Web Deployment Tool (MSDeploy)

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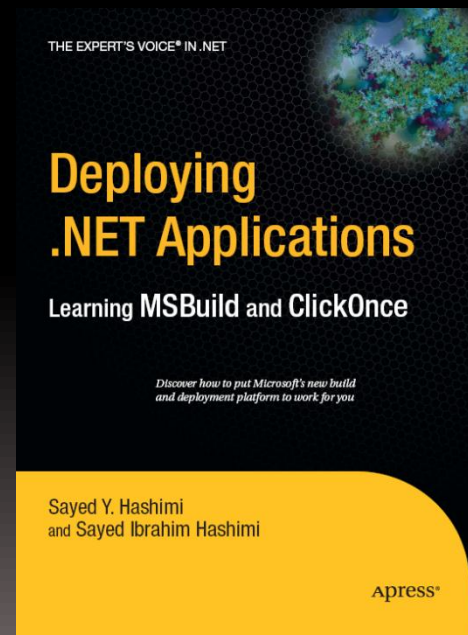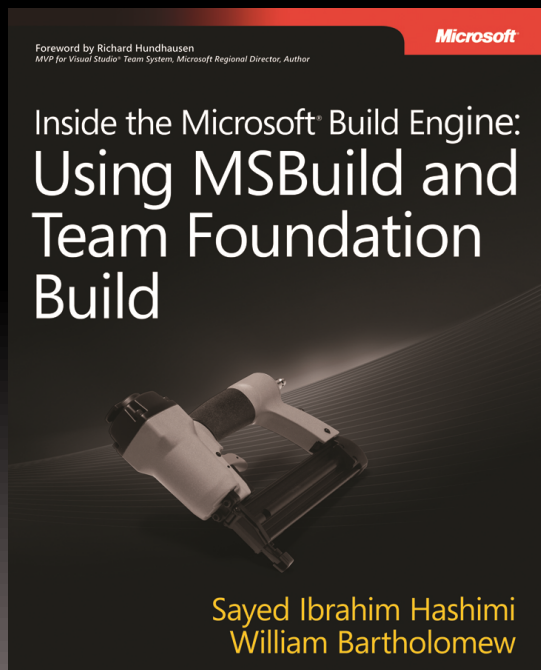
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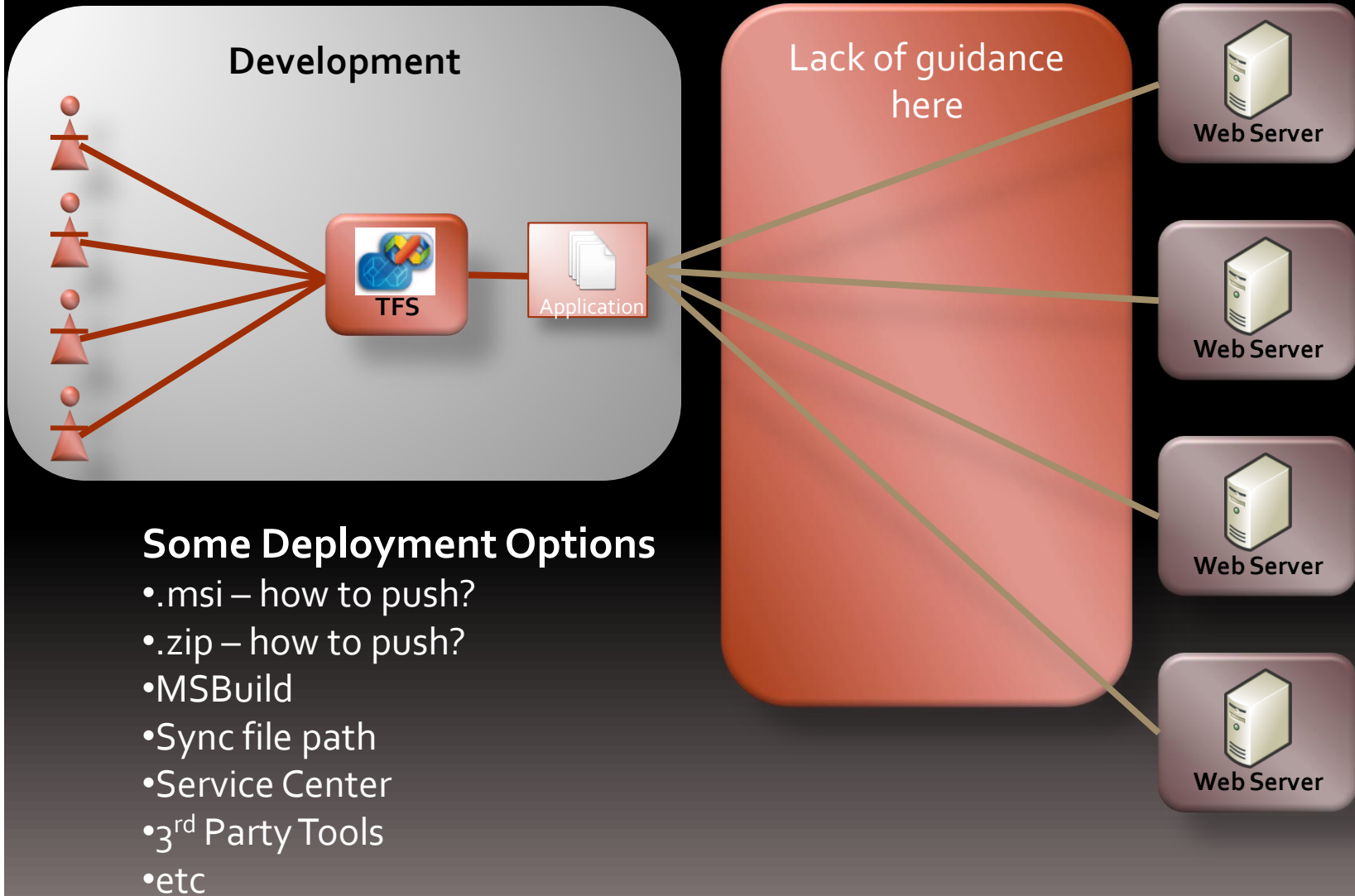
About Me

