

jQuery

Write Less, Do more JavaScript Library

jQuery Introduction

- jQuery is a JavaScript Library.
- jQuery greatly simplifies JavaScript programming.
- jQuery is easy to learn.

jQuery deals with Selectors, Events, applying CSS , HTML DOM, XML DOM, AJAX-XMLHttpRequest

JavaScript events

onLoad, onUnload, onAbort – BODY

onSubmit – FORM

onClick, onReset - BUTTON

onSelect, onChange, onKeyPress, onKeyRelease, onKeyTyped, onBlur, onFocus, mouse events remaining element

JavaScript objects

Window, Number, Date, String, Math, Boolean, Array, RegExp, XMLHttpRequest, ActiveXObject

jQuery consists of jQuery API and jQuery UI

- With jQuery API we can manipulate HTML and CSS.
- With jQuery UI API we can add rich component on web page.

jQuery API consists of

- Selectors
- Attributes
- Traversing
- Manipulation
- CSS
- Events
- Effects
- AJAX

Sample jQuery Selectors

Selector	Example	Selects
*	\$("#*")	All elements
#id	\$("#lastname")	The element with id=lastname
.class	\$(".intro")	All elements with class="intro"
Element	\$("#p")	All p elements
.class.class	\$(".intro.demo")	All elements with the classes "intro" and "demo"
:first	\$("#p:first")	The first p element
:last	\$("#p:last")	The last p element

:even	\$("tr:even")	All even tr elements
:odd	\$("tr:odd")	All odd tr elements
:eq(index)	\$("ul li:eq(3)")	The fourth element in a list (index starts at 0)
:gt(no)	\$("ul li:gt(3)")	List elements with an index greater than 3
:lt(<i>no</i>)	\$("ul li:lt(3)")	List elements with an index less than 3
:not(<i>selector</i>)	\$("input:not(:empty)")	All input elements that are not empty
:header	\$(":header")	All header elements h1, h2 ...
:animated	\$(":animated")	All animated elements
:contains(text)	\$(":contains('W3Schools'))")	All elements which contains the text
:empty	\$(":empty")	All elements with no child (elements) nodes
:hidden	\$("p:hidden")	All hidden p elements
:visible	\$("table:visible")	All visible tables
<i>s1,s2,s3</i>	\$("th,td,intro")	All elements with matching selectors
[<i>attribute</i>]	\$("[href]")	All elements with a href attribute
[<i>attribute=value</i>]	\$("[href='default.htm']")	All elements with a href attribute value equal to "default.htm"
[<i>attribute!=value</i>]	\$("[href!='default.htm']")	All elements with a href attribute value not equal to "default.htm"
[<i>attribute\$=value</i>]	\$("[href\$='.jpg']")	All elements with a href attribute value ending with ".jpg"
[<i>attribute^=value</i>]	\$("[href^='jquery_']")	All elements with a href attribute value starting with "jquery_"
:input	\$(":input")	All input elements
:text	\$(":text")	All input elements with type="text"
:password	\$(":password")	All input elements with type="password"
:radio	\$(":radio")	All input elements with type="radio"
:checkbox	\$(":checkbox")	All input elements with type="checkbox"
:submit	\$(":submit")	All input elements with type="submit"
:reset	\$(":reset")	All input elements with type="reset"
:button	\$(":button")	All input elements with type="button"
:image	\$(":image")	All input elements with type="image"
:file	\$(":file")	All input elements with type="file"
:enabled	\$(":enabled")	All enabled input elements
:disabled	\$(":disabled")	All disabled input elements
:selected	\$(":selected")	All selected input elements
:checked	\$(":checked")	All checked input elements

JQEx1.html

```

<html>
<head>
  <script type="text/javascript" src="jquery.js"></script>
  <script type="text/javascript">
    $(document).ready(function(){
      $("p").click(function(){
        $(this).hide();
      });
    });
  </script>
</head>
<body>
<p>If you click on me, I will disappear.</p>
</body>
</html>

```

What is jQuery?

jQuery is a library of JavaScript Functions.

jQuery is a lightweight "write less, do more" JavaScript library.

The jQuery library contains the following features:

- HTML element selections
- HTML element manipulation
- CSS manipulation
- HTML event functions
- JavaScript Effects and animations
- HTML DOM traversal and modification
- AJAX
- Utilities

Adding the jQuery Library to Your Pages

```
<head>
  <script type="text/javascript" src="jquery.js"></script>
</head>
```

JQEx2.html

```
<html>
<head>
  <script type="text/javascript" src="jquery.js"></script>
  <script type="text/javascript">
    $(document).ready(function(){
      $("button").click(function(){
        $("p").hide();
      });
    });
</script>
</head>
<body>
  <h2>This is a heading</h2>
  <p>This is a paragraph.</p>
  <p>This is another paragraph.</p>
  <button>Click me</button>
</body>
</html>
```

What if jQuery is not there?

With jQuery you select (query) HTML elements and perform "actions" on them.

jQuery Syntax

```
$(this).hide()
```

Demonstrates the jQuery hide() method, hiding the current HTML element.

```
$("#test").hide()
```

Demonstrates the jQuery hide() method, hiding the element with id="test".

```
$("p").hide()
```

Demonstrates the jQuery hide() method, hiding all <p> elements.

```
$(".test").hide()
```

Demonstrates the jQuery hide() method, hiding all elements with class="test".

