

jQuery

... and AJAX

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jQuery

- A collection of predefined JavaScript objects and methods that are free to use and link to.
 - <http://jquery.com/>
- jQuery is one of many available libraries that provide functions for manipulating the web page
 - “Fairly good” performance
 - Cleans JS code

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JQuery

- Two ways to access it:

-Download it and reference:

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

(or in the same directory)

-Reference the online page:

```
<script src="http://code.jquery.com/jquery-3.5.1.min.js"></script>
```

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JQuery

Much of JQuery relies on the structure of the HTML to operate:

```
<script src="jquery-1.8.2.min.js"></script>
<span id="stuff"></span>
<form><input id="inpt" onchange="doit()"></form>
<script>
function doit() {
    $("#stuff").text($("#inpt").val());
}
</script>
```

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Example: Modifying DOM appearance

```
<!DOCTYPE html><html><head>
<script src="jquery-1.8.2.min.js"></script>
<style>
.nice {background-color: orange; color: white;}
</style></head><body>
<div id="clickme" onclick="toggle()">Click me!</div>
<script>
function toggle() {
    var elem = $("#clickme");
    if (!elem.hasClass('someClass'))
        elem.addClass('someClass');
    else
        elem.removeClass('someClass');
}
</script>
```

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Example: Creating new nodes

```
<!DOCTYPE html><html><head>
<script src="jquery.min.js"></script>
</head>
<body>
    <button id="mybutt" onclick="addstuff()">Add/Remove stuff</button>
    <div id="mydiv"></div>
    <script>
        function addstuff() {
            for (var i = 0; i < 10; i++) {
                $('#mydiv').append('<div class="kid">'+i+'</div>');
            }
        }
    </script>
```

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Example: Removing nodes

```
<body>
  <button id="mybutt" onclick="addstuff()">Add/Remove stuff</button>
  <div id="mydiv"></div>
  <script>
    function addstuff() {
      var kids = $(".kid");
      if (!kids.length) {
        for (var i = 0; i < 10; i++)
          $('#mydiv').append('<div class="kid">'+i+'</div>');
      } else {
        kids.remove();
      }
    }
  </script>
</body>
```

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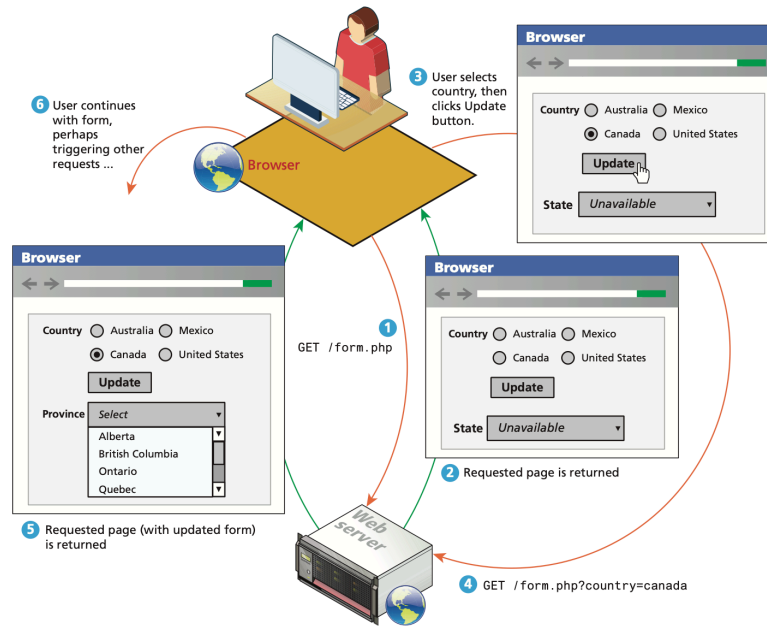
AJAX

