

JQuery

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JQuery

- JavaScript library aimed at simplifying some common operations
- Available for download at jquery.com (but also available from some CDNs)
- Allows an easier
 - access to the various elements in the document
 - definition of actions to execute in response to specific events
 - creation of animations
- **Drawback:** it can slow down the page download (smallest version is about 100KBytes)

Format

`$ (selector) .action()`

- *selector*
 - Defines the HTML element on which the action should be performed
 - Syntax is similar to CSS
- *action*
 - Function (among the standard available ones) to be executed (may be the registration of an event handler)

List of some handled events

change	keydown	ready
click	keypress	resize
dblclick	keyup	scroll
die	load	select
error	mousedown	submit
focus	mouseup	unload
focusin	mouseenter	
focusout	mouseleave	
hover	mouseover	

To use the JQuery library

- Import the library

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

file
containing
the library



- Insert all calls in:

```
<script type="text/javascript">
$(document).ready(function() {.....
    /* JQuery code */}) </script>
```

so that the whole code can be executed only when the page is ready

Some examples of selectors

<code>\$ ("p")</code>	all <code><p></code> elements in the document
<code>\$ ("p.c")</code>	all <code><p class=c></code> elements
<code>\$ ("p#mine")</code>	all <code><p id=mine></code> elements
<code>\$ ("#mine")</code>	All elements with <code>id=mine</code>
<code>\$ (".c")</code>	All elements with <code>class=c</code>
<code>\$ (":input")</code>	All input elements (including buttons)
<code>\$ (":submit")</code>	All elements with <code>type="submit"</code>

Other possible selectors

<code>\$ (" [href=default.htm] ")</code>	All elements with attribute href=default.htm
<code>\$ ("ul li:first")</code>	The first elements of a list
<code>\$ ("ul li:eq(3) ")</code>	The fourth elements of a list
<code>\$ (":visible")</code>	All visible elements
<code>\$ (":header")</code>	All h1, h2, h3, ... elements
<code>\$ ("td, th")</code>	All <th> and <td> elements
<code>\$ (":empty" }</code>	All elements without children

Example: hiding

jqhide.html



- JQuery

```
<script type=text/javascript>
$(document).ready(function() {
    $("button#text").click(function() {
        $("p").hide();
    })
    $("button#pic").click(function() {
        $("img").hide();
    });
});
</script>
```

- HTML

```
<body>
<img src=questions.jpg width=300 height=300> <br>
<button id=pic> Hide image</button>
<br><br><br>
<p> Text to be hidden </p><br>
<button id=text>Hide text</button>
</body>
```


Other possible actions

- `hide(speed, callback)`
- `show(speed, callback)`
- `toggle(speed, callback)`
 - *speed* : changing rate, either use standard values ("slow", "fast", "normal") or milliseconds (ms)
 - *callback* function to be called at the end of the change

[jqtoggle.html](#)



Slide effects

jqslide.html



- `slideDown (speed, callback)`
- `slideUp (speed, callback)`
- `slideToggle (speed, callback)`
- Example

```
<script type="text/javascript">
$(document).ready(function() {
  $(".flip").click(function() {
    $(".panel").slideToggle("slow");
  });
});
</script>
```

Style and HTML

- Style definitions

```
<style type="text/css">
div.panel,p.flip {margin:0px; padding:5px; text-align:center;width:500;background:#e5eecd;border:solid 1px #c3c3c3;}
div.panel { height:120px;display:none; }
</style>
```

- HTML

```
<body>
<div class="panel">
<p>Element that appears or disappears</p>
<p>with slide effect</p>
</div>
<p class="flip">Show/Hide</p>
</body>
```

Opacity effects

jqfade.html



- `fadeIn (speed, callback)`
- `fadeOut (speed, callback)`
- `fadeTo (speed, opacity, callback)`
- Example, to be added to the previous example

```
$("button#fade").click(function() {  
  $(".panel, .flip").fadeTo("slow", 0.25);  
});  
.....  
<button id=fade>Fade</button>
```

