

Integration Services

„Anwenden u. Erweitern der SSIS CatalogDB
für ein Logging Framework“

Alexander Karl



Speaker

Alexander Karl

.net - CDE

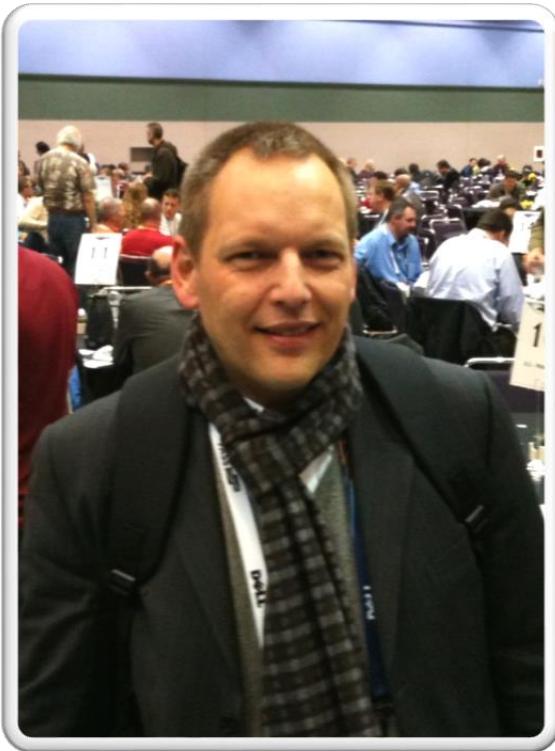


SQL + BI Consultant

Microsoft
CERTIFIED
Trainer

Microsoft
CERTIFIED
IT Professional

Database Administrator 2008
Server Administrator on Windows Server® 2008
Database Administrator on SQL Server® 2005



SSIS Catalog DB

- Erstellen des Catalogs mit Wizard
- Voraussetzungen
 - SQL-Server 2012
 - SQL CLR enabled
- ein Catalog pro Instance (SSISDB)

