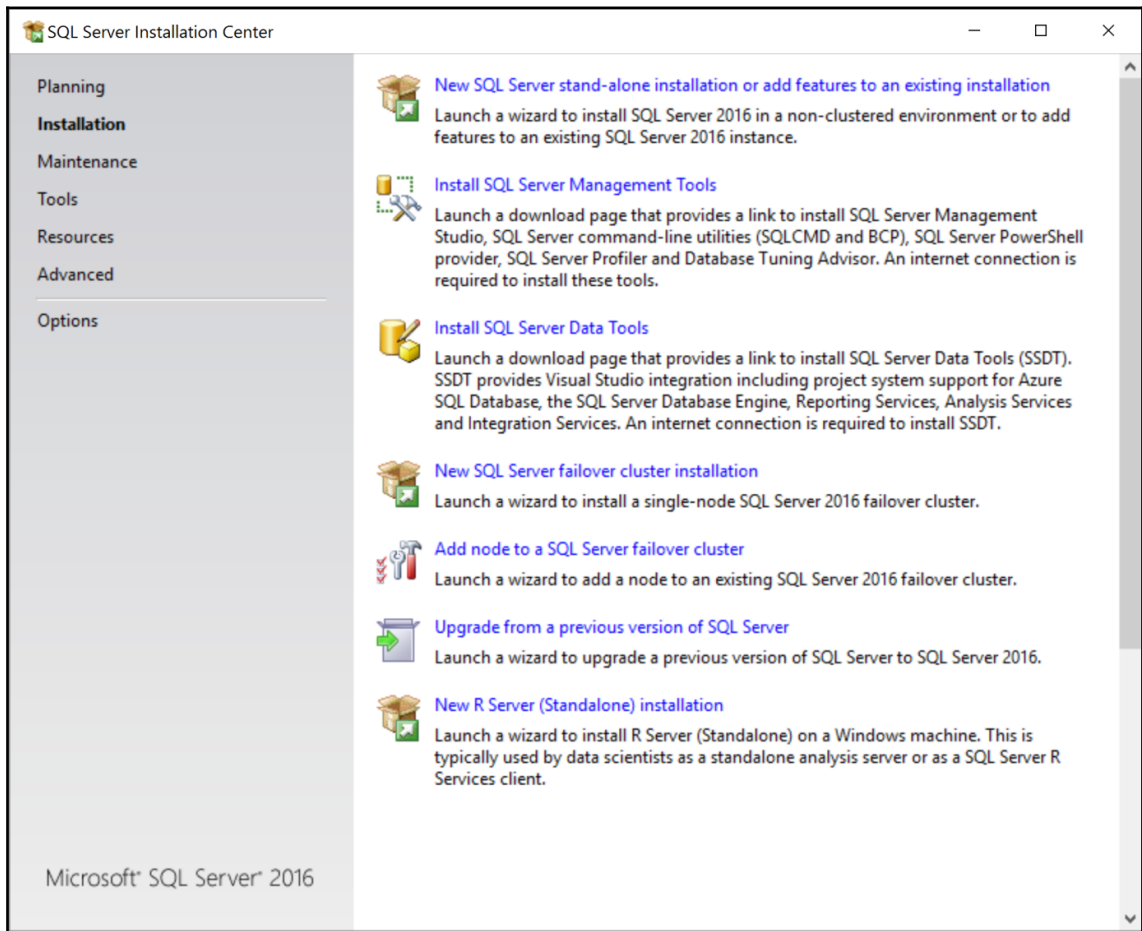


Table of Contents

Chapter 2: SQL Server Tools



Download SQL Server M... x

Secure | https://docs.microsoft.com/en-us/sql/ssms/download-sql-server-management-studio-ssms

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12/14/2017 • 5 minutes to read • Contributors all

THIS TOPIC APPLIES TO: SQL Server Azure SQL Database Azure SQL Data Warehouse Parallel Data Warehouse

SSMS is an integrated environment for managing any SQL infrastructure, from SQL Server to SQL Database. SSMS provides tools to configure, monitor, and administer instances of SQL. Use SSMS to deploy, monitor, and upgrade the data-tier components used by your applications, as well as build queries and scripts.

Use SQL Server Management Studio (SSMS) to query, design, and manage your databases and data warehouses, wherever they are - on your local computer, or in the cloud.

SSMS is free!

SSMS 17.x is the latest generation of *SQL Server Management Studio* and provides support for SQL Server 2017.

- [Download SQL Server Management Studio 17.4](#) 14
- [Download SQL Server Management Studio 17.4 Upgrade Package \(upgrades 17.x to 17.4\)](#) 15

The SSMS 17.x installation does not upgrade or replace SSMS versions 16.x or earlier. SSMS 17.x installs side by side with previous versions so both versions are available for use. If a computer contains side by side installations at the correct version for your specific needs. The latest version is labeled *Microsoft SQL*

Feedback Edit Share Theme Light In this article Available Languages SQL Server Management Studio New in this Release Supported SQL offerings Supported Operating systems SSMS installation tips and issues Release Notes Previous releases Feedback See Also

Is this page helpful? YES NO

https://www.microsoft.com



RELEASE 16.5.1

Microsoft SQL Server Management Studio

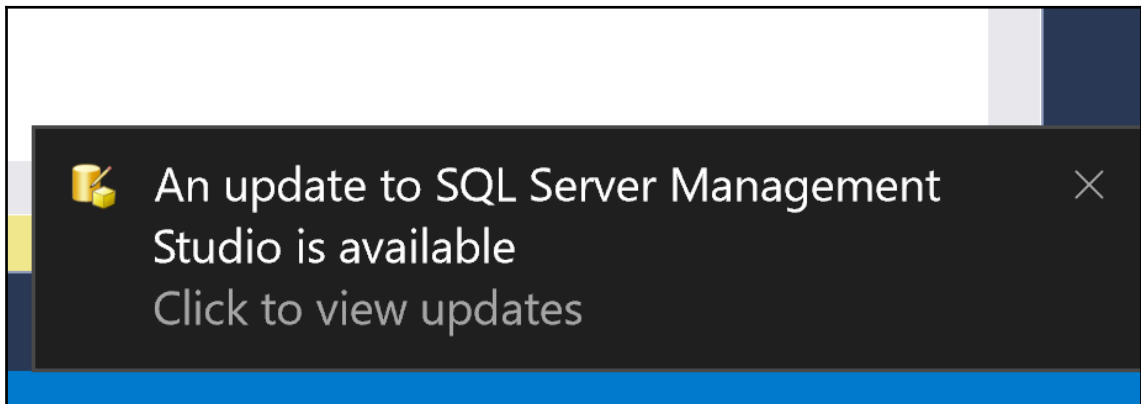
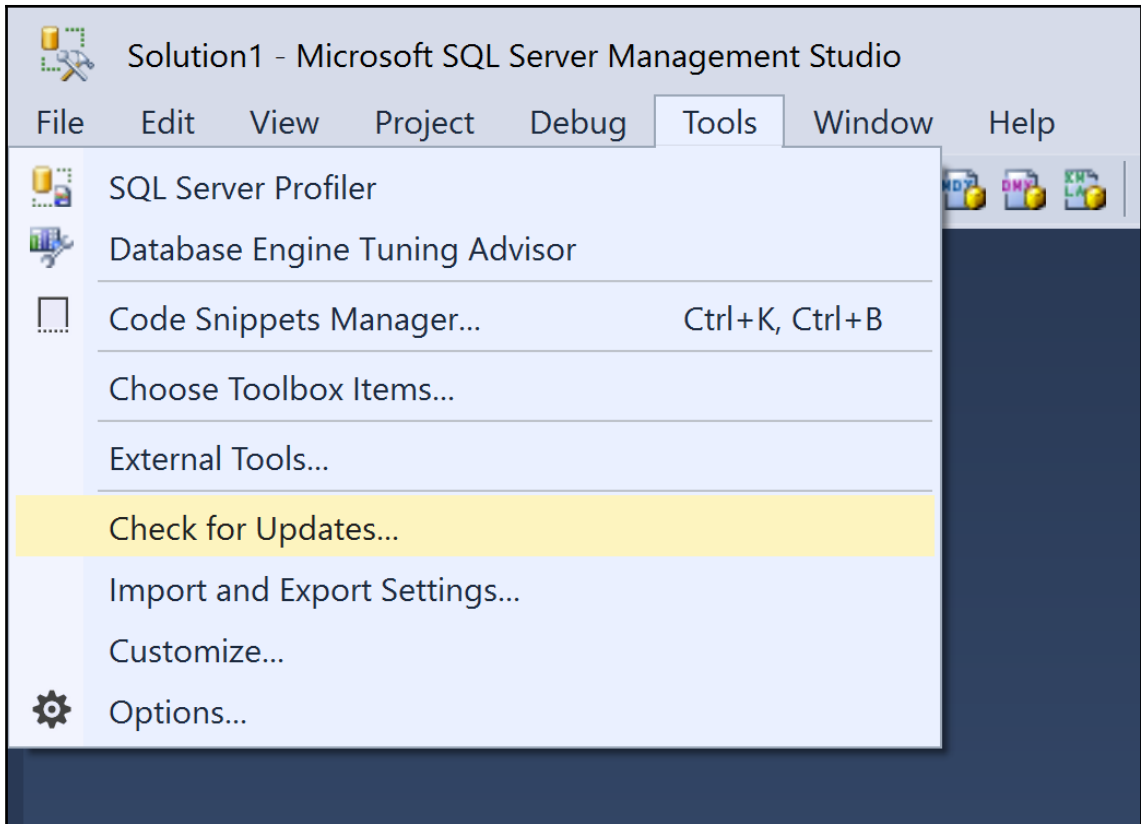
Welcome. Click "Install" to begin.

By clicking the "Install" button, I acknowledge that I accept the [License Terms](#) and [Privacy Statement](#).

SQL Server Management Studio transmits information about your installation experience, as well as other usage and performance data, to Microsoft to help improve the product. To learn more about SQL Server Management Studio data processing and privacy controls, see the privacy statement link above.

Install

Close



SQL Server Management Studio Updates

SQL Server Management Studio

SQL Server Management Studio
SSMS is up to date.

Component	Installed	Latest
SQL Server Management Studio	14.0.17213.0	✓

Automatically check for updates for SQL Server Management Studio

Options

Search Options (Ctrl+E)

- Environment
 - General
 - AutoRecover
 - Documents
 - Find and Replace
 - Fonts and Colors
 - Import and Export Settings
 - International Settings
 - Keyboard
 - Quick Launch
 - Startup
 - Tabs and Windows
- Projects and Solutions
- Text Editor
- Query Execution
- Query Results
- Designers
- Azure Services
- SQL Server Always On
- SQL Server Object Explorer

Specify the maximum number of rows to return before the server stops processing your query.

SET ROWCOUNT: 0

Specify the maximum size of text and ntext data returned from a SELECT statement.

SET TEXTSIZE: 2147483647 bytes

An execution time-out of 0 indicates an unlimited wait (no time-out).

Execution time-out: 0 seconds

Specify a word or character that can be used to separate batches.

Batch separator: GO

By default, open new queries in SQLCMD mode

Prompt to save unsaved T-SQL query windows on close

Reset to Default

OK Cancel

Options

execution

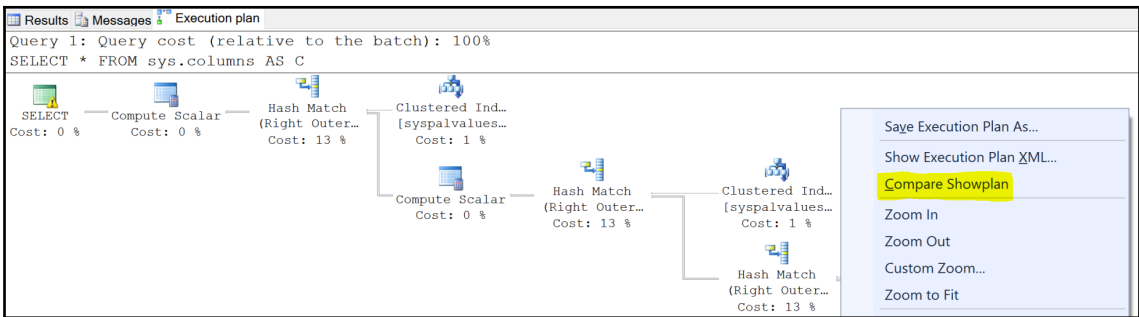


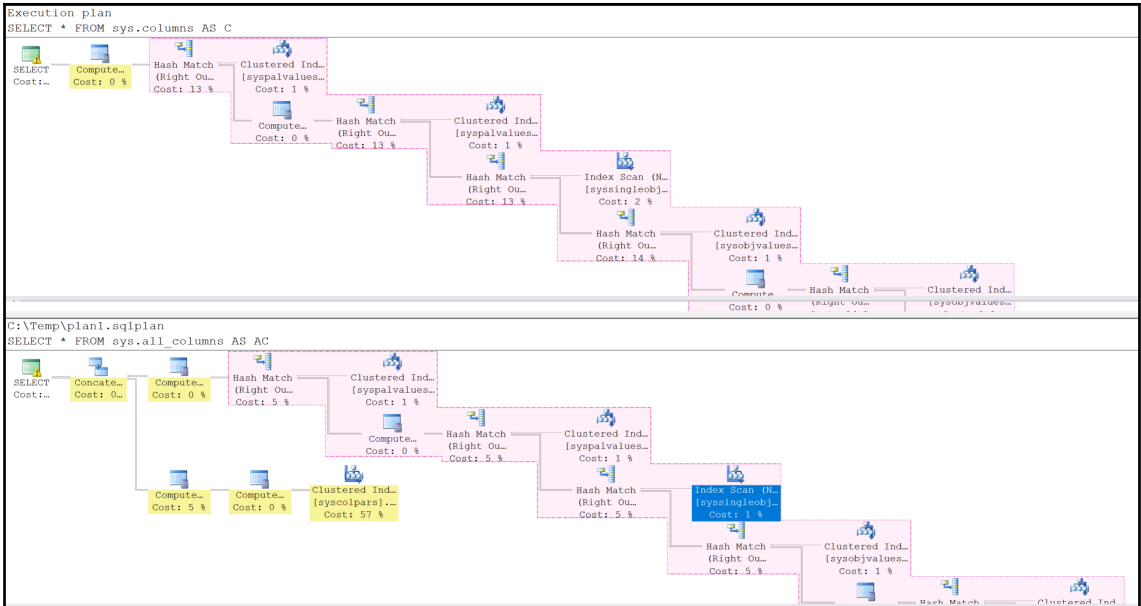
- ▲ Query Execution
 - ▲ SQL Server
 - General
 - Advanced
 - ANSI
 - Live Query Statistics
 - ▲ Analysis Server
 - General

```

ALTER PROCEDURE [Integration].[GetOrderUpdates]
@LastCutoff datetime2(7),
@NewCutoff datetime2(7)
WITH EXECUTE AS OWNER
AS
BEGIN
SET NOCOUNT ON;
SET XACT_ABORT ON;
-- Added comment, not saved
SELECT CAST(o.OrderDate AS date) AS [Order Date Key],
CAST(o.PickingCompletedWhen AS date) AS [Picked Date Key],
o.OrderID AS [WMI Order ID],
o.BackorderOrderID AS [WMI Backorder ID],
ol.[Description],
pt.PackageTypeName AS Package,
ol.Quantity AS Quantity,
ol.UnitPrice AS [Unit Price],
ol.TaxRate AS [Tax Rate],
ROUND(ol.Quantity * ol.UnitPrice, 2) AS [Total Excluding Tax],
ROUND(ol.Quantity * ol.UnitPrice * ol.TaxRate / 100.0, 2) AS [Tax Amount],
ROUND(ol.Quantity * ol.UnitPrice, 2) + ROUND(ol.Quantity * ol.UnitPrice * ol.TaxRate / 100.0, 2) AS [Total Including Tax],
c.DeliveryCityID AS [WMI City ID],
c.CustomerID AS [WMI Customer ID],
ol.StockItemID AS [WMI Stock Item ID],
o.SalespersonPersonID AS [WMI Salesperson ID],
o.PickedByPersonID AS [WMI Picker ID],
CASE WHEN ol.LastEditedWhen > o.LastEditedWhen THEN ol.LastEditedWhen ELSE o.LastEditedWhen END AS [Last Modified When]

