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DOM Handling

jQuery

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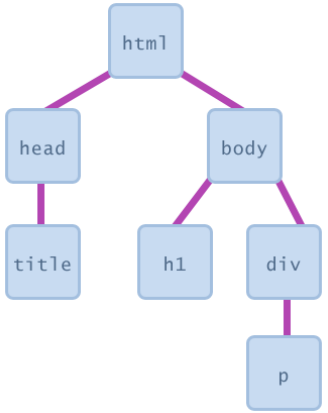
DOM handling - jQuery

(Write less, Do more)

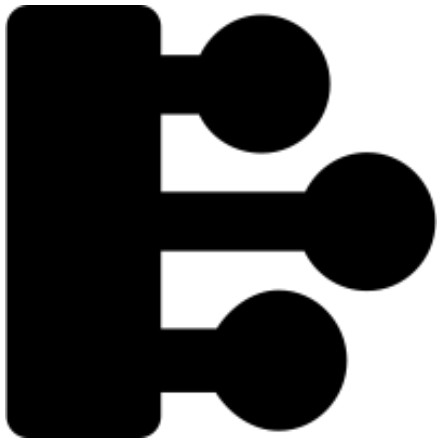
Document Object Model (DOM)

- The W3C Document Object Model (DOM) is a platform and language-neutral interface that allows programs and scripts to **dynamically access and update the content, structure, and style of a document**
- jQuery provides multiple methods to manipulate DOM
- Using these methods it is easy to access and manipulate elements and attributes
- It also provides methods to change browser window dimensions



DOM APIs

Selector	Description
`$(selector).text();`	Sets or returns the text content of selected elements
`$(selector).html();`	Sets or returns the content of selected elements (including HTML mark-up)
`$(selector).val();`	Sets or returns the value of form fields



Example usage – Getting values using DOM APIs

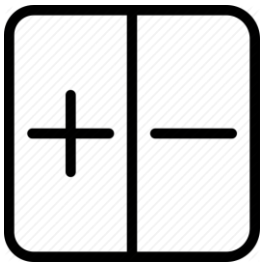
```
<script>
$(document).ready(function() {
    /* Get values from various HTML elements */
    $("#btn1").click(function(){
        console.log("Paragraph" + $("#test1").text());
        console.log("Value" + $("#test2").val());
    });
});
</script>
```