JQEx3.html

```
<html>
<head>
<script type="text/javascript" src="jquery.js"></script>
<script type="text/javascript">
    $(document).ready(function(){
        $("button").click(function(){
            $(this).hide();
        });
    });
</script>
</head>
<body>
<button>Click me</button>
</body>
</html>
```

JQEx4.html

```
<html>
<head>
<script type="text/javascript" src="jquery.js"></script>
<script type="text/javascript">
$(document).ready(function(){
    $("button").click(function(){
        $("#test").hide();
    });
});
</script>
</head>
<body>
<h2>This is a heading</h2>
<p>This is a paragraph.</p>
<p id="test">This is another paragraph.</p>
<button>Click me</button>
</body>
</html>
```

JQEx5.html

```
<html>
<head>
<script type="text/javascript" src="jquery.js"></script>
<script type="text/javascript">
    $(document).ready(function(){
        $("button").click(function(){
            $("p").hide();
        });
    });
</script>
</head>
```

```

<body>
<h2>This is a heading</h2>
<p>This is a paragraph.</p>
<p>This is another paragraph.</p>
<button>Click me</button>
</body>
</html>

```

JQEx6.html

```

<html>
<head>
<script type="text/javascript" src="jquery.js"></script>
<script type="text/javascript">
    $(document).ready(function(){
        $("button").click(function(){
            $(".test").hide();
        });
    });
</script>
</head>
<body>
<h2 class="test">This is a heading</h2>
<p class="test">This is a paragraph.</p>
<p>This is another paragraph.</p>
<button>Click me</button>
</body>
</html>

```

jQuery Selectors

- jQuery selectors allow you to select and manipulate HTML elements as a group or as a single element.
- jQuery selectors are required at every step while using jQuery. Selectors allow you to get the exact element/attribute you want from your HTML document.

Examples of jQuery Selectors

- \$("*") selects all elements.
- \$("p") selects all <p> elements.
- \$("p.intro") selects all <p> elements with class="intro".
- \$("p#intro") selects the first <p> elements with id="intro".
- \$(".animated") selects all elements that are currently animated.
- \$(".button") selects all <button> elements and <input> elements of type="button".
- \$(".even") selects even elements.
- \$(".odd") selects odd elements.

Some more examples

Syntax	Description
\$(this)	Selects the current HTML element
\$("#intro:first")	Selects the first <p> element with id="intro"
\$(".intro")	Selects all elements with class="intro"
\$("#intro")	Selects the first element with id="intro"
\$("#ul li:first")	Selects the first element of the first

<code>\$("ul li:first-child")</code>	Selects the first element of every
<code>\$("[href]")</code>	Selects all elements with an href attribute
<code>\$("[href\$='.jpg']")</code>	Selects all elements with an href attribute that ends with ".jpg"
<code>\$("[href='#']")</code>	Selects all elements with an href value equal to "#"
<code>\$("[hreflang]='en']")</code>	Selects all elements that have specified attribute with the value equal to given string or starting with that string followed by a hyphen (-)
<code>\$("[href*='man']")</code>	Selects all elements that have specified attribute with a value containing the give substring
<code>\$("[href~='man']")</code>	Selects all elements that have specified attribute with a value containing a given word delimited by space
<code>\$("[href^='news']")</code>	Selects all elements that have specified attribute with a value beginning exactly with a given string
<code>\$("[href!='#']")</code>	Selects all elements with an href value NOT equal to "#"
<code>\$("div#intro .head")</code>	Selects all elements with class="head" inside a <div> element with id="intro"

jQuery Selector Examples

All Selector ("*")

```
<!DOCTYPE html>
<html>
<head>
  <style>
    h3 { margin: 0; }
    div, span, p {
      width: 80px;
      height: 40px;
      float:left;
      padding: 10px;
      margin: 10px;
      background-color: #EEEEEE;
    }
  </style>
  <script src="http://code.jquery.com/jquery-latest.js"></script>
</head>
<body>
  <div>DIV</div>

  <span>SPAN</span>
  <p>P <button>Button</button></p>
<script>var elementCount = $("*").css("border", "3px solid red").length;
$("body").prepend("<h3>" + elementCount + " elements found</h3>");</script>

</body>
</html>
```

:animated Selector

```
<!DOCTYPE html>
<html>
<head>
  <style>
    div { background:yellow; border:1px solid #AAA; width:80px; height:80px; margin:0
5px; float:left; }
    div.colored { background:green; }
  </style>
  <script src="http://code.jquery.com/jquery-latest.js"></script>
</head>
<body>
  <button id="run">Run</button>
```

```

<div></div>
<div id="mover"></div>
<div></div>
<script>

    $("#run").click(function(){
        $("div:animated").toggleClass("colored");
    });
    function animateIt() {
        $("#mover").slideToggle("slow", animateIt);
    }
    animateIt();
</script>

</body>
</html>

```

Attribute contains [name|="value"]

```

<!DOCTYPE html>
<html>
<head>
  <style>
a { display: inline-block; }
  </style>
  <script src="http://code.jquery.com/jquery-latest.js"></script>
</head>
<body>

  <a href="example.html" hreflang="en">Some text</a>

  <a href="example.html" hreflang="en-UK">Some other text</a>

  <a href="example.html" hreflang="english">will not be outlined</a>

<script>
$('a[hreflang|="en"]').css('border','3px dotted green');
</script>

</body>
</html>

