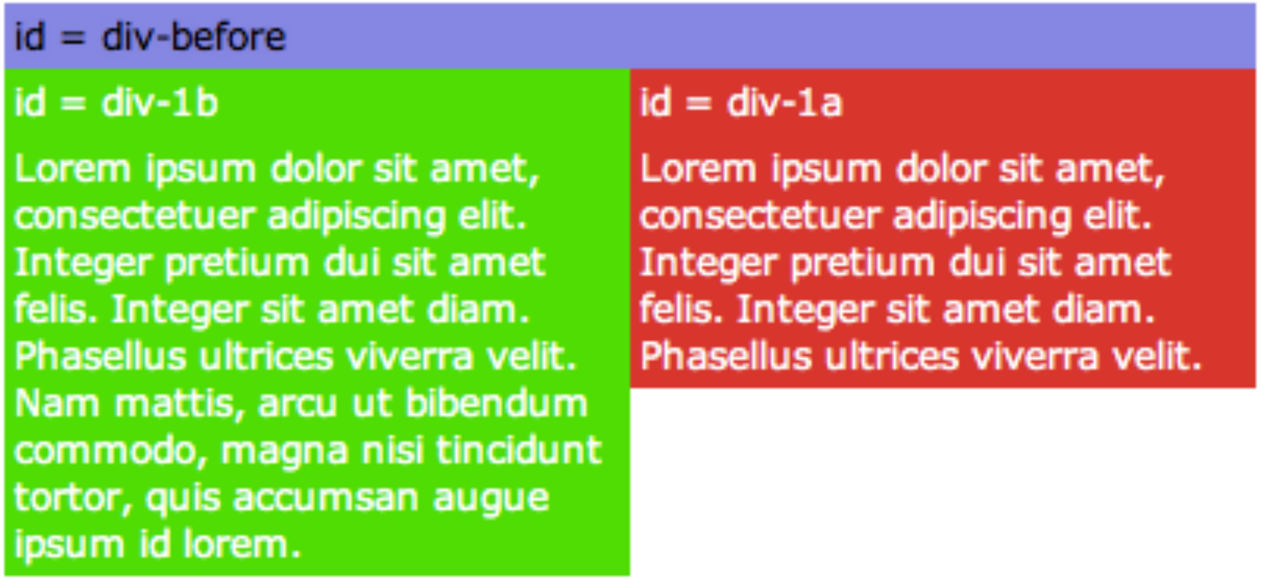
Lorem ipsum dolor sit amet,
consectetuer adipiscing elit.
Integer pretium dui sit amet
felis. Integer sit amet diam.
Phasellus ultrices viverra velit.

id = div-1c

id = div-after

5. two column absolute

```
#div-1 {
 position:relative;
}
#div-1a {
 position:absolute;
 top:0;
 right:0;
 width:200px;
}
#div-1b {
 position:absolute;
 top:0;
 left:0;
 width:200px;
}
```