Example usage – Setting values using DOM APIs

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

/* Upon button click change text */
$("#btn1").click(function(){
    $("#test1").text("First paragraph - normal text");
});
/* Upon button click change HTML text */
$("#btn2").click(function(){
    $("#test2").html("<b>Second paragraph</b>");
});
/* Upon button click change input field value */
$("#btn3").click(function(){
    $("#test3").val("New Value...");
});
});
</script>
```

DOM APIs – Insert and Remove

Selector	Description
`$(selector).append();`	Inserts content at the end of the selected elements
`$(selector).prepend();`	Inserts content at the beginning of the selected elements
`$(selector).after();`	Inserts content after the selected elements
`$(selector).before()`	Inserts content before the selected elements
`$(selector).remove();`	Removes the selected element (and its child elements)
`$(selector).empty();`	Removes the child elements from the selected element



Example usage – Insert and remove using DOM APIs

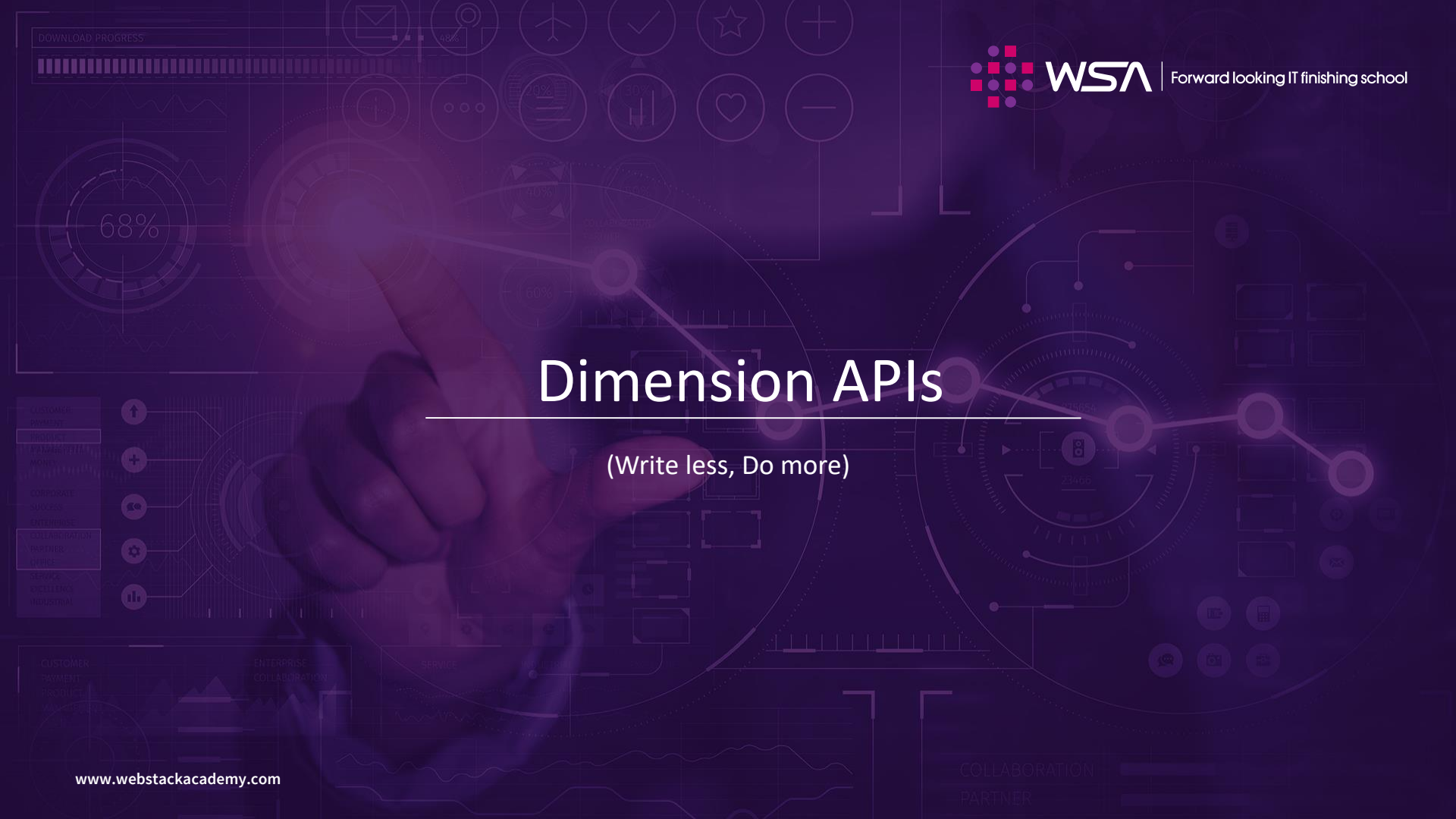
```
<script>
$(document).ready(function() {

$("#myButton2").click(function(){
    $("#test2").remove();
});

$("#myButton4").click(function(){
    $("#test3").append(" <li><b>Appended text</b></li> ");
});

});
</script>
```

DOM APIs – Handling styles

Selector & Description

`$(selector).css("property", "value");`
`$(selector).css({"property": "value", "property": "value",....});`
Set a single or multiple properties on a selector