```

Attribute contains [name*="value"]

```

<!DOCTYPE html>
<html>
<head>
  <script src="http://code.jquery.com/jquery-latest.js"></script>
</head>
<body>
  <input name="man-news" />

  <input name="milkman" />
  <input name="letterman2" />
  <input name="newmilk" />
<script>$('input[name*="man"]').val('has man in it!');</script>

</body>
</html>

```

Attribute contains word selector [name~="value"]

```
<!DOCTYPE html>
<html>
<head>
  <script src="http://code.jquery.com/jquery-latest.js"></script>
</head>
<body>
  <input name="man-news" />

  <input name="milk man" />
  <input name="letterman2" />
  <input name="newmilk" />
<script>$('input[name~="man"]').val('mr. man is in it!');</script>

</body>
</html>
```

Attribute ends with [name\$="value"]

```
<!DOCTYPE html>
<html>
<head>
  <script src="http://code.jquery.com/jquery-latest.js"></script>
</head>
<body>
  <input name="newsletter" />

  <input name="milkman" />
  <input name="jobletter" />
<script>$('input[name$="letter"]').val('a letter');</script>

</body>
</html>
```

Attribute ends with [name="value"]

```
<!DOCTYPE html>
<html>
<head>
  <script src="http://code.jquery.com/jquery-latest.js"></script>
</head>
<body>
  <div>
    <label>
      <input type="radio" name="newsletter" value="Hot Fuzz" />
      <span>name?</span>
    </label>
  </div>
  <div>
    <label>
      <input type="radio" name="newsletter" value="Cold Fusion" />
      <span>value?</span>
    </label>
  </div>
  <div>
    <label>
      <input type="radio" name="newsletter" value="Evil Plans" />
      <span>value?</span>
    </label>
  </div>
<script>$('input[value="Hot Fuzz"]').next().text(" Hot Fuzz");</script>

</body>
```



```
</html>
```

Attribute ends with [name!="value"]

```
<!DOCTYPE html>
<html>
<head>
  <script src="http://code.jquery.com/jquery-latest.js"></script>
</head>
<body>
  <div>

    <input type="radio" name="newsletter" value="Hot Fuzz" />
    <span>name is newsletter</span>

  </div>
  <div>
    <input type="radio" value="Cold Fusion" />
    <span>no name</span>

  </div>
  <div>
    <input type="radio" name="accept" value="Evil Plans" />

    <span>name is accept</span>
  </div>
<script>$('input[name!="newsletter"]').next().append('<b>; not
newsletter</b>');</script>

</body>
</html>
```

Attribute ends with [name^="value"]

```
<!DOCTYPE html>
<html>
<head>
  <script src="http://code.jquery.com/jquery-latest.js"></script>
</head>
<body>
  <input name="newsletter" />

  <input name="milkman" />
  <input name="newsboy" />
<script>$('input[name^="news"]').val('news here!');</script>

</body>
</html>
```

:button selector

```
<!DOCTYPE html>
<html>
<head>
  <style>
    textarea { height:35px; }
    div { color: red; }
    fieldset { margin: 0; padding: 0; border-width: 0; }
    .marked { background-color: yellow; border: 3px red solid; }
  </style>
  <script src="http://code.jquery.com/jquery-latest.js"></script>
</head>
<body>
```

```

<form>
<fieldset>
  <input type="button" value="Input Button"/>
  <input type="checkbox" />

  <input type="file" />
  <input type="hidden" />
  <input type="image" />

  <input type="password" />
  <input type="radio" />
  <input type="reset" />

  <input type="submit" />
  <input type="text" />
  <select><option>Option</option></select>

  <textarea></textarea>
  <button>Button</button>
</fieldset>
</form>

<div>
</div>
<script>
  var input = $(":button").addClass("marked");
  $("div").text( "For this type jQuery found " + input.length + "." );
  $("form").submit(function () { return false; }); // so it won't submit
</script>

</body>
</html>

```

Child selector ("parent>child")

```

<!DOCTYPE html>
<html>
<head>
  <style>
body { font-size:14px; }
</style>
  <script src="http://code.jquery.com/jquery-latest.js"></script>
</head>
<body>

<ul class="topnav">
  <li>Item 1</li>
  <li>Item 2
    <ul><li>Nested item 1</li><li>Nested item 2</li><li>Nested item 3</li></ul>
  </li>
  <li>Item 3</li>
</ul>

<script>$("ul.topnav > li").css("border", "3px double red");</script>

</body>
</html>

```

Class selector (".class")

```

<!DOCTYPE html>
<html>

```

```

<head>
  <style>
    div,span {
      width: 100px;
      height: 40px;
      float:left;
      padding: 10px;
      margin: 10px;
      background-color: #EEEEEE;
    }
  </style>
  <script src="http://code.jquery.com/jquery-latest.js"></script>
</head>
<body>
  <div class="notMe">div class="notMe"</div>

  <div class="myClass">div class="myClass"</div>
  <span class="myClass">span class="myClass"</span>
<script>$(".myClass").css("border","3px solid red");</script>

</body>
</html>

```

:contains() selector

```

<!DOCTYPE html>
<html>
<head>
  <script src="http://code.jquery.com/jquery-latest.js"></script>
</head>
<body>

<div>John Resig</div>

<div>George Martin</div>
<div>Malcom John Sinclair</div>
<div>J. Ohn</div>

<script>
$("div:contains('John')").css("text-decoration", "underline");
</script>

</body>
</html>

