

Configuration & Deployment

Putting MVC Into Production



Overview

- **Configuration files for .NET**
 - Location
 - Precedence
- **ASP.NET MVC and IIS**
 - Applications and App Pools
 - IIS Configuration
- **Web Deployment Projects**

Configuration Files

- **XML files control environmental settings**
 - Authentication & Authorization
 - Compilation
 - Connections
 - Cryptography
 - Custom errors
 - Page settings
 - Trace and Debug settings
 - Web services
- **Configuration is extensible**

Accessing Settings

- **Use the ConfigurationManager from System.Configuration**
 - Includes shortcuts to AppSettings and ConnectionStrings
 - Can also use manager class to open config files for editing and update

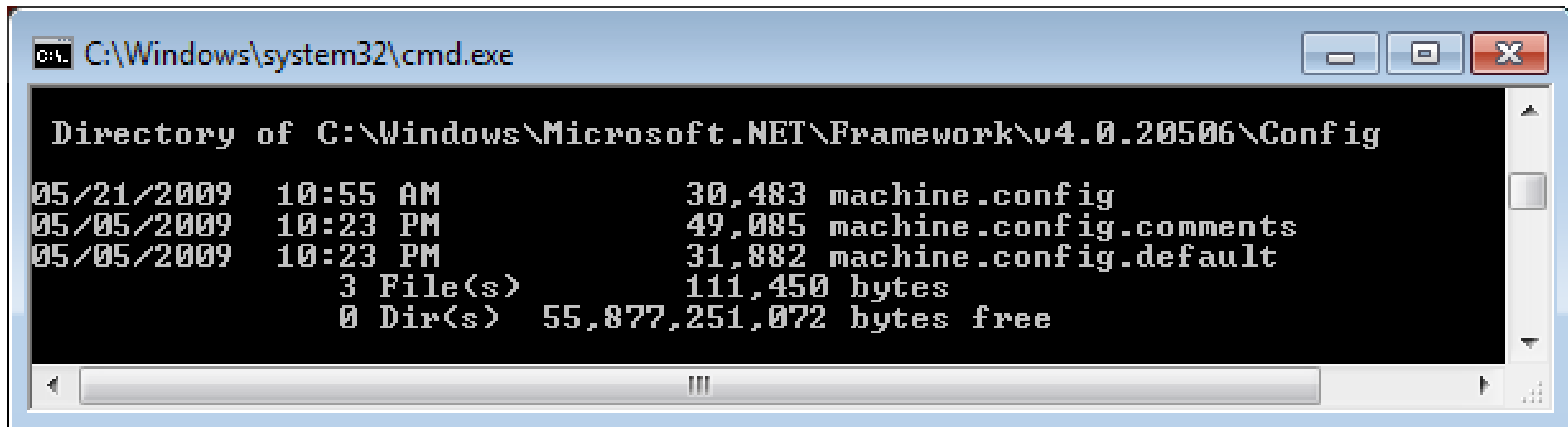
```
var server = ConfigurationManager.AppSettings["FileServerName"];

var modulesSection =
    ConfigurationManager.GetSection("system.web/httpModules")
    as HttpModulesSection;

var installedModules = modulesSection.Modules.Count;
```

Machine Configuration

- **Machine.config** is located in the runtime's Config directory
 - Note: .NET 3.5 uses the .NET 2.0 Config directory
 - .comments file documents available settings
 - .default file contains the runtime's default settings



A screenshot of a Windows command prompt window titled "C:\Windows\system32\cmd.exe". The window displays the output of a directory listing command for the path "C:\Windows\Microsoft.NET\Framework\v4.0.20506\Config". The output shows three files: "machine.config" (30,483 bytes), "machine.config.comments" (49,085 bytes), and "machine.config.default" (31,882 bytes). It also shows a summary: "3 File(s) 111,450 bytes" and "0 Dir(s) 55,877,251,072 bytes free".

```
C:\Windows\system32\cmd.exe

Directory of C:\Windows\Microsoft.NET\Framework\v4.0.20506\Config

05/21/2009  10:55 AM                30,483 machine.config
05/05/2009  10:23 PM                49,085 machine.config.comments
05/05/2009  10:23 PM                31,882 machine.config.default
               3 File(s)                111,450 bytes
               0 Dir(s) 55,877,251,072 bytes free
```

