strategy | consulting | digital | technology | operations

Front End Development

Module 4: jQuery for Front End Development

Module 4 Objectives

2f48696768207006572666f726d616c63652e2044656c6976657265642e2f48696768207006572666f726d616c63652e2044656c6976657265642e2f48696768207006572666f726d616c63652e2044656c6976657265642e2f48696768207006572666f726d616c63652e2044656c6976657265642e2f48696768207006572666f726d616c63652e2044656c6976657265642e2f48696768207006572666f726d616c63652e2044656c6976657265642e2f4869676820

- Upon completing this module, the learner will be able to:
  - Understand basic jQuery syntax
  - Understand jQuery Selector
  - Understand jQuery DOM Manipulation
  - Understand event handling with jQuery.

Module 4 Agenda

Topic Name	Duration
Introduction to jQuery	**20 min**
Getting started with jQuery	20 mins
Selectors	30 mins
Event	30 min
DOM Manipulation with jQuery	30 mins

Introduction to jQuery

- jQuery is lightweight JavaScript Library for rapid web development.

- It has APIs that make HTML document traversal , manipulation , event handling , animation simpler and to work across multiple browsers.

- Motto: "write less, do more".

Module 4 Agenda

Topic Name	Duration
Introduction to jQuery	20 min
Getting started with jQuery	**20 mins**
Selectors	30 mins
Event	30 min
DOM Manipulation with jQuery	30 mins

accenture

Getting started with jQuery

2f48696768207065726666726d616c63652c2044656c6976657265642e2f48696768207065726666726d616c63652c2044656c6976657265642e2f48696768207065726666726d616c63652c2044656c6976657265642e2f48696768207065726666726d616c63652c2044656c6976657265642e2f48696768207065726666726d616c63652c2044656c6976657265642e2f4869676820706

- To start with jQuery first download it and include it in document.

- There are two ways to embedded jQuery in document:

  1. Download jQuery library on local system and include in web page.
  2. Referencing CDN(Content Delivery Network) directly from web page.

Getting started with jQuery

Download jQuery library on local system and include in web page.

1. Site: https://jquery.com/download/
   1. jQuery 1.x – supports IE 6,7 & 8
   2. jQuery 2.x - does not supports IE 6,7 & 8.
2. Add the downloaded jquery-3.2.1.min.js file to web application directory
3. <script type="text/javascript" src="/jquery-3.2.1.min.js"></script>
4. Useful for development environment.

Getting started with jQuery

Referencing CDN(Content Delivery Network) directly from web page.

1. If the visitor to the webpage has already downloaded a copy of jQuery from a particular CDN, it won't have to be re-downloaded.

2. Popular CDN: Google, Microsoft and jQuery

3. `<script src="https://code.jquery.com/jquery-3.2.1.min.js"></script>`

4. Useful for production environment.

Demonstration

2f48696768207065726f6f726d616c63652e2044656c6976657265642e2f48696768207065726f6f726d616c63652e2044656c6976657265642e2f48696768207065726f6f726d616c63652e2044656c6976657265642e2f48696768207065726f6f726d616c63652e2044656c6976657265642e2f48696768207065726f6f726d616c63652e2044656c6976657265642e2f48696768207065726f6f726d616c63652e2044656c6976657265642e2f48696768207065726f6f726d616c63652e2044656c6976657265642e2f48696768207

Using jQuery in a document

       - Using jQuery Library

       - Using CDN

Getting started with jQuery

- jQuery statements starts with a $ sign or jQuery.

