

Building Smart Workflows

Automating Administrative, Maintenance And Workflow Tasks With QuickBase Using jQuery

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Agenda

- ▶ Goal: Demonstrate How to Use jQuery with QuickBase to Build Smart Workflows
 - Automating Administrative, Maintenance, & Workflow Tasks
- ▶ Introductions
- ▶ Live Demo: Smart Workflows
- ▶ jQuery Introduction
- ▶ jQuery Conventions and Idioms
- ▶ Questions and Comments

Introductions



- ▶ Electrical And Computer Engineer, MSEE & MBA
- ▶ 30 Years Design And Development Experience in Automotive, Defense, Semiconductor, Design Automation, Computer Industries
- ▶ QuickBase User Since ~ 2001
- ▶ Frequent Contributor to QuickBase Community Forum
- ▶ Interest Areas: DataMining, Scripting & Automation, Integration, MashUps & WebApps, Database, Data Interchange and Conversion, Demographics, Collective Intelligence Algorithms
- ▶ Tools: I Use An Arsenal Of Open Source Tools, Scripts, Add-Ons, Utilities & Web Services With QuickBase

Live Demo: Class Roster Database

- ▶ In the Live Demo We will use jQuery to Automatically Create Records to Initialize a Classroom Roster to a Given Capacity

Tech Fest 2009 jQuery Application

<https://www.quickbase.com/db/beuhd75zn>

OR

<http://tinyurl.com/qbtechfest>

- ▶ **Problem 1: Initialize Records for Seating Capacity**

`https://www.quickbase.com/db/beuhd75zn`

`?act=dbpage`

`&pagename=QBU_PopulateClassRoom.html`

`&capacity=12`

`&name="QuickBase+jQuery"`

Live Demo: Class Roster Database

► Problem 2: Import Data From 2nd Domain (Mashup)

`https://www.quickbase.com/db/beuhd75zn`

`?act=dbpage`

`&pagename=QBU_ImportCSVFromNetelier.html`

`&csvfile="students091028.csv"`

► The Design Pattern We are Presenting can be Applied in a Wide Range of Smart Workflows And Can Replace Manual Processing

Tech Fest 2009 jQuery Application

Order	Field	Type	Fid	Notes
1 st	Name	Text	6	Class Name
2 nd	Number	Numeric	7	Student Number
3 rd	First	Text	8	Student First Name
4 th	Last	Text	9	Student Last Name
5 th	Code	Numer	10	Student Password

Live Demo Problem 2 Screen Shot

The screenshot shows the Intuit QuickBase web interface. At the top, the 'Intuit QuickBase' logo is on the left, and the 'intuit.' logo is on the right. Below the logo, there is a navigation bar with links: 'Customize', 'Share', 'Recent', 'Find', and 'Help'. On the right side of this bar, it says 'Signed in as Dan Diebolt' with a dropdown arrow, and a 'MY QUICKBASE' button. Below the navigation bar, there are tabs: 'Tech Fest 2009 jQuery', 'CLASS ROSTER 1', and 'CLASS ROSTER 2'. The 'CLASS ROSTER 1' tab is selected. The main content area is titled 'Dashboard' and has a sub-header 'Class Roster 1 Dashboard'. Below this, there are four instructions for creating classes, each with a URL. The first instruction is 'Create a class with a capacity of 10 attendees named "jQuery 101"', followed by the URL 'https://www.quickbase.com/db/beuhd75zn?a=dbpage&pagename=QBU_PopulateClassRoom.html&capacity=10&name=jQuery+101'. The second instruction is 'Create a class with a capacity of 10 attendees with a default name of "QuickBase & jQuery"', followed by the URL 'https://www.quickbase.com/db/beuhd75znbeuhd75zn?a=dbpage&pagename=QBU_PopulateClassRoom.html&capacity=10'. The third instruction is 'Create a class with a default capacity of 12 attendees named "jQuery 201"', followed by the URL 'https://www.quickbase.com/db/beuhd75znbeuhd75zn?a=dbpage&pagename=QBU_PopulateClassRoom.html&name=jQuery+201'. The fourth instruction is 'Create a class with a name and capacity specified through a form', followed by a form with 'Name' and 'Capacity' input fields and a 'submit' button.

