twMVC#15 – 開發的效能與效率

Kevin Tseng



簡介

- 微軟最有價值專家（MVP）2013,2014
- twMVC 核心成員及講師 （http://mvc.tw）
- SkillTree 專任講師 （http://skilltree.my）
- 部落格「mrkt 的程式學習筆記」
  http://kevintsengtw.blogspot.tw
- Google+ 專頁
  https://plus.google.com/+KevintsengtwBlogspot



效能 Performance

今天不講怎麼調校網頁讓執行速度更快

- twMVC#8「超。光速　網站最佳化實戰」by demo

  http://mvc.tw/Event/2013/3/30

- 簡報

  http://goo.gl/P7P8h2



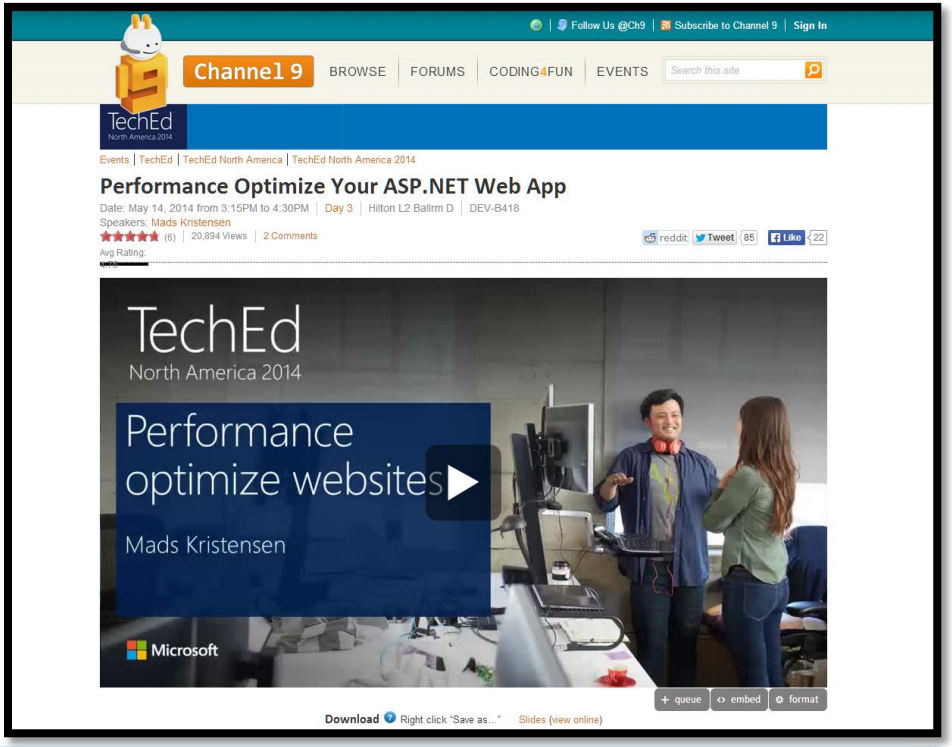
今天不講怎麼調校網頁讓執行速度更快

- TechEd North America 2014 [DEV-B418]

  Performance Optimize Your ASP.NET Web App

  Mads Kristensen

  http://goo.gl/wFZBCU



Yahoo - Yslow (Why Slow)

YAHOO! DEVELOPER NETWORK Developer Solutions APIs & Tools Community Search YDN

YSlow

Install FAQ Community Source

YSlow analyzes web pages and suggests ways to improve their performance based on a set of rules for high performance web pages. Feature highlights:

- Grades web page based on one of three predefined ruleset or a user-defined ruleset;
- It offers suggestions for improving the page's performance;
- Summarizes the page's components;
- Displays statistics about the page;
- Provides tools for performance analysis, including Smush.it™ and JSLint.

Install YSlow for Chrome

YSlow

2,579 人說 YSlow 讚。

Facebook 社群外掛元件

Availability

Firefox Chrome Mobile/Bookmarklet

Opera Safari Command Line

Source Code

» View YSlow Ruleset Limitations across several browsers/platforms.

YSLOW RELATED LINKS

- User Guide
- FAQ
- Scoremeter
- Ruleset Matrix
- Limitations
- License Agreement

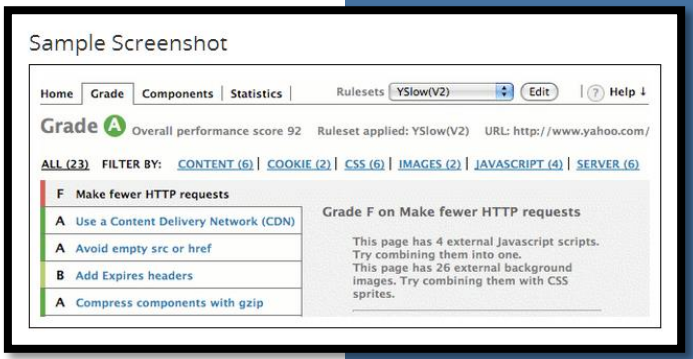
Web Performance Best Practices and Rules

Yahoo's Exceptional Performance team has identified 34 rules that affect web page performance. YSlow's web page analysis is based on the 23 of these 34 rules that are testable. Click each performance rule below to see the details.

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

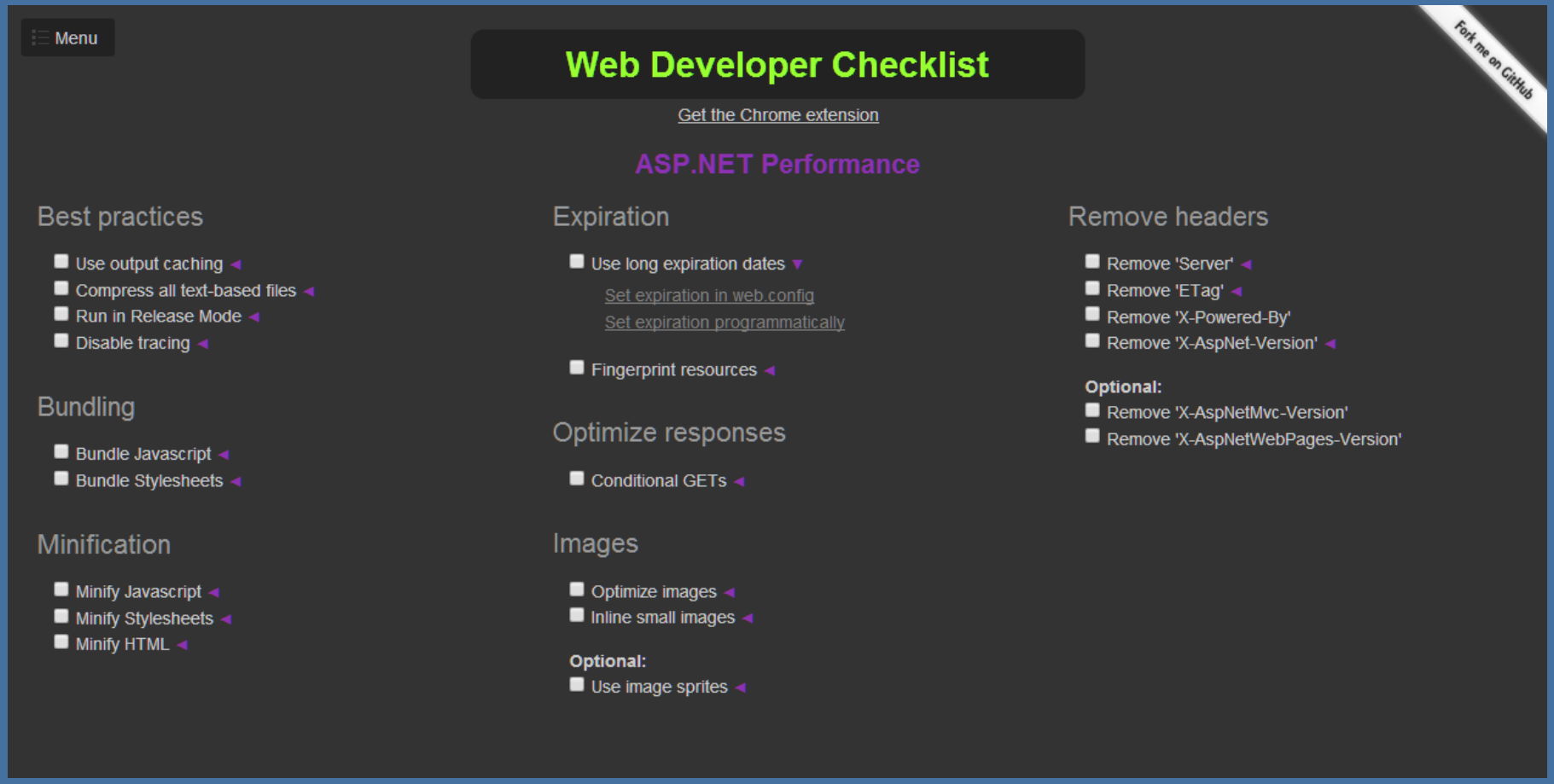
» Check out the YSlow Ruleset Matrix to see how the grade is computed.

Sample Screenshot



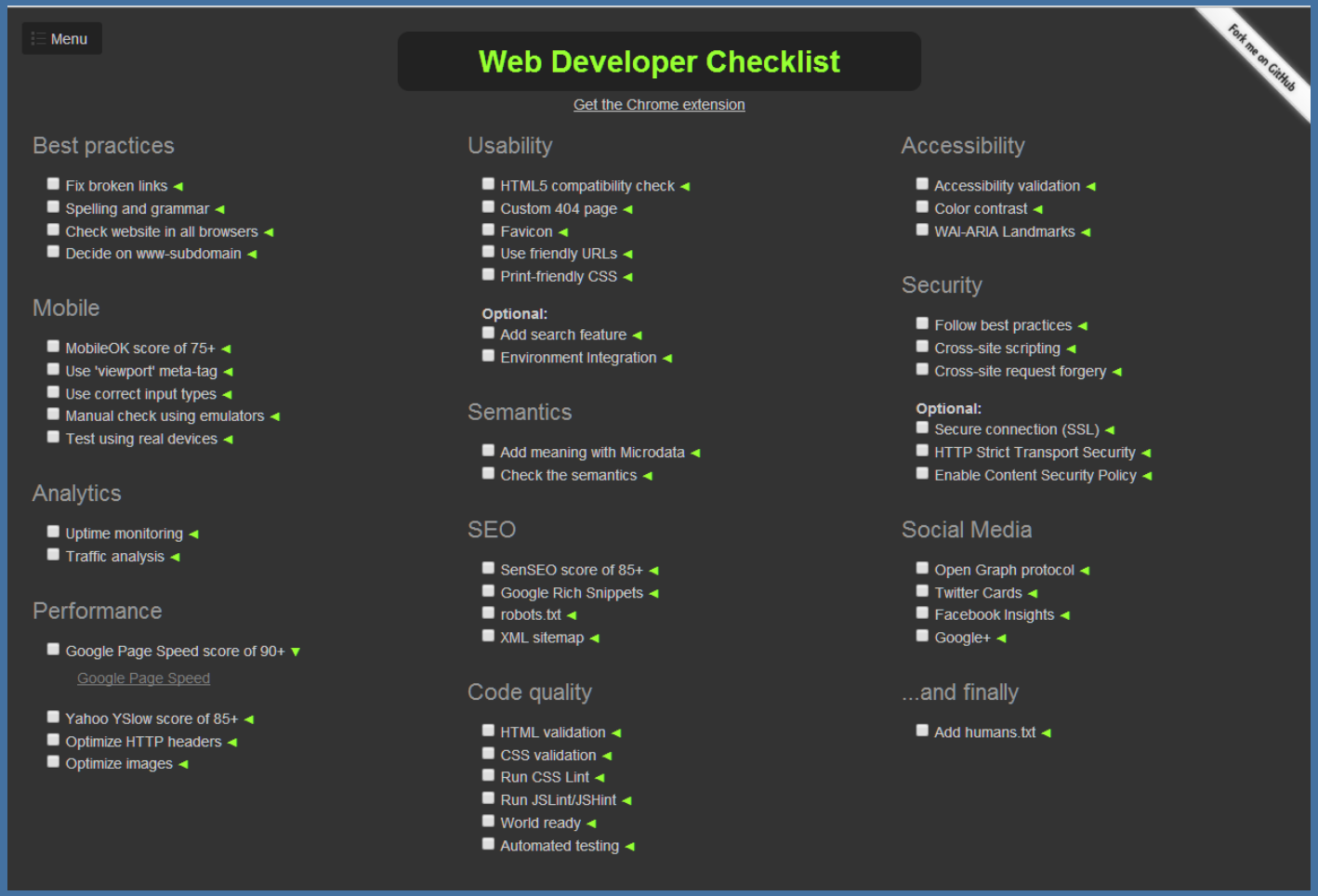
https://developer.yahoo.com/yslow/

Web Developer Checklist – ASP.NET Performance



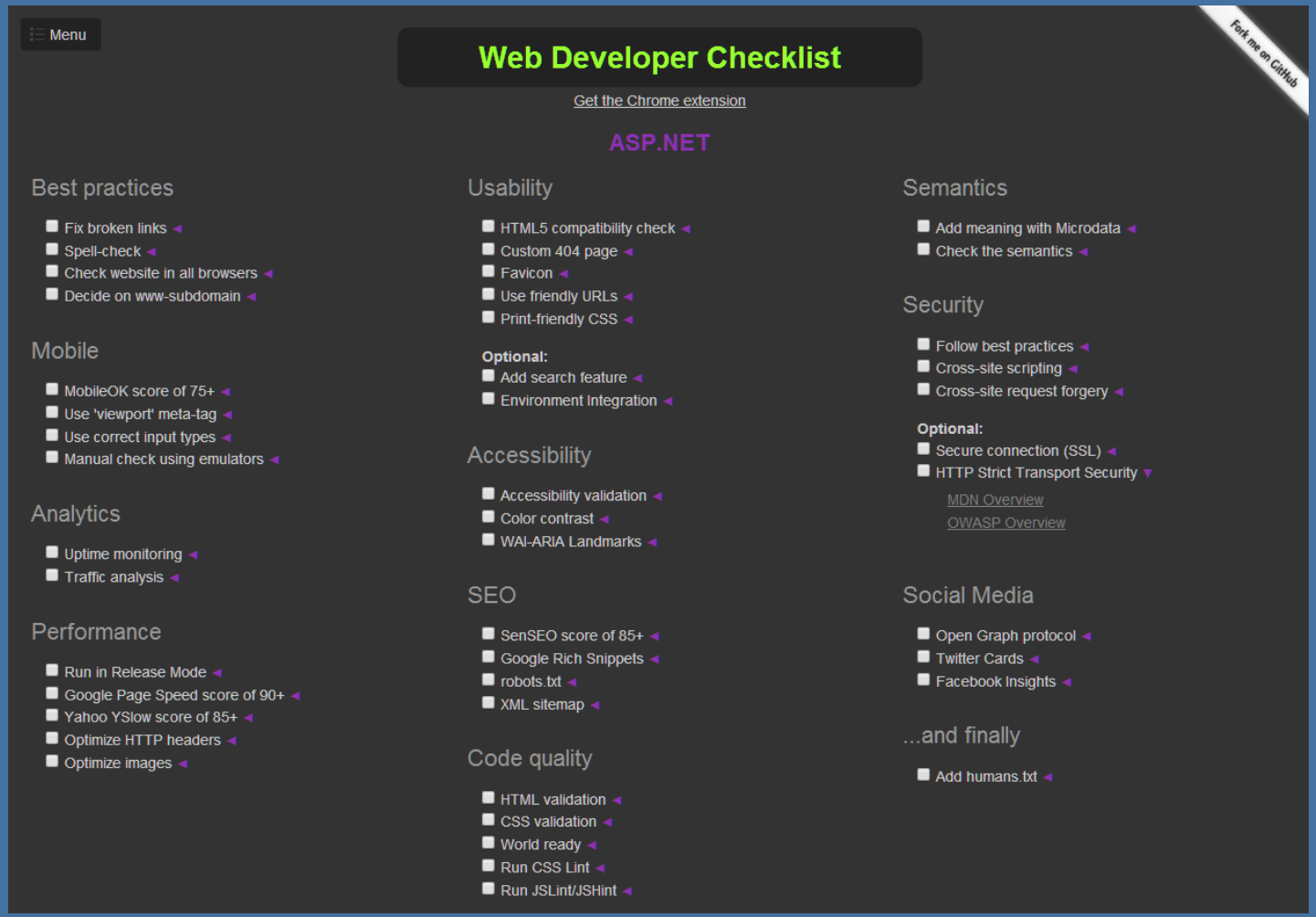
http://webdevchecklist.com/asp.net/performance/

Web Developer Checklist



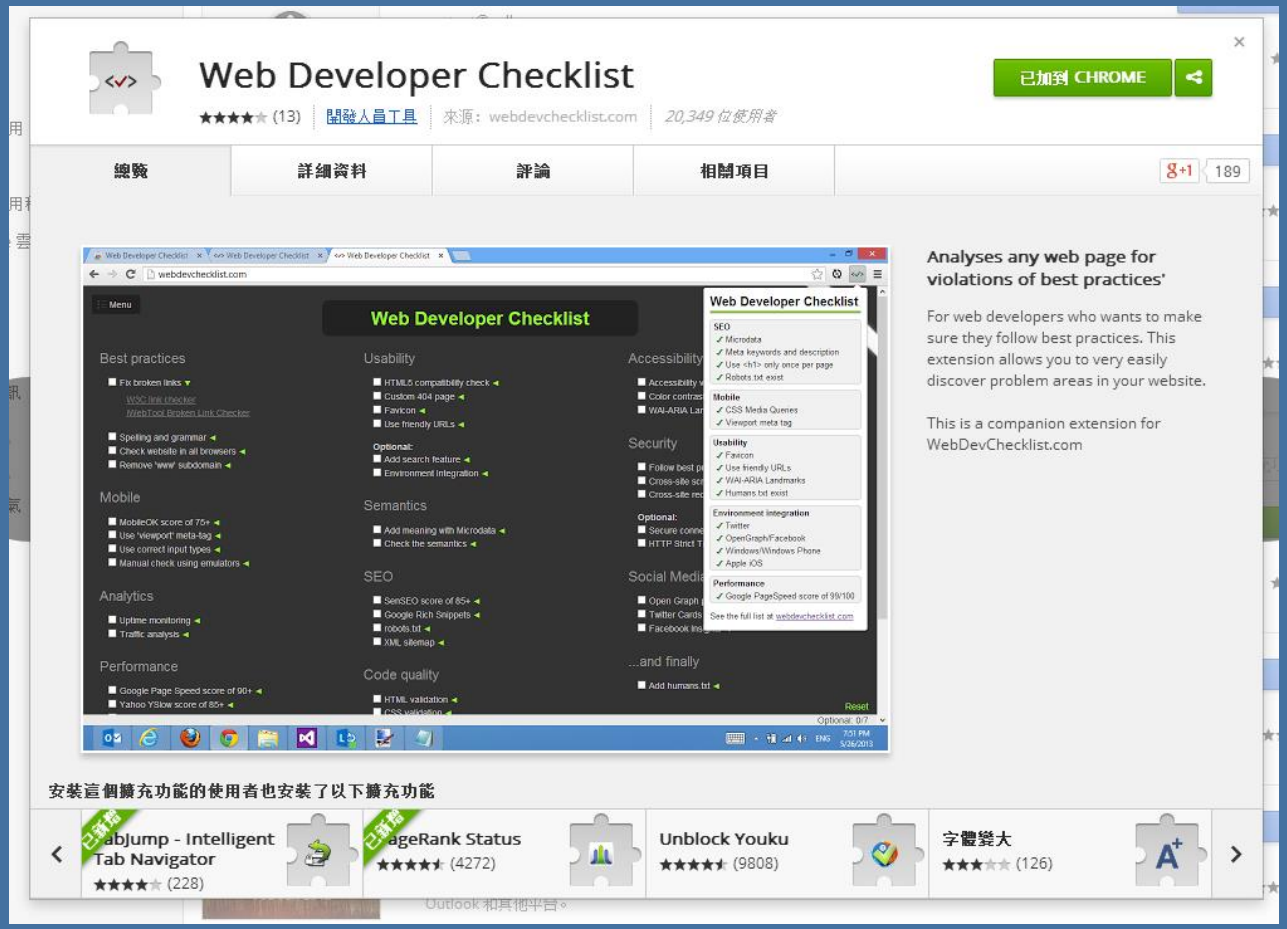
http://webdevchecklist.com/

Web Developer Checklist – ASP.NET



http://webdevchecklist.com/asp.net/

Web Developer Checklist – Chrome Extensions



http://goo.gl/2DqFl

關於效能……

- 不要太早關注效能
- 網頁執行慢，常常是開發時忽略了應注意而未注意的項目
- 很多時候都是程式寫法而造成
- 不當的 LINQ 操作

如何觀察 EF 所產生的 SQL Command

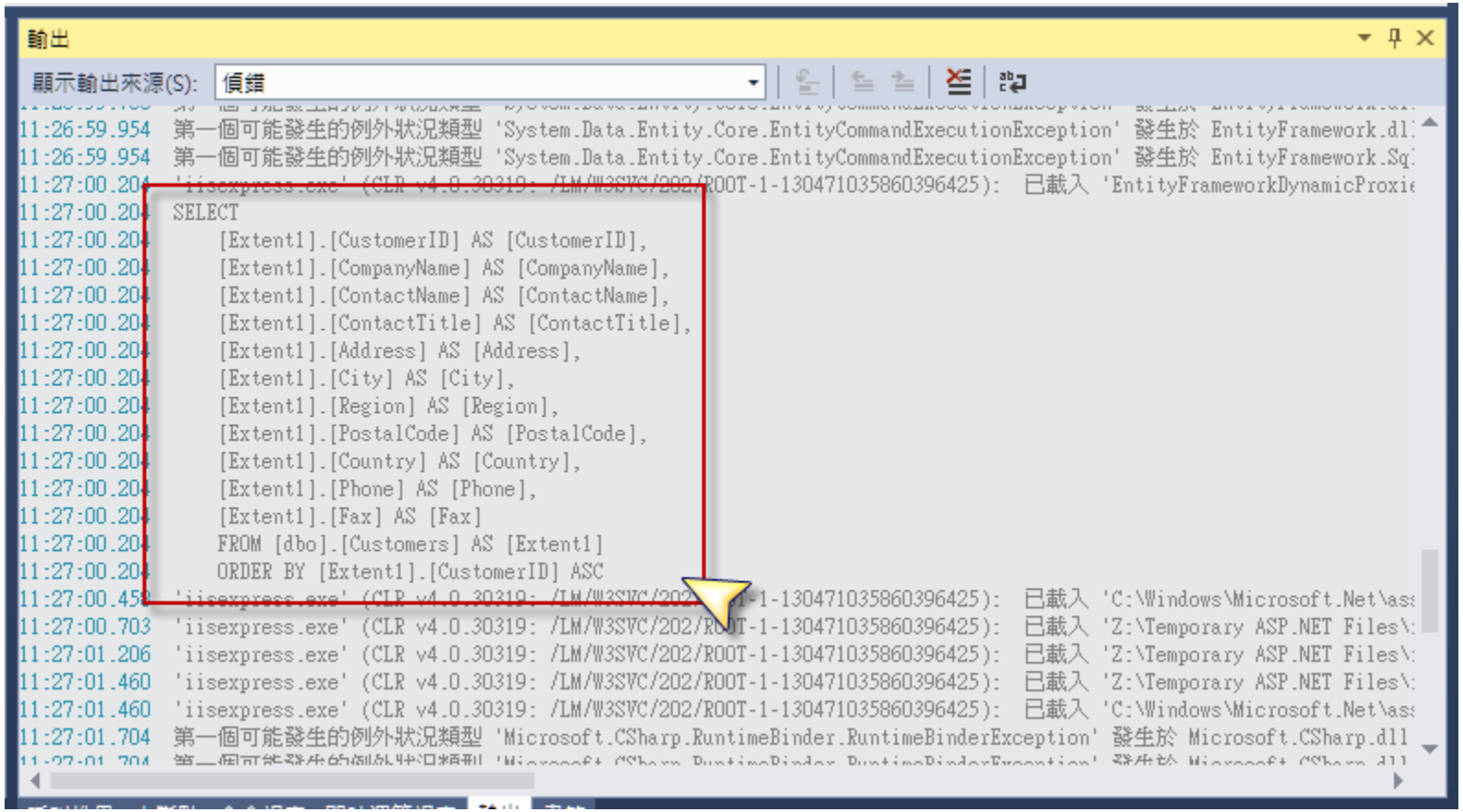
```
1 個參考
private IPagedList<Customer> GetPagedList(int page, int pageSize)
{
    page = page < 1 ? 1 : page;

    var query = db.Customers.OrderBy(x => x.CustomerID);

    Trace.WriteLine(query.ToString());

    return query.ToPagedList(page, pageSize);
}
CustomerController
```