```
$("p").css("background-color", "blue");
$("p").css({"background-color": "red", "font-size": "100%"});
```

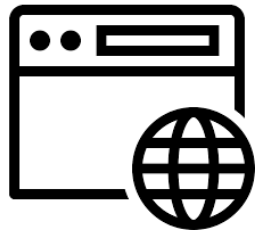


Dimension APIs

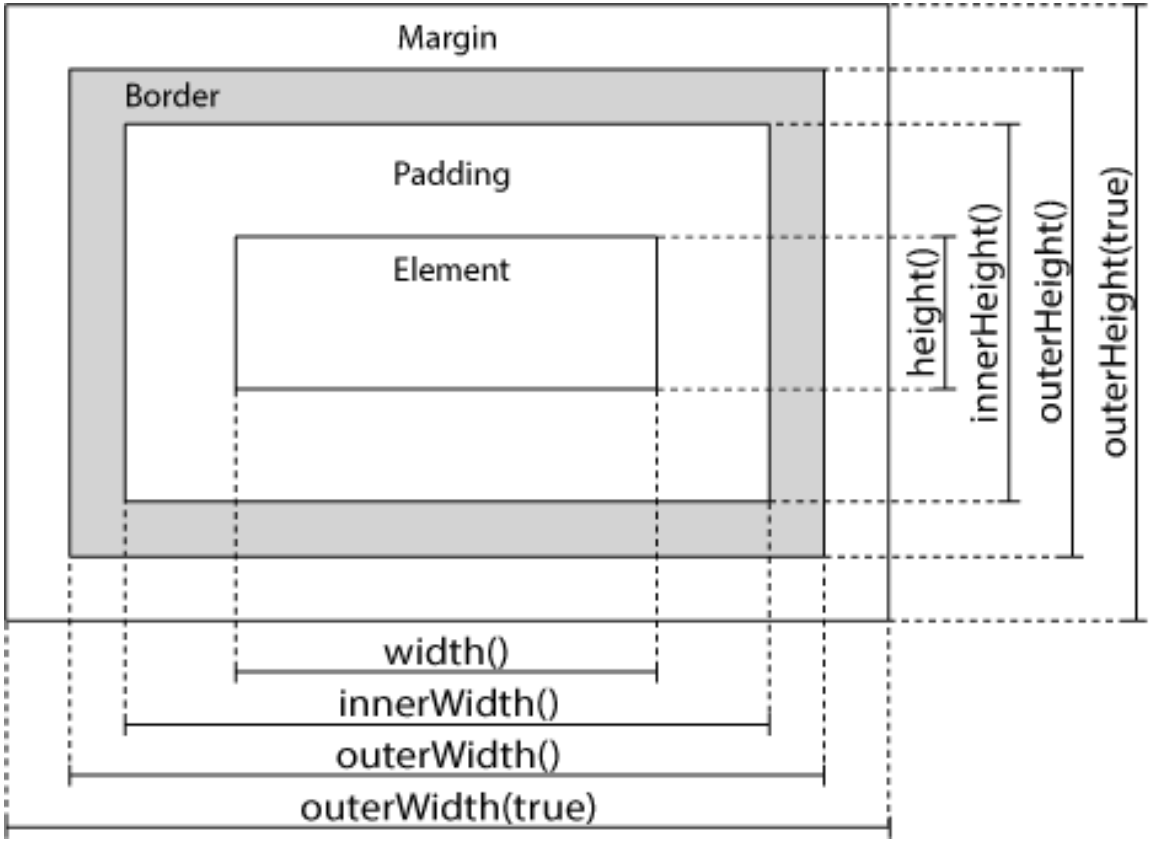
(Write less, Do more)

jQuery – Dimension APIs

Selector	Description
`$(selector).width();`	Sets or returns the width of an element (excludes padding, border and margin)
`$(selector).height();`	Sets or returns the height of an element (excludes padding, border and margin).
`$(selector).innerWidth();`	Returns the width of an element (includes padding)
`$(selector).innerHeight();`	Returns the height of an element (includes padding)