```





SQLQuery4.sql - DE...7KOEDJ4\willi (76)

Properties

Top Plan	Bottom Plan
Index Scan (NonClustered)	Index Scan (NonClustered)
<ul style="list-style-type: none"> Actual Execution Mode: Row Actual I/O Statistics Actual Number of Batches: 0 Actual Number of Rows: 0 Actual Rebinds: 0 Actual Rewinds: 0 Actual Time Statistics Defined Values: [WideWorldImporters].[sys].[sysssingleobj] Description: Scan a nonclustered index, entirely or on Estimated CPU Cost: 0.0010282 Estimated Execution Mode: Row Estimated I/O Cost: 0.0046065 Estimated Number of Exec: 1 Estimated Number of Rows: 24,9163 Estimated Operator Cost: 0.0056347 (2%) Estimated Rewinds: 0 Estimated Row Size: 20 B Estimated Subtree Cost: 0.0056347 Forced Index: False ForceScan: False ForceSeek: False Logical Operation: Index Scan Node ID: 7 NoExpandHint: False Number of Executions: 1 Number of Rows Read: 792 Object: [WideWorldImporters].[sys].[sysssingleobj] Ordered: False Output List: [WideWorldImporters].[sys].[sysssingleobj] Parallel: False Physical Operation: Index Scan Predicate: [WideWorldImporters].[sys].[sysssingleobj] Storage: RowStore TableCardinality: 792 	<ul style="list-style-type: none"> Actual Execution Mode: Row Actual I/O Statistics Actual Number of Batches: 0 Actual Number of Rows: 0 Actual Rebinds: 0 Actual Rewinds: 0 Actual Time Statistics Defined Values: [WideWorldImporters].[sys].[sysssingleobj] Description: Scan a nonclustered index, entirely or on Estimated CPU Cost: 0.0010282 Estimated Execution Mode: Row Estimated I/O Cost: 0.0046065 Estimated Number of Exec: 1 Estimated Number of Rows: 24,9163 Estimated Operator Cost: 0.0056347 (1%) Estimated Rewinds: 0 Estimated Row Size: 20 B Estimated Subtree Cost: 0.0056347 Forced Index: False ForceScan: False ForceSeek: False Logical Operation: Index Scan Node ID: 8 NoExpandHint: False Number of Executions: 1 Number of Rows Read: 792 Object: [WideWorldImporters].[sys].[sysssingleobj] Ordered: False Output List: [WideWorldImporters].[sys].[sysssingleobj] Parallel: False Physical Operation: Index Scan Predicate: [WideWorldImporters].[sys].[sysssingleobj] Storage: RowStore TableCardinality: 792
Estimated Operator Cost Estimated cost of this operator.	Estimated Operator Cost Estimated cost of this operator.

File Edit View Query Project Debug Tools Window Help

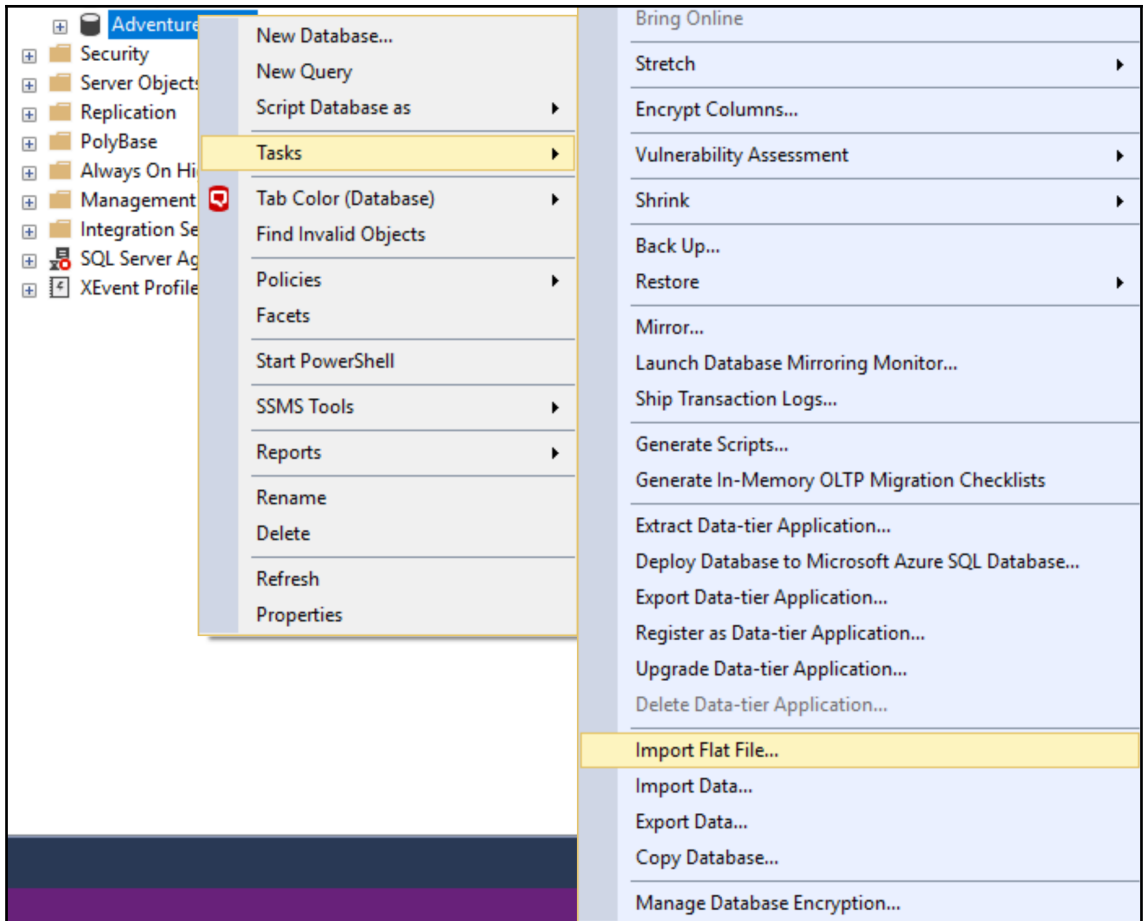
WideWorldImporters Execute Debug

SQLQuery7.sql - DE...7KOEDJ4\willi (53)* Include Live Query Statistics

`SELECT * FROM sys.columns AS C`

Estimated query|Query 1: Query cost (relative to the batch): 100%
 progress:91%|SELECT * FROM sys.columns AS C CROSS JOIN sys.columns AS C2

SELECT 0:01:02	Compute Scalar 0:01:02 2163752 of 2405180 (89%)	Nested Loops (Inner Join) 0:01:02 2163752 of 2405180 (89%)	Compute Scalar 0:01:02 1380 of 1551 (88%)	Hash Match (Right Outer... 0:01:02 1380 of 1551 (88%)	Clustered Ind... [syspalvalues... 2 of 2 (100%)	Compute Scalar 0:01:02 1380 of 1549 (89%)	Hash Match (Right Outer... 0:01:02 1380 of 1549 (89%)
-------------------	--	--	--	---	--	--	---



Import Flat File 'AdventureWorks'

Specify Input File

Introduction
Specify Input File
Preview Data
Modify Columns
Summary
Results

Help

Specify Input File
This operation will create a table from your input file.

Location of file to be imported

New table name:

Table schema:

- dbo
- dbo**
- HumanResources
- Person
- Production
- Purchasing
- Sales

< Previous Next > Cancel



Preview Data

Introduction

Specify Input File

Preview Data

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Summary

Results

Help

Preview Data

This operation analyzed the input file structure to generate the preview below for up to the first 50 rows.

column1	column2	column3	column4	column5	column6
1583	access check ca...	0	0	2147483647	0
16391	Ad Hoc Distrib...	0	0	1	0
1550	affinity I/O mask	0	-2147483648	2147483647	0
1535	affinity mask	0	-2147483648	2147483647	0
1551	affinity64 I/O m...	0	-2147483648	2147483647	0
1549	affinity64 mask	0	-2147483648	2147483647	0
16384	Agent XPs	1	0	1	1
102	allow updates	0	0	1	0
1579	backup compre...	0	0	1	0
1569	blocked proces...	0	0	86400	0
544	c2 audit mode	0	0	1	0
1562	clr enabled	0	0	1	0
16393	contained data...	0	0	1	0
1538	cost threshold f...	5	0	32767	5
400	cross db owner...	0	0	1	0
1531	cursor threshold	-1	-1	2147483647	-1
16386	Database Mail ...	0	0	1	0
1126	default full-text...	1033	0	2147483647	1033
124	default language	0	0	9999	0
1568	default trace en...	1	0	1	1

< Previous

Next >

Cancel



Modify Columns

Introduction

Specify Input File

Preview Data

Modify Columns

Summary

Results

Help

Modify Columns

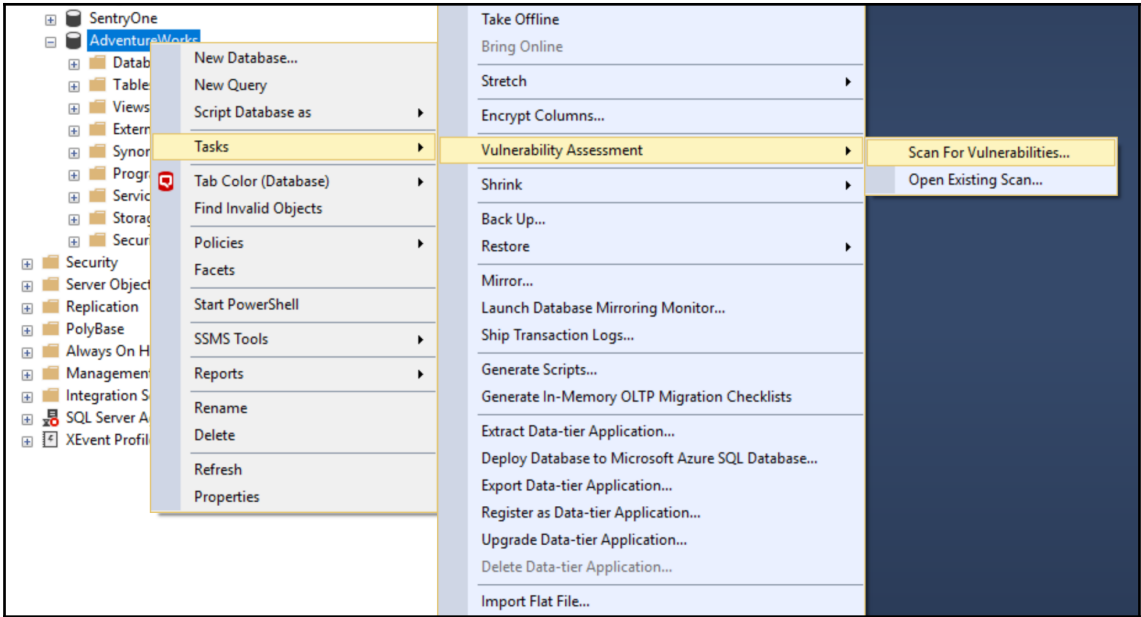
This operation generated the following table schema. Please verify if schema is accurate, and if not, please make any changes.

Column Name	Data Type	Primary Key	Allow Nulls	
column1	int	<input type="checkbox"/>	<input type="checkbox"/>	
column2	nvarchar(50)	<input type="checkbox"/>	<input type="checkbox"/>	
column3	int	<input type="checkbox"/>	<input type="checkbox"/>	
column4	int	<input type="checkbox"/>	<input type="checkbox"/>	
column5	int	<input type="checkbox"/>	<input type="checkbox"/>	
column6	int	<input type="checkbox"/>	<input type="checkbox"/>	
column7	nvarchar(100)	<input type="checkbox"/>	<input type="checkbox"/>	
column8	int	<input type="checkbox"/>	<input type="checkbox"/>	
column9	int	<input type="checkbox"/>	<input type="checkbox"/>	

< Previous

Next >

Cancel



AdventureWorks - 2...rability Assessment [X]

Vulnerability Assessment Results (read only)

XPS15SQL2016: AdventureWorks
at 1/21/2018 10:54:20 PM

Total security checks

54

Total failing checks

4

High Risk 1

Medium Risk 3

Low Risk 0

[Learn more](#)

[SQL Security Center](#)
[Best Practices for SQL Security](#)



Failed (4) **Passed (50)**



ID	Security Check	Category	Risk	Additional Information
VA1245	The dbo information should be consistent between the target DB and master	Surface Area Reduction	High	
VA1285	Sensitive data columns should be identified	Data Protection	Medium	No baseline set
VA1143	'dbo' user should not be used for normal service operation	Surface Area Reduction	Medium	
VA1219	Transparent data encryption should be enabled	Data Protection	Medium	

AdventureWorks - 2...rability Assessment

Vulnerability Assessment Results





XPS15SQL2016: AdventureWorks
at 1/21/2018 11:37:13 PM

Total security checks: 54  Total failing checks: 4 


High Risk: 1 
Medium Risk: 3 
Low Risk: 0

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[SQL Security Center](#)
[Best Practices for SQL Security](#)

Failed (4) **Passed (50)**

ID	Security Check	Category	Risk	Additional Information
VA1245	The dbo information should be consistent between the target DB and master	Surface Area Reduction	 High	
VA1285	Sensitive data columns should be identified	Data Protection	 Medium	No baseline set
VA1143	'dbo' user should not be used for normal service operation	Surface Area Reduction	 Medium	
VA1219	Transparent data encryption should be enabled	Data Protection	 Medium	



Approve as Baseline Clear Baseline



Name: VA1219 - Transparent data encryption should be enabled
Risk: Medium
Status:  Fail

AdventureWorks - 2...rability Assessment AdventureWorks - 2...rability Assessment

Vulnerability Assessment Results


AdventureWorks - 2018-01-21 23:40:13 - Vulnerability Assessment
at 1/21/2018 11:40:13 PM