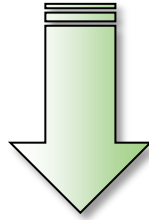
Machine Level Web.config

- **Controls settings for all ASP.NET applications on a computer**
 - Same location as machine.config
 - Also contains .default and .comment files
- **Includes**
 - Default assemblies, namespaces, providers, security settings

```
<system.web>  
  <authorization>  
    <allow users="*" />  
  </authorization>  
  <!-- ... -->
```

Hierarchical Configuration

- **Each application inherits settings from higher level config files**
 - Machine config
 - Machine web.config
 - Parent's web.config
 - Your web.config
- **Settings computed once and cached**
 - ASP.NET monitors files for changes
- **Lower level settings can override higher level settings**
- **Locking down settings**
 - Use the allowOverride attribute



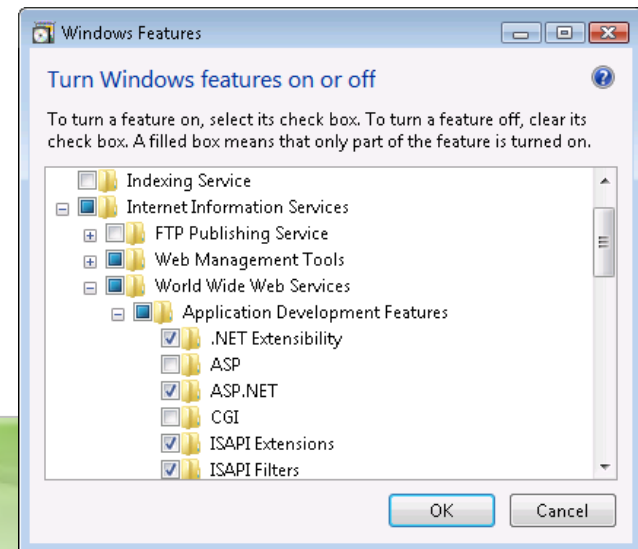
Configuring Locations

- **Location element allows location-specific settings**
 - Can also drop web.config into any sub-directory
 - Some settings only available at root of web site

```
<location path="/MySecrets" >  
  <system.web>  
    <authorization>  
      <deny users="*" />  
    </authorization>  
  </system.web>  
</location>
```