Intuit QuickBase

Customize Share Recent Find Help

Signed in as Dan Diebolt MY QUICKBASE

Tech Fest 2009 jQuery CLASS ROSTER 1 CLASS ROSTER 2

Dashboard

Class Roster 2 Dashboard Customize this Page

Class Roster 1 Dashboard

Create a class with a capacity of 10 attendees named "jQuery 101"

[https://www.quickbase.com/db/beuhd75zn
?a=dbpage
&pagename=QBU_PopulateClassRoom.html
&capacity=10
&name=jQuery+101](https://www.quickbase.com/db/beuhd75zn?a=dbpage&pagename=QBU_PopulateClassRoom.html&capacity=10&name=jQuery+101)

Create a class with a capacity of 10 attendees with a default name of "QuickBase & jQuery"

[https://www.quickbase.com/db/beuhd75znbeuhd75zn
?a=dbpage
&pagename=QBU_PopulateClassRoom.html
&capacity=10](https://www.quickbase.com/db/beuhd75znbeuhd75zn?a=dbpage&pagename=QBU_PopulateClassRoom.html&capacity=10)

Create a class with a default capacity of 12 attendees named "jQuery 201"

[https://www.quickbase.com/db/beuhd75znbeuhd75zn
?a=dbpage
&pagename=QBU_PopulateClassRoom.html
&name=jQuery+201](https://www.quickbase.com/db/beuhd75znbeuhd75zn?a=dbpage&pagename=QBU_PopulateClassRoom.html&name=jQuery+201)

Create a class with a name and capacity specified through a form

Name

Capacity

Live Demo Problem 2 Screen Shot

Tech Fest 2009 jQuery - Dashboard - Mozilla Firefox

File Edit View History Bookmarks Yahoo! Tools Help

https://www.quickbase.com/db/beuhd75zn?a=ShowPage&pageid=10

Intuit QuickBase

Customize Share Recent Find Help Signed in as Dan Diebolt MY QUICKBASE

Tech Fest 2009 jQuery CLASS ROSTER 1 CLASS ROSTER 2

Dashboard Class Roster 1 Dashboard Customize this Page

Class Roster 2

Import CSV Records from a file on Netelier.com named "students091027.csv"

https://www.quickbase.com/db/beuhd75zn?a=dbpage&pagename=QBU_ImportCSVFromNetelier.html&csvfile=students091027.csv

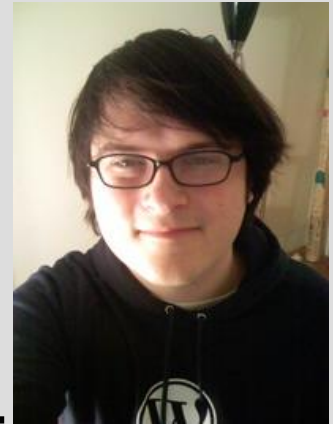
Import CSV Records from a file on Netelier.com named "students091028.csv"

https://www.quickbase.com/db/beuhd75zn?a=dbpage&pagename=QBU_ImportCSVFromNetelier.html&csvfile=students091028.csv

Purge All Records in Class Roster 2

<https://www.quickbase.com/db/beun5gez?act=Purge>

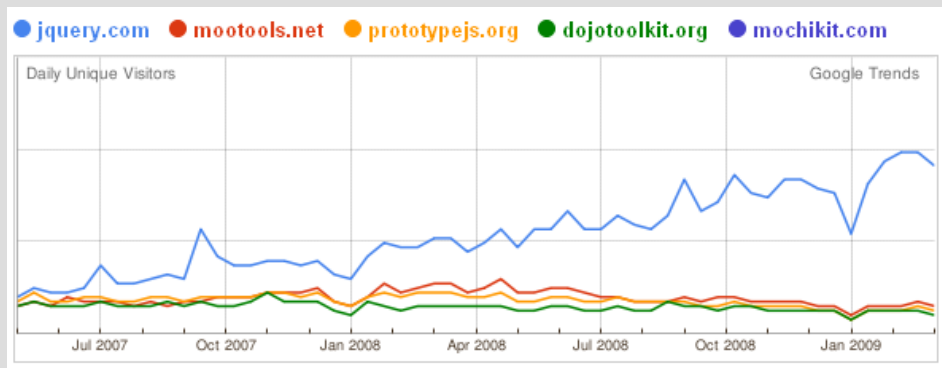
Introduction to jQuery



- ▶ jQuery Released Circa January, 2006
- ▶ Lightweight JavaScript Library for Dynamic Manipulation of HTML Web Pages
- ▶ Cross Browser, Standards Compliant
- ▶ Free, Open Source Under MIT & GPL License
- ▶ Developed by Mozilla's JavaScript Man - John Resig

jQuery Preliminaries

- ▶ Download From Google Code (ver 1.3.2 latest):
<http://code.google.com/p/jqueryjs/>
Normal & Minimized Source
- ▶ jQuery Plugins Repository (3,503 as of 10/21/09)
<http://plugins.jquery.com/>
- ▶ jQuery's Popularity - jQuery Is Way Ahead!
<http://blog.ekini.net/2009/04/15/jquerys-popularity/>



QuickBase/jQuery Party Time



► Technologies Involved

AJAX, CSS, Functional Programming, HTML, HTTP, JavaScript, jQuery, Object Oriented Programming, Security, SGML, XML, XPATH, XSLT, etc.

