# 技術文件分享

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### 前端UI-廣播事件介紹

### (Observer Pattern Using ExtJS)

#### 情境:

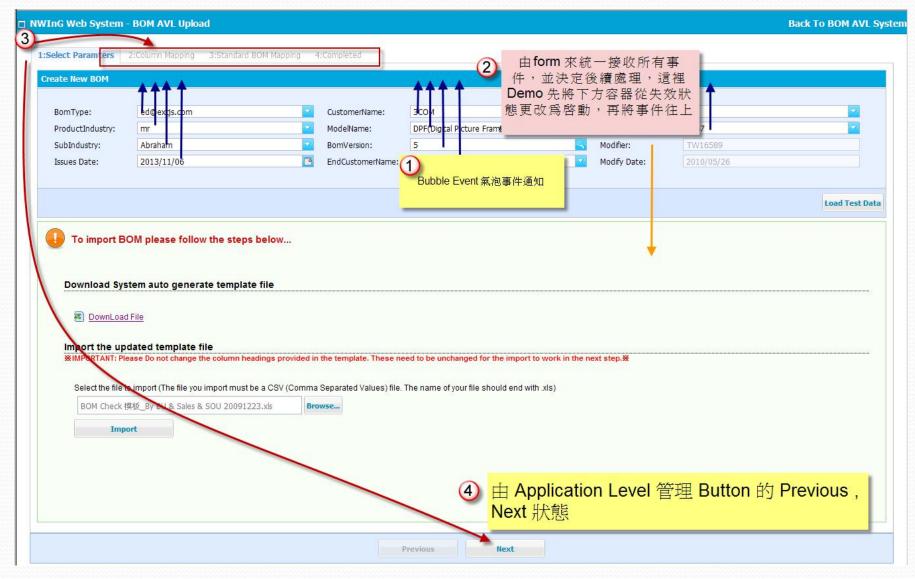
假設有一個表單,包含了30個組件(文字框、下拉式選單、核選鈕...),每一個組件狀態改變會影響主題,而主題又得改變其它組件狀態,或是再回傳改變原組件狀態,在傳統上手法上,可能會在每一個組件加上 on Change, on Click, on Blur .... 等等的 Event, 然後撰寫一個(數個)方法,一個一個去改變狀態、改變資料...

假設今天需求變動,某些組件需移除,或是某些狀態的邏輯需要更動,這時程式碼就會開始亂掉,同時邏輯也極有可能發生衝突..

如果,每個組件能夠自行處理本身狀態並回報給上層,再由上層決定如何將事件處理,要移除時也不會影響整體架構...



### **Events Demo**



### SubSonnic ORM

- 利用 T4 產生 DataBase ORM
- 好用的 ActiveRecord
- 已實作 Repository Pattern
- 可使用標準LINQ 表達式語法
- 可使用標準LINQ Lambda 語法
- 可使用 Transaction機制
- 可再將物件轉回 DataTable, DataSet, 靈活性高
- 亦可使用其提供的 Fluent 語法 (利如 And,Or,Like...)

### SubSonic - 輸出成 SQL COmmand

程式碼

var query = db.Select.From()
.Paged(2, 30)
.BuildSqlStatement();

輸出

```
SELECT * FROM (SELECT ROW NUMBER() OVER ( ORDER BY
[dbo].[BOM UserList].[id]) AS Row, [dbo].[BOM UserList].[id],
[dbo].[BOM UserList].[userID], [dbo].[BOM UserList].[userName],
[dbo].[BOM UserList].[userForeignName],
[dbo].[BOM UserList].[userPassword],
[dbo].[BOM UserList].[departmentID],
[dbo].[BOM UserList].[userExtension], [dbo].[BOM UserList].[notesID],
[dbo].[BOM UserList].[userEMail], [dbo].[BOM UserList].[userTitleID],
[dbo].[BOM UserList].[userResponsibilityID],
[dbo].[BOM UserList].[factoryID], [dbo].[BOM UserList].[BU],
[dbo].[BOM UserList].[BG], [dbo].[BOM UserList].[userIndustry],
[dbo].[BOM UserList].[defaultLanguage],
[dbo].[BOM UserList].[userIDCreatorID],
[dbo].[BOM UserList].[userIDCreatedDate],
[dbo].[BOM UserList].[userIDModifierID],
[dbo].[BOM UserList].[userIDModifyDate],
[dbo].[BOM UserList].[userIDActive], [dbo].[BOM UserList].[agentID],
[dbo].[BOM UserList].[sales], [dbo].[BOM UserList].[PM],
[dbo].[BOM UserList].[salesmanager], [dbo].[BOM UserList].[BUHEad],
[dbo].[BOM UserList].[CEVP], [dbo].[BOM UserList].[IT],
[dbo].[BOM UserList].[role], [dbo].[BOM UserList].[orderItem],
[dbo].[BOM UserList].[salesBoss] FROM [dbo].[BOM UserList] ) AS
PagedResults WHERE Row >= 31 AND Row <= 60
```