- Define the jQuery ready() method :

> $(document).ready(*handler*);

   - This method allows you to run code as soon as the page's Document Object Model (DOM) becomes safe to manipulate.
   - Here handler is a function through which we can perform HTML manipulations , event handling.
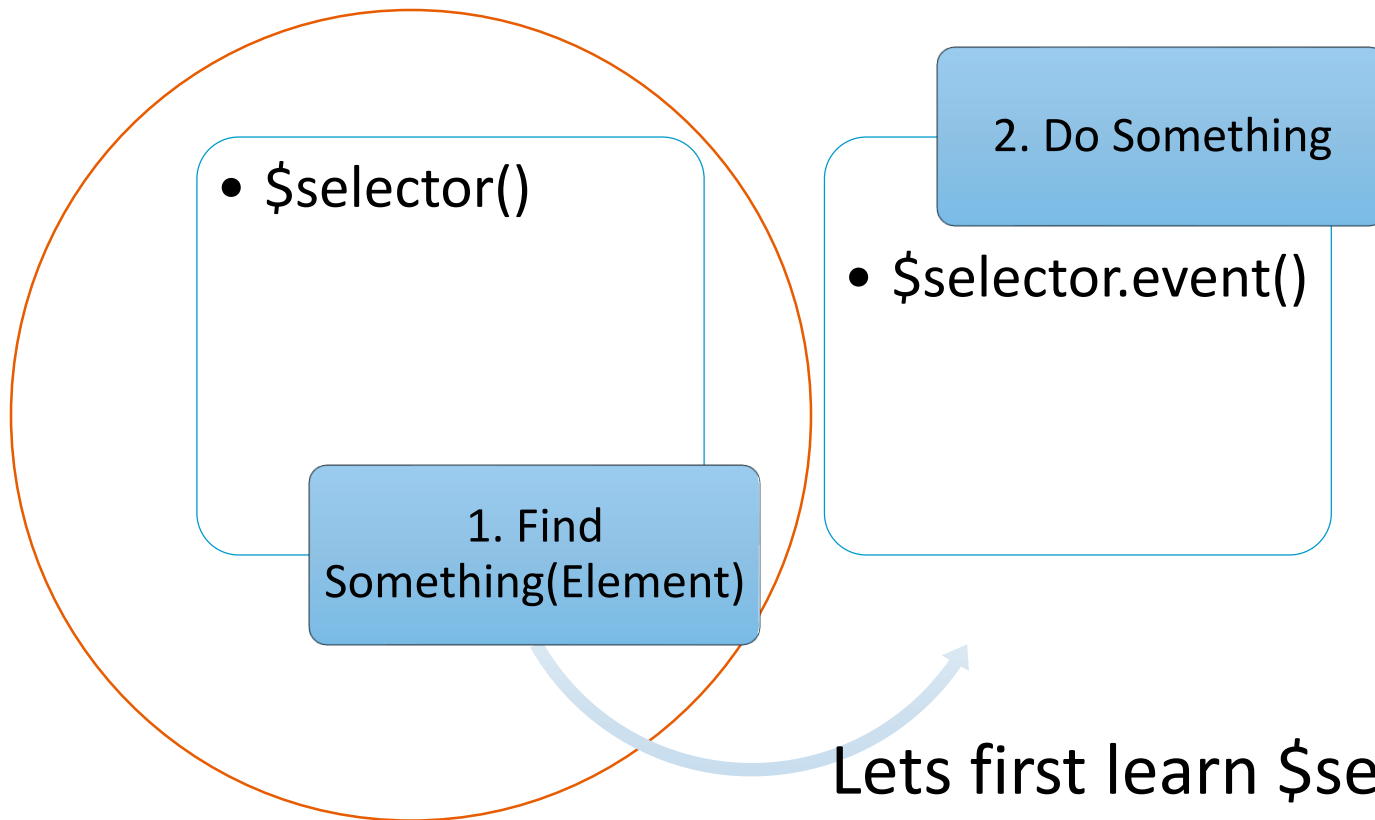
First jQuery Page

```
<script type="text/javascript" src="js/jquery-1.9.1.min.js">
</script>
<script type="text/javascript">
    // Specify function to execute after DOM is ready
    $('document').ready(function(){
            alert('The DOM is ready for playing around');
    });
</script>
```

Demonstration

2f48696768207065726f66726d616e63652c2044656c6976657265642e2f48696768207065726f66726d616e63652c2044656c6976657265642e2f48696768207065726f66726d616e63652c2044656c6976657265642e2f48696768207065726f66726d616e63652c2044656c6976657265642e2f48696768207065726f66726d616e63652c2044656c6976657265642e2f48696768207065726f66726d616e63652c2044656c6976657265642e2f48696768207065726f66726d616e63652c2044656c6976657265642e2f4869676820

Start DOM manipulation

How it works?