```

("element") selector

```

<!DOCTYPE html>
<html>
<head>
  <style>
    div,span {
      width: 60px;
      height: 60px;
      float:left;
      padding: 10px;
      margin: 10px;
      background-color: #EEEEEE;
    }
  </style>
  <script src="http://code.jquery.com/jquery-latest.js"></script>
</head>

```

```
<body>
  <div>DIV1</div>

  <div>DIV2</div>
  <span>SPAN</span>
<script>$(".div").css("border","9px solid red");</script>

</body>
</html>
```

:eq() selector

```
<!DOCTYPE html>
<html>
<head>
  <script src="http://code.jquery.com/jquery-latest.js"></script>
</head>
<body>
  <table border="1">
    <tr><td>TD #0</td><td>TD #1</td><td>TD #2</td></tr>
    <tr><td>TD #3</td><td>TD #4</td><td>TD #5</td></tr>
    <tr><td>TD #6</td><td>TD #7</td><td>TD #8</td></tr>
  </table>
<script>$(".td:eq(2)").css("color", "red");</script>

</body>
</html>
```

:even selector

```
<!DOCTYPE html>
<html>
<head>
  <style>

  table {
    background:#eeeeee;
  }
</style>
  <script src="http://code.jquery.com/jquery-latest.js"></script>
</head>
<body>
  <table border="1">
    <tr><td>Row with Index #0</td></tr>
    <tr><td>Row with Index #1</td></tr>

    <tr><td>Row with Index #2</td></tr>
    <tr><td>Row with Index #3</td></tr>
  </table>
<script>$(".tr:even").css("background-color", "#bbbbff");</script>

</body>
</html>
```

:odd selector

```
<!DOCTYPE html>
<html>
<head>
  <style>

  table {
    background:#f3f7f5;
  }
</style>
  <script src="http://code.jquery.com/jquery-latest.js"></script>
</head>
<body>
  <table border="1">
    <tr><td>Row with Index #0</td></tr>
    <tr><td>Row with Index #1</td></tr>

    <tr><td>Row with Index #2</td></tr>
    <tr><td>Row with Index #3</td></tr>
  </table>
<script>$(".tr:odd").css("background-color", "#f3f7f5");</script>

</body>
</html>
```

```

}
</style>
<script src="http://code.jquery.com/jquery-latest.js"></script>
</head>
<body>
  <table border="1">
    <tr><td>Row with Index #0</td></tr>
    <tr><td>Row with Index #1</td></tr>

    <tr><td>Row with Index #2</td></tr>
    <tr><td>Row with Index #3</td></tr>
  </table>
<script>$("tr:odd").css("background-color", "#bbbbff");</script>

</body>
</html>

```

:first selector

```

<!DOCTYPE html>
<html>
<head>
  <style>
    td { color:blue; font-weight:bold; }
  </style>
  <script src="http://code.jquery.com/jquery-latest.js"></script>
</head>
<body>
  <table>
    <tr><td>Row 1</td></tr>
    <tr><td>Row 2</td></tr>

    <tr><td>Row 3</td></tr>
  </table>
<script>$("tr:first").css("font-style", "italic");</script>

</body>
</html>

```

:gt() selector

```

<!DOCTYPE html>
<html>
<head>
  <script src="http://code.jquery.com/jquery-latest.js"></script>
</head>
<body>
  <table border="1">

    <tr><td>TD #0</td><td>TD #1</td><td>TD #2</td></tr>
    <tr><td>TD #3</td><td>TD #4</td><td>TD #5</td></tr>

    <tr><td>TD #6</td><td>TD #7</td><td>TD #8</td></tr>
  </table>
<script>$("td:gt(4)").css("text-decoration", "line-through");</script>

</body>
</html>

```

:lt() selector

```

<!DOCTYPE html>

```

```

<html>
<head>
  <script src="http://code.jquery.com/jquery-latest.js"></script>
</head>
<body>
  <table border="1">

    <tr><td>TD #0</td><td>TD #1</td><td>TD #2</td></tr>
    <tr><td>TD #3</td><td>TD #4</td><td>TD #5</td></tr>

    <tr><td>TD #6</td><td>TD #7</td><td>TD #8</td></tr>
  </table>
<script>$("td:lt(4)").css("color", "red");</script>

</body>
</html>

```

Multiple attribute selector[name="value"][name2="value2"]

```

<!DOCTYPE html>
<html>
<head>
  <script src="http://code.jquery.com/jquery-latest.js"></script>
</head>
<body>
  <input id="man-news" name="man-news" />

  <input name="milkman" />
  <input id="letterman" name="new-letterman" />
  <input name="newmilk" />
<script>$('input[id][name$="man"]').val('only this one');</script>

</body>
</html>

```

Multiple selector (selector1, selector2, selectorN)

```

<!DOCTYPE html>
<html>
<head>
  <style>

    div, span, p {
      width: 126px;
      height: 60px;
      float:left;
      padding: 3px;
      margin: 2px;
      background-color: #EEEEEE;
      font-size:14px;
    }
  </style>
  <script src="http://code.jquery.com/jquery-latest.js"></script>
</head>
<body>
  <div>div</div>

  <p class="myClass">p class="myClass"</p>
  <p class="notMyClass">p class="notMyClass"</p>
  <span>span</span>
<script>$("div, span, p.myClass").css("border", "3px solid red");</script>

</body>

```

```
</html>
```

jQuery Events

The jQuery event handling methods are core functions in jQuery.

