

TFSVersioning Version 2.0 Update Guide

TFS 2012 Compatibility

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Summary:

The primary change with version 2.0 of TfsVersioning is that it has been built to operate within the Microsoft Team Foundation Server 2012 build process.

This document also describes the additional assembly attribute update capabilities of TfsVersioning version 2.0. This document only describes the additions made to the product which includes control over updating several assembly attributes (described in detail below). For information about TfsVersioning that is not described here, please review the “**TfsVersioning User and Development Guide**”.

This addition to TfsVersioning will allow you to generate descriptive dynamic (build-time) values in your assemblies. It will also allow you to insert common values across all assemblies in a build and manage them either in a common file (version seed file) or directly through a build definition.

Files

TfsBuild.Versioning.Activities.dll: This is the custom build activity and is a direct replacement if you are currently using a previous version.

VersioningBuildTemplate20.xaml: This build template provides an updated interface in the build definition to add the replacement patterns for an extended list of assembly attributes (detailed and defined below). This file is an addition to any existing build templates that may be in place.

Installation

Installation of version 2.0 is the same as the previous version. For more information see the “**TfsVersioning User and Development Guide**”.

Compatibility

The TfsVersioning 2.0 custom build activity and the associated build templates (workflows) have been created to work within the automated build process of Team Foundation Server 2012.

Assembly Attribute Replacement

The list below describes the various attributes that can be controlled through the TfsVersioning custom activity.

| Attribute | Replaces |
|-----------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Assembly Title Pattern | Assembly Title Attribute: String value specifying a friendly name for the assembly. For example, an assembly named comdlg might have the title Microsoft Common Dialog Control. |
| Assembly Description Pattern | Assembly Description Attribute: String value specifying a short description that summarizes the nature and purpose of the assembly. |
| Assembly Configuration Pattern | Assembly Configuration Attribute: String value indicating the configuration of the assembly, such as Retail or Debug. The runtime does not use this value. |
| Assembly Company Pattern | Assembly Company Attribute: String value specifying a company name. |
| Assembly Product Pattern | Assembly Product Attribute: String value specifying product information. |
| Assembly Copyright Pattern | Assembly Copyright Attribute: String value specifying copyright information. |
| Assembly Trademark Pattern | Assembly Trademark Attribute: String value specifying trademark information. |
| Assembly Culture Pattern | Assembly Culture Attribute: Enumerated field indicating the culture that the assembly supports. An assembly can also specify culture independence, indicating that it contains the resources for the default culture. |
| Assembly Informational Version Pattern | Assembly Informational Version Attribute: String value specifying version information that is not used by the common language runtime, such as a full product version number. |

Replacement Patterns

The patterns described below allow you to designate values that are taken from the system at build time and define build-specific, detailed attributes and attributes that are managed in a much more controlled fashion. The patterns below can be combined with text to create more complex and informative descriptions within an application's assembly attributes.

They can be used anywhere within the attribute patterns but, in all cases; the values within the attributes must abide by the rules set forth within the .NET environment. For example, "Assembly Culture Pattern" values must abide by the possible enumerated values within .NET or compile-time errors may result.

(In all cases below, the examples assume the date is October 5, 2011 - 12:57:00 PM - GMT -05:00)

| Pattern | Replaced Value |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| \$TPROJ | TFS Team Project Name |
| \$REQBY | Build Requested By ID – Example: "domain:userid" |
| \$BNAME | Build Definition Name – Example: "BuildVersioning - Dev - v1.5" |
| \$UTIME | Universal Time – Example: "10/5/2011 5:57:00 PM" |
| \$LDATE | Long Date – Example: "Wednesday, October 05, 2011" |
| \$LTIME | Long Time – Example: "12:57:00 PM" |
| \$SSDATE | Short Date – Example: "10/5/2011" |
| \$STIME | Short Time – Example: "12:57 PM" |
| \$BNUM | Build Number (This is the full build number as defined by the "Build Number Format" property in the build definition.) Example: "BuildVersioning - Dev - v1.5_20111005.27" |
| \$YYYY | Full year value. – Example: "2011" |
| \$YY | 2 digit year value – Example: "11" |
| \$MM or \$M | 1 or 2 digit month of the year – Example: "10" |
| \$DD or \$D | 1 or 2 digit day of the month – Example: "5" |
| \$J | Julian Date - YYDDD – Example: "11278" |
| \$B | Build Number of the Day (This is typically the last number value in the "Build Number Format". Example: Looking at the value above in \$BNUM, the build number is "27" |

Example of Combining Patterns and Text

You may want to include specific build information within your assembly (in addition to the numeric version info) to help you during debugging and deployment. Information about how and when the code was built will definitely help as you make decisions around what has been tested and what can be deployed. For example: TFS labels your code as part of every build. You may decide that it would be beneficial to include the label information in an assembly attribute along with the universal time that it was built AND who initiated the build.