► Difficult to Master All These Technologies

► jQuery Moto: ***“Write Less, Do More”***

► In Reality, jQuery Code is Short, Concise and Reads More Like a Configuration File than a Script

► Use Design Patterns, Best Practices and Reusable Templates to Solve Classes of Problems

► Encourage More QuickBase User Community Contributions

QBU_PopulateClassRoom.html (abridged)

```
<html>
<head>
  <script src="beuhd75zn?a=dbpage&pagename=jquery-1.3.2.min.js"></script>
  <script src="beuhd75zn?a=dbpage&pagename=jquery.url.packed.js"></script>
  <script src="beuhd75zn?a=dbpage&pagename=qbu.js"></script>

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

      var name=$.url.param("name") || "QuickBase & jQuery";
      var capacity=$.url.param("capacity") || 12;

      for (var i=0; i<capacity; i++) {
        $.ajax({
          url: "https://www.quickbase.com/db/beuh98tms?act=API_AddRecord",
          data: {
            fnm_name: name,
            fnm_number: i+1,
            fnm_code: Math.floor(Math.random()*1000)
          }
        });
      }

      $("#message").html("<h1>Message Goes Here</h1>").fadeOut(5000,function() {
        window.close();
      });

    });
  </script>
</head>
<body>
  <div id="message"></div>
</body>
</html>
```

JavaScript and jQuery Conventions

► Object Literal:

```
var a = {  
  dbid: "befe2yy7d",  
  act: "API_DoQuery",  
  query: "{0}.CT.foo"  
}
```

► Anonymous Function (A function without a name!)

```
function () {  
  //do something  
}
```

► The jQuery Object \$

Think of \$ as merely the 27'th letter of the Alphabet and the Default variable name for the jQuery object

All operation manipulate the jQuery object \$ and return the same jQuery object

jQuery Coding Idioms I

- ▶ Select All DOM Nodes in the Current Document Matching A Specified CSS Selector

Format:

```
$(selector)
```

Examples:

```
$("#a") // selects all anchor elements
$("#myid") // selects all elements with id=myid
$(".myclass") //select all elements with class=myclass
```

- ▶ Manipulate the Selected Elements

```
$("#myid").hide() // hides all elements with id=myid
$(".myclass").css("color","red") // add color=red to class=myclass
```

- ▶ jQuery Supports Full CSS2 and Partial CSS3 Selectors (Way Ahead of Browsers)
- ▶ XPATH Selectors Depreciated in 1.3.2 (Plugin Available)

jQuery Coding Idioms II

- ▶ Select DOM Nodes in the Specified Document Matching the Specified Selector

Format:

```
$(selector, context)
```

Examples:

```
$("record",xmlDoc) // selects all record nodes in the XML Response
```

- ▶ Context is a Second Document Other than the Current Document
- ▶ The XML Response Document from the QuickBase HTTP API Response Will Often be the Context

jQuery Coding Idioms III

- ▶ Call the Utility Method Attached to the jQuery Object

Format:

```
$.method()
```

Example:

```
$.ajax({  
  type: "GET",  
  url: "https://www.quickbase.com/db/dbid?a=q&qid=1&opts=xfl",  
  dataType: "xml",  
  success: function(xml) {  
    alert("Your AJAX call was successful!");  
  }  
});
```

- ▶ Ajax Methods Take **ANY** url (not just API Method URLs) and Can Further Process Any Output Response Format (XML, Text, JSON, CSV ...)
- ▶ Ajax Callback Function Automatically Called on Successful HTTP Request

jQuery Coding Idioms IV



- ▶ “You can think of a jQuery object \$ like a bucket that holds DOM Elements” -Yehuda Katz, jQuery Author
- ▶ jQuery Initializes when the DOM is defined (but not yet fully loaded):

```
<script>
  $(document).ready(function() {
    //lets jQuery!
  })
</script>
```

- ▶ jQuery Object \$ Supports Chaining of Methods

```
$(selector).method1().method2() ...
```

Perform method1 on Every Element Matched by the Selector, then
Perform method2 on Every Element Matched by the Selector ...

Questions & Comments

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The #1 online database

+

 **jQuery**
write less, do more.