SSIS Catalogs

- SSIS Catalog

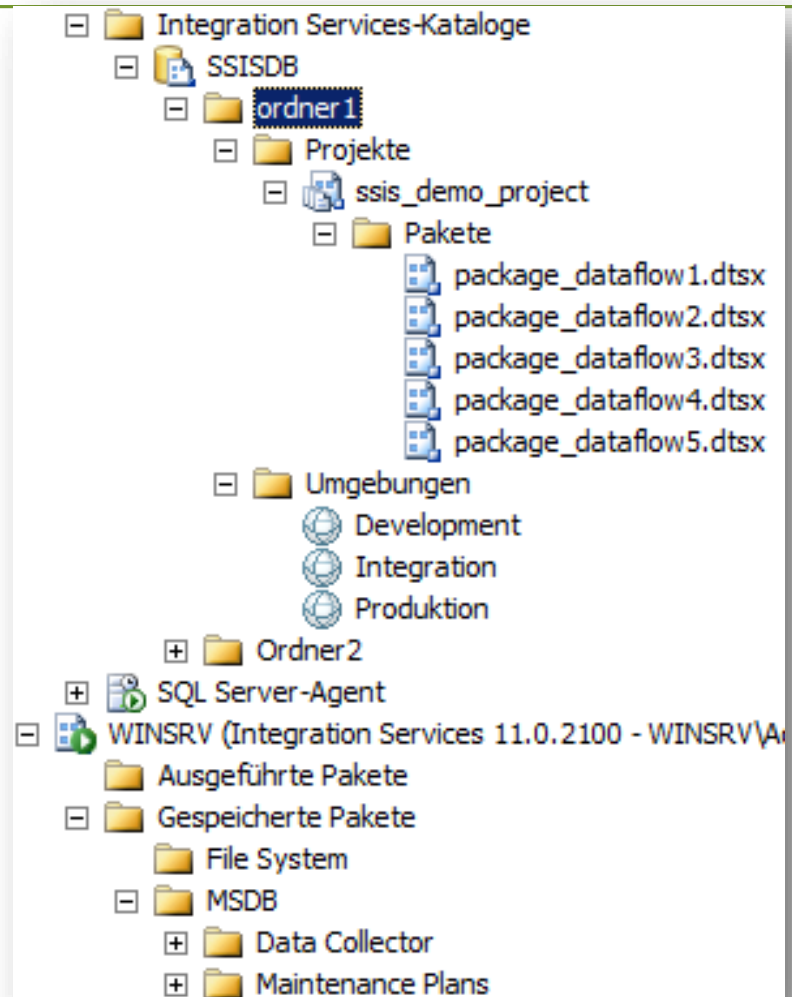
- Ordner

- Projekt

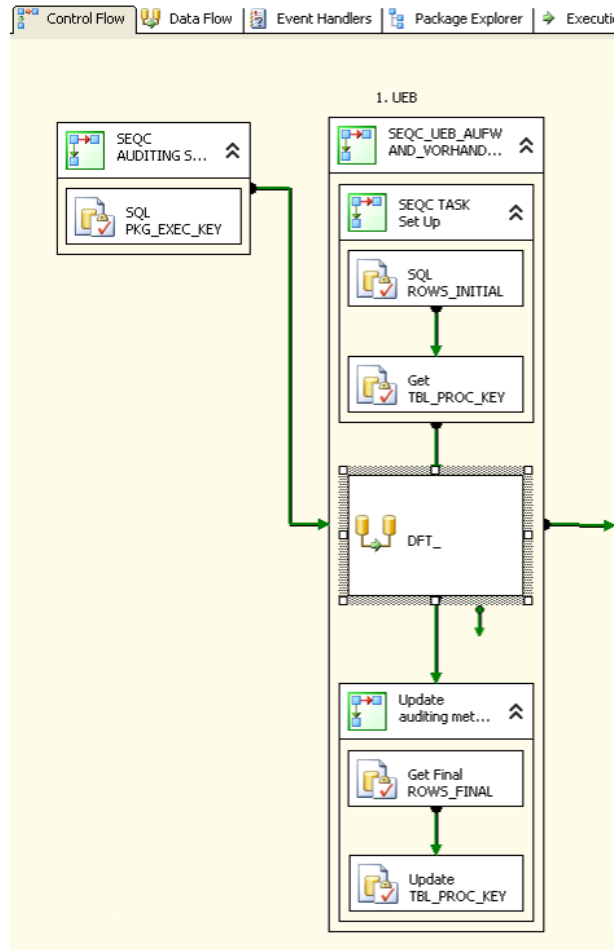
- Paket