如何觀察 EF 所產生的 SQL Command



如何觀察 EF 所產生的 SQL Command



如何觀察 EF 所產生的 SQL Command – EF6

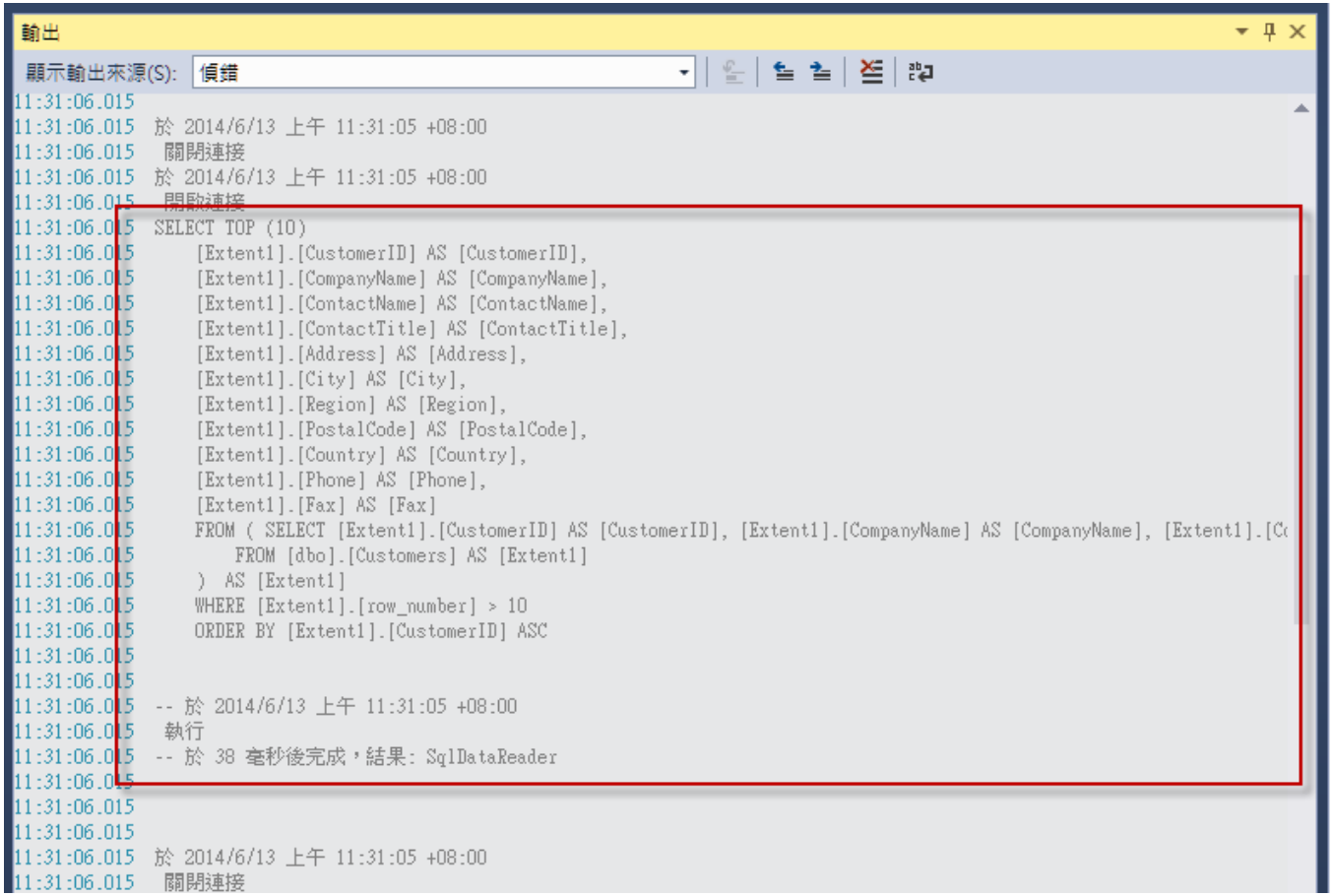
```
1 個參考
private IPagedList<Customer> GetPagedList(int page, int pageSize)
{
    db.Database.Log = (log) => Debug.WriteLine(log);

    page = page < 1 ? 1 : page;

    var query = db.Customers.OrderBy(x => x.CustomerID);

    return query.ToPagedList(page, pageSize);
}
CustomerController
```

如何觀察 EF 所產生的 SQL Command – EF6



如何觀察 EF 所產生的 SQL Command – EF6



Visual Studio - IntelliTrace

- 只有 Ultimate 版本才有此功能



Visual Studio - IntelliTrace



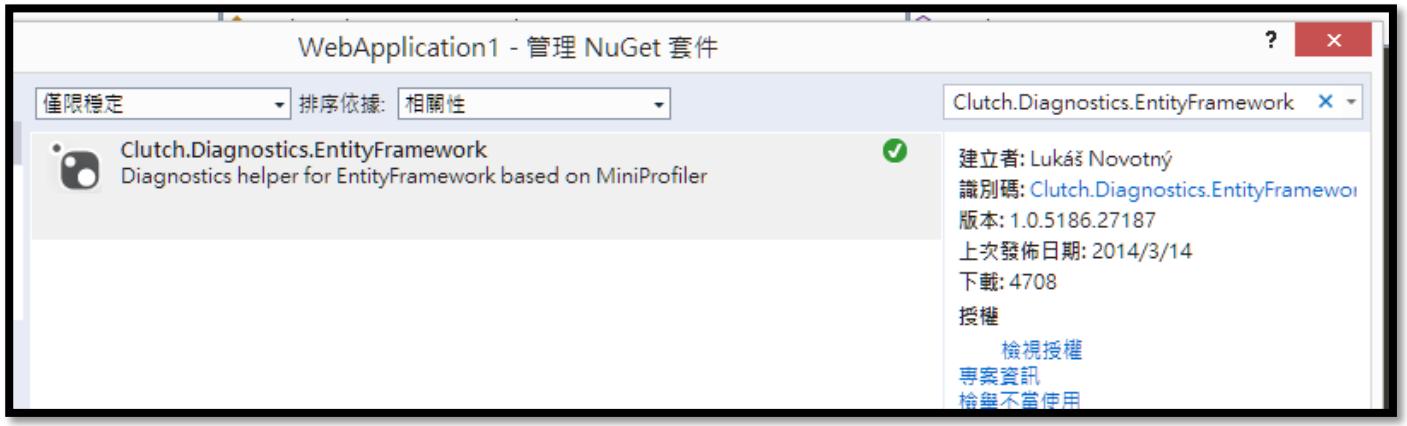
Entity Framework 5

- Clutch.Diagnostics.EntityFramework

  https://github.com/Kukkimonsuta/Clutch

- Nuget

  Install-Package Clutch.Diagnostics.EntityFramework



P.S. 與 NLog 搭配使用

Clutch.Diagnostics.EntityFramework

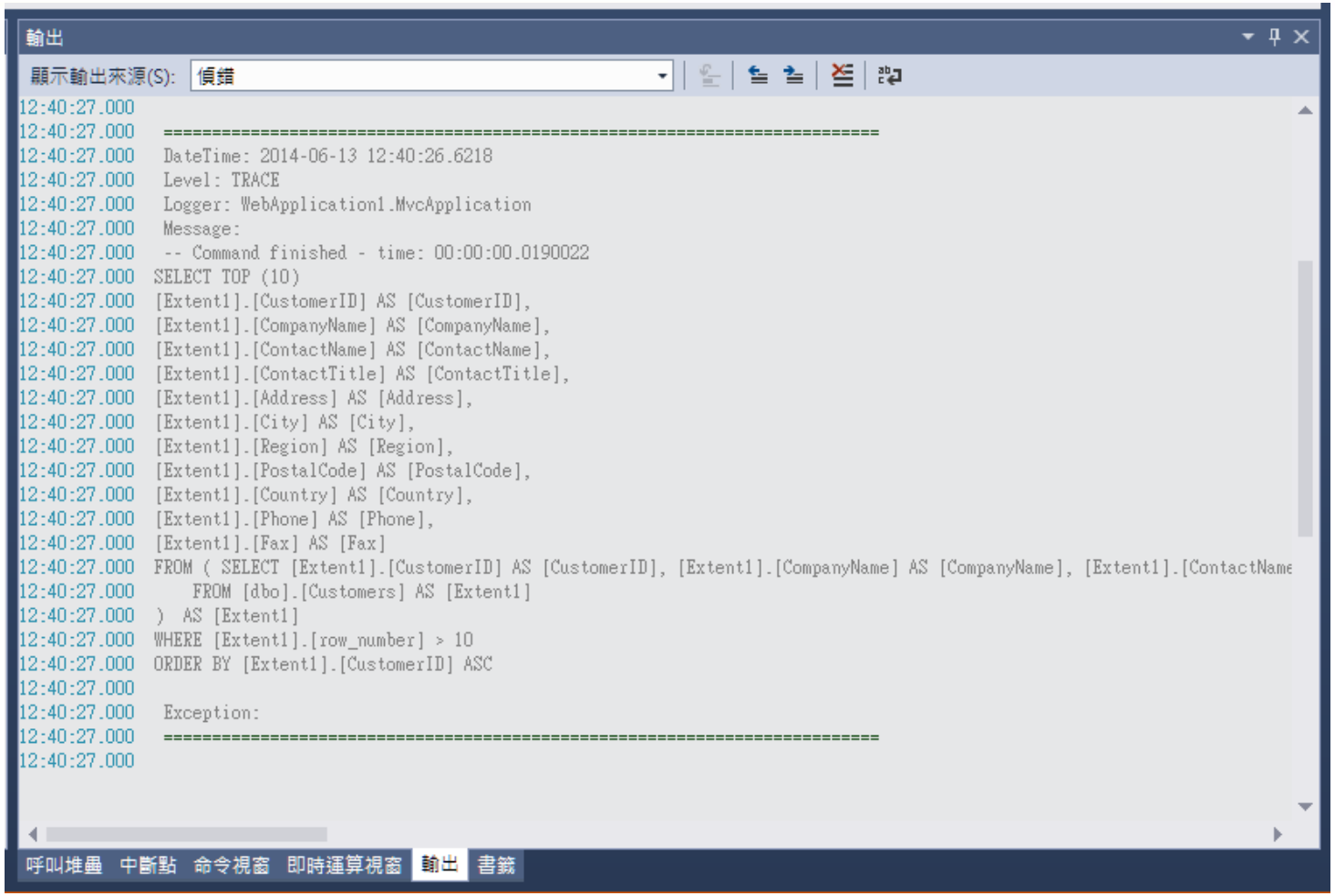
```
0 個參考
public class MvcApplication : System.Web.HttpApplication
{
    private static Logger logger = NLog.LogManager.GetCurrentClassLogger();

    0 個參考
    protected void Application_Start()
    {
        AreaRegistration.RegisterAllAreas();
        FilterConfig.RegisterGlobalFilters(GlobalFilters.Filters);
        RouteConfig.RegisterRoutes(RouteTable.Routes);
        BundleConfig.RegisterBundles(BundleTable.Bundles);

        DbTracing.Enable(
            new GenericDbTracingListener()
                .OnFinished(c => logger.Trace("-- Command finished - time: {0}{1}{2}",
                    c.Duration,
                    Environment.NewLine,
                    c.Command.ToTraceString()))
                .OnFailed(c => logger.Trace("-- Command failed - time: {0}{1}{2}",
                    c.Duration,
                    Environment.NewLine,
                    c.Command.ToTraceString()))
        );

    }
}
```

Clutch.Diagnostics.EntityFramework



Clutch.Diagnostics.EntityFramework



EF6 – Intercepting, Logging

- **Logging and Intercepting Database Operations**

  http://msdn.microsoft.com/zh-tw/data/dn469464.aspx

- **Entity Framework 6 Only**

- 與 NLog 搭配使用（也可使用 Log4Net …etc）

EF6 – Intercepting, Logging

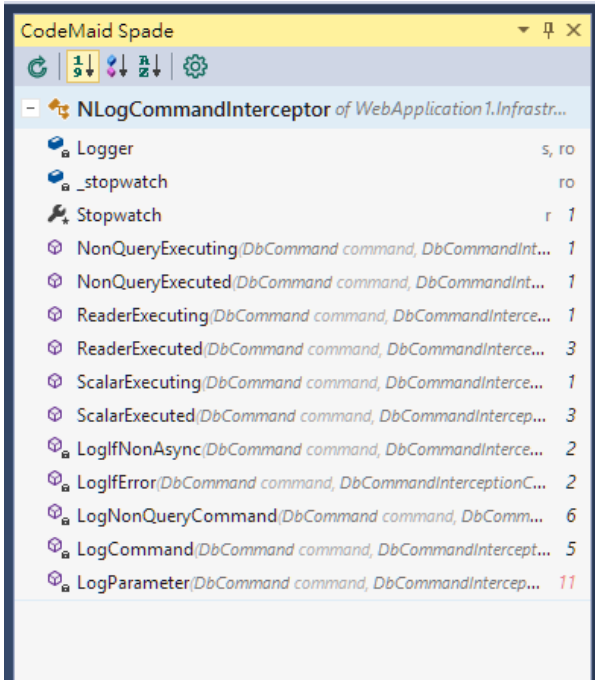
```
namespace WebApplication1.Infrastructure.Interceptor
{
    1 個參考
    public class NLogCommandInterceptor : IDbCommandInterceptor
    {
        private static readonly Logger Logger = LogManager.GetCurrentClassLogger();

        private readonly Stopwatch _stopwatch = new Stopwatch();

        7 個參考
        protected internal Stopwatch Stopwatch
        {
            get { return _stopwatch; }
        }


        0 個參考
        public void NonQueryExecuting(
            DbCommand command, DbCommandInterceptionContext<int> interceptionContext)
        {
            LogIfNonAsync(command, interceptionContext);
            Stopwatch.Restart();
        }

        0 個參考
        public void NonQueryExecuted(
```

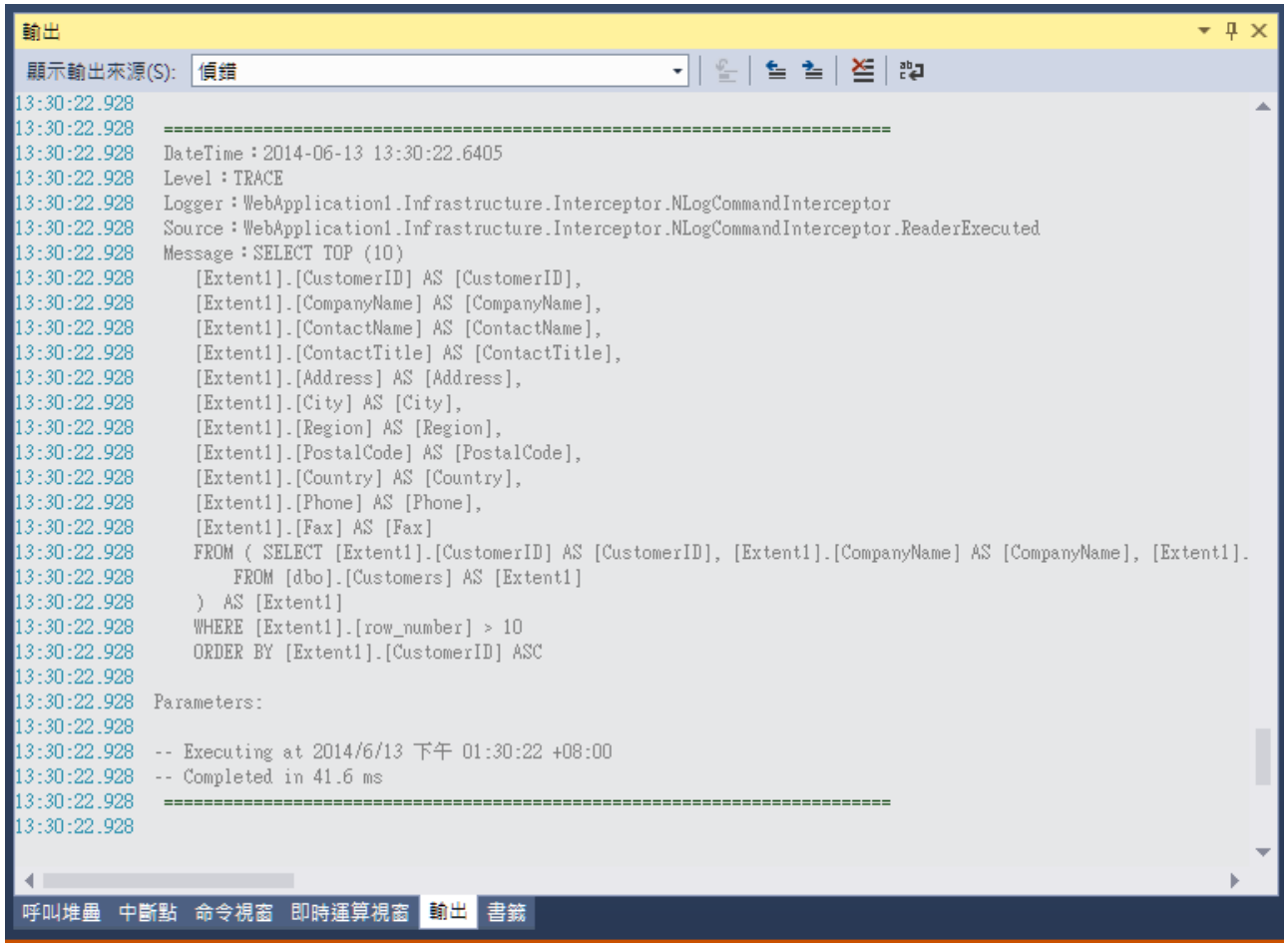


EF6 – Intercepting, Logging

```
namespace WebApplication1
{
    0 個參考
    public class MvcApplication : System.Web.HttpApplication
    {
        0 個參考
        protected void Application_Start()
        {
            AreaRegistration.RegisterAllAreas();
            FilterConfig.RegisterGlobalFilters(GlobalFilters.Filters);
            RouteConfig.RegisterRoutes(RouteTable.Routes);
            BundleConfig.RegisterBundles(BundleTable.Bundles);

            DbInterception.Add(new NLogCommandInterceptor());
        }
    }
}
```

EF6 – Intercepting, Logging



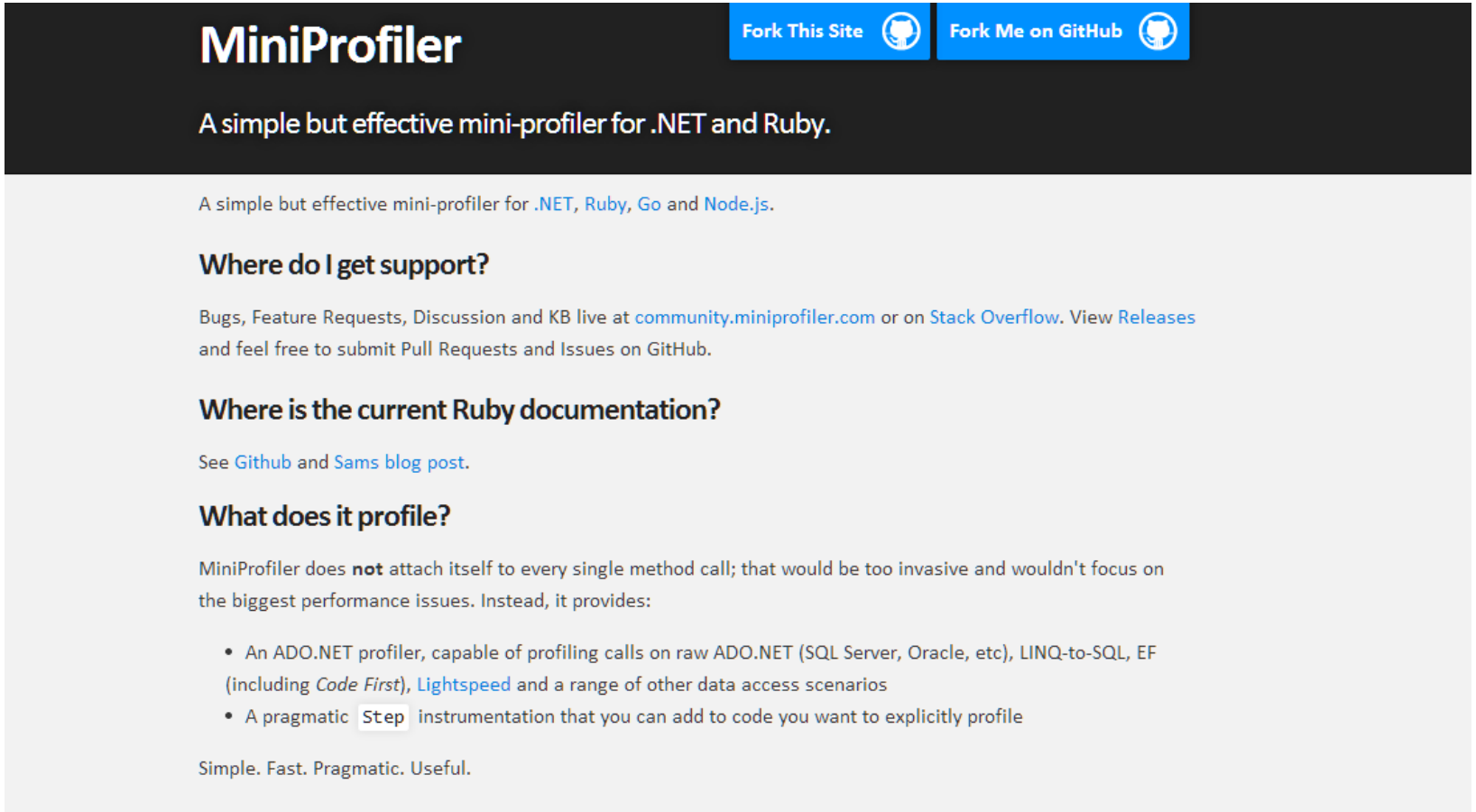
EF6 – Intercepting, Logging





MiniProfiler

MiniProfiler



http://miniprofiler.com/

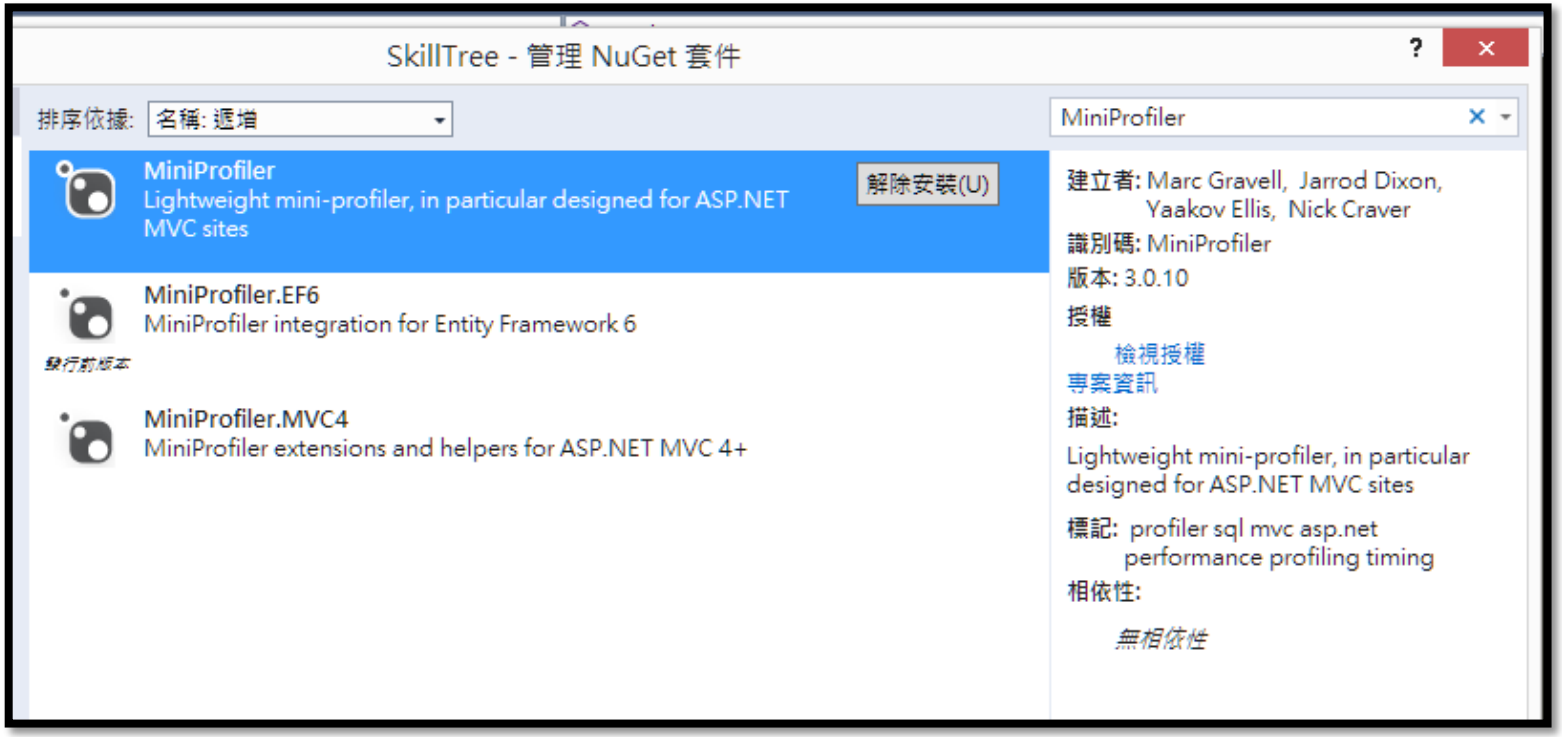
MiniProfiler

- 可分析系統裡透過 ADO.NET 所執行的 SQL Command
- 顯示頁面執行所耗費的時間
- MS SQL Server, Oracle, MySql, Postgres …
- LINQ to SQL, Entity Framework, ADO.NET
- ASP.NET MVC, ASP.NET WebForms
- 由 Stack Overflow 團隊所設計開發
- 在 Stack Exchange 等系列網站都有使用.