### SubSonic ExecuteTypedList

程式碼

```
var query = Select
.From<BOM_UserList>()
.Paged(2, 30)
.ExecuteTypedList<BOM_UserList>();
```

輸出

```
foreach (var bomUserList in query)
{
    Response.Write(bomUserList.userID + "--" +
    bomUserList.salesmanager + "-" +
    bomUserList.userForeignName + "<BR>");
}

F0817287---Xiang-Pin Peng
F0817290---Xin-Xin Liu
F0817291---Xue Qiong
F0817293---Fei-Hua Wang
F0817294---Qiu-Mei Guo
F0817295---Ming-Juan Xiao
F0817296---Huang Xiang
F0817297---Zong-Zong Chen
F0817298---Zhang Pan
```

### SubSonic ExecuteReader - 轉回DataTable

#### 程式碼

#### 輸出

```
int fc = query.FieldCount;
while (query.Read())
     for (int i = 0; i < fc; i++)
         test += query.GetValue(i) + "<BR>";
Response.Write(test);
// 轉成 DataTable
DataTable dt = new DataTable("dtTest");
dt.Load(query);
//Bind To GridView
GridView2.DataSource = dt;
GridView2.DataBind();
```

# ViewModel Pattern 介紹

在實際情況中,我們常常會面臨到資料庫模型及領域(or 檢視模型)的轉換來符合輸出的需求,例如以下狀況:

#### LINQ 提供了匿名型別可以方便的轉換

但是在某些狀況下,如果這個需求一多,就會導致Copy & Paste 的動作增加,副作用就是當面臨需求變動時,要更改的地方也多。

## AutoMapper

• 利用 AutoMapper 可以幫助我們在資料庫模型及領域

模式自動轉換資料

```
public class Customer
{
   public int CustomerID { get; set; }
   public string CustomerName { get; set; }
   public string CustomerCode { get; set; }
   public string CustomerRegion { get;set;}
}

public class CustomerViewItem
{
   public string CustomerName { get; set; }
   public string CustomerCode { get; set; }
}
```

```
internal class CustomerToCustomerViewItemConverter :
   ITypeConverter<Customer, CustomerViewItem>

{
   #region Implementation of ITypeConverter<Customer, CustomerViewItem>

   public Customer Convert(ResolutionContext context)
   {
      var customer = (MyUser)context.SourceValue;

      CustomerViewItem customerViewItem = new CustomerViewItem
      { CustomerName = Customer.CustomerName + CustomerCode };

      return customer;
   }

#endregion
}
```