- jQuery works as :

- $selector()

2. Do Something

- $selector.event()

1. Find Something(Element)

Lets first learn $selector().

Module 4 Agenda

Topic Name	Duration
Introduction to jQuery	20 min
Getting started with jQuery	20 mins
Selectors	**30 mins**
Event	30 min
DOM Manipulation with jQuery	30 mins

Selectors

- To select an element of HTML page , various DOM methods are used.
  - e.g document.getElementById().

- Selecting elements in jQuery is simpler with selectors.

- Various types of selectors:
  - $('*')
  - $('element')
  - $('#id')
  - $('.class')
  - $([attr])

- Once the element is identified with selector perform an action against it like:
  - Change css
  - Trigger an event handler
  - Manipulate content

```
<script type="text/javascript">
$(document).ready(function()
{
 $("p").text("Hello");
});
</script>
```

accenture

Selectors: By Id

```
<form class="" action="index.html"
method="post">

    <input type="button"
class="btnGreet" id="btnGreet"
value="Greeting">
    </form>

<script type="text/javascript">
  $(document).ready(function(){
        $("#btnGreet").click(function()
        {
                alert("Hello");
        });
</script>
```

Learning jQuery!!

Selectors
Greeting

Message from webpage ✕

⚠ Hello

OK
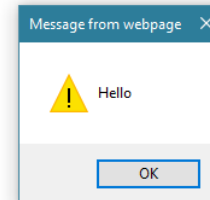
Selectors: By Class

```
<form class="" action="index.html" method="post">

    <input type="button" class="btnGreet" id="btnGreet"
value="Greeting">
    </form>

<script type="text/javascript">
  $(document).ready(function(){
            $(".btnGreet").click(function()
      {
        alert("Hello");

      });
    }

</script>
```

Selectors: By Element Name

```html
<body>
<p></p>
</body>
<script type="text/javascript">
  $(document).ready(function(){

          $("p").text("This is a paragraph");

    });

</script>
```

This is a paragraph

Selectors: By Attribute

```html
<form class="" action="index.html" method="post">

    <input type="button" class="btnGreet" id="btnGreet"
value="Greeting">
</form>
<script type="text/javascript">
  $(document).ready(function(){
     $('input[type="button"]').click(function()
     {
        alert("Hello");
     });
  });
</script>
```

Selectors: Universal

```html
<body>
  <p>Learning jQuery!!</p>
  <div> Selectors</div>


 </body>

<script type="text/javascript">
  $(document).ready(function(){

     $("*").css("color","red");
   });

</script>
```

Learning jQuery!!

Selectors

Selectors: Many Other Pattern

$('p,div,span') $('#ele1,#ele2') $('.style1,.style2')	Multiple element selector on element types, id's or style class.
$('div > p')	Select <p> which is child of <div>.
$('div p')	Select all <p> elements which are descendants of <div>
$("ul li:nth-child(2)")	Select second list element in ul list.

Demonstration

Selectors

- – ID

- – Class

- – Element

- – Attribute

- – Universal

Knowledge Check

- Choose the most appropriate code to manipulate element with class container.