id = div-before

id = div-1b

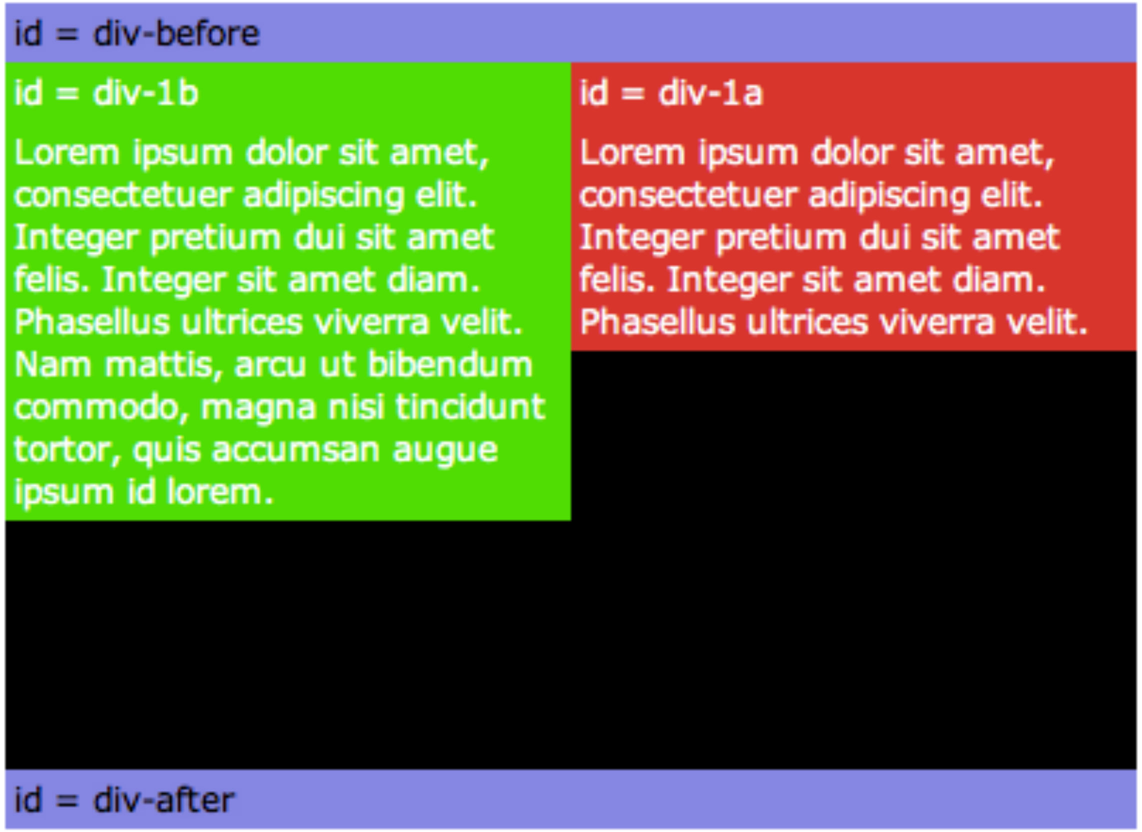
Lorem ipsum dolor sit amet, consectetuer adipiscing elit. Integer pretium dui sit amet felis. Integer sit amet diam. Phasellus ultrices viverra velit. Nam mattis, arcu ut bibendum commodo, magna nisi tincidunt tortor, quis accumsan augue ipsum id lorem.

id = div-1a

Lorem ipsum dolor sit amet, consectetuer adipiscing elit. Integer pretium dui sit amet felis. Integer sit amet diam. Phasellus ultrices viverra velit.

6. two column absolute height

```
#div-1 {
 position:relative;
 height:250px;
}
#div-1a {
 position:absolute;
 top:0;
 right:0;
 width:200px;
}
#div-1b {
 position:absolute;
 top:0;
 left:0;
 width:200px;
}
```



id = div-before

id = div-1b

Lorem ipsum dolor sit amet, consectetuer adipiscing elit. Integer pretium dui sit amet felis. Integer sit amet diam. Phasellus ultrices viverra velit. Nam mattis, arcu ut bibendum commodo, magna nisi tincidunt tortor, quis accumsan augue ipsum id lorem.