Event handlers are methods that are called when "something happens" in HTML. The term "**triggered (or fired) by an event**" is often used.

It is common to put jQuery code into event handler methods in the <head> section:

JQEx7.html

```
<html>
<head>
<script type="text/javascript" src="jquery.js"></script>
<script type="text/javascript">
    $(document).ready(function(){
        $("button").click(function(){
            $("p").hide();
        });
    });
</script>
</head>
<body>
    <h2>This is a heading</h2>
    <p>This is a paragraph.</p>
    <p>This is another paragraph.</p>
    <button>Click me</button>
</body>
</html>
```

jQuery Events

Event Method	Description
<code>\$(document).ready(function)</code>	Binds a function to the ready event of a document (when the document is finished loading)
<code>\$(selector).click(function)</code>	Triggers, or binds a function to the click event of selected elements
<code>\$(selector).dblclick(function)</code>	Triggers, or binds a function to the double click event of selected elements
<code>\$(selector).focus(function)</code>	Triggers, or binds a function to the focus event of selected elements
<code>\$(selector).mouseover(function)</code>	Triggers, or binds a function to the mouse over event of selected elements

jQuery Effects

With jQuery, you can hide and show HTML elements with the `hide()` and `show()` methods:

JSEx8.html

```
<html>
<head>
<script type="text/javascript" src="jquery.js"></script>
<script type="text/javascript">
$(document).ready(function(){
    $("#hide").click(function(){
        $("p").hide();
    });
});
</script>
</head>
<body>
    <p>This is a paragraph.</p>
    <button id="hide">Hide</button>
</body>
</html>
```

```
});  
$("#show").click(function(){  
    $("#p").show();  
});  
});  
</script>  
</head>  
<body>  
<p>If you click on the "Hide" button, I will disappear.</p>  
<button id="hide">Hide</button>  
<button id="show">Show</button>  
</body>  
</html>
```

jQuery hide and show

Both hide() and show() can take the two optional parameters: speed and callback:

Syntax:

```
$(selector).hide(speed,callback)  
$(selector).show(speed,callback)
```

The speed parameter specifies the speed of the hiding/showing, and can take the following values: "slow", "fast", "normal", or milliseconds:

JSEx9.html

```
<html>  
<head>  
<script type="text/javascript" src="jquery.js"></script>  
<script type="text/javascript">  
$(document).ready(function(){  
    $("#button").click(function(){  
        $("#p").hide(1000);  
    });  
});  
</script>  
</head>  
<body>  
<button>Hide</button>  
<p>This is a paragraph with little content.</p>  
<p>This is another small paragraph.</p>  
</body>  
</html>
```

jQuery Toggle

The jQuery toggle() method toggles the visibility of HTML elements using the show() or hide() methods.

Shown elements are hidden and hidden elements are shown.

Syntax:

```
$(selector).toggle(speed,callback)
```

The speed parameter can take the following values: "slow", "fast", "normal", or milliseconds.

JSEx10.html

```

<html>
<head>
<script type="text/javascript" src="jquery.js"></script>
<script type="text/javascript">
$(document).ready(function(){
  $("button").click(function(){
    $("#p").toggle();
  });
});
</script>
</head>
<body>

<button>Toggle</button>
<p>This is a paragraph with little content.</p>
<p>This is another small paragraph.</p>
</body>
</html>

```

jQuery Slide – slideDown, slideUp, slideToggle

The jQuery slide methods gradually change the height for selected elements.

jQuery has the following slide methods:

- **\$(selector).slideDown(speed,callback)**
- **\$(selector).slideUp(speed,callback)**
- **\$(selector).slideToggle(speed,callback)**

The speed parameter can take the following values: "slow", "fast", "normal", or milliseconds.

The callback parameter is the name of a function to be executed after the function completes.

JSEx11.html

```

<html>
<head>

<script type="text/javascript" src="jquery.js"></script>
<script type="text/javascript">
  $(document).ready(function(){
    $("#flip").click(function(){
      $("#panel").slideDown("slow");
    });
  });
</script>

<style type="text/css">
div.panel,p.flip {
  margin:0px;
  padding:5px;
  text-align:center;
  background:#e5eccc;
  border:solid 1px #c3c3c3;
}
div.panel {

```

```
        height:120px;
        display:none;
    }
</style>
</head>
<body>
<div class="panel">
    <p>Because time is valuable, we deliver quick and easy learning.</p>
    <p>At W3Schools, you can study everything you need to learn, in an accessible and handy format.</p>
</div>

<p class="flip">Show Panel</p>
</body>
</html>
```

JQEx12.html

```
<html>
<head>
<script type="text/javascript" src="jquery.js"></script>
<script type="text/javascript">
$(document).ready(function(){
    $(".flip").click(function(){
        $(".panel").slideUp("slow");
    });
});
</script>
<style type="text/css">
div.panel,p.flip {
    margin:0px;
    padding:5px;
    text-align:center;
    background:#e5eccc;
    border:solid 1px #c3c3c3;
}
div.panel {
    height:120px;
}
</style>
</head>
<body>
<div class="panel">
    <p>Because time is valuable, we deliver quick and easy learning.</p>
    <p>At W3Schools, you can study everything you need to learn, in an accessible and handy format.</p>
</div>
<p class="flip">Hide Panel</p>
</body>
</html>
```