  1. $("#container")
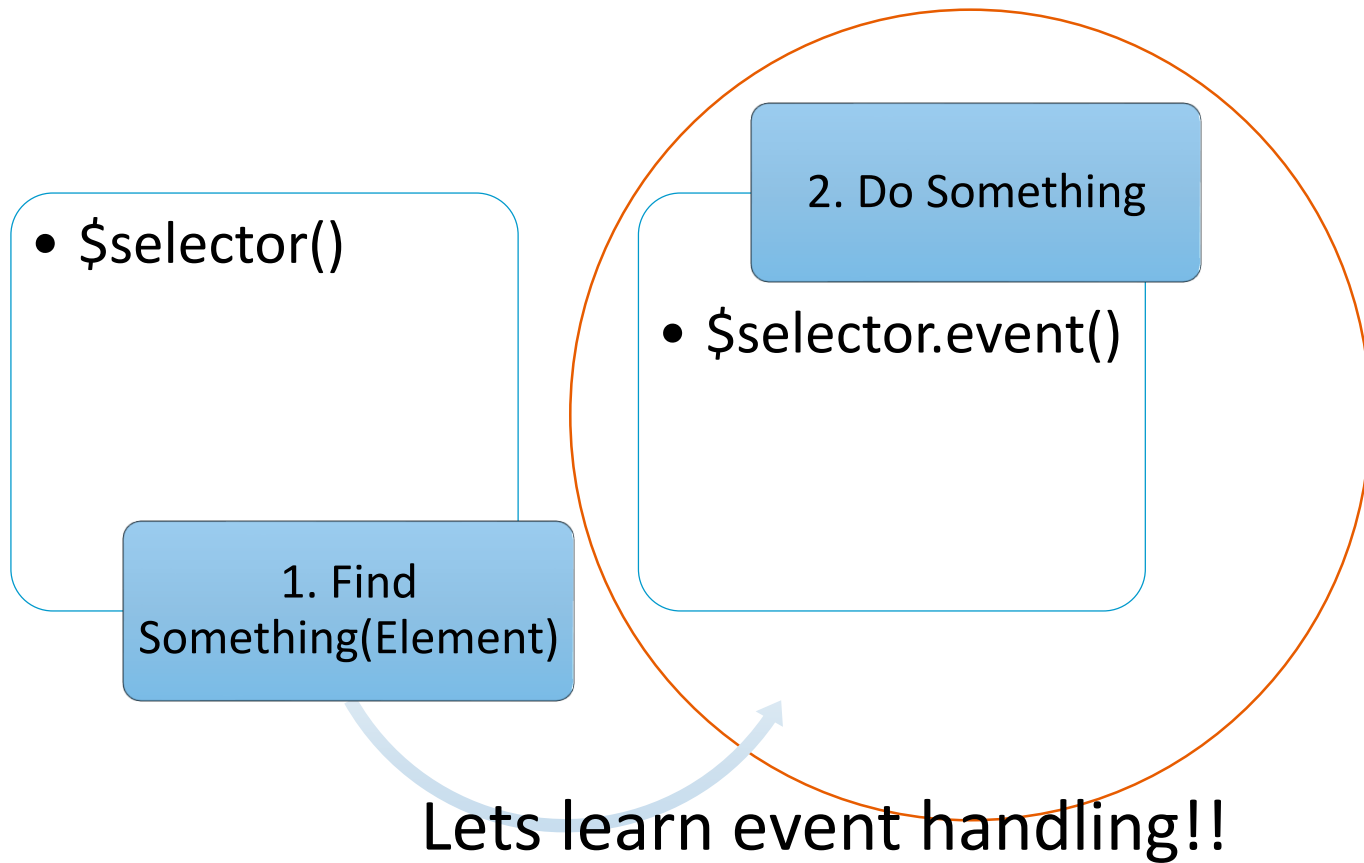 2. $(".container")
  3. $("class-container")
  4. $("container")

Module 4 Agenda

Topic Name	Duration
Introduction to jQuery	20 min
Getting started with jQuery	20 mins
Selectors	30 mins
Event	**30 min**
DOM Manipulation with jQuery	30 mins

How it works?