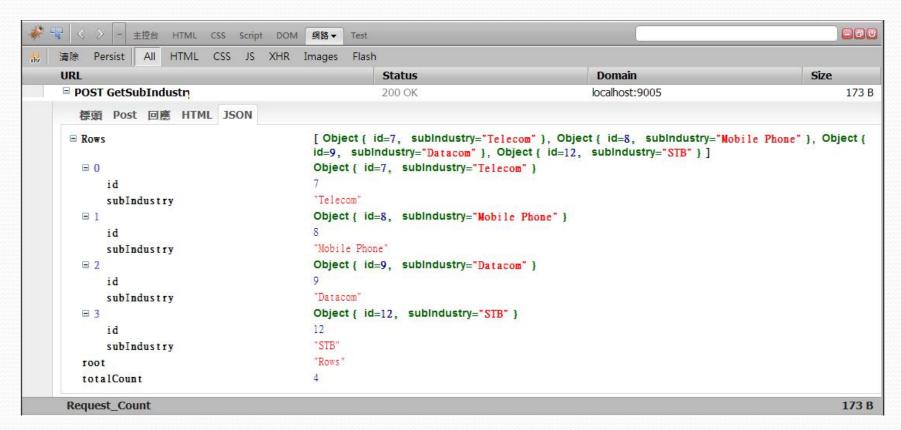
# 擴充方法範例 – 製作ToJson

```
/// <summary>
/// 擴充Quervable class
/// </summarv>
public static class QueryableExtensions
  /// <summary>
   /// 回傳 ExtJS 專用 Json 字串 ex:{"root":"Rows","totalCount":5, "Rows":[{"AVLDate":new Date(1226937)
   /// <typeparam name="T">型別</typeparam>
   /// <param name="source">Queryable 來源</param>
   /// <param name="totalCount">額外傳入總筆數</param>
   /// <param name="jsonFormatting">格式化</param>
   /// <returns>Json 字串</returns>
   public static string ToJson<T>(this IQueryable<T> source, int? totalCount,
       JsonFormatting jsonFormatting) where T: class
       object objContext;
                                                        var query = db.Select.From<BOM_BOMINFO>()
       if (totalCount != null)
                                                                .Paged(2, 50)
           objContext = new
                                                                .ToList<TestBom>()
              root = "Rows",
              totalCount.
                                                                .ToJson();
              Rows = source
          1:
       else
           objContext = new { Rows = source };
       var ObjJson = JObject.FromObject(objContext);
       var formatting = Formatting.None;
       if (jsonFormatting == JsonFormatting.Indented)
           formatting = Formatting. Indented;
       return JsonConvert.SerializeObject(ObjJson, formatting, new JavaScriptDateTimeConverter());
```

## 擴充方法簡單介紹-將常用的String 處理

```
public static class Extensions
   /// <summary>
   /// Replace "." To "-"
   /// </summary>
   /// <param name="s"></param>
   /// <returns>string</returns>
   public static string 點轉直線(this string s)
       return s.Replace (".", "-");
   /// <summary>
                                     String.Format(@".Add(outDir + ""{0}/{1}"")",
   /// Replace "-" To "\"
                                                        relativePath.反斜線轉斜線().TrimStart('/'), fileInfo.Name)
   /// </summary>
   /// <param name="s"></param>
   /// <returns>string</returns>
   public static string 直線轉空白(this string s)
       return s.Replace ("-", "");
   public static string 直線轉底線(this string s)
       return s.Replace("-", " ");
   public static string 斜線轉反斜線(this string s)
       return s.Replace ("/", @"\");
   public static string 反斜線轉斜線(this string s)
       return s.Replace (@"\", "/");
   public static string 去空白(this string s)
       return s.Replace (@" ", "");
   public static string Repeat(this string s,int count)
```

# JSON Data View (Use FireBug)

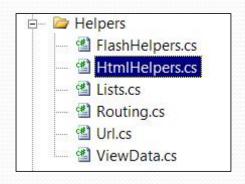


### 專案建立設定流程(My Pattern)

#### SiteMaster

```
<%@ Master Language="C#" Inherits="System.Web.Mvc.ViewMasterPage" %>
   <!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Strict//EN" "http://www.w3.org/TR/xhtml1/DTD/xhtml1-strict.dtd">
  A<head runat="server">
   ### Html.Telerik().StyleSheetRegistrar().DefaultGroup(dg=>dg.Enabled(false))
                                                                                  利用 Telerik 資源管理器載入
           .StyleSheets (css=>css.AddSharedGroup (CSSGroup.extjscss)
8
9
                               .AddSharedGroup (CSSGroup.icons))
                                                                                  基底 CSS 及 Javascript 檔案
0
   <%= Html.Telerik().ScriptRegistrar().DefaultGroup(dg=>dg.Enabled(false))
           .Scripts(js=>js.AddSharedGroup(JSGroup.extjs))
13
   <script language="javascript">
       Ext.onReady(function () {
16
           Ext.ns('App');
           App = { ProjectName: 'BOM AVL Web System', Developer: 'John', Root: '<%=Url.SiteRoot() %>' };
8
       });
9
   </script>
                                                         View Layer - User ExtJS 時定義App 全域參數
   </head>
                                                                  (搭配Server Side 統一參數)
  E<body>
23
       <div id="main">
24
           <asp:ContentPlaceHolder ID="MainContent" runat="server"></asp:ContentPlaceHolder>
       </div>
   </body>
   </html>
```

