

T4 Templating within SSDT using SQL Server 2014

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What Problem do I want to solve?

What is SSDT?

What is a T4 Template?

Why should we care?

- T4 is built into SSDT (VS2013).
- T4 is part of VS.
- We should not spend time on repeatable tasks.
- We should catch up with Dev best practice.
- We can do more interesting things.
- Avoid Materialised Db, used Database Model

What I will Cover

- T4
- Data Model
- Automatic Build
- Warehouse Demo



T4: Syntax

<#@ Directive #> - must be first

.....

<# C# Code – Statement Block

#>

<#= i.ToString() #> --Expression Block

<#+ - must be last – Class feature Block

Private example()

{

}

#>

T4: Demo 1

T4 Syntax Walk Through – Including Debug
ReSharper – gives syntax highlighting, other free
tools available

Why not Dynamic T-SQL?

- T_SQL not designed to do this.
- Cannot access the Database Model

Dac Model

- API for accessing Model
- Project is also a Dac Model

Dac Model: Demo

- In Memory Model
- Against Built Dac Model



Memory vs DacPac

- Chicken Egg situations
 - Need to build dacpac to generate new T4 files.
 - Old T4 files fail compile because of changes
- Options
 - Delete T4 generated files before build
 - Generate T4 from in memory Model

Clear Generated => Build => TextTransform => Build => Deploy

Continuous Integration

- TextTransform.exe
 - No Design Time Features
- MSBuild.exe
- At Design Time

Continuous Integration: Demo

- TextTransform.exe
 - Demo using Directive :fails
 - Demo not using directive :succeeds

Warehouse: Demo

- Build Queries
- Build Staging Tables
- Build Load Procedure

Other Uses

- C# Generation – Bulk Load
- SSIS via Templates, API
- DBA Scripts
- Data Load Merge Scripts
- ... And lots more

Useful Links

- **SQL Server Data Tools Team Blog**
<http://blogs.msdn.com/b/ssdt/>
- **DacFx Public Samples**
<http://dacsamples.codeplex.com>
- **Oleg Sych – T4 Toolbox**
<http://www.olegsych.com>
- **Dave Ballantynes's Blog**
<http://dataidol.com/davebally/>

Any Questions?