MiniProfiler

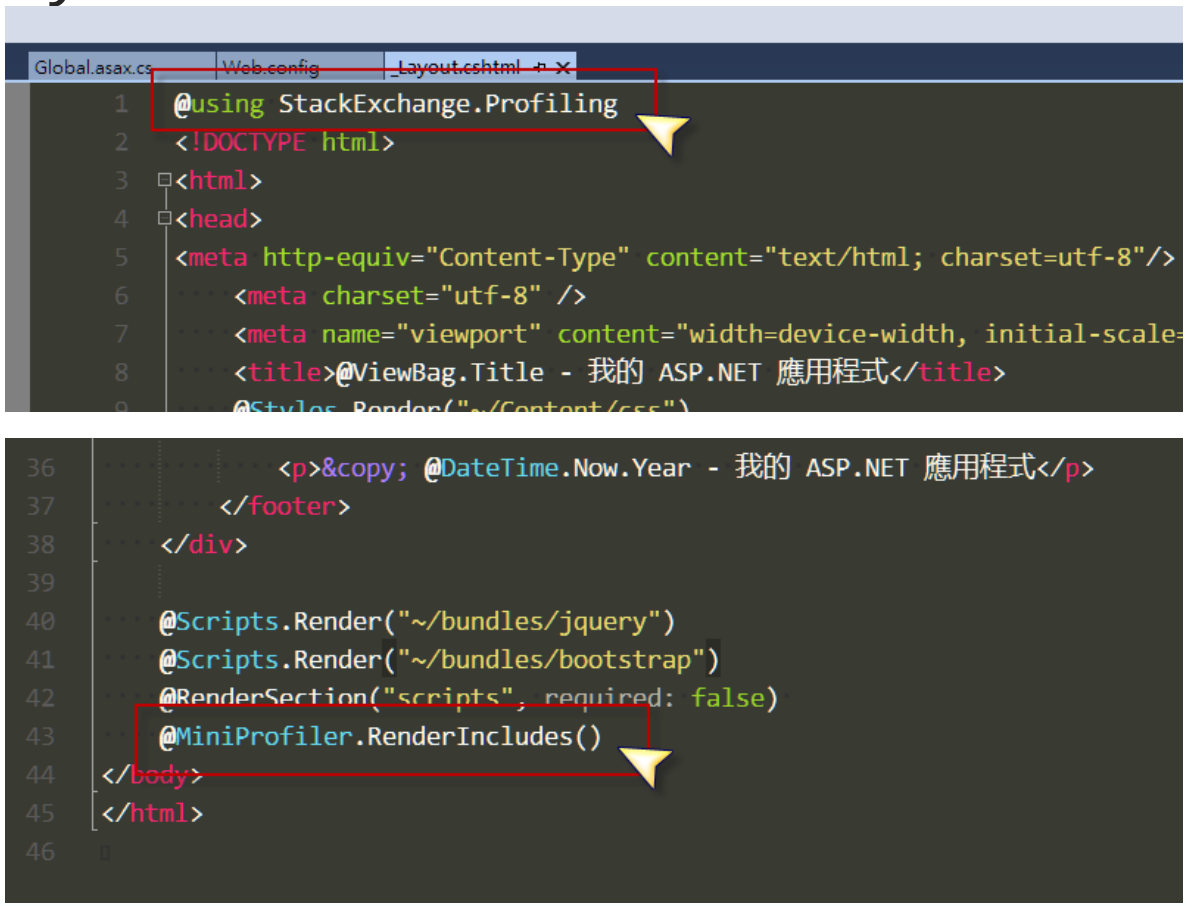
- 透過 NuGet 安裝：

```
MiniProfiler,MiniProfiler.Mvc4,MiniProfiler.EF6
```



MiniProfiler

- 修改 _Layout.cshtml



MiniProfiler

- 修改 Global.asax

```
using System.Web.Routing;
using StackExchange.Profiling;
using StackExchange.Profiling.EntityFramework6;

namespace WebApplication1
{
    0 個參考
    public class MvcApplication : System.Web.HttpApplication
    {
        0 個參考
        protected void Application_Start()
        {
            AreaRegistration.RegisterAllAreas();
            FilterConfig.RegisterGlobalFilters(GlobalFilters.Filters);
            RouteConfig.RegisterRoutes(RouteTable.Routes);
            BundleConfig.RegisterBundles(BundleTable.Bundles);

            MiniProfilerEF6.Initialize();
        }
```

MiniProfiler

- 修改 Global.asax

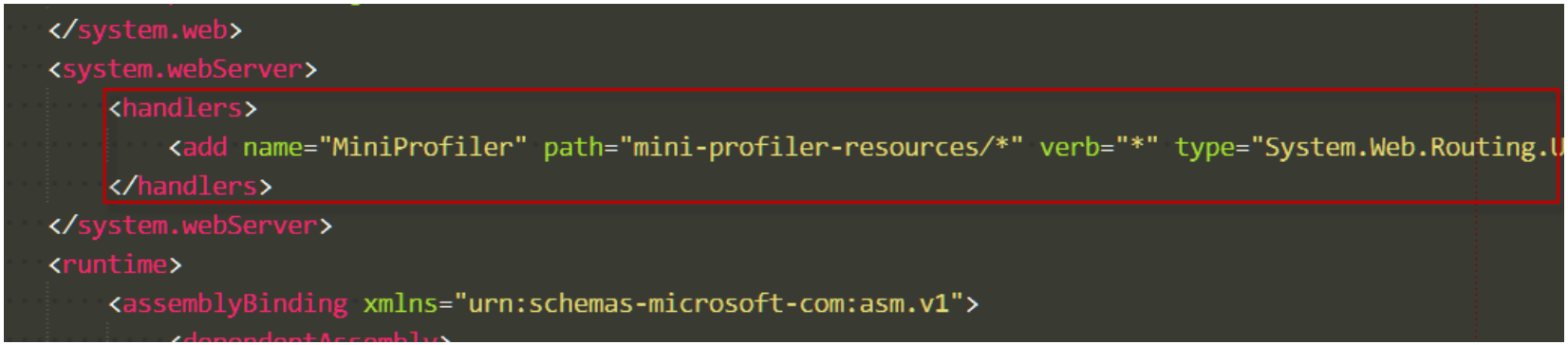
```
        MiniProfilerEF6.Initialize();
    }
    Application_Start

    0 個參考
    protected void Application_BeginRequest()
    {
        if (Request.IsLocal)
        {
            MiniProfiler.Start();
        }
    }

    0 個參考
    protected void Application_EndRequest()
    {
        MiniProfiler.Stop();
    }
}
MvcApplication
```

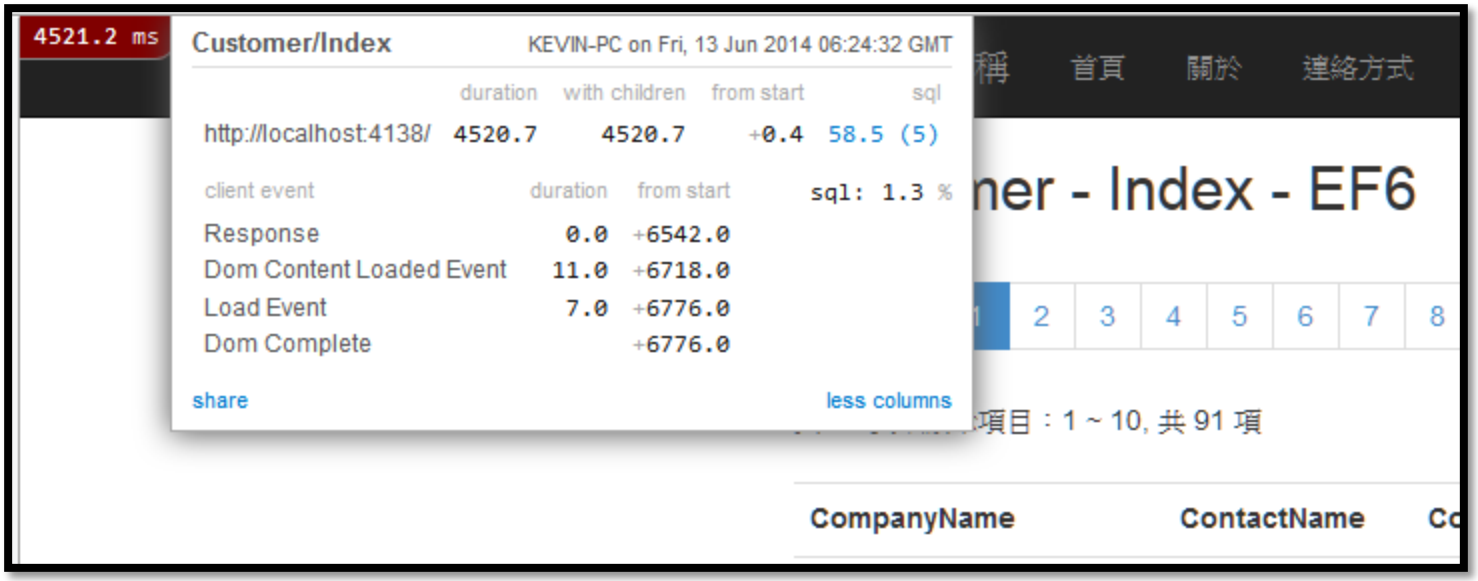
MiniProfiler

- 修改 Web.Config

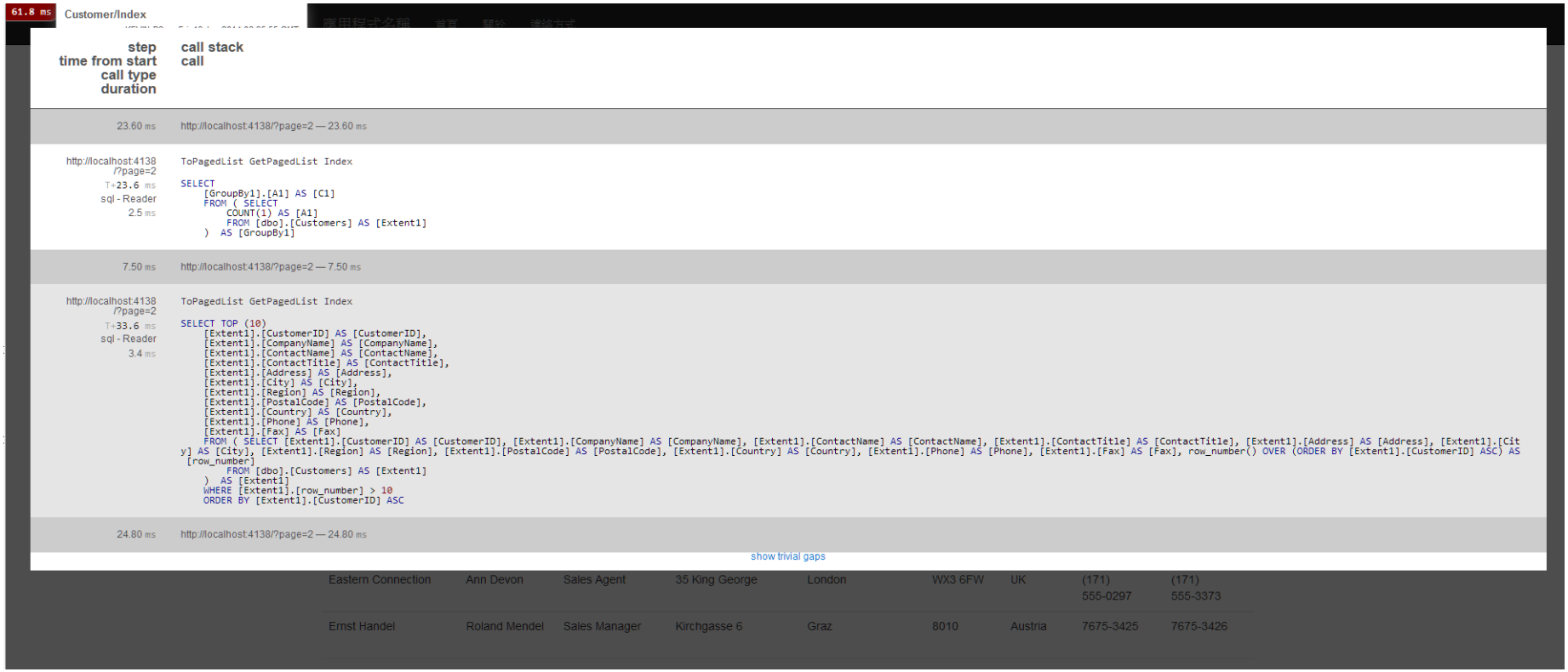



```
<system.webServer>
    ...
    <handlers>
        <add name="MiniProfiler" path="mini-profiler-resources/*"
verb="*" type="System.Web.Routing.UrlRoutingModule"
resourceType="Unspecified" preCondition="integratedMode" />
    </handlers>
</system.webServer>
```

MiniProfiler



MiniProfiler



MiniProfiler



MiniProfiler

- 安全性釋疑：預設只有在 Local 端才會顯示，Remote 下並不會顯示

```
        0 個參考
        protected void Application_BeginRequest()
        {
            if (Request.IsLocal)
            {
                MiniProfiler.Start();
            }
        }

        0 個參考
        protected void Application_EndRequest()
        {
            MiniProfiler.Stop();
        }
    }
}
```

MiniProfiler

- 可在 Web.Config 裡加上開關，用來控制是否顯示

```
        <!-- For more information on Entity Framework configuration,
        <section name="entityFramework" type="System.Data.Entity.Inte
    </configSections>
    <appSettings>
        <add key="webpages:Version" value="3.0.0.0" />
        <add key="webpages:Enabled" value="false" />
        <add key="ClientValidationEnabled" value="true" />
        <add key="UnobtrusiveJavaScriptEnabled" value="true" />
        <add key="enable_profiling" value="false" />
    </appSettings>
    <system.web>
        <compilation debug="true" targetFramework="4.5.1" />
        <httpRuntime targetFramework="4.5.1" />
    </system.web>
    <system.webServer>
```

MiniProfiler

```
0 個參考
public class MvcApplication : System.Web.HttpApplication
{
    private bool _enableProfiling = false;
    1 個參考
    public bool EnableProfiling
    {
        get
        {
            if (!this._enableProfiling)
            {
                var enableProfilingValue =
                    ConfigurationManager.AppSettings["enable_profiling"] == null
                        ? "false"
                        : ConfigurationManager.AppSettings["enable_profiling"].ToString();

                if (!bool.TryParse(enableProfilingValue, out this._enableProfiling))
                {
                    this._enableProfiling = false;
                }
            }
            return this._enableProfiling;
        }
    }
    0 個參考
```

MiniProfiler

- 改由 enable_profiling 與 Request.IsLocal

```
0 個參考
protected void Application_BeginRequest()
{
    //if (Request.IsLocal)
    //{
    //    MiniProfiler.Start();
    //}

    if (Request.IsLocal && this.EnableProfiling)
    {
        MiniProfiler.Start();
    }
}

0 個參考
protected void Application_EndRequest()
{
    MiniProfiler.Stop();
}
}
```

MvcApplication

MiniProfiler – 進階操作

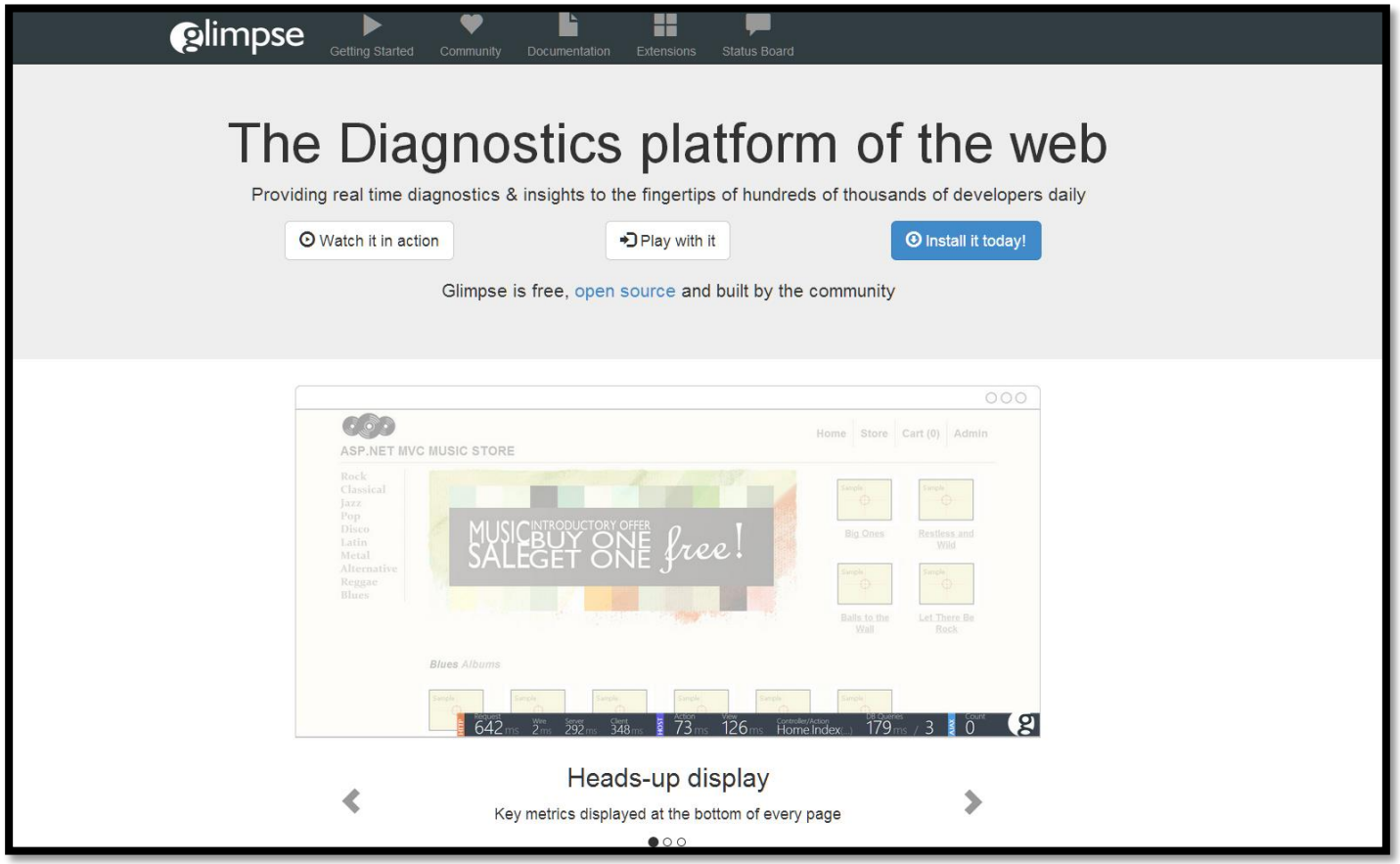
- 分層架構、AJAX
- 結合權限機制限定角色才會顯示 MiniProfiler 視窗





Glimpse

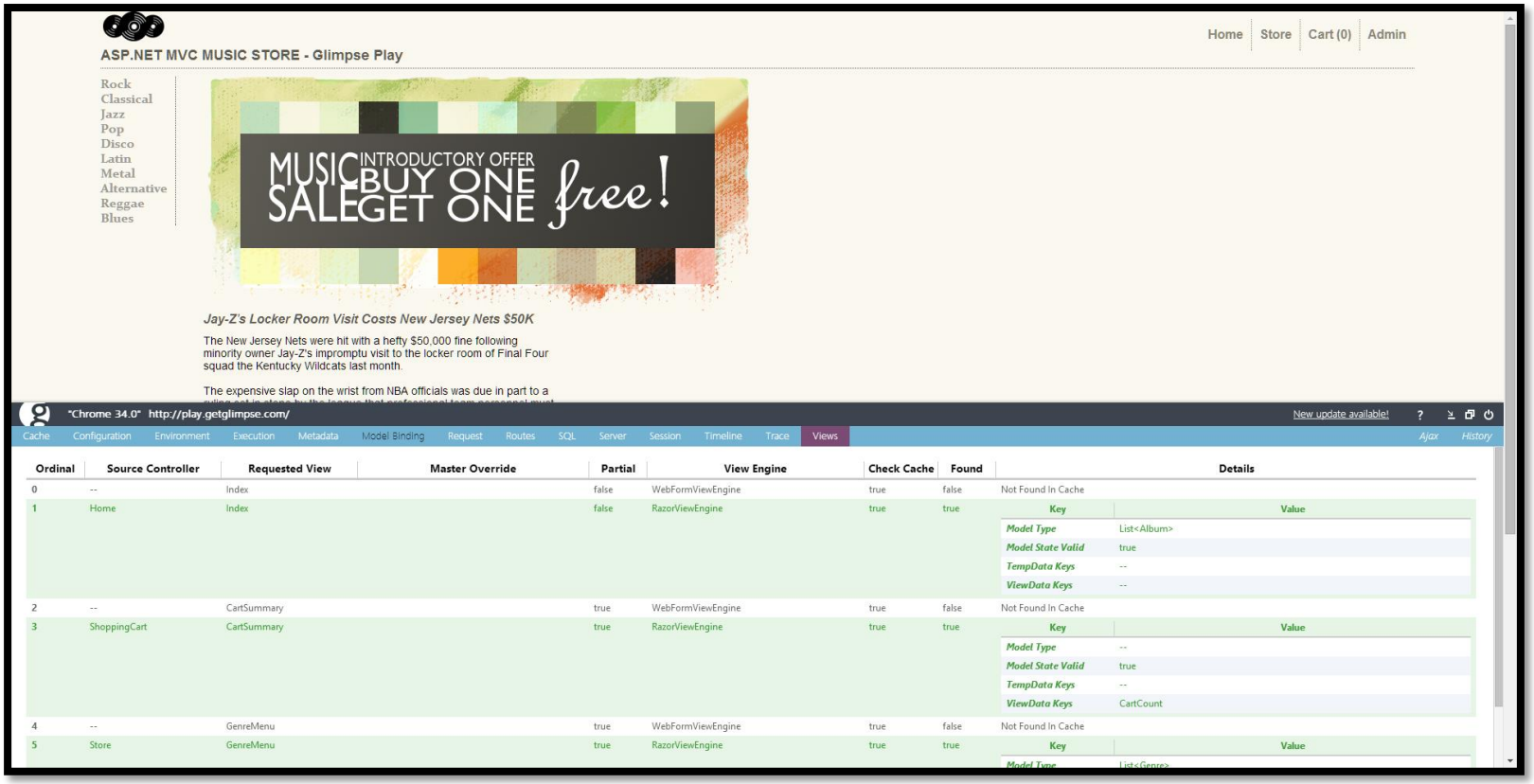
Glimpse



http://getglimpse.com/

Glimpse

線上操作就知道有什麼功用



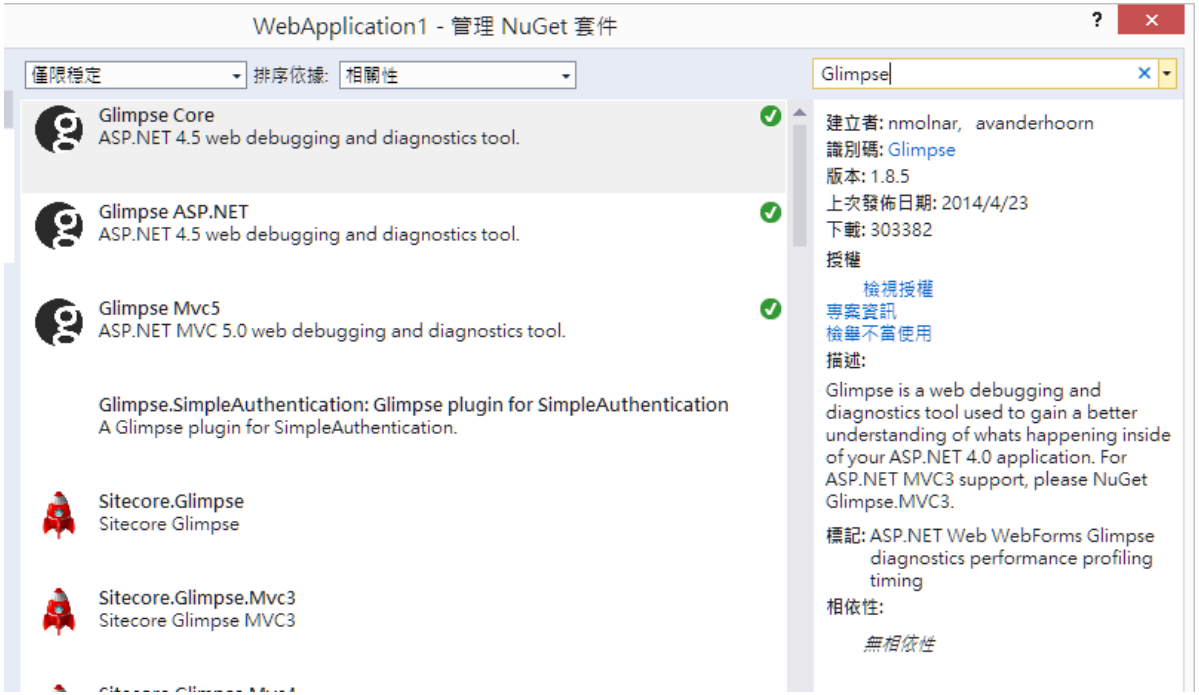
http://play.getglimpse.com/

Glimpse

- 視覺化的系統執行追蹤訊息
- 顯示系統 Configuration 內容
- Route Debugging
- 顯示 View Rander 的細節
- 顯示 Http Request 的內容
- 多種擴充的 Third Party Extensions

