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## JQuery Library

- ❑ Open Source JavaScript library
- ❑ Platform independent
- ❑ DOM manipulation library
- ❑ Simplifies DOM manipulation
- ❑ Provides extra functionality to DOM
- ❑ Very widely used

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## Major features

- ❑ DOM element selection based upon CSS selectors
- ❑ More types of events
- ❑ Effects and animations (e.g. fades, slides etc.)
- ❑ Extensible using plugins
- ❑ Perform AJAX requests

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## Linking JQuery

- ❑ Use either full JQuery or "slim build"
- ❑ Obtain from: <http://jquery.com/download/>
- ❑ Link to local file or on Internet

```
<script src="jquery-3.3.1.min.js"></script>
```

or

```
<script src="https://ajax.googleapis.com/ajax/libs/jquery/3.3.1/jquery.min.js"></script>
```


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## Syntax

- ❑ General syntax:

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

  - ❑ \$ - access JQuery
  - ❑ (selector) - finds HTML elements (i.e. the query)
  - ❑ action() - a method to be performed on the elements
- ❑ For example:
  - \$("h2").hide() - hides all <h2> elements
  - \$("#demo").hide() - hides all elements with id="demo"

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## Document Ready event

- ❑ JQuery is always inside the "Document Ready" event
- ❑ This is triggered when the document is fully loaded
- ❑ Always defined in the <head> of HTML

```
$(document).ready(function(){  
    ...  
});
```

or a shortcut...

```
$(function(){  
    ...  
});
```

## Selectors

### Select an HTML element based upon:

- ☐ name
- ☐ id attribute
- ☐ class attribute
- ☐ types
- ☐ position in the document
- ☐ other attributes
- ☐ values of the attributes

## Example Selectors

<code>\$("*")</code>	Selects all elements
<code>\$(this)</code>	Selects the current HTML element
<code>\$("#p.intro")</code>	Selects all <code>&lt;p&gt;</code> elements with <code>class="intro"</code>
<code>\$("#p:first")</code>	Selects the first <code>&lt;p&gt;</code> element
<code>\$("#ul li:first")</code>	Selects the first <code>&lt;li&gt;</code> element of the first <code>&lt;ul&gt;</code>
<code>\$("#ul li:first-child")</code>	Selects the first <code>&lt;li&gt;</code> element of every <code>&lt;ul&gt;</code>
<code>\$("#[href]")</code>	Selects all elements with an href attribute
<code>\$("#a[target='_blank']")</code>	Selects all <code>&lt;a&gt;</code> elements with a target attribute value equal to <code>"_blank"</code>
<code>\$("#a[target!='_blank']")</code>	Selects all <code>&lt;a&gt;</code> elements with a target attribute value NOT equal to <code>"_blank"</code>
<code>\$("#:button")</code>	Selects all <code>&lt;button&gt;</code> elements and <code>&lt;input&gt;</code> elements of type="button"
<code>\$("#tr:even")</code>	Selects all even <code>&lt;tr&gt;</code> elements
<code>\$("#tr:odd")</code>	Selects all odd <code>&lt;tr&gt;</code> elements

## Events

- ☐ Something happens to the web page to trigger the event
- ☐ Examples:
  - ☐ Mouse events - `click()`, `dblclick()`, `mouseenter()`, `mouseleave()`
  - ☐ Keyboard events - `keypress()`, `keydown()`, `keyup()`
  - ☐ Form events - `submit()`, `change()`, `focus()`, `blur()`
  - ☐ Document events - `load()`, `unload()`, `resize()`, `scroll()`

## JQuery Example

```
<script>
$(function(){
    $("#button").click(function(){
        $("#h1").fadeOut(2000);
    });
});
</script>
```

jquery-01.html    jquery-02.html

## Simple JQuery Effects

- ☐ `hide()` `show()` `toggle()`
- ☐ `fadeIn()` `fadeOut()` `fadeToggle()` `fadeTo()`
- ☐ `slideDown()` `slideUp()` `slideToggle()`

jquery-03.html    jquery-04.html

## Animations

- ☐ Animations
- ☐ `animate()` method

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

- ☐ Multiple properties can be manipulated
- ☐ Animations can be queued
- ☐ Callback functions

jquery-05.html    jquery-06.html    jquery-07.html

## Other JQuery capability

- ❑ HTML / CSS / DOM operations
- ❑ Traversing the DOM tree
- ❑ AJAX
- ❑ JQuery-UI

## Jquery-UI

- ❑ Open source GUI library built on top of JQuery
- ❑ Probably the most common way of implementing GUI interfaces on the web
- ❑ JQuery-UI consists of:
  - ❑ Widgets
  - ❑ Effects
  - ❑ UI interactions
  - ❑ Themes
- ❑ See: [jqueryui.com](http://jqueryui.com)

## Jquery-UI Themes

- ❑ JQuery-UI themes:
  - ❑ 23 pre-designed "themes"
  - ❑ ThemeRoller
  - ❑ [jqueryui.com](http://jqueryui.com)
- ❑ Download the theme from [jqueryui.com](http://jqueryui.com) and install it (CSS and support files such as graphics)

## Jquery-UI Examples

- ❑ Accordion UI
- ❑ Drag & Drop UI

jquery-08.html    jquery-09.html