jQuery

....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

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**jQuery Syntax**

The jQuery syntax is tailor made for selecting HTML elements and

perform some action on the element(s).

Basic syntax is: $(selector).action()

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**document.ready() :**

This is to prevent any jQuery code from running before the document is finished

loading (is ready).

Here are some examples of actions that can fail if functions are run before the

document is fully loaded:

•Trying to hide an element that doesn't exist

•Trying to get the size of an image that is not loaded

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<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>

....

<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>

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**Alternatives to Downloading**

Google

<head>

<script type="text/javascript" src="http://ajax.googleapis.com/ajax/libs/jquery/1.4.2/jquery.min.js"></script>

</head>

Microsoft

<head>

<script type="text/javascript" src="http://ajax.microsoft.com/ajax/jquery/jquery-1.4.2.min.js"></script>

</head>

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**jQuery Syntax Examples**

$(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".

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**jQuery Element Selectors**

jQuery uses CSS selectors to select HTML elements.

$("p") selects all <p> elements.

$("p.intro") selects all <p> elements with class="intro".

$("p#demo") selects all <p> elements with id="demo".

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jQuery Attribute Selectors

jQuery uses XPath expressions to select elements with given attributes.

$("[href]") select all elements with an href attribute.

$("[href='#']") select all elements with an href value equal to "#".

$("[href!='#']") select all elements with an href attribute NOT equal to "#".

$("[href$='.jpg']") select all elements with an href attribute that ends with ".jpg".

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**jQuery CSS Selectors**

jQuery CSS selectors can be used to change CSS properties for HTML elements.

The following example changes the background-color of all p elements to yellow:

Example

<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>

**Syntax Description**

$(this)

Current HTML element

$("p")

All <p> elements

$("p.intro")

All <p> elements with class="intro"

$("p#intro")

All <p> elements with id="intro"

$("p#intro:first")

The first <p> element with id="intro"

$(".intro")

All elements with class="intro"

$("#intro")

The first element with id="intro"

$("ul li:first")

The first <li> element of the first <ul>

$("ul li:first-child")

The first <li> element of every <ul>

$("[href$='.jpg']")

All elements with an href attribute that ends with ".jpg"

$("div#intro .head")

All elements with class="head" inside a <div> element with id="intro"

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jQuery Events

Here are some examples of event methods in jQuery:

Event Method

Description

$(document).ready(function)

Binds a function to the ready event of a document

(when the document is finished loading)

$(selector).click(function)

Triggers, or binds a function to the click event of selected elements

$(selector).dblclick(function)

Triggers, or binds a function to the double click event of selected elements

$(selector).focus(function)

Triggers, or binds a function to the focus event of selected elements

$(selector).mouseover(function)

Triggers, or binds a function to the mouseover event of selected elements

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jQuery Event Methods

Event methods trigger, or bind a function to an event for all matching elements.

Trigger example:

$("button").click() - triggers the click event for a button element.

Binding example:

$("button").click(function(){$("img").hide()}) - binds a function to the click event.

The following table lists all the methods used to handle events.

Method

Description

bind()

Add one or more event handlers to matching elements

blur()

Triggers, or binds a function to the blur event of selected elements

change()

Triggers, or binds a function to the change event of selected elements

click()

Triggers, or binds a function to the click event of selected elements

dblclick()

Triggers, or binds a function to the dblclick event of selected elements

delegate()

Add one or more event handlers to current, or future, specified child elements of the matching elements

die()

Remove all event handlers added with the live() function

error()

Triggers, or binds a function to the error event of selected elements

event.currentTarget

The current DOM element within the event bubbling phase

event.data

Contains the optional data passed to jQuery.fn.bind when the current executing handler was bound

event.isDefaultPrevented()

Returns whether event.preventDefault() was called for the event object

event.isImmediatePropagationStopped()

Returns whether event.stopImmediatePropagation() was called for the event object

event.isPropagationStopped()

Returns whether event.stopPropagation() was called for the event object

event.pageX

The mouse position relative to the left edge of the document

event.pageY

The mouse position relative to the top edge of the document

event.preventDefault()

Prevents the default action of the event

event.relatedTarget

The other DOM element involved in the event, if any

event.result

This attribute contains the last value returned by an event handler that was triggered by this event, unless the value was undefined

event.stopImmediatePropagation()

Prevents other event handlers from being called

event.stopPropagation()