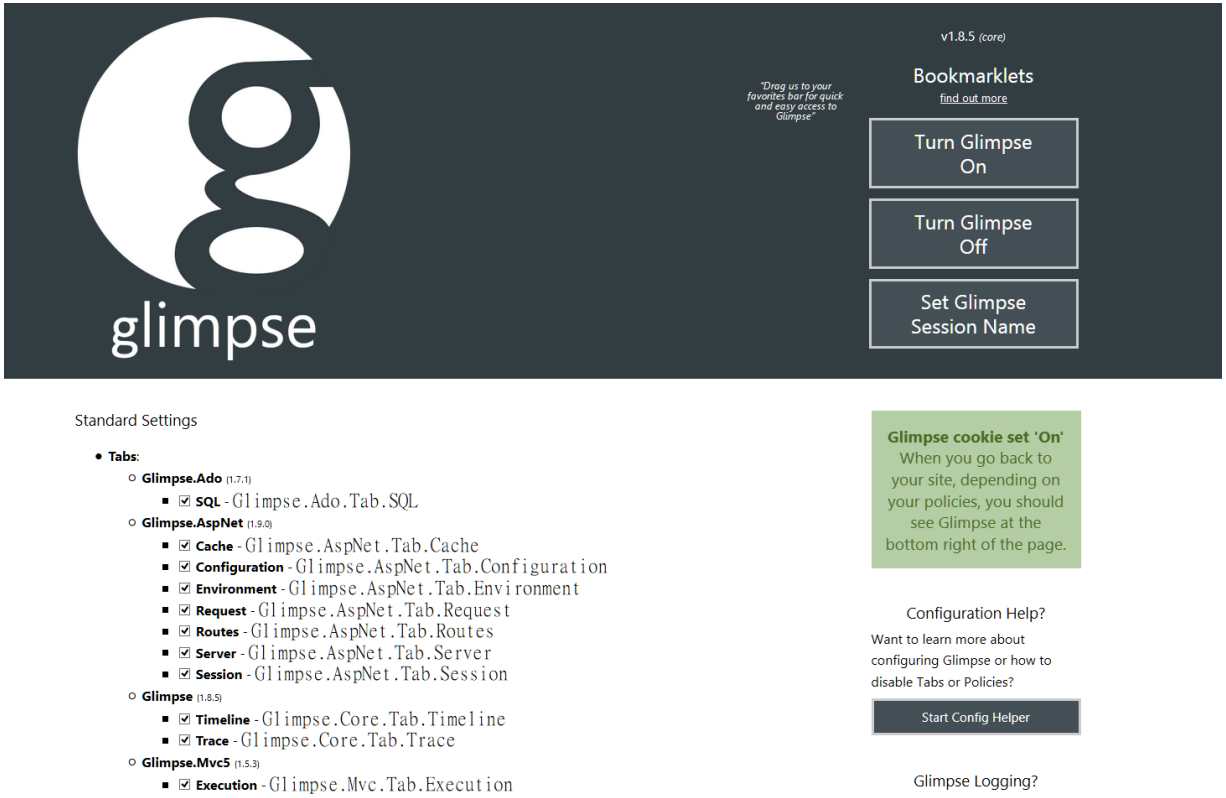
Glimpse

- NuGet:
  - Glimpse Core
  - Glimpse ASP.NET
  - Glimpse Mvc5
  - Glimpse EF6



Glimpse

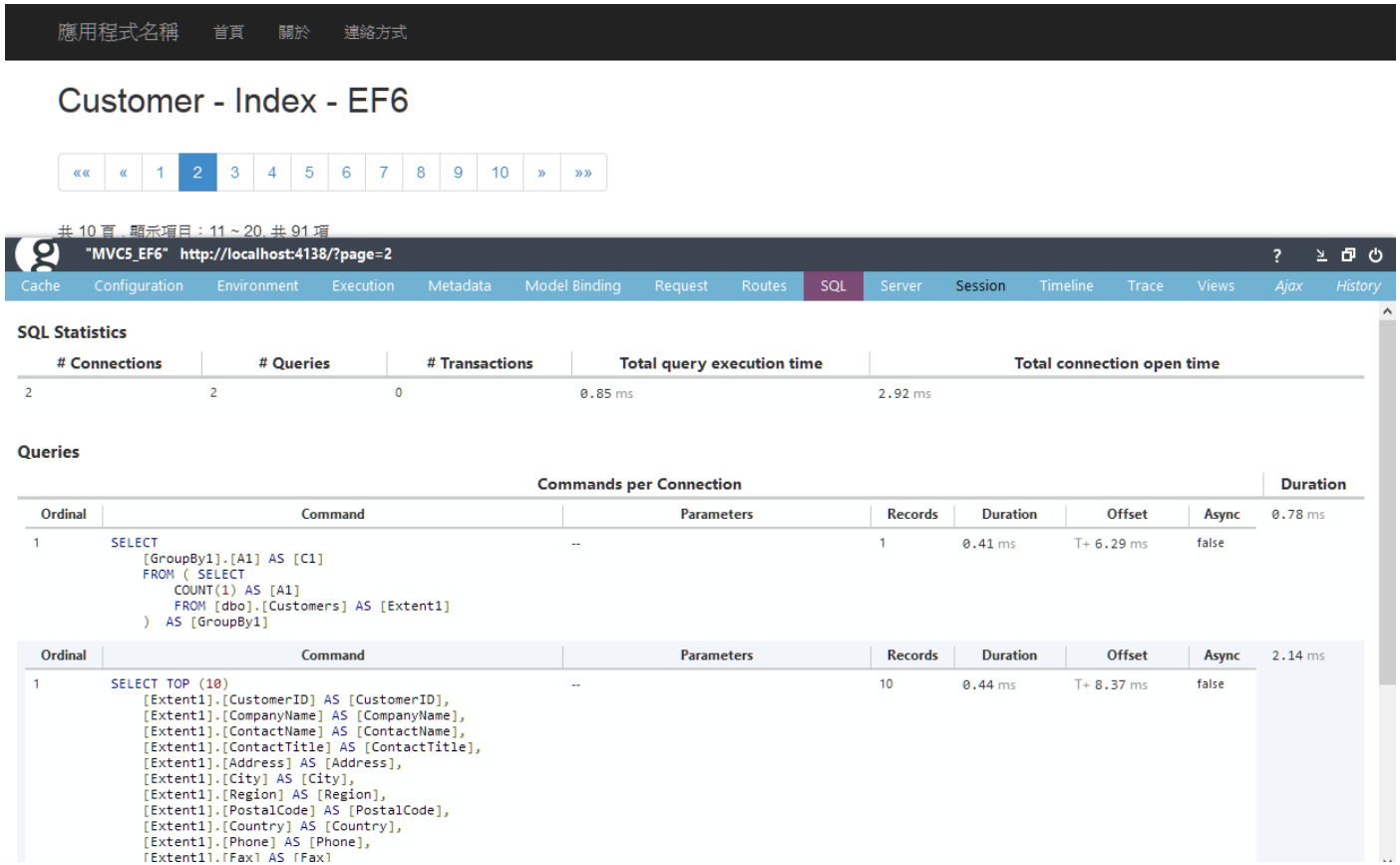
- 安裝之後，開啟使用



http://localhost/Glimpse.axd

Glimpse

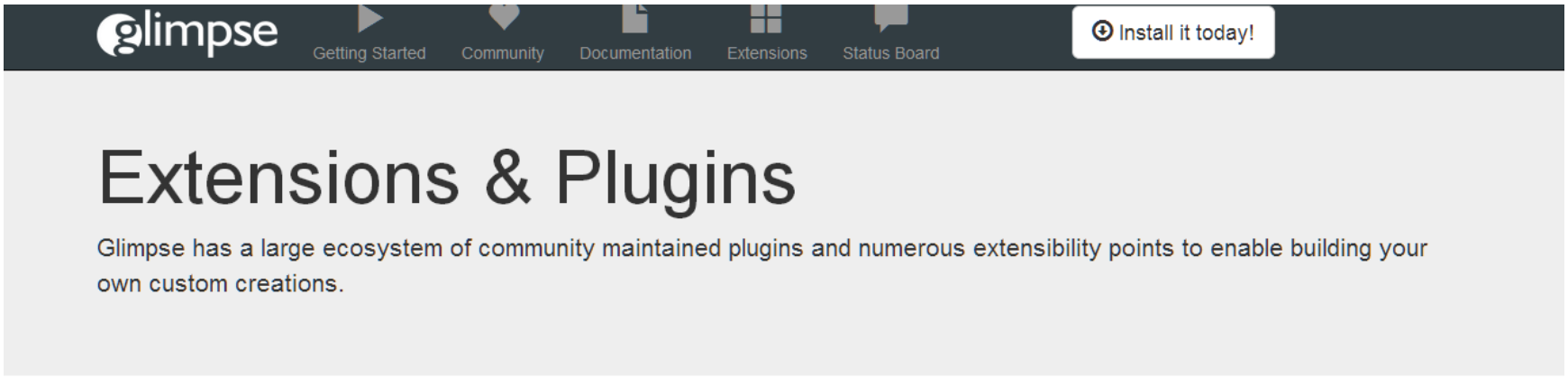
- 觀察 EntityFramework 所執行的 SQL Command



Glimpse



Glimpse Extensions



http://getglimpse.com/Extensions/

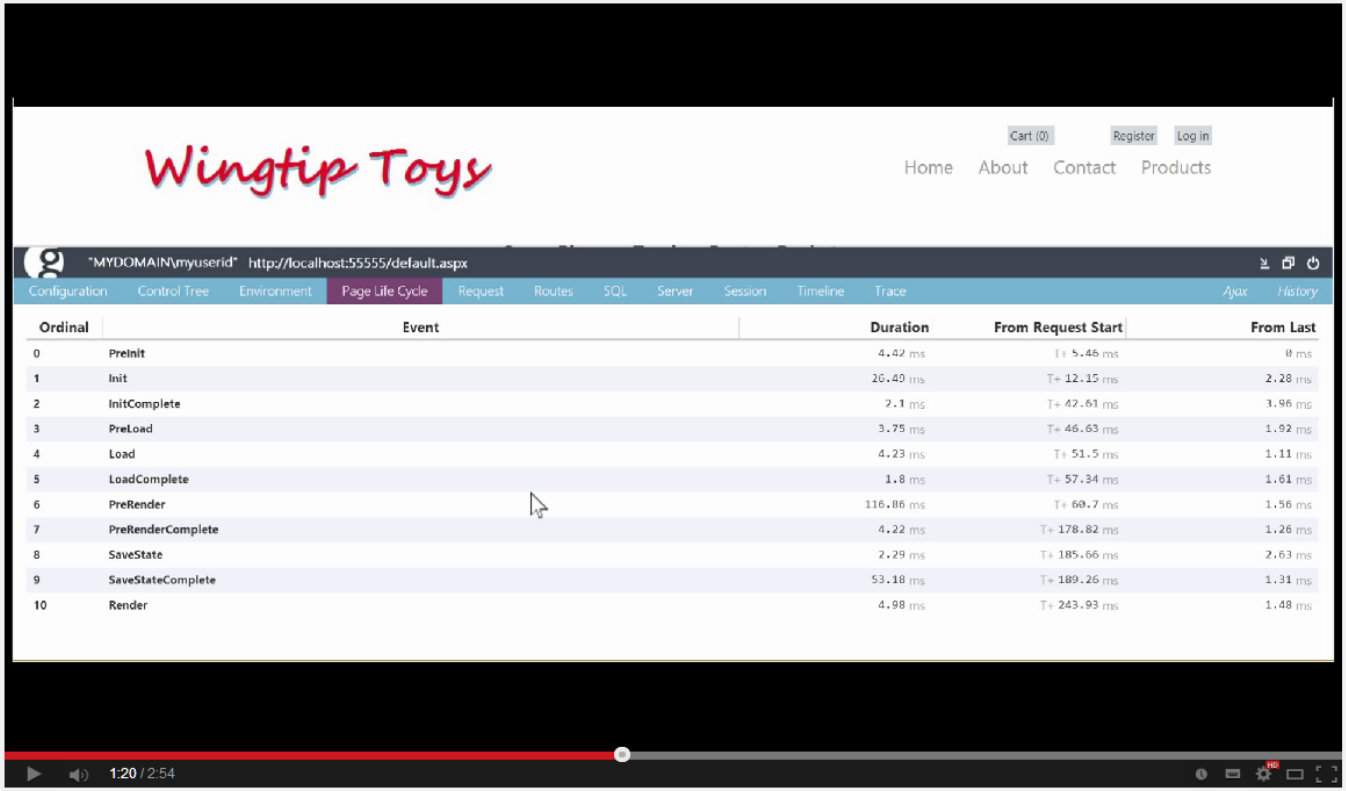
Glimpse – 進階操作

- 分層架構、AJAX
- Glimpse.Performance



Glimpse – ASP.NET WebForms

- Glimpse 有支援 ASP.NET WebForms



https://www.youtube.com/watch?v=vS6ONq6YwyI

Glimpse – ASP.NET WebForms





Microsoft Monitoring Agent

Microsoft Monitoring Agent (MMA)

- Microsoft Monitoring Agent 會監視電腦基礎結構和應用程式健全狀況。它會收集診斷資料，例如效能標準、事件記錄檔和追蹤。Microsoft Monitoring Agent 可以做為獨立工具使用，或是與 System Center Operations Manager 搭配使用。
- 下載位置

  http://www.microsoft.com/zh-TW/download/details.aspx?id=40316

Microsoft Monitoring Agent (MMA)



Microsoft Monitoring Agent (MMA)

MVC page : ServiceTickets.Sort 於 SQL : SELECT TOP (100)
[Extent1].[ID] AS [ID],
[Extent1].[Title] AS [Title],
[Extent1].[Description] AS [Description],
[Extent1].[StatusValue] AS [StatusValue],
[Extent1].[EscalationLevel] AS [EscalationLevel],
[Extent1].[Opened 時速度慢

▾ 詳細資料

▴ 最慢的呼叫 (毫秒)

6,689 顯示最忙碌路徑 SQL : SELECT TOP (100)
[Extent1].[ID] AS [ID],
[Extent1].[Title] AS [Title],
[Extent1].[Description] AS [Description],
[Extent1].[StatusValue] AS [StatusValue],
[Extent1].[EscalationLevel] AS [EscalationLevel],
[Extent1].[Opened

▴ 執行樹狀目錄

全部摺疊

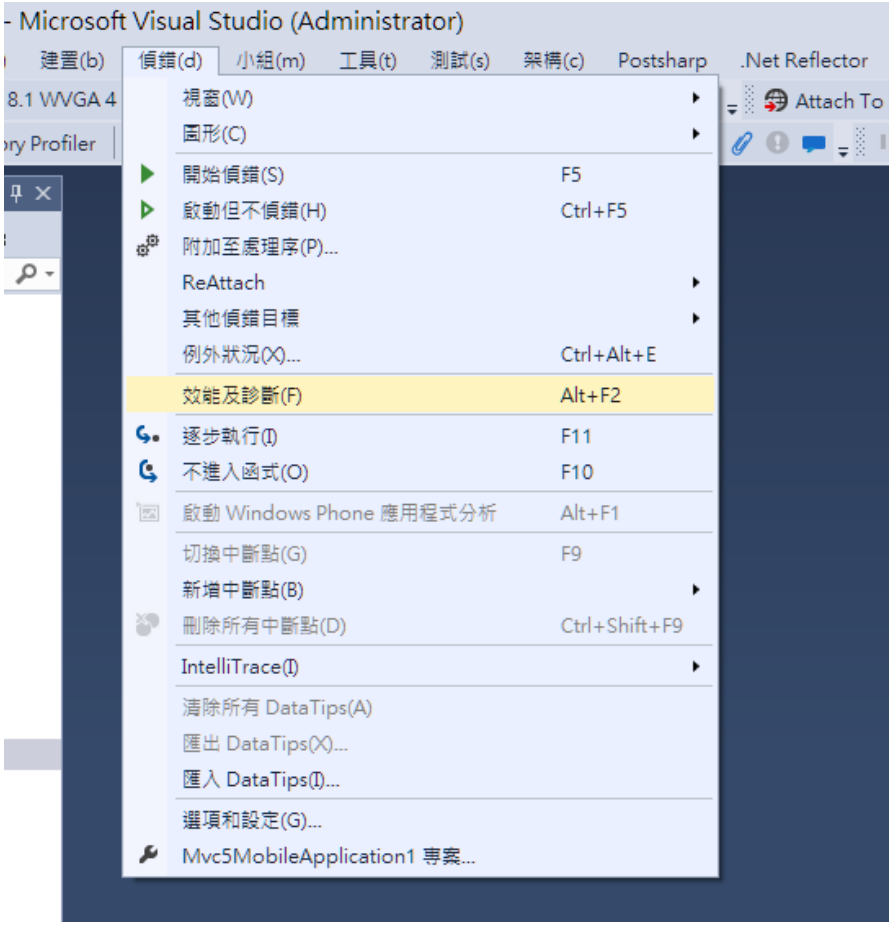
時間總計 (毫秒)	方法名稱	
6,689	⊟ SQL : SELECT TOP (100) [Extent1].[ID] AS [ID], [Extent1].[Title] AS [Title], [Extent1].[Description] AS [Description], [Extent1].[StatusValue] AS [StatusValue], [Extent1].[EscalationLevel] AS [EscalationLevel], [Extent1].[Opened	偵錯這個呼叫
	System.Data.SqlClient.SqlCommand.ExecuteReader()	

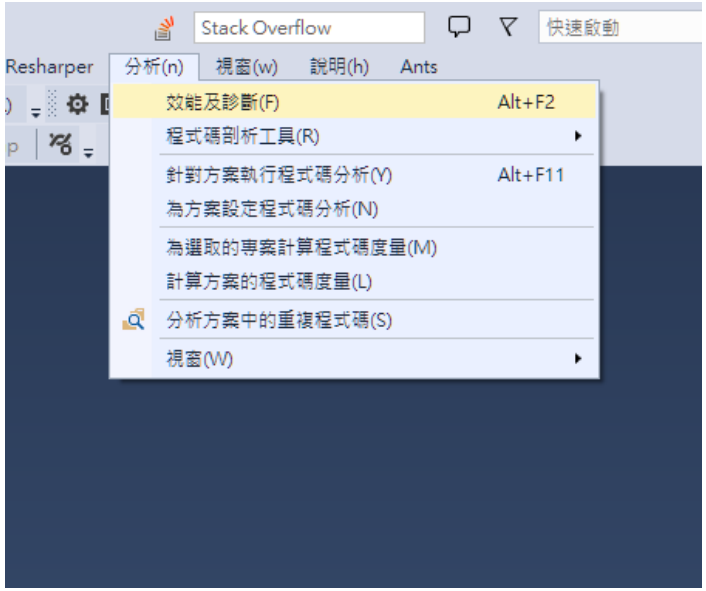
名稱	值	類型
this	{未知}	System.Data.SqlClient.SqlCommand
@connectionString	null	System.String



Performance and Diagnostics Hub（效能與分析中樞）

效能與診斷

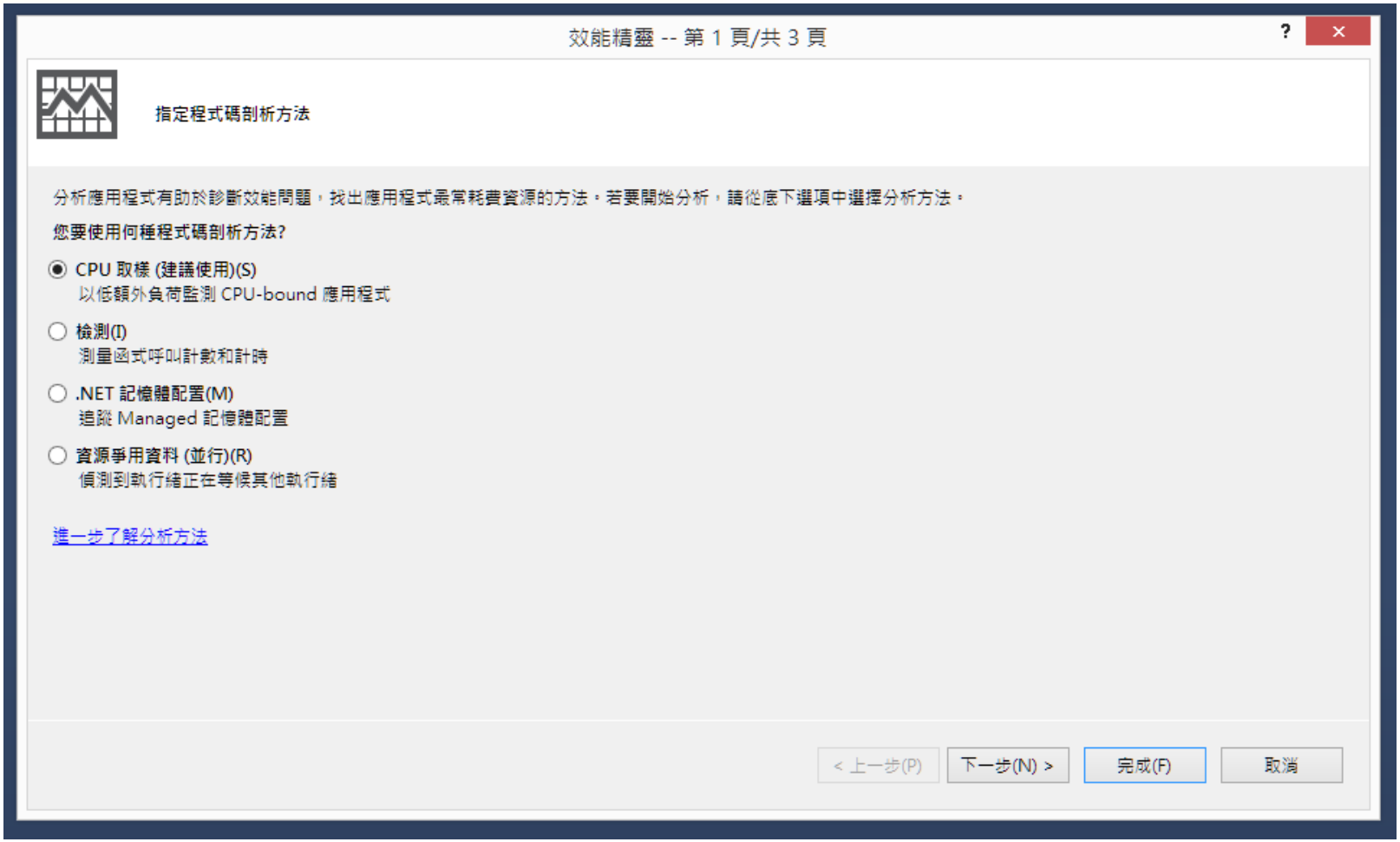

- Microsoft Visual Studio (Administrator)
建置(b)
偵錯(d)
小組(m)
工具(t)
測試(s)
架構(c)
Postsharp
.Net Reflector
8.1 WVGA 4
Attach To
視窗(W)
圖形(C)
開始偵錯(S) F5
啟動但不偵錯(H) Ctrl+F5
附加至處理序(P)...
ReAttach
其他偵錯目標
例外狀況(X)... Ctrl+Alt+E
效能及診斷(F) Alt+F2
逐步執行(I) F11
不進入函式(O) F10
啟動 Windows Phone 應用程式分析 Alt+F1
切換中斷點(G) F9
新增中斷點(B)
刪除所有中斷點(D) Ctrl+Shift+F9
IntelliTrace(I)
清除所有 DataTips(A)
匯出 DataTips(X)...
匯入 DataTips(I)...
選項和設定(G)...
Mvc5MobileApplication1 專案...


Stack Overflow
快速啟動
Resharper
分析(n)
視窗(w)
說明(h)
Ants
效能及診斷(F) Alt+F2
程式碼剖析工具(R)
針對方案執行程式碼分析(Y) Alt+F11
為方案設定程式碼分析(N)
為選取的專案計算程式碼度量(M)
計算方案的程式碼度量(L)
分析方案中的重複程式碼(S)
視窗(W)

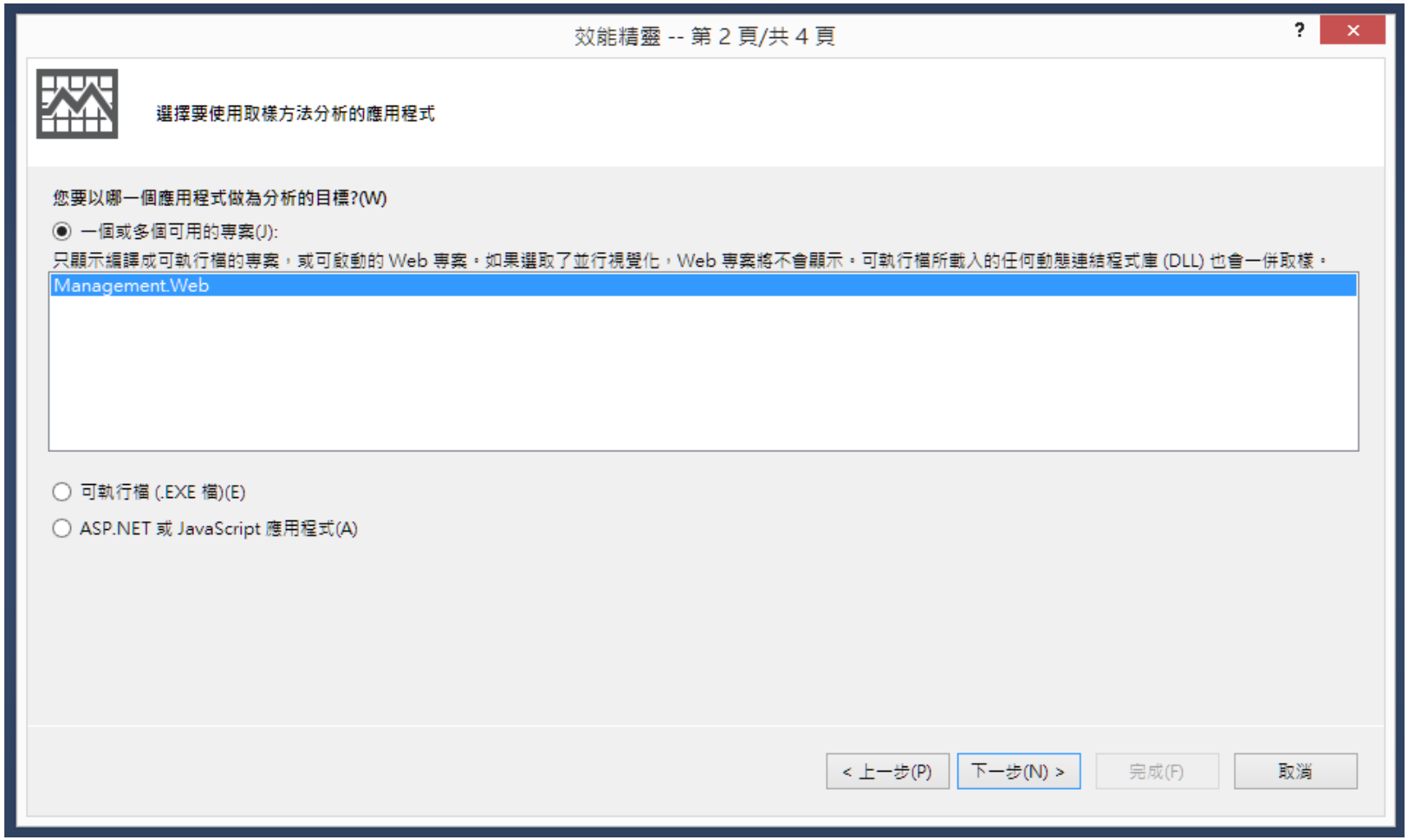
效能與診斷


分析目標
變更目標
啟始專案
Management.Web
可用的工具
顯示目標特有工具
效能精靈
CPU 取樣、檢測、.NET 記憶體配置和資源爭用
不適用的工具
CPU 使用量
查看您的程式碼中 CPU 的時間使用狀況。當 CPU 是效能瓶頸時相當有用
HTML UI 回應性
檢查您網站或應用程式中的時間使用狀況
JavaScript 函式計時
查看 JavaScript 函式的耗用時間和呼叫計數。當程式碼等候 I/O 或其他不需要大量 CPU 的作業時相當有用
JavaScript 記憶體
調查 JavaScript 堆積以找出記憶體遺漏等問題
XAML UI 回應性
檢查您應用程式中的時間使用狀況
能源消耗
檢查您應用程式中的能源使用狀況
記憶體使用量
調查應用程式記憶體，找出記憶體流失等問題
開始