- Umgebung

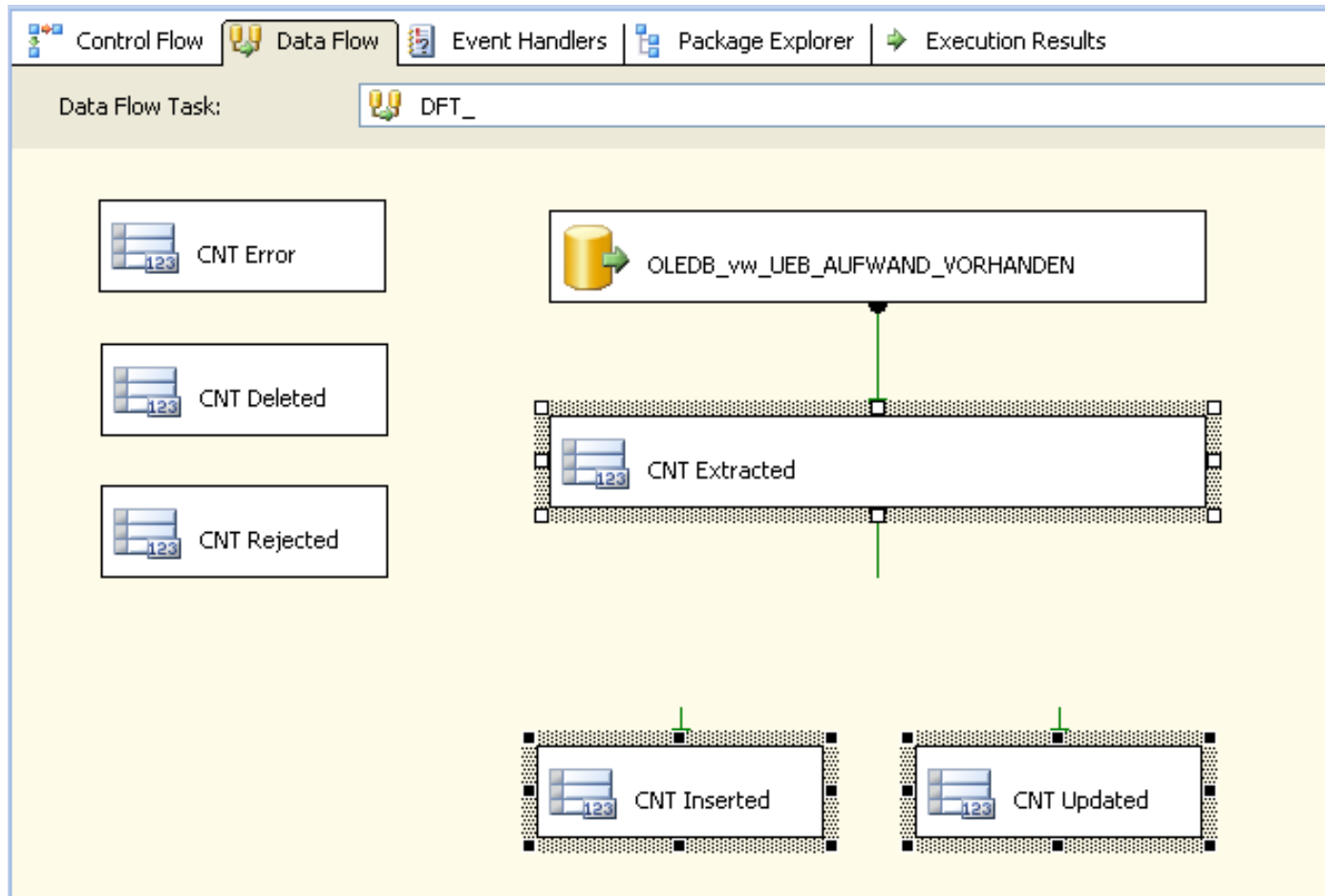
- legacy

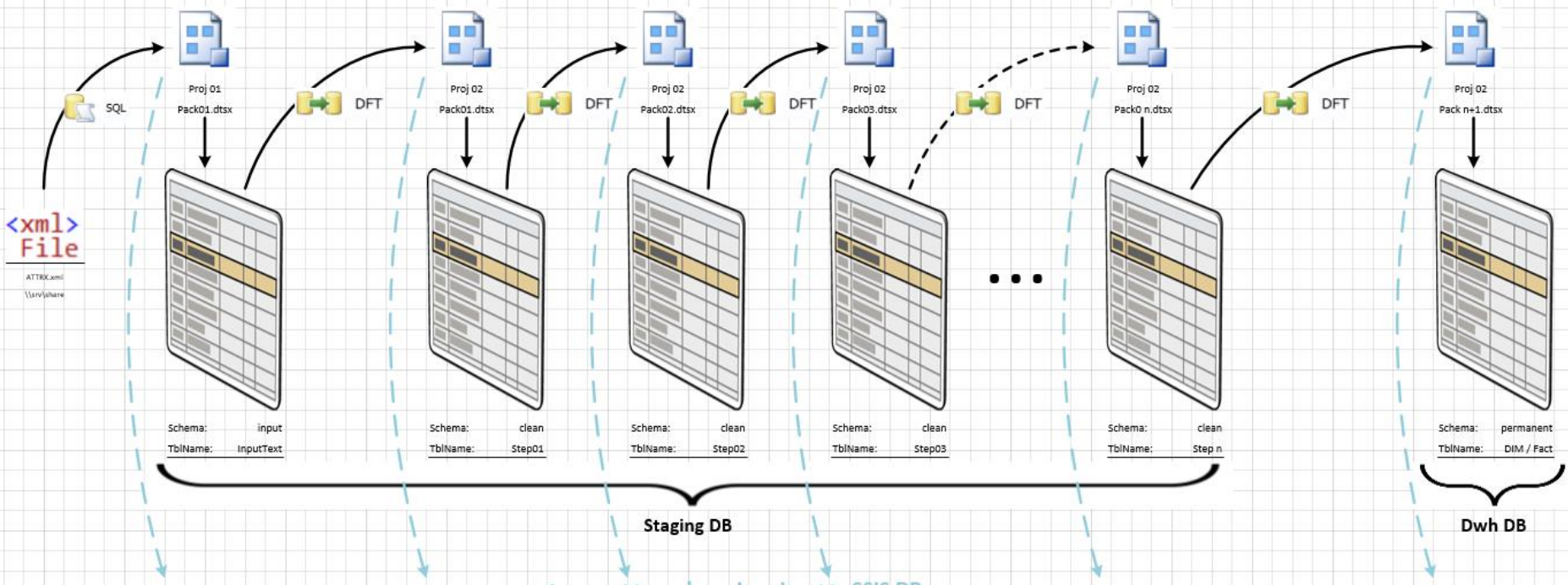


Logging Frameworks (2008)



