# jQuery

jQuery is a fast, small, cross-platform and feature-rich JavaScript library. It is designed to simplify the client-side scripting of HTML. It makes things like HTML document traversal and manipulation, animation, event handling, and AJAX very simple with an easy-to-use API that works on a lot of different type of browsers.

jQuery is a small, light-weight and fast JavaScript library. It is cross-platform and supports different types of browsers. It is also referred as “write less do more” because it takes a lot of common tasks that requires many lines of JavaScript code to accomplish, and binds them into methods that can be called with a single line of code whenever needed. It is also very useful to simplify a lot of the complicated things from JavaScript, like AJAX calls and DOM manipulation.

The main purpose of jQuery is to provide an easy way to use JavaScript on your website to make it more interactive and attractive. It is also used to add animation.

* jQuery is a small, fast and lightweight JavaScript library.
* jQuery is platform-independent.
* jQuery means "write less do more".
* jQuery simplifies AJAX call and DOM manipulation.

## jQuery Features

Following are the important features of jQuery.

* HTML manipulation
* DOM manipulation
* DOM element selection
* CSS manipulation
* Effects and Animations
* Utilities
* AJAX
* HTML event methods
* JSON Parsing
* Extensibility through plug-ins

## Why jQuery is required

Sometimes, a question can arise that what is the need of jQuery or what difference it makes on bringing jQuery instead of AJAX/ JavaScript? If jQuery is the replacement of AJAX and JavaScript? For all these questions, you can state the following answers.

* It is very fast and extensible.
* It facilitates the users to write UI related function codes in minimum possible lines.
* It improves the performance of an application.
* Browser's compatible web applications can be developed.
* It uses mostly new features of new browsers.

So, you can say that out of the lot of JavaScript frameworks, jQuery is the most popular and the most extendable. Many of the biggest companies on the web use jQuery. Some of these companies are:

* Microsoft
* Google
* IBM
* Netflix

# jQuery History

jQuery was first released in January 2006 by **John Resig** at BarCamp NYC. It is currently headed by Timmy Wilson and maintained by a team of developers. Nowadays, jQuery is widely used technology. Most of the websites are using jQuery.

### jQuery Release History

|  |  |
| --- | --- |
| **Version No.** | **Release Date** |
| 1.0 | 26,August,2006 |
| 1.1 | 14,January,2007 |
| 1.2 | 10, September, 2007 |
| 1.3 | 14, January, 2009 |
| 1.4 | 14, January, 2010 |
| 1.5 | 31, January, 2011 |
| 1.6 | 3, May, 2011 |
| 1.7 | 3, November, 2011 |
| 1.8 | 9, August, 2012 |
| 1.9 | 15, January, 2013 |
| 1.10 | 24,May, 2013 |
| 1.11 | 24, January, 2014 |
| 2.0 | 18, April, 2013 |
| 2.1 | 24, January, 2014 |

jQuery is developed by Google. To create the first jQuery example, you need to use JavaScript file for jQuery. You can download the jQuery file from jquery.com or use the absolute URL of jQuery file.

In this jQuery example, we are using the absolute URL of jQuery file. The jQuery example is written inside the script tag.

Let's see a simple example of jQuery.

**Ckkjq001.html**

<!DOCTYPE html>

<html>

<head>

<title>Checking of jQuery</title>

<script type="text/javascript" src="c:\jquery-3.3.1.min.js">

</script>

<script type="text/javascript" language="javascript">

$(document).ready(function()

{

$("p").css("background-color", "cyan");

});

</script>

</head>

<body>

<p>God is greta - First time</p>

<p>God is great - Seond time</p>

<p>God is great - third time</p>

</body>

</html>

## $(document).ready() and $()

The code inserted between $(document).ready() is executed only once when page is ready for JavaScript code to execute.

In place of $(document).ready(), you can use shorthand notation $() only.

$(document).ready(function() {

$("p").css("color", "red");

});

The above code is equivalent to this code.

$(function() {

$("p").css("color", "red");

});

Let's see the full example of jQuery using shorthand notation $().

**Ckkjq002.html**

## <!DOCTYPE html>

## <html>

## <head>

## <title>Second jQuery Example</title>

## <script type="text/javascript" src="c:\jquery-3.3.1.min.js">

## </script>

## <script type="text/javascript" language="javascript">

## $(function()

## {

## $("p").css("color", "red");

## });

## </script>

## </head>

## <body>

## <p>God is greta - First time</p>

## <p>God is great - Seond time</p>

## <p>God is great - third time</p>

## </body>

## </html>

## function() { $("p").css("background-color", "cyan"); }

It changes the background-color of all <p> tag or paragraph to cyan.