## 搭配資源管理第二種引入CSS 及 JS 方法 定義 HtmlHelper



由於開發時會陸續開發前端UI類別,我的習慣是一個類別一個檔案,如果一個個加入 ScriptsManager,可能會有點煩瑣,這時可以利用 HTMLHelper 先引入,最終利用T4 一次將所有檔案壓縮並引入

HTMLHelper: 預先定義好的路徑,只需傳入參數

#### 例如:

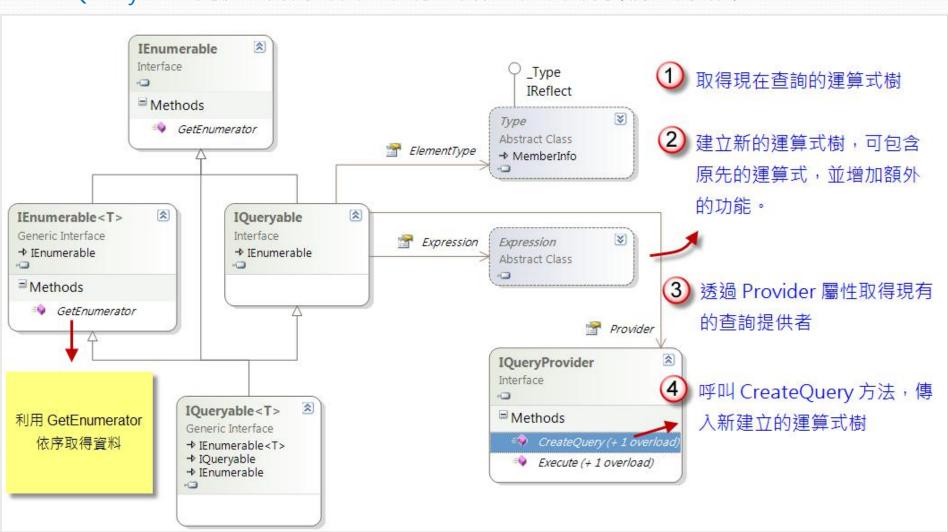
```
<%=Html.ExtUXCSS("FileUploadField.css")%>
<%=Html.Script("extux/FileUploadField.js")%>
<%=Html.UIScript("UploadWizard/WizardTabPanel.js")
%>
<%=Html.UIScript("UploadWizard/index.js") %>
```

# LINQ 心得

- 統一的資料查詢語言,使用熟悉的查詢運算式
- 編譯器會為我們做大量的驗證
- VS2008/2010 提供的好用 IntelliSense, 幫助我們有效撰寫查詢運算式。
- ORM 系統必須留意查詢算式的寫法,因為有可能造成的 SQL Command 會導致資料庫執行效能變差(不過這部份與下 TSQL 一樣都需要調校)
- LINQ 也允許直接下 T-SQL 指令,在某些狀況下,如果查詢運算式無法完成式,手動寫指令反而是好方法。
- 研究如何寫自訂的查詢語法,可以有效提高效率。

## IQueryable 介面

IQueryable 提供查詢的介面,執行查詢運算式取得我們要的結果



# Expression 運算式樹

```
#region 建立方法呼叫
//利用反射(映)方式取得 MethodInfo 物件,藉由 StartsWith 的方法名稱以及參數型別來建立MethodInfo 的方法資訊
MethodInfo method = typeof(string).GetMethod("StartsWith",
   new[] {typeof(string)});
//使用 Expression.Parameter 的方法,來建立參數的表達方式,
//傳入參數的型別及參數名稱 (可自訂)
var target = Expression.Parameter(typeof(string), "a"); //a - 可隨意自訂
var methodArg = Expression.Parameter(typeof(string), "b"); //b - 可隨意自訂
#endregion
#region 透過上面部份的運算式來建立 CallExpression
//建立一個methodArgs 的陣列,用來傳遞到 StartsWith 方法當中
Expression[] methodArgs = new[] {methodArg};
//透過 Expression.Call 來建立對應的運算式
Expression call = Expression.Call(target, method, methodArgs);
#endregion
#region 將Call 轉換成 LambdaExpression
var lambdaParameters = new[] { target, methodArg };
//回傳True or false (比對結果)
var lambda = Expression.Lambda<Func<string, string, bool>>(call, lambdaParameters);
//轉換成委派實體
var compiled = lambda.Compile();
#endregion
Console.WriteLine(compiled("First", "Test"));
Console.WriteLine(compiled("First", "Fr"));
```