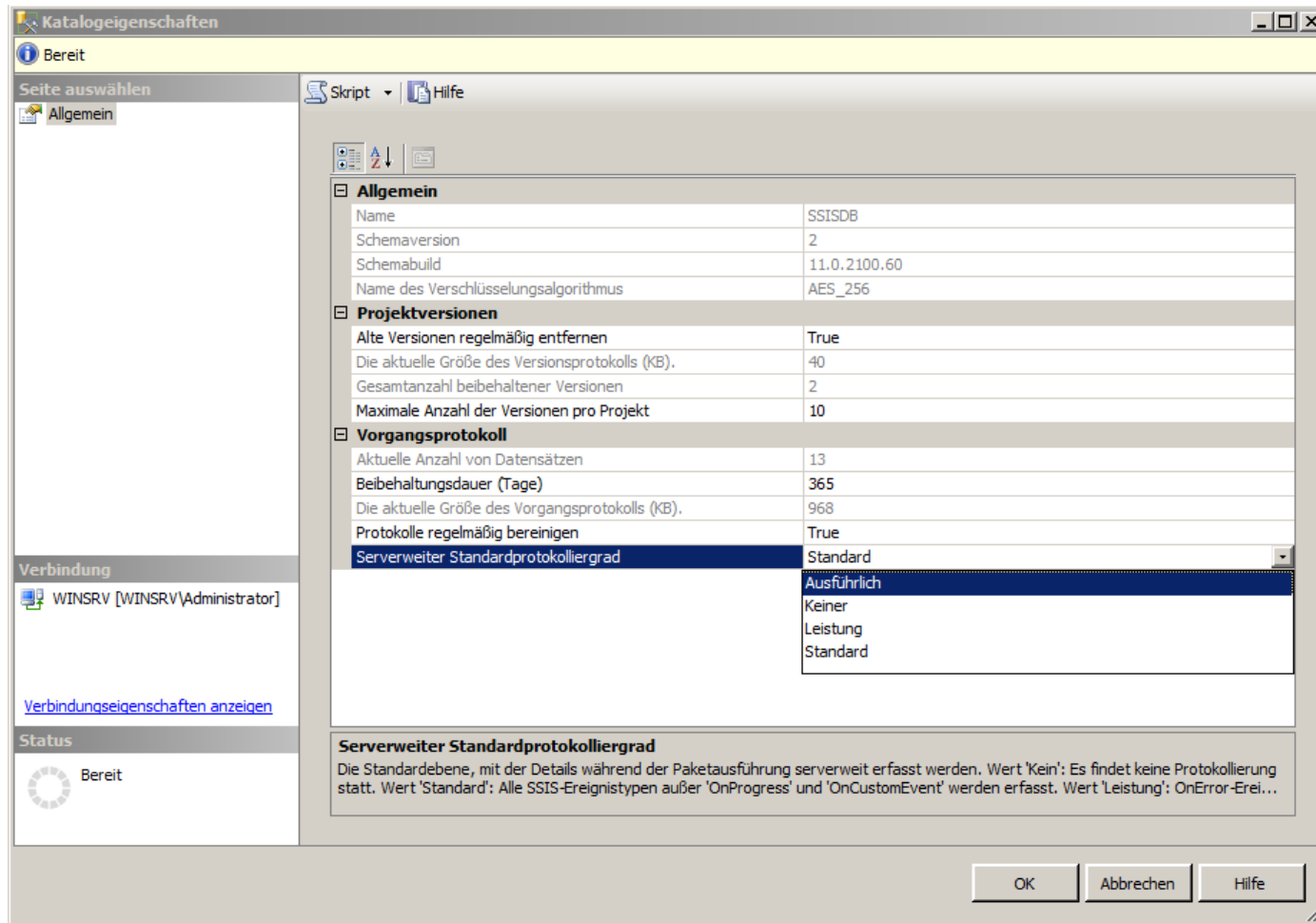
Logging Frameworks (2008)