To satisfy these needs, the Assembly Informational Version Pattern could be set to:

“**\$BNUM on \$UTIME by \$REQBY**”. This combination of replacement patterns and text will create a descriptive notation contained in the assembly that can be read by anyone just by looking at the file properties in Windows Explorer. More description on this capability is detailed below.

Static Values and Dynamic Attribute Value Replacement

Static values are those values set directly within the AssemblyInfo.* files. Dynamic values are those set within the build definition or version seed file – both can contain replacement values that are generated during the build based.

If you would like to utilize static values within the AssemblyInfo file and not have them modified during the build then leave those attribute values blank in the build definition or don't include them in the version seed file. If the TfsVersioning activity does not see a replacement value for an attribute, it will not attempt to replace that value in the AssemblyInfo file. So, you only need to include the attribute values that you want to change.

Examples

Example 1: Replacement Patterns in the Build Definition

Below is an example of a build definition that modifies the AssemblyVersion, AssemblyFileVersion and AssemblyInformationalVersion attributes. Note: the following build definitions utilize the updated build assembly and the updated build template “VersioningBuildTemplate20.xml”.

Build process parameters:

| | |
|--------------------------------------------|--------------------------------------------------------------------------------------------------------|
| 1. Required | |
| Items to Build | Build <code>\$/BuildActivities/SolutionBuildVersioning/Dev/Version 1.5.0.0/Build</code> |
| 2. Basic | |
| Automated Tests | Run tests in assemblies matching <code>***test*.dll</code> using settings from <code>\$/BuildA</code> |
| Build Number Format | <code>\$(BuildDefinitionName)_\$(Date:yyyyMMdd)\$(Rev:.r)</code> |
| Clean Workspace | All |
| Logging Verbosity | Normal |
| Perform Code Analysis | AsConfigured |
| Source And Symbol Server Settings | Index Sources |
| 3. Advanced | |
| 4. Build Versioning | |
| Assembly File Version Pattern | 1.5.J.B |
| Assembly Version Pattern | 1.5.0.0 |
| AssemblyInfo File Pattern | AssemblyInfo.* |
| Build Number Prefix | 0 |
| Force Create Version | True |
| Perform Check-in of the AssemblyInfo Files | False |
| Use Version Seed File | False |
| Version Seed File Path | TfsVersion\VersionSeed.xml |
| 5. Build Versioning (Additional) | |
| Assembly Company Pattern | |
| Assembly Configuration Pattern | |
| Assembly Copyright Pattern | |
| Assembly Culture Pattern | |
| Assembly Description Pattern | |
| Assembly Informational Version Pattern | Team Project: \$TPROJ - Build Name: \$BNAME - Requested by: \$REQBY |
| Assembly Product Pattern | |
| Assembly Title Pattern | |
| Assembly Trademark Pattern | |

Result:

- “Use Version Seed File” is set to False so the patterns for modifying the assembly attribute properties are taken from the build definition.
- The “Assembly File Version Pattern” is 1.5.J.B which appears (in Windows file properties for the current date) as 1.5.11194.2.
- “Assembly Informational Version Pattern” is “Team Project: \$TPROJ - Build Name: \$BNAME - Requested by: \$REQBY” which will display the:
 - Team Project name

- Build Name
- Requested by ID
- The rest of the assembly attribute properties are either taken from the “AssemblyInfo” file or general defaults.