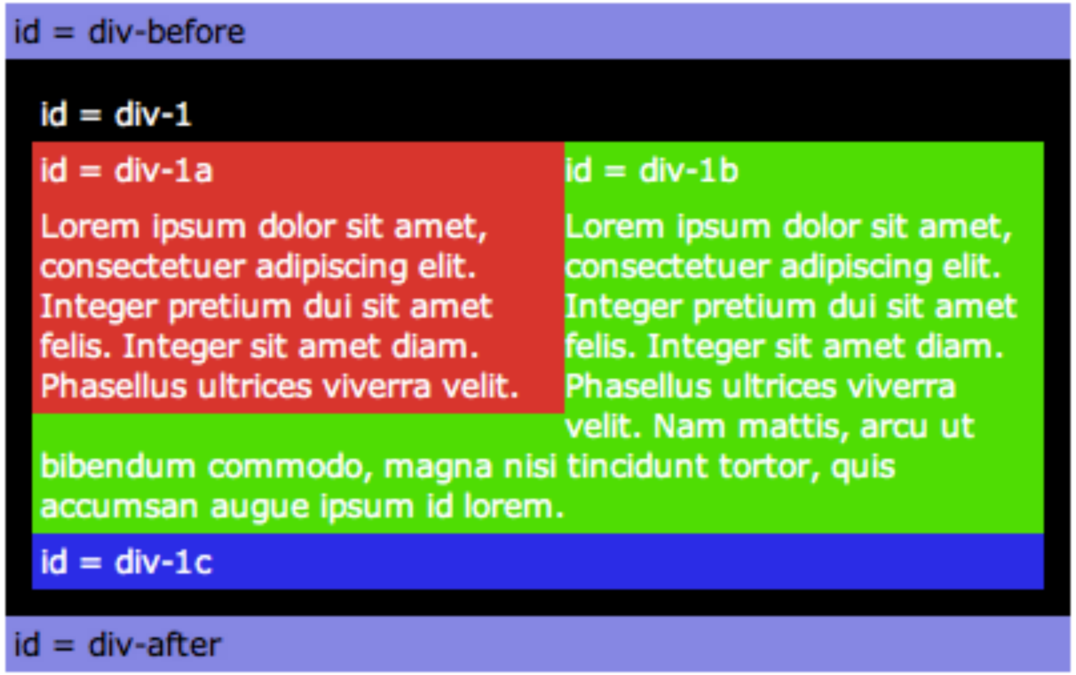
id = div-1a

Lorem ipsum dolor sit amet, consectetuer adipiscing elit. Integer pretium dui sit amet felis. Integer sit amet diam. Phasellus ultrices viverra velit.

id = div-after

7. float

```
#div-1a {
 float:left;
 width:200px;
}
```



id = div-before

id = div-1

id = div-1a

Lorem ipsum dolor sit amet, consectetuer adipiscing elit. Integer pretium dui sit amet felis. Integer sit amet diam. Phasellus ultrices viverra velit.

id = div-1b

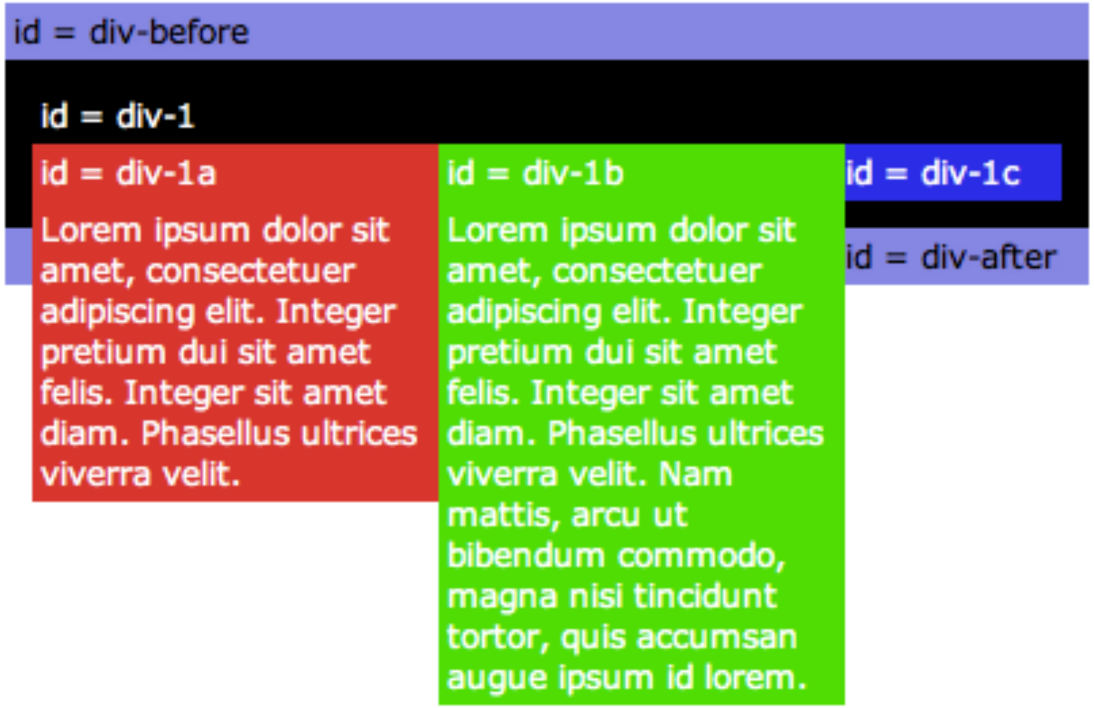
Lorem ipsum dolor sit amet, consectetuer adipiscing elit. Integer pretium dui sit amet felis. Integer sit amet diam. Phasellus ultrices viverra velit. Nam mattis, arcu ut bibendum commodo, magna nisi tincidunt tortor, quis accumsan augue ipsum id lorem.

