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
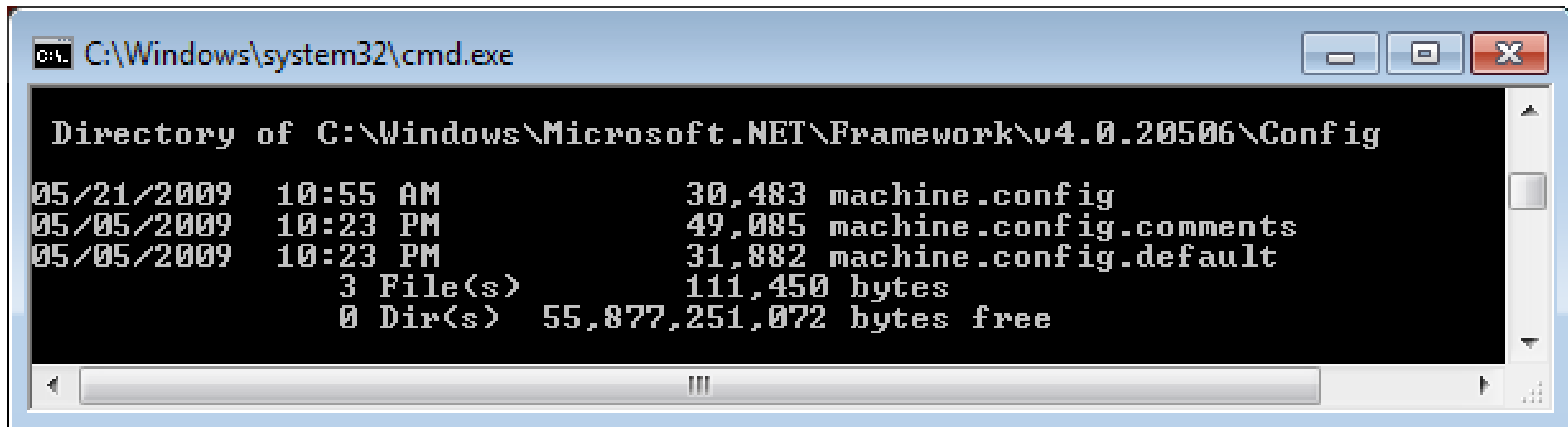 - Can also use manager class to open config files for editing and update

```csharp
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

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

```xml
<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
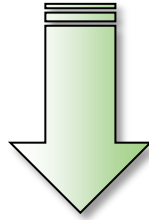
Configuring Locations

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

```xml