# jQuery Selectors

jQuery Selectors are used to select and manipulate HTML elements. They are very important part of jQuery library. With jQuery selectors, you can find or select HTML elements based on their id, classes, attributes, types and much more from a DOM.

In simple words, you can say that selectors are used to select one or more HTML elements using jQuery and once the element is selected then you can perform various operation on that.

All jQuery selectors start with a dollor sign and parenthesis e.g. $(). It is known as the factory function. The $() factory function. It uses the three basic building blocks while selecting an element in a given document.

|  |  |  |
| --- | --- | --- |
| **S.No.** | **Selector** | **Description** |
| 1) | Tag Name: | It represents a tag name available in the DOM. For example: $('p') selects all paragraphs 'p' in the document. |
| 2) | Tag ID: | It represents a tag available with a specific ID in the DOM. For example: $('#real-id') selects a specific element in the document that has an ID of real-id. |
| 3) | Tag Class: | It represents a tag available with a specific class in the DOM. For example: $('real-class') selects all elements in the document that have a class of real-class. |

Note: 1. All of the above discussed selectors can be used alone or with the combination of other selectors.

Note: 2. If you have any confliction with the use of dollor sign $ in any JavaScript library then you can use jQuery() function instead of factory function $(). The factory function $() and the jQuery function is the same.

## How to use Selectors

The jQuery selectors can be used single or with the combination of other selectors. They are required at every steps while using jQuery. They are used to select the exact element that you want from your HTML document.

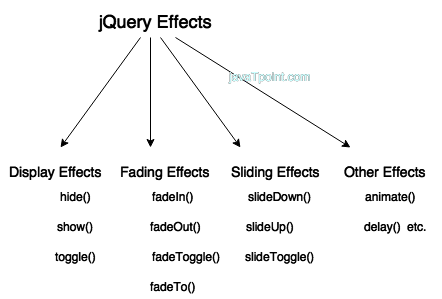
|  |  |  |
| --- | --- | --- |
| **S.No.** | **Selector** | **Description** |
| 1) | Name: | It selects all elements that match with the given element name. |
| 2) | #ID: | It selects a single element that matches with the given id. |
| 3) | .Class: | It selects all elements that matches with the given class. |
| 4) | Universal(\*) | It selects all elements available in a DOM. |
| 5) | Multiple Elements A,B,C | It selects the combined results of all the specified selectors A,B and C. |

