

Drive Application Behavior with Application and User Configuration Settings

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About Brian

- Chief Architect, IDesign Inc. (www.idesign.net)
- Microsoft Regional Director / MVP
- Writing
 - Data Binding in Windows Forms 2.0, Addison Wesley, January 2006
 - Smart Client Deployment with ClickOnce, Addison Wesley, Summer 2006
 - MSDN Magazine, MSDN Online, CoDe Magazine, The Server Side .NET, asp.netPRO, Visual Studio Magazine
- Speaking
 - Microsoft TechEd US, Europe, Malaysia, Visual Studio Connections, DevTeach, INETA Speakers Bureau, MSDN Webcasts
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Agenda

- Configuration Settings Overview
- Defining Visual Studio 2005 Settings
- Programming against Settings
- Protecting configuration settings
- Extending the Settings system

How did we get here?

- Hard coding
- Ini files
- Registry
- Application Configuration files in .NET 1.x
 - <appSettings> entries
 - Custom configuration sections
 - Custom settings files
- Application/User Settings in .NET 2.0

Application Settings Overview

- Relatively static data store for your application
- <appname>.exe.config for Windows apps
- Web.config for web apps
- System.Configuration API
- Application scoped
- Read-only access
- Visual Studio 2005 support

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User Settings Overview

- Relatively static data store for individual users
- User.config under user profile
 - \<username>\Application
Data\<publisher>\<obfuscated app name>
- User scoped
- Read/write access
- Visual Studio 2005 support

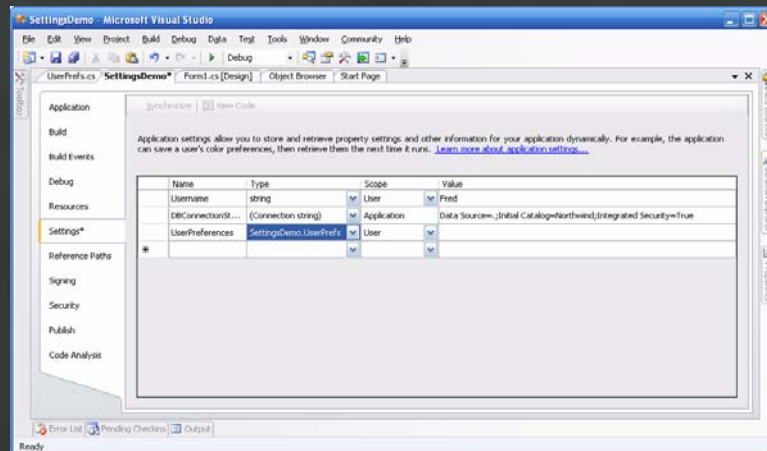
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Visual Studio Settings



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Visual Studio Settings

- **Adds Settings Class**
 - Settings.Designer.cs
 - Partial class
- **Adds values to app.config**
 - Custom sections
 - Built-in sections (i.e. connectionStrings)

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Programming against Settings

- Settings class added to child namespace
 - <projectname>.Properties
- Singleton static Default property
 - Settings.Default
 - Gives you back an instance of the Settings class
- Read/Write to strongly typed properties
- Save/Refresh methods

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Using Settings From Other Assemblies

- Settings defined on a per-project basis
- App.config added to project
- Only exe can have .config file at runtime
 - Except custom providers
- Migrate config file settings into host app config or use embedded defaults

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Protecting Configuration Settings

- System.Configuration APIs to encrypt/decrypt portions of a config file
 - Get Configuration instance
 - Get ConfigurationSection
 - Call SectionInformation.ProtectSection
- AspNet_regiis to do it at command line
 - -pe, -app, -prov switches
 - Rename config file to web.config for non-Web apps, then rename after encryption
 - Tied to machine key

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Adding Custom Types

- Can read/save any type from settings
- Formatting: String, XML, Binary
- From Visual Studio: Browse... from Type drop down
- Custom Type Serialization:
 - TypeConverter ToString/FromString
 - XmlSerializer

Extending Settings

- **Derive from ApplicationSettingsBase class**
 - Can have more than one class
 - Only one supported by VS Settings editor
- **Custom providers**
 - Save settings somewhere else
 - Derive from SettingsProvider

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Summary

- App/User Settings easy to define and use
- Using built-in types will be fastest
- Can plug in custom types
- Can change storage location with custom provider
- Can protect settings in config file

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