A screen shot of the file “Properties/Details” dialog box from Windows Explorer.

| Property | Value |
|--------------------|------------------------------------------------|
| Description | |
| File description | TfsBuild.Versioning.Activities |
| Type | Application extension |
| File version | 1.5.11194.2 |
| Product name | TfsBuild.Versioning.Activities |
| Product version | Team Project: BuildActivities - Build Name: Bu |
| Copyright | Copyright © Microsoft 2011 |
| Size | 189 KB |
| Date modified | 7/13/2011 9:45 PM |
| Language | Language Neutral |
| Original filename | TfsBuild.Versioning.Activities.dll |

Example 2: Replacement Patterns in the Version Seed File

Below is an example of a build definition that modifies the AssemblyVersion, AssemblyFileVersion and AssemblyInformationalVersion attributes.

| Build process parameters: | |
|--------------------------------------------|-------------------------------------------------------------------------------------|
| 1. Required | |
| Items to Build | Build \$/BuildActivities/SolutionBuildVersioning/Dev/Version 1.5.0.0/Build |
| 2. Basic | |
| Automated Tests | Run tests in assemblies matching ***test*.dll using settings from \$/BuildA |
| Build Number Format | \$(BuildDefinitionName)_\$(Date:yyyyMMdd)\$(Rev:.r) |
| Clean Workspace | All |
| Logging Verbosity | Normal |
| Perform Code Analysis | AsConfigured |
| Source And Symbol Server Settings | Index Sources |
| 3. Advanced | |
| 4. Build Versioning | |
| Assembly File Version Pattern | 1.5.J.B |
| Assembly Version Pattern | 1.5.0.0 |
| AssemblyInfo File Pattern | AssemblyInfo.* |
| Build Number Prefix | 0 |
| Force Create Version | True |
| Perform Check-in of the AssemblyInfo Files | False |
| Use Version Seed File | True |
| Version Seed File Path | TfsVersion\VersionSeed.xml |
| 5. Build Versioning (Additional) | |
| Assembly Company Pattern | |
| Assembly Configuration Pattern | |
| Assembly Copyright Pattern | |
| Assembly Culture Pattern | |
| Assembly Description Pattern | |
| Assembly Informational Version Pattern | Team Project: \$TPROJ Build Name: \$BNAME Requested by: \$REQBY |
| Assembly Product Pattern | |
| Assembly Title Pattern | |
| Assembly Trademark Pattern | |

Version Seed File

```
<VersionSeed>
  <Solution name="BuildVersioning">
    <AssemblyVersionPattern>1.5.0.0</AssemblyVersionPattern>
    <AssemblyFileVersionPattern>1.5.j.b</AssemblyFileVersionPattern>
    <AssemblyTitlePattern>TfsVersioning Custom Build Activity built on $SDATE</AssemblyTitlePattern>
    <AssemblyInformationalVersionPattern>BuildName: $BNAME - Requested by: $REQBY</AssemblyInformationalVersionPattern>
  </Solution>
  <Solution name="Default">
    <AssemblyVersionPattern>1.0.2.0</AssemblyVersionPattern>
    <AssemblyFileVersionPattern>1.0.j.b</AssemblyFileVersionPattern>
  </Solution>
</VersionSeed>
```

As you can see above, the only values (outside of the version numbers) that will be modified in the AssemblyInfo file(s) are the AssemblyTitle and AssemblyInformationalVersion attributes.

Result:

- “Use Version Seed File” is set to True so the patterns for modifying the assembly attribute properties are taken from the “version seed” (XML) file.
- The “Assembly File Version Pattern” is 1.5.J.B which appears (in Windows 7 file properties for the current date) as 1.5.11194.4.
- “Assembly Informational Version Pattern” is “BuildName: \$BNAME - Requested by: \$REQBY” which will display the:
 - Build Name
 - Requested by ID
- Even though the “Assembly Informational Version Pattern” is set to a value in the build definition, it is not used because the “Use Version Seed File” property is set to True.
- The Assembly Title is set to: “TfsVersioning Custom Build Activity built on \$SDATE”
- The rest of the assembly attribute properties are either taken from the “AssemblyInfo” file or general defaults.

A screen shot of the file “Properties/Details” dialog box from Windows Explorer.

| Property | Value |
|--------------------|-------------------------------------------------------------------------------|
| Description | |
| File description | TfsVersioning Custom Build Activity built on 7/13/2011 |
| Type | Application extension |
| File version | 1.5.11194.4 |
| Product name | TfsBuild.Versioning.Activities |
| Product version | BuildName: BuildVersioning - Dev - v 1.5 - Requested by: NORTHAMERICA:marknic |
| Copyright | Copyright © Microsoft 2011 |
| Size | 189 KB |
| Date modified | 7/13/2011 11:52 PM |
| Language | Language Neutral |
| Original filename | TfsBuild.Versioning.Activities.dll |