



JavaScript and jQuery Course

Class 11

jQuery

- ▶ jQuery is a JavaScript library
- ▶ Makes writing JavaScript easier
- ▶ Uses methods based on native JavaScript functions / **DOM**
- ▶ Free / open source

▶ 2

jQuery

- ▶ Eliminates JS complexity
- ▶ Cross browser compatibility
- ▶ Uses CSS3 compliant selectors
- ▶ Thousand of plugins



▶ 3

jQuery

- ▶ 2006 by John Resig
- ▶ Current Version (Sept 2016) - v3.1.1
- ▶ Other libraries
 - ▶ Dojo - 2004
 - ▶ YUI (Yahoo User Interface) - 2005
 - ▶ Prototype, Mootools - 2006
 - ▶ Angular, Backbone, React, Ember, Node.js,

▶ 4

Versions

Version	Release date	Description
1.0	Aug 2006	First stable release.
1.9.1	Feb 2013	Deprecated interfaces removed.
1.12.4	May 2016	Last updated version of 1.x branch, which supports IE6-8.
2.0	April 2013	First version of 2.x branch. Dropped support for IE6-8.
2.2.4	May 2016	Last updated version of 2.x branch.
3.0	June 2016	First version of 3.x branch. A smaller, faster version of the 2.x branch, but with some breaking changes. Adds a slim version.
3.1.1	Sept 2016	Current version of jQuery.

Version	Description
1.4.1	Restores features dropped by version 1.9.
3.0.0	Restores features dropped by version 3.0.

← Migrate plugins

► 5

How to use the jQuery Library

- You can host the file yourself by downloading it from www.jquery.com
- You can use a hosted version from a Content Delivery Network (CDN)

► 6

How to use the jQuery Library - CDN

Google Hosted Library

```
<script
  src="http://ajax.googleapis.com/ajax/libs/
  jquery/3.1.1/jquery.min.js">
</script>
```

► 7

Using the jQuery Library

jquery.com/download

```
<script
  src=https://code.jquery.com/jquery-3.1.1.min.js
```

```
  integrity="sha256-
  hVvNyiADRT02PZUGmULJr8BLUSjGIZSDYGMiJLv2b8="
  crossorigin="anonymous">
```

← Subresource Integrity (SRI) checking

► 8

Using the jQuery Library

Download the file and host it yourself

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

▶ 9

What is the “min” all about?

- ▶ The *minified* version
- ▶ **Minification**
 - ▶ removes all unnecessary characters from source code
 - ▶ without changing its functionality
 - ▶ these characters usually include white space characters, new line characters, comments, and sometimes block delimiters
 - ▶ which are used to add readability to the code but are not required for it to execute

▶ 10

Where to put jQuery code

- ▶ Place this code **after any CSS** in the <head>
 - jQuery references styles from the stylesheet
- ▶ **Must precede any other JavaScript** in the <head>
- ▶ Can also place all of the jQuery at the bottom

▶ 11

Sample Document – using a CDN

```
<head>
  <link rel="stylesheet" href="styles.css">
  <style>
    /* CSS here */
  </style>

  <script src="http://code.jquery.com/jquery.min.js">
  </script>

  <script>
    // other jQuery / JS code goes here
  </script>
</head>
```

▶ 12

The “ready” event

```
$(document).ready();
```

waits until the HTML page has loaded before it runs your code

similar to `window.onload`

`$` is used to indicate an object reference

▶ 13

The ready event

```
<script src="http://code.jquery.com/jquery-latest.min.js"></script>
```

```
<script>
$(document).ready(function() {
    // code here
});
</script>
```

framework

Anonymous Function

Ending trio

▶ 14

The ready event shorthand

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

▶ 15

Testing the Library

```
$(document).ready(function() {
    alert("The DOM is ready");
}); // end ready
```

▶ 16

jQuery

Based upon CSS selectors

- ▶ element
- ▶ class
- ▶ id
- ▶ others

▶ 17

DOM

Also based upon selectors

```
document.getElementById("some_id");
```

```
document.getElementsByTagName("some_tag");
```

▶ 18

Selector Syntax

```
$('selector');
```

```
$("selector");
```

▶ 19

Selector Syntax

Element selector

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

```
$("h1");
```

▶ 20

Selector Syntax

id selector

```
<h1 id="firstHeading"></h1>

$("#firstHeading");
```

▶ 21

Selector Syntax

class selector

```
<h1 class="red"></h1>

$(".red");
```

▶ 22

Selector Syntax

descendant selector

```
<h1 class="red"> A <i>big</i> cat</h1>

$(".red i");
```