## Different jQuery Selectors

|  |  |  |
| --- | --- | --- |
| **Selector** | **Example** | **Description** |
| \* | $("\*") | It is used to select all elements. |
| #id | $("#firstname") | It will select the element with id="firstname" |
| .class | $(".primary") | It will select all elements with class="primary" |
| class,.class | $(".primary,.secondary") | It will select all elements with the class "primary" or "secondary" |
| Element | $("p") | It will select all p elements. |
| el1,el2,el3 | $("h1,div,p") | It will select all h1, div, and p elements. |
| :first | $("p:first") | This will select the first p element |
| :last | $("p:last") | This will select he last p element |
| :even | $("tr:even") | This will select all even tr elements |
| :odd | $("tr:odd") | This will select all odd tr elements |
| :first-child | $("p:first-child") | It will select all p elements that are the first child of their parent |
| :first-of-type | $("p:first-of-type") | It will select all p elements that are the first p element of their parent |
| :last-child | $("p:last-child") | It will select all p elements that are the last child of their parent |
| :last-of-type | $("p:last-of-type") | It will select all p elements that are the last p element of their parent |
| :nth-child(n) | $("p:nth-child(2)") | This will select all p elements that are the 2nd child of their parent |
| :nth-last-child(n) | $("p:nth-last-child(2)") | This will select all p elements that are the 2nd child of their parent, counting from the last child |
| :nth-of-type(n) | $("p:nth-of-type(2)") | It will select all p elements that are the 2nd p element of their parent |
| :nth-last-of-type(n) | $("p:nth-last-of-type(2)") | This will select all p elements that are the 2nd p element of their parent, counting from the last child |
| :only-child | $("p:only-child") | It will select all p elements that are the only child of their parent |
| :only-of-type | $("p:only-of-type") | It will select all p elements that are the only child, of its type, of their parent |
| parent > child | $("div > p") | It will select all p elements that are a direct child of a div element |
| parent descendant | $("div p") | It will select all p elements that are descendants of a div element |
| element + next | $("div + p") | It selects the p element that are next to each div elements |
| element ~ siblings | $("div ~ p") | It selects all p elements that are siblings of a div element |
| :eq(index) | $("ul li:eq(3)") | It will select the fourth element in a list (index starts at 0) |
| :gt(no) | $("ul li:gt(3)") | Select the list elements with an index greater than 3 |
| :lt(no) | $("ul li:lt(3)") | Select the list elements with an index less than 3 |
| :not(selector) | $("input:not(:empty)") | Select all input elements that are not empty |
| :header | $(":header") | Select all header elements h1, h2 ... |
| :animated | $(":animated") | Select all animated elements |
| :focus | $(":focus") | Select the element that currently has focus |
| :contains(text) | $(":contains('Hello')") | Select all elements which contains the text "Hello" |
| :has(selector) | $("div:has(p)") | Select all div elements that have a p element |
| :empty | $(":empty") | Select all elements that are empty |
| :parent | $(":parent") | Select all elements that are a parent of another element |
| :hidden | $("p:hidden") | Select all hidden p elements |
| :visible | $("table:visible") | Select all visible tables |
| :root | $(":root") | It will select the document's root element |
| :lang(language) | $("p:lang(de)") | Select all p elements with a lang attribute value starting with "de" |
| [attribute] | $("[href]") | Select all elements with a href attribute |
| [attribute=value] | $("[href='default.htm']") | Select all elements with a href attribute value equal to "default.htm" |
| [attribute!=value] | $("[href!='default.htm']") | It will select all elements with a href attribute value not equal to "default.htm" |
| [attribute$=value] | $("[href$='.jpg']") | It will select all elements with a href attribute value ending with ".jpg" |
| [attribute|=value] | $("[title|='Tomorrow']") | Select all elements with a title attribute value equal to 'Tomorrow', or starting with 'Tomorrow' followed by a hyphen |
| [attribute^=value] | $("[title^='Tom']") | Select all elements with a title attribute value starting with "Tom" |
| [attribute~=value] | $("[title~='hello']") | Select all elements with a title attribute value containing the specific word "hello" |
| [attribute\*=value] | $("[title\*='hello']") | Select all elements with a title attribute value containing the word "hello" |
| :input | $(":input") | It will select all input elements |
| :text | $(":text") | It will select all input elements with type="text" |
| :password | $(":password") | It will select all input elements with type="password" |
| :radio | $(":radio") | It will select all input elements with type="radio" |
| :checkbox | $(":checkbox") | Itwill select all input elements with type="checkbox" |
| :submit | $(":submit") | It will select all input elements with type="submit" |
| :reset | $(":reset") | It will select all input elements with type="reset" |
| :button | $(":button") | It will select all input elements with type="button" |
| :image | $(":image") | It will select all input elements with type="image" |
| :file | $(":file") | It will select all input elements with type="file" |
| :enabled | $(":enabled") | Select all enabled input elements |
| :disabled | $(":disabled") | It will select all disabled input elements |
| :selected | $(":selected") | It will select all selected input elements |
| :checked | $(":checked") | It will select all checked input elements |

# jQuery Effects

jQuery enables us to add effects on a web page. jQuery effects can be categorized into fading, sliding, hiding/showing and animation effects.



jQuery provides many methods for effects on a web page. A complete list of jQuery effect methods are given below:

|  |  |  |
| --- | --- | --- |
| **No.** | **Method** | **Description** |
| 1) | animate() | performs animation. |
| 2 | clearQueue() | It is used to remove all remaining queued functions from the selected elements. |
| 3) | delay() | sets delay execution for all the queued functions on the selected elements. |
| 4 | dequeue() | It is used to remove the next function from the queue, and then execute the function. |
| 5) | fadein() | shows the matched elements by fading it to opaque. In other words, it fades in the selected elements. |
| 6) | fadeout() | shows the matched elements by fading it to transparent. In other words, it fades out the selected elements. |
| 7) | fadeto() | adjusts opacity for the matched element. In other words, it fades in/out the selected elements. |
| 8) | fadetoggle() | shows or hides the matched element. In other words, toggles between the fadeIn() and fadeOut() methods. |
| 9) | finish() | It stops, removes and complete all queued animation for the selected elements. |
| 10) | hide() | hides the matched or selected elements. |
| 11) | queue() | shows or manipulates the queue of methods i.e. to be executed on the selected elements. |
| 12) | show() | displays or shows the selected elements. |
| 13) | slidedown() | shows the matched elements with slide. |
| 14) | slidetoggle() | shows or hides the matched elements with slide. In other words, it is used to toggle between the slideUp() and slideDown() methods. |
| 15) | slideup() | hides the matched elements with slide. |
| 16) | stop() | stops the animation which is running on the matched elements. |
| 17) | toggle() | shows or hides the matched elements. In other words, it toggles between the hide() and show() methods. |