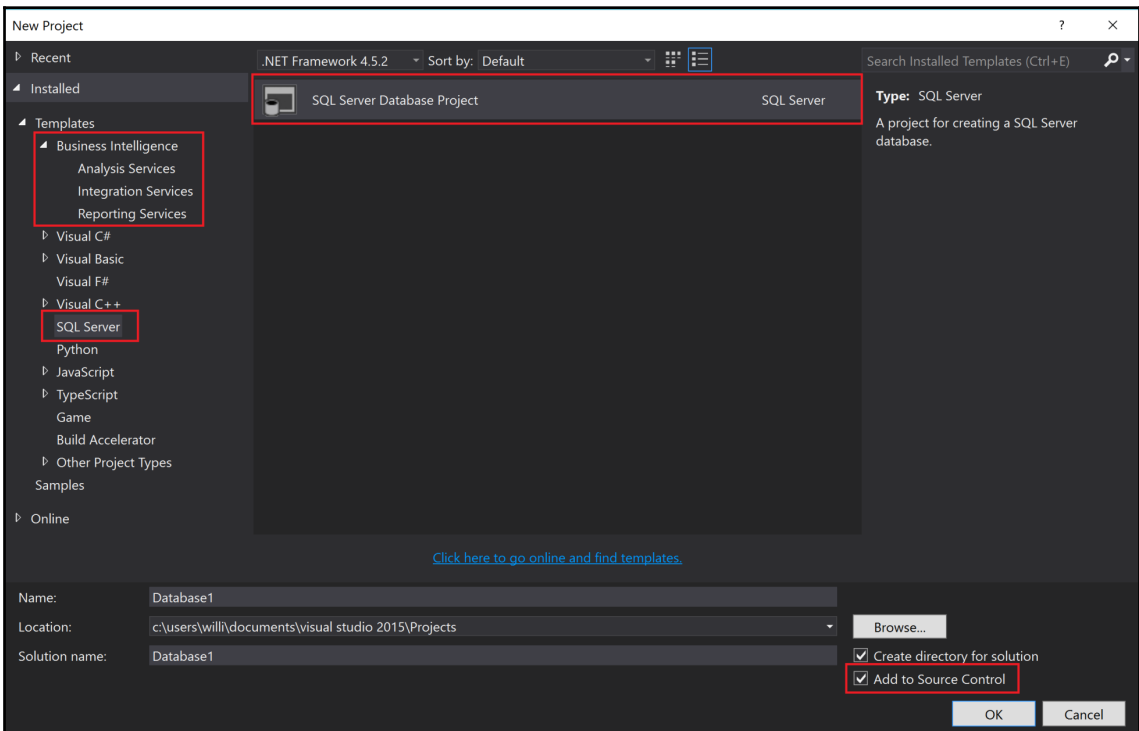
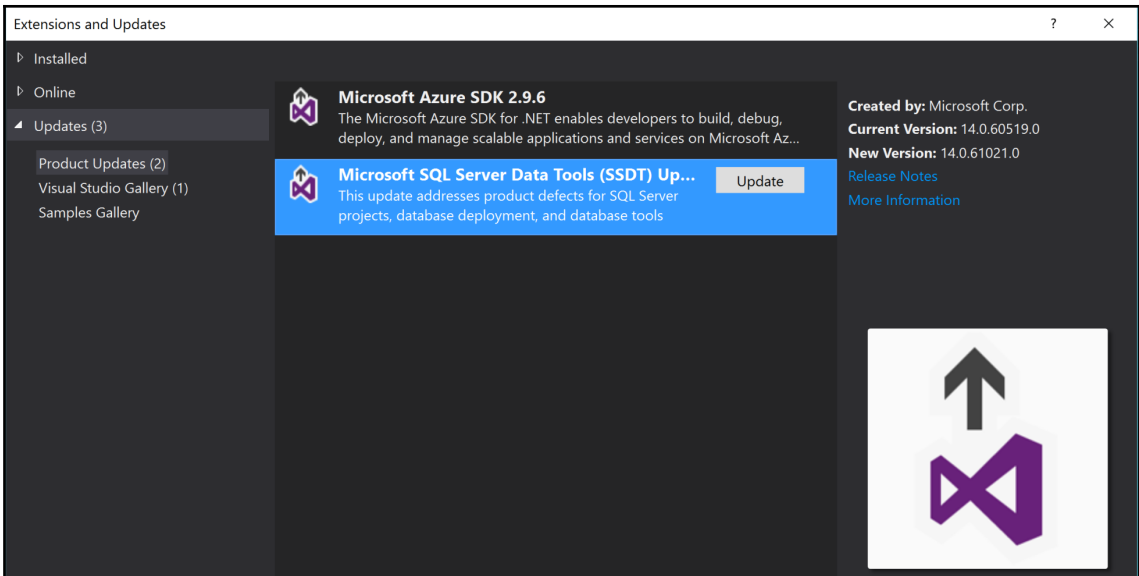
Total security checks: 54  Total failing checks: 3 

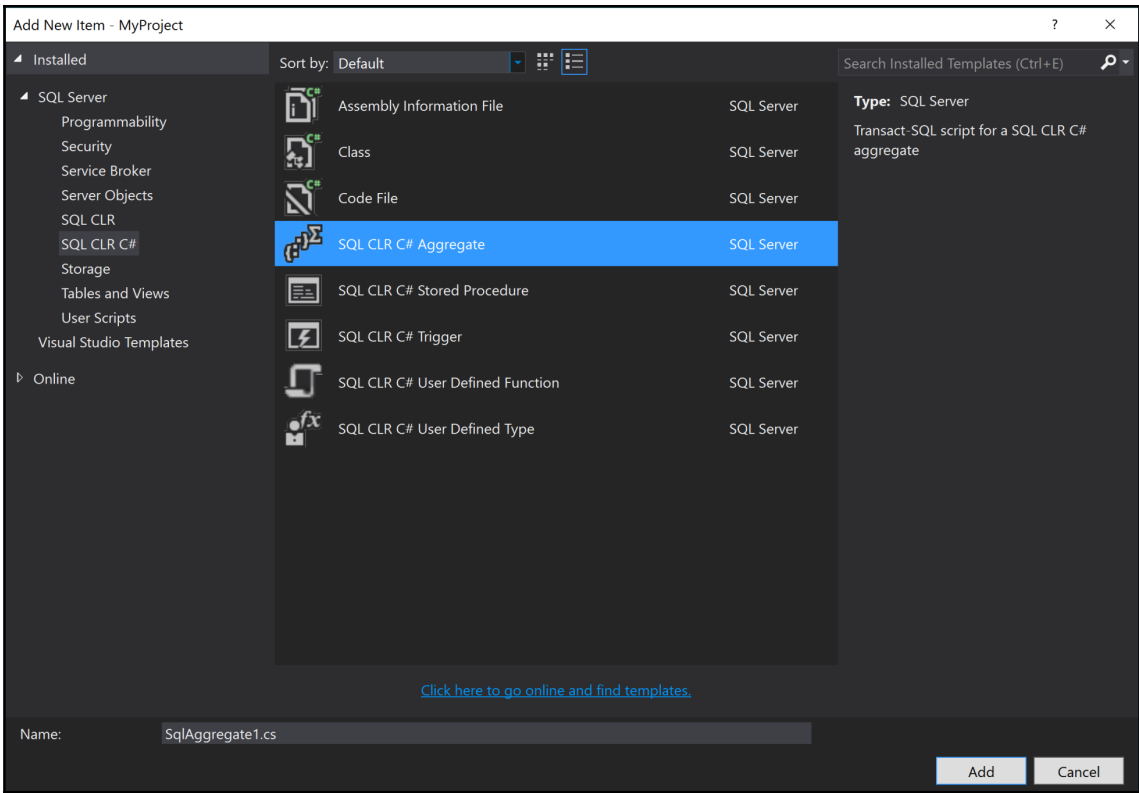
High Risk: 1 
Medium Risk: 2 
Low Risk: 0

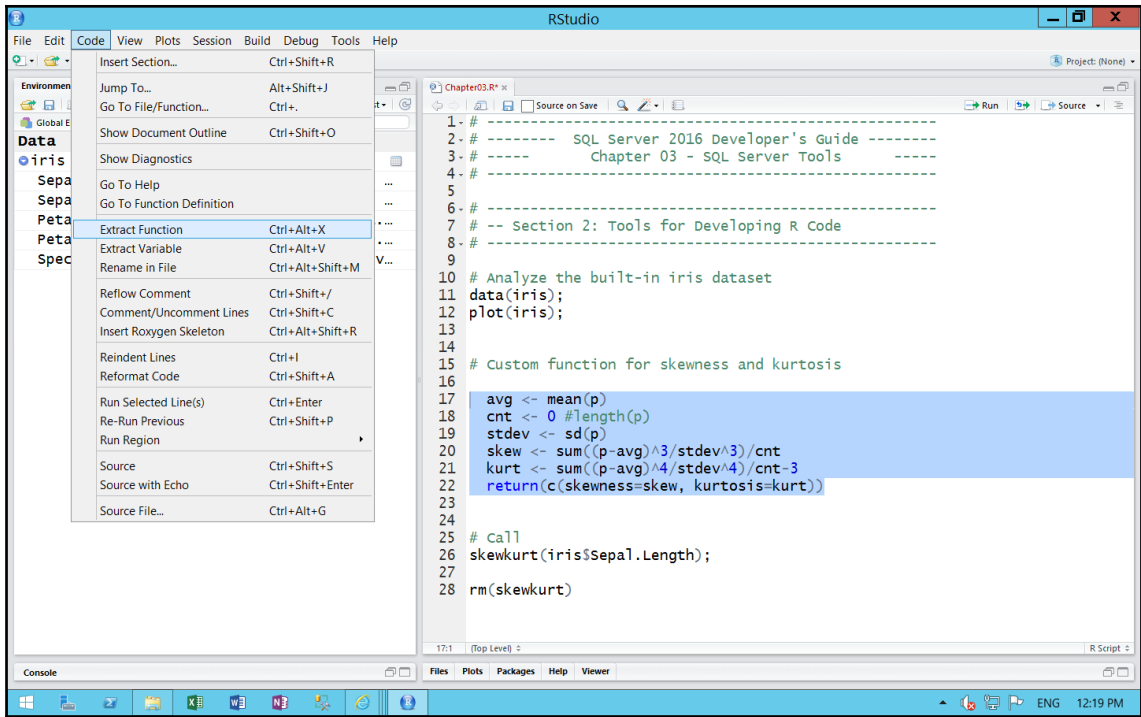
[Learn more](#)
[SQL Security Center](#)
[Best Practices for SQL Security](#)

Failed (3) **Passed (51)**

ID	Security Check	Category	Status	Additional Information
VA1219	Transparent data encryption should be enabled	Data Protection	 Pass	Per custom baseline







RStudio

File Edit Code View Plots Session Build Debug Tools Help

Environment History

skewkurt

Values

avg	5.84333333333333
cnt	0
p	num [1:150] 5.1 4.9 4.7 4.6 5...
skew	Inf
stdev	0.828066127977863

Traceback

skewkurt(iris\$Sepal.Length) at Chapter03.R:28
[Debug source] at chapter03.R:28

Console

```
debug at C:/SQL2016DevGuide/Chapter03.R#19: cnt
Execute the next line
Browse of code (F10)
debug at C:/SQL2016DevGuide/Chapter03.R#20: stdev <- sd(p)
Browse[2] > n
debug at C:/SQL2016DevGuide/Chapter03.R#21: skew <- sum((p - avg)^3/stdev^3)/cnt
Browse[2] > n
debug at C:/SQL2016DevGuide/Chapter03.R#22: kurt <- sum((p - avg)^4/stdev^4)/cnt - 3
Browse[2] > |
```

Chapter03.R

```
4 # -----
5
6 # -----
7 # -- Section 2: Tools for Developing R Code
8 # -----
9
10 # Analyze the built-in iris dataset
11 data(iris);
12 plot(iris);
13
14
15 # Custom function for skewness and kurtosis
16
17 skewkurt <- function(p) {
18   avg <- mean(p)
19   cnt <- 0 #length(p)
20   stdev <- sd(p)
21   skew <- sum((p-avg)^3/stdev^3)/cnt
22   kurt <- sum((p-avg)^4/stdev^4)/cnt-3
23   return(c(skewness=skew, kurtosis=kurt))
24 }
25
26
27 # call
28 skewkurt(iris$Sepal.Length);
29
30 # clean up the workspace
31 rm(skewkurt);
32 rm(iris);
33
```

17:1 skewkurt(p) R Script

Files Plots Packages Help Viewer

ENG 12:33 PM

Chapter03.R - Microsoft Visual Studio (Administrator)

File Edit View Project Debug Team Tools Test R Tools Analyze Window Help Dejan Sarka

Chapter03.R

```
# ----- SQL Server 2016 Developer's Guide -----  
# ----- Chapter 03 - SQL server Tools -----  
# -----  
# -- Section 2: Tools for Developing R Code  
#  
# Analyze the built-in iris dataset  
data(iris);  
plot(iris);  
  
# Custom function for skewness and kurtosis
```

R Interactive

Type 'readme()' for release notes.

```
> data(iris);  
> plot(iris);
```

R Plot - Device 3 - Active

R Plot Solution Explorer Team Explorer Class View

Ready Ln 11 Col 12 Ch 12 INS Publish

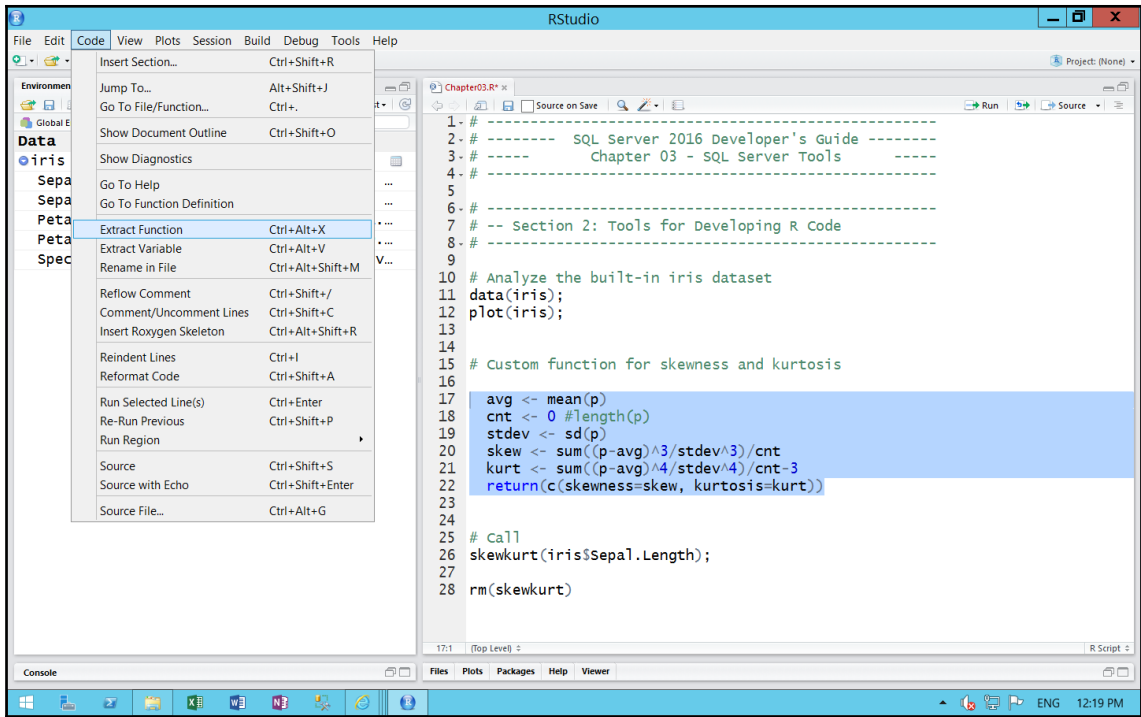
RStudio

File Edit Code View Plots Session Build Debug Tools Help

Project: (None)