- Inside the Microsoft Build Engine
- Jan 2009

- Deploying .NET Apps
- May 2006

Typical ASP.NET Dev / Deployment

Development

TFS

Application

Lack of guidance here

Web Server

Web Server

Web Server

Web Server

Some Deployment Options
- .msi – how to push?
- .zip – how to push?
- MSBuild
- Sync file path
- Service Center
- 3rd Party Tools
- etc

Some Deployment Challenges

- No single great method
- Configuration nightmares
- IIS Settings
  - Acls
  - App Pool
  - Certificates
- How to physically push the code?
- Versioning IIS setting with code
- Security
- Different method from hosted versus in-house

What is MSDeploy?

- A free tool from Microsoft
- The recommended technology for web deployment
- Can deploy database
- IIS 6 -> 7 migration
- Backup & Rollback
- Integrated into IIS 7
- Integrated into Visual Studio 2010
- Integrates with 3rd party hosting companies

msdeploy.exe

- Command line interface
- msdeploy.exe /? for more info
- Samples *(taken from msdeploy.exe /?)*:

```
MSDeploy.exe -verb:sync -source:contentPath=c:\sourcedir
    -dest:contentPath=c:\newdir -whatif
```

```
MSDeploy.exe -verb:dump -source:archivedir=c:\mydir
```

```
MSDeploy.exe -verb:sync
    -source:metakey=lm/w3svc/1,computerName=mycomputer
    -dest:metakey=lm/w3svc/2
```

```
MSDeploy.exe -verb:sync -source:dbFullSql=c:\myscript.sql
    -dest:dbFullSql="Data Source=.;Integrated Security=SSPI;Initial
    Catalog=Northwind"
```