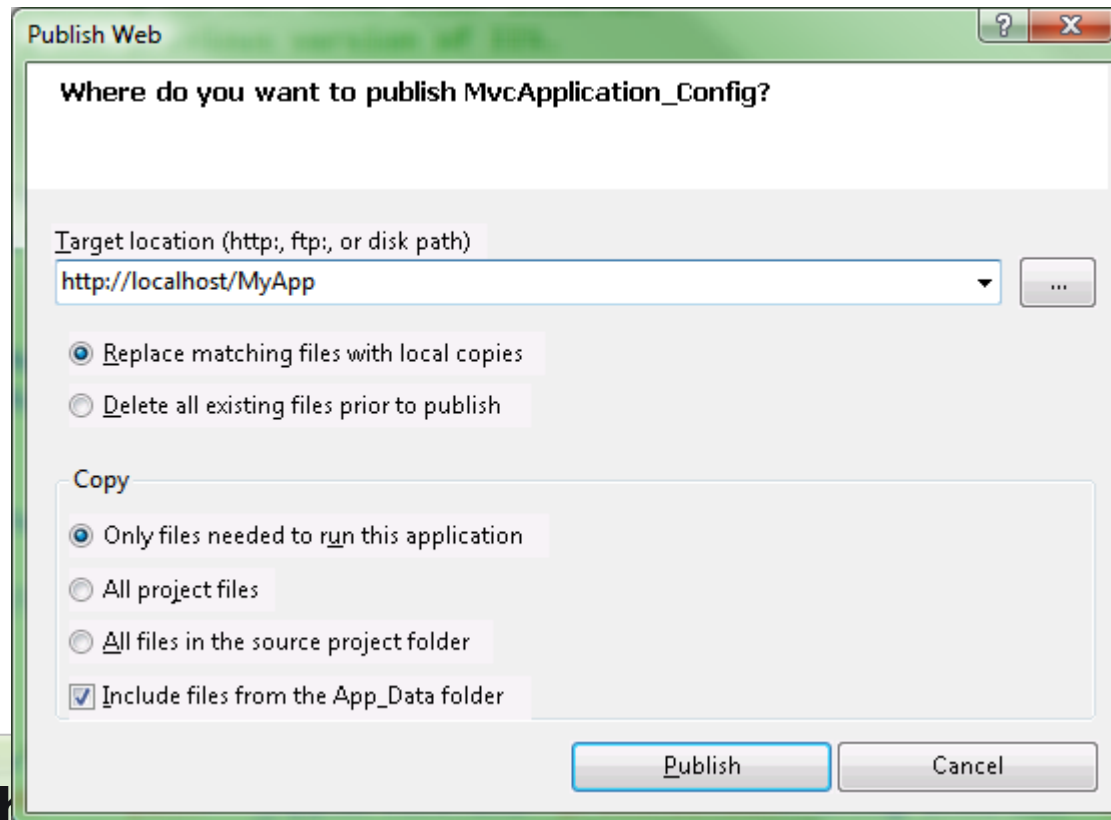

Hosting ASP.NET MVC

- **Building MVC projects produces a .dll**
 - Needs a host process to execute
- **WebDev.Webserver.exe (Cassini) is a development host**
 - Default for Visual Studio 2008
 - Rejects remote requests
 - Runs with your identity
- **Internet Information Services is a production web server**
 - Available on both server and personal version of Windows
 - Scalable
 - Includes management and diagnostic tools
 - “Off by default”.
 - Can host various frameworks & protocols