Keyboard Shortcut Quick Reference

Section	Shortcut	Action
Tabs	Ctrl+Shift+T	Switch to Tab...
	Ctrl+F11	Previous Tab
	Ctrl+F12	Next Tab
	Ctrl+Shift+F11	First Tab
Ctrl+Shift+F12	Last Tab	
Panels	Ctrl+I	Analyze the built-in iris data
	Ctrl+I	Move Focus to Source
	Ctrl+I	Move Focus to Console
	Ctrl+I	Move Focus to Help
	Ctrl+I	Show History
	Ctrl+I	Show Files
	Ctrl+I	Show Plots
	Ctrl+I	Show Packages
	Ctrl+I	Show Environment
	Ctrl+I	Show Viewer
Ctrl+I	Show Vcs	
Ctrl+I	Show Build	
Ctrl+Shift+Alt+O	Show All Panes	
Ctrl+Shift+Alt+O	Show All Except Current	
Ctrl+Shift+Alt+W	Close All	
Ctrl+Shift+F	Find in Files...	
Source Navigation	Ctrl+F9	Back
	Ctrl+F10	Forward
	Ctrl+Alt+U	Find Usages
	Ctrl+F3	Use Selection for Find
	Ctrl+F	Find...
	F3	Find Next
	Shift+F3	Find Previous
	Ctrl+Shift+J	Replace and Find
	Ctrl+I	Go to File/Function...
	Shift+Alt+G	Go to Line...
Source Editor	Ctrl+I	Insert Chunk
	Ctrl+Shift+R	Insert Section
	Ctrl+Alt+X	Extract Function
	Ctrl+Alt+V	Extract Variable
	Ctrl+Shift+C	Comment/Uncomment Lines
	Ctrl+I	Reindent Lines
	Ctrl+Shift+/	Redefine Comment
	Ctrl+Shift+A	Reformat Code
	Ctrl+Shift+Alt+P	Show Diagnostics (Project)
	Alt+L	Collapse Fold
Source Control	Ctrl+Alt+O	Diff File
	Ctrl+Alt+M	Commit
	Ctrl+Shift+K	Compile PDF
	Ctrl+Shift+K	Preview
	Ctrl+Shift+K	Knit Document
	Ctrl+Shift+E	Check Package
	Ctrl+Shift+B	Build and Reload
	Ctrl+Shift+L	Load All
	Ctrl+Shift+E	Check Package
	Ctrl+Shift+T	Test Package
Console	Ctrl+I	Clear Console
	Ctrl+I	Pop-up Command History
	F1	Show Function Help
	F2	Go to Function / File
	Ctrl+I	Complete Code
	Ctrl+I	Quit Session
	Ctrl+Shift+F10	Restart R
	Ctrl+Alt+F11	Previous Plot
	Ctrl+Alt+F12	Next Plot
	Ctrl+I	Request Log
Debug	Shift+F9	Toggle Breakpoint
	F10	Execute Next Line
	Shift+F4	Step Into Function
	Shift+F6	Finish Function/Loop
	Shift+F5	Continue
	Shift+F8	Stop Debugging
	Ctrl+Shift+M	Insert Assignment Operator
	Ctrl+Shift+M	Insert Pipe Operator
	Ctrl+Shift+Alt+M	Rename in File
	Ctrl+Shift+Alt+R	Insert Roxygen Skeleton
Shift+Tab	Insert Snippet	