Animations

- `animate ({ params } , [duration] , [easing] , [callback])`
 - *params* style parameters to animate, this states the final values after the animation
 - *duration* ms or "fast", "normal", "slow"
 - *easing* function that states how the variation should progress, two standard values are available:
 - `linear` and `swing`
 - *callback* callback function

Example

jghello.html



- Modify dimensions and opacity

```
$("#go").click(function() {  
    $("#block").animate({  
        width: "70%",  
        opacity: 0.4,  
        marginLeft: "13mm",  
        fontSize: "3em",  
        borderWidth: "10px"  
    }, 1500 );  
});
```

```
<head>  
<style> div {background-color:#bca; width:100px;  
            border:1px solid green;}  
</style>  
<script src="jquery.js" type="text/javascript"> </script>  
<script>.....</script>  
</head>  
<body>  
    <button id="go">&raquo; Run</button>  
    <div id="block">Hello!</div>
```

Example with relative movements

jqmove.html



```
<script>
$("#right").click(function() {
    $(".block").animate({"left": "+=50px"}, "slow");
});

$("#left").click(function() {
    $(".block").animate({"left": "-=50px"}, "swing");
});
</script>
```

```
<html><head>
  <style> div {position:absolute; background-color:#abc;
              left:50px; width:90px; height:90px;
              margin:5px;}
  </style>
  <script src="jquery.js"></script>
  <script>.....</script>
</head>
<body>
  <button id="left">&laquo;</button>
  <button id="right">&raquo;</button>
  <div class="block"></div>
```

Sequence of animations

jqblock.html

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

```
<head>
<script type="text/javascript" src="jquery.js"></script>
<script type="text/javascript"> .....</script>
</head>
<body>
<button>Start Animation</button><br/><br/>
<div style="background:#98bf21; height:100px; width:100px;
position:relative"> </div>
</body>
</html>
```


Changing HTML content

- **html(*string*)**
 - Replace the content of the selected HTML element
- **append(*string*)**
 - Append the string to the content of the selected HTML element
- **prepend(*string*)**
 - Add the string before the content of the selected HTML element
- **after(*string*)**
 - Add the string after (outside) the selected HTML element
- **before(*string*)**
 - Add the string before (outside) the selected HTML element

Example of text manipulation

jqtext.html



```
<script type="text/javascript">
$(document).ready(function() {
  $("#after").click(function() {
    $("div").after("Effect named after<br>");
  })
  $("#prepend").click(function() {
    $("div").prepend("Effect named prepend<br>");
  })
  $("#html").click(function() {
    $("div").html("New text<br>");
  })
});
</script>
```

```
<head>
<script type="text/javascript" src="jquery.js"></script>
<script type="text/javascript">.....</script>
</head>
<body>
<div style="background:#98bf21; height:300px; width:300px;
  position:relative"> Initial text </div>
<button id=after> AFTER</button>
<button id=prepend> PREPEND </button>
<button id=html> HTML </button>
```

Manipulating CSS

- **`css({css attributes})`**
 - Assign new values to the listed CSS attributes
- **`css(attribute[, value])`**
 - With *attribute* only, it returns the attribute value
 - With both parameters, assign the value to the attribute
- **`height(value) width(value)`**
 - Change the height or width of the selected element

Example with CSS

jqcss.html



- Script

```
<script type="text/javascript">
$(document).ready(function() {
    $("#para").click(function() {
        if($("#p").css("background-color")=="rgb(255, 255, 0)")
            $("#p").css("background-color","rgb(0, 255, 0)")
        else
            $("#p").css("background-color","rgb(255, 255, 0)");})
    $("#mag").click(function() {
        $("#div").height("+=100");
        $("#div").width("+=100");})
    $("#shr").click(function() {
        $("#div").height("-=100");
        $("#div").width("-=100");})
;})
</script>
```

- HTML

```
<html>
<head>
<script type="text/javascript" src="jquery.js"></script>
<script type="text/javascript"> .....</script>
</head>
<body>
<div style="background:#98bf21;height:300px;width:300px;
    position:relative">
<p>Text where we want to change background</p>
</div>
<button id=para> CHANGE</button><br>
<button id=mag> MAGNIFY</button>
<button id=shr> SHRINK </button>
</body>
</html>
```