▶ 23

Selector Syntax

multiple selectors

```
<h1 class="red"> A <i>big</i> cat</h1>
<h2 id="xyz"> A unique heading </h2>

$(".red i, #xyz");
```

▶ 24

Syntax for Calling Methods

```
$("selector").methodName(optional parameters);
```

methods can **get** or **set** a value

▶ 25

Common Methods

<code>val()</code>	Retrieve value from textbox
<code>val(value)</code>	Sets value for textbox
<code>text()</code>	Retrieve text of selected element
<code>text(value)</code>	Set text of selected element
<code>next(type)</code>	Get the next sibling of the specified type
<code>html()</code>	Retrieve the HTML of the selected element
<code>html(value)</code>	Set the HTML of the selected element
<code>css(propertyName)</code>	Retrieve the value
<code>css(propertyName, value)</code>	Set the property/value

▶ 26

Basic jQuery Selectors

element selector

```
$(document).ready(function() {
    $("h1").html("Hello world");
    $("h2").html("Hello world <i>Again</i>");
});
```

```
<h1> </h1>
<h2> </h2>
```

▶ 27

Basic jQuery Selectors

View Rendered Code in Firebug

The screenshot shows a web browser displaying the text "Hello World" and "Hello World Again". The Firebug console is open, showing the following code:

```
<script src="http://code.jquery.com/jquery.min.js"></script>
<script>
$(document).ready(function() {
    $("h1").html("Hello World");
    $("h2").html("Hello World <i>Again</i>");
});
</script>
</body>
</html>
```

The Firebug console also shows the rendered HTML output:

```
<!DOCTYPE html>
<html>
<head>
<body>
  <h1>Hello World</h1>
  <h2>Hello World <i>Again</i></h2>
</body>
</html>
```

A yellow arrow labeled "browser" points to the browser window. A yellow arrow labeled "firebug" points to the Firebug console. A yellow arrow labeled "view source" points to the "view source" button in the browser.

▶ 28

Basic jQuery Selectors

id selector

```
$(document).ready(function() {
  $("#firstHeading").html("Hello world");
});
```

```
<h1 id="firstHeading"> </h1>
```

▶ 29

Basic jQuery Selectors

class selector

```
$(document).ready(function() {
  $(".para").html("Hello world");
});
```

```
<p class="para"> </p>
<div class="para"> </div>
```

▶ 30

Basic jQuery Methods – **html()** set

```
$(document).ready(function() {
  $("h1").html("<i>Hello</i> world");
});
```

```
<h1>first h1</h1>
<h1>second h1</h1>
```

Hello World
Hello World

all selections
and descendants

▶ 31

Basic jQuery Methods – **html()** get

```
$(document).ready(function() {
  var theH1 = $("h1").html();
  alert(theH1);
});
```

```
<h1><i>First</i> h1</h1>
<h1>Second h1</h1>
```



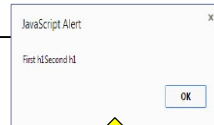
only first
selection

▶ 32

Basic jQuery Methods – **text()** get

```
$(document).ready(function() {
  var theH1 = $("h1").text();
  alert(theH1);
});
```

```
<h1><i>First</i> h1</h1>
<h1>Second h1</h1>
```



all selections
and descendants

▶ 33

Basic jQuery Methods – **css()** set

```
$(document).ready(function() {
  $("h1").css("color", "blue");
});
```

```
<h1>First H1 Heading</h1>
<h1>Second H1 Heading</h1>
```

First H1 Heading
Second H1 Heading

all selections
and descendants

▶ 34

Basic jQuery Methods – **css()** set multiple

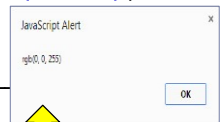
```
$(document).ready(function() {
  $("h1").css({ "color" : "blue",
                "background-color" : "yellow" });
});
```

```
<h1>First H1 Heading</h1>
<h1>Second H1 Heading</h1>
```

▶ 35

Basic jQuery Methods – **css()** get

```
$(document).ready(function() {
  var theValue = $("h1").css("color");
  alert(theValue);
});
```



only first selection

```
<h1 style="color: blue">First H1 Heading</h1>
<h1 style="color: red">Second H1 Heading</h1>
```

▶ 36

Basic jQuery Methods – **chaining**

```
$(document).ready(function() {
    $("h1").html("<i>Hello</i> world")
        .css("color" , "red");
});
```

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

▶ 37

Two common jQuery event methods

ready()

The event handler runs when the DOM is ready

click()

The event handler runs when the selected element is clicked

▶ 38

Event Methods – click event

```
$(document).ready(function() {
    $("h2").click(function() {
        alert("You clicked the h2");
    }); // end click;
}); // end ready;
```

```
<h2>Click me</h2>
```

▶ 39