# 運算樹範例-2 製作LINQ 串接語法 And

```
public static void IQueryableTest()
   var custs = new List(Customer)
       new Customer {
           CustomerCode = "test1",
           CustomerName = "John"
       new Customer {
           CustomerCode = "test2",
           CustomerName = "Ant"
   var ttt = custs.AsOuervable();
   ParameterExpression param = Expression.Parameter(typeof(Customer), "c");
   Expression right = Expression.Constant("John");
   Expression left = Expression.Property(param, typeof(Customer).GetProperty("CustomerName"));
   Expression filter = Expression.Equal(left, right);
   Expression pred = Expression.Lambda(filter, param);
   Expression expr = Expression.Call(typeof(Queryable), "and", new Type[] { typeof(Customer) },
        Expression.Constant(ttt), pred);
   IQueryable Customer query = custs.AsQueryable().Provider.CreateQuery Customer (expr);
   Console.WriteLine(query);
```

# 運算式樹稍複雜..

Expression<Func<Product, bool>> predicate = c => true;





var predicate = PredicateBuilder.True <Product> ();

# 製作自己的And

假設: 有一個多條件查詢,系統要根據使用者是否有選擇項目來判斷需不需要組合查詢,一般會這樣做

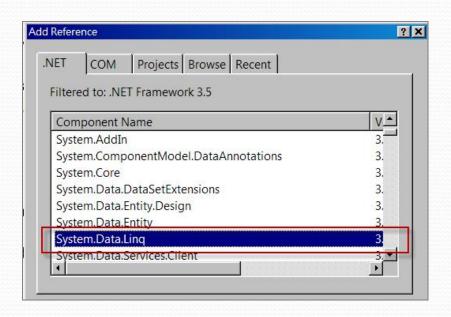
```
SQL Command
string sqlCmd = "Select * From Customer Where 1=1";
string customerName = Request["customer"];
string user = Request["user"]
string customerCode = Request["customerCode"]
string customerRegion = Request["customerRegion"]
if(! String.lsNullOrEmpty(customerName ))
            SqlCmd = SqlCmd + " and customerName = " + customerName + "";
if(! String.IsNullOrEmpty(user ))
            SqlCmd = SqlCmd + " and user="" + user+ "";
if(! String.IsNullOrEmpty(customerCode ))
            SqlCmd = SqlCmd + " and customerCode = " + customerCode + "";
LINQ
var query = from c in db.Customer select c;
if(! String.lsNullOrEmpty(customerName ))
            query = query.where(c=>c. customerName == customerName)
            ..... Repeat
```

#### 如果能..

var query = db.select.From < Customer > ()
.TryAnd(c=>c.customerName == customerName)

# 要擴充自己的SQL 對應語法需 先引入 System.Data.LINQ

using System.Data.Linq.SqlClient;



# JAVASCRIPT&CSS FILE MANAGEMENT 心 得 分 享

# JAVASCRIPT &CSS FILE MANAGEMENT 心得分享

現今的俗稱 Web 2.0, 強調 AJAX 及 使用者介面操作的便利性,而這表示Javascript 及CSS的使用量佔相當大的比重,在引入資源檔案時最常使用的手法可能這樣寫 ....

#### YAHOO! DEVELOPER NETWORK

**MY PROJECTS** 

SERVICES & TOOLS >

RESOURCES >

SUPPORT V

YDN / YSlow / YSlow Guide

#### YSlow User Guide

#### PERFORMANCE RULES

Yahoo!'s Exceptional Performance team has identified 34 rules that affect web page performance. YSlow's web page analysis is based on the 22 of these 34 rules that are testable. These testable rules are listed below roughly in order of importance and effectiveness. Studies have shown that web page response time can be improved by 25% to 50% by following these rules.

- 1. Minimize HTTP Requests
- 2. Use a Content Delivery Network
- 3. Add an Expires or a Cache-Control Header
- 4. Gzip Components
- 5. Put StyleSheets at the Top
- 6. Put Scripts at the Bottom
- Avoid CSS Expressions
- 8. Make JavaScript and CSS External
- 9 Reduce DNS Lookups
- 10. Minify JavaScript and CSS
- 11. Avoid Redirects
- 12. Remove Duplicate Scripts
- Configure ETags
- 14. Make AJAX Cacheable
- 15. Use GET for AJAX Requests
- Reduce the Number of DOM Elements
- 17. No 404s
- 18. Reduce Cookie Size
- 19. Use Cookie-Free Domains for Components
- 20. Avoid Filters
- 21. Do Not Scale Images in HTML
- 22. Make favicon ico Small and Cacheable

