



## Objectives

When you complete this chapter, you will be able to:

- Select elements using jQuery syntax
- Use built-in jQuery functions

## Introduction to jQuery

- jQuery
  - Commonly used library
  - Enables developers to implement common JavaScript tasks with minimal code

## Implementing jQuery

- Cross-browser library
  - jQuery 1.x supports IE 6, 7, and 8
  - jQuery 2.x supports only IE 9 and later
    - Requires less extra code, so smaller file

## Including the Library

- Link .js file containing library to HTML document
  - Can download from jquery.com
  - Can specify public location on CDN

## Starting a jQuery Statement with \$

- All jQuery code conforms to JavaScript rules
  - Uses shortcuts that can look like different language
- Every jQuery statement begins with \$
  - Specifies that any code that follows should be interpreted using jQuery library

## Selecting Elements with jQuery

- `$` followed by reference to elements on which statement operates
  - Reference contained in parentheses
- Use CSS selector in quotes to select elements
- Example—to operate on `h1` elements:
 

```
$(h1)
```
- Example—to select elements in `odd` class:
 

```
$(".odd")
```
- Concise version of `querySelectorAll()` method:
 

```
document.querySelectorAll(".odd")
```

JavaScript, Sixth Edition

7

## Traversing the DOM with jQuery Methods

- Can select other elements in relation to selection
  - Use jQuery DOM traversal methods

METHOD	DESCRIPTION
<code>children()</code>	Selects the child elements of each element matched by the main selector
<code>first()</code>	Narrows the group of selected elements to the first element
<code>last()</code>	Narrows the group of selected elements to the last element
<code>next()</code>	Changes the selection to the sibling element immediately following each selected element
<code>parent()</code>	Selects the parent element of each element matched by the main selector
<code>previous()</code>	Changes the selection to the sibling element immediately preceding each selected element
<code>siblings()</code>	Selects the sibling elements of each element matched by the main selector

**Table 12-1** jQuery methods for DOM traversal

JavaScript, Sixth Edition

8

## Traversing the DOM with jQuery Methods (cont'd.)

- Select children of original selection:
 

```
$(ul.mainmenu li).children()
```
- Narrow selected items with selector in method's parentheses:
 

```
$(ul.mainmenu li).children("ul")
```

JavaScript, Sixth Edition

9

## Manipulating the DOM with jQuery Methods

- Plain JavaScript
  - JavaScript without jQuery
- jQuery API includes methods for performing actions on selected elements

JavaScript, Sixth Edition

10

## Manipulating the DOM with jQuery Methods (cont'd.)

METHOD	DESCRIPTION
<code>addClass()</code>	Adds the specified class name(s) to the selection
<code>clone()</code>	Creates a duplicate of the selection
<code>css()</code>	Retrieves values for one or more CSS properties for the first element in the selection, or sets a specified CSS property to a specified value
<code>height()</code>	Retrieves the calculated height of the first element in the selection, or sets the height of the selected elements
<code>html()</code>	Retrieves the HTML content of the first element in the selection, or sets the HTML content of the selected elements
<code>removeClass()</code>	Removes the specified class name(s) from the selection
<code>val()</code>	Retrieves the value of the first element in the selection, or sets the value of the selected elements
<code>width()</code>	Retrieves the calculated width of the first element in the selection, or sets the width of the selected elements

**Table 12-2** jQuery methods for manipulation

JavaScript, Sixth Edition

11

## Manipulating the DOM with jQuery Methods (cont'd.)

- Many jQuery methods serve dual function
  - Look up a value
  - Set that value

```
1 $(".odd").width();
2 /* returns the computed width value for the first
3 element with the class name "odd" */
4 $(".odd").width("5em");
5 /* sets the width of all elements with the class name "odd" to 5em */
```

JavaScript, Sixth Edition

12

## Specifying an Event Handler

- Can group jQuery statements into functions
  - Standard JavaScript syntax

```
function display() {
    $("ul.mainmenu li").children("ul").addClass("show");
}
```

## Specifying an Event Handler (cont'd.)

- Backward-compatible event listener easier in jQuery
  - Start with \$
  - Specify selector for element(s) associated with event
  - Finish with method that specifies event and action(s)

## Specifying an Event Handler (cont'd.)

METHOD	DESCRIPTION
<code>blur()</code>	Specifies code to execute on <code>blur</code> event
<code>click()</code>	Specifies code to execute on <code>click</code> event
<code>focus()</code>	Specifies code to execute on <code>focus</code> event
<code>hover()</code>	Specifies code to execute when the pointer enters an element, as well as code to execute when the pointer leaves the element
<code>load()</code>	Specifies code to execute on <code>load</code> event
<code>submit()</code>	Specifies code to execute on <code>submit</code> event

Table 12-3 jQuery methods for common events

- Performs as described with function in `()`
- Empty `()` instead fires indicated event

## Specifying an Event Handler (cont'd.)

```
1 $("form.order").submit(validateForm);
2 /* specifies validateForm() as event handler when form 3 is submitted */
4 $("form.order").submit();
5 /* fires submit event on form */
```

## Specifying an Event Handler (cont'd.)

METHOD	DESCRIPTION
<code>event.currentTarget</code>	Element currently being targeted by the event
<code>event.target</code>	Target element on which the event was fired
<code>event.type</code>	Type of event that was fired

Table 12-4 jQuery event properties

## Using jQuery Built-in Effects

- jQuery includes visual animation methods

METHOD	DESCRIPTION
<code>animate()</code>	Changes value of one or more CSS properties
<code>fadeIn()</code>	Displays hidden elements by changing their <code>display</code> values to the default and then changing their opacity from 0 to 100
<code>fadeOut()</code>	Hides elements by changing their opacity from 100 to 0 and then changing their <code>display</code> values to <code>none</code>
<code>hide()</code>	Hides elements by changing their <code>display</code> values to <code>none</code>
<code>show()</code>	Displays elements by changing their <code>display</code> values to the default
<code>slideDown()</code>	Displays elements by changing their height from 0 to the full value
<code>slideUp()</code>	Hides elements by changing their height from the full value to 0

Table 12-4 jQuery animation methods

## Using jQuery Built-in Effects (cont'd.)

- All methods take value in milliseconds as argument
  - Animation occurs in specified time frame
- Some also support `slow` and `fast` keywords

JavaScript, Sixth Edition

19

## Summary

- jQuery enables developers to implement common tasks with minimal code
- Must link `.js` file containing library to HTML document
- Every jQuery statement starts with `$`
- Select elements in jQuery with CSS selector in quotes
- Can modify a selection
  - Append DOM traversal method to selection code

JavaScript, Sixth Edition

20

## Summary (cont'd.)

- jQuery API includes methods for performing actions on elements
- Many methods allow you to look up or set value
- Event listener consists of
  - `$`
  - selector
  - method
- jQuery includes visual animation methods

JavaScript, Sixth Edition

21