<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".
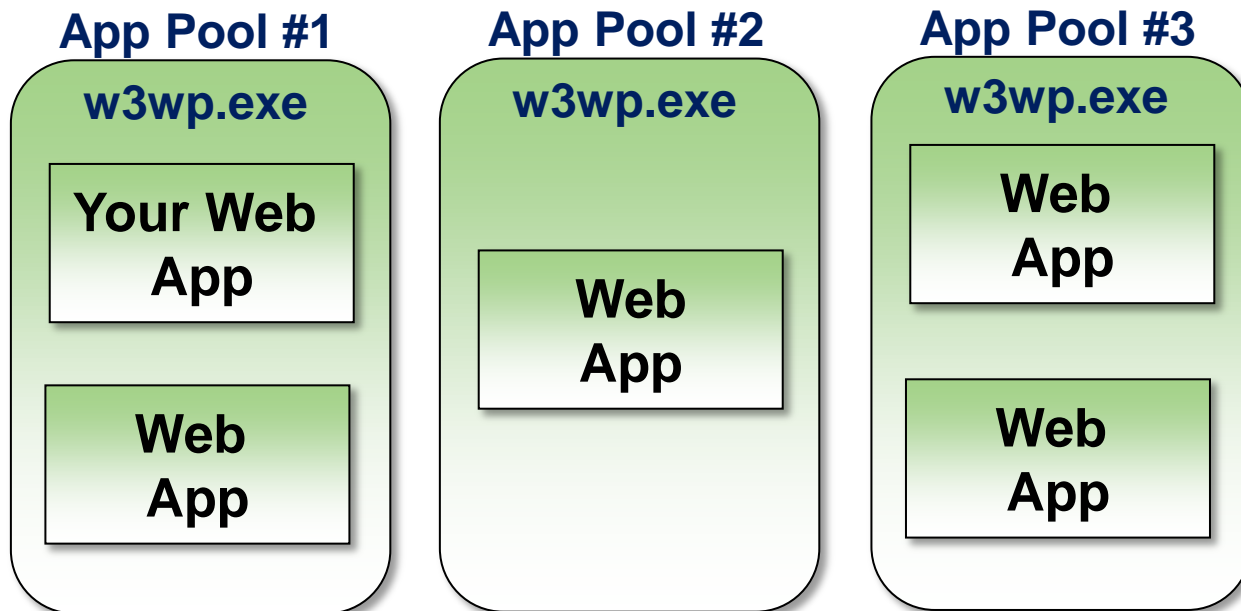 - Can host various frameworks & protocols
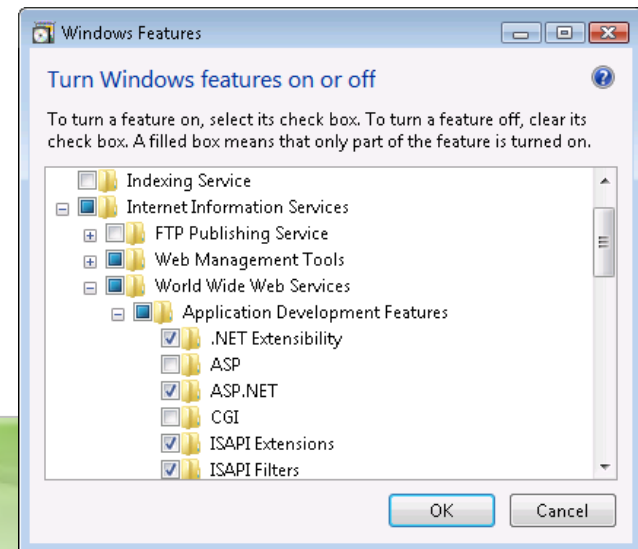
One-click Publish

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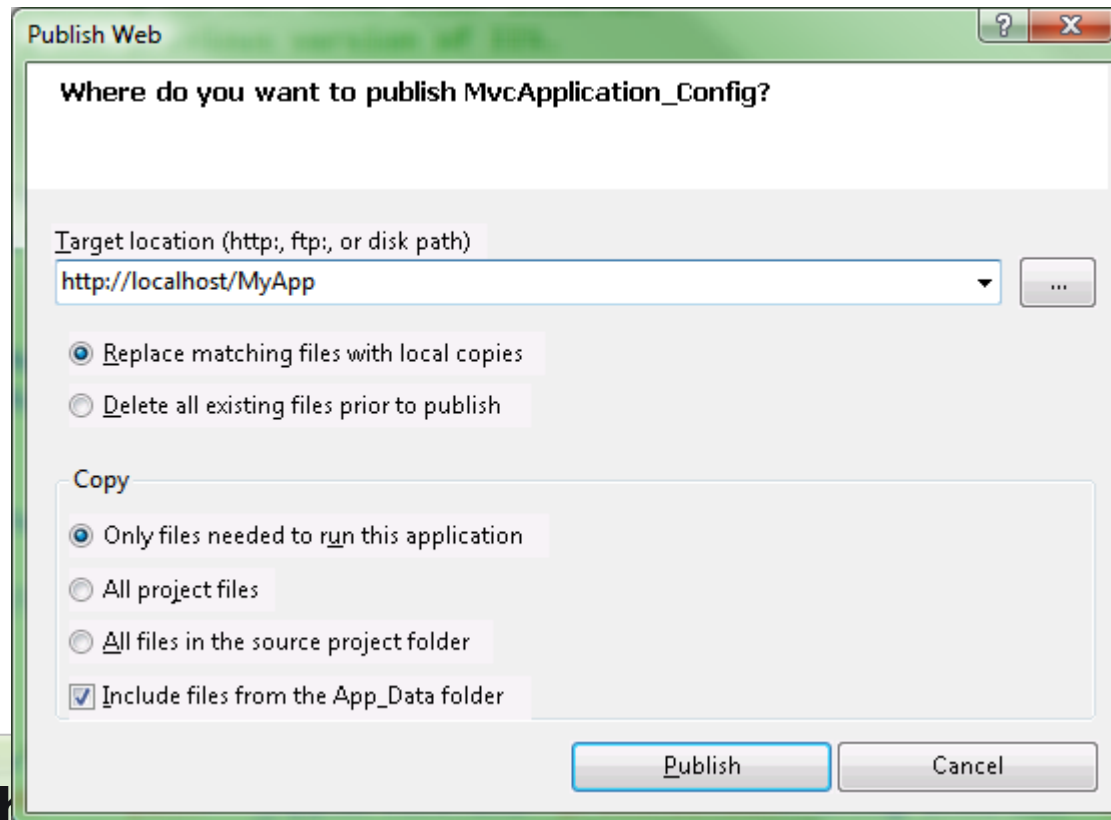
Internet Information Services

- **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

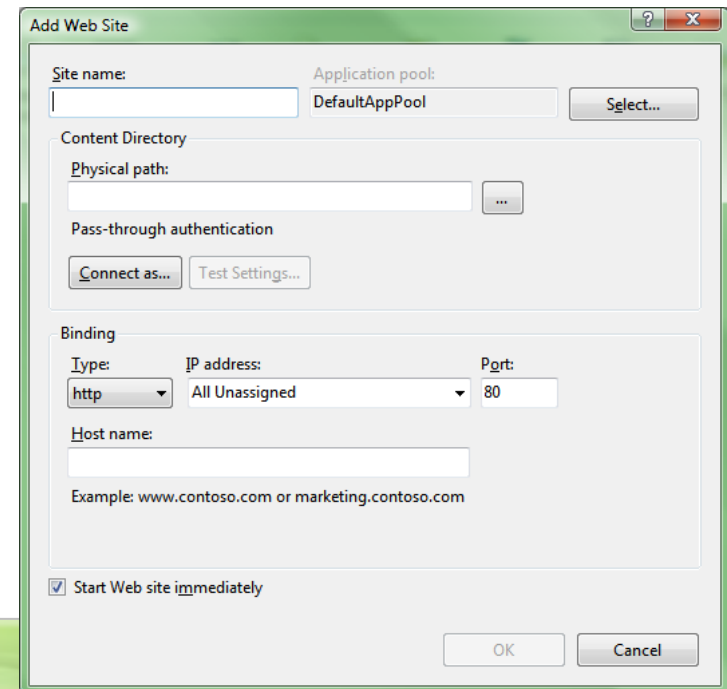| App Pool #1	App Pool #2	App Pool #3
w3wp.exe	w3wp.exe	w3wp.exe
Your Web App		**Web App**