RStudio

File Edit Code View Plots Session Build Debug Tools Help

Environment History

skewkurt

Values

avg	5.84333333333333
cnt	0
p	num [1:150] 5.1 4.9 4.7 4.6 5...
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Browse[2] > n
debug at C:/SQL2016DevGuide/Chapter03.R#22: kurt <- sum((p - avg)^4/stdev^4)/cnt - 3
Browse[2] > |
```

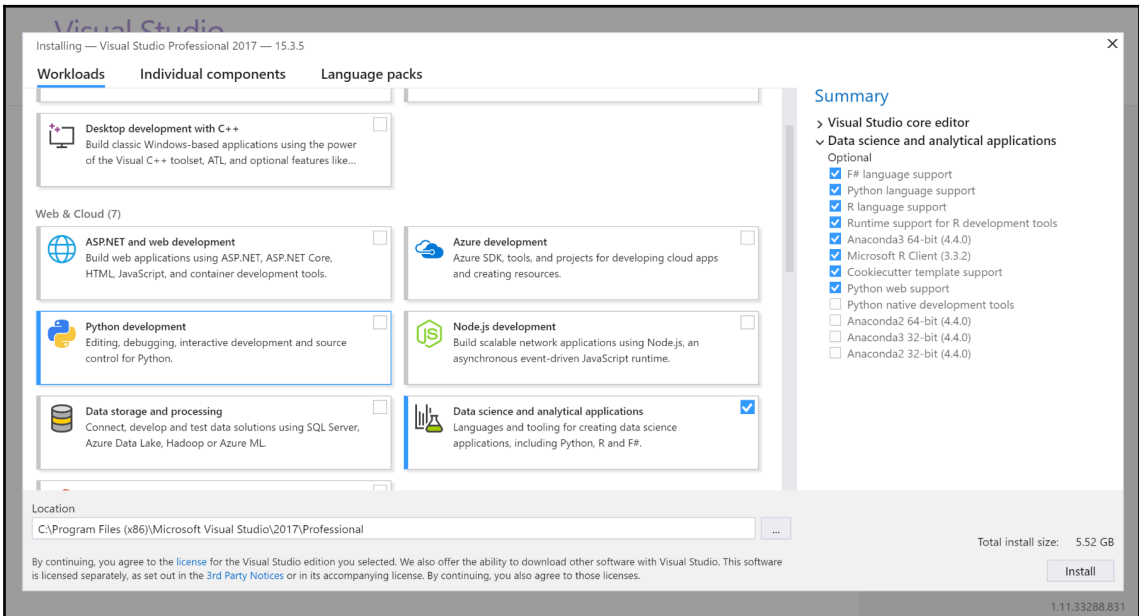
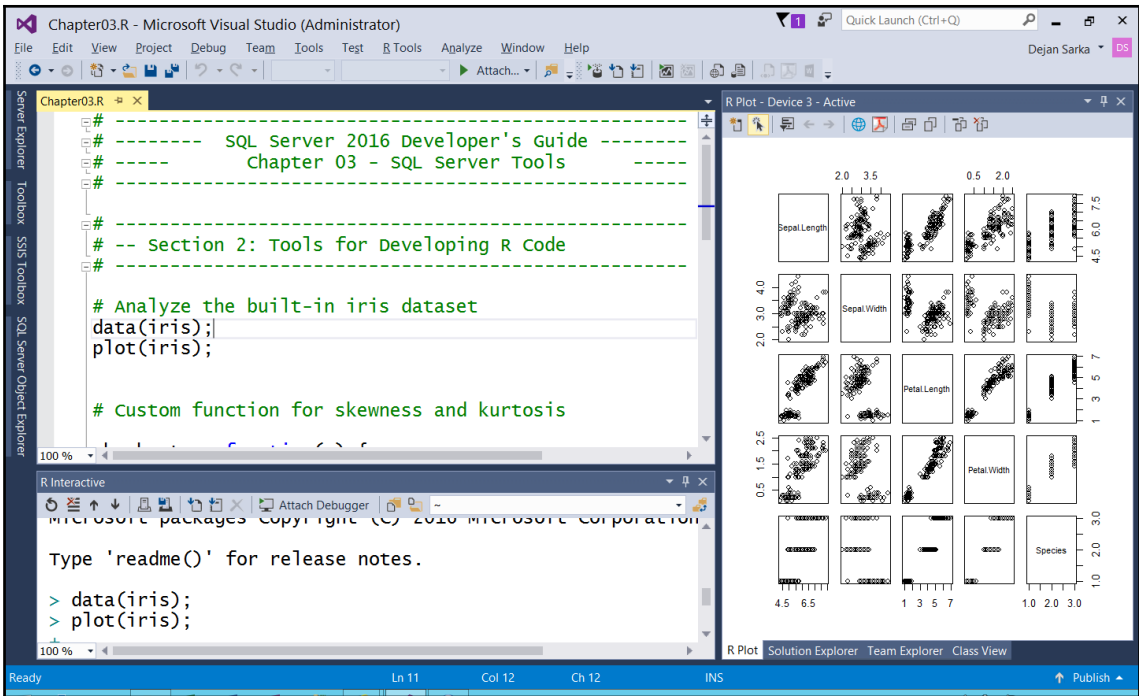
Chapter03.R

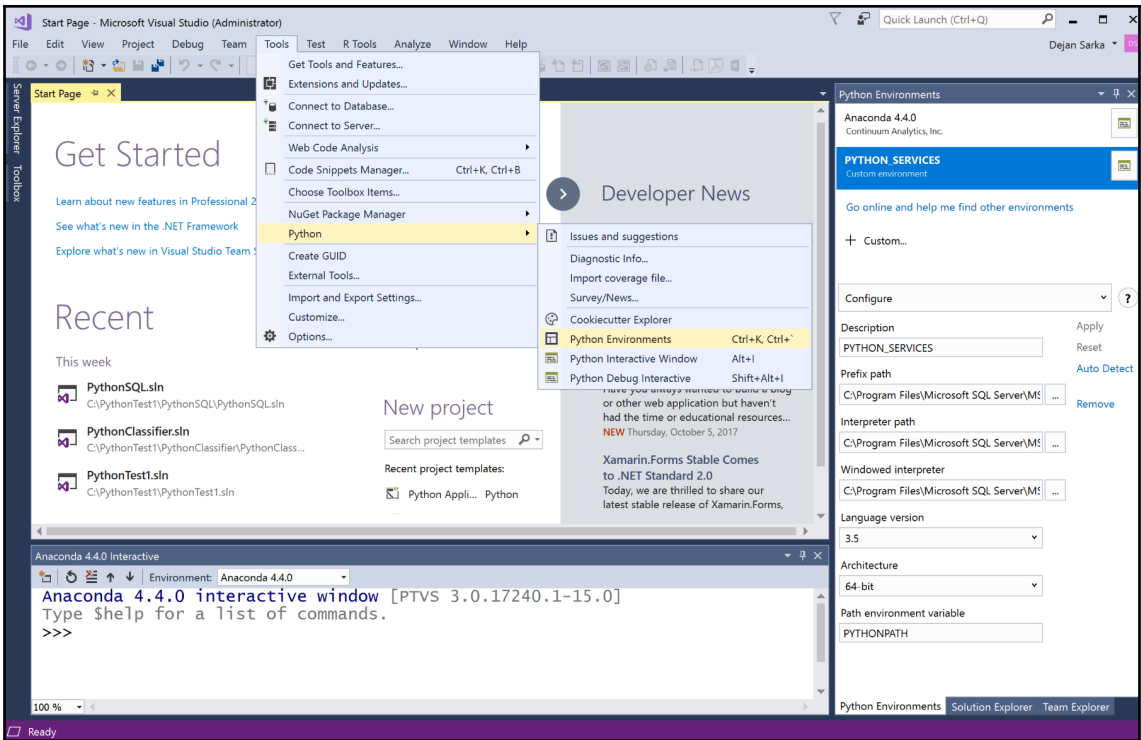
```
4 # -----
5
6 # -----
7 # -- Section 2: Tools for Developing R Code
8 # -----
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10 # Analyze the built-in iris dataset
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15 # Custom function for skewness and kurtosis
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18   avg <- mean(p)
19   cnt <- 0 #length(p)
20   stdev <- sd(p)
21   skew <- sum((p-avg)^3/stdev^3)/cnt
22   kurt <- sum((p-avg)^4/stdev^4)/cnt-3
23   return(c(skewness=skew, kurtosis=kurt))
24 }
25
26
27 # call
28 skewkurt(iris$Sepal.Length);
29
30 # clean up the workspace
31 rm(skewkurt);
32 rm(iris);
33
```

17:1 skewkurt(p) R Script

Files Plots Packages Help Viewer

ENG 12:33 PM





Chapter 3: JSON Support in SQL Server



Submit Your Feedback on SQL Server or SQL Database in Windows Azure.

To provide feedback:

1. After signing in with your Microsoft account (formerly LiveID), search for your issue.
2. If your issue is not listed, click "Submit Feedback" on the left pane of the search results page.

Alternatively, you can post your questions to the public forums here:

- [SQL Server Forums](#)
- [Windows Azure Forums](#)

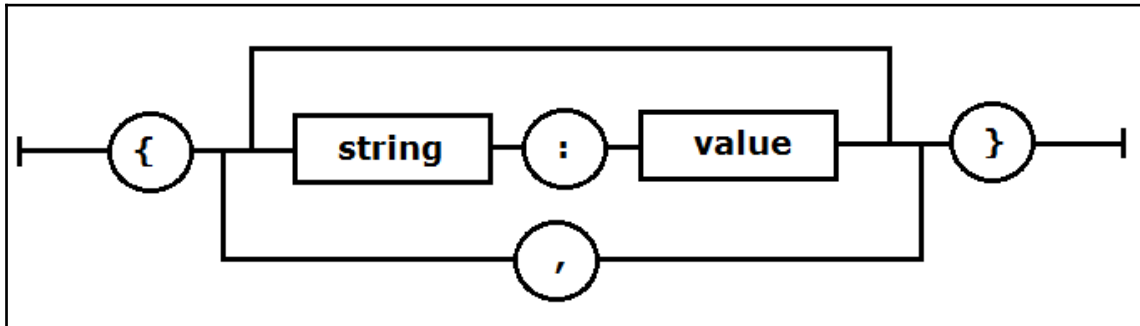
[LATEST ITEMS](#) | [MOST VOTED ITEMS](#) | [ACTIVE](#) | [RESOLVED](#) | [CLOSED](#) | [WATCHING](#) | [MY FEEDBACK](#) | [ADVANCE SEARCH](#)

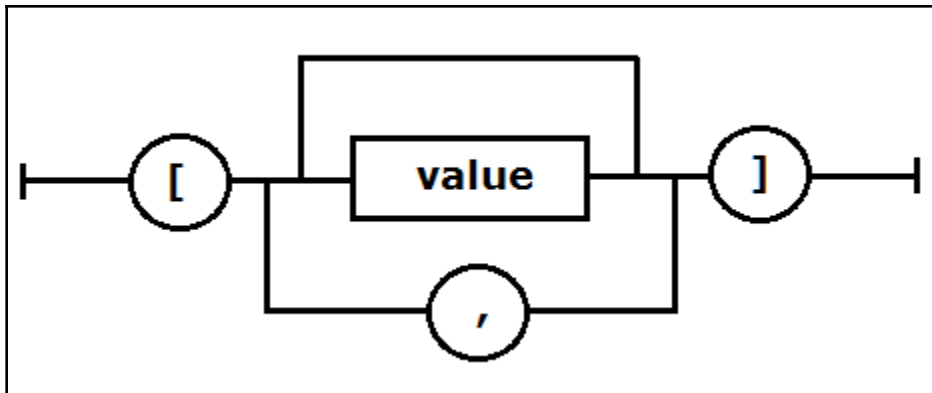
▲ 1576
▼ 5
Please fix the "String or binary data would be truncated" message to give the column name By - DWalker
After all these years, the message Msg 8152, Level 16, State 6, Procedure <ProcName>, Line 61 String or binary data would be truncated. is a little outdated. PLEASE tell us the name of the column that is too short to hold the data. We can figure it out, eventually, but it is often tedious. The system knows the answer, so it should tell us. This would greatly simplify developers' lives. While you're at it, why not say whether it's S...

Feedback-ID 339410 | Active | Created On: 22.04.2008 | 78 Kommentare | 3 Problemumgehungen | 78 repros

▲ 1138
▼ 9
Add native support for JSON to SQL Server, a la XML (as in, FOR JSON or FROM OPENJSON) By - bret_m_lowery
While JSON import and export is possible in SQL Server using horribly complex T-SQL code or CLR integration using the Javascript JSON methods, such methods are system-resource intensive. It would be nice if MS could integrate JSON into SQL Server the same ways they do XML: say, a FOR JSON clause, an OPENJSON statement, etc.

Feedback-ID 673824 | Active | Created On: 03.06.2011 | 70 Kommentare | 9 Problemumgehungen | 3 repros





PersonID	FullName	EmailAddress	PhoneNumber
1	Data Conversion Only	NULL	NULL
2	Kayla Woodcock	kaylaw@wideworldimporters.com	(415) 555-0102
3	Hudson Onslow	hudsono@wideworldimporters.com	(415) 555-0102

Results		Messages	
	BulkColumn		
1	{	{	{

Results		Messages	
	key	value	type
1	0	{"PersonID":1,"FullName":"Data Conversion Only","Lo...	5
2	1	{"PersonID":2,"FullName":"Kayla Woodcock","Logon...	5
3	2	{"PersonID":3,"FullName":"Hudson Onslow","LogonNa...	5
4	3	{"PersonID":4,"FullName":"Isabella Rupp","LogonNam...	5
5	4	{"PersonID":5,"FullName":"Eva Muirden","LogonName...	5
6	5	{"PersonID":6,"FullName":"Sophia Hinton","LogonNam...	5
7	6	{"PersonID":7,"FullName":"Amy Trefl","LogonName":"...	5
8	7	{"PersonID":8,"FullName":"Anthony Grosse","LogonNa...	5
9	8	{"PersonID":9,"FullName":"Alica Fatnowna","LogonNa...	5
10	9	{"PersonID":10,"FullName":"Stella Rosenhain","Logon...	5

PersonID	FullName	PhoneNumber	FaxNumber	EmailAddress	LogonName	IsEmployee	IsSalesperson
1	Data Conversion Only	NULL	NULL	NULL	NO LOGON	0	0
2	Kayla Woodcock	(415) 555-0102	(415) 555-0103	kaylaw@wideworldimporters.com	kaylaw@wideworldimporters.com	1	1
3	Hudson Onslow	(415) 555-0102	(415) 555-0103	hudsono@wideworldimporters.com	hudsono@wideworldimporters.com	1	1
4	Isabella Rupp	(415) 555-0102	(415) 555-0103	isabellar@wideworldimporters.com	isabellar@wideworldimporters.com	1	0
5	Eva Muirden	(415) 555-0102	(415) 555-0103	evam@wideworldimporters.com	evam@wideworldimporters.com	1	0
6	Sophia Hinton	(415) 555-0102	(415) 555-0103	sophiah@wideworldimporters.com	sophiah@wideworldimporters.com	1	1
7	Amy Trefl	(415) 555-0102	(415) 555-0103	amyt@wideworldimporters.com	amyt@wideworldimporters.com	1	1
8	Anthony Grosse	(415) 555-0102	(415) 555-0103	anthonyg@wideworldimporters.com	anthonyg@wideworldimporters.com	1	1
9	Alica Fatnowna	(415) 555-0102	(415) 555-0103	alica@wideworldimporters.com	alica@wideworldimporters.com	1	0
10	Stella Rosenhain	(415) 555-0102	(415) 555-0103	stellar@wideworldimporters.com	stellar@wideworldimporters.com	1	0

Query 1: Query cost (relative to the batch): 100%

SELECT id, info FROM dbo.T1 WHERE JSON_VALUE(info, '\$.FullName')='Vilma Niva'

SELECT
Cost: 0 %

Clustered Index Scan (Clustered)
[T1].[PK_T1]
Cost: 100 %

Query 1: Query cost (relative to the batch): 100%

SELECT id, info FROM dbo.T1 WHERE JSON_VALUE(info, '\$.FullName')='Vilma Niva'

SELECT
Cost: 0 %

Nested Loops (Inner Join)
Cost: 0 %

Index Seek (NonClustered)
[T1].[IX1]
Cost: 50 %

Key Lookup (Clustered)
[T1].[PK_T1]
Cost: 50 %

Query 1: Query cost (relative to the batch): 100%

SELECT id, info FROM dbo.T1 WHERE CONTAINS (info, 'NEAR(FullName, "Vilma")')

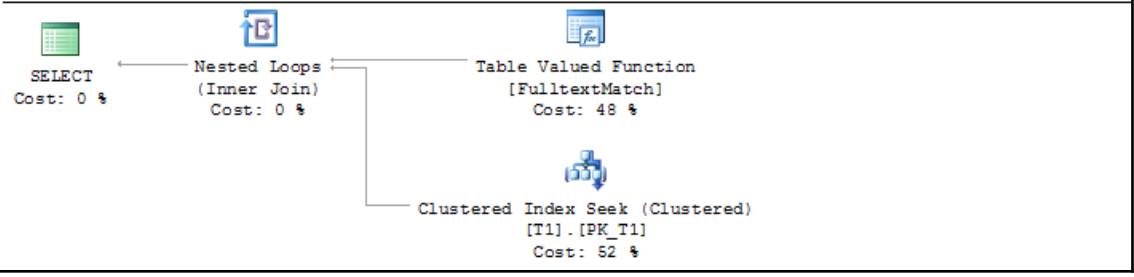
SELECT
Cost: 0 %

Nested Loops (Inner Join)
Cost: 0 %

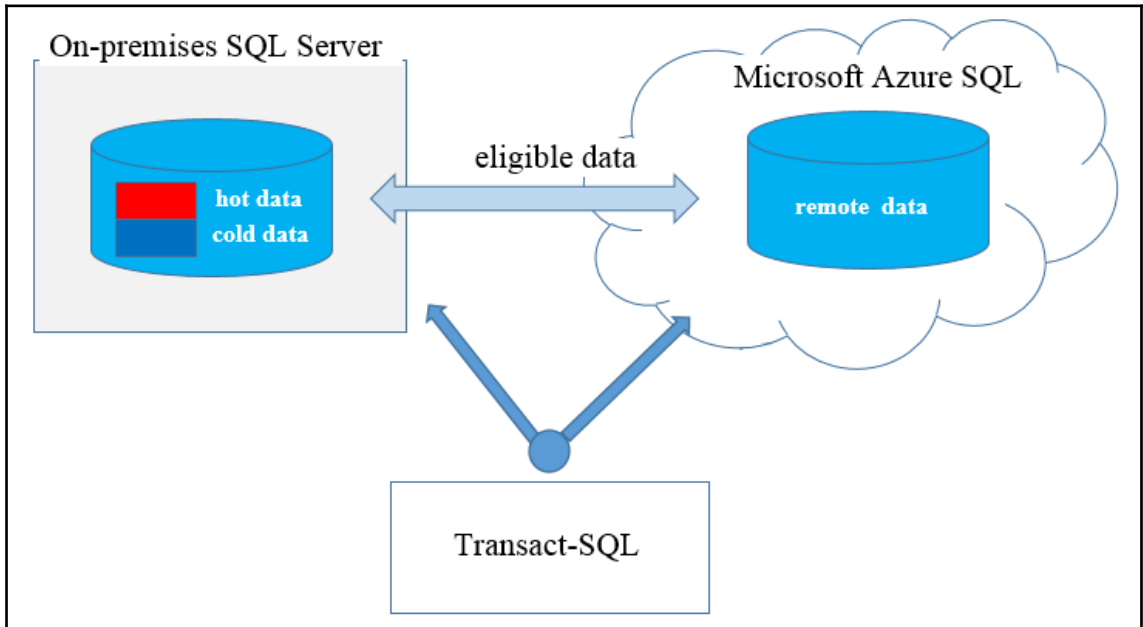
Table Valued Function
[FulltextMatch]
Cost: 50 %

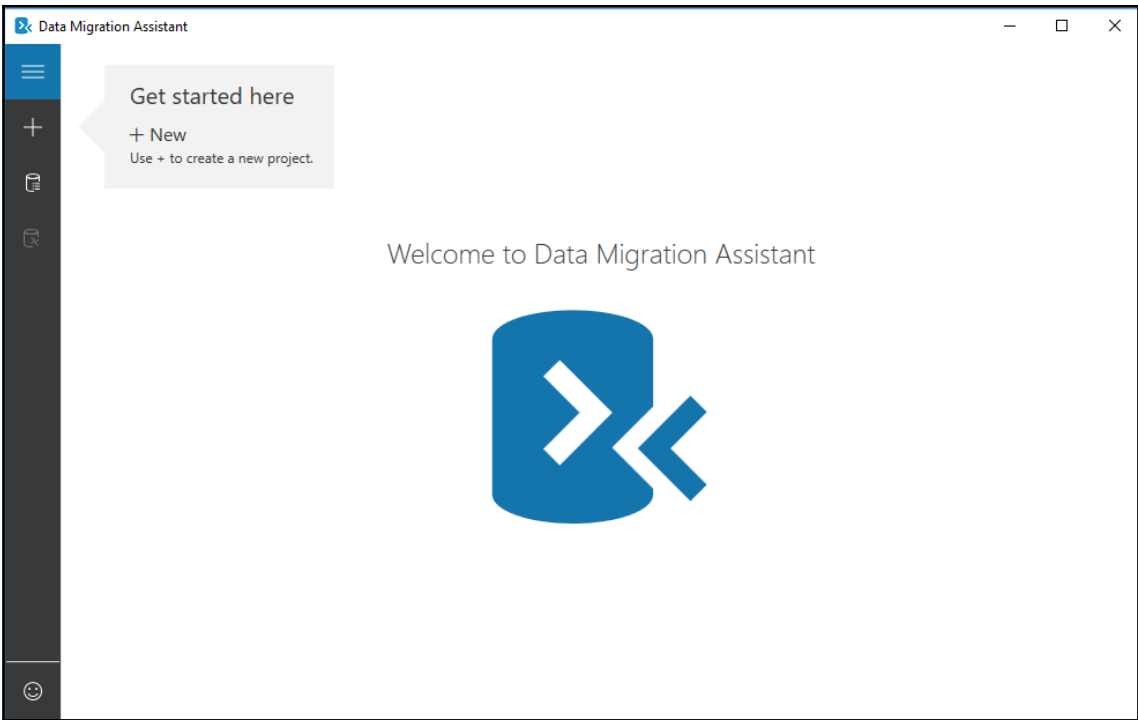
Clustered Index Seek (Clustered)
[T1].[PK_T1]
Cost: 50 %

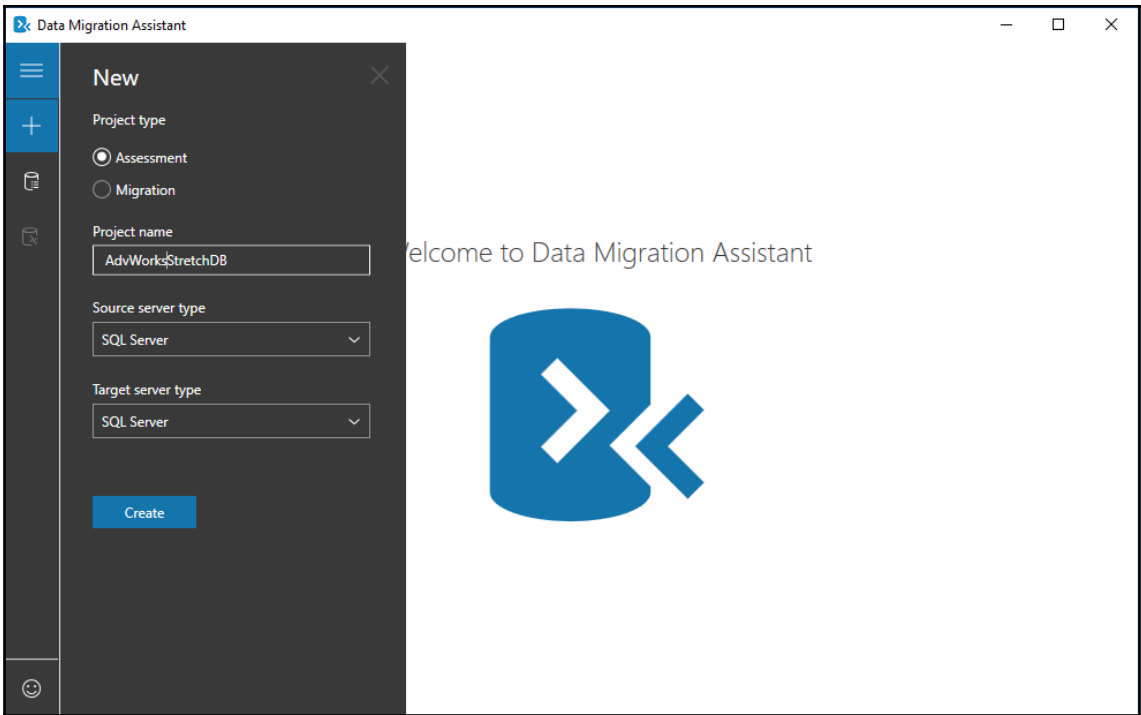