`$(selector).outerWidth();`	Returns the width of an element (includes padding and border)
`$(selector).outerHeight();`	Returns the height of an element (includes padding and border)

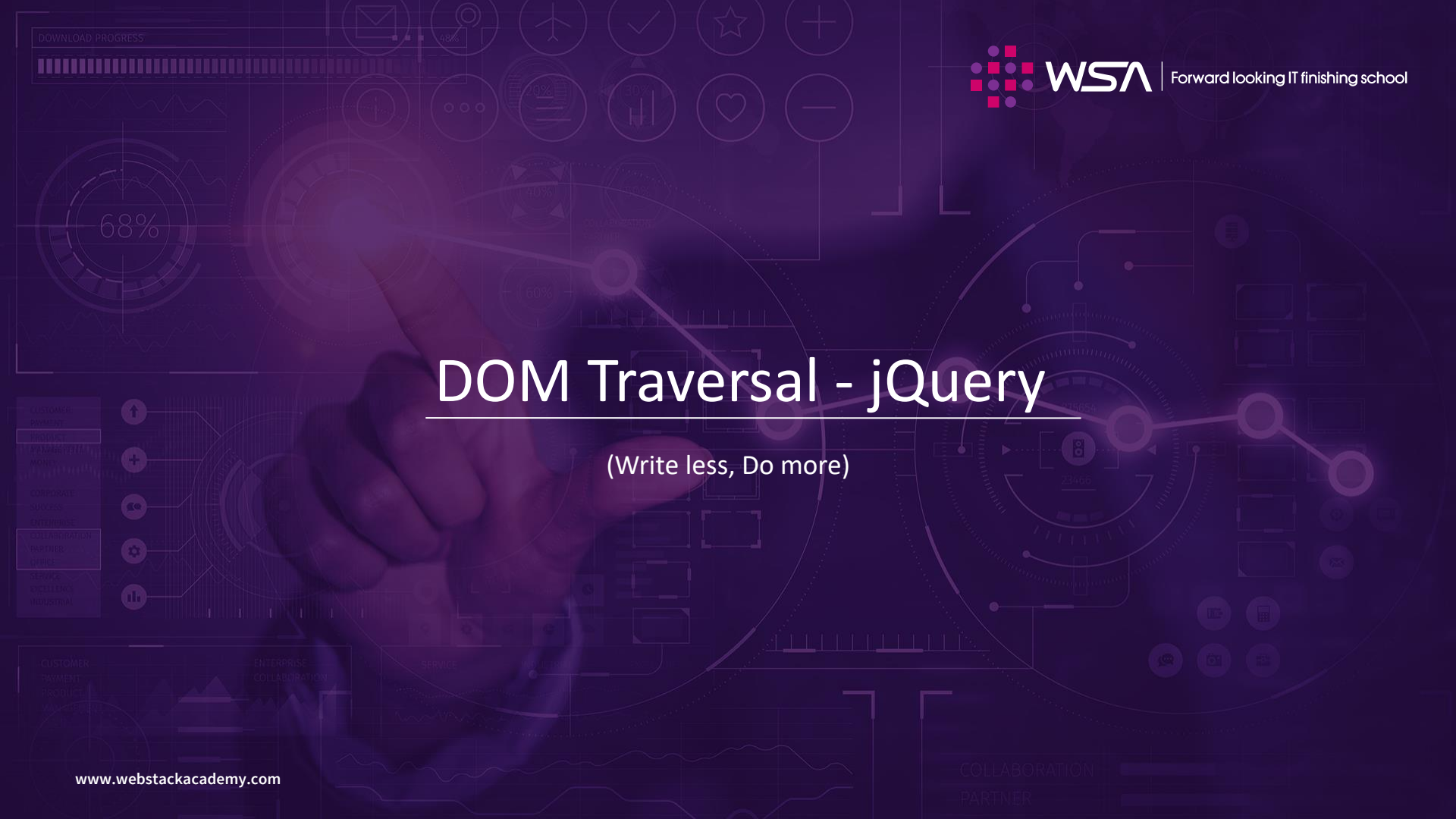


jQuery – Dimension APIs



Example usage – Dimensions

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

$("button").click(function(){
    console.log("Width: " + $("#div1").width());
    console.log("Height: " + $("#div1").height());
    console.log("OuterWidth: " + $("#div1").outerWidth());
    console.log("OuterHeight: " + $("#div1").outerHeight());
});

});
</script>
```