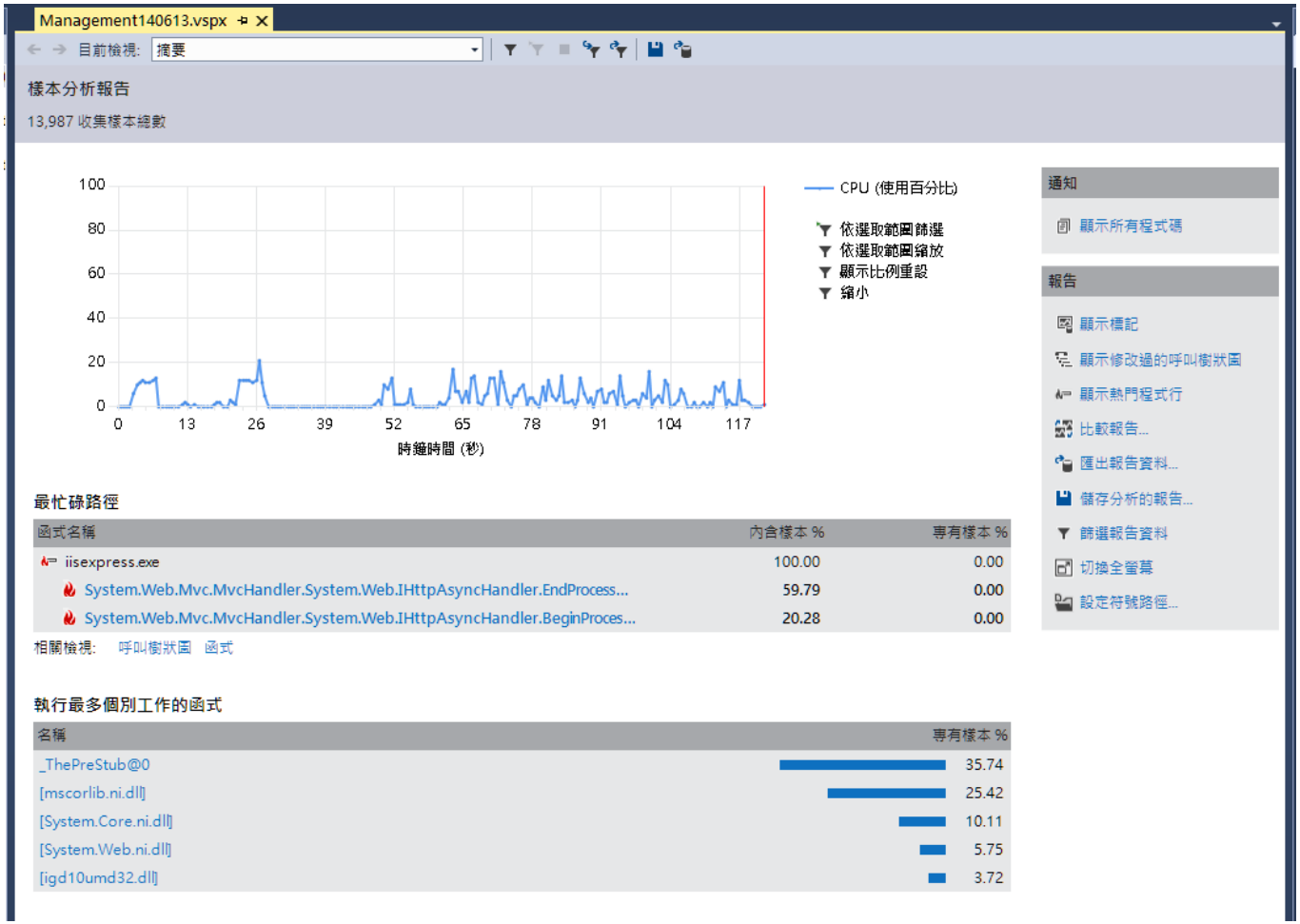
效能與診斷


效能精靈 -- 第 1 頁/共 3 頁
指定程式碼剖析方法
分析應用程式有助於診斷效能問題，找出應用程式最常耗費資源的方法。若要開始分析，請從底下選項中選擇分析方法。
您要使用何種程式碼剖析方法?
CPU 取樣 (建議使用)(S)
以低額外負荷監測 CPU-bound 應用程式
檢測(I)
測量函式呼叫計數和計時
.NET 記憶體配置(M)
追蹤 Managed 記憶體配置
資源爭用資料 (並行)(R)
偵測到執行緒正在等候其他執行緒
進一步了解分析方法
< 上一步(P)
下一步(N) >
完成(F)
取消

效能與診斷


效能精靈 -- 第 2 頁/共 4 頁
選擇要使用取樣方法分析的應用程式
您要以哪一個應用程式做為分析的目標?(W)
一個或多個可用的專案(J):
只顯示編譯成可執行檔的專案，或可啟動的 Web 專案。如果選取了並行視覺化，Web 專案將不會顯示。可執行檔所載入的任何動態連結程式庫 (DLL) 也會一併取樣。
Management.Web
可執行檔 (.EXE 檔)(E)
ASP.NET 或 JavaScript 應用程式(A)
< 上一步(P)
下一步(N) >
完成(F)
取消

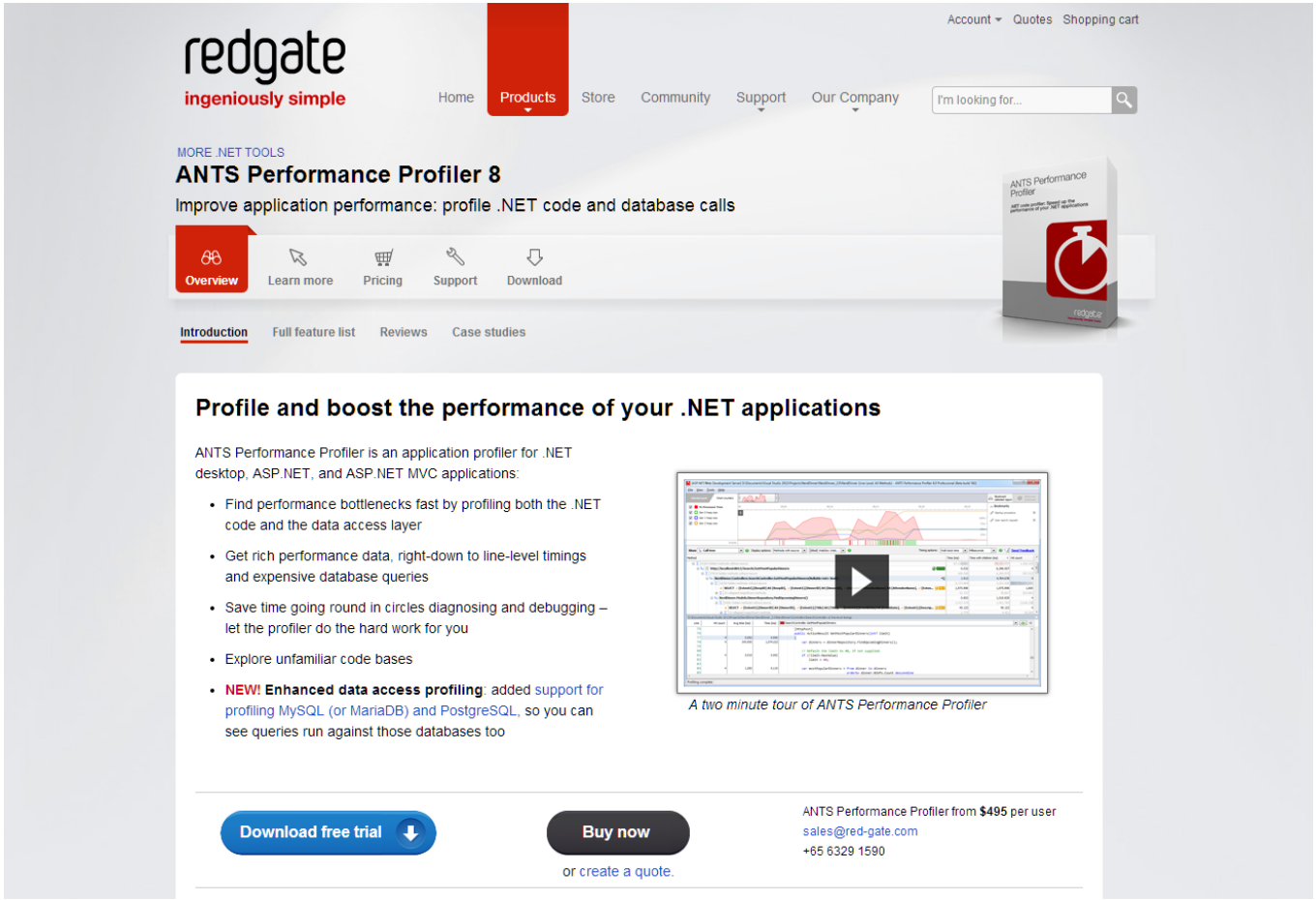
效能與診斷


Management140613.vspx
目前檢視: 摘要
樣本分析報告
13,987 收集樣本總數
100
80
60
40
20
0
0 13 26 39 52 65 78 91 104 117
時鐘時間 (秒)
CPU (使用百分比)
依選取範圍篩選
依選取範圍縮放
顯示比例重設
縮小
通知
顯示所有程式碼
報告
顯示標記
顯示修改過的呼叫樹狀圖
顯示熱門程式行
比較報告...
匯出報告資料...
儲存分析的報告...
篩選報告資料
切換全螢幕
設定符號路徑...
最忙碌路徑
函式名稱 內含樣本 % 專有樣本 %
iisexpress.exe 100.00 0.00
System.Web.Mvc.MvcHandler.System.Web.IHttpAsyncHandler.EndProcess... 59.79 0.00
System.Web.Mvc.MvcHandler.System.Web.IHttpAsyncHandler.BeginProces... 20.28 0.00
相關檢視: 呼叫樹狀圖 函式
執行最多個別工作的函式
名稱 專有樣本 %
_ThePreStub@0 35.74
[mscorlib.ni.dll] 25.42
[System.Core.ni.dll] 10.11
[System.Web.ni.dll] 5.75
[igd10umd32.dll] 3.72



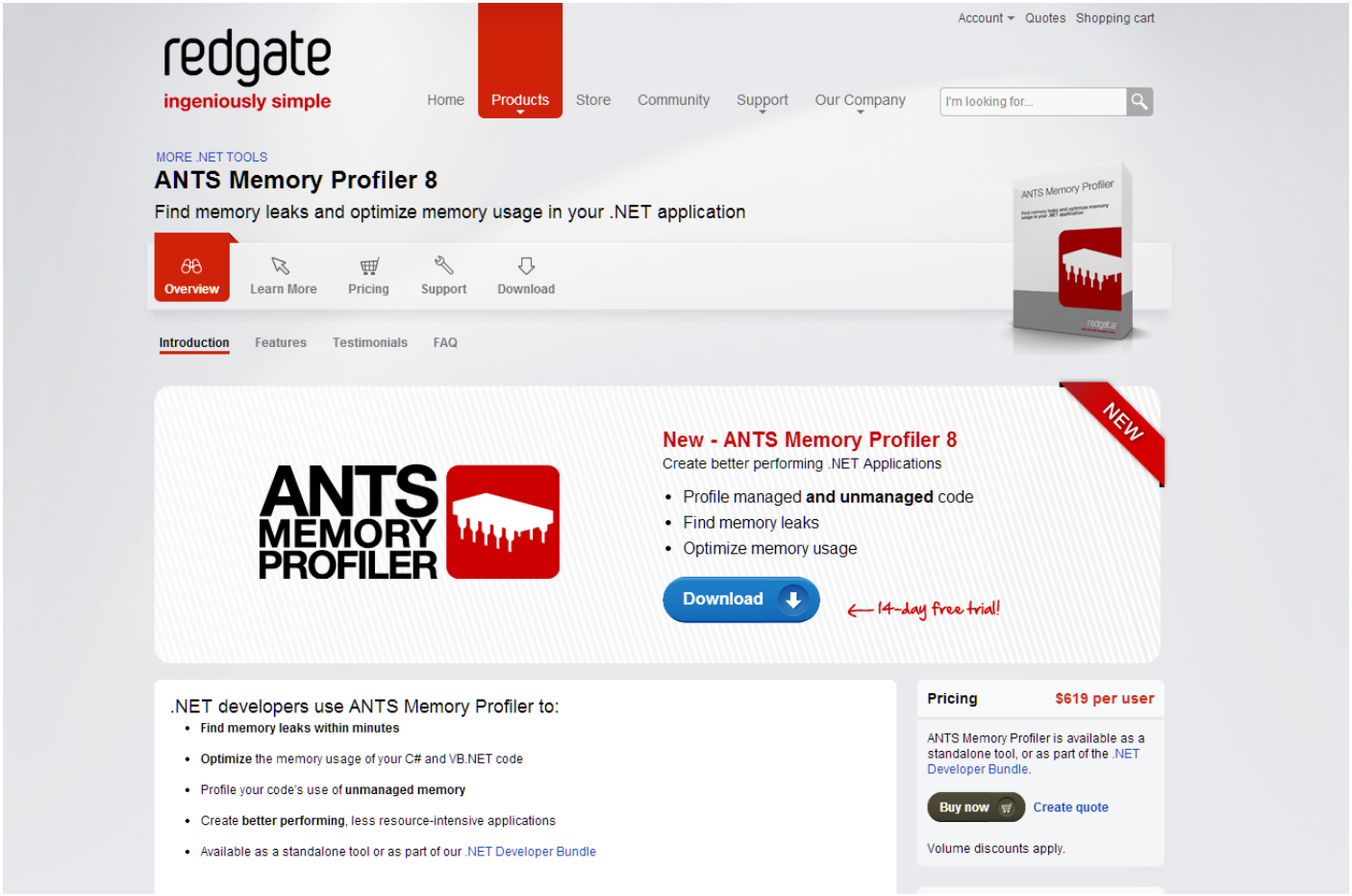
ANTS Performance/ANTS Memory Profiler

ANTS Performance Profiler



http://www.red-gate.com/products/dotnet-development/ants-performance-profiler/

ANTS Memory Profiler



http://www.red-gate.com/products/dotnet-development/ants-memory-profiler/

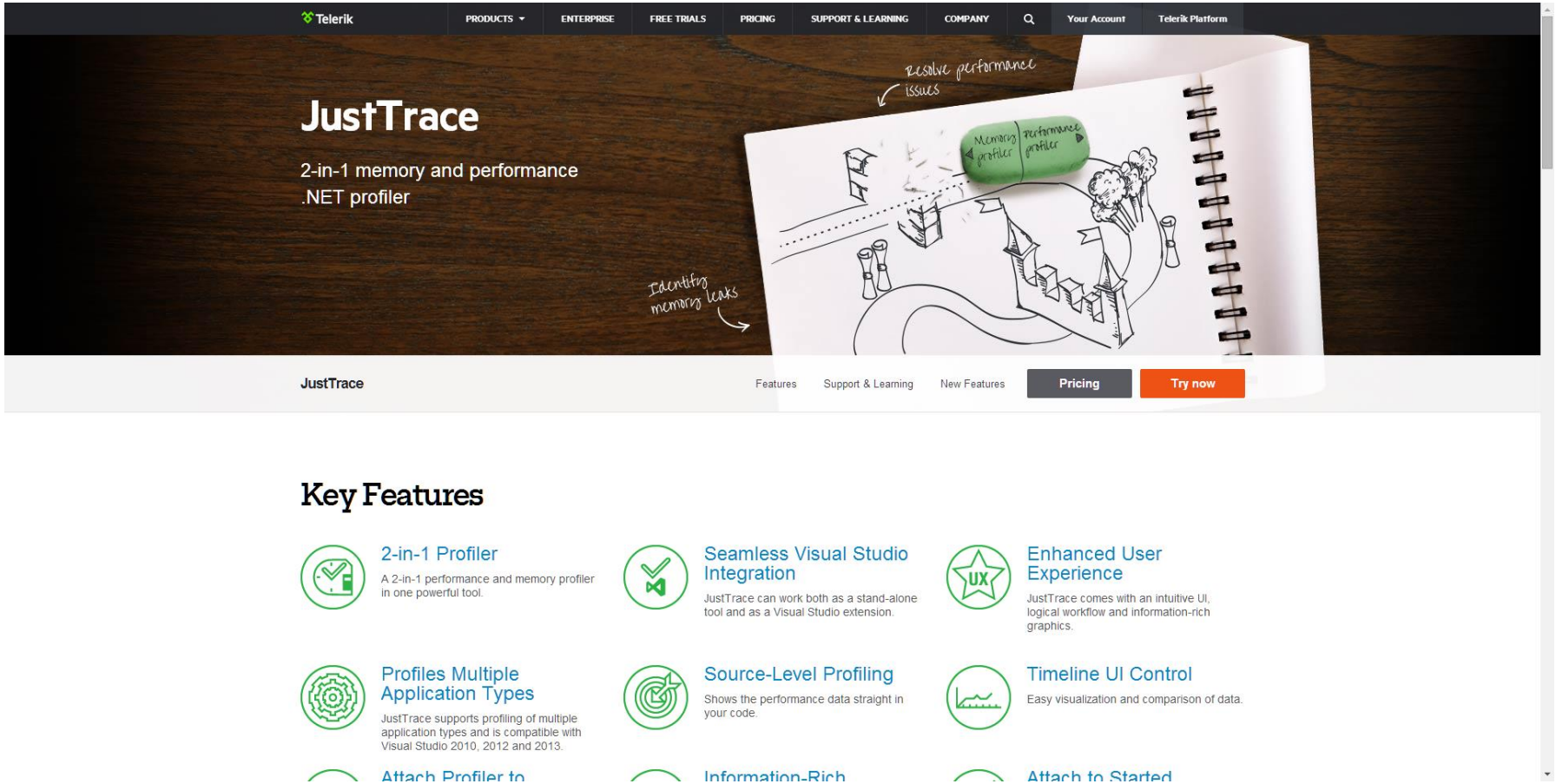
ANTS Performance/Memory Profiler





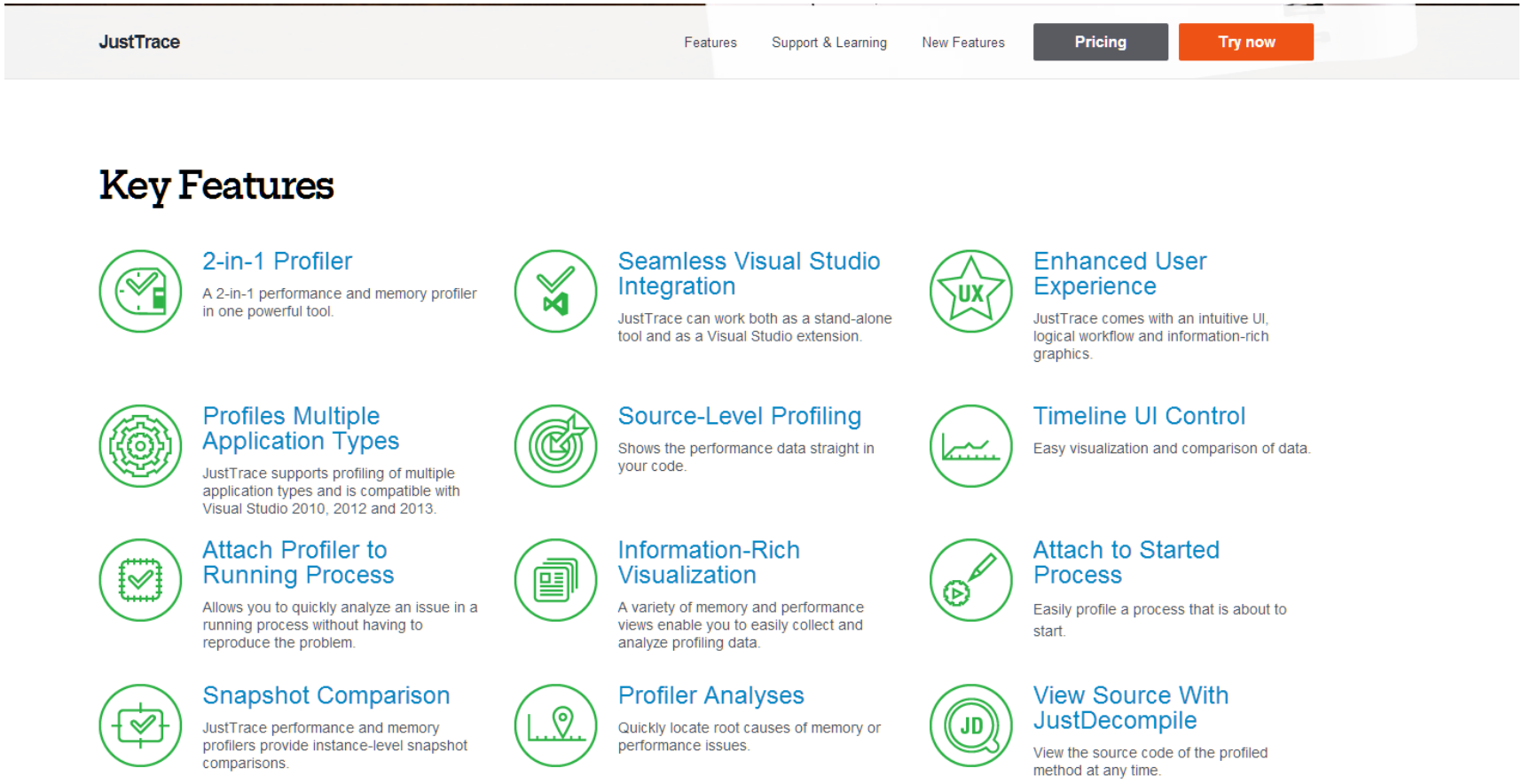
Telerik JustTrace Performance/Memory Profiler

Telerik JustTrace



http://www.telerik.com/products/memory-performance-profiler.aspx

Telerik JustTrace Key Features



Telerik JustTrace Profoiler

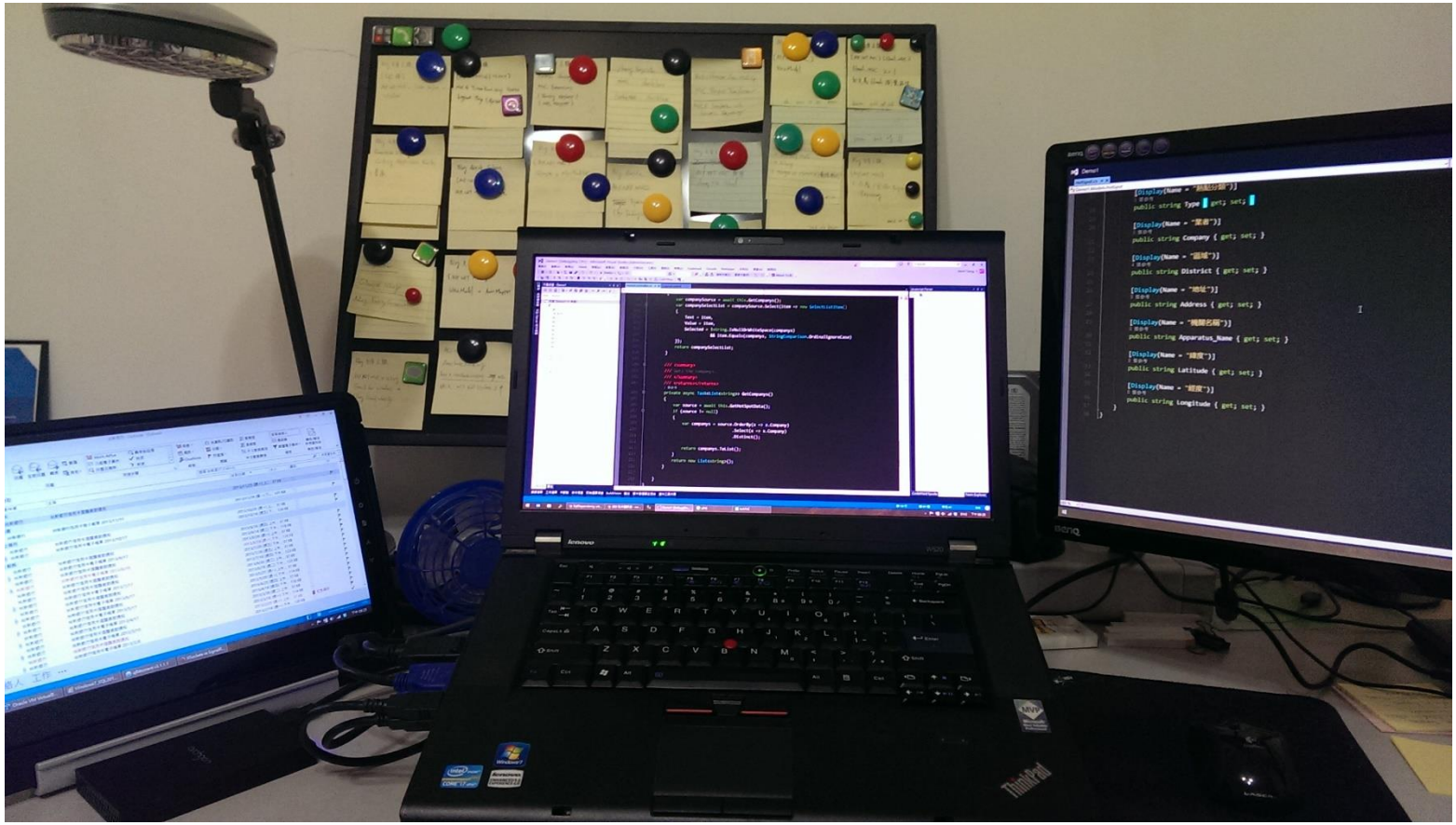




開發的效率

開發的效率

- 多螢幕，效率高！



開發的效率

- 換 SSD ，效率高！



開發的效率

- 善用你手邊的開發工具
- Visual Studio 號稱地表上最強的工具，要懂得如何使用
- 熟悉 Visual Studio 快捷鍵
- 安裝好用的 Visual Studio Extensions

