

# jQuery – JavaScript Library

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# jQuery is a JavaScript Library

- Why use JavaScript?
  - Build responsive User Interfaces
    - Don't need to query server for UI actions
    - Menus, input validation, navigation
  - Move processing from server to browser
    - Servers are busy, browsers idle
  - Use AJAX for partial updates
    - Render some small part of screen instead of a full page

# Why use jQuery?

- Strong cross-browser support
  - Chrome, FireFox, Edge, IE, Safari, Opera
  - Includes legacy browsers
- CSS selector syntax
  - Easy to understand and use
- Extensible
  - Your custom functionality
  - Plugins, e.g., calendars, grids, ...

# Basics

- `$(selector)` is a factory method that creates jQuery objects matching selector
- `$(document).ready(function() {  
    $("p").click(function() {  
        $(this).hide();  
    });  
});`

# CSS style Selectors

- p element name
- #id identifier
- .class classname
- p.class element with class
- p a anchor that is descendant of p
- p > a anchor that is direct child of p

# XPath Selectors

- `/html/body//div` all divs anywhere in body
- `A[@href]` anchor with an href attrib.
- `div[ol]` div with an ordered list
- `//a[@ref="nofollow"]` any anchor with a specific value for the ref attribute

# Filters

- p:first first paragraph
- li:last last list item
- a:nth(3) fourth link
- a:eq(3) fourth link
- p:even every other paragraph
- a:gt(3) every link after 4th
- a:contains('click') links containing word click

# Chaining

- jQuery methods can be chained:
  - `$("#a.contains('home')).parent().addClass("emph");`



# Changing Styles

- `.css('property','value')`
  - `$(‘p’).css(‘color’,‘maroon’);`
- `.css({‘pr1’:‘val1’, ‘pr2’:‘val2’, ... })`

# Changing Markup

- `$('#<b>CSE686</b>')`
  - Creates a new text node
- `$('#<b>CSE686</b>').insertAfter('div.chapter p');`
  - Creates element and inserts after paragraph in div with chapter

# Summary

- jQuery Supports
  - Selecting and modifying DOM elements
  - Adding and removing DOM elements
  - Adding, editing, and removing styles from a selected set of elements
  - Adding event handlers
  - AJAX: asynchronous JavaScript and XML
    - Communicate with server without page refresh

# Selection - [W3Schools.com](http://W3Schools.com)

- Select DOM elements by:
  - DOM element, e.g., p, li, div
  - Element id name
  - Element attribute, e.g., href
  - Attribute value, e.g., href="some.htm"
  - CSS class
  - Contained text
  - Properties, e.g., hidden, animated

# Events and Animation Effects

## Events

- change
- click
- dblclick
- error
- hover
- keypress
- load
- mouseover
- ...

## Effects

- animate
- dequeue
- fadeIn
- fadeOut
- hide
- slideDown
- slideUp
- toggle
- ...

# Markup and Styles

## HTML Methods

- after()
- append()
- attr()
- before()
- hasClass()
- html()
- insertAfter()
- remove()
- text()
- ...

## CSS Methods

- addClass()
- xss()
- hasClass()
- height()
- position()
- removeClass()
- scrollLeft()
- scrollTop()
- width()

# An Example

```
<script>
  $(document).ready(function () {

    /* add event handler to selected h2 */

    $("h2").click(function(event) {
      alert("got alert on heading click");
    });
  });
</script>
```

# Resources

- [www.w3Schools.com/jQuery](http://www.w3Schools.com/jQuery)
- <http://jquery.com/>
- Included with Asp.Net MVC
  - See Script folder