Verbs

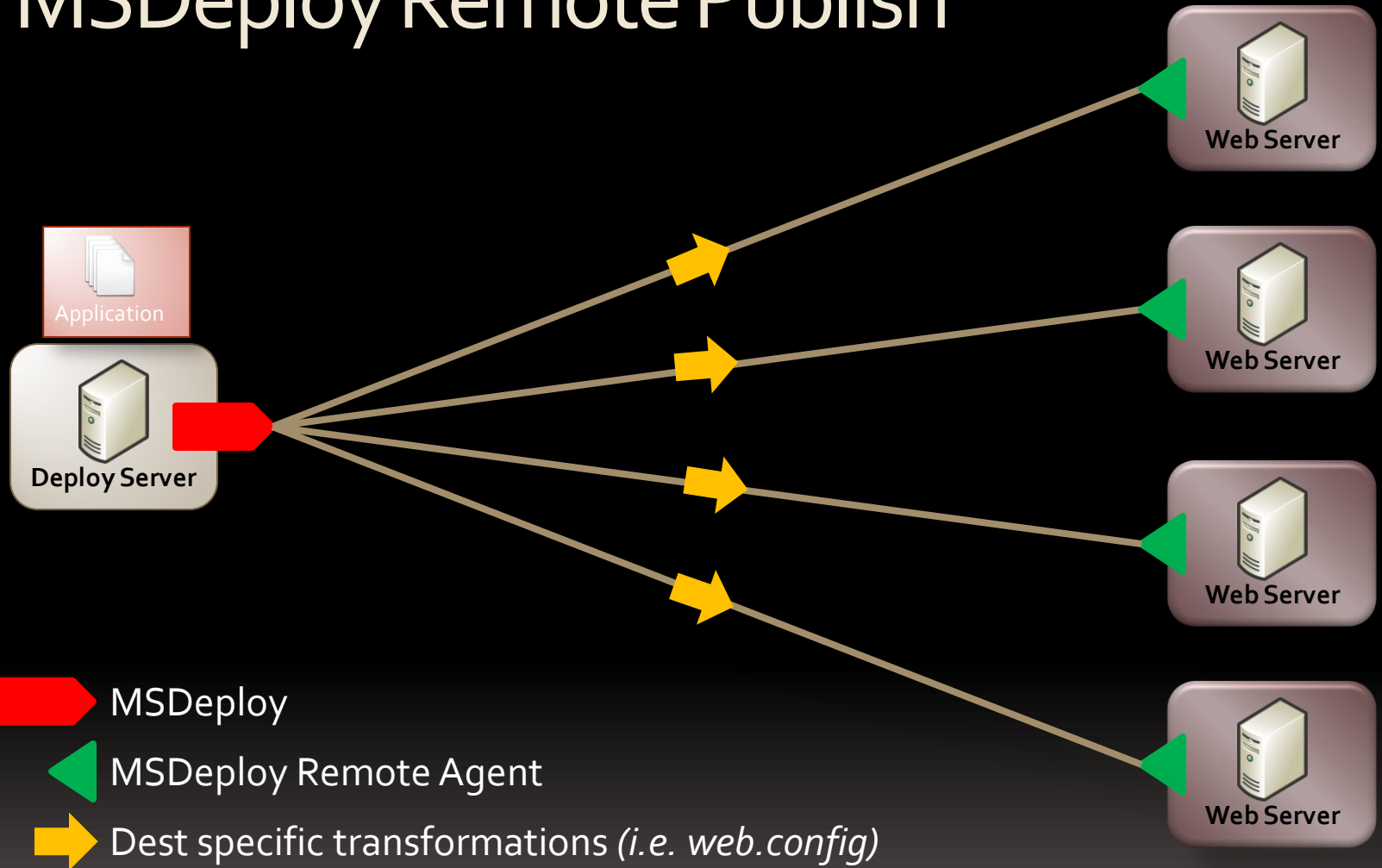| Name	Description
dump	Displays the details of the specified source object.
sync	Synchronizes the destination object with the source object.
delete	Deletes specified destination object.
getDependencies	Retrieve dependencies for given object.
getParameters	Return parameters supported by object.
getSystemInfo	Retrieve system information associated with given object.

Providers

Providers facilitate actions being performed on destination object.

Built-in Providers		
appHostConfig 🔴	dbMySql	recycleApp
appHostSchema	dirPath	regKey
appPoolConfig	fcgiExtConfig	regValue
archiveDir 🔴	filePath	rootWebConfig32
auto 🔴	gacAssembly	rootWebConfig64
cert	iisApp 🔴	runCommand 🔴
comObject32	machineConfig32	setAcl
comObject64	machineConfig64	urlScanConfig
contentPath 🔴	manifest 🔴	webServer
createApp	metaKey	webServer60
dbFullSql	package 🔴	

