

VIA University College



Web Development 1

JQuery

Agenda

- jQuery introduction
- jQuery selectors
- Event handling

jQuery introduction

- jQuery is JavaScript
- Allows easy access to commonly used functionality
- Single .js file
 - Current version: jquery-3.7.1.js
- Download at <https://jquery.com/download/>

jQuery introduction

- Lot of functionality
 - Easier selectors
 - Easier to perform operations
 - Animations
 - Toggling
 - Etc.



jQuery introduction - installation

- Put .js file in js folder
- Import at end of body (before any other .js scripts)

```
<body>
```

```
...  
<script src="js/jquery-3.7.1.min.js"></script>
```

```
<script src="js/script.js"></script>
```

```
</body>
```

- Or use CDN repository

```
<body>
```

```
...  
<script src="https://ajax.googleapis.com/ajax/libs/jquery/3.7.1/jquery.min.js"></script>
```

```
<script src="js/script.js"></script>
```

```
</body>
```

jQuery selectors

- Uses CSS syntax
- `$("value")` All elements created using that HTML tag. Ex. `$("li")`
- `$("#value")` All elements with that id. Ex. `$("#listItem1Id")`
- `$(".value")` All elements with that class. Ex. `$(".listItemClass")`
- `$("*")` Simply all elements.

```
<ul id="listId" class="listClass">  
  <li id="listItem1Id" class="listItemClass"/>  
  <li id="listItem2Id" class="listItemClass"/>  
  <li id="listItem3Id" class="listItemClass"/>  
</ul>
```

jQuery selectors

```
<body>
  <div>
    Get the script to write the number 15 in the span element at
    the end of this line:
    <span id="spanId">
      </span>
    </div>

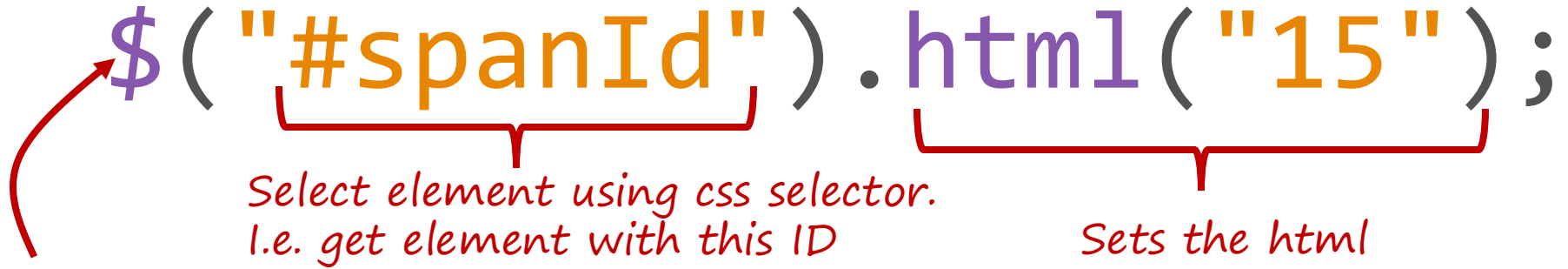
    <script>
      const spanEl = document.getElementById("spanId");
      spanEl.innerHTML = 15;
    </script>
  </body>
```

jQuery selectors

```
<body>
  <div>
    Get the script to write the number 15 in the span element at
    the end of this line:
    <span id="spanId">
      </span>
    </div>

    <script>
      $("#spanId").html("15");
    </script>
  </body>
```


jQuery selectors



`$("#spanId").html("15");`

The diagram illustrates the components of the jQuery selector and method. A red arrow points from the text "jQuery selection" to the dollar sign (\$) in the code. A red bracket under the selector `"#spanId"` is annotated with "Select element using css selector. I.e. get element with this ID". Another red bracket under the method `.html("15")` is annotated with "Sets the html".

jQuery selection

jQuery selectors

- Plain JS:

```
let listItemArray = document.getElementsByTagName("li");
for (let i = 0; i < listItemArray.length; i++) {
    listItemArray[i].textContent = "Hello";
}
```

- jQuery:

```
$("li").text("Hello");
```

jQuery selectors - attributes

`Click me`

These are attributes


`let srcValue = $("#elementId").attr("src");` *Get the attribute value*

`$("#elementId").attr("src", "someValue");` *Set the attribute value*

`$("#elementId").removeAttr("src");` *Removes the attribute entirely*

jQuery selectors - classes

```
<a id="elementId" class="myClass">Click me</a>
```



This is a class

```
$("#elementId").addClass("myClass"); Adds a class
```

```
$("#elementId").removeClass("myClass"); Removes a class
```

jQuery selectors – css properties

```
<a id="elementId">Click me</a>
```

```
$("#elementId").css("background-color", "red");
```

Change a single css property

```
var myVar = "red";
```

```
$("#elementId").css("background-color", myVar);
```

Change a single css property using a variable

```
$("#elementId").css({  
    "background-color": "red",  
    "font-size" : "20px"  
});
```

Change multiple css properties

jQuery selectors - .each() and this

```
<ol>
  <li id="firstId">item 1</li>
  <li id="secondId">item 2</li>
  <li id="thirdId">item 3</li>
</ol>
```

```
$("li").each(function() {
    var idValue = $(this).attr("id");
    $(this).text("The id for this list item is: " + idValue);
});
```

1. The id for this list item is: firstId
2. The id for this list item is: secondId
3. The id for this list item is: thirdId

jQuery selectors

- And many more...
- Not showing everything here
- Documentation!
 - <https://api.jquery.com/>
 - [jQuery Tutorial \(w3schools.com\)](https://www.w3schools.com/jquery/)

Event handling

- Events
 - An element is clicked
 - The cursor hovers over an element
 - An input field gets focus
 - A new web page is loaded
- Events are the browser's way of saying, "Hey, this just happened!"
- When event **fires** (happens) we can use script to react
 - Element clicked -> show some new data
 - Cursor hovers element -> element changes color
 - Input field gets focus -> other input fields are validated
 - A new web page is loaded -> content is shown

Event handling

1

Select the **element** the script should respond to

2

Indicate the **event** that triggers the response

3

State the **code** you want to happen as the response

Event handling

1

Select the **element** the script should respond to

2

Indicate the **event** that triggers the response

3

State the **code** you want to happen as the response

```
$("#buttonOne").on("click", function() {  
    $("#outputField").text("You pressed button One");  
});
```

Element selection

Event

Anonymous function

Function body with statements to execute when event happens

Event handling

```
$("#buttonOne").on("click", function() {  
    $("#outputField").text("You pressed button One");  
});
```

```
$("#buttonOne").on("click", () => {  
    $("#outputField").text("You pressed button One");  
});
```

Event handling

Mouse Events

Triggers when...

click	You click on an element
dblclick	You double-click on an element
mouseenter	The mouse cursor enters an element
mouseleave	The mouse cursor leave an element

Keyboard Events

Triggers when...

keydown	A key is on its way down
keypress	A key is fully pressed down
keyup	A key is released

Document/Window Events

Triggers when...

resize	An element is resized
scroll	You scroll inside an element
focus	An element receives focus
blur	An element loses focus

Event handling

```
$("#buttonOne").click(function(event) {  
    ...  
});
```

The Event object

```
$("#textField").keydown(function(event) {  
    var keyVal = event.which; //keyboard key or mouse button  
    var xCoord = event.pageX; //mouse X coordinate  
    var yCoord = event.pageY; //mouse y coordinate  
    ...  
});
```