Chapter 5

Get off to a fast start with jQuery
Objectives

Applied
1. Use jQuery to develop common DOM scripting applications like the Email List, FAQs, Image Swap, and Image Rollover applications that are presented in this chapter.

Knowledge
1. Describe jQuery.
2. Describe two ways to include the jQuery library in your web pages.
3. In general terms, describe the use of jQuery selectors, methods, and event methods.
4. Describe the syntax for a jQuery selector.
5. Describe the use of these methods: val, next, prev, text, attr, css, addClass, removeClass, toggleClass, hide, show, and each.
6. Describe object chaining.
Objectives (continued)

6. Describe the use of these jQuery event methods: ready, click, mouseover, and hover.

7. Describe the use of the *this* keyword within a function for an event method.
The jQuery website at www.jQuery.com
What jQuery offers

- Dozens of selectors, methods, and event methods that make it easier to add JavaScript features to your web pages
- Cross-browser compatibility
- Selectors that are compliant with CSS3
- A compressed library that loads quickly so it doesn’t degrade performance
Some typical plugin functions

- Data validation
- Slide shows
- Carousels
Terms

• jQuery
• jQuery UI
• plugin
The page for downloading jQuery

Compressed and uncompressed copies of jQuery files are available. The uncompressed file is best used during development or debugging; the compressed file saves bandwidth and improves performance in production. You can also download a source map file for use when debugging with a compressed file. The map file is not required for users to run jQuery, it just improves the developer's debugger experience. As of jQuery 1.11.0/2.1.0 the `//# sourceMappingURL` comment is not included in the compressed file.

To locally download these files, right-click the link and select "Save as..." from the menu.

**jQuery 1.x**

The jQuery 1.x line had major changes as of jQuery 1.9.0. We strongly recommend that you also use the jQuery Migrate plugin if you are upgrading from pre-1.9 versions of jQuery or need to use plugins that haven't yet been updated. Read the [jQuery 1.9 Upgrade Guide](#) and the [jQuery 1.9 release blog post](#) for more information.

- Download the compressed, production jQuery 1.11.2
- Download the uncompressed, development jQuery 1.11.2
The current versions of jQuery

- jQuery 2.1.4 is the newest version of jQuery, but it no longer supports IE6, IE7, and IE8.
- jQuery 1.11.2 provides support for older browsers, but it doesn’t support the features that were dropped in jQuery 1.9. To provide for those, you must include the migrate plugin.
How to include jQuery 2.1.4
after you’ve downloaded it to your computer

<script src="jquery-2.1.4.min.js"></script>

How to include jQuery 2.1.4
from a Content Delivery Network (CDN)

<script src="http://code.jquery.com/jquery-2.1.4.min.js"></script>

How to include jQuery 1.11.2
and the migrate plugin from a CDN

<script src="http://code.jquery.com/jquery-1.11.2.min.js"></script>
<script src="http://code.jquery.com/jquery-migrate-1.2.1.min.js"></script>
How to select elements by element, id, and class

By element type: All <p> elements in the entire document

\$\left(\text{"p"}\right)\n
By id: The element with “faqs” as its id

\$\left(\text{"#faqs"}\right)\n
By class: All elements with “minus” as a class

\$\left(\text{".minus"}\right)\n
How to select elements by relationship

Descendants: All <p> elements that are descendants of the main element

$($"#faqs p")

Adjacent siblings: All div elements that are adjacent siblings of h2 elements

$($"h2 + div")

General siblings: All <p> elements that are siblings of ul elements

$($"ul ~ p")

Children: All ul elements that are children of div elements

$($"div > ul")
How to code multiple selectors

\$("#faqs li, div p")
\$("p + ul, div ~ p")
The syntax for calling a jQuery method

\$("selector") . methodName(parameters)

Some common jQuery methods

val()
val(value)
text()
text(value)
next([type])
sSubmit()
focus()
Examples that call jQuery methods

How to get the value from a text box
var gallons = $('#gallons').val();

How to set the value for an input element
$('#gallons').val('');

How to set the text in an element
$('#email_address_error').text('Email address is required');

How to set the text for the next sibling with object chaining
$('#last_name').next().text('Last name is required');

How to submit a form
$('#join_list').submit();

How to move the focus to a form control or link
$('#email_address').focus();
The syntax for a jQuery event method

$\langle$selector$\rangle$.eventMethodName(function() {
   // the statements of the event handler
});

Two common jQuery event methods

<table>
<thead>
<tr>
<th>Event method</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ready(handler)</td>
<td>The event handler runs when the DOM is ready.</td>
</tr>
<tr>
<td>click(handler)</td>
<td>The event handler runs when the selected element is clicked.</td>
</tr>
</tbody>
</table>
How to code an event handler for the ready event

The long way

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

The short way

$(function() {
    // (document).ready is assumed
    alert("The DOM is ready");
});
An event handler for the click event of all h2 elements

```javascript
$("h2").click(function() {
    alert("This heading has been clicked");
});
```

The click event handler within the ready event handler

```javascript
$(document).ready(function() {
    $("h2").click(function() {
        alert("This heading has been clicked");
    }); // end of click event handler
}); // end of ready event handler
```
Terms