- jQuery works as :

- $selector()

2. Do Something

- $selector.event()

1. Find
Something(Element)

Lets learn event handling!!

jQuery Events

- Select the element using selector and call the event with a callback handler.

```
$(selector).event(callback(){

        //Code to handle event

});
```

jQuery Events

Event Name	jQuery Method
click	.click()
keydown	.keydown()
keypress	.keypress()
keyup	.keyup()
mouseover	.mouseover()
mouseout	.mouseout()
mouseenter	.mouseenter()
mouseleave	.mouseleave()
scroll	.scroll()
focus	.focus()
blur	.blur()
resize	.resize()
hover	.hover()

accenture

jQuery Events

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

        $("#btn").click(function()
        {
            alert("Button Clicked");
        }


        );
</script>

<body>
        <input type="button" id="btn" value="Greeting">

 </body>
```

Demonstration

Events Handling

accenture

Knowledge Check

2f48696768207065726f6d616c63652e2044656c6976657265642e2f48696768207065726f6d616c63652e2044656c6976657265642e2f48696768207065726f6d616c63652e2044656c6976657265642e2f48696768207065726f6d616c63652e2044656c6976657265642e2f48696768207065726f6d616c63652e2044656c6976657265642e2f48696768207

- Choose the most appropriate code to handle hover event of <p>.

  1. $("p").hover(callback function);

  2. $("p").onhover(callback function);

  3. $("p").hoveron(callback function);

  4. $("p").hoverat(callback function);

Module 4 Agenda

Topic Name	Duration
Introduction to jQuery	20 min
Getting started with jQuery	20 mins
Selectors	30 mins
Event	30 min
DOM Manipulation with jQuery	**30 mins**

accenture

DOM Manipulation with jQuery

- Following DOM manipulations can be performed:
  - Get and Set Attribute value of HTML element

  - Get and Set CSS Style of HTML element

  - Insert and remove HTML element.

  - Get and Set Contents of Element

  - Get and Set Contents of Form Element

accenture

DOM Manipulation with jQuery

• Get and Set Attribute value of HTML element using attr()
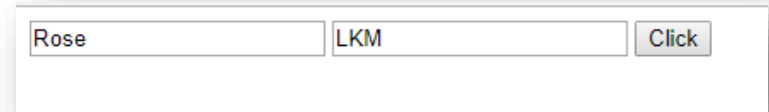
```
<script type="text/javascript">
    $("document").ready(function()
    {
      $("#btn").click(function()
      {
        //attr() to get the value
        alert($("#txtName").attr('value'));

        //attr to set the value
        $("#txtDept").attr('value','LKM');
      }
      );
    });
  </script>
<body>
    <input type="text" id="txtName" value="Rose">
    <input type="text" id="txtDept" value="">
    <input type="button" id="btn" value="Click">
  </body>
```

On click

DOM Manipulation with jQuery

- Get and Set CSS style property of HTML element using css()

```
<body>
<div>Division Content</div>  </body>
<script>
$("document").ready(function(){
$("div").css(
{'background-
color':'red','border':'2px','border-
style':'solid'});
});
</script>
```


Division Content

accenture

DOM Manipulation with jQuery

```
<script type="text/javascript">
  $("document").ready(function()
  {
    var val=$("div").html();
    alert(val);

    $("div").html("<p>Paragraph</p>");

  });
  </script>
<body>
     <div>
      Hello World
     </div>
    </body>
```
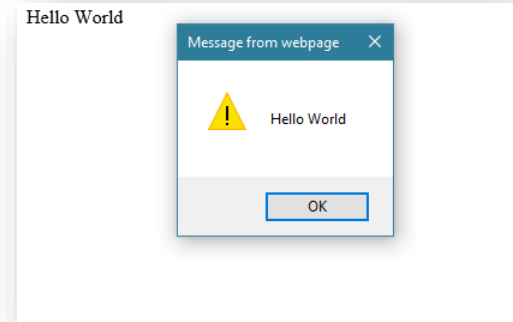
Hello World

Message from webpage ✕

⚠ Hello World

OK

On click

Paragraph

accenture

DOM Manipulation with jQuery

- Get and Set Contents of Element using text()

```html
<script type="text/javascript">
  $("document").ready(function()
  {
    alert($("div").text());
    $("p").text("New Paragraph");