熟悉 Visua Studio 快捷鍵

Fork me on GitHub

Visual Studio 2013 keyboard shortcuts

The complete list

Visual Studio 2012 Shortcuts

Analyze

Navigate Backward
→ Shift+Alt+3

Navigate Forward
→ Shift+Alt+4

Architecture

New Diagram
→ Ctrl+\, Ctrl+N

Architecture Context Menus

Add Node
→ Ins

Both Dependencies
→ B

Incoming Dependencies
→ I

Outgoing Dependencies
→ O

New Comment
→ Ctrl+Shift+K

Edit

Break Line
→ Enter
→ Shift+Enter

Char Left
→ Left Arrow

Char Left Extend
→ Shift+Left Arrow

Char Left Extend Column
→ Shift+Alt+Left Arrow

Char Right
→ Right Arrow

Char Right Extend
→ Shift+Right Arrow

Char Right Extend Column
→ Shift+Alt+Right Arrow

Char Transpose
→ Ctrl+T

Clear Bookmarks
→ Ctrl+B, C
→ Ctrl+B, Ctrl+C

Collapse All Outlining
→ Ctrl+M, Ctrl+A

Other Context Menus

Insert Column
→ Ins

Column
→ Ctrl+L

Cancel Interactive Evaluation
→ Ctrl+Break

Removefrom Workspace
→ Del

Go To Controller
→ Ctrl+M, Ctrl+G

Viewin Page Inspector
→ Ctrl+K, Ctrl+G

Add New Diagram
→ Ins

Down
→ Alt+Down Arrow

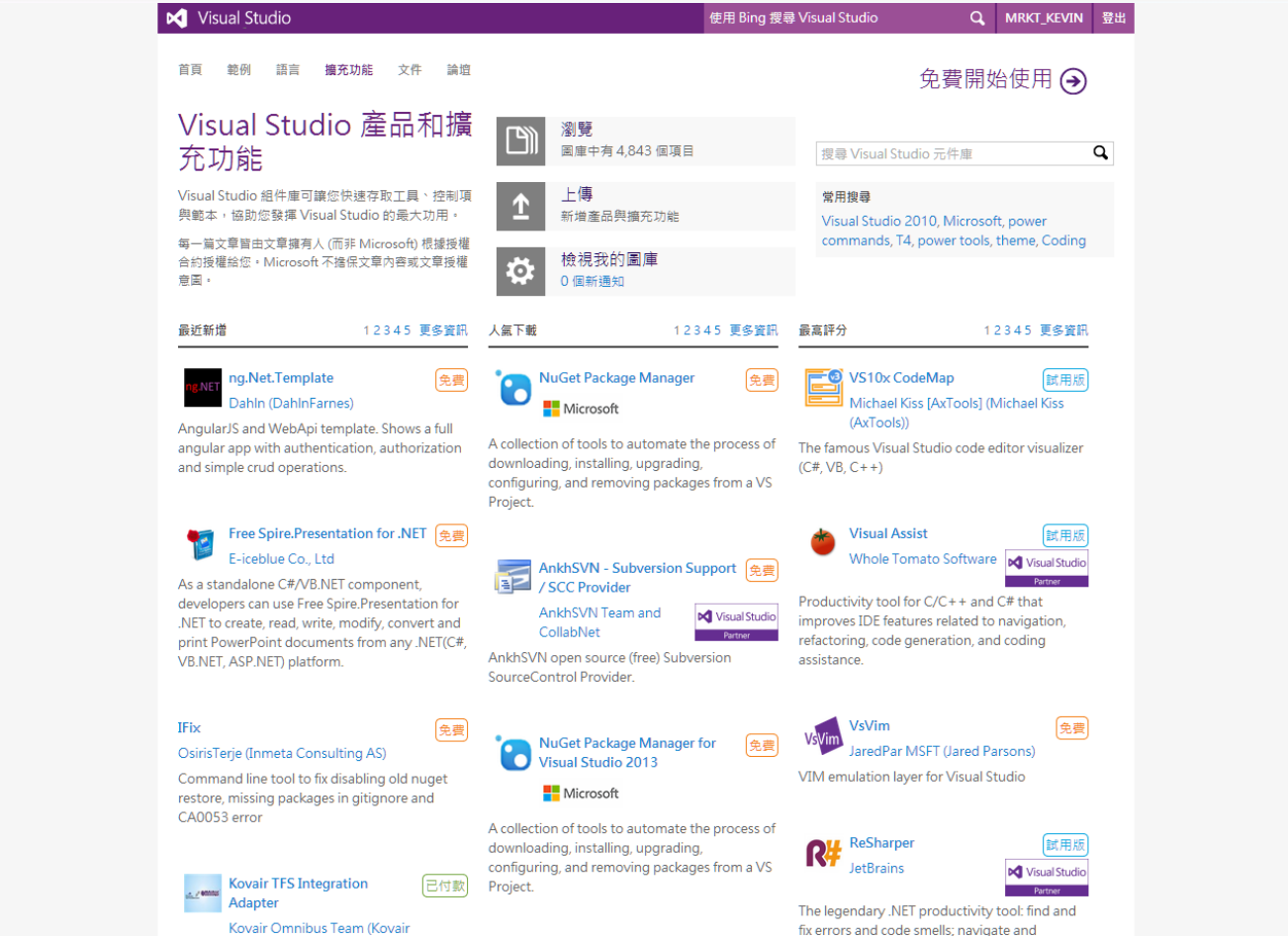
Down5
→ Alt+PgDn

To Bottom
→ Alt+End

To Top
→ Alt+Home

http://visualstudioshortcuts.com/2013/

Products and Extensions for Visual Studio



http://visualstudiogallery.msdn.microsoft.com/

推薦好套件 by demo



這些套件你裝了沒？

- **Productivity Power Tools**

  http://visualstudiogallery.msdn.microsoft.com/d0d33361-18e2-46c0-8ff2-4adea1e34fef/

- **VSCommands**

  http://vscommands.squaredinfinity.com/features

- **Web Essentials**

  http://vswebessentials.com/

我還有哪些必裝的套件

- ReAttach
- Indent Guides
- Javascript Parser
- Advanced Javascript outlining
- Jscript vsdoc Stub Generator 2012
- CodeMaid
- BuildVision

我還有哪些必裝的套件

- Highlight all occurrences of selected words
- Image Optimizer
- jQuery Code Snippets
- GhostDoc
- Cobisi Routing Assistant

我還有哪些必裝的套件

- ReSharper

  http://www.jetbrains.com/resharper/

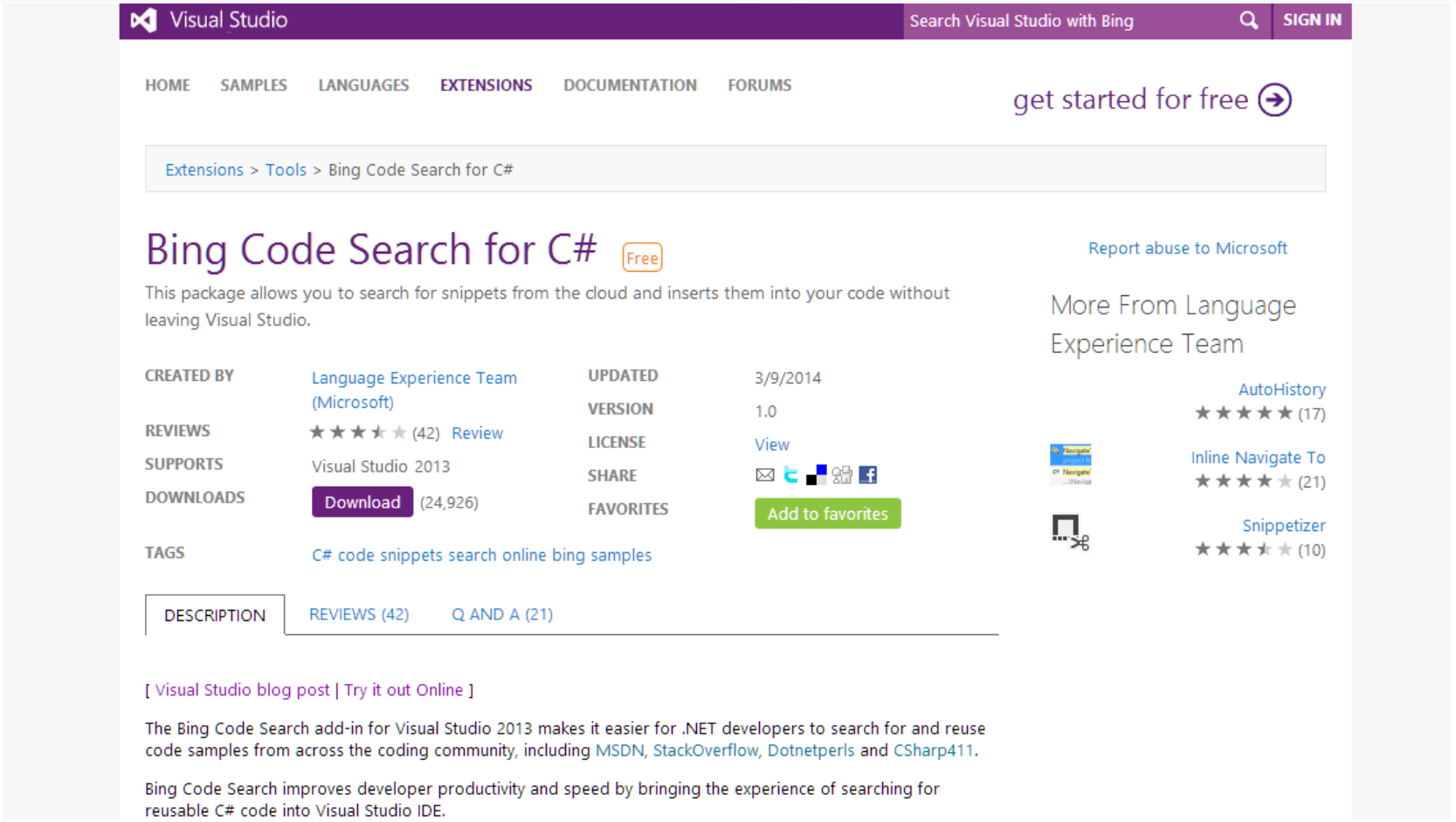
- OzCode

  http://www.oz-code.com/

- .NET Reflector Visual Studio Extension

  http://www.red-gate.com/products/dotnet-development/reflector/

Bing Code Search for C#



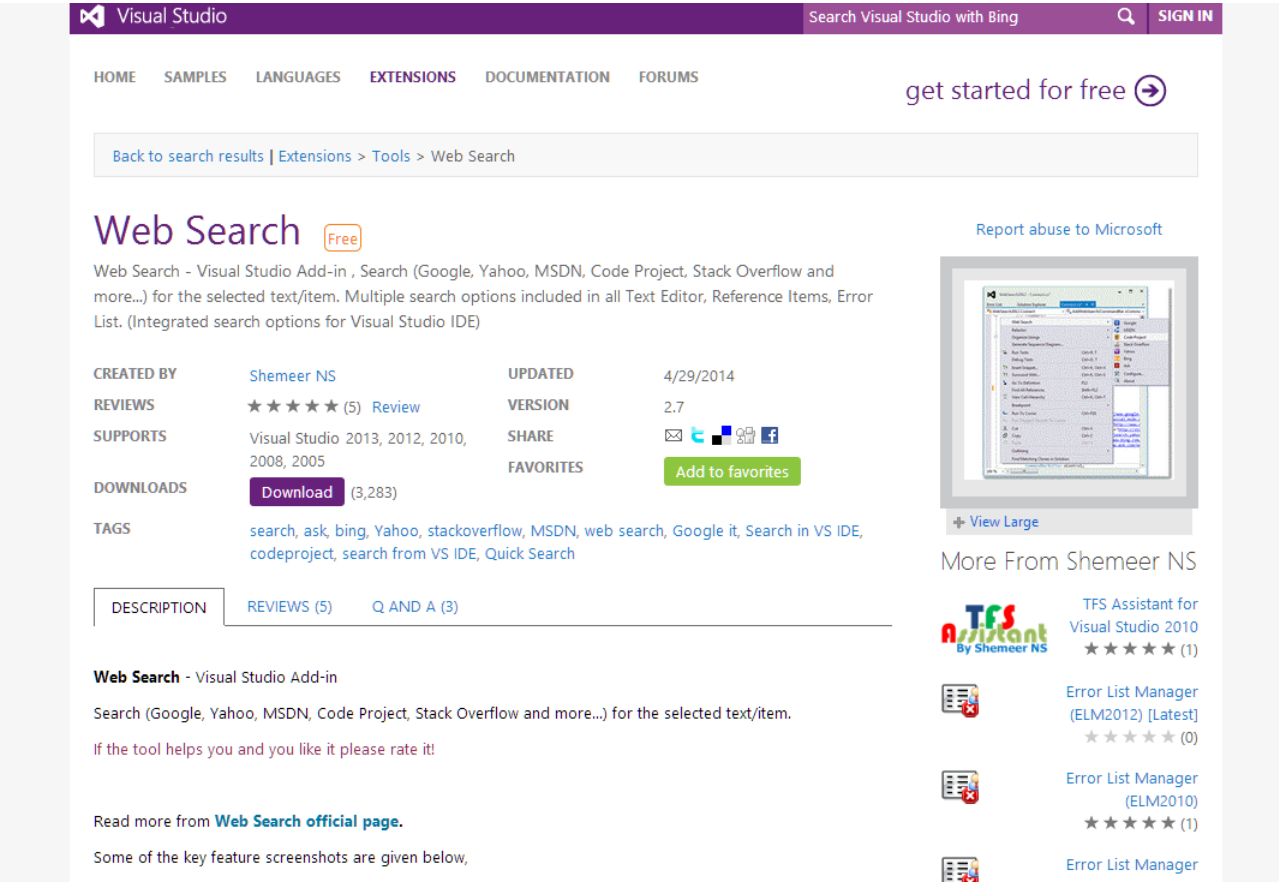
http://goo.gl/OoXzsf

Bing Code Search for C#

- Alt + A

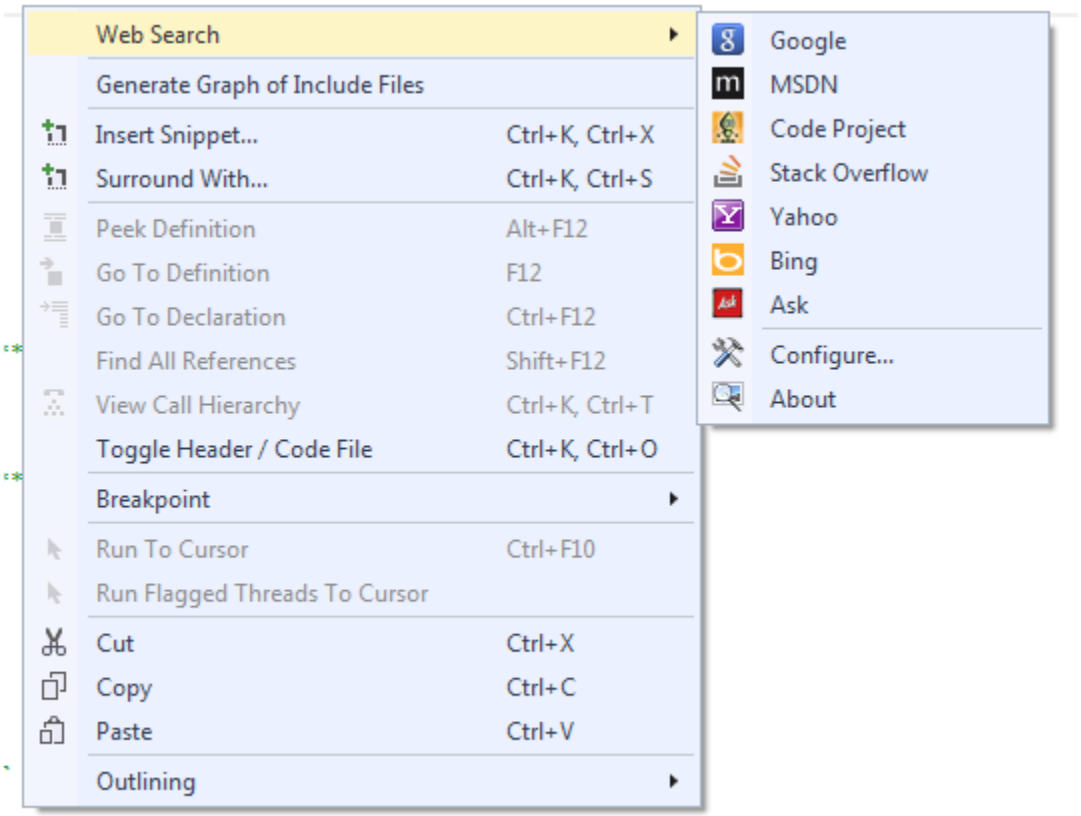


Web Search

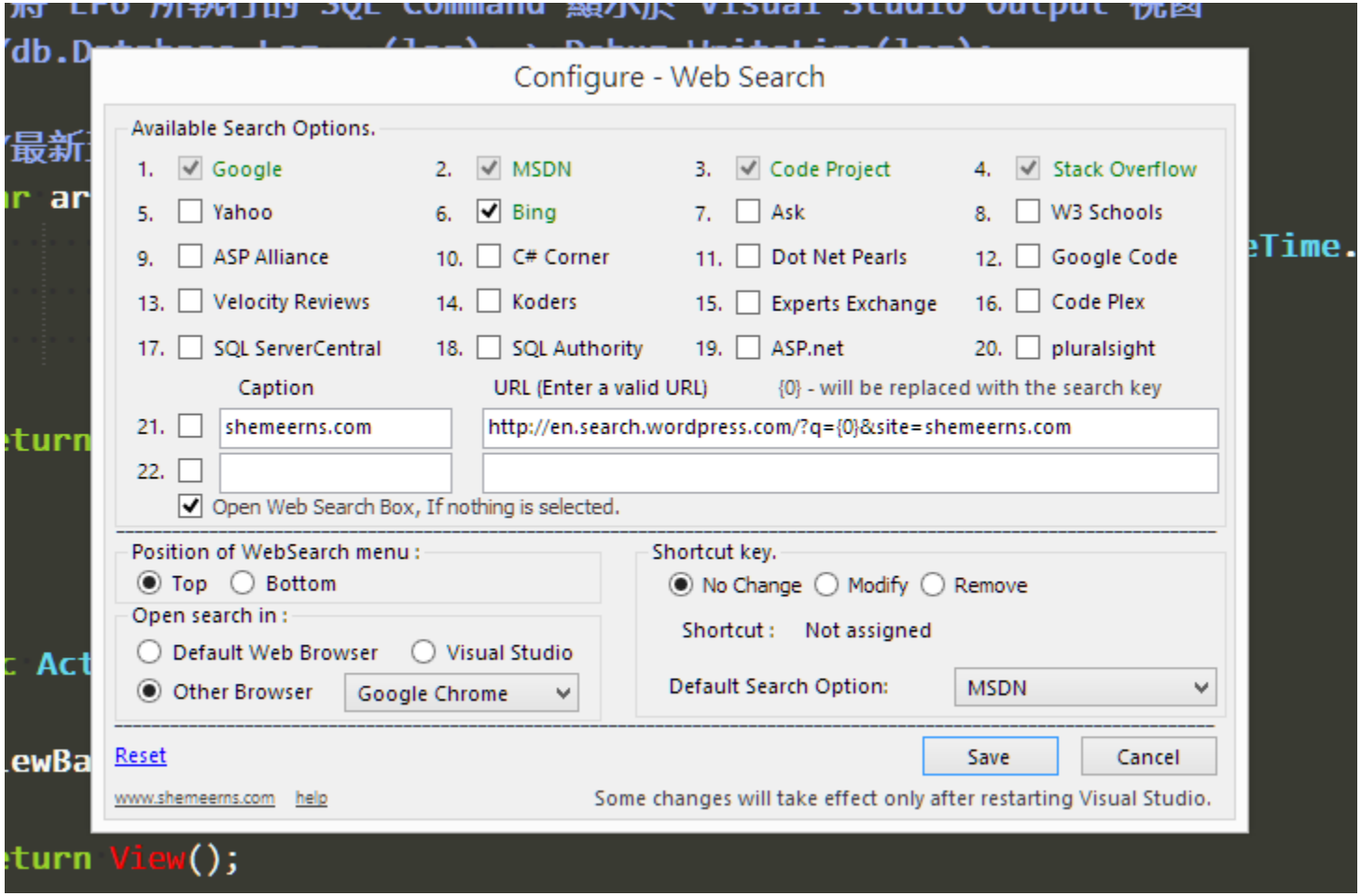


http://goo.gl/199ByB

Web Search


Web Search
Generate Graph of Include Files
Insert Snippet... Ctrl+K, Ctrl+X
Surround With... Ctrl+K, Ctrl+S
Peek Definition Alt+F12
Go To Definition F12
Go To Declaration Ctrl+F12
Find All References Shift+F12
View Call Hierarchy Ctrl+K, Ctrl+T
Toggle Header / Code File Ctrl+K, Ctrl+O
Breakpoint
Run To Cursor Ctrl+F10
Run Flagged Threads To Cursor
Cut Ctrl+X
Copy Ctrl+C
Paste Ctrl+V
Outlining
Google
MSDN
Code Project
Stack Overflow
Yahoo
Bing
Ask
Configure...
About

Web Search


Configure - Web Search
Available Search Options.
1. Google
2. MSDN
3. Code Project
4. Stack Overflow
5. Yahoo
6. Bing
7. Ask
8. W3 Schools
9. ASP Alliance
10. C# Corner
11. Dot Net Pearls
12. Google Code
13. Velocity Reviews
14. Koders
15. Experts Exchange
16. Code Plex
17. SQL ServerCentral
18. SQL Authority
19. ASP.net
20. pluralsight
Caption
URL (Enter a valid URL)
{0} - will be replaced with the search key
21. shemeerns.com
http://en.search.wordpress.com/?q={0}&site=shemeerns.com
22.
Open Web Search Box, If nothing is selected.
Position of WebSearch menu :
Top
Bottom
Open search in :
Default Web Browser
Visual Studio
Other Browser
Google Chrome
Shortcut key.
No Change
Modify
Remove
Shortcut : Not assigned
Default Search Option:
MSDN
Reset
Save
Cancel
www.shemeerns.com
help
Some changes will take effect only after restarting Visual Studio.
eturn View();