You can also create your own providers to perform other actions

MSDeploy Remote Publish

Application

Deploy Server

Web Server

Web Server

Web Server

Web Server

MSDeploy

MSDeploy Remote Agent

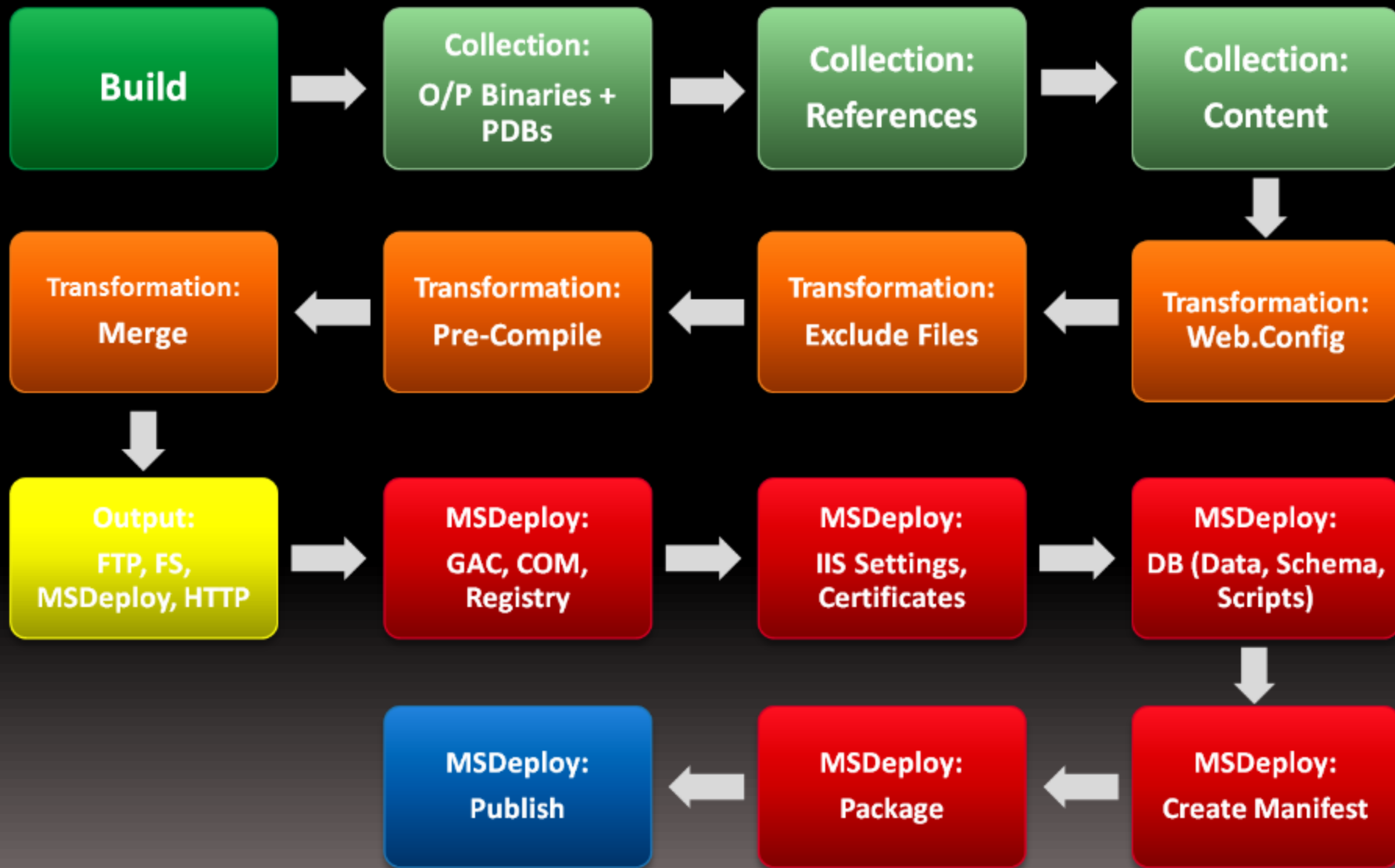Dest specific transformations *(i.e. web.config)*

Remote Agent

- Service that runs on target machines
- Listens on specified port
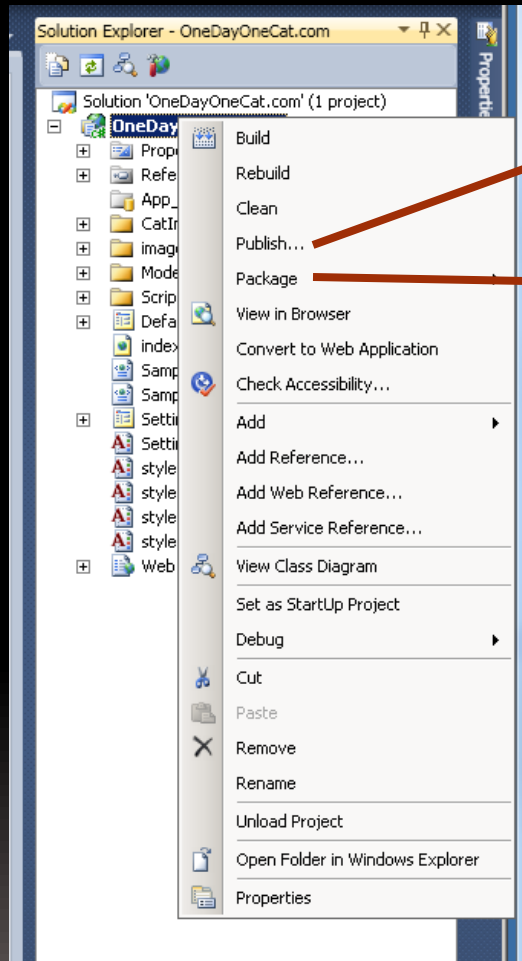- http (for https you must use WMSvc)

