

INTRODUCTION TO BIML

TIM MITCHELL

AGENDA

- Overview of Biml
- BimlScript
- Practical uses
- Language Overview
- Demos

ABOUT THE PRESENTER

Tim Mitchell

- Business intelligence consultant
- Principal, Tyleris Data Solutions
- Microsoft Data Platform MVP
- TimMitchell.net
- @Tim_Mitchell

OVERVIEW OF BIML

- Business Intelligence Markup Language
- User-friendly XML (*really, stop laughing*) to allow relatively easy design of BI assets in code

OVERVIEW OF BIML

Patterns-based development

- Faster development
- More consistent development
- Reliable development

OVERVIEW OF BIML

- Practical uses
 - Simple staging
 - Rapidly changing metadata
 - Large number of similar packages
 - Template engine

OVERVIEW OF BIML

Patterns-based development

- Multiple unique patterns with low repetition = not usually a good fit



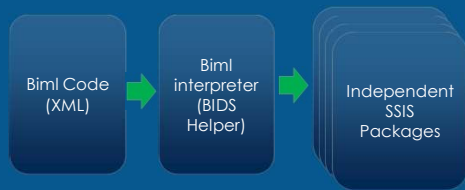
OVERVIEW OF BIML

- Can be used against SSIS packages/projects
- SSAS cubes supported (in commercial version)

OVERVIEW OF BIML

- BIDS Helper (legacy)
- Biml Online
- Biml Express
- Biml Studio (commercial tool)

OVERVIEW OF BIML



OVERVIEW OF BIML

SSIS capabilities

- Containers
- Tasks
- Constraints (even multiple constraints)
- Expressions

OVERVIEW OF BIML

What it can't do

- Visual layout
- Comments (annotations)

BIMLSSCRIPT

- Biml + .NET programming = SSIS awesomeness
- Pattern-based development for massive package generation

BIMLSSCRIPT

- Any .NET object or behavior
- C# or VB.NET
- Intellisense, etc.

LANGUAGE STRUCTURE

- XSD file to define structure
- Collections
 - Items

LANGUAGE STRUCTURE

```
<Biml xmlns="http://schemas.varigames.com/Biml.xsd">
  <Connections>
    <oleDBConnection Name="AdventureWorks" ConnectionString="Provider=SQLNCLI10;Data Source=localhost..." />
  </Connections>
  <Packages>
    <Package Name="DemoPackage" ConstraintMode="Parallel">
      <Tasks>
        <ExecuteSQL Name="SQL" - Truncate Table" ConnectionName="AdventureWorks">
          <DirectInput>TRUNCATE TABLE [Sales].[Store]</DirectInput>
        </ExecuteSQL>
      </Tasks>
    </Package>
  </Packages>
</Biml>
```

LANGUAGE STRUCTURE

Packages

- Collection of SSIS package objects
- Multiple packages per Biml file
- ConstraintMode

LANGUAGE STRUCTURE

Loops and containers

- Sequence containers
- Loops
- ConstraintMode

LANGUAGE STRUCTURE

Tasks

- Support for all valid SSIS tasks
- Precedence constraints

LANGUAGE STRUCTURE

Data Flow

- Every source and destination available in SSIS
- Transformations

LANGUAGE STRUCTURE

Data Flow

- Easy data lineage through automatic mapping
- Manual overrides

LANGUAGE STRUCTURE

Variables and Parameters

- Define and set variables
 - Expressions
- Create parameters and set defaults
 - SSIS 2012+ only

LANGUAGE STRUCTURE

BimlScript

- Biml XML mixed with .NET code

LANGUAGE STRUCTURE

```
<?xml?>
<?import namespace="System.IO"?>
<?string directory = "C:\Where\Packages\Are\Located\";?>
<Biml xmlns="http://schemas.varigence.com/biml.xsd">
  <Packages>
    <Package Name="Execute All Packages" ConstraintMode="Parallel">
      <Tasks>
        <foreach (string filePath in Directory.GetFiles(directory, "*.dtsx") {?>
          <ExecutePackage Name="Run Package - <?filePath?>">
            <ExternalFile ExternalFilePath="<?filePath?>" />
          </ExecutePackage>
        }?>
      </Tasks>
    </Package>
  </Packages>
</Biml>
```

LANGUAGE STRUCTURE

<# Code Block #>

Any .NET Code (C# or Visual Basic)

<#= Inline Code Block #>

Calls the .NET ToString() method on the expression
Cannot be a statement

<#@ Directive #>

Set configuration options

<#+ Module Level Code Block #>

Functions that are callable from within code block

DEMOS

RESOURCES

- BimlExpress: Varigence.com/bimlexpress
- BimlOnline.com
- BimlScript library/forum: bimlscript.com

THANKS SO MUCH FOR YOUR TIME!

- Tim@TimMitchell.net
- TimMitchell.net
- [Twitter.com/Tim_Mitchell](https://twitter.com/Tim_Mitchell)
- TimMitchell.net/Newsletter
- Tyleris.com

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