Web App	**Web App**	**Web App**

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**

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
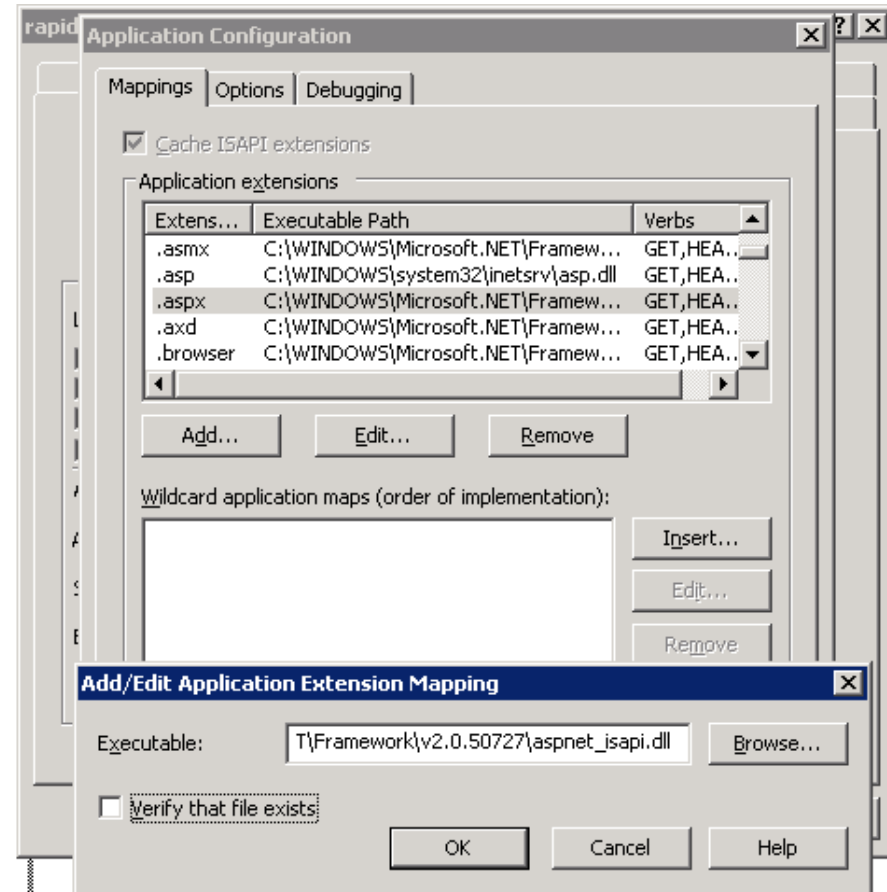
Web Deployment Projects

- **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**

Summary

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  - Location
  - Precedence
- **ASP.NET MVC and IIS**
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  - IIS Configuration
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