id = div-1c

id = div-after

8. float columns

```
#div-1a {
 float:left;
 width:150px;
}
#div-1b {
 float:left;
 width:150px;
}
```



id = div-before

id = div-1

id = div-1a

Lorem ipsum dolor sit amet, consectetuer adipiscing elit. Integer pretium dui sit amet felis. Integer sit amet diam. Phasellus ultrices viverra velit.

id = div-1b

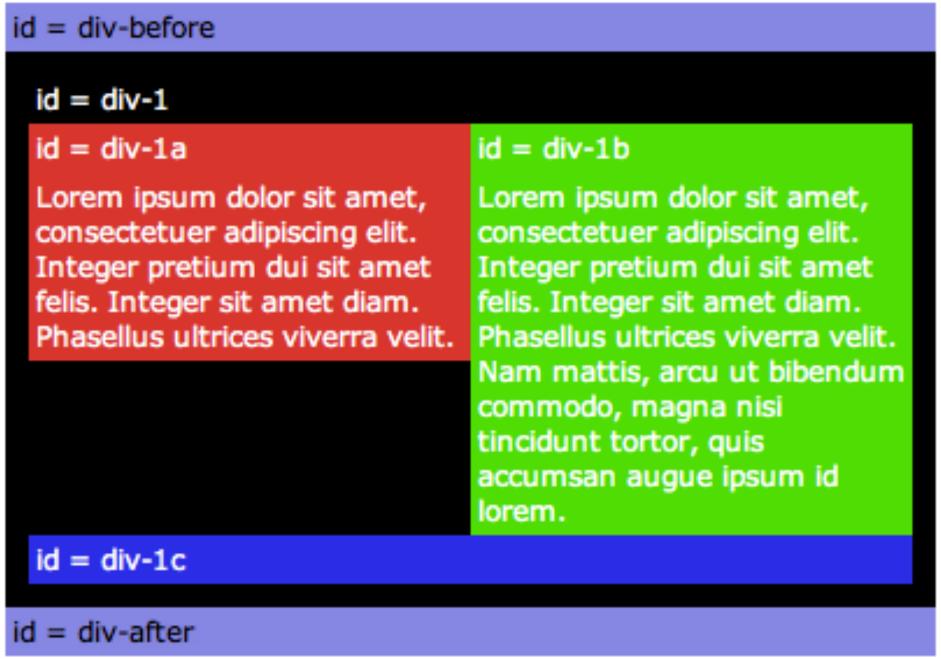
Lorem ipsum dolor sit amet, consectetuer adipiscing elit. Integer pretium dui sit amet felis. Integer sit amet diam. Phasellus ultrices viverra velit. Nam mattis, arcu ut bibendum commodo, magna nisi tincidunt tortor, quis accumsan augue ipsum id lorem.

id = div-1c

id = div-after

9. float columns with clear

```
#div-1a {
 float:left;
 width:190px;
}
#div-1b {
 float:left;
 width:190px;
}
#div-1c {
 clear:both;
}
```



id = div-before

id = div-1

id = div-1a

Lorem ipsum dolor sit amet, consectetuer adipiscing elit. Integer pretium dui sit amet felis. Integer sit amet diam. Phasellus ultrices viverra velit.