JQEx13.html

```
<html>
<head>
<script type="text/javascript" src="jquery.js"></script>
<script type="text/javascript">
$(document).ready(function() {
```

```

$(".flip").click(function(){
    $(".panel").slideDown("slow");
});
</script>
<style type="text/css">
div.panel,p.flip {
    margin:0px;
    padding:5px;
    text-align:center;
    background:#e5eccc;
    border:solid 1px #c3c3c3;
}
div.panel {
    height:120px;
    display:none;
}
</style>
</head>
<body>
<div class="panel">
<p>Because time is valuable, we deliver quick and easy learning.</p>
<p>At W3Schools, you can study everything you need to learn, in an accessible and handy format.</p>
</div>
<p class="flip">Show Panel</p>
</body>
</html>

```

JQEx14.html

```

<html>
<head>
<script type="text/javascript" src="jquery.js"></script>
<script type="text/javascript">
$(document).ready(function() {
    $(".flip").click(function(){
        $(".panel").slideUp("slow");
    });
});
</script>
<style type="text/css">
div.panel,p.flip {
    margin:0px;
    padding:5px;
    text-align:center;
    background:#e5eccc;
    border:solid 1px #c3c3c3;
}
div.panel {
    height:120px;
}
</style>
</head>
<body>
<div class="panel">

```

```

<p>Because time is valuable, we deliver quick and easy learning.</p>
<p>At W3Schools, you can study everything you need to learn, in an accessible and handy format.</p>
</div>
<p class="flip">Hide Panel</p>
</body>
</html>

```

JQEx15.html

```

<html>
<head>
<script type="text/javascript" src="jquery.js"></script>
<script type="text/javascript">
    $(document).ready(function(){
        $(".flip").click(function(){
            $(".panel").slideToggle("slow");
        });
    });
</script>
<style type="text/css">
div.panel,p.flip {
    margin:0px;
    padding:5px;
    text-align:center;
    background:#e5eccc;
    border:solid 1px #c3c3c3;
}
div.panel {
    height:120px;
    display:none;
}
</style>
</head>
<body>
<div class="panel">
<p>Because time is valuable, we deliver quick and easy learning.</p>
<p>At W3Schools, you can study everything you need to learn, in an accessible and handy format.</p>
</div>
<p class="flip">Show/Hide Panel</p>
</body>
</html>

```

jQuery Fade – fadeIn, fadeOut, fadeTo

The jQuery fade methods gradually change the opacity for selected elements.

jQuery has the following fade methods:

- **\$(selector).fadeIn(speed,callback)**
- **\$(selector).fadeOut(speed,callback)**
- **\$(selector).fadeTo(speed,opacity,callback)**

The speed parameter can take the following values: "slow", "fast", "normal", or milliseconds.

The opacity parameter in the fadeTo() method allows fading to a given opacity.

The callback parameter is the name of a function to be executed after the function completes.

JQEx16.html

```

<html>

```

```

<head>
<script type="text/javascript" src="jquery.js"></script>
<script type="text/javascript">
$(document).ready(function(){
  $("button").click(function(){
    $("div").fadeOut("slow",0.25);
  });
});
</script>
</head>
<body>
<div style="background:yellow;width:300px;height:300px">
<button>Click to Fade</button>
</div>
</body>
</html>

```

JQEx17.html

```

<html>
<head>
<script type="text/javascript" src="jquery.js"></script>
<script type="text/javascript">
$(document).ready(function(){
  $("div").click(function(){
    $(this).fadeOut(4000);
  });
});
</script>
</head>
<body>
<div style="background:yellow;width:200px">CLICK ME AWAY!</div>
<p>If you click on the box above, it will be removed.</p>
</body>
</html>

```

jQuery Custom Animations

The syntax of jQuery's method for making custom animations is:

- **\$(selector).animate({params},[duration],[easing],[callback])**

The key parameter is **params**. It defines the CSS properties that will be animated. Many properties can be animated at the same time:

JQEx18.html

```

<html>
<head>
<script type="text/javascript" src="jquery.js"></script>
<script type="text/javascript">
$(document).ready(function(){
  $("button").click(function(){
    $("div").animate({height:300},"slow");
    $("div").animate({width:300},"slow");
    $("div").animate({height:100},"slow");
    $("div").animate({width:100},"slow");
  });
});

```

```

});
</script>
</head>

<body>
<button>Start Animation</button>
<br /><br />
<div style="background:#98bf21;height:100px;width:100px;position:relative">
</div>
</body>
</html>

```

JQEx19.html

```

<html>
<head>
<script type="text/javascript" src="jquery.js"></script>
<script type="text/javascript">
$(document).ready(function(){
  $("button").click(function(){
    $("div").animate({left:"100px"},"slow");
    $("div").animate({fontSize:"3em"},"slow");
  });
});
</script>
</head>
<body>

<button>Start Animation</button>
<br /><br />
<div style="background:#98bf21;height:100px;width:200px;position:relative">HELLO</div>
</body>
</html>

```

jQuery Effects

Function	Description
\$(selector).hide()	Hide selected elements
\$(selector).show()	Show selected elements
\$(selector).toggle()	Toggle (between hide and show) selected elements
\$(selector).slideDown()	Slide-down (show) selected elements
\$(selector).slideUp()	Slide-up (hide) selected elements
\$(selector).slideToggle()	Toggle slide-up and slide-down of selected elements
\$(selector).fadeIn()	Fade in selected elements
\$(selector).fadeOut()	Fade out selected elements
\$(selector).fadeTo()	Fade out selected elements to a given opacity
\$(selector).animate()	Run a custom animation on selected elements

jQuery Callback

A callback function is executed after the current animation is 100% finished.

