

Web Development

jQuery and Ajax



jQuery

jQuery is a JavaScript Library.

jQuery greatly simplifies JavaScript programming.

jQuery is easy to learn.

jQuery Selectors

- jQuery selectors are one of the most important parts of the jQuery library.
- jQuery selectors allow you to select and manipulate HTML element(s).
- jQuery selectors are used to "find" (or select) HTML elements based on their name, id, classes, types, attributes, values of attributes and much more. It's based on the existing CSS Selectors, and in addition, it has some own custom selectors.
- All selectors in jQuery start with the dollar sign and parentheses: \$().

jQuery Selectors - Demo

- 03-01-selecting-id-class
- 03-02-selecting-multiple
- 03-03-selecting-descendent
- 03-04-selecting-attribute
- 04-01-traversing-find
- 04-02-traversing-children
- 04-03-traversing-first-last-prev-next
- 04-04-traversing-parents



jQuery Event

- jQuery is tailor-made to respond to events in an HTML page.
- All the different visitors' actions that a web page can respond to are called events.
- An event represents the precise moment when something happens
 - moving a mouse over an element
 - selecting a radio button
 - clicking on an element

The on() Method

The on() method attaches one or more event handlers for the selected elements.

Attach a click event to a <p> element:

```
$("#p").on("click", function(){  
    $(this).hide();  
});
```


jQuery Event - Demo

- 05-01-events-click
- 05-02-event-delegation
- 05-03-event-select
- 05-04-event-change
- 05-05-event-keys
- 05-06-preventDefault



jQuery DOM Manipulation

- With jQuery, it is easy to add new elements/content. Like
 - `append()` - Inserts content at the end of the selected elements
 - `prepend()` - Inserts content at the beginning of the selected elements
 - `after()` - Inserts content after the selected elements
 - `before()` - Inserts content before the selected elements
- With jQuery, it is easy to remove existing HTML elements.
 - `remove()` - Removes the selected element (and its child elements)
 - `empty()` - Removes the child elements from the selected element
- With jQuery, it is easy to manipulate the style of elements.
 - `addClass()` - Adds one or more classes to the selected elements
 - `removeClass()` - Removes one or more classes from the selected elements
 - `toggleClass()` - Toggles between adding/removing classes from the selected elements
 - `css()` - Sets or returns the style attribute

jQuery DOM Manipulation- Demo

- 06-01-manipulation-append-prepend
- 06-02-manipulation-before-after
- 06-03-manipulation-remove
- 06-04-manipulation-html-empty-text-attr
- 07-01-show-hide-toggle
- 07-02-fadeIn-fadeOut-fadeToggle
- 07-03-slideDown-slideUp-slideToggle



jQuery Animation

- With jQuery, you can create custom animations.
- The jQuery `animate()` method is used to create custom animations.

- **Syntax:**

```
$(selector).animate({params}, speed, callback);
```

- The required `params` parameter defines the CSS properties to be animated.
- The optional `speed` parameter specifies the duration of the effect. It can take the following values: "slow", "fast", or milliseconds.
- The optional `callback` parameter is a function to be executed after the animation completes.

```
$("#button").click(function(){  
    $("#div").animate({left: '250px'});  
});
```

jQuery Animation - Demo

- 07-04-animate



jQuery Ajax (1 of 2)

- AJAX is the art of exchanging data with a server and updating parts of a web page - without reloading the whole page.
- What is AJAX?
- AJAX = Asynchronous JavaScript and XML.
- In short; AJAX is about loading data in the background and display it on the webpage, without reloading the whole page.
- Examples of applications using AJAX: Gmail, Google Maps, Youtube, and Facebook tabs.

jQuery Ajax (2 of 2)

- What About jQuery and AJAX?
 - jQuery provides several methods for AJAX functionality.
 - With the jQuery AJAX methods, you can request text, HTML, XML, or JSON from a remote server using both HTTP Get and HTTP Post - And you can load the external data directly into the selected HTML elements of your web page!
- **Without jQuery, AJAX coding can be a bit tricky!**

jQuery Ajax- Demo

- 08-01-ajax
- 08-02-ajax-complete
- 08-03-ajax-fail
- 08-04-ajax-json-get
- 08-05-ajax-json-cart



jQuery Form

- jQuery can submit the form using ajax to the server.
- It can handle prevent default.

jQuery Form - Demo

- 09-01-forms-checkbox
- 09-02-forms-select
- 09-03-forms-ajax



jQuery Misc Methods

Method	Description
<u>data()</u>	Attaches data to, or gets data from, selected elements
<u>each()</u>	Execute a function for each matched element
<u>get()</u>	Get the DOM elements matched by the selector
<u>index()</u>	Search for a given element from among the matched elements
<u>\$.noConflict()</u>	Release jQuery's control of the \$ variable
<u>\$.param()</u>	Create a serialized representation of an array or object (can be used as URL query string for AJAX requests)
<u>removeData()</u>	Removes a previously-stored piece of data
<u>size()</u>	Removed in version 3.0. Use the <u>length</u> property instead
<u>toArray()</u>	Retrieve all the DOM elements contained in the jQuery set, as an array

Links

- <https://api.jquery.com>
- <http://jqapi.com/>
- <https://learn.jquery.com/>
- <https://www.w3schools.com/jquERy/default.asp>
- https://www.w3schools.com/js/js_ajax_intro.asp