Best Part of JQuery

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AJAX

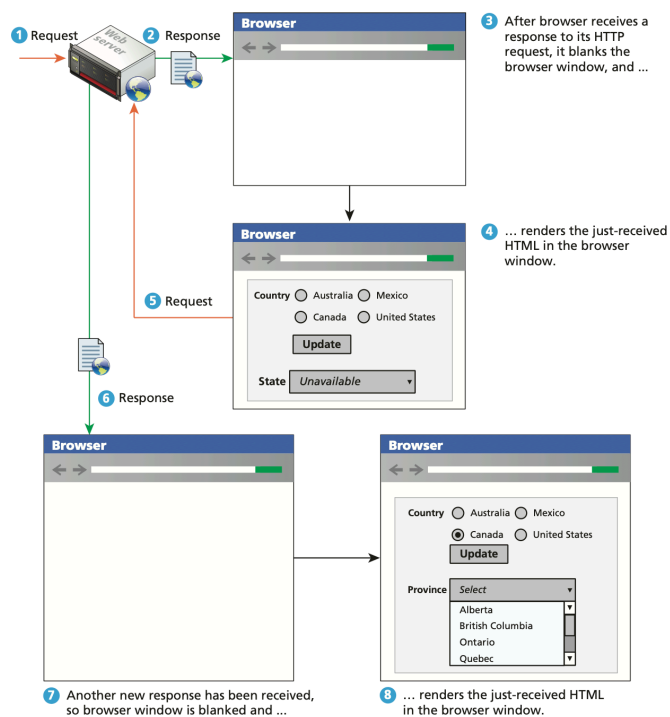
Intended Action



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AJAX

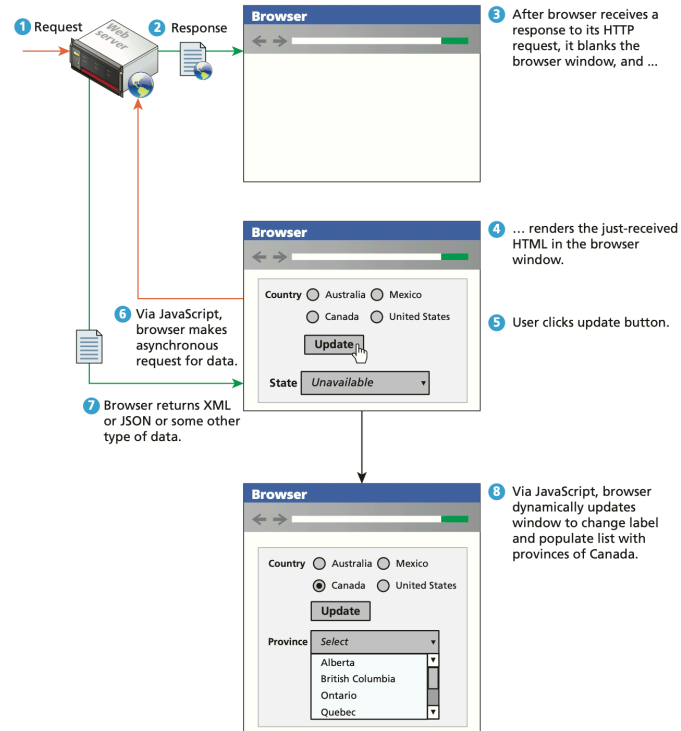
The problem



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AJAX

The solution



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How it works in detail

- User types or clicks: need an event handler
- UI requests some action: need a JS function
- Send message to server: need AJAX code
- Server eventually replies: need callback JS
- UI shows it finished: update element
 - Should show the result to the user

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A very simple web page and Ajax call

```
<!DOCTYPE html><html><head>
<script src="jquery-1.8.2.min.js"></script>
</head><body>
<button id="clickme" onclick="startAjax()">Click me</button>
<script>
    function startAjax() {
        $("#clickme").text("Calling server");
        $.ajax({url:"users.json",
            success:callbackFunction,
            error:errorFunction
        });
    }
    function callbackFunction(data, status) {
        $("#clickme").text("result:" + data);
    }
    function errorFunction(jqXHR, exception) {
        $("#clickme").text("error occurred:" + exception);
    }
</script>
</body></html>
```

users.json

```
[
  { "fname":"bobby",
    "lname":"chan",
    "age":23
  },
  { "fname":"jane",
    "lname":"doe",
    "age":45
  }
]
```