### Yahoo的網頁效能建議指南

- Make JavaScript and CSS External
- Reduce DNS Lookups
- Minify JavaScript and CSS

# JAVASCRIPT &CSS FILE MANAGEMENT

## 心得分享

後來,有了Javascript 函式庫 – 動態資源載入器(類似C# 的using),在開

發模式時切成一個一個小(類別)檔案,在發佈時合併並壓縮(利用YUI

Compressor) 成小模組,可能換成這樣寫..

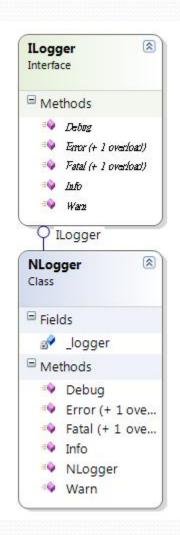
for (var

```
| Page 1 | Page 2 | Page 1 | Page 2 | Page 2 | Page 1 | Page 2 | Page 2 | Page 2 | Page 2 | Page 3 | Page 4 | Page 5 | Page 5 | Page 6 | Page 6 | Page 6 | Page 7 | Page 8 | Page 8 | Page 8 | Page 9 | Page 9 | Page 9 | Page 1 | Page 1 | Page 9 | Page 1 | Page 2 | Page 1 | Page 1 | Page 1 | Page 1 | Page 2 | Page 2 | Page 1 | Page 2 | Page 2 | Page 2 | Page 2 | Page 3 | Page 4 |
```

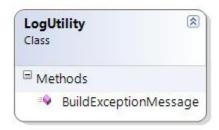
1: 資源整理仍然不方便,同時最後需要合併及壓縮的工作也是繁瑣

Page 3 Page 4

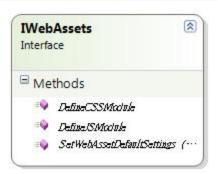
# 類別圖













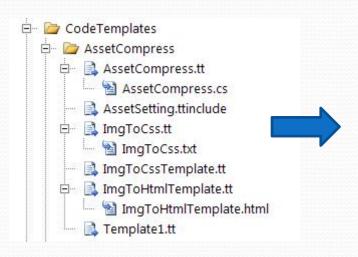
# 依賴注入 (NinjectModule)

```
/// <summary>
/// 宣告主控中心容器
/// </summary>
static IKernel Container ...
protected override IKernel CreateKernel()...
/// <summarv>
/// 定義網站要使用的模組
/// </summary>
class SiteModule : NinjectModule
    public override void Load()
        Bind<ILogger>().To<NLogger>().InSingletonScope();
        Bind<IWebAssets>().To<TelerikWebAssets>().InSingletonScope();
/// <summarv>
/// 網站啟動完成要做的工作
/// </summary>
protected override void OnApplicationStarted()
    AreaRegistration.RegisterAllAreas();
   RegisterAllControllersIn (Assembly.GetExecutingAssembly()
    RegisterRoutes (RouteTable, Routes):
    //載入資源檔
    Container.Get<IWebAssets>()
        .SetWebAssetDefaultSettings()
        .DefineCSSModule()
        .DefineJSModule();
    //寫記錄檔
    Container.Get<ILogger>().Info("應用程式啟動");
```

```
//載入資源檔
Container.Get<IWebAssets>()

.SetWebAssetDefaultSettings()
.DefineCSSModule()
.DefineJSModule();
```

