

ColdFusion Powered Ajax

by Rob Gonda

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Expectations

- ✓ Ajax Overview
- ✓ ColdFusion MX8 Tags & Capabilities
- ✓ Code Examples
- ✓ Bonus at the end

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Who am I

- ✓ Consultant
- ✓ Adobe Community Expert
- ✓ CTO @ iChameleon Group
- ✓ Frequent contributor to CFDJ / FA
- ✓ Author: Real-World AJAX: Secrets of the Masters - ISBN 0-9777622-0-3
- ✓ Blogger
- ✓ Web Developer since 1993
- ✓ ColdFusion Developer since 2000
- ✓ Open Source Contributor: AjaxCFC, ColdBox, Transfer ORM

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What Is Ajax

- ✓ History
 - Hidden Frames since mid-90's
 - XHR and ActiveX since IE5+, Mozilla 1.0+, Safari 1.2+, and Opera 7.6+
 - February 18, 2005: Jesse James Garret wrote the article that coined the AJAX acronym.
- ✓ Definition
- ✓ Types
 - Progressive / Edge
 - RIA
- ✓ Vs. Flash / Flex



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Ajax Vs. AJAX

- ✓ AJAX: Asynchronous JavaScript And XML
 - Transport Layer
 - Useless by itself
 - No AJAX effects, transitions, ...
- ✓ Ajax
 - AJAX + JavaScript + DHTML + DOM + anything needed
 - Ajax effects, transitions, ...

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Ajax JS Libraries

- ✓ Dojo
 - Robust
 - Adopted by Open AJAX Alliance
 - Lack of good documentation
- ✓ jQuery
 - Small footprint
 - Huge community support
 - Thousands of plugins available
 - Best Widgets with Interface, jQuery UI, and EXT
- ✓ Prototype / Scriptaculous
 - Used by RoR
 - Best Widgets with EXT

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Ajax JS Libraries

- ✓ Spry
 - Requires virtually no JavaScript knowledge
 - Easy but limited
- ✓ YUI
 - Integrated with CF8
 - Best documentation
 - Best Widgets with EXT
 - 508 Compliant
- ✓ EXT
 - Now standalone
 - Extremely Fast
 - Best Widgets
 - Meant for large RIA deployments

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Ajax CF Libraries

- ✓ AjaxCFC
 - Most widely used ColdFusion Ajax Library
 - Object Oriented
 - Integrated with frameworks
 - a)MachII
 - b)Model-Glue
 - c)ColdBox
 - Based on DWR / jQuery
- ✓ CFAjax
 - First ColdFusion Ajax Library
 - Based on outdated DWR

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Ajax Data Communication

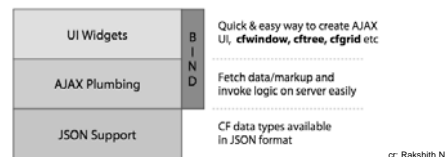
- ✓ XML
- ✓ JSON
 - Definition
 - Compare to XML
- ✓ HTML
- ✓ JS Instructions
 - DOM
 - eval
 - innerHTML

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ColdFusion 8

- Architecture
- New Tags
- Bind login to UI
- JSON serialization
- Ajax Proxy



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Behind the Scenes

- ✓ YUI
 - The Yahoo! User Interface (YUI) Library is a set of utilities and controls, written in JavaScript, for building richly interactive web applications using techniques such as DOM scripting, DHTML and AJAX.
 - Enterprise grade documentation and support
- ✓ Ext
 - Ext is a client-side, JavaScript framework for building web applications. In early 2006, Jack Slocum began working on a set of extension utilities for the Yahoo! User Interface (YUI) library.

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Data Binding

- ✓ ColdFusion supports data binding in many tags. Binding allows form and display tags to dynamically display information based on form input.
- ✓ Four Types:
 - CFC-bind="cfc:path.to.cfc.func(args)"
 - Javascript-bind="javascript:getBookDetails('{bookForm:isbn.value@change}')"
 - url-bind=url:viewBookDetails.cfm?isbn={bookForm:isbn.value@change}
 - Plain -bind="The ISBN is:{bookForm:isbn.value@change}"

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Data Binding



- ✓ cfinput autosuggest
- ✓ Takes a list or array
 - <cfinput name="search_query" autosuggest="cf:components.entries.getSearchHelp(cfautosuggestvalue)" maxResultsDisplay="10">
 - <cfinput name="search_query" autosuggest="url:searchhelpproxy.cfm?term={cfautosuggestvalue}" maxResultsDisplay="10" showAutoSuggestLoadingIcon="false" size="10" />