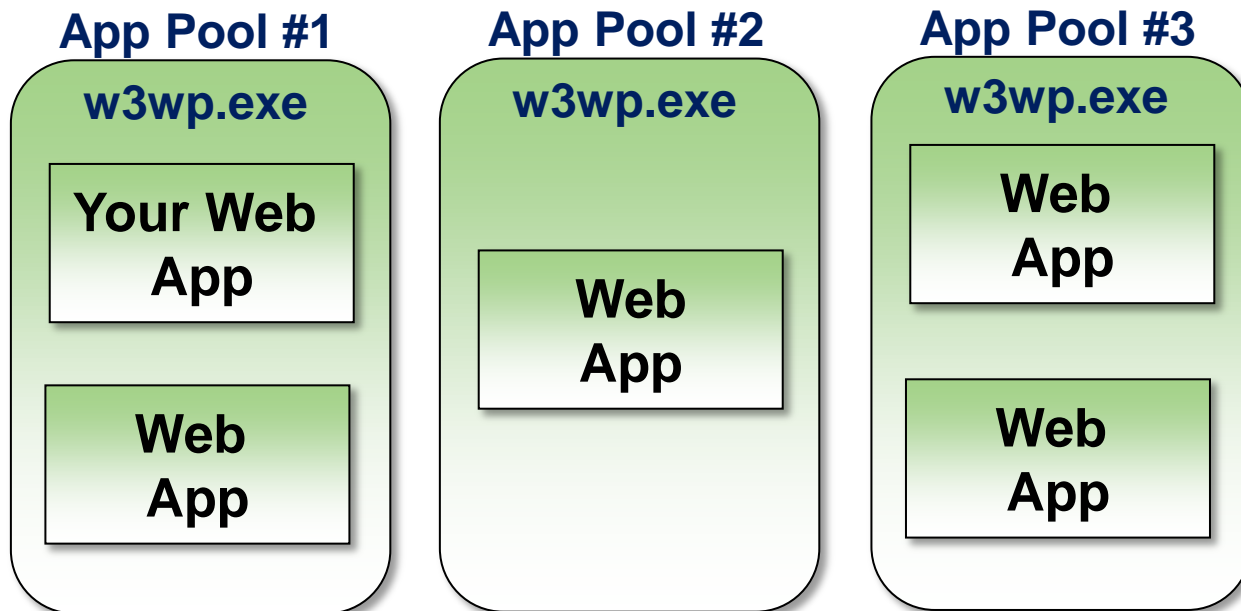
One-click Publish

- **Build -> Publish from Visual Studio**
 - Requires IIS6 metabase compatibility
 - Requires running Visual Studio as Administrator



Internet Information Services

- **IIS uses application pools to host web applications**
 - Each app pool has a dedicated worker process (w3wp.exe)
 - Runs with the NETWORK SERVICE account by default
 - Each app pool maintains CPU, memory, and recycle settings



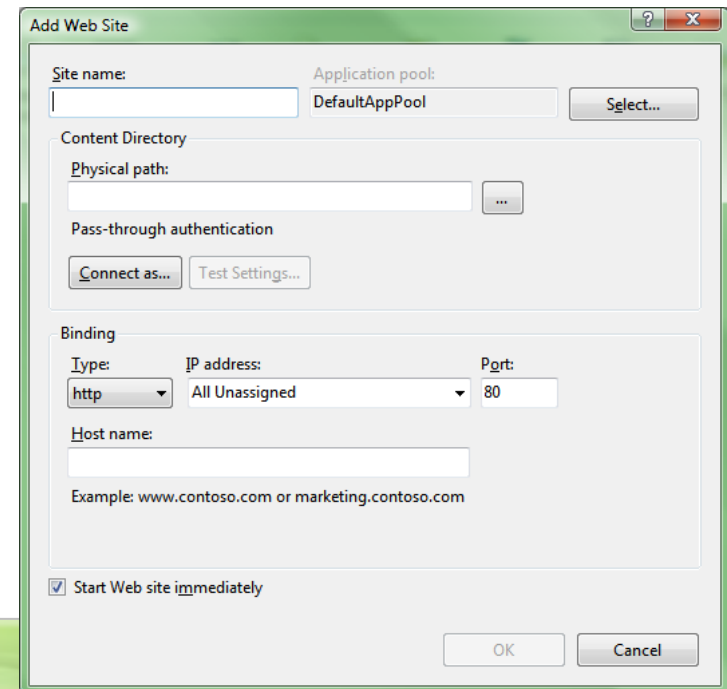
Web.config and IIS 7+

- **System.web versus System.webserver**
 - IIS 7 introduced an integrated pipeline
 - HTTP modules and handlers now configured under the webserver section
 - “Classic” pipeline supports legacy code and system.web section
- **Webserver settings**
 - Compression
 - Default documents
 - Directory browsing
 - Logging
 - and more ...

Sites, Applications, & VDirs

- **A web site contains one or more applications**
 - Defines binding protocol and information
 - Logging and throttle settings apply to a site
- **Application contains one or more virtual directories**
 - Path becomes part of a web site's URL
 - Assigned to an application pool
- **Virtual directory points to a physical path**
 - Can exist anywhere in a web site
 - Can point to an arbitrary physical path

