

Session 21

jQuery - Ajax

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Reference

■ Tutorial

http://www.w3schools.com/jquery/jquery_ajax_intro.asp

Referencedesigner
tutorials only include
first slide

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jQuery - AJAX

- jQuery allows easy, browser-consistent use of Ajax
- jQuery load method

```
$('#result').load('ajax/test.html');
```

- Fetches data from a server
- Sets the html contents of the matched element to the return data

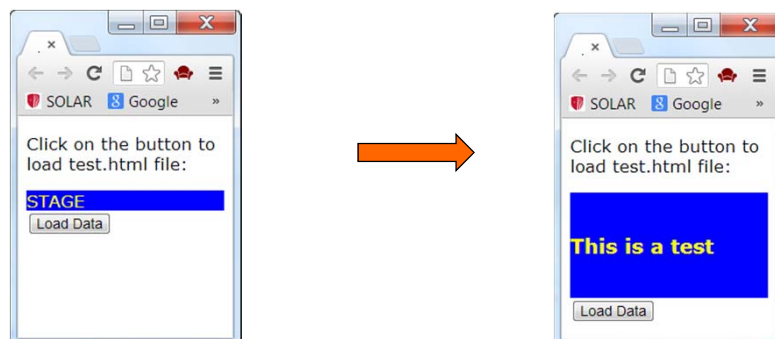
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Example

- Insert test.html into page

```
<br /><h3>This is a test</h3><br />
```



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Example

```
<script type="text/javascript" language="javascript">
  $(document).ready(function() {
    $("#driver").click(function(event){
      $("#stage").load("test.html");
    });
  });
</script>
</head>
<body>
<p id="p1">Click on the button to load test.html file:</p>
<div id="stage" style="background-color:blue;">STAGE</div>
<input type="button" id="driver" value="Load Data" />
</body>
```

test.html contains
"This is a test"

Example at:
<http://www.cs.stonybrook.edu/~cse336/JQuery-LoadExample.jsp>

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Same Origin Policy

- The same origin policy is an important security concept for browser-side programming languages, such as JavaScript
- The policy
 - permits scripts running on pages originating from the same site to access each other's methods and properties with no specific restrictions
 - prevents access to most methods and properties across pages on different sites

Reference: http://en.wikipedia.org/wiki/Same_origin_policy

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Same Origin Example

URL to load is in the same directory as this html

```
<body>
<b>Successful Response (should be blank):</b>
<div id="success"></div>
<b>Error Response:</b>
<div id="error"></div>
<script>
$("#success").load("test.html", function(response,
status, xhr) {
  if (status == "error") {
    var msg = "Sorry but there was an error: ";
    $("#error").html(msg + "Status:" + xhr.status +
      " " + "StatusText:" + xhr.statusText);
  }
});
</script>
</body>
```

Callback function invoked after response is inserted

Successful Response (should be blank):

This is a test

Error Response:

Inserted html

XMLHttpRequest object

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Same Origin Example

```
<body>
<b>Successful Response (should be blank):</b>
<div id="success"></div>
<b>Error Response:</b>
<div id="error"></div>
<script>
$("#success").load(
  "http://www.cs.stonybrook.edu/~cse336/test.html",
  function(response, status, xhr) {
    if (status == "error") {
      var msg = "Sorry but there was an error: ";
      $("#error").html(msg + "Status:" + xhr.status +
        " " + "StatusText:" + xhr.statusText);
    }
  });
</script>
</body>
```

Successful Response (should be blank):

Error Response:

Sorry but there was an error: Status:0 StatusText:error

Insert not allowed because inserted html on different site

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jQuery load() Method

- Loads data from a server and puts the returned data into the selected element
- Syntax: `$(selector).load(URL, data, callback);`
 - URL parameter - the URL you wish to load (required)
 - Data parameter - a set of query string key/value pairs to send with the request (optional)
 - Callback parameter - name of a function to be executed after the load() method is completed (optional)

Similar to your construction of the XMLHttpRequest object

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Sample jQuery Ajax Methods

Method	Description
<code>\$.get()</code>	Loads data from a server using an AJAX HTTP GET request
<code>\$.post()</code>	Loads data from a server using an AJAX HTTP POST request
<code>serialize()</code>	Encodes a set of form elements as a string for submission (method of the jQuery form object)

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Sending an Ajax Request

- To request data from the server
 - Compose a query string
 - Append the query string to the URL
 - Send the Ajax request

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Example

Enter text and click the button

Enter text and click the button

The parameter value is: test

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Example - JSP

■ AjaxExample.jsp

```
<script type="text/javascript" src="jquery-1.9.1.min.js">
</script>
<script type="text/javascript" language="javascript">
    $(document).ready(function() {
        $("#driver").click(function(event) {
            var queryString = $("#i").prop("value");
            var url =
                "http://localhost:8080/CodeCSE336/JqueryAjaxParameterExample?
                input=" + queryString;
            $("#p").load(url);
        });
    });
</script>
</head>
<body>
    <p id="p1">Enter text and click the button</p>
    <input id="i" type="text" value="default" />
    <input type="button" id="driver" value="Load Data" />
    <br /><div id="p"></div>
</body>
```

Note the prop method will return
the changed value, attr will not

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Example - Servlet

■ JqueryAjaxParameterExample.java

```
...
PrintWriter out = response.getWriter();
try {
    String s = request.getParameter("input");
    out.println("<h3>The parameter value is " + s + "</h3>");
}
```

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Are We on Track?

- Write a JSP that contains one text box
- When the value of the text box changes, send a request to a servlet
- The servlet will validate the data, and if the text box contains a null string, display an error message in the browser



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Were We on Track?

■ JSP

```
<script type="text/javascript" src="jquery-1.9.1.min.js"></script>
<script type="text/javascript">
    $(document).ready(function() {
        $("#driver").click(function(event) {
            var queryString = $("#i").prop("value");
            var url =
"http://localhost:8080/CodeCSE336/JqueryAjaxExample?input=" +
queryString;
            $("#errorMessage").load(url);
        });
    });
</script>
</head>
<body>
    <p id="errorMessage"> </p>
    <p id="p">Enter email address below</p>
    <form>
        <input id="i" type="text" value="Default"/>
    </form>
<br />
<div id="p"></div>
</body>
```

Note the prop method will return the changed value, attr will not

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Were We on Track?

■ Servlet

```
response.setContentType("text/html;charset=UTF-8");
PrintWriter out = response.getWriter();
try {
    String s = request.getParameter("input");
    if (s.equals("")) {
        out.println(
            "<span style='color:red'>* Please enter e-mail address</span>");
    }
}
```

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Have You Satisfied the Learning Goals?

- Understand how to use jQuery to make an Ajax request to a server

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Assignment 7

- Implement your project form validation with JavaScript/jQuery validation - with Ajax
- Validate each field after it is updated

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