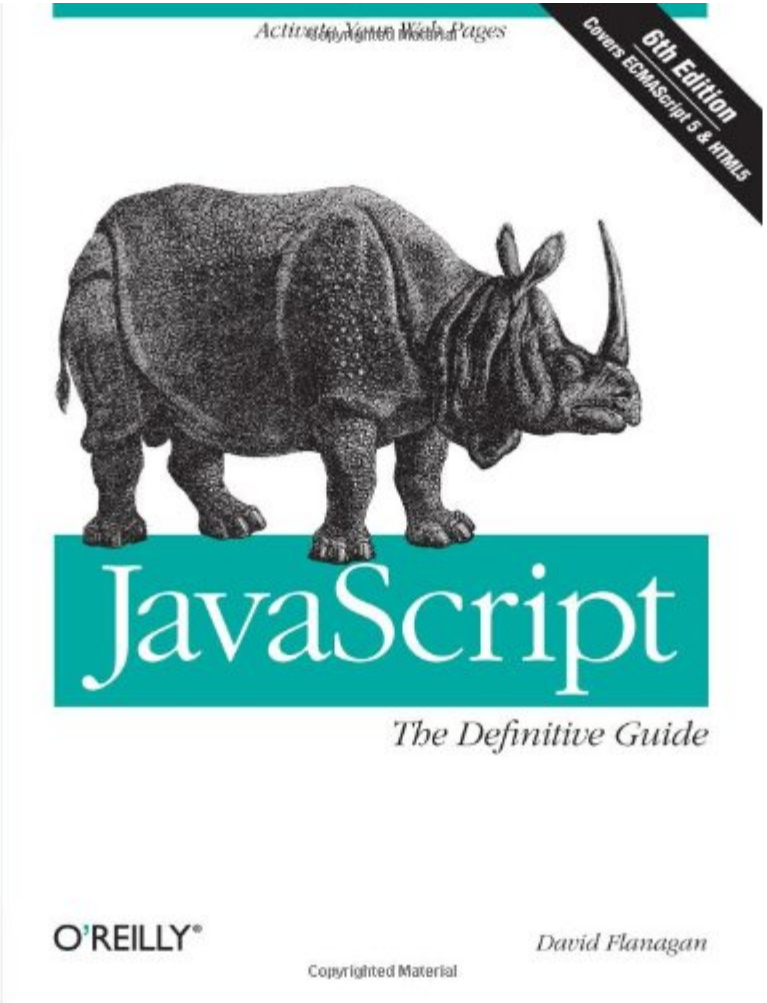
id = div-1b

Lorem ipsum dolor sit amet, consectetuer adipiscing elit. Integer pretium dui sit amet felis. Integer sit amet diam. Phasellus ultrices viverra velit. Nam mattis, arcu ut bibendum commodo, magna nisi tincidunt tortor, quis accumsan augue ipsum id lorem.