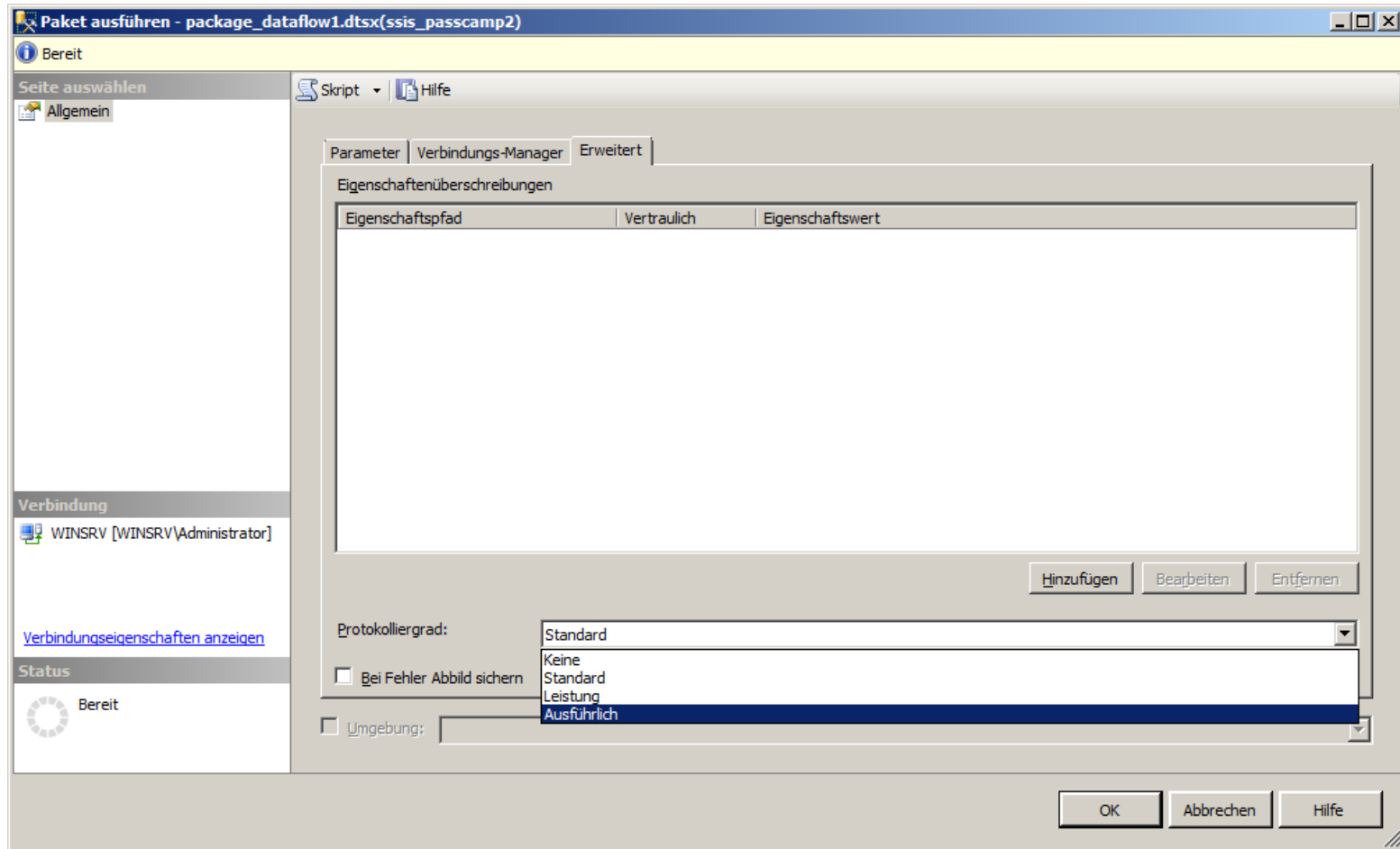


execution_id	package_name	task_name	dataflow_path_name	rows_sent	
1	828	Pack01	SQL Task	import_from_<xml>	50,000
2	829	Pack02	DFT Task	01output_Source	50,000
3	830	Pack02	DFT Task	02output_DER_col1	50,000
4	831	Pack02	DFT Task	03output_DER_col2	50,000
5	832	Pack02	DFT Task	04error_DER_col3	10
6	833	Pack02	DFT Task	04output_DER_col3	49,990
7	834	Pack02	DFT Task	05input_Destination	49,990
8	835	---	---	---	---
9	836	---	---	---	---
10	837	Pack n	DFT Task	01output_Source	49,990
11	838	Pack n	DFT Task	02input_Destination	49,990

Logging-Level (Server)



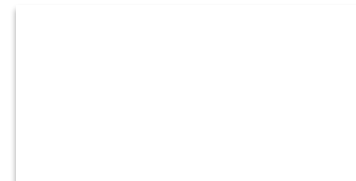
Logging-Level (Package)



Paket-Ausführung mit TSQL

```
1  DECLARE @execution_id bigint
2
3  EXEC [SSISDB].[catalog].[create_execution]
4      @package_name=N'package_dataflow1.dtsx'
5      , @execution_id=@execution_id OUTPUT
6      , @folder_name=N'passcamp_demo2'
7      , @project_name=N'ssis_passcamp2'
8      , @use32bitruntime=False
9      , @reference_id=NULL
10
11  Select @execution_id
12
13  DECLARE @var0 smallint = 3 -- VERBOSE / Ausführlich
14
15  EXEC [SSISDB].[catalog].[set_execution_parameter_value]
16      @execution_id
17      , @object_type=50
18      , @parameter_name=N'LOGGING_LEVEL'
19      , @parameter_value=@var0
20
21  EXEC [SSISDB].[catalog].[start_execution] @execution_id
22  GO
```

DEMO



Result

SQLQuery11.sql - WIN...Administrator (63)*

```

1 SELECT [data_stats_id]
2       ,[execution_id]
3       ,[package_name]
4       ,[task_name]
5       ,[dataflow_path_id_string]
6       ,[dataflow_path_name]
7       ,[source_component_name]
8       ,[destination_component_name]
9       ,[rows_sent]
10      ,[created_time]
11      ,[execution_path]
12 FROM [SSISDB].[catalog].[execution_data_statistics]
    
```

100 %

Ergebnisse | Meldungen

	data_stats_id	execution_id	package_name	task_name	dataflow_path_id_string	dataflow_path_name
1	1	10	package_dataflow1.dtsx	DFT_get-DatabaseInfo	Pfade [OLE DB-Quelle.Ausgabe der OLE DB-Quelle]	Ausgabe der OLE DB-Quelle
2	2	10	package_dataflow1.dtsx	DFT_get-DatabaseInfo	Pfade [Multicast.Ausgabe für Multicast 2]	Ausgabe für Multicast 2
3	3	10	package_dataflow1.dtsx	DFT_get-DatabaseInfo	Pfade [Abgeleitete Spalte.Ausgabe der abgeleitete...	Ausgabe der abgeleiteten Spalte
4	4	10	package_dataflow1.dtsx	DFT_get-DatabaseInfo	Pfade [OLE DB-Quelle.Ausgabe der OLE DB-Quelle]	Ausgabe der OLE DB-Quelle
5	5	10	package_dataflow1.dtsx	DFT_get-DatabaseInfo	Pfade [Multicast.Ausgabe für Multicast 2]	Ausgabe für Multicast 2
6	6	10	package_dataflow1.dtsx	DFT_get-DatabaseInfo	Pfade [Abgeleitete Spalte.Ausgabe der abgeleitete...	Ausgabe der abgeleiteten Spalte

source_component_name	destination_component_name	rows_sent	created_time	execution_path
OLE DB-Quelle	Multicast	9	2012-10-22 ...	\\package_dataflow1\DFT_get-DatabaseInfo
Multicast	Abgeleitete Spalte	9	2012-10-22 ...	\\package_dataflow1\DFT_get-DatabaseInfo
Abgeleitete Spalte	Flatfileziel	9	2012-10-22 ...	\\package_dataflow1\DFT_get-DatabaseInfo
OLE DB-Quelle	Multicast	0	2012-10-22 ...	\\package_dataflow1\DFT_get-DatabaseInfo
Multicast	Abgeleitete Spalte	0	2012-10-22 ...	\\package_dataflow1\DFT_get-DatabaseInfo
Abgeleitete Spalte	Flatfileziel	0	2012-10-22 ...	\\package_dataflow1\DFT_get-DatabaseInfo