  });
 </script>
<body>
 <div>
   Hello World
   <p>Paragraph</p>
 </div>
 </body>
```
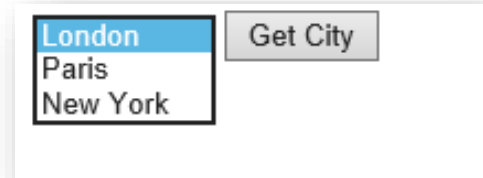
DOM Manipulation with jQuery

- ## Get and Set Contents of Form Element using val()

```html
<script type="text/javascript">
$(document).ready(function(){
$("button.get-city").click(function(){
    var city = $("#city").val();
    alert(city);
  });
});
</script>

<body>
<form>
<select id="city">
            <option>London</option>
            <option>Paris</option>
            <option>New York</option>
         </select>
<button type="button" class="get-city">Get
City</button>
</form>
 </body>
```


On click Get City

DOM Manipulation with jQuery

- Below is the list of other DOM manipulation methods:

Method	Description
append()	This method is used to insert content to the end of the selected elements.
before()	This method is used to insert content before the selected elements.
after()	This method is used to insert content after the selected elements.
prepend()	This method is used to insert content to the beginning of the selected elements.
remove()	This method removes the selected elements from the DOM as well as everything inside it.
replaceAll()	This method is used to replace target element with specified element.
wrap()	This method is used to wrap an HTML structure around the selected elements.

DOM Manipulation with jQuery

- Below is the list of other methods for traversing manipulation of elements:

Method	Description
children()	This methods gets all the child element of specified element.
each()	This method iterates all specified element and executes the specified callback function for each element.
find()	This methods returns all the matching child elements of specified element.
first()	This method gets the first occurrence of the specified element.
next()	This method get the immediately following sibling of the specified element.
parent()	This method gets the immediate parent element of the specified element.
prev()	This method get the immediately preceding sibling of the specified element.
siblings()	This method get the siblings of each specified element(s)

DOM Manipulation with jQuery

- Below is the list of other methods for dimension manipulation of elements:

Method	Description
height()	This method get or set height of the specified element.
innerHeight()	This method get or set the inner height of the specified element.
outerHeight()	This method get or set the outer height of the specified element.
offset()	This methods get or set left and top coordinates of the specified element.
position()	This method get the current coordinates of the specified element.
width()	This method get or set width of the specified element.
innerWidth()	This method get or set the inner width of the specified element.
outerWidth()	This method get or set the outer width of the specified element.

Demonstration

DOM Manipulation

- – Get and Set Attribute value of HTML element
- – Get and Set CSS Style of HTML element
- – Insert and remove HTML element.
- – Get and Set Contents of Element
- – Get and Set Contents of Form Element

Knowledge Check

2f48696768207065726f726d616c63652c2044656c6976657265642e2f48696768207065726f726d616c63652c2044656c6976657265642e2f48696768207065726f726d616c63652c2044656c6976657265642e2f48696768207065726f726d616c63652c2044656c6976657265642e2f48696768207065726f726d616c63652c2044656c6976657265642e2f48696768207065726f726d616c63652c2044656c6976657265642e2f48696768207

- Choose the most appropriate code to add list item "Eraser" to unordered list with id product.

  1. $(".product").html(" Eraser ");

  2. $(".product").addhtml(" Eraser ");

  3. $("#product").html(" Eraser ");

  4. $("#product").addhtml(" Eraser ");

Module 4 Summary

2f48696768207065726f6f726d616c63652e2044656c697665726564a62f48696768207065726f6f726d616c63652e2044656c697665726564a62f48696768207065726f6f726d616c63652e2044656c697665726564a62f48696768207065726f6f726d616c63652e2044656c697665726564a62f48696768207065726f6f726d616c63652e2044656c697665726564a62f48696768207065726f6f726d616c63652e2044656c697665726564a62f4869676820

- Upon completing this module, you should now be able to:
  - Write jQuery scripts
  - Working with jQuery Selectors
  - Handle DOM manipulation using jQuery
  - Handle events using jQuery

Questions