

2013
Partner of the Year
Award Finalist
Learning



Error Handling in SSIS

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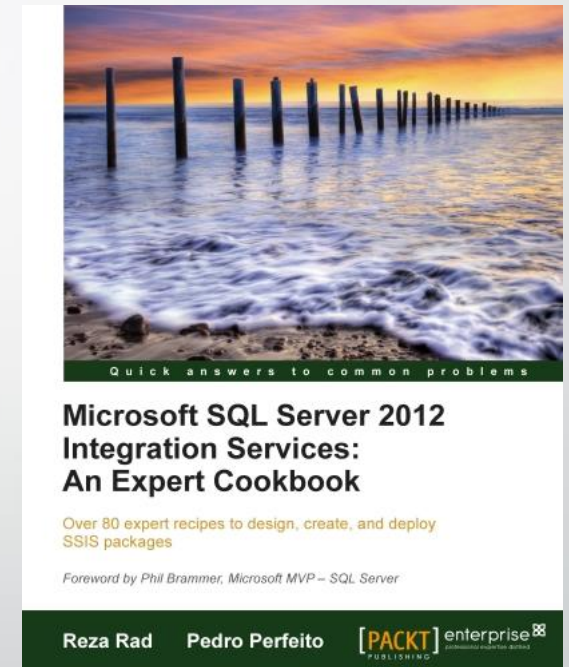
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Agenda

- Execution Results and Breakpoints in SSDT
- Control Flow Failure controlling with Precedence Constraint
- Event Handlers
- Error Output in Data Flow
- Logging for Packages
- Logging for Projects in SSIS Catalog
- Data Taps

Execution Results window in SSDT

- Shows useful information about the package and task that executed
- Progress Window
- Useful for Debugging
- Disable/Enable on Tasks and Containers is helpful for Debugging
- Executing Tasks or Containers

Breakpoints in SSDT

- Pause package execution at specific point
- You can check value of variables at that point of the time with three windows;
 - Autos
 - Locals
 - Watch
- The best way of debugging in Control flow in DEV environment

Hit Count Types

Always	Break always regardless of hit count
Hit count equals	Break only if hit count equals counter
Hit count greater than or equal to	Break only if hit count is greater than or equal to counter
Hit count multiple	Break only if hit count is an integer multiple of counter

DEMO: Debugging in SSDT

- Execution Results/Progress Window
- Disable/Enable Tasks and Containers
- Breakpoints and Watch window

Precedence Constraint in Control Flow

- Three types of precedence constraints
 - Success
 - Failure
 - Completion
- Combination with Expression
- AND / OR for multiple tasks

Error Configuration in Control Flow

- Maximum Error Count
 - Gets or sets an Integer value that indicates the maximum number of errors that can occur before the [DtsContainer](#) object stops running.
- FailPackageOnFailure
 - Gets or sets a Boolean that indicates whether the package fails when a child container fails. This property is used on containers, not the package itself.
 - true indicates that a failure in the container will set the package execution results to failure.
- FailParentOnFailure
 - Gets or sets a Boolean that defines whether the parent container fails when a child container fails.

Event Handlers

- Objects Hierarchy
- Events Container
- List of Events
 - OnPreExecute
 - OnPostExecute
 - OnError
 - ...

OnError Event Handler

- ErrorCode, and Error Description System Variables
 - Useful for logging exact error message

DEMO: OnError Event Handler

Error Logging in Data Flow

- Most of Data Flow components provides an specific output for ERROR OUTPUT
- Error Output contains bad data rows, with additional columns;
 - ErrorColumn
 - ErrorCode
 - ErrorDescription; Can be fetched based on ErrorCode

Fetch Error Description

- Error Code is a decimal code, it can be converted to hex, and after 8 F the code will point to an entry of dtsmsg.h file in this path:
 - C:\Program Files (x86)\Microsoft SQL Server\110\SDK\Include
- Or script component can be used for getting the error message in this way:

```
Row.ErrorDescription =  
ComponentMetaData.GetErrorDescription(Row.ErrorCode);
```

DEMO: Error Output in Data Flow

Legacy Package Logging

- Design at Development time, configure at runtime
- Five types of logging providers supported

SSIS Catalog Logging

- 2012 Introduced SSIS Catalog
- SSIS Projects deploy to SSIS Catalog
- Logging data will be stored in Catalog
- Logging configure and set up at run time
- There are four types of logging
- Catalog Reports

Catalog Logging Modes

None	Basic	Performance	Verbose
<i>No events</i>	<i>OnError</i> <i>OnInformation</i> <i>OnPostExecute</i> <i>OnPostValidate</i> <i>OnPreExecute</i> <i>OnPreValidate</i> <i>OnTaskFailed</i> <i>OnWarning</i>	<i>OnError</i> <i>OnWarning</i>	<i>BufferSizeTuning</i> <i>Diagnostic</i> <i>DiagnosticEx</i> <i>OnCustomEvent</i> <i>OnError</i> <i>OnInformation</i> <i>OnPipelinePostEndOfRowset</i> <i>OnPipelinePostPrimeOutput</i> <i>OnPipelinePreEndOfRowset</i> <i>OnPipelinePrePrimeOutput</i> <i>OnPostExecute</i> <i>OnPostValidate</i> <i>OnPreExecute</i> <i>OnPreValidate</i> <i>OnProgress</i> <i>OnTaskFailed</i> <i>OnWarning</i> <i>PackageEnd</i> <i>PackageStart</i> <i>PipelineComponentTime</i> <i>PipelineExecutionPlan</i> <i>PipelineExecutionTrees</i> <i>PipelineInitialization</i>

DEMO: Logging

Data Taps

- Stores data at specific point of the time (in a Data Flow's Data Path) into a text file
- Very useful way of logging data rows in production environment
- You can address any data path in the data flow
- Output Text file will be stored in
 - C:\Program Files\Microsoft SQL Server\110\DTS\DataDumps

DEMO: Data Tap

Summary

- Execution Results and Breakpoints in SSDT
- Control Flow Failure controlling with Precedence Constraint
- Event Handlers
- Error Output in Data Flow
- Logging for Production and Live environments
- Data Taps for Live environment

Thank you..
Stick Around for Q&A