JavaScript statements are executed line by line. However, with animations, the next line of code can be run even though the animation is not finished. This can create errors.

To prevent this, you can create a callback function.

A callback function is executed after the current animation (effect) is finished.

jQuery Callback Example

Typical syntax: **\$(selector).hide(speed,callback)**

The callback parameter is a function to be executed after the hide effect is completed:

JQEx20.html

```
<html>
<head>
<script type="text/javascript" src="jquery.js"></script>
<script type="text/javascript">
$(document).ready(function(){
  $("button").click(function(){
    $("p").hide(1000,function(){
      alert("The paragraph is now hidden");
    });
  });
});
</script>
</head>
<body>
<button>Hide</button>
<p>This is a paragraph with little content.</p>
</body>
</html>
```

Without a callback parameter, the alert box is displayed before the hide effect is completed:

JQEx21.html

```
<html>
<head>
<script type="text/javascript" src="jquery.js"></script>
<script type="text/javascript">
$(document).ready(function(){
  $("button").click(function(){
    $("p").hide(1000);
    alert("The paragraph is now hidden");
  });
});
</script>
</head>
<body>
<button>Hide</button>
<p>This is a paragraph with little content.</p>
</body>
</html>
```

jQuery HTML

jQuery contains powerful methods (functions) for changing and manipulating HTML elements and attributes.

Changing HTML Content

\$(selector).html(content)

The html() method changes the contents (innerHTML) of matching HTML elements.

JQEx22.html

```
<html>
<head>
<script type="text/javascript" src="jquery.js"></script>
<script type="text/javascript">
$(document).ready(function(){
  $("button").click(function(){
    $("p").html("W3Schools");
  });
});
</script>
</head>

<body>
<h2>This is a heading</h2>
<p>This is a paragraph.</p>
<p>This is another paragraph.</p>
<button>Click me</button>
</body>
</html>
```

Appending HTML content

- **\$(selector).append(content)**

The append() method appends content to the inside of matching HTML elements.

- **\$(selector).prepend(content)**

The prepend() method "prepends" content to the inside of matching HTML elements.

JQEx23.html

```
<html>
<head>
<script type="text/javascript" src="jquery.js"></script>
<script type="text/javascript">
$(document).ready(function(){
  $("button").click(function(){
    $("p").append(" <b>W3Schools</b>.");
  });
});
</script>
</head>
<body>
<h2>This is a heading</h2>
<p>This is a paragraph.</p>
<p>This is another paragraph.</p>
<button>Click me</button>
</body>
</html>
```

\$(selector).after(content)

The `after()` method inserts HTML content after all matching elements.

\$(selector).before(content)

The `before()` method inserts HTML content before all matching elements.

JQEx24.html

```
<html>
<head>
<script type="text/javascript" src="jquery.js"></script>
<script type="text/javascript">
$(document).ready(function(){
  $("button").click(function(){
    $("p").after(" W3Schools.");
  });
});
</script>
</head>

<body>
<h2>This is a heading</h2>
<p>This is a paragraph.</p>
<p>This is another paragraph.</p>
<button>Click me</button>
</body>
</html>
```

JQEx25.html

```
<html>
<head>
<script type="text/javascript" src="jquery.js"></script>
<script type="text/javascript">
$(document).ready(function(){
  $("button").click(function(){
    $("p").before(" W3Schools.");
  });
});
</script>
</head>

<body>
<h2>This is a heading</h2>
<p>This is a paragraph.</p>
<p>This is another paragraph.</p>
<button>Click me</button>
</body>
</html>
```

jQuery CSS methods

jQuery has one important method for CSS manipulation: `css()`.

The `css()` method has three different syntaxes, to perform different tasks:

- `css(name)` - Return CSS property value
- `css(name,value)` - Set CSS property and value
- `css({properties})` - Set multiple CSS properties and values

Return CSS Property

- Use `css(name)` to return the specified CSS property value of the FIRST matched element:

JQEx26.html

```
<html>
<head>
<script type="text/javascript" src="jquery.js"></script>
<script type="text/javascript">
$(document).ready(function(){
  $("div").click(function(){
    $("p").html($(this).css("background-color"));
  });
});
</script>
</head>

<body>
<div style="width:100px;height:100px;background:#ff0000"></div>
<p>Click in the red box to return the background color.</p>
</body>
</html>
```

Set CSS Property and value

- Use `css(name)` to return the specified CSS property value of the FIRST matched element:

JQEx27.html

```
<html>
<head>
<script type="text/javascript" src="jquery.js"></script>
<script type="text/javascript">
$(document).ready(function(){
  $("button").click(function(){
    $("p").css("background-color","yellow");
  });
});
</script>
</head>

<body>
<h2>This is a heading</h2>
<p>This is a paragraph.</p>
<p>This is another paragraph.</p>
<button>Click me</button>
</body>
</html>
```

Sets multiple CSS Property and value pairs

- Use `css({properties})` to set one or more CSS property/value pairs for the selected elements.