Prevents the event from bubbling up the DOM tree, preventing any parent handlers from being notified of the event

event.target

The DOM element that initiated the event

event.timeStamp

This attribute returns the number of milliseconds since January 1, 1970, when the event is triggered

event.type

Describes the nature of the event

event.which

Which key or button was pressed for a key or button event

focus()

Triggers, or binds a function to the focus event of selected elements

focusin()

Binds a function to the focusin event of selected elements

focusout()

Binds a function to the focusout event of selected elements

hover()

Binds one or two functions to the hover event of selected elements

keydown()

Triggers, or binds a function to the keydown event of selected elements

keypress()

Triggers, or binds a function to the keypress event of selected elements

keyup()

Triggers, or binds a function to the keyup event of selected elements

live()

Add one or more event handlers to current, or future, matching elements

load()

Triggers, or binds a function to the load event of selected elements

mousedown()

Triggers, or binds a function to the mouse down event of selected elements

mouseenter()

Triggers, or binds a function to the mouse enter event of selected elements

mouseleave()

Triggers, or binds a function to the mouse leave event of selected elements

mousemove()

Triggers, or binds a function to the mouse move event of selected elements

mouseout()

Triggers, or binds a function to the mouse out event of selected elements

mouseover()

Triggers, or binds a function to the mouse over event of selected elements

mouseup()

Triggers, or binds a function to the mouse up event of selected elements

one()

Add one or more event handlers to matching elements. This handler can only be triggered once per element

ready()

Binds a function to the ready event of a document

(when an HTML document is ready to use)

resize()

Triggers, or binds a function to the resize event of selected elements

scroll()

Triggers, or binds a function to the scroll event of selected elements

select()

Triggers, or binds a function to the select event of selected elements

submit()

Triggers, or binds a function to the submit event of selected elements

toggle()

Binds two or more functions to the toggle between for the click event for selected elements

trigger()

Triggers all events bound to the selected elements

triggerHandler()

Triggers all functions bound to a specified event for the selected elements

unbind()

Remove an added event handler from selected elements

undelegate()

Remove an event handler to selected elements, now or in the future

unload()

Triggers, or binds a function to the unload event of selected elements

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The Delegate Method

The delegate() method attaches one or more event handlers for specified elements that are children of selected elements, and specifies a function to run when the events occur.

Event handlers attached using the delegate() method will work for both current and FUTURE elements (like a new element created by a script).

Syntax

$(selector).delegate(childSelector,event,data,function)

<html>

<head>

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

<script type="text/javascript">

$(document).ready(function(){

$("div").delegate("button","click",function(){

$("p").slideToggle();

});

});

</script>

</head>

<body>

<div style="background-color:yellow">

<p>This is a paragraph.</p>

<button>Click me!</button>

</div>

</body>

</html>

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jQuery Event Functions

The jQuery event handling methods are core functions in jQuery.

Event handlers are method 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:

Example

<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 Hide and Show

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

<html>

<head>

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

<script type="text/javascript">

$(document).ready(function(){

$("#hide").click(function(){

$("p").hide(1000);

});

$("#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>

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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.

<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>

.................

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.

slide toggle

<html>

<head>

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

<script type="text/javascript">

$(document).ready(function(){

$(".flip").click(function(){

$(".panel").slideToggle("slow");//alternatively use slideUp/slideDown

});

});

</script>

<style type="text/css">

div.panel,p.flip

{

margin:0px;

padding:5px;

text-align:center;

background:#e5eecc;

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>

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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.

<html>

<head>

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

<script type="text/javascript">

$(document).ready(function(){

$("button").click(function(){

$("div").fadeTo("slow",0.25);

});

});

</script>

</head>

<body>

<div style="background:yellow;width:300px;height:300px">

<button>Click to Fade</button>

</div>

</body>

</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>

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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:

<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>

<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

Here are some examples of effect functions in jQuery:

|  |  |
| --- | --- |
| **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 Functions

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:

Example with Callback

<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:

<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 Manipulation

<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>

## Adding 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.

<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.

<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>

Summary

jQuery HTML Manipulation Methods From This Page:

|  |  |
| --- | --- |
| **Function** | **Description** |
| $(selector).html(content) | Changes the (inner) HTML of selected elements |
| $(selector).append(content) | Appends content to the (inner) HTML of selected elements |
| $(selector).after(content) | Adds HTML after selected elements |