Query 1: Query cost (relative to the batch): 100%
SELECT id, info FROM dbo.T1 WHERE CONTAINS(info,'NEAR(PhoneNumber,"(209) 555-0103")')

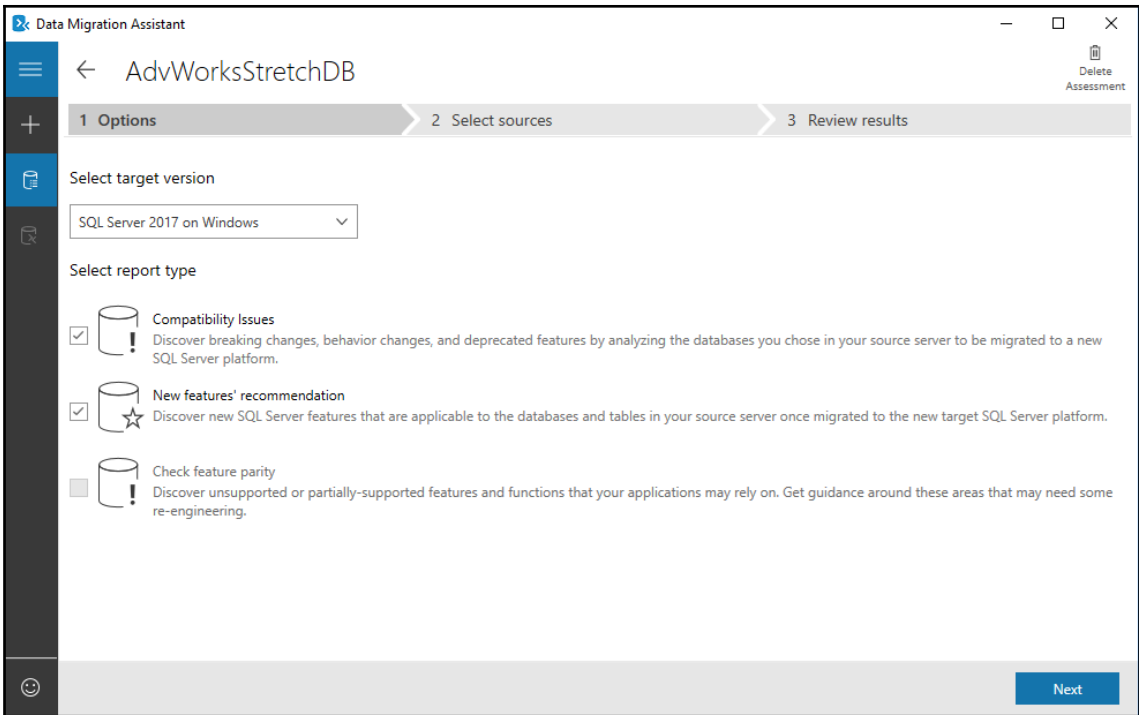


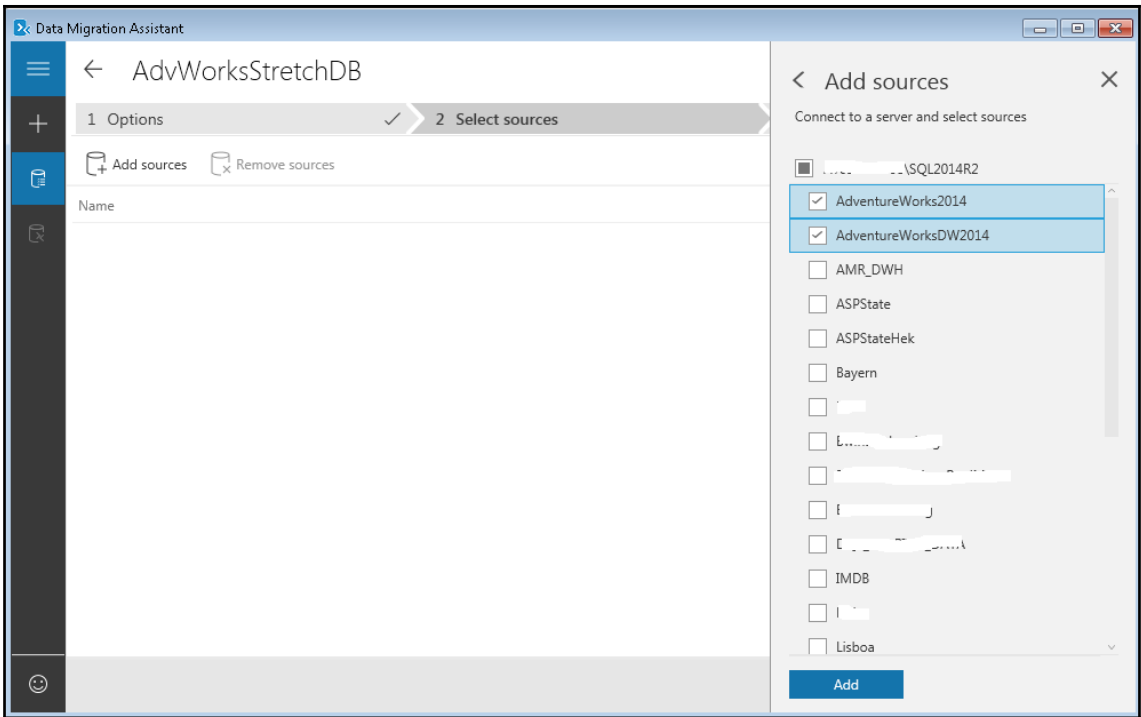
Chapter 4: Stretch Database

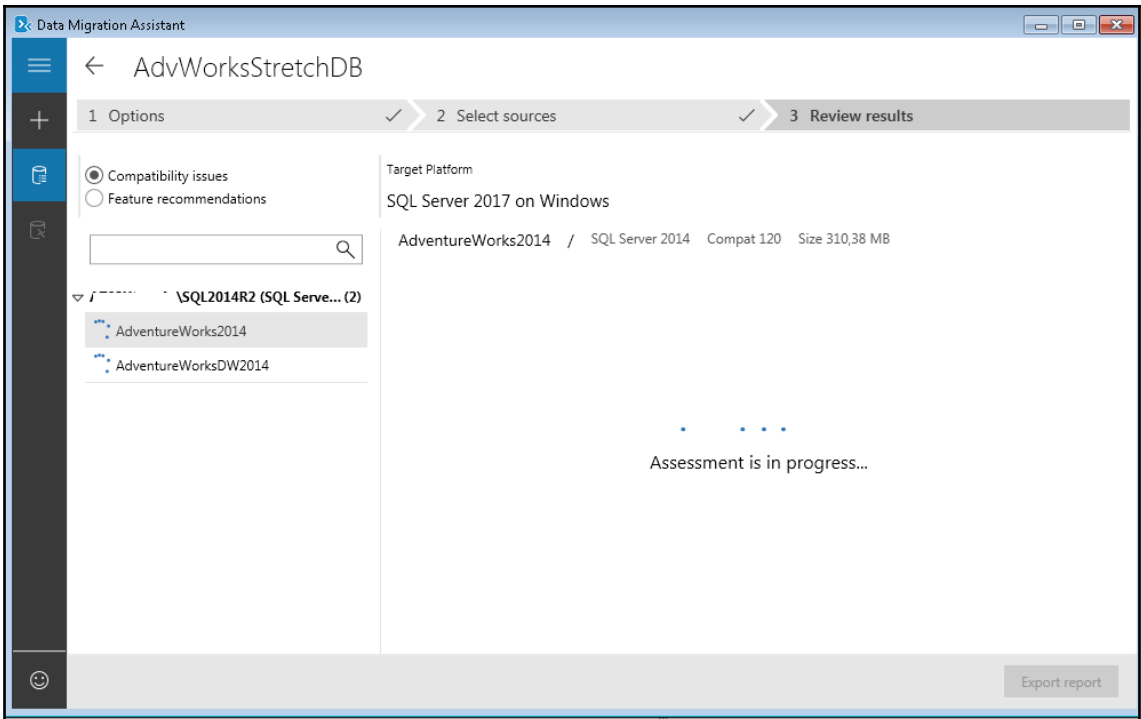












Data Migration Assistant

AdvWorksStretchDB

Restart Assessment Delete Assessment

1 Options ✓ 2 Select sources ✓ 3 Review results

Compatibility issues
Feature recommendations

AT03W00308\SQL2014R2 (SQL Serve... (2)

- AdventureWorks2014
- AdventureWorksDW2014

Target Platform
SQL Server 2017 on Windows

AdventureWorks2014 / SQL Server 2014 Compat 120 Size 310,38 MB

Performance (0) Security (2) **Storage (2)**

Recommendation	Objects
High value (1)	
Stretch database to minimize storage co...	1
Medium value (1)	
Stretch database to optimize storage co...	1
Low value (0)	

Stretch database to minimize storage c...

Details

Impact
Provides cost-effective availability for cold data. Stretch warm and cold transactional data dynamically from SQL Server to Microsoft Azure with SQL Server Stretch Database. Unlike typical cold data storage, your data is always online and available to query. You can provide longer data

Objects

Type	Name
Table	Sales.SalesOrde...

Object details

Issue: Tables with CHECK constraints cannot be part of a stretch database.

- CHECK

Export report

Data Migration Assistant

AdvWorksStretchDB

Restart Assessment Delete Assessment

1 Options ✓ 2 Select sources ✓ 3 Review results

Compatibility issues
 Feature recommendations

AT03W00308\SQL2014R2 (SQL Serve... (2)

- AdventureWorks2014
- AdventureWorksDW2014

Target Platform
 SQL Server 2017 on Windows

AdventureWorksDW2014 / SQL Server 2014 Compat 120 Size 172,00 MB

Performance (0) Security (2) **Storage (1)**

Recommendation Objects

High value (1)

- Stretch database to minimize storage co... 1
- Medium value (0)
- Low value (0)

Stretch database to minimize storage c...

Details

Impact

Provides cost-effective availability for cold data. Stretch warm and cold transactional data dynamically from SQL Server to Microsoft Azure with SQL Server Stretch Database. Unlike typical cold data storage, your data is always online and available to query. You can provide longer data

Objects

Type	Name
Table	dbo.FactProduc...

Object details

dbo.fact-productvent
 ory

Row count: 776286
 Size: 30.22 MB

Ready for stretch database .

Export report



Introduction

Introduction

Help

Configure Azure

Secure credentials

Select IP address

Summary

Results

Enable database for Stretch

Stretch database allows you to selectively migrate cold data securely and transparently to Azure. This wizard will help you complete the necessary tasks to enable Stretch on your SQL Server database.

Important information to enable Stretch :

- You must have an administrator password for your SQL Server.
- You must have access to Microsoft Azure subscription.
- Your source SQL Server must be able to communicate with Microsoft Azure.
- Once the data is migrated to Azure, unique and primary keys will not be enforced on Azure.



To begin the operation, click Next.

Do not show this page again.

< Previous

Next >

Cancel

Enable Database for Stretch

Configure Azure

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Microsoft Azure Sign In

You are not signed in to Microsoft Azure

Don't have a Microsoft account? [Sign up for an account](#)



Configure Azure

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Secure credentials

Select IP address

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Help

Microsoft Azure Sign In

You are signed in as ██████████ [Change user](#)

Select a subscription to use:

Jutzuin ba erte Rezahli ██████████ 41a i2c -116f 11f67f8 ▾

Select Azure region: West Europe ▾

Select Azure server

Create new server Existing server

Server name: ██████████ ▾

Authentication: SQL Server Authentication ▾

Login: i *

Password: ●●●●●●

Strong passwords use a combination of alpha, numeric, upper, lower and special characters.

< Previous **Next >** Cancel



Secure credentials

Introduction

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[Help](#)

To protect your SQL Server database credentials, we will generate a database master key (DMK). Provide a strong password to encrypt the DMK.

New Password:

Confirm Password:

Strong passwords use a combination of alphanumeric, upper, lower and special characters.



The DMK protects confidential data in a database. Remember to store the password you created to protect the DMK as you might need it in the future.

< Previous

Next >

Cancel

Enable Database for Stretch

Select IP address

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Create a new Azure firewall rule to allow your source SQL Server to communicate with your Azure SQL database.

Use source SQL Server Public IP

Use subnet IP range (Recommended)

From: To:

< Previous Next > Cancel



Summary

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Secure credentials

Select IP address

Summary

Results

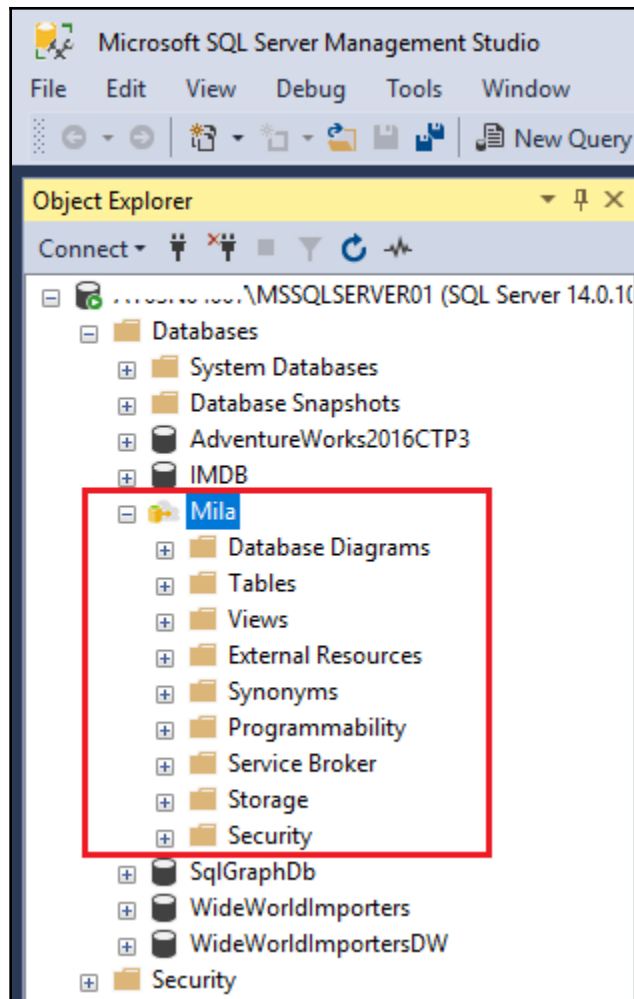
Help

- [-] Source Database Settings:
 - ... Source Server Name: A...MSSQLSERVER01
 - ... Source Database Name: Mila
 - ... Source Database Master Key Status: Create new
- [-] Azure SQL Database Server Settings:
 - ... Azure Subscription: e10...1f67f8
 - ... Azure Location: westeurope
 - ... Resource Group Name: Default-SQL-WestEurope
 - ... Server Name: ...-serverpt
 - ... Server Admin Login: ...
- [-] IP Ranges:
 - ... Server Firewall Rule IP Range: ...-> ...
- [-] Estimated Pricing:
 - ... \$ 61 USD per terabyte of data / month
 - ... \$ 1825 USD / month
 - ... Details: <https://azure.microsoft.com/pricing/>
- ... Tables to Stretch:

< Previous

Finish

Cancel



The screenshot shows the SQL Server Enterprise Manager interface. On the left, the Object Explorer displays the server hierarchy for 'MSSQLSERVER01 (SQL Server 14.0.1)', with the 'Mila' database selected. The main window shows a query window with the following T-SQL code:

```
ALTER DATABASE Mila
SET REMOTE_DATA_ARCHIVE = ON
(
    SERVER = 'MSSQLSERVER01.database.windows.net',
    CREDENTIAL = [MilaStretchCredential]
);
```

Below the query window, the Messages pane displays: "Commands completed successfully." The status bar at the bottom indicates "Query executed successfully." and shows the execution time as 00:03:20.

The screenshot shows the 'Enable Table for Stretch' dialog box. The 'Select tables' step is active, displaying a list of tables to be stretched. The table 'T1' is selected, and the 'Stretch' column shows a warning icon and 'False'. The 'Migrate' column is set to 'Entire Table'. The 'Rows' column shows 5 rows, and the 'Size (KB)' column shows 16 KB.

<input type="checkbox"/>	Name	Stretched	Migrate	Rows	Size (KB)
<input checked="" type="checkbox"/>	T1	⚠ False	Entire Table	5	16

Navigation buttons at the bottom include '< Previous', 'Next >', and 'Cancel'.

Enable Table for Stretch

Select tables

Select rows to stretch

Entire Table
 Choose Rows

Table name: T1
Name:

Column: Value:

```
SELECT TOP 1000 *  
FROM [dbo].[T1]  
WHERE [c2] < CONVERT(datetime, N'20180201', 101)
```

Success

Object Explorer

Connect > MSSQLSERVER01 (SQL Server 14.0.10)

- Databases
 - System Databases
 - Database Snapshots
 - AdventureWorks2016CTP3
 - IMDB
 - Mila
 - Database Diagrams
 - Tables
 - System Tables
 - FileTables
 - External Tables
 - Graph Tables
 - dbo.T1
 - Views
 - External Resources
 - Synonyms
 - Programmability
 - Service Broker
 - Storage
 - Security
 - SqlGraphDb
 - WideWorldImporters
 - WideWorldImportersDW

SQLQuery2.sql - AT... (59)

```
ALTER TABLE dbo.T1
SET (
    REMOTE_DATA_ARCHIVE = ON (
        FILTER_PREDICATE = dbo.StretchFilter(c2),
        MIGRATION_STATE = OUTBOUND
    )
);
```

150 %

Messages

The PRIMARY KEY constraint on table 'T1' will not be enforced because of the use of REMOTE DATA ARCHIVE.

150 %

Results Execution plan

Query 1: Query cost (relative to the batch): 100%

```
SELECT * FROM dbo.T1
```

```

graph TD
    RemoteQuery[Remote Query  
Cost: 76 %] --> ComputeScalar[Compute Scalar  
Cost: 0 %]
    ComputeScalar --> Concatenation[Concatenation  
Cost: 0 %]
    Concatenation --> ClusteredIndexScan[Clustered Index Scan (Clustered)  
[T1].[PK_T1]  
Cost: 24 %]
  
```

Remote Query

Send a SQL query to another than the current SQL Server.

Physical Operation	Remote Query
Logical Operation	Remote Query
Actual Execution Mode	Row
Estimated Execution Mode	Row
Actual Number of Rows	0
Actual Number of Batches	0
Estimated Operator Cost	0,0103333 (76%)
Estimated I/O Cost	0
Estimated CPU Cost	0,0103333
Estimated Subtree Cost	0,0103333
Number of Executions	1
Estimated Number of Executions	1
Estimated Number of Rows	1
Estimated Row Size	33 B
Actual Rebinds	1
Actual Rewinds	0
Node ID	3

Output List

```
[RDAMilaA5871387-0A91-4237-91C4-1173D113AD10].[dbo].[dbo_T1_917578307_74891309-3BC0-4C8A-BE7A-4A1E53859322].id; [RDAMilaA5871387-0A91-4237-91C4-1173D113AD10].[dbo].[dbo_T1_917578307_74891309-3BC0-4C8A-BE7A-4A1E53859322].c1; [RDAMilaA5871387-0A91-4237-91C4-1173D113AD10].[dbo].[dbo_T1_917578307_74891309-3BC0-4C8A-BE7A-4A1E53859322].c2
```


Results Execution plan

Query 1: Query cost (relative to the batch): 100%

```
SELECT * FROM [dbo].[T1] WHERE [c2]>=@1
```

SELECT Cost: 0 %

Compute Scalar Cost: 0 %

Clustered Index Scan (Clustered) [T1].[PK_T1] Cost: 100 %

150 % Results Execution plan

Clustered Index Scan (Clustered)
Scanning a clustered index, entirely or only a range.

Query 1: Query cost (relative to the batch): 100%

```
SELECT * FROM [dbo].[T1] WHERE [c2]<@1
```

SELECT Cost: 0 %

Concatenation Cost: 0 %

Clustered Index Scan (Clustered) [T1].[PK_T1] Cost: 24 %

Compute Scalar Cost: 0 %

Remote Query Cost: 76 %

Clustered Index Scan (Clustered)	
Physical Operation	Clustered Index Scan
Logical Operation	Clustered Index Scan
Actual Number of Rows	0
Estimated Number of Rows	1,2

Remote Query	
Send a SQL query to another than the current SQL Server.	
Physical Operation	Remote Query
Logical Operation	Remote Query
Actual Number of Rows	2
Estimated Number of Rows	1

SQL Server Stretch Database

REGION: West Europe PRICING TIER: 100 DSU(s)

NOTE: The prices below reflect a preview discount. No preview discounts are applied to the storage charges.

2 Hours × \$2.50 Per hour = \$5.00/MO

Storage: 1 GB = \$0.16/MO

Sub-total \$5.16/MO

Your estimate

US Dollar (\$)

SQL Server Stretch ...	\$5.16
Support Options	\$0.00
ESTIMATED MONTHLY COST	\$5.16

Purchase options >

Export estimate

Prices are estimates and are not intended as actual price quotes.

Create your free Azure account today



Get \$200 free credit

Start free with \$200 in credit, and keep going with free options.



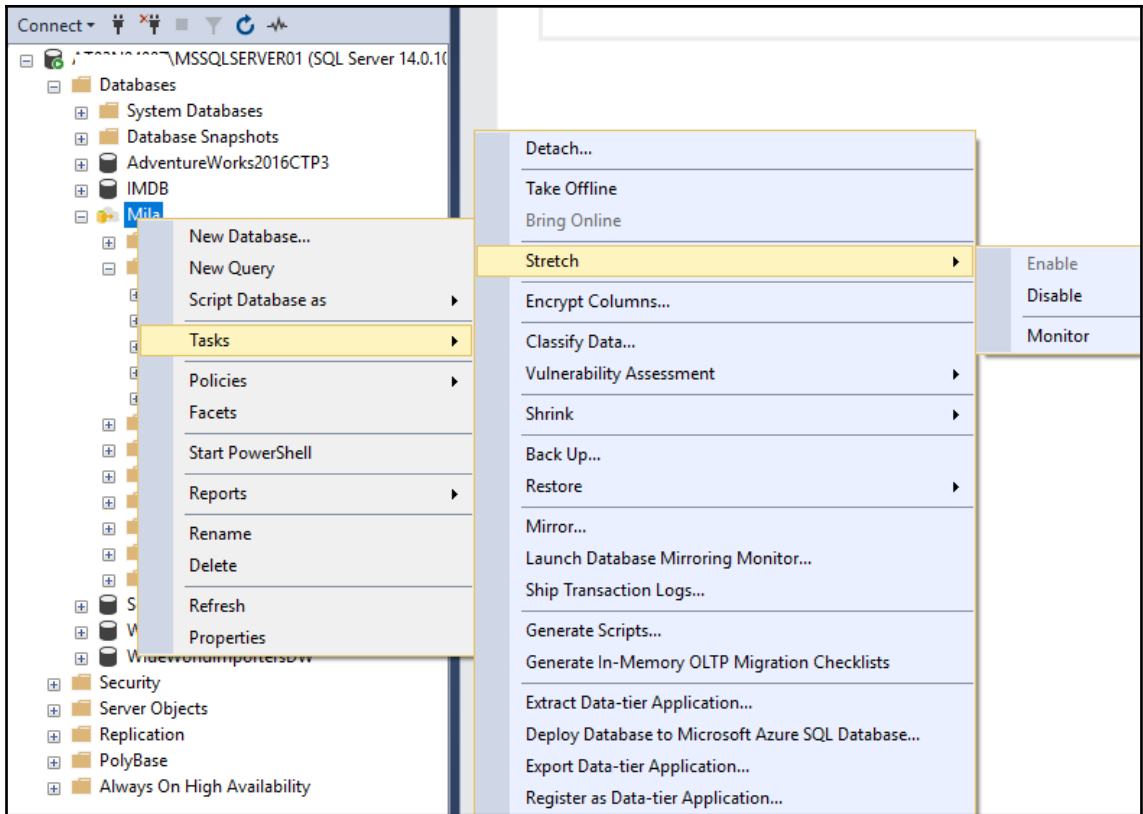
Try any Azure services

Explore our cloud by trying out any combination of Azure services for 30 days.



Pay nothing at the end

We use your credit card information for identity verification, but you'll never be charged unless you choose to subscribe.





SERVER1007\MSSQLSERVER01:Mila

Last Updated: 28.02.2018 21:19:37

Auto Refresh: ⏸



You are not signed in to Microsoft Azure

[Sign In...](#)

Source Server

Name SERVER1007\MSSC
Database Mila
Size 16.00 MB

Azure Server

Name RDMilap...
Database RDAMilaA5...
Service Tier Not Available
Region Not Available

Stretch Configured Tables

[View Stretch Database Health Events](#)

	Name	Migration State	Eligible Rows	Local Rows	Rows In Azure	Details
✓	dbo.T1	Outbound	5	3	2	View

Status Report Start Time	Status Report End Time	Error Number	Error Severity	Error State
--------------------------	------------------------	--------------	----------------	-------------

```
USE Mila;
SELECT * FROM sys.dm_db_rda_migration_status;
```

150 %

Results Messages

	table_id	database_id	migrated_rows	start_time_utc	end_time_utc	error_number	error_severity	error_state
1	917578307	8	0	2018-02-28 20:08:48.000	2018-02-28 20:09:21.110	NULL	NULL	NULL
2	917578307	8	0	2018-02-28 20:09:28.010	2018-02-28 20:09:28.010	NULL	NULL	NULL
3	917578307	8	0	2018-02-28 20:09:28.010	2018-02-28 20:10:08.407	1205	13	55
4	917578307	8	0	2018-02-28 20:10:09.407	2018-02-28 20:10:14.560	NULL	NULL	NULL
5	917578307	8	0	2018-02-28 20:10:28.027	2018-02-28 20:10:28.027	NULL	NULL	NULL
6	917578307	8	2	2018-02-28 20:10:28.027	2018-02-28 20:10:51.653	NULL	NULL	NULL
7	917578307	8	0	2018-02-28 20:10:51.653	2018-02-28 20:10:52.287	NULL	NULL	NULL
8	917578307	8	0	2018-02-28 20:11:03.033	2018-02-28 20:11:03.033	NULL	NULL	NULL
9	917578307	8	0	2018-02-28 20:11:03.033	2018-02-28 20:11:20.820	NULL	NULL	NULL
10	917578307	8	0	2018-02-28 20:11:38.040	2018-02-28 20:11:38.040	NULL	NULL	NULL
11	917578307	8	0	2018-02-28 20:11:38.040	2018-02-28 20:11:53.830	NULL	NULL	NULL
12	917578307	8	0	2018-02-28 20:12:13.050	2018-02-28 20:12:13.050	NULL	NULL	NULL

```
remote_database_id  remote_database_name          data_source_id  federated_service_account
-----
65536              RDAMilaA58713B7-0A91-4237-91C4-1173D113AD10  65536          0
```

```
object_id  remote_database_id  remote_table_name          filter_predicate
-----
917578307  65536              dbo_T1_917578307_74B91309-3B...  ([dbo].[StretchFilter]([c2]))