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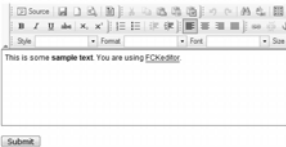
Related Selects

```
<cfform>
<table>
<tr>
<td><Select Media Type:</td>
<td><cfselect name="mediaid" bind="cf:art.getMedia()" bindonload="true" /></td>
</tr>
<tr>
<td><Select Art:</td>
<td><cfselect name="artid" bind="cf:art.getArt((mediaid))" /></td>
</tr>
</table>
</cfform>
```

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Rich Text Editor



- ✓ cftextarea richtext=true
- ✓ uses the FCKEditor
- ✓ IE/FF/Opera. No Safari

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CFGrid & CFTree

- ✓ format=html
- ✓ Data Binding

Price	Product
\$82.95	Product 1
\$24.99	Product 2
\$96.49	Product 3
\$83.99	Product 4
\$49.95	Product 5
\$59.91	Product 6
\$25.19	Product 7
\$39.99	Product 8
\$29.29	Product 9
\$36.94	Product 10

- ✓ Watch out for binding large recordsets
 - QueryConvertForGrid(queryUsers, pageNumber, pageSize)
 - a) Coldfusion does the pagination, not the database.
 - b) Simple structure with two elements
 - Query and totalRowCount

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cfajaxproxy



```
<cfajaxproxy
required
cfc = "CFC name"
optional
jsclassname = "JavaScript proxy class name"
```

- ✓ similar to AjaxCFC
- ✓ Generates an AJAX proxy class on the client page for a ColdFusion Component.
- ✓ Invoke CFC methods from JS
- ✓ Best Practices
 - Use a Façade; like a WS, do not point to your model

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Ajax UI



- ✓ Layout
 - Tab Navigator
 - Box Layouts
 - Border Layouts
- ✓ Menu
 - horizontal or vertical menus
 - menu items
 - link to JS or URL
- ✓ Window
 - modal, closable, draggable
 - inline, Ajax, or iframe

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cftooltip

- ✓ Specifies tool tip text that displays when the user hovers the mouse pointer over the elements in the tag body.
- ✓ This tag does not require a form and is not used inside Flash forms.
- ✓ show / hide delays
- ✓ inline or Ajax

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cfdiv, cfpod

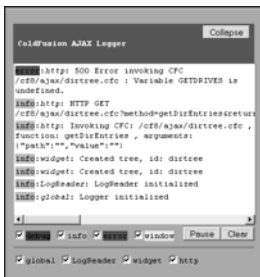


- ✓ cfdiv creates an HTML div tag or other HTML container tag and lets you use a bind expression to dynamically control the tag contents.
 - cforms inside cfdiv are submitted asynchronously
- ✓ cfpod creates a pod, an area of the browser window or layout area with an optional title bar and body that contains display elements

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Debugging



- ✓ ?cfdebug
- ✓ global error handler

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SerializeJSON / DeserializeJSON / isJSON

- ✓ Why JSON
- ✓ JSON Vs. XML
- ✓ JSON (JavaScript Object Notation) is a lightweight computer data interchange format. It is a text-based, human-readable format for representing simple data structures and associative arrays (called objects).
- ✓ The JSON format is often used for transmitting structured data over a network connection in a process called serialization. Its main application is in Ajax web application programming, where it serves as an alternative to the traditional use of the XML format

```
["Name":"John", "Age":30, "Sex":"M", "Height":1.75, "Weight":70, "EyeColor":"Blue", "HairColor":"Black", "Complexion":"Fair", "Occupation":"Software Engineer", "Interests":["Reading", "Golf", "Travel"], "Address":{"Street":"123 Main St", "City":"New York", "State":"NY", "Zip":"10001"}]
```

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Customizing the Look & Feel



- ✓ Using style attributes
 - cfmenu
 - a) menuStyle,
 - childStyle
 - cfwindow
 - a) headerStyle
 - b) bodyStyle
 - cflayout
 - a) style
 - cfgrid
 - a) style
- ✓ Using custom ext css files

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Final Pointers & Conclusions

- ✓ ColdFusion makes Ajax extremely easy
- ✓ Extensible through YUI & EXT
- ✓ Keep an eye on EXT 2.0

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Where to go from here

- ✓ Rob's ColdFusion8 samples:
 - <http://www.robgonda.com/dev/max/cf8samples>
- ✓ EXT 2.0 Preview
 - <http://extjs.com/blog/2007/09/06/ext-2.0-a-preview/>
 - <http://extjs.com/playpen/ext-2.0-alpha1/examples/>

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Resources

- ✓ Adobe Labs <http://labs.adobe.com>
- ✓ Ben Forta <http://www.forta.com/blog/>
- ✓ Rakshith N <http://www.rakshith.net>
- ✓ Ray Camden <http://www.coldfusionjedi.com>
- ✓ Rob Gonda <http://www.robgonda.com>
- ✓ Jack Slocum <http://www.jackslocum.com/blog>

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Questions

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