DOM Traversal - jQuery

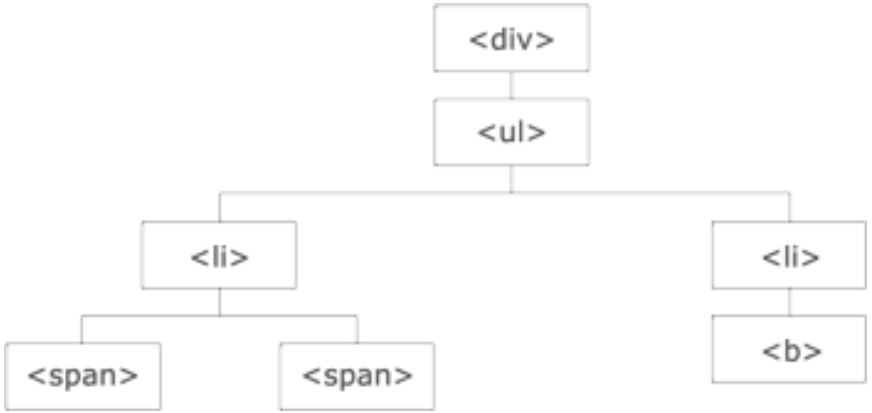
(Write less, Do more)

What is DOM traversal?

- DOM is organized in a tree structure where each node has parent and child nodes
- Typically leaf node contains the resource (ex: Text / Image etc..)
- jQuery offers multiple APIs to **"traverse" (walk through)** DOM tree by addressing **using relationships**
- U can find / select single or multiple DOM nodes based on the selector tag provided to jQuery
- Similar to other features (ex: effects), using jQuery DOM traversal can be done easily

DOM Tree - Terminology

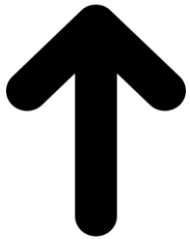
- To understand the tree structure and manipulate using jQuery few terminology need to be understood with respect to a particular node
  - **Move up** to find **Ancestors**
  - **Move down** to find **Descendants**
  - **Move sideways** to find **Siblings**

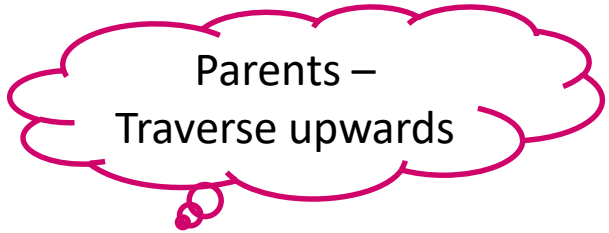


Element	Relationship information
	Ancestor of all
	Parent of child of and descendant of
	Siblings

jQuery APIs - Traversing

Selector	Description
`$(selector).parent();`	It returns the direct parent element of the selected element. By passing an optional parameters it will return parents of that type (ex: parent("ul"))
`$(selector).parents();`	It returns all ancestor elements of the selected element, all the way up to the document's root element (<html>)
`$(selector).parentsUntil();`	The parentsUntil() method returns all ancestor elements between two given arguments