`http://www.pluralsight.com/main
/screencasts/screencast.aspx
?id=iis-aspnetdev`

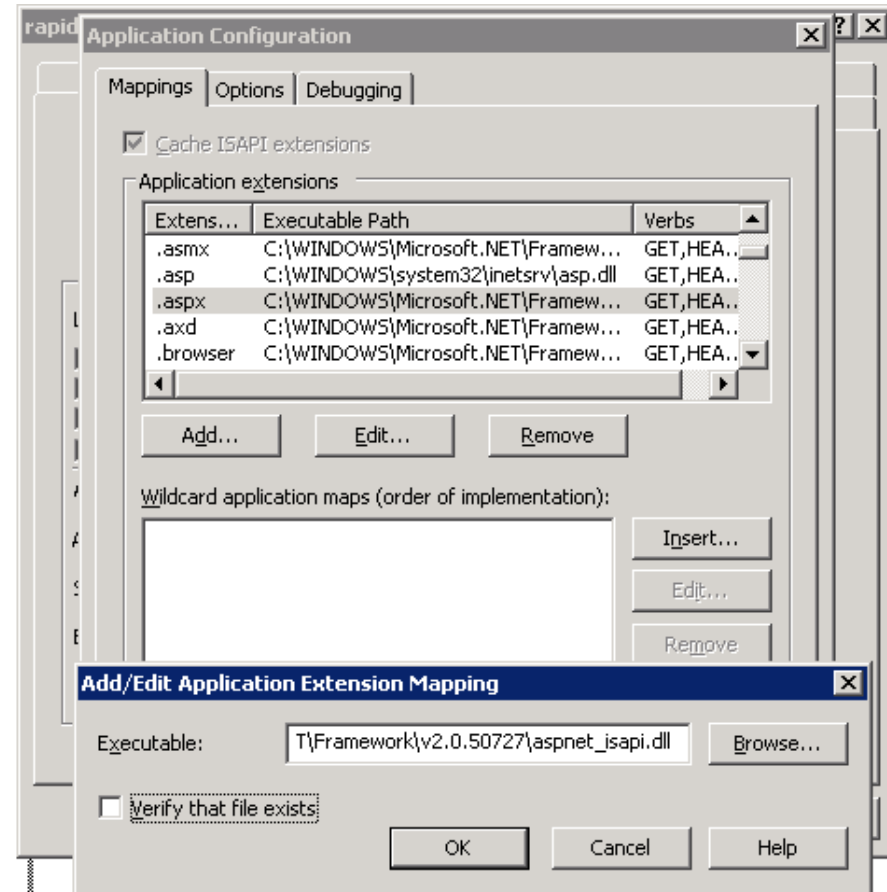


The screenshot shows the 'Add Web Site' dialog box with the following fields and options:

- Site name:** A text input field.
- Application pool:** A dropdown menu showing 'DefaultAppPool' and a 'Select...' button.
- Content Directory:**
 - Physical path:** A text input field with a browse button ('...').
 - Pass-through authentication:** A checkbox.
 - Connect as...** and **Test Settings...** buttons.
- Binding:**
 - Type:** A dropdown menu showing 'http'.
 - IP address:** A dropdown menu showing 'All Unassigned'.
 - Port:** A text input field showing '80'.
 - Host name:** A text input field.
 - Example:** 'www.contoso.com or marketing.contoso.com'.
- Start Web site immediately:** A checked checkbox.
- OK** and **Cancel** buttons at the bottom right.

Deploying to IIS

- **Options include**
 - Publish from Visual Studio
 - Xcopy deploy
 - Custom MSBuild tasks
(<http://www.codeplex.com/sdctasks>)
- **URLs with no extension must route through ASP.NET**
 - Requires configuration change in classic pipeline and IIS 6
 - “Wildcard mapping” – see <http://support.microsoft.com/kb/815152>



Web Deployment Projects

- **Web Deployment Projects available from <http://tinyurl.com/2k6rrp>**
- **Features**
 - Pre-compilation of all views
 - Binary only deployment
 - Assembly signing
 - IIS configuration
 - Web.config transformations
- **Build -> Add Web Deployment Project**

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