

jQuery Cheat Sheet

1. Introduction to jQuery

What is jQuery?

- A fast, small, and feature-rich JavaScript library.
- Simplifies HTML document traversal, event handling, animation, and Ajax interactions.

Including jQuery

```
<script src="https://code.jquery.com/jquery-3.6.0.min.js"></script>
```

Basic Syntax

```
$(selector).action();
```

2. Selecting Elements

Basic Selectors

- **Element Selector:** `\$('element')`
- **ID Selector:** `\$('#id')`
- **Class Selector:** `\$('.class')`
- **Universal Selector:** `\$('*')`
- **Multiple Selectors:** `\$('selector1, selector2')`

Advanced Selectors

- **Descendant Selector:** `\$('parent descendant')`
- **Child Selector:** `\$('parent > child')`
- **Attribute Selector:** ` \$('[attribute]')`
- **Pseudo-classes:** `(':pseudo-class')`

Examples

```
$('p'); // Selects all <p> elements  
$('#myId'); // Selects element with id="myId"  
$('.myClass'); // Selects all elements with class="myClass"
```

```
$('#div p'); // Selects all <p> elements inside <div>
$('#ul > li'); // Selects all <li> elements that are direct children of
<ul>
$('#[href]'); // Selects all elements with an href attribute
$('#:first'); // Selects the first matched element
```

3. Manipulating DOM

Getting and Setting Content

- **Text:** `.text()`
- **HTML:** `.html()`
- **Value:** `.val()`

Examples

```
$('#p').text('New text'); // Sets text of all <p> elements
$('#div').html('<p>New HTML</p>'); // Sets HTML of all <div> elements
$('#input').val('New value'); // Sets value of input with id="input"
```

Manipulating Attributes

- **Get Attribute:** `.attr('attribute')`
- **Set Attribute:** `.attr('attribute', 'value')`
- **Remove Attribute:** `.removeAttr('attribute')`

Examples

```
$('#a').attr('href', 'https://example.com'); // Sets href attribute of
all <a> elements
$('#img').removeAttr('src'); // Removes src attribute from all <img>
elements
```

Manipulating Classes

- **Add Class:** `.addClass('class')`
- **Remove Class:** `.removeClass('class')`
- **Toggle Class:** `.toggleClass('class')`

Examples

```
$('#div').addClass('highlight'); // Adds class "highlight" to all <div>
elements
$('#p').removeClass('hidden'); // Removes class "hidden" from all <p>
elements
$('#button').toggleClass('active'); // Toggles class "active" on all
<button> elements
```

Manipulating CSS

- **Get CSS:** ``.css('property')``
- **Set CSS:** ``.css('property', 'value')``
- **Set Multiple CSS:** ``.css({'property1': 'value1', 'property2': 'value2'})``

Examples

```
$('#div').css('color', 'red'); // Sets color to red for all <div>
elements
$('#p').css({'background-color': 'yellow', 'font-size': '20px'}); //
Sets multiple CSS properties for all <p> elements
```

4. Event Handling

Basic Events

- **Click:** ``.click(function)``
- **Double Click:** ``.dblclick(function)``
- **Hover:** ``.hover(handlerIn, handlerOut)``
- **Key Press:** ``.keypress(function)``
- **Submit:** ``.submit(function)``

Examples

```
$('#button').click(function() {
    alert('Button clicked!');
});

$('#input').keypress(function(event) {
    console.log('Key pressed: ' + event.which);
});
```

Event Delegation

- **On:** `\.on('event', 'selector', function)`
- **Off:** `\.off('event')`

Examples

```
$('#ul').on('click', 'li', function() {  
    console.log('List item clicked');  
});
```

```
$('#button').off('click'); // Removes click event handler from all  
<button> elements
```

5. Effects and Animations

Basic Effects

- **Hide:** `\.hide()`
- **Show:** `\.show()`
- **Toggle:** `\.toggle()`

Examples

```
$('#p').hide(); // Hides all <p> elements  
$('#div').show(); // Shows all <div> elements  
$('#button').toggle(); // Toggles visibility of all <button> elements
```

Animations

- **Animate:** `\.animate({properties}, duration, easing, callback)`

Examples

```
$('#div').animate({  
    width: '200px',  
    height: '200px'  
}, 1000, 'linear', function() {  
    console.log('Animation complete');  
});
```