### 利用 T4 程式碼產生 + 壓縮 一次完成



```
/// <summary>
/// 定義網站使用的Javascript模組
/// </summarv>
/// <returns>IWebAssets</returns>
public IWebAssets DefineJSModule()
    const string outDir = PubDir + ScriptDir;
    SharedWebAssets.Scripts(
        script => script
        #region Extis 資源模組定義
            .AddGroup ("Extjs",
                group => group.Add(outDir + "Extjs/ext-all-debug.js")
                            .Add(outDir + "Extjs/ext-all.js")
                            .Add(outDir + "Extjs/ext-core-debug.js")
                            .Add(outDir + "Extjs/ext-core.js")
                            .Add(outDir + "Extjs/jsloader.js")
        #endregion
        #region foxconnlib 資源模組定義
            .AddGroup ("foxconnlib",
                group => group.Add(outDir + "foxconnlib/Foxconn.app.all.js")
                            .Add(outDir + "foxconnlib/Foxconn.app.Base.js")
                            .Add(outDir + "foxconnlib/Foxconn.app.form.AutoCompletedBox.js")
                            .Add(outDir + "foxconnlib/Foxconn.app.grid.AutoMetaGrid.js")
                            .Add(outDir + "foxconnlib/Foxconn.app.language.en.js")
                            .Add(outDir + "foxconnlib/Foxconn.app.language.zh TW.js")
        #endregion
        #region jQuery 資源模組定義
            .AddGroup ("jQuery",
                group => group.Add(outDir + "jQuery/jquery-1.4.2.js")
                            .Add(outDir + "jQuery/jquery-ui-1.8.custom.js")
        #endregion
    return this;
#endregion
```

# 使用方式":

### JAVASCRIPT &CSS FILE MANAGEMENT

心得分享

<compilation debug="true">

- http://localhost:2464/asset.axd?id=base
- GET asset.axd?id=plugin
- GET asset.axd?id=jQuer
- GET asset.axd?id=jQuer

Web.config Compilation debug = "true" 無壓縮,方便開發時期測試除錯

```
參數 標頭 回應
 * ¡Ouery JavaScript Library v1.4.2
 * http://jquerv.com/
 * Copyright 2010, John Resig
 * Dual licensed under the MIT or GPL Version 2 license
 * http://jouerv.org/license
* Includes Sizzle.is
* http://sizzleis.com/
* Copyright 2010, The Dojo Foundation
* Released under the MIT, BSD, and GPL Licenses.
* Date: Sat Feb 13 22:33:48 2010 -0500
(function( window, undefined ) {
// Define a local copy of jQuery
var iOuerv = function( selector, context ) {
               // The jQuery object is actually just tl
               return new jQuery.fn.init( selector, col
```

```
■ GET asset.axd?id=plugir
                                                                200
    buttons.css
    * Gives you some great CSS-only buttons.
   Created by Kevin Hale [particletree.com]
   * particletree.com/features/rediscovering-the-button-element
    See Readme.txt in this folder for instructions.
a.button, button {
  display:block;
  float:left;
  margin: 0.7em 0.5em 0.7em 0;
  padding:5px 10px 5px 7px; /* Links */
  border:1px solid #dedede;
  border-top:1px solid #eee;
```

#### <compilation debug="false">

■ GET asset.axd?id=jQuer

```
* jQuery JavaScript Library v1.4.2
* http://jquery.com/

* Copyright 2010, John Resig
* Dual licensed under the MIT or GPL Version 2 licenses.
* http://jquery.org/license

* Includes Sizzle.js
* http://sizzlejs.com/
* Copyright 2010, The Dojo Foundation
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* Date: Sat Feb 13 22:33:48 2010 -0500
*/
```

- http://localhost:2464/asset.axd?id=base
- GET asset.axd?id=plugin
- GET asset.axd?id=jQuer

自動整合成單一檔案

(function(aH,H){var e=function(aY,aZ){return new e.fn.init(aY,aZ,S,O=/^[^<]\*(<[\w\W]+>)[^>]\*\$|^#([\w-]+)\$/,aN=/^.[^:#\[\.,]\*\$/,a/g,aB=/^<(\w+)\s\*\/?>(?:<\/\l)>?\$/,ax=navigator.userAgent,af,aq=,ao=Object.prototype.hasOwnProperty,ar=Array.prototype.push,al=/.indexOf;e.fn=e.prototype={init:function(aY,aO){var al,aZ,a2,a3;.context=this[0]=aY;this.length=l;return this}if(aY=="body"&&!&selector="body";this.length=l;return this}if(typeof aY=="strir)){if(al[1]){a3=(a0?a0.ownerDocument||a0:x);a2=aB.exec(aY);if(a2(a2[1])];e.fn.attr.call(aY,aO,true)}else{aY=[a3.createElement(a2.cacheable?a2.fragment.cloneNode(true):a2.fragment).childNodes});

#### 自動抓取壓縮過的檔案

jquery-1.4.2.js jquery-1.4.2.min.js jquery-ui-1.8.custom.js

🟂 jquery-ui-1.8.custom.min.js

## 使用 LINQ Pad 撰寫及測試 LINQ