id = div-1c

id = div-after

JavaScript

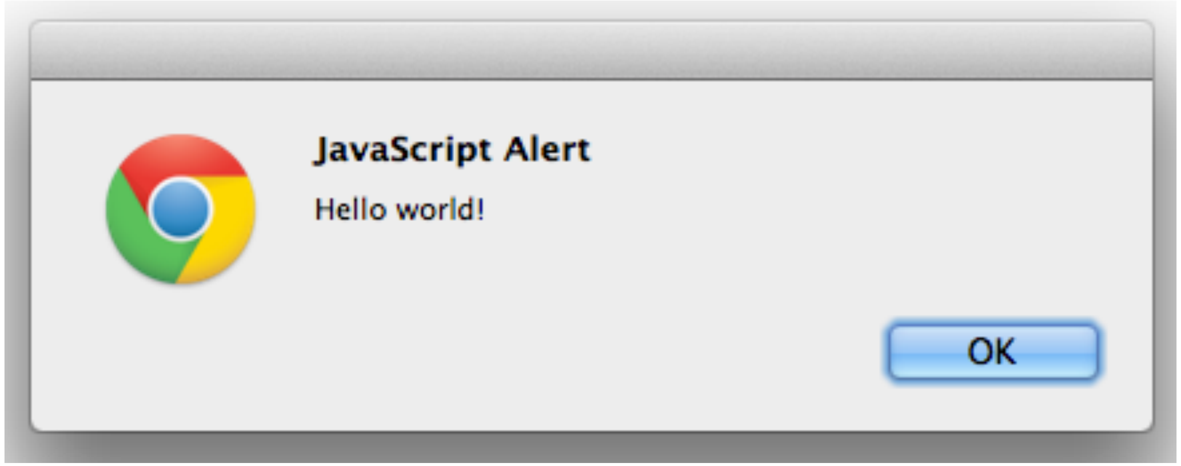

Activate Your Web Pages
Copyrighted Material
6th Edition
Covers ECMAScript 5 & HTML5
JavaScript
The Definitive Guide
O'REILLY®
David Flanagan
Copyrighted Material

JavaScript

- JavaScript (JS) is an interpreted computer programming language. It was originally implemented as part of web browsers so that client-side scripts may interact with the user, control the browser, communicate asynchronously and alter the document content that is displayed. [Wikipedia]

JavaScript - Hello World

```
<script type="text/javascript">
    alert("Hello world!");
</script>
```



JavaScript Alert

Hello world!

JavaScript Object

- "Everything" in JavaScript is an Object: a String, a Number, an Array, a Date....
- In JavaScript, an object is data, with properties and methods.
- Properties are **values** associated with an object.
- Methods are **actions** that can be performed on objects.

http://www.w3schools.com/js/

JavaScript Object - Implementation

```
person = {  firstname: "John",
            lastname: "Doe",
            age: 50,
            eyecolor: "blue" };

console.log( person.firstname );
```

JavaScript Array

```
var courses = ["HTML", "CSS", "JavaScript"];

console.log( courses[0] );

for (var i = 0; i < courses.length; i++)
{
	console.log( courses[i] + "<br />" );
}

for (var i in courses)
{
	console.log( courses[i] + "<br />" );
}
```

Example – Student records

- Define a student name, marks, and behavior.
- Based on the details we have, display the corresponding message

Student variables

```
var student1Name = "John";
var student1Mark1 = 40;
var student1Mark2 = 60;
var student1Mark3 = 70;
var student1Mark4 = 82;
var student1Behavior = "A";
```

Refactoring by using object and array

```
var student1Mark = [40, 60, 70, 82];

var student1 = { name: "John",
                 mark: [40, 60, 70, 82],
                 behavior: "A",
                 hobby: ["kung fu", "football"] };
```

Loop through an array

```
var total = 0;
for (i = 0; i < student1.mark.length; i++) {
    total += student1.mark[i];
}

var avg = total / student1.mark.length;
```

if-else condition

```
var grade;

if (avg < 60) {
    grade = "fails";
} else {
    grade = "passes";
}
```

switch statement

```
var comment;
switch (student1.behavior) {
        case "A":
                comment = "Good student";
                break;
        case "B":
                comment = "Can be better";
                break;
        case "C":
                comment = "Should improve the behavior";
                break;
        default:
                comment = "Kick away!!";
                break;
}
```

Abstract codes into a function

```
function transcript(student) {
    var total = 0;
    for (i = 0; i < student.mark.length; i++) {
        total += student.mark[i];
    }
    // ……
}

transcript(student1);
```