ReShaper

JetBrain - ReSharper



http://www.jetbrains.com/resharper/

JetBrain - ReSharper

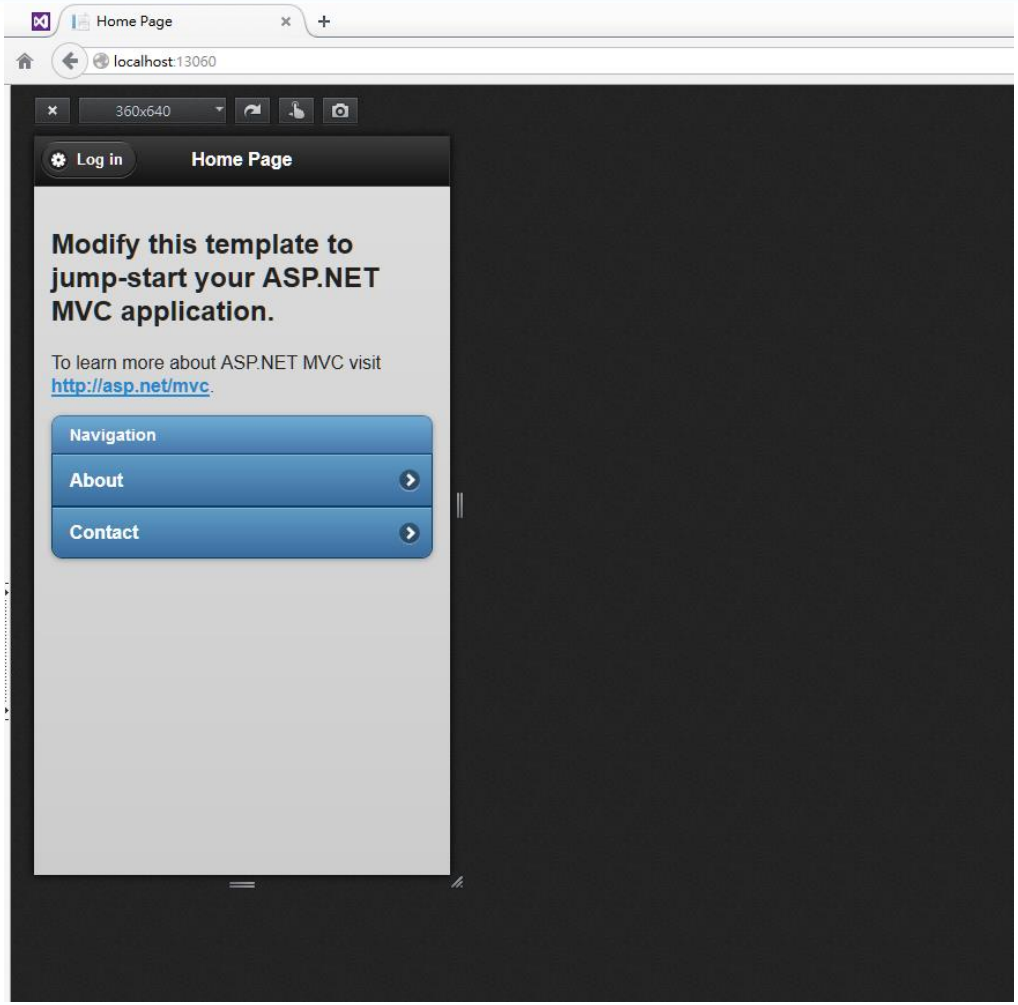




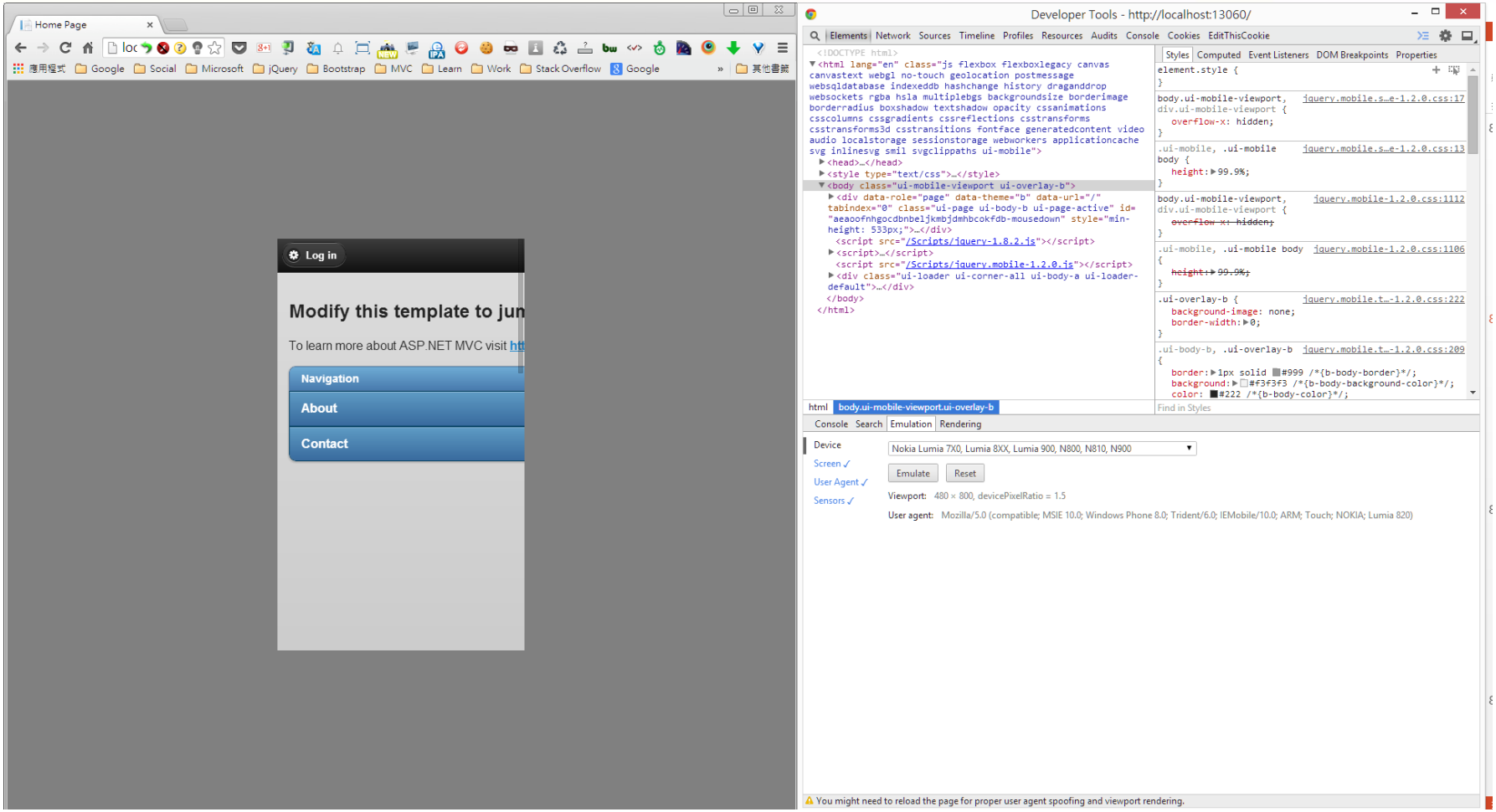
行動網站-用來偵錯的瀏覽器

Firefox

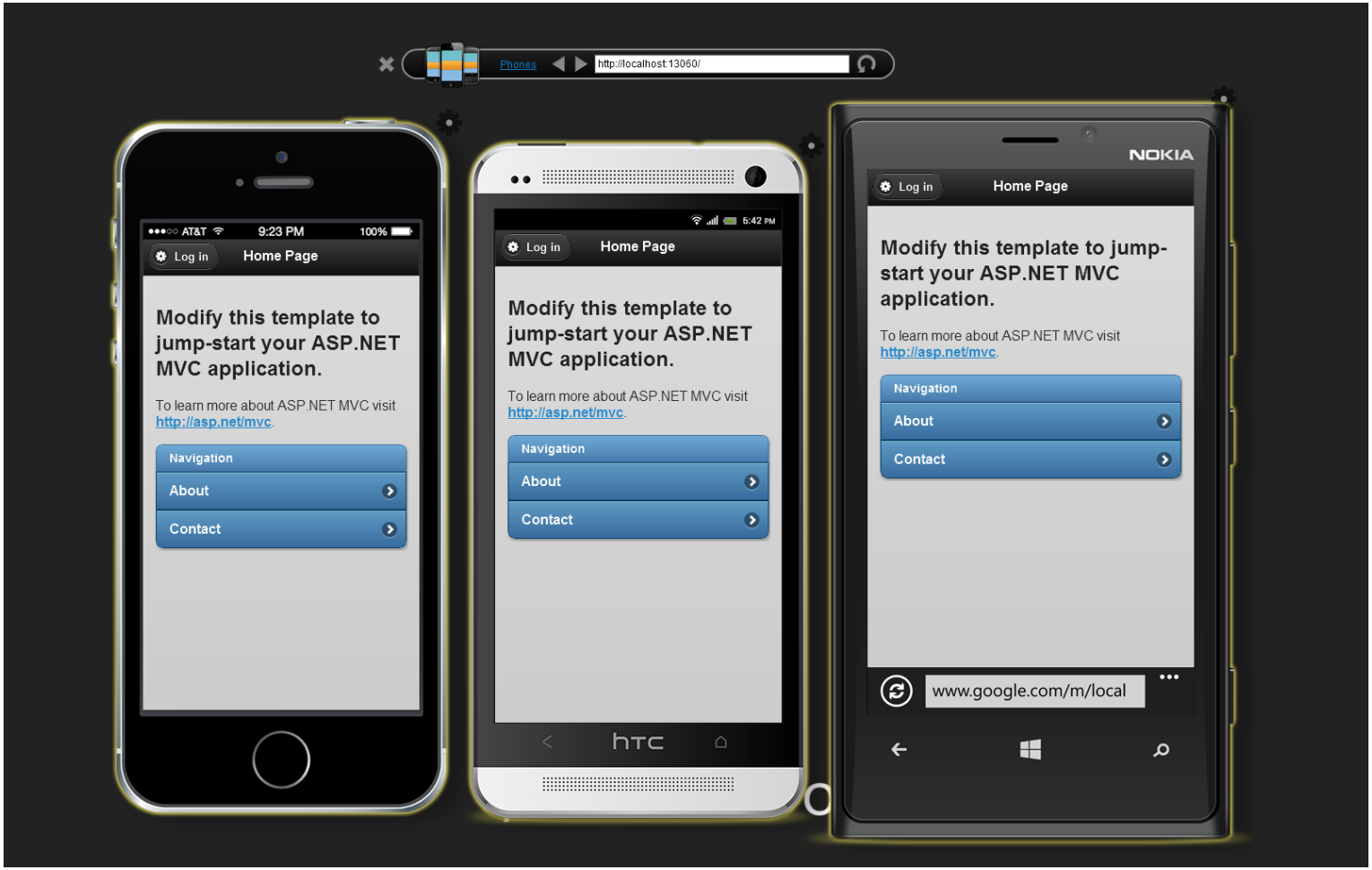
- Ctrl + Shift + M



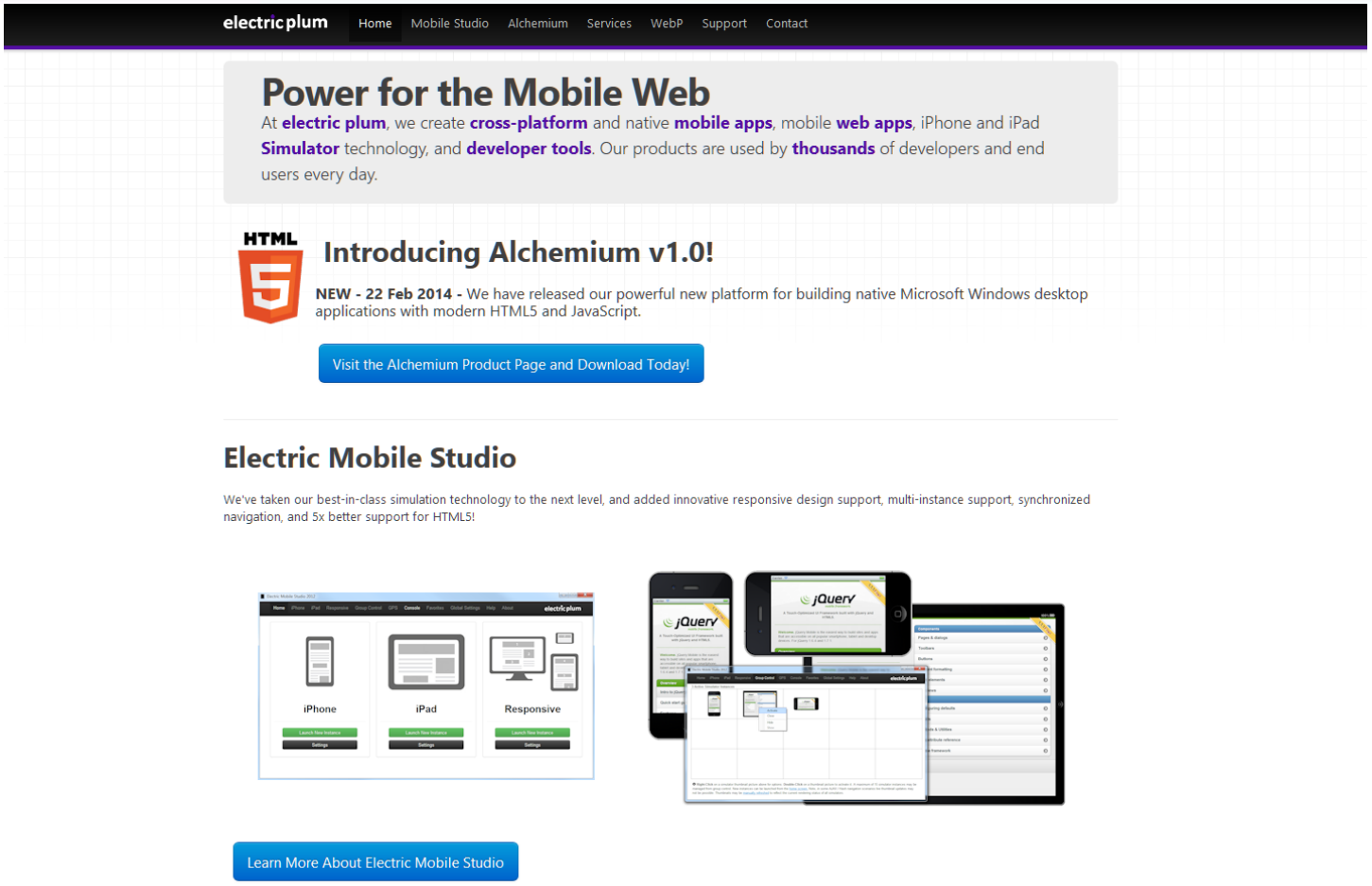
Chrome


Home Page
Log in
Modify this template to jun
To learn more about ASP.NET MVC visit htt
Navigation
About
Contact
Developer Tools - http://localhost:13060/
Elements Network Sources Timeline Profiles Resources Audits Console Cookies EditThisCookie
Styles Computed Event Listeners DOM Breakpoints Properties
Console Search Emulation Rendering
Device
Screen
User Agent
Sensors
Nokia Lumia 7X0, Lumia 8XX, Lumia 900, N800, N810, N900
Emulate
Reset
Viewport: 480 × 800, devicePixelRatio = 1.5
User agent: Mozilla/5.0 (compatible; MSIE 10.0; Windows Phone 8.0; Trident/6.0; IEMobile/10.0; ARM; Touch; NOKIA; Lumia 820)
You might need to reload the page for proper user agent spoofing and viewport rendering.

Mobilizer

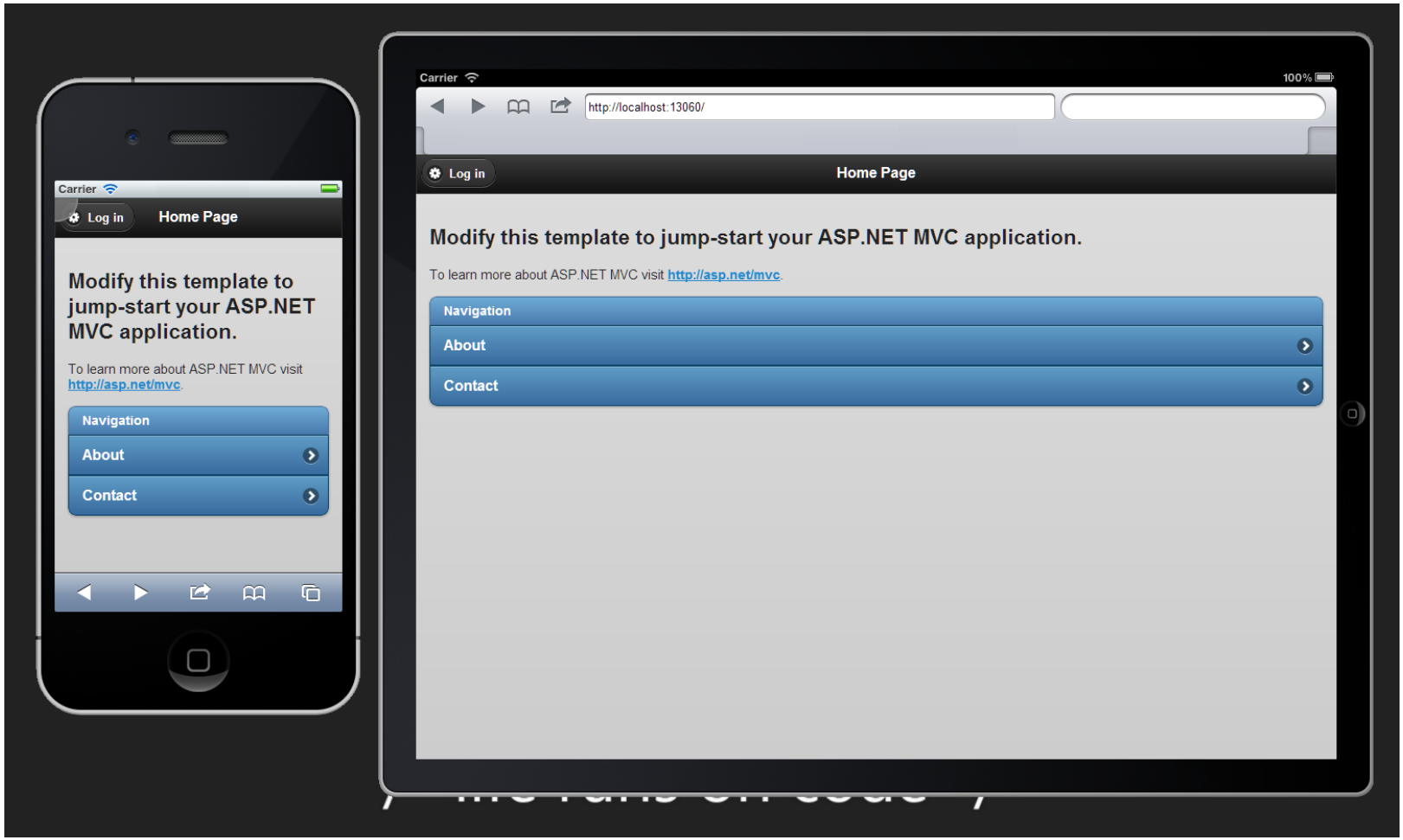

Phones
http://localhost:13060/
AT&T
9:23 PM
100%
Log in
Home Page
Modify this template to jump-start your ASP.NET MVC application.
To learn more about ASP.NET MVC visit http://asp.net/mvc.
Navigation
About
Contact
6:42 PM
htc
NOKIA
www.google.com/m/local