Admin „Tools“

- `tfn_execution_data_statistics`
- `sfn_maxExecID_from_sysjobhistory`
- `sfn_maxExecID_from_CatalogExecutions`

- Execution:
`internal.append_execution_data_statistics`

Report_JobHistory

Job Name	step name	step	date	start	sec	rows sent
[-] DWH_staging_01_Import			2014-04-29		4	
[-] DWH_staging_01_Import			2014-04-29		4	
	01_Pack_Import_Verkaufszahlen	1		16:12:41	4	26
[+] DWH_staging_01_Import			2014-04-29		48	
[+] DWH_staging_02_Clean			2014-04-29		15	
[-] DWH_staging_01_Import			2014-04-29		11	
	01_Pack_Import_Verkaufszahlen	1		16:27:01	7	4,163
	02_Pack_Import_Buecher	2		16:27:08	4	26
	start_next_Job	3		16:27:12	0	
[-] DWH_staging_02_Clean			2014-04-29		22	
	11_Pack_Clean_Verkaufszahlen	1		16:27:12	11	4,163
	12_Pack_Clean_Buecher	2		16:27:23	11	26
[+] DWH_staging_01_Import			2014-04-29		12	
[+] DWH_staging_02_Clean			2014-04-29		15	

Report_JobHistory_details

project name	package name	task name	dataflow path name	rows	start time	sec
ssis_DWH_staging						
	01_Pack_Import_Verkaufszahlen.dtsx				4/29/2014 10:32:53 AM +02:00	4
		DFT_Import-Verkaufszahlen	00_output_FlatFile	4,163		
		DFT_Import-Verkaufszahlen	99_input_Import-Layer	4,163		
ssis_DWH_staging						
	11_Pack_Clean_Verkaufszahlen.dtsx				4/29/2014 10:33:35 AM +02:00	7
		DFT_Clean-Verkaufszahlen	00_output_Import-Layer	4,163		
		DFT_Clean-Verkaufszahlen	01_output_DER_Zeit	4,163		
		DFT_Clean-Verkaufszahlen	02_output_DER_Vertreter	4,163		
		DFT_Clean-Verkaufszahlen	03_output_DER_Buch	4,163		
		DFT_Clean-Verkaufszahlen	04_output_DER_Stueck	4,163		
		DFT_Clean-Verkaufszahlen	99_input_Clean-Layer	4,163		
ssis_DWH_staging						
	02_Pack_Import_Buecher				4/29/2014 10:39:04 AM +02:00	2
		SQL_SQL_Import-Buecher_dataRows	T-SQL Insert Into	26		
		SQL_SSISDB_exec_data_statistics	T-SQL Insert Into	26		
	02_Pack_Import_Buecher.dtsx				4/29/2014 10:39:04 AM +02:00	2
		SQL_Task	T-SQL Insert Into	26		
ssis_DWH_staging						
	01_Pack_Import_Verkaufszahlen.dtsx				4/29/2014 11:07:17 AM +02:00	2
		DFT_Import-Verkaufszahlen	00_output_FlatFile	4,163		
		DFT_Import-Verkaufszahlen	99_input_Import-Layer	4,163		
ssis_DWH_staging						
	11_Pack_Clean_Verkaufszahlen.dtsx				4/29/2014 11:07:31 AM +02:00	3
		DFT_Clean-Verkaufszahlen	00_output_Import-Layer	4,163		
		DFT_Clean-Verkaufszahlen	01_output_DER_Zeit	4,163		
		DFT_Clean-Verkaufszahlen	02_output_DER_Vertreter	4,163		
		DFT_Clean-Verkaufszahlen	03_output_DER_Buch	4,163		
		DFT_Clean-Verkaufszahlen	04_output_DER_Stueck	4,163		
		DFT_Clean-Verkaufszahlen	99_input_Clean-Layer	4,163		