Generalize

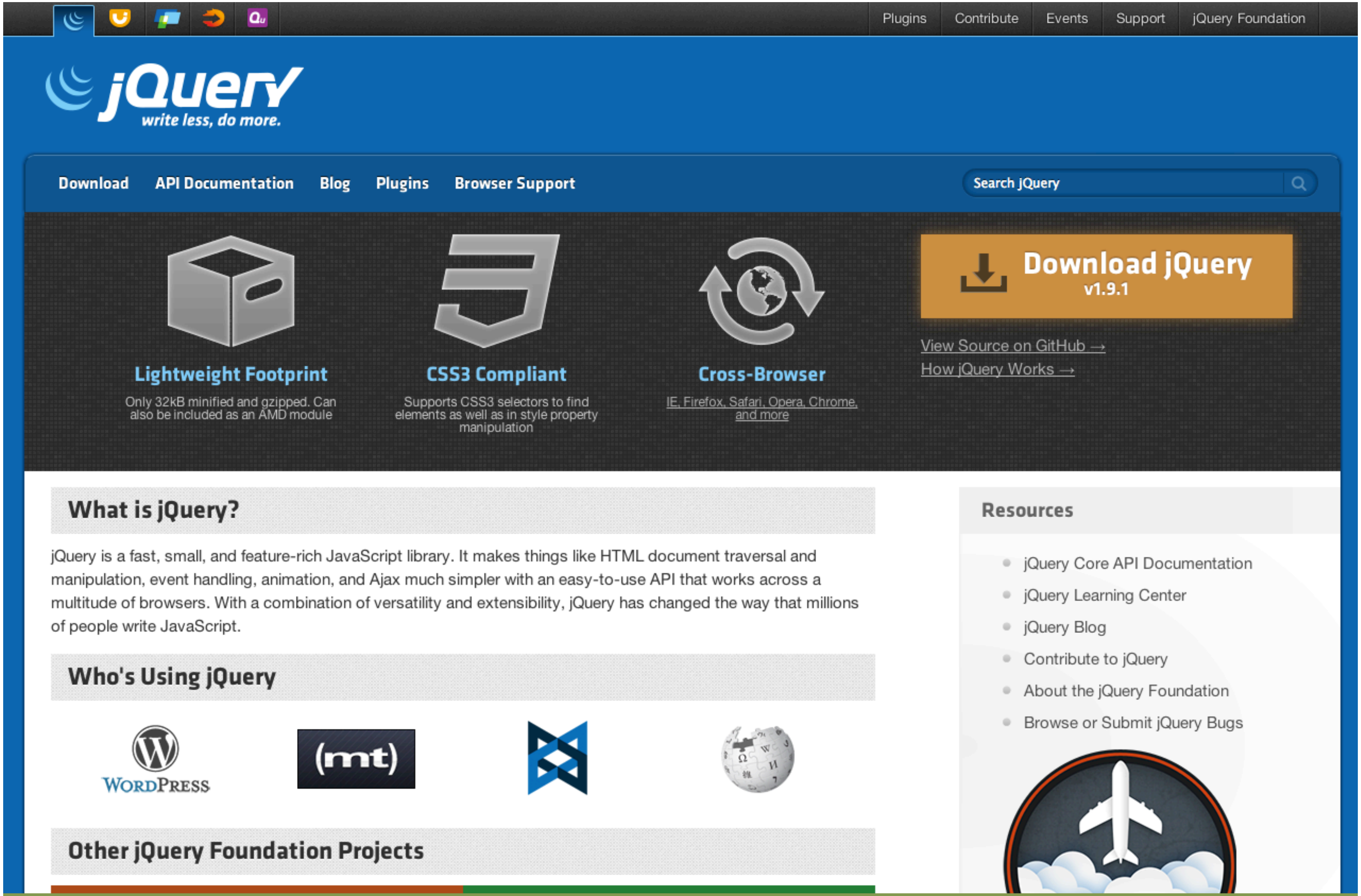
```
var students = [ { name: "John",
                   mark: [40, 60, 70, 82],
                   behavior: "A" },
                 { name: "Mary",
                   mark: [20, 50, 73, 62],
                   behavior: "C" } ];

for (count = 0; count < students.length; count++) {
    transcript(students[count]);
}
```

JavaScript Object Notation (JSON)

http://www.google.com/ig/calculator?hl=en&q=1USD=?HKD

```
{lhs: "1 U.S. dollar",
 rhs: "7.75662804 Hong Kong dollars",
 error: "",
 icc: true}
```

jQuery
write less, do more.