Fading

- **Fade In:** `.fadeIn()`
- **Fade Out:** `.fadeOut()`
- **Fade Toggle:** `.fadeToggle()`
- **Fade To:** `.fadeTo(duration, opacity)`

Examples

```
$('#div').fadeIn(); // Fades in all <div> elements
$('#p').fadeOut(); // Fades out all <p> elements
$('#button').fadeToggle(); // Toggles fading of all <button> elements
$('#img').fadeTo(1000, 0.5); // Fades all <img> elements to 50% opacity
over 1 second
```

6. Ajax

Basic Ajax Methods

- **Load:** `.load(url, data, callback)`
- **Get:** `.get(url, data, callback)`
- **Post:** `.post(url, data, callback)`

Examples

```
$('#result').load('ajax/test.html', function(response, status, xhr) {
    if (status == 'success') {
        console.log('Data loaded successfully');
    }
});
```

```
$.get('ajax/test.php', {name: 'John'}, function(data) {
    console.log('Response: ' + data);
});
```

```
$.post('ajax/test.php', {name: 'John'}, function(data) {
    console.log('Response: ' + data);
});
```

Advanced Ajax

- **Ajax Setup:** `$.ajaxSetup({options})`

- **Ajax Request:** `$.ajax(url, {options})`

Examples

```
$.ajaxSetup({
  timeout: 3000
});

$.ajax('ajax/test.php', {
  method: 'POST',
  data: {name: 'John'},
  success: function(data) {
    console.log('Response: ' + data);
  },
  error: function(xhr, status, error) {
    console.log('Error: ' + error);
  }
});
```

7. Utilities

Basic Utilities

- **Each:** `.each(function)`
- **Trim:** `$.trim(string)`
- **Is Function:** `$.isFunction(obj)`
- **Is Array:** `$.isArray(obj)`

Examples

```
$('li').each(function(index, element) {
  console.log('List item ' + index + ': ' + $(element).text());
});
```

```
var trimmed = $.trim(' Hello World '); // "Hello World"
var isFunc = $.isFunction(function() {}); // true
var isArr = $.isArray([1, 2, 3]); // true
```

Miscellaneous Utilities

- **Parse JSON:** `$.parseJSON(json)`
- **Global Ajax Event Handlers:** `$(document).ajaxStart(callback)`

Examples

```
var json = '{"name": "John", "age": 30}';
var obj = $.parseJSON(json); // {name: "John", age: 30}

$(document).ajaxStart(function() {
    console.log('Ajax request started');
});
```

8. Plugins

Using Plugins

- **Include Plugin:** ``<script src="plugin.js"></script>``
- **Initialize Plugin:** ``$('#selector').pluginName(options)``

Examples

```
<script src="jquery.plugin.js"></script>
<script>
    $('#div').pluginName({
        option1: 'value1',
        option2: 'value2'
    });
</script>
```

Creating Plugins

- **Basic Structure:** ``$.fn.pluginName = function(options) { ... }``

Example

```
$.fn.myPlugin = function(options) {
    var settings = $.extend({
        color: 'red',
        size: '20px'
    }, options);

    return this.each(function() {
        $(this).css({
            color: settings.color,
            fontSize: settings.size
        });
    });
};

$('p').myPlugin({color: 'blue', size: '30px'});
```

9. Best Practices

Performance Tips

- **Cache Selectors:** ``var $div = $('div');``
- **Minimize DOM Manipulation:** Use ``.html()`` or ``.text()`` instead of multiple ``.append()`` calls.
- **Use Event Delegation:** Attach events to parent elements instead of individual elements.

Code Organization

- **Modularize Code:** Split code into functions or modules.
- **Use Namespaces:** Avoid conflicts by using namespaces.

Security

- **Sanitize Input:** Validate and sanitize user inputs.
- **Avoid Inline Scripts:** Use external scripts and avoid inline scripts.

10. Troubleshooting

Common Issues

- **Uncaught ReferenceError:** Ensure jQuery is included before your script.
- **Event Not Firing:** Check if the selector is correct and the element exists.
- **Performance Issues:** Profile your code using browser developer tools.

Debugging Tips

- **Use ``.console.log()``:** Log variables and states to the console.
- **Check Network Requests:** Use the Network tab in developer tools.
- **Inspect Elements:** Use the Elements tab to inspect and modify DOM elements.

This cheat sheet provides a comprehensive overview of jQuery, covering essential features, shortcuts, tips, and tricks. Use it as a quick reference to enhance your jQuery skills and streamline your development process.

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