Vereinfachtes <xml>

```
<?xml version="1.0"?>
<DTS:Executable DTS:ExecutableType="SSIS.Package.2"
  xmlns:DTS="www.microsoft.com/SqlServer/Dts">
  <DTS:Property DTS:Name="PackageFormatVersion">6</DTS:Property>
  <DTS:Property DTS:Name="VersionComments"></DTS:Property>
  <DTS:Property DTS:Name="CreatorName">hp8530
    \Alex</DTS:Property>
  <DTS:Property
    DTS:Name="CreatorComputerName">HP8530</DTS:Property>
  <DTS:Property DTS:Name="CreationDate"
    DTS:DataType="7">9/20/2012 9:16:45 AM</DTS:Property>
  <DTS:Property DTS:Name="PackageType">5</DTS:Property>
  <DTS:Property DTS:Name="ProtectionLevel">1</DTS:Property>
  <DTS:Property DTS:Name="MaxConcurrentExecutables">1</DTS:Property>
  <DTS:Property DTS:Name="PackagePriorityClass">0</DTS:Property>
  <DTS:Property DTS:Name="VersionMajor">1</DTS:Property>
  <DTS:Property DTS:Name="VersionMinor">0</DTS:Property>
  <DTS:Property DTS:Name="VersionBuild">1</DTS:Property>
  <DTS:Property DTS:Name="VersionGUID">{3174052
    8EDF-DD51A93627FC}</DTS:Property>
  <DTS:Property DTS:Name="EnableConfig">0</DTS:Property>
  <DTS:Property DTS:Name="CheckpointFileName"></DTS:Property>
  <DTS:Property DTS:Name="SaveCheckpoints">0</DTS:Property>
  <DTS:Property DTS:Name="CheckpointUsage">0</DTS:Property>
  <DTS:Property
    DTS:Name="SuppressConfigurationWarnings">0</DTS:Property>
  <DTS:ConnectionManagers>
  <DTS:Property DTS:Name="DelayValidation">0</DTS:Property>
  <DTS:Property
    DTS:Name="ObjectName">localhost.msdb</DTS:Property>
  <DTS:Property DTS:Name="DTSID">{C7C4A07F-B762-4242-8AEB-C0EC5738F011}</DTS:Property>
  <DTS:Property DTS:Name="CreationName">SSIS.Package.3</DTS:Property>
  <DTS:Property DTS:Name="Description"></DTS:Property>
  <DTS:Property DTS:Name="CreationName">WINSRV\Administrator</DTS:Property>
  <DTS:Property DTS:Name="CreationDate">9/19/2012 4:51:10 PM</DTS:Property>
  <DTS:Property DTS:Name="CreationName">SSIS.Package.3</DTS:Property>
  <DTS:Property DTS:Name="CreationComputerName">WINSRV</DTS:Property>
  <DTS:Property DTS:Name="CreationName">WINSRV\Administrator</DTS:Property>
  <DTS:Property DTS:Name="DTSID">{C7C4A07F-B762-4242-8AEB-C0EC5738F011}</DTS:Property>
  <DTS:Property DTS:Name="ExecutableType">SSIS.Package.3</DTS:Property>
  <DTS:Property DTS:Name="LastModifiedProductVersion">11.0.2100.60</DTS:Property>
  <DTS:Property DTS:Name="LocaleID">1031</DTS:Property>
  <DTS:Property DTS:Name="ObjectName">package_dataflow1</DTS:Property>
  <DTS:Property DTS:Name="PackageType">5</DTS:Property>
  <DTS:Property DTS:Name="VersionBuild">14</DTS:Property>
  <DTS:Property DTS:Name="VersionGUID">{498EABF8-3069-40AE-86F1-23E781EF2004}</DTS:Property>
  <DTS:Property
    DTS:Name="PackageFormatVersion">6</DTS:Property>
  <DTS:ConnectionManagers>
  <DTS:ConnectionManager
    DTS:refId="Package.ConnectionManagers[flat_file_Destination]"
    DTS:CreationName="FLATFILE"
    DTS:DTSID="{45B09A46-D386-4525-82E4-EF34AE3ABB7E}"
    DTS:ObjectName="flat_file_Destination">
  <DTS:PropertyExpression
    DTS:Name="ConnectionString">"C:\\Users\\Administrator\\Desktop\\" +
  <DTS:ObjectData>
  <DTS:ConnectionManager
    DTS:Format="Delimited"
    DTS:LocaleID="1031"
    DTS:HeaderRowDelimiter="_x000D_x000A_"
    DTS:RowDelimiter=""
    DTS:RowQualifier=""
    DTS:TextQualifier="_x003C_none_x003E_"
```