Lightweight Footprint

Only 32kB minified and gzipped. Can also be included as an AMD module

CSS3 Compliant

Supports CSS3 selectors to find elements as well as in style property manipulation

Cross-Browser

IE, Firefox, Safari, Opera, Chrome, and more

What is jQuery?

jQuery is a fast, small, and feature-rich JavaScript library. It makes things like HTML document traversal and manipulation, event handling, animation, and Ajax much simpler with an easy-to-use API that works across a multitude of browsers. With a combination of versatility and extensibility, jQuery has changed the way that millions of people write JavaScript.

Who's Using jQuery

Other jQuery Foundation Projects

- jQuery Core API Documentation
- jQuery Learning Center
- jQuery Blog
- Contribute to jQuery
- About the jQuery Foundation
- Browse or Submit jQuery Bugs

http://jquery.com

Loading jQuery

- Local file system

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

- Google’s Content Devliery Network (CDN)

```
<script src=
"https://ajax.googleapis.com/ajax/libs/jquery/1.8.0/
jquery.min.js">
</script>
```

```
<!doctype html>
<html>
  <head>
    <meta charset="utf-8">
    <title>Demo</title>
  </head>
  <body>
    <a href="http://jquery.com/">jQuery</a>
    <script src="jquery.js"></script>
    <script>

    </script>
  </body>
</html>
```

- jQuery
  - ReferenceError: jQuery is not defined
  - jQuery is not loaded
- jQuery
  - function (j,s){return new b.fn.init(j,s)}
  - Ready to go!
- $
  - function (j,s){return new b.fn.init(j,s)}
  - Still jQuery

Launching code

```
window.onload = function(){ alert("welcome"); }

$(document).ready(function() {
    // code
});

$(function() {
    // code
});
```

Selecting Elements

- The most basic concept of jQuery is to "select some elements and do something with them."
- jQuery supports most CSS3 selectors, as well as some non-standard selectors.
- For a complete selector reference, visit

  http://api.jquery.com/category/selectors/

Document Object Model (DOM)

```
<html>
<head>
        <title>jQuery First Flight</title>
</head>
<body>
        <h1>Welcome to jQuery Air!</h1>
        <p class=‘plan’>
                Before you can takeoff...
                <span class="highlight">Warning</span>
        </p>
        <p id=‘final’>
                Before Landing
                <span>Seatbelt</span>
        </p>
</body>
</html>
```

html

- head
  - title
- body
  - h1
  - p.plan
  - p#final

CSS Selectors

```
$("h1");
$("p");
$("p.plan");
$("p#final");
```

Selection Result

jQuery

```
$("p");
```

DOM

p.plan (Before you can takeoff...)

p#plan (Then, before landing...)

JavaScript Results

```
["<p class=‘plan’>Before you can takeoff...</p>",
"<p class=‘final’>Then, before landing...</p>"]
```

Non-match Results

jQuery

```
$("h2");
```

DOM

There were no H2s in the DOM

JavaScript Results

```
[]
```

Watch out, I'm "truthy"

```
if ($("h2").length) { … }
```

Saving Selections

Every time you make a selection, a lot of code runs, and jQuery doesn't do caching of selections for you. If you've made a selection that you might need to make again, you should save the selection in a variable rather than making the selection repeatedly.

```
var $divs = $('div');
```

Understanding Whitespace

$("p#final");

This matches paragraphs with ID "final"

$("p #final");

This matches any element with class "final" within a paragraph

The Art of Selecting

- Don't use anonymous Class/ID Selectors

```
$("#final");
$(".errors");
```

- Do use Class/ID with ELEMENT TYPES

```
$("p#final");
$("h3.errors");
```

- Even with Multiple Elements

```
$("h3.errors, p.errors");
```

Pseudo-Classes and Direct Descendants

```
$("p:first");
```

This is not the same as

```
$("p.first");
```

Descendants

- Direct Descendants

  Any span within body

  $("body span");

- Only spans directly under body

  $("body > span");

- $("p.plan > span");