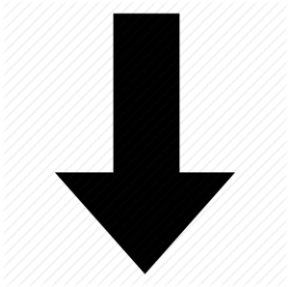


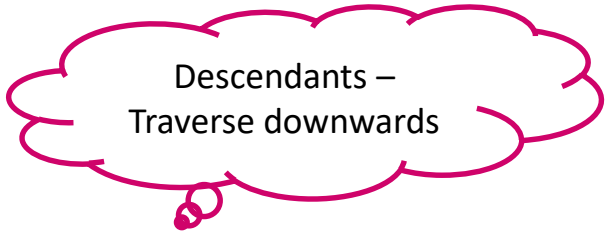
Example usage – Parents Traversing

```
<script>
$(document).ready(function() {
/* Find parent of span element and change its attributes */
$("span").parent().css({"color": "red", "border": "2px solid red"});

/* Find all parents of span element all the way up-to HTML root */
$("span").parents().css({"color": "blue", "border": "2px solid blue"});

/* Filter parents that are only UL type */
$("span").parents("ul").css({"color": "green", "border": "2px solid green"});

/* Parent elements till DIV type */
$("span").parentsUntil("div").css({"color": "purple", "border": "2px solid
purple"});
});
</script>
```

jQuery APIs - Descendants Traversing

Selector	Description
`$(selector).children();`	It returns all direct children of the selected element. By passing an optional parameter it will return children of particular type (ex: children("p.first"))
`$(selector).find();`	It returns descendant elements of the selected element, all the way down to the last descendant. By passing an optional parameter it will return descendant of particular type (ex: find("span"))



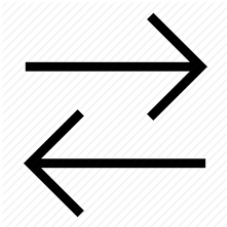


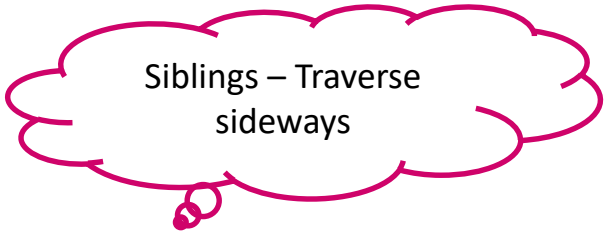
Example usage – Descendants Traversing

```
<script>
$(document).ready(function() {
/* Find children of div element and change its attributes */
$("div").children().css({"color": "red", "border": "2px solid red"});

/* Find children which are of particular class */
$("div").children("p.first").css({"color": "green", "border": "2px solid
green"});

/* Find a specific child */
$("div").find("span").css({"color": "purple", "border": "2px solid purple"});

/* Find all children */
$("div").find("*").css({"color": "pink", "border": "2px solid pink"});
});
</script>
```

jQuery APIs - Siblings Traversing

Selector	Description
`$(selector).siblings();`	It returns all sibling elements of the selected element
`$(selector).next();`	It returns the next sibling element of the selected element
`$(selector).nextAll();`	It returns all next sibling elements of the selected element
`$(selector).nextUntil();`	It returns all next sibling elements between two given arguments
`$(selector).prev();`	It returns the previous sibling element of the selected element
`$(selector).prevAll();`	It returns all next previous elements of the selected element
`$(selector).prevUntil();`	It returns all previous sibling elements between two given arguments





Example usage – Siblings Traversing

```
<script>
$(document).ready(function() {
/* Find all siblings */
$("h2").siblings().css({"color": "red", "border": "2px solid red"});

/* Find children which are of particular type */
$("h2").siblings("p").css({"color": "green", "border": "2px solid green"});

/* Find the next sibling */
$("h2").next().css({"color": "purple", "border": "2px solid purple"});

});
</script>
```

jQuery APIs - Filtering

Selector	Description
`$(selector).first();`	It returns the first element of the specified elements
`$(selector).last();`	It returns the last element of the specified elements
`$(selector).eq();`	It returns an element with a specific index number of the selected elements
`$(selector).filter();`	It lets you specify a criteria. Elements that do not match the criteria are removed from the selection, and those that match will be returned.
`$(selector).not();`	It returns all elements that do not match the criteria

Example usage – Filtering

```
<script>
$(document).ready(function() {
/* Select first div type element and its children */
$("div").first().css("background-color", "yellow");

/* Select last div type element and its children */
$("div").last().css("background-color", "green");
});
</script>
```

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Thank you

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