- Content Delivery Network (CDN)
- selector
- method
- object chaining
- event method
### Some of the most useful jQuery selectors

<table>
<thead>
<tr>
<th>Selector</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>[attribute]</code></td>
<td>:hidden</td>
</tr>
<tr>
<td><code>[attribute=value]</code></td>
<td>:last</td>
</tr>
<tr>
<td>:contains(text)</td>
<td>:last-child</td>
</tr>
<tr>
<td>:empty</td>
<td>:lt(n)</td>
</tr>
<tr>
<td>:eq(n)</td>
<td>:not(selector)</td>
</tr>
<tr>
<td>:even</td>
<td>:nth-child</td>
</tr>
<tr>
<td>:first</td>
<td>:odd</td>
</tr>
<tr>
<td>:first-child</td>
<td>:only-child</td>
</tr>
<tr>
<td>:gt(n)</td>
<td>:parent</td>
</tr>
<tr>
<td>:has(selector)</td>
<td>:text</td>
</tr>
<tr>
<td>:header</td>
<td>:visible</td>
</tr>
</tbody>
</table>
Examples that use jQuery selectors

Select the li elements that are the first child of their parent element

\( \$(\text{"li:first-child"}) \)

Select the even tr elements of a table

\( \$(\text{"table > tr:even"}) \)  // numbering starts at 0,  
                                // so first tag is even

Select the third descendant <p> element of an element

\( \$(\text{"#faqs p:eq(2)"}) \)  // numbering starts at 0

Select all input elements with “text” as the type attribute

\( \$(\text{":text"}) \)
Some of the most useful jQuery methods

next([selector])
prev([selector])
attr(attributeName)
attr(attributeName, value)
css(propertyName)
css(propertyName, value)
addClass(className)
removeClass([className])
toggleClass(className)
hide([duration])
show([duration])
each(function)
Examples that use jQuery methods

Get the value of the src attribute of an image

$$\$( \"#image\\$$).attr("src");

Set the value of the src attribute of an image to the value of a variable

$$\$( \"#image\\$$).attr("src", \$imageSource\$$);

Set the value of the color property of the h2 elements

$$\$( \"h2\\$$).css("color", \"blue\$$);

Add a class to the h2 descendants of the “faqs” element

$$\$( \"#faqs\ h2\$$).addClass("minus");

Run a function for each <a> element within an “image_list” element

$$\$( \"#image\_list\ a\$$).each(function() {
    // the statements of the function
});
Some of the most useful jQuery event methods

```js
ready(handler)
unload(handler)
error(handler)
click(handler)
dblclick(handler)
mouseenter(handler)
mouseover(handler)
mouseout(handler)
hover(handlerIn, handlerOut)
event.preventDefault()
```
Examples that use jQuery event methods

A handler for the double-click event of all text boxes that clears the clicked box

```javascript
$(':text').dblclick(function () {
    $(this).val('');
});
```

A handler for the hover event of each img element within a list

```javascript
$('#image_list img').hover(
    function() {
        alert("The mouse pointer has moved into an img element");
    },
    function() {
        alert("The mouse pointer has moved out of an img element");
    }
); // end hover
```
A preventDefault method that stops the default action of an event

```javascript
$("#faqs a").click(function(evt) // evt is the event object
{
    // run the method on the event object
    evt.preventDefault();
}); // end click
```
Other event methods that you should be aware of

<table>
<thead>
<tr>
<th>Event method</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>on(events, handler)</code></td>
<td>Attach an event handler to one or more events.</td>
</tr>
<tr>
<td><code>off(events, [handler])</code></td>
<td>Remove an event handler from one or more events.</td>
</tr>
<tr>
<td><code>one(event, handler)</code></td>
<td>Attach an event handler and remove it after it runs one time.</td>
</tr>
<tr>
<td><code>trigger(event)</code></td>
<td>Trigger the event for the selected element.</td>
</tr>
<tr>
<td><code>bind(event, handler)</code></td>
<td>Attach an event handler to an event.</td>
</tr>
<tr>
<td><code>unbind(event, [handler])</code></td>
<td>Remove an event handler from an event.</td>
</tr>
</tbody>
</table>
How to attach an event handler to an event

With the on method

```javascript
$('#clear').on('click', function() {...});
```

With the shortcut method

```javascript
$('#clear').click(function() {...});
```
How to attach an event handler to two different events

Of the same element

```javascript
$("image_list img").on("click mouseover", function() {
    ...
});
```

Of two different elements

```javascript
var clearClick = function() {
    ...
}$("#clear") .click(clearClick);
$(:"text") .dblclick(clearClick);
```
How to remove an event handler from an event

\$\(\text{"#clear"}.\text{off("click")}\);

How to attach and remove an event handler so it runs only once

\$\(\text{"#clear"}.\text{one("click", function() {...})};\)
How to trigger an event

With the trigger method

\$('#clear').trigger('click');

With the shortcut method

\$('#clear').click();

How to use the shortcut method to trigger an event from an event handler

\$(':text').dblclick(function() {
    \$('#clear').click(); // triggers the click event
    \$('#clear').click(); // of the clear button
})