Electric Mobile Studio

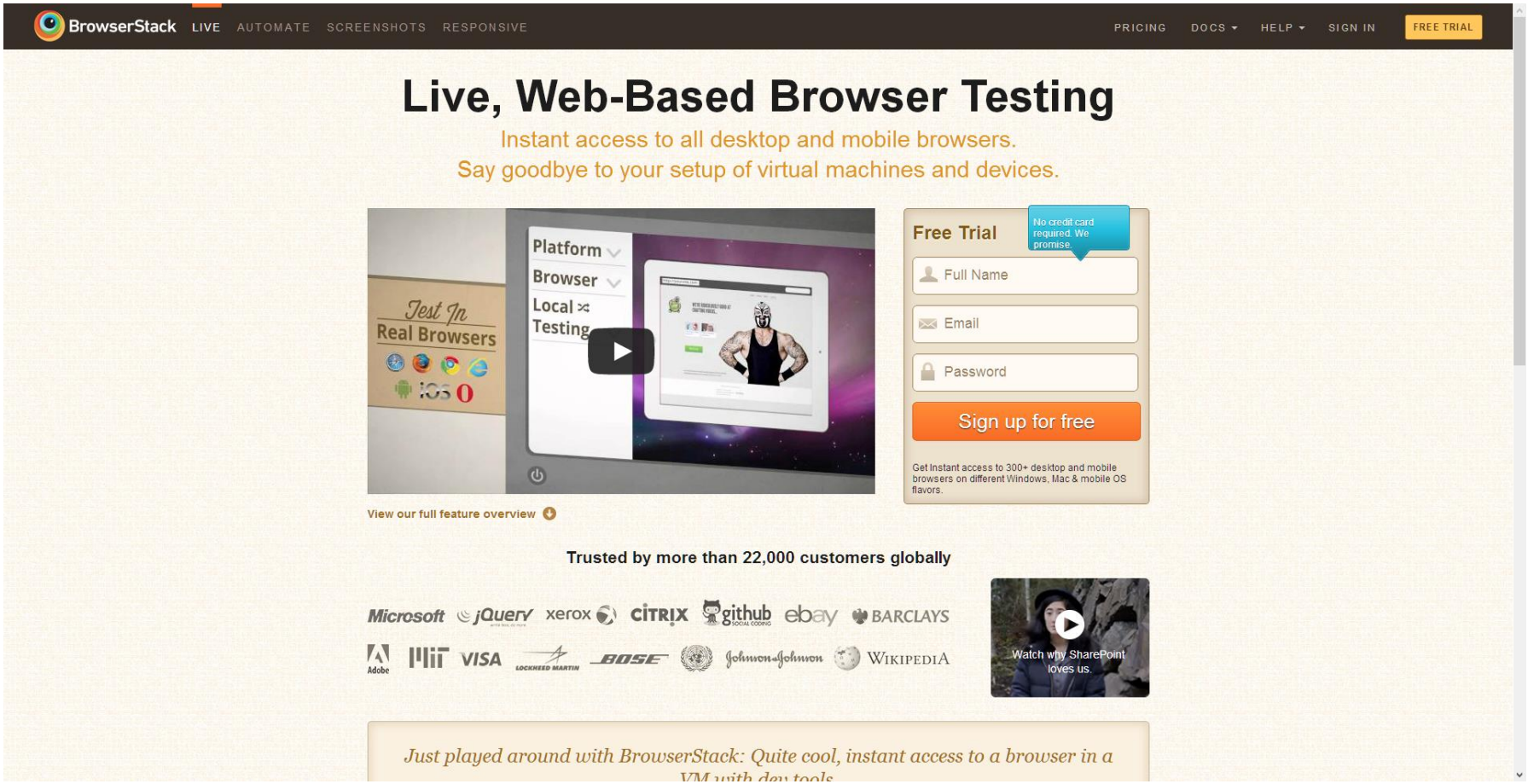


http://www.electricplum.com/

Electric Mobile Studio

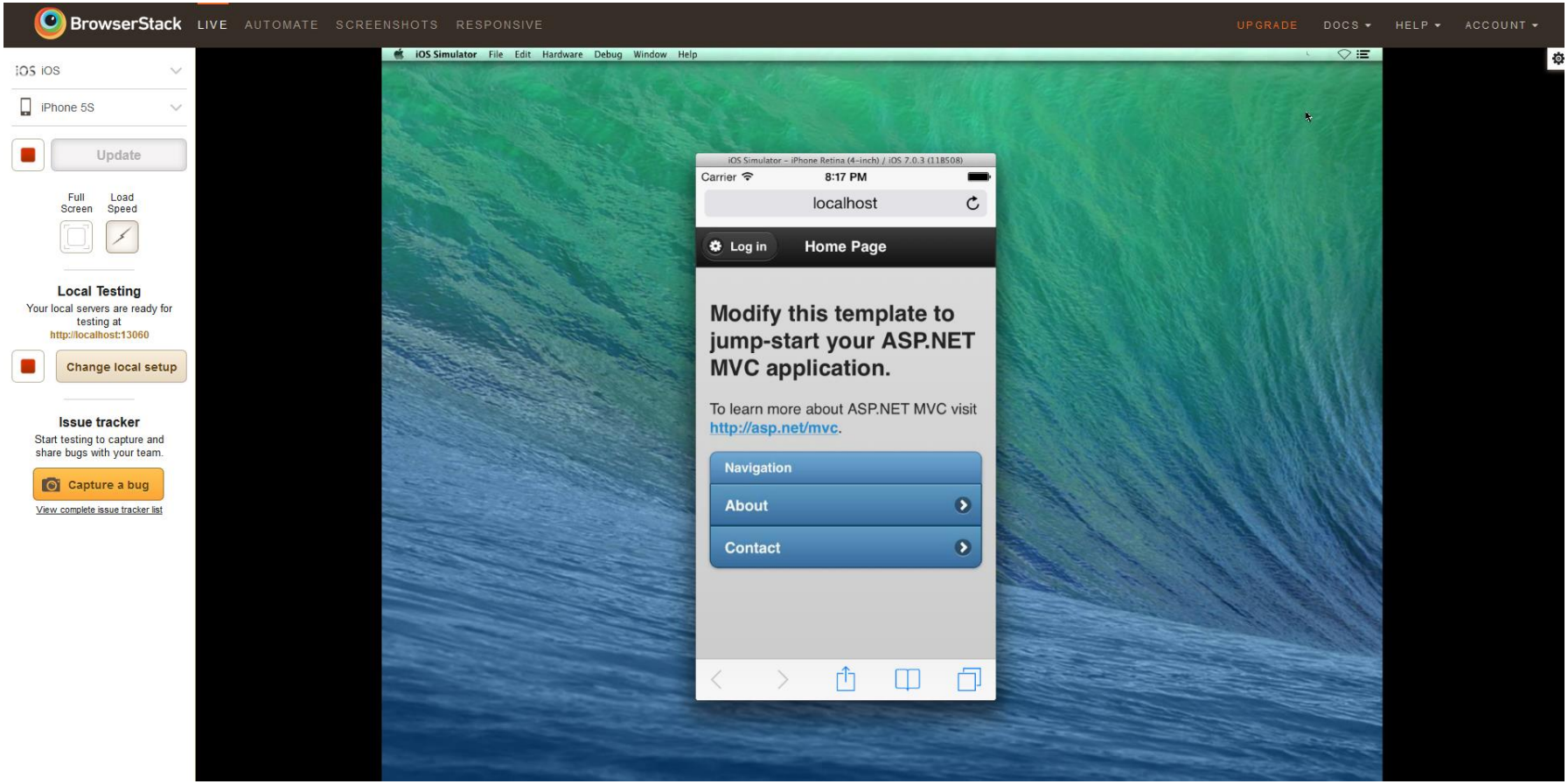


BrowserStack

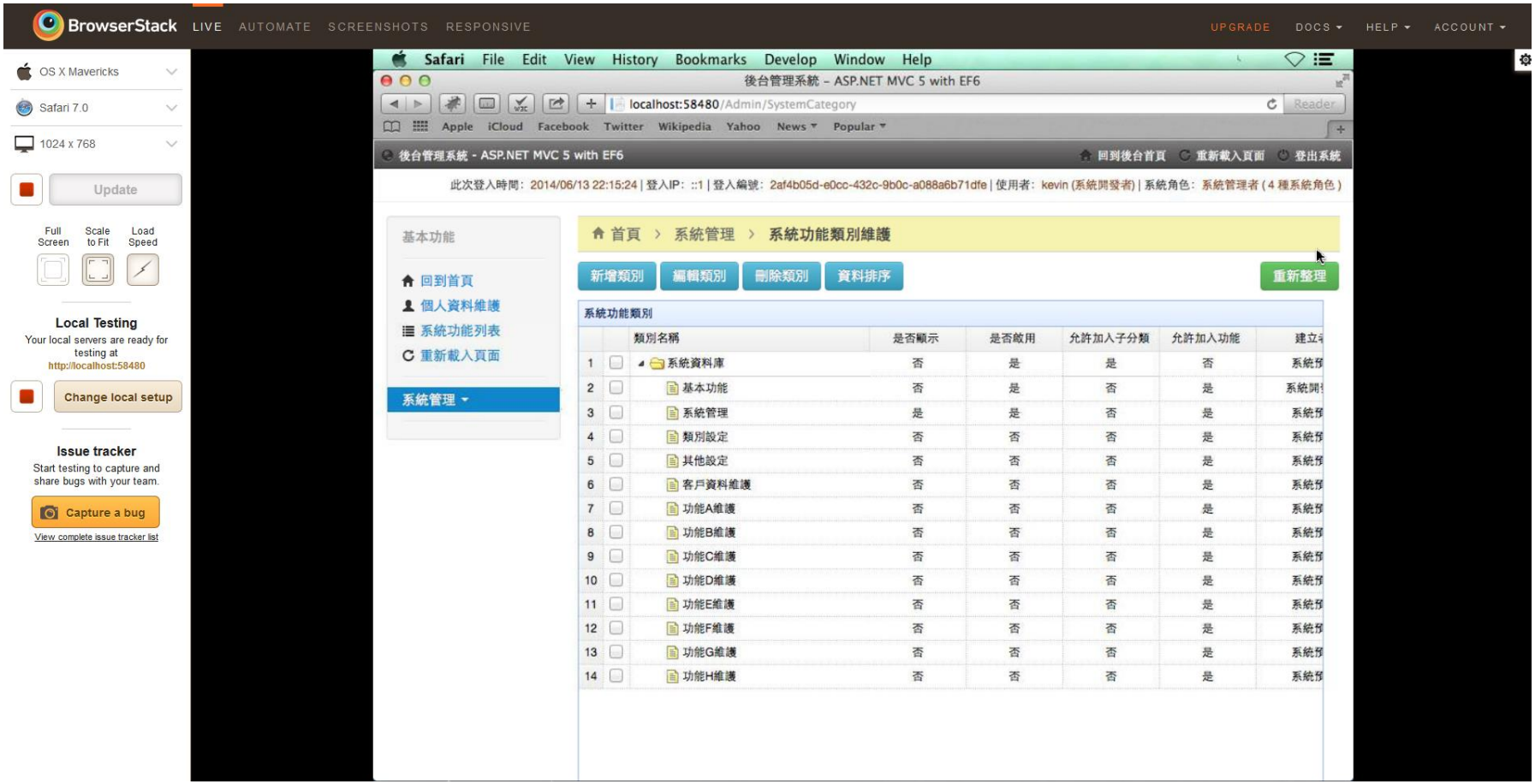


http://www.browserstack.com

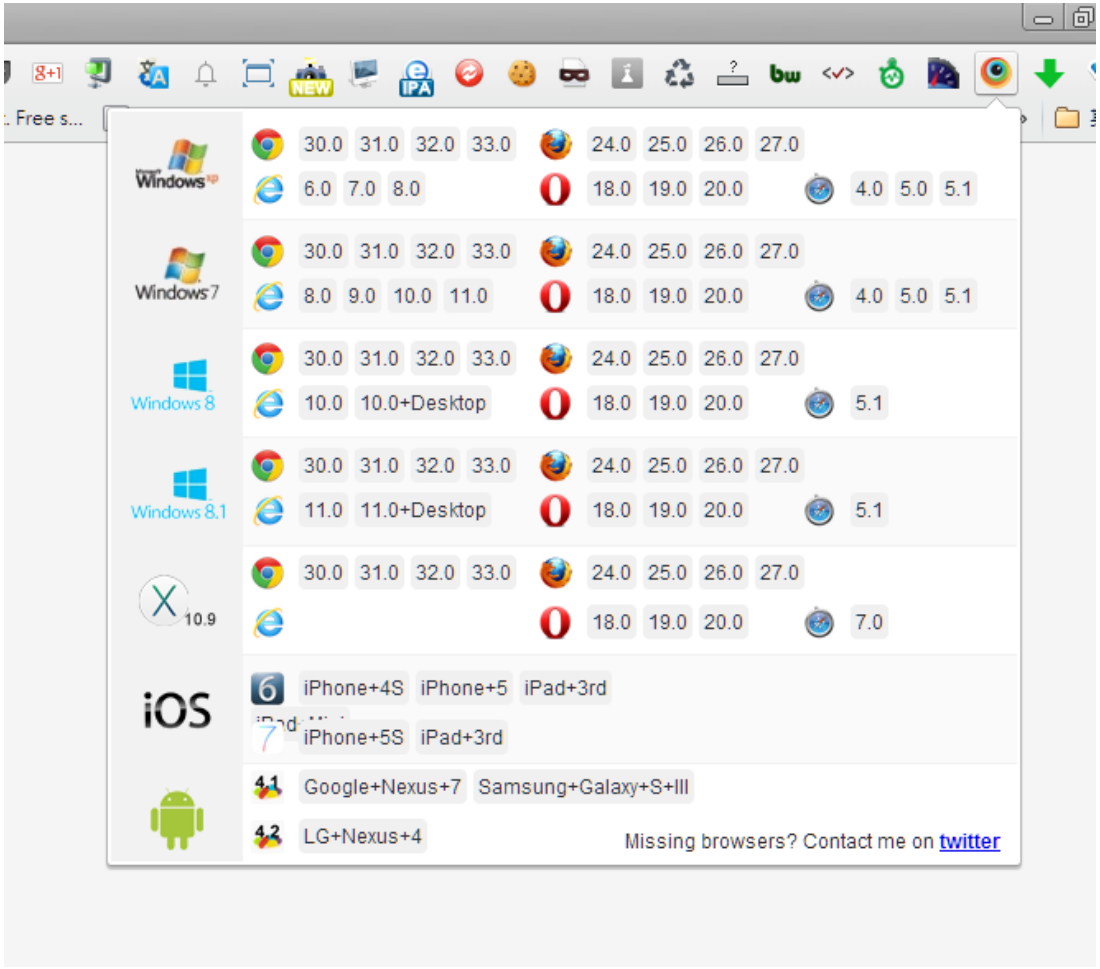
BrowserStack



BrowserStack



BrowserStack - Chrome Extensions





Windows Phone Emulator

Windows Phone 開發人員中心



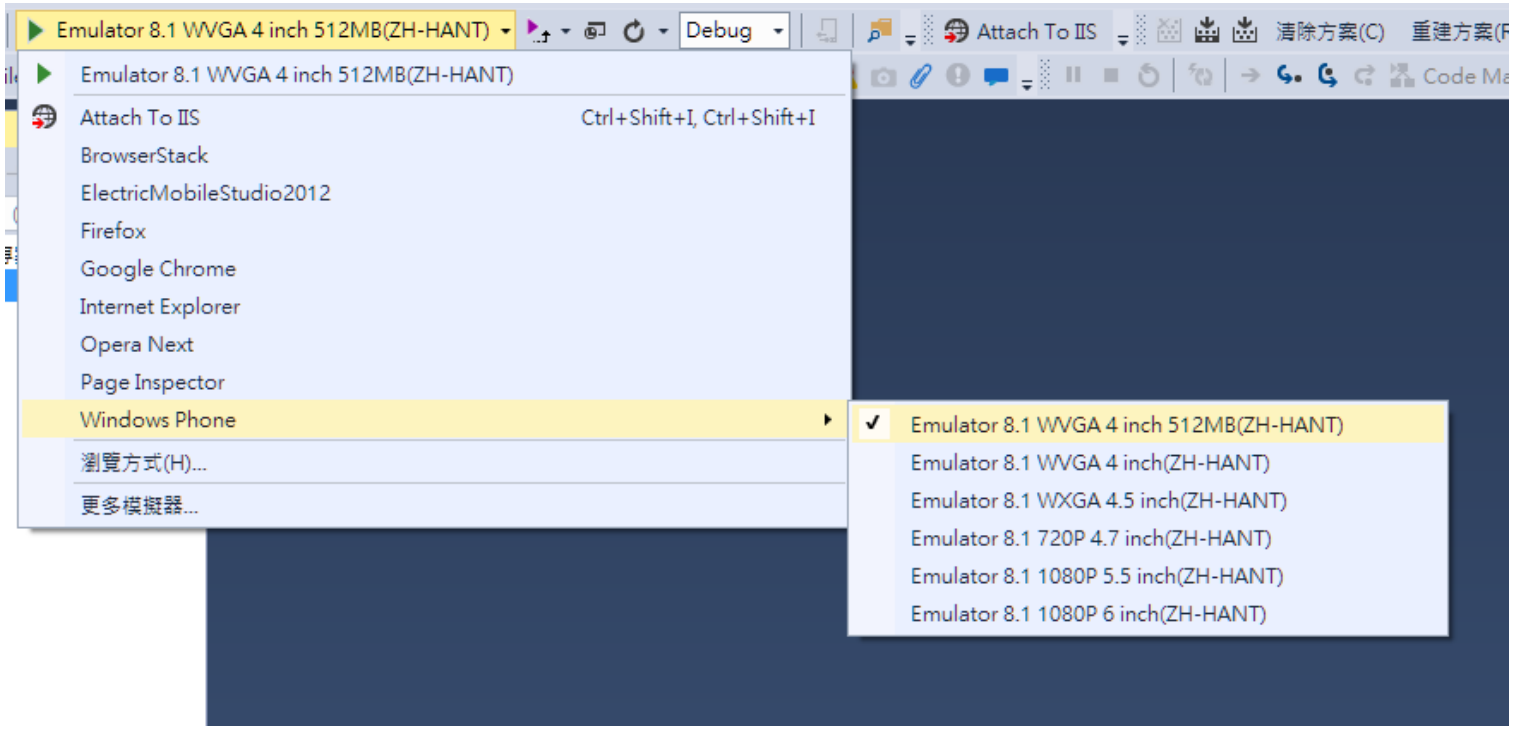
https://dev.windowsphone.com/zh-tw

Windos Phone 8.1 模擬器

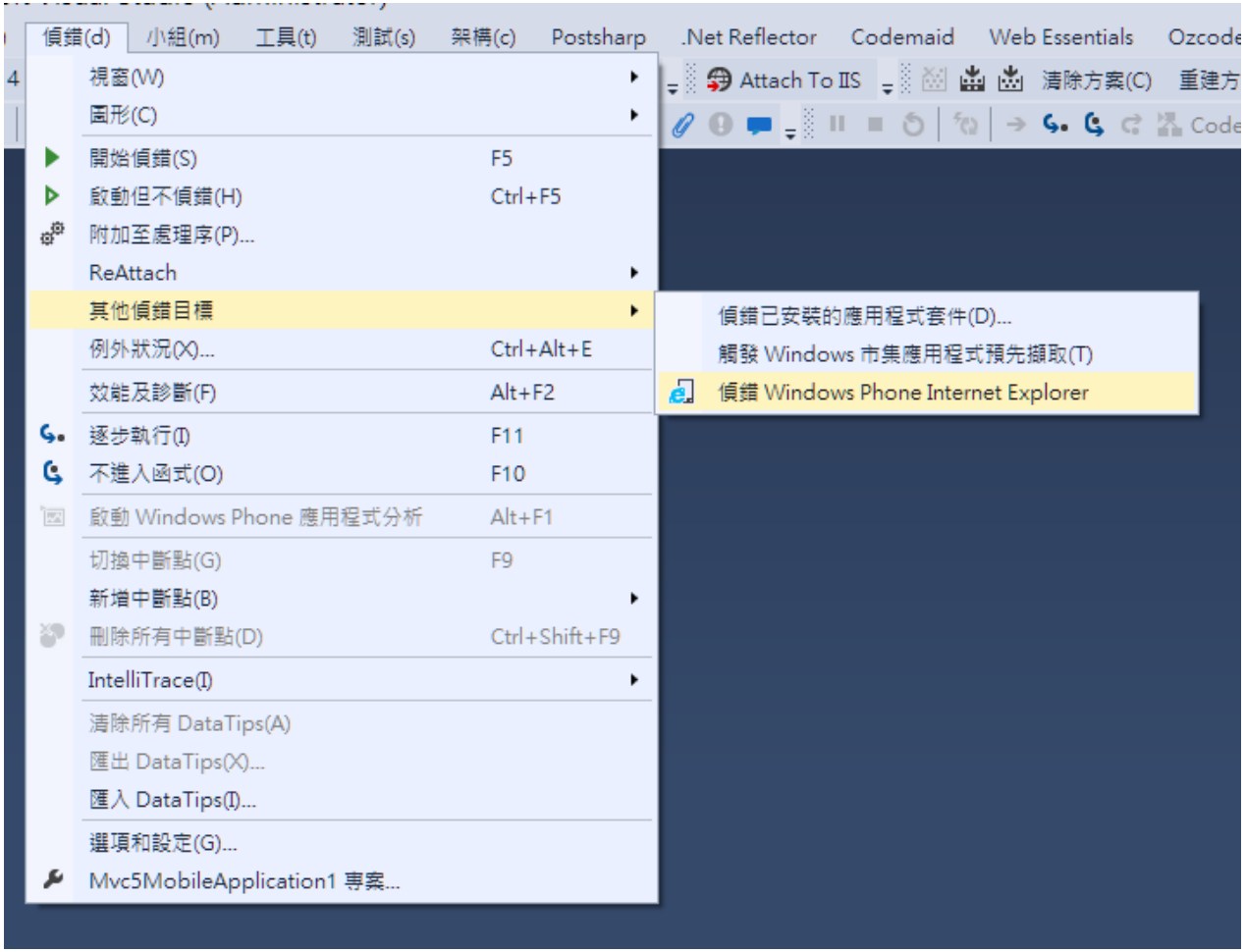


https://dev.windowsphone.com/zh-tw/downloadsdk

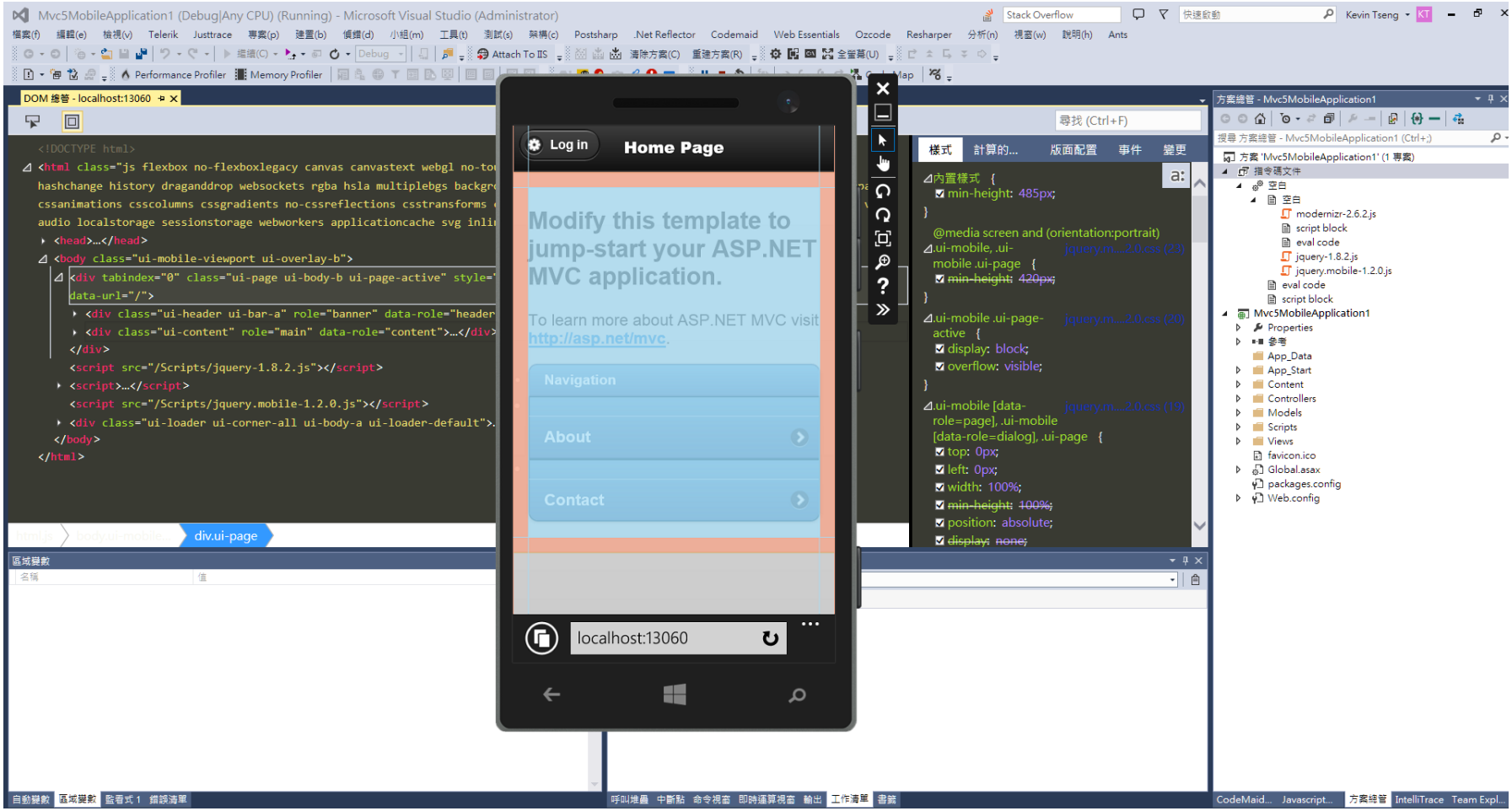
Windows Phone Emulator



Windows Phone Emulator



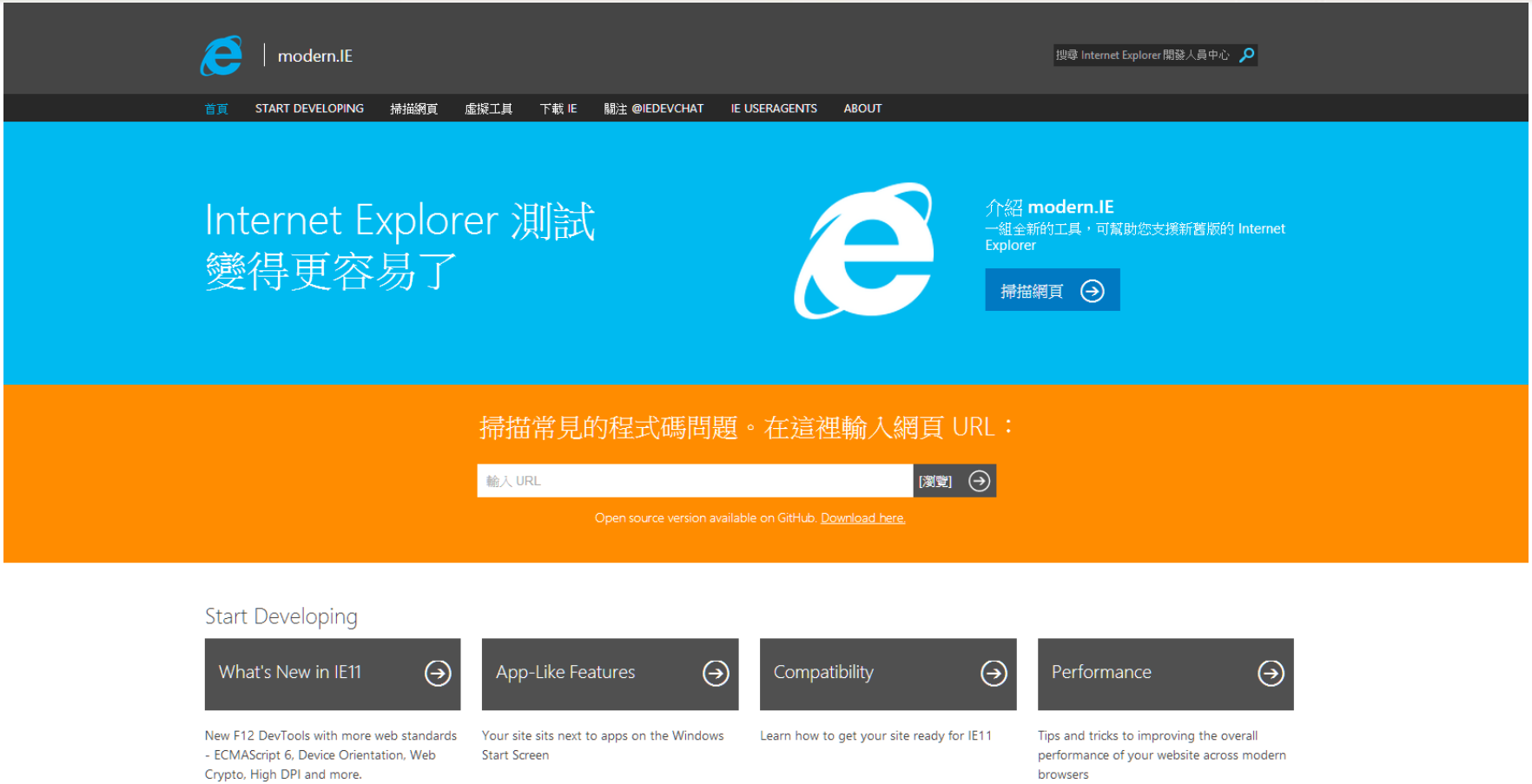
使用 Windows Phone Emulator 偵錯





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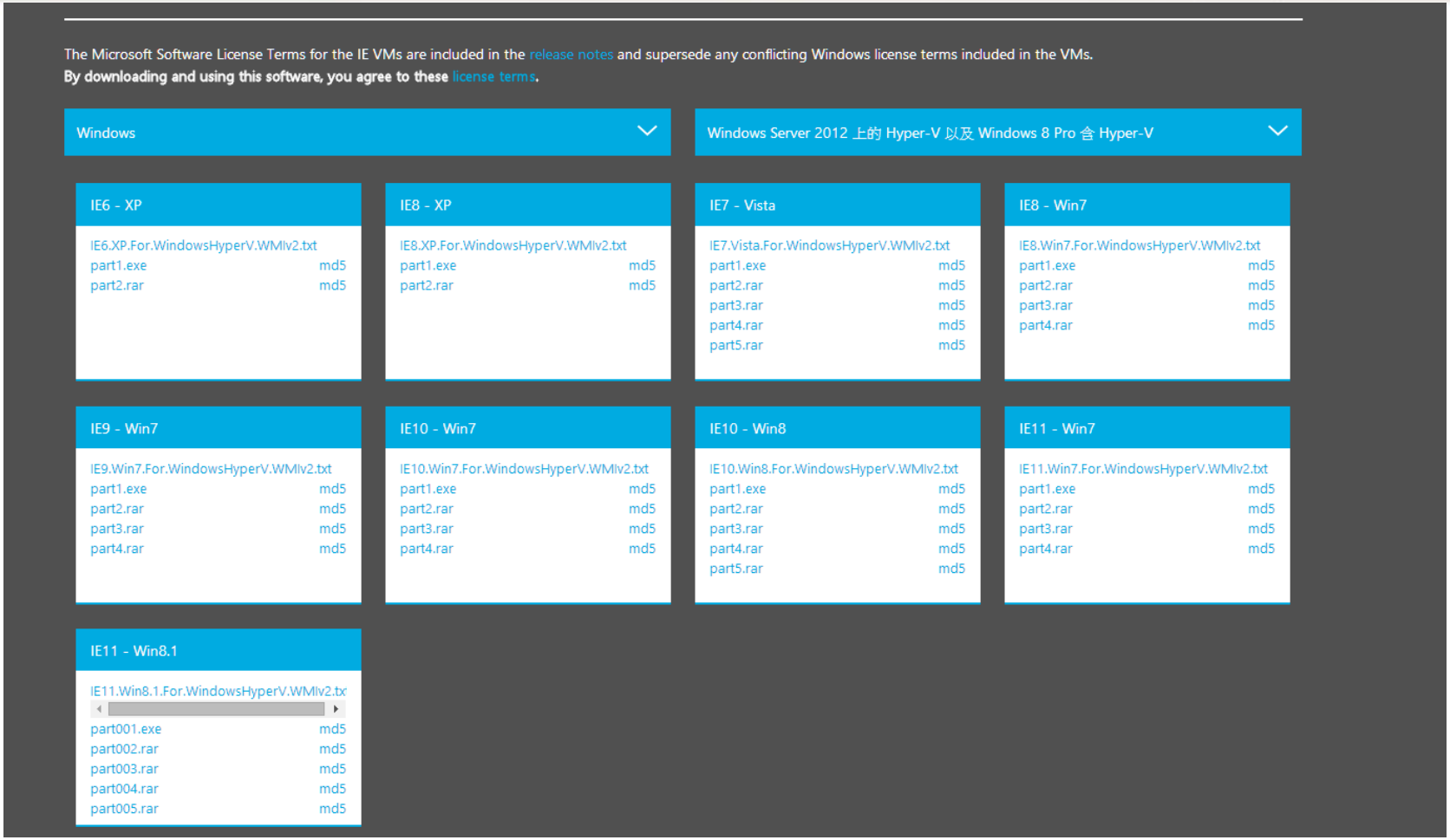


http://loc.modern.ie/zh-tw

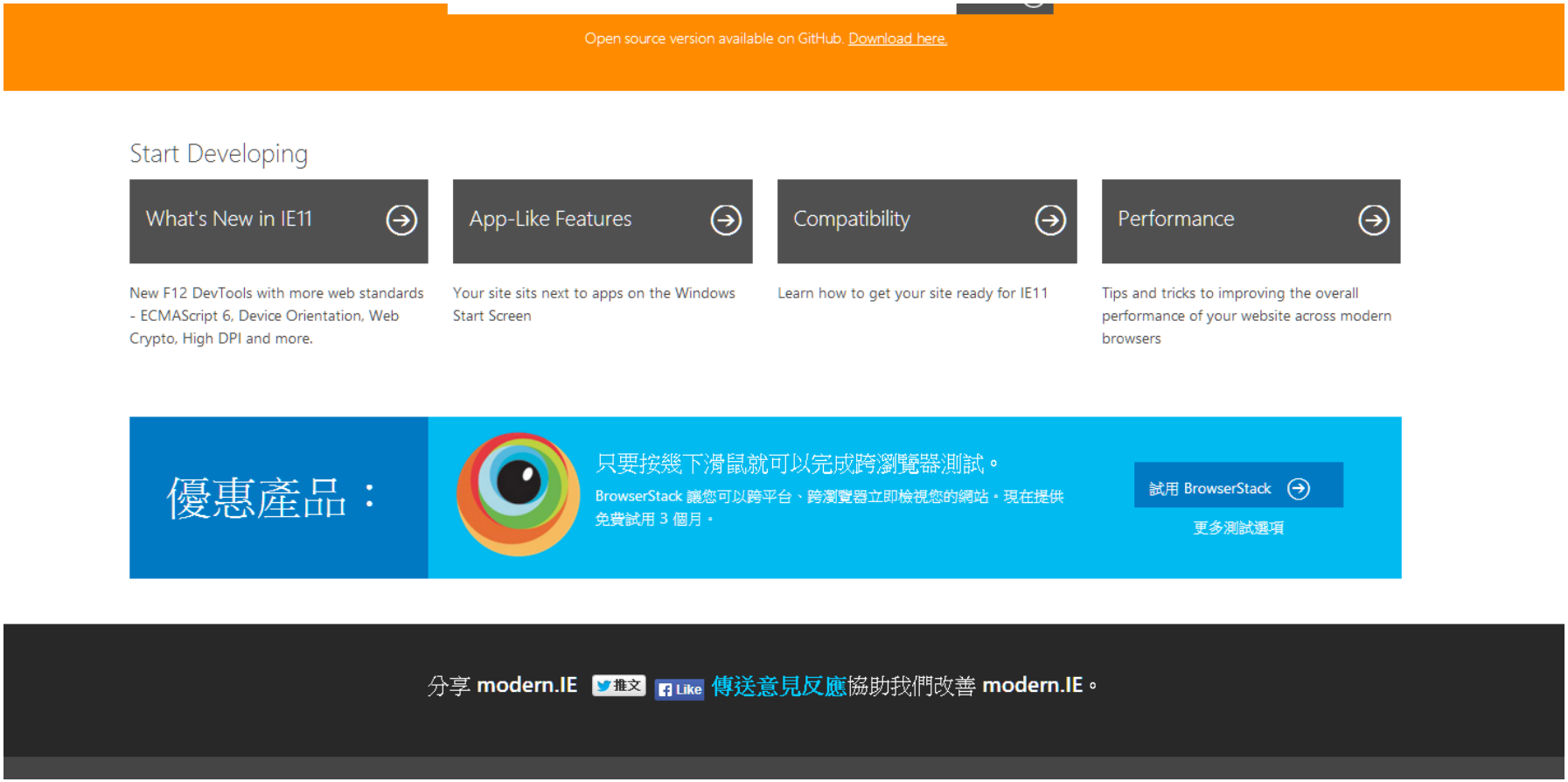
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Modern.IE …… BrowserStack



Microsoft Monitoring Agent 相關連結

- Introducing Microsoft Monitoring Agent
- Performance Details in IntelliTrace
- IntelliTrace MVC Navigation
- UI Enhancements for IntelliTrace with Visual Studio 2013 Update 2
- 使用 Microsoft Monitoring Agent 監視部署中的應用程式
- 使用 Visual Studio 和 Microsoft Monitoring Agent 診斷部署中的問題

Performance and Diagnostics Hub

- Performance and Diagnostics Hub in Visual Studio 2013
- New CPU Usage tool in the Performance and Diagnostics hub in Visual Studio 2013
- MSDN 使用程式碼剖析工具分析應用程式效能
- Visual Studio 2013的進階偵錯與效能分析技巧

好活動需要支持



感謝 KKTIX 贊助 twMVC 活動報名平台

好課程需要支持



http://skilltree.my

好課程別放過 – ASP.NET MVC 5 實戰訓練營



http://skilltree.kktix.cc/events/skilltree2

謝謝各位

http://mvc.tw

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