Advantages

- Simplifies deployment
- Easy to install and configure
- Can be secured
- Easily extended

Web Publishing Pipeline (WPP)

Visual Studio 2010

Publishes web package to specified destination

Creates the web package
Package process can be customized with MSBuild

Demo

- Demo packaging
- Point out excluded file

Visual Studio 2010

Ways to Publish
- From Visual Studio UI
- From MSBuild
  - Target = MSDeployPublish
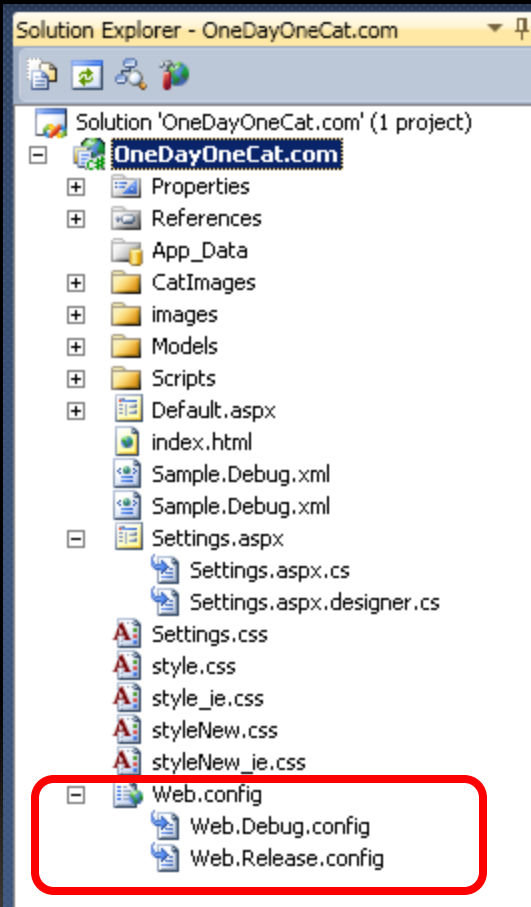 - Used for automated deploy

Demo

- Deploy to local IIS *(OneDayOneCat.com)*
  - Local deploy uses msdeploy.exe locally

Demo

- Demo Backup Web Server
  - Backup_FromIIS.cmd
  - Backup_WebServer.cmd
  - Backup_WebServer_Verbose.cmd

Config Transformations


```xml
<appSettings>
    <add key="one"
        value="one value - debug"
        xdt:Transform="Replace"
        xdt:Locator="Match(key)"/>
    <add key="three"
        value="three value"
        xdt:Transform="Remove"
        xdt:Locator="Match(key)"/>
    <add key="four"
        value="four value - debug"
        xdt:Transform="Insert"/>
</appSettings>
```

Demo

- Publish to Discountasp.net
- Demo accounts still available for VS 2010 B1 until 10/31
- http://labs.discountasp.net/msdeploy/index.aspx
- Show settings page
  - Change configuration
  - Republish
  - Refresh settings page

Demo

- Deploy to local IIS *(Sudoku)*
- Local deploy uses msdeploy.exe locally
  - DeployToLocalIIS.cmd
  - Explain usage of manifest.xml files

```
%windir%\Microsoft.NET\Framework\v3.5\msbuild
        ..\\Sudoku.Web.MVC.csproj_deploy\
                Sudoku.Web.MVC.csproj_deploy.wdproj
        /t:DeployToLocalIIS
        /p:TargetVirtualDirectoryPath="Default Web
Site/Sudoku5"
```

Demo

- Deploy to remote IIS *(Sudoku)*
- Remote deploy uses MSDeploy Remote Agent Service on target machine

Questions/Comments?

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Resources

- http://www.iis.net/extensions/WebDeploymentTool
- http://vishaljoshi.blogspot.com/
- http://blogs.iis.net/msdeploy/default.aspx
- http://forums.iis.net/1144.aspx
- http://www.sedodream.com *(more content to come)*