JQEx28.html

```
<html>
<head>
<script type="text/javascript" src="jquery.js"></script>
<script type="text/javascript">
$(document).ready(function(){
  $("button").click(function(){
    $("p").css({"background-color":"yellow","font-size":"200%"});
  });
});
</script>
</head>

<body>
<h2>This is a heading</h2>
<p>This is a paragraph.</p>
<p>This is another paragraph.</p>
<button>Click me</button>
</body>
</html>
```

jQuery height() and width() methods

jQuery has two important methods for size manipulation.

JQEx29.html

```
<html>
<head>
<script type="text/javascript" src="jquery.js"></script>
<script type="text/javascript">
$(document).ready(function(){
  $("button").click(function(){
    $("#div1").height("200px");
  });
});
</script>
</head>

<body>
<div id="div1" style="background:yellow;height:100px;width:100px">HELLO</div>
<div style="background:yellow;height:100px;width:100px">W3SCHOOLS</div>
<button>Click me</button>
</body>
</html>
```

JQEx30.html

```
<html>
```

```
<head>
<script type="text/javascript" src="jquery.js"></script>
<script type="text/javascript">
$(document).ready(function(){
  $("button").click(function(){
    $("#div2").width("300px");
  });
});
</script>
</head>

<body>
<div style="background:yellow;height:100px;width:100px">HELLO</div>
<div id="div2" style="background:yellow;height:100px;width:100px">W3SCHOOLS</div>
<button>Click me</button>
</body>
</html>
```

Query AJAX methods

jQuery has a rich library of methods (functions) for AJAX development.

JQEx31.html

```
<html>
<head>
<script type="text/javascript" src="jquery.js"></script>
<script type="text/javascript">
$(document).ready(function(){
  $("button").click(function(){
    $("div").load('test1.txt');
  });
});
</script>
</head>
<body>

<div><h2>Let AJAX change this text</h2></div>
<button>Change Content</button>

</body>
</html>
```

test1.txt

AJAX is not a programming language.

It is just a technique for creating better and more interactive web applications.

Low Level AJAX

JQEx32.html

```
<html>
<head>
```

```

<script type="text/javascript" src="jquery.js"></script>
<script type="text/javascript">
$(document).ready(function(){
$("#button").click(function(){
$.ajax({url:"test1.txt", success:function(result){
$("#div").html(result);
}});
});});
</script>
</head>
<body>

<div><h2>Let AJAX change this text</h2></div>
<button>Change Content</button>
</body>
</html>

```

jQuery AJAX Methods

Request	Description
\$(selector).load(url, data, callback)	Load remote data into selected elements
\$.ajax(options)	Load remote data into an XMLHttpRequest object

jQuery.post() method

jQuery.post(url, [data], [callback], [type])

This jQuery.post() method submits HTML form to server using AJAX POST method.

Parameters:

Here is the description of all the parameters used by this method:

- **url**: A string containing the URL to which the request is sent
- **data**:: This optional parameter represents key/value pairs or the return value of the .serialize() function that will be sent to the server.
- **callback**:: This optional parameter represents a function to be executed whenever the data is loaded successfully.
- **type**:: This optional parameter represents a type of data to be returned to callback function: "xml", "html", "script", "json", "jsonp", or "text".

jqEx33.html

```

<html>
<head>
<title>the title</title>
<script type="text/javascript"
src="/jquery/jquery-1.3.2.min.js"></script>
<script type="text/javascript" language="javascript">
$(document).ready(function() {
$("#driver").click(function(event){
$.post(
"/jquery/result.php",
{ name: "Zara" },
function(data) {
$("#stage").html(data);
}
);
});
});

```

```

</script>
</head>
<body>
  <p>Click on the button to load result.html file:</p>
  <div id="stage" style="background-color:blue;">
    STAGE
  </div>
  <input type="button" id="driver" value="Load Data" />
</body>
</html>

```

jqEx33.jsp

Welcome <%=request.getParameter("name")%>.

jQuery.getJSON() method

There would be a situation when server would return JSON string against your request. JQuery utility function **getJSON()** parses the returned JSON string and makes the resulting string available to the callback function as first parameter to take further action.

```
[selector].getJSON( URL, [data], [callback] );
```

Here is the description of all the parameters:

- **URL:** The URL of the server-side resource contacted via the GET method.
- **data:** An object whose properties serve as the name/value pairs used to construct a query string to be appended to the URL, or a preformatted and encoded query string.
- **callback:** A function invoked when the request completes. The data value resulting from digesting the response body as a JSON string is passed as the first parameter to this callback, and the status as the second.

jqEx34.html

```

<html>
<head>
<title>the title</title>
  <script type="text/javascript"
  src="/jquery/jquery-1.3.2.min.js"></script>
  <script type="text/javascript" language="javascript">
  $(document).ready(function() {
    $("#driver").click(function(event){
      $.getJSON('/jquery/result.json', function(jd) {
        $('#stage').html('<p> Name: ' + jd.name + '</p>');
        $('#stage').append('<p>Age : ' + jd.age+ '</p>');
        $('#stage').append('<p> Sex: ' + jd.sex+ '</p>');
      });
    });
  });
</script>
</head>
<body>
  <p>Click on the button to load result.html file:</p>
  <div id="stage" style="background-color:blue;">
    STAGE
  </div>
  <input type="button" id="driver" value="Load Data" />
</body>
</html>

```

/jquery/result.json

```

{
"name": "Zara Ali",
"age" : "67",
"sex": "female"

```

```
}
```
