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# Bindings to Cache

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# Pure CSP

- HTML tags
- CSS
- COS + CSP tags (hidden COS)

```

<form name="theForm">
<table cellspacing="5">
<tr>
  <td align="left"><b>SQL Query:</b>
  <br><textarea cols="80" name="QUERY" rows="4">#(..EscapeHTML($get(%req
  <td><input name="btnSubmit" type="submit" value=" Go "></td>
</tr>
</table>
</form>

<hr>

<!-- CREATE A TABLE TO DISPLAY THE RESULTS -->

<table bgcolor="#DDDDFF" border="1">
<tr>

  <!-- LOOP OVER COLUMNS TO CREATE COLUMN HEADERS -->
  <csp:while condition="(col<query.GetColumnCount())" counter="col">
  <th align="left"><b>#(..EscapeHTML(query.GetColumnName(col)))#</b></th>
  </csp:while>
</tr>

```

# Pure CSP

- More or less static
- FrontEnd and BackEnd mixed
- Maintenance can become a pain in the ....
- Rapid development (if you know COS)

# CSP & AJAX

- HTML tags & CSS & COS + CSP tags
- Javascript that executes COS server side
- Returns data (sync and async)

# CSP & AJAX FrontEnd

```

<script language="JavaScript" type="text/javascript">
function lookupZipCode()
{
    // first do browser-side validation of zip code
    var zipcode = self.document.Address.Zip.value;
    if (zipcode.length != 5) {
        alert('A ZIP code must contain 5 digits. ');
        return false;
    }

    // now invoke server-side method to look up zipcode
    if (self.document.Address.type[0].checked) {
        #call(..validateZipCode(zipcode))#
    } else {
        #server(..validateZipCode(zipcode))#
    }

    return true;
}

```

```

<form name="Address">
<table cellpadding="5">
<tr>
<td align="right"><b>Zip:</b></td>
<td><input name="Zip" onblur="lookupZipCode();" type="text" value=""></td>
</tr>
<tr>
<td align="right"><b>City:</b></td>
<td><input name="City" type="text" value=""></td>
</tr>
</table>

```

# CSP & AJAX - BackEnd

```
<script arguments="zip:%String" language="Cache" method="validateZipCode">  
  
  // server-side method to process zipcode  
  // this method looks up a zipcode in the database  
  // if it finds it, it sends it back to the browser using JavaScript  
  // if it cannot, it returns a JavaScript alert command.  
  
  New city,state  
  
  // Use embedded SQL to perform the query  
  &sql(  SELECT City,State INTO :city,:state  
        FROM Sample.USZipCode  
        WHERE ZipCode = :zip )  
  
  If (SQLCODE '= 0) {  
    // send alert command back to browser.  
    &javascript< alert(#{..QuoteJS("Failed to find ZIP code: "_zip))#}; >  
  }  
  Else {  
    // update fields within browser.  
    &javascript< CSPPage.document.Address.City.value = '#{city}#'; >  
    &javascript< CSPPage.document.Address.State.value = '#{state}#'; >  
  }  
  
  Quit  
</script>
```

# CSP & AJAX

- Dynamic
- FrontEnd and BackEnd can be mixed
- Maintenance can become a problem

# REST

- HTML tags & CSS
- Framework of your choice
- Separation of concerns
- UI separated from business logic / DB data
- Industry standard
- Technology independent



# Dispatch class

Edit definition for web application /summit/v1:

General

Application Roles

Matching Roles

Name	<input type="text" value="/summit/v1"/>	
	Required. (e.g. /csp/appname)	
Description	<input type="text"/>	
Namespace	<input type="text" value="SUMMIT"/>	Default Application for SUMMIT: /csp/summit <input type="checkbox"/> Namespace Default Application
Enabled	<input checked="" type="checkbox"/> Application <input checked="" type="checkbox"/> CSP/ZEN <input type="checkbox"/> Inbound Web Services <input type="checkbox"/> DeepSee <input type="checkbox"/> iKnow	
Permitted Classes	<input type="text"/>	
Security Settings	Resource Required <input type="text"/> Group By ID <input type="text"/> Allowed Authentication Methods <input checked="" type="checkbox"/> Unauthenticated <input type="checkbox"/> Password <input type="checkbox"/> Login Cookie Two-Factor Enabled <input type="checkbox"/>	
Session Settings	Session Timeout <input type="text" value="900"/> seconds Event Class <input type="text"/> Use Cookie for Session <input type="text" value="Always"/> Session Cookie Path <input type="text" value="/summit/v1/"/>	
Dispatch Class	<input type="text" value="Summit.RestHandler"/>	
CSP File Settings	Serve Files <input type="text" value="Always"/> Serve Files Timeout <input type="text" value="3600"/> seconds CSP Files Physical Path <input type="text"/> <input type="button" value="Browse..."/> Package Name <input type="text"/> Default Superclass <input type="text"/> CSP Settings <input checked="" type="checkbox"/> Recurse <input checked="" type="checkbox"/> Auto Compile <input checked="" type="checkbox"/> Lock CSP Name	
Custom Pages	Login Page <input type="text"/> Change Password Page <input type="text"/> Custom Error Page <input type="text"/>	

# Dispatch class

- Business logic

```
1 Class Summit.RestHandler Extends %CSP.REST
2 {
3
4
5
6  %XDData UrlMap
7  {
8  %<Routes>
9    <Route Url="/Persons" Method="GET" Call="GetPersons"/>
10   <Route Url="/Person/:id" Method="GET" Call="GetPerson"/>
11   <Route Url="/Person/:id" Method="POST" Call="SavePerson"/>
12   <Route Url="/Person" Method="POST" Call="SavePerson"/>
13 </Routes>
14 }
15
```

# REST in Caché

```
ClassMethod GetPerson(pPID As %String) As %Status
{
  Try {
    Set objPerson=##class(User.Person).%OpenId(pPID)
    Set %response.ContentType="application/json"
    Do ##class(%ZEN.Auxiliary.jsonProvider).%ObjectToJSON(objPerson)
  }
  Catch (e) {
    Set tSC=e.AsStatus()
  }
  Quit tSC
}
```



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Questions