„Blick ins Paket“

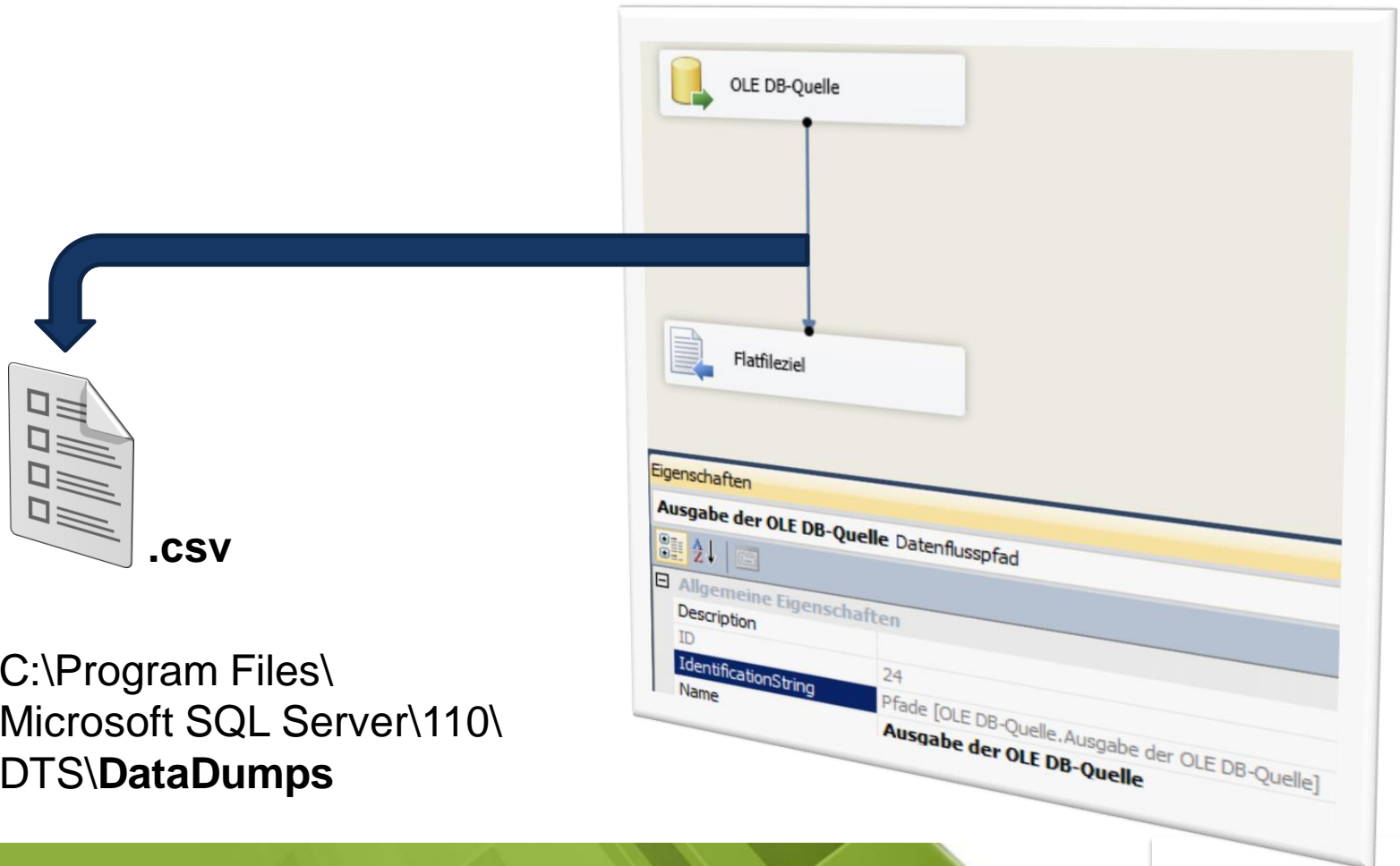
- From OpenRowSet
- From OpenXML

>> 8._admin_get_SIS...

Admin: check for Changes SSISDB

- catalog Schema well known
and documented
- internal Schema not documented
- check for changes in
catalog.catalog_properties

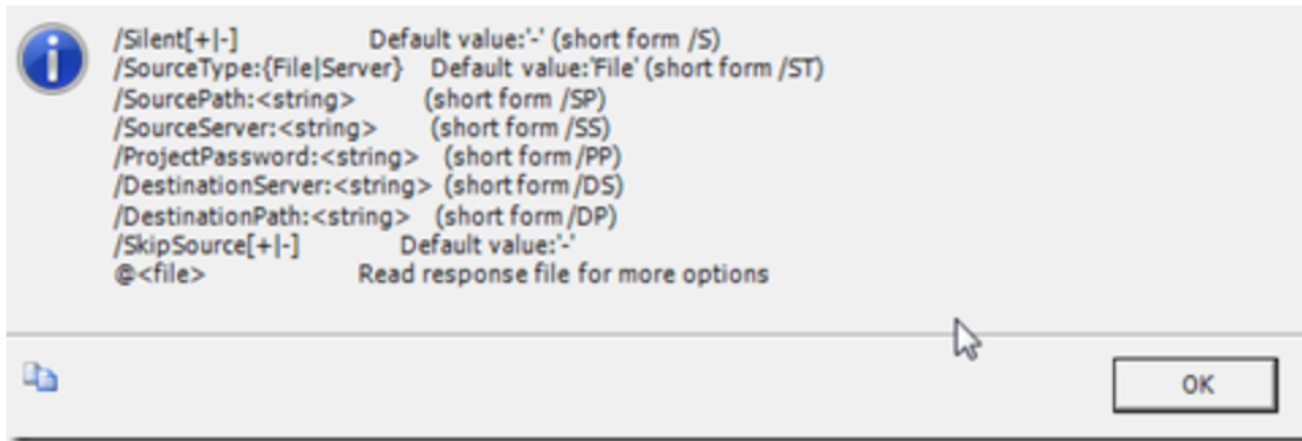
Data Tab >> Datenziel



Deployment .ispac

Deploying the project from the command line: The next step is to prepare the command line executable of the deployment file (ispac). The ispac deployment file can be evoked from the command line using **IsDeploymentWizard.exe** with the following switches.

(%ProgramFiles%\Microsoft SQL Server\110\DTS\Binn)



Ex: IsDeploymentWizard /S /SP:"C:\SSIS.ispac" /DS:"<myServerName>\<Instancename>"
/DP:"/SSISDB/SSIS"

Fragen ??

vielen Dank.