migration_direction  migration_direction_desc  is_migration_paused  is_reconciled
-----
0                    OUTBOUND                0                    1
```



\\MSSQLSERVER01:Mila

Last Updated: 28.02.2018 21:27:59

Auto Refresh:



You are not signed in to Microsoft Azure

[Sign In...](#)

Source Server

Name

Database

Size

Mila

16.00 MB

Disable Stretch for Table

Success

1 Total	0 Error
1 Success	0 Warning

Details:

Action	Status	Message
Disable Stretch on table [dbo].[T1] without recovering...	Success	

[Close](#)

Stretch Configured Tables

Name	Migration State	Eligible Rows	Local Rows	Rows In Azure	Details
dbo.T1	Outbound	5	3	2	View

- Search (Ctrl+/)
- Overview
- Activity log
- Tags
- SETTINGS
- Quick start
- Scale
- Auditing & Threat Detection
- Transparent data encryption
- Properties
- Locks
- Automation script

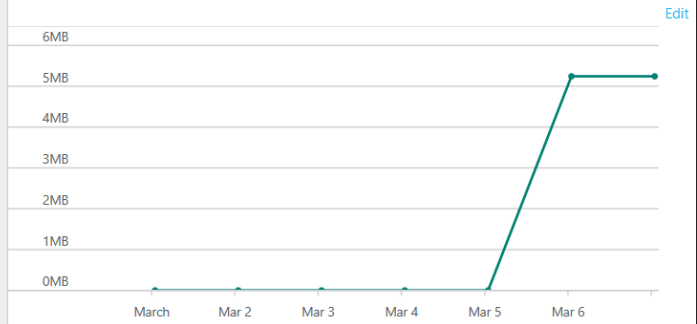
Scale Restore Delete

Essentials ^

Resource group
Default-SQL-WestEurope
Location
West Europe
Subscription name
RDAMila65767AC7-3FB8-4645-BA-A9-82A93C2C7D3C

Monitoring

Storage



TOTAL DATABASE SIZE
5.24 MB

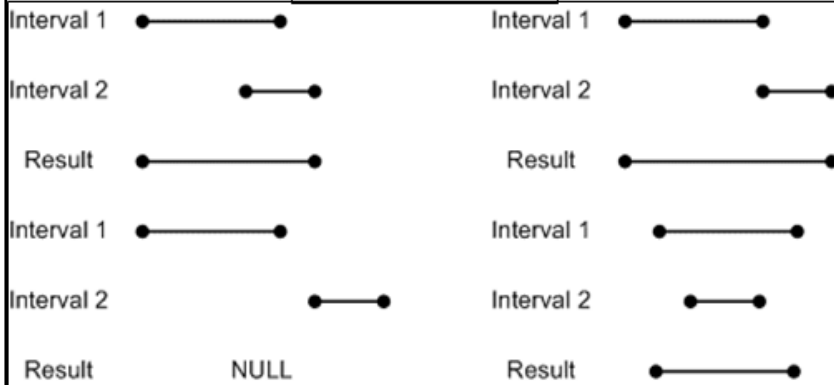
Chapter 5: Temporal Tables

Suppliers	
PK	<u>supplierid</u>
	companyname contactname contacttitle address city region postalcode country phone fax

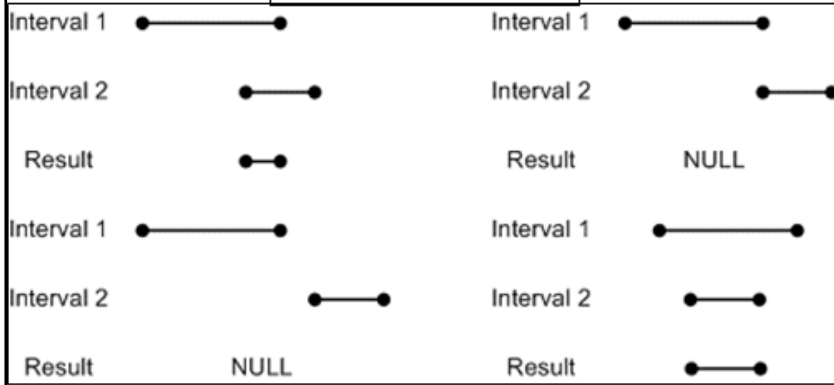
Suppliers_Since	
PK	<u>supplierid</u>
	companyname contactname contacttitle address city region postalcode country phone fax since

Suppliers_FromTo	
PK	<u>supplierid</u>
	companyname contactname contacttitle address city region postalcode country phone fax from to

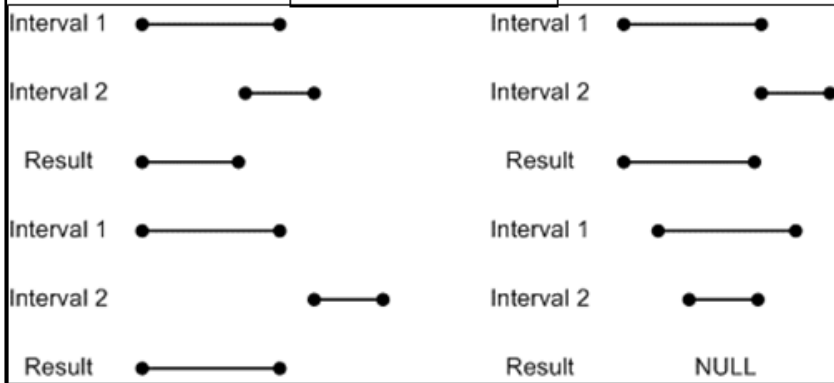
Interval Union

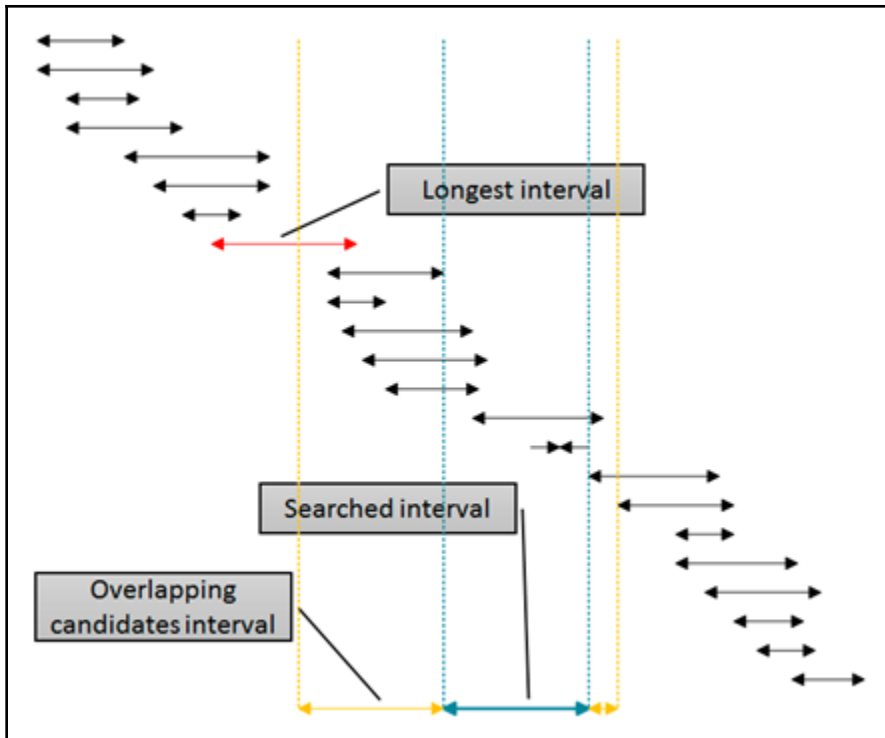


Interval Intersect



Interval Minus





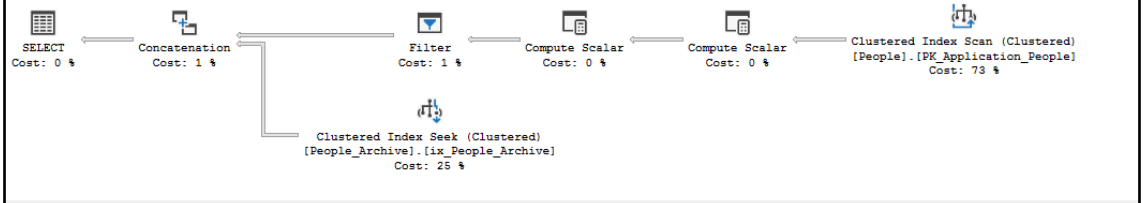
- [-] WideWorldImporters
 - + Database Diagrams
 - [-] Tables
 - + System Tables
 - + FileTables
 - + External Tables
 - + Graph Tables
 - + Application.Cities (System-Versioned)
 - + Application.Countries (System-Versioned)
 - + Application.DeliveryMethods (System-Versioned)
 - + Application.PaymentMethods (System-Versioned)
 - + Application.People (System-Versioned)
 - + Application.StateProvinces (System-Versioned)
 - + Application.SystemParameters
 - + Application.TransactionTypes (System-Versioned)
 - [-] **dbo.Product (System-Versioned)**
 - [-] dbo.MSSQL_TemporalHistoryFor_708197573 (History)
 - [-] Columns
 - ProductId (int, not null)
 - ProductName (nvarchar(50), not null)
 - Price (money, not null)
 - ValidFrom (datetime2(7), not null)
 - ValidTo (datetime2(7), not null)
 - + Constraints
 - [-] Indexes
 - ix_MSSQL_TemporalHistoryFor_708197573 (Clustered)
 - + Statistics
 - + Columns

- [-] WideWorldImporters
 - + Database Diagrams
 - Tables
 - + System Tables
 - + FileTables
 - + External Tables
 - + Graph Tables
 - + Application.Cities (System-Versioned)
 - + Application.Countries (System-Versioned)
 - + Application.DeliveryMethods (System-Versioned)
 - + Application.PaymentMethods (System-Versioned)
 - + Application.People (System-Versioned)
 - + Application.StateProvinces (System-Versioned)
 - + Application.SystemParameters
 - + Application.TransactionTypes (System-Versioned)
 - **dbo.Product (System-Versioned)**
 - dbo.ProductHistory (History)
 - Columns
 - ProductId (int, not null)
 - ProductName (nvarchar(50), not null)
 - Price (money, not null)
 - ValidFrom (datetime2(7), not null)
 - ValidTo (datetime2(7), not null)
 - + Constraints
 - Indexes
 - [u] IX_ProductHistory (Clustered, Columnstore)
 - IX_ProductHistory_NC (Non-Unique, Non-Clustered)
 - + Statistics
 - Columns
 - ProductId (PK, int, not null)
 - ProductName (nvarchar(50), not null)
 - Price (money, not null)
 - ValidFrom (datetime2(7), not null)
 - ValidTo (datetime2(7), not null)
 - + Keys

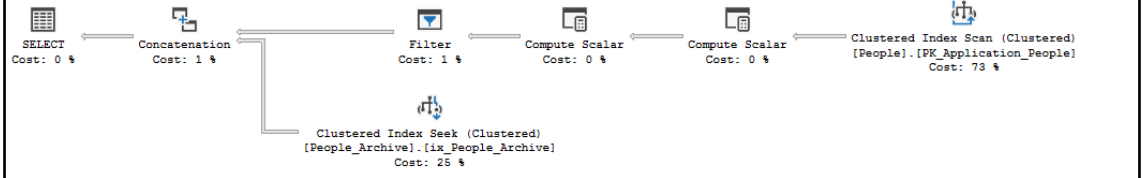
DepartmentID	Name	GroupName	ModifiedDate
1	Engineering	Research and Development	2008-04-30 00:00:00.000
2	Tool Design	Research and Development	2008-04-30 00:00:00.000
3	Sales	Sales and Marketing	2008-04-30 00:00:00.000
4	Marketing	Sales and Marketing	2008-04-30 00:00:00.000
5	Purchasing	Inventory Management	2008-04-30 00:00:00.000
6	Research and Development	Research and Development	2008-04-30 00:00:00.000
7	Production	Manufacturing	2008-04-30 00:00:00.000
8	Production Control	Manufacturing	2008-04-30 00:00:00.000
9	Human Resources	Executive General and Administration	2008-04-30 00:00:00.000
10	Finance	Executive General and Administration	2008-04-30 00:00:00.000
11	Information Services	Executive General and Administration	2008-04-30 00:00:00.000
12	Document Control	Quality Assurance	2008-04-30 00:00:00.000
13	Quality Assurance	Quality Assurance	2008-04-30 00:00:00.000
14	Facilities and Maintenance	Executive General and Administration	2008-04-30 00:00:00.000
15	Shipping and Receiving	Inventory Management	2008-04-30 00:00:00.000
16	Executive	Executive General and Administration	2008-04-30 00:00:00.000

Displaying 10 Events			
	name	timestamp	statement
	sql_statement_starting	2017-12-17 23:28:28.5382499	SELECT @@SPID
	sql_statement_completed	2017-12-17 23:28:28.5382623	SELECT @@SPID
	sql_statement_starting	2017-12-17 23:28:28.5418307	ALTER TABLE dbo.Product ADD Color NVARCHAR(15)
	sql_statement_completed	2017-12-17 23:28:28.5429845	ALTER TABLE dbo.Product ADD Color NVARCHAR(15)
	sql_statement_starting	2017-12-17 23:28:28.5433065	ALTER TABLE dbo.Product ADD Category SMALLINT NOT NULL CONSTRAINT DF_Category DEFAULT 1
	sql_statement_completed	2017-12-17 23:28:28.5447483	ALTER TABLE dbo.Product ADD Category SMALLINT NOT NULL CONSTRAINT DF_Category DEFAULT 1
	sql_statement_starting	2017-12-17 23:28:28.5447855	ALTER TABLE dbo.Product ADD Description NVARCHAR(MAX) NOT NULL CONSTRAINT DF_Description DEFAULT N''
▶	sp_statement_starting	2017-12-17 23:28:28.5472037	UPDATE [dbo].[Product] SET [Description] = DEFAULT
	sp_statement_completed	2017-12-17 23:28:28.6044360	UPDATE [dbo].[Product] SET [Description] = DEFAULT
	sql_statement_completed	2017-12-17 23:28:28.6047962	ALTER TABLE dbo.Product ADD Description NVARCHAR(MAX) NOT NULL CONSTRAINT DF_Description DEFAULT N''

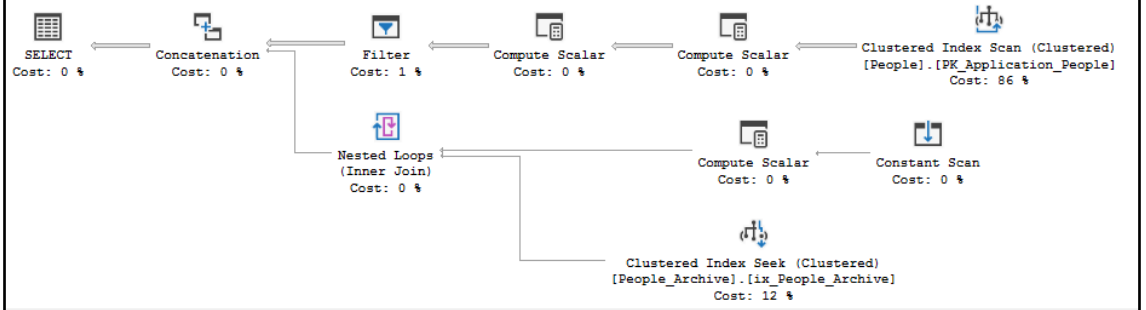
Query 1: Query cost (relative to the batch): 50%
 SELECT PersonID, FullName, OtherLanguages, ValidFrom, ValidTo FROM Application.People WHERE ValidFrom <= '20130520 08:00:00' AND



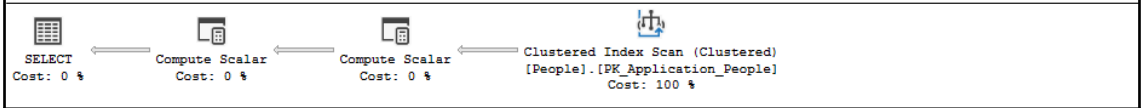
Query 2: Query cost (relative to the batch): 50%
 SELECT PersonID, FullName, OtherLanguages, ValidFrom, ValidTo FROM Application.People FOR SYSTEM_TIME AS OF '20130520 08:00:00'



Query 1: Query cost (relative to the batch): 54%
 SELECT PersonID, FullName, OtherLanguages, ValidFrom, ValidTo FROM Application.People FOR SYSTEM_TIME AS OF @NOW



Query 2: Query cost (relative to the batch): 46%
 SELECT PersonID, FullName, OtherLanguages, ValidFrom, ValidTo FROM Application.People



PersonID	FullName	OtherLanguages	ValidFrom	ValidTo
7	Amy Trefl	NULL	2016-03-20 08:00	2016-05-31 23:13
7	Amy Trefl	["Slovak", "Spanish", "Polish"]	2016-05-31 23:13	2016-05-31 23:14

PersonID	FullName	OtherLanguages	ValidFrom	ValidTo
7	Amy Trefl	["Slovak", "Spanish", "Polish"]	2016-05-31 23:14	9999-12-31 23:59
7	Amy Trefl	NULL	2016-03-20 08:00	2016-05-31 23:13
7	Amy Trefl	["Slovak", "Spanish", "Polish"]	2016-05-31 23:13	2016-05-31 23:14

PersonID	FullName	OtherLanguages	ValidFrom	ValidTo
7	Amy Trefl	["Slovak","Spanish","Polish"]	2016-05-31 23:13	2016-05-31 23:14

SELECT * FROM T1 FOR SYSTEM_TIME ALL;

50 %

Results Messages Execution plan

Query 1: Query cost (relative to the batch): 100%

SELECT * FROM T1 FOR SYSTEM_TIME ALL

Query executed successfully.

Clusters Index Seek (Clusters)

Scanning a particular range of rows from a clustered index.

Physical Operation	Clusters Index Seek
Logical Operation	Clusters Index Seek
Actual Execution Mode	Row
Estimated Execution Mode	Row
Storage	RowStore
Number of Rows Read	1
Actual Number of Rows	1
Actual Number of Batches	0
Estimated Operator Cost	0,0032831 (50%)
Estimated I/O Cost	0,003125
Estimated Subtree Cost	0,0032831
Estimated CPU Cost	0,0001581
Estimated Number of Executions	1
Number of Executions	1
Estimated Number of Rows	1
Estimated Number of Rows to be Read	1
Estimated Row Size	31 B
Actual Rebinds	0
Actual Rewinds	0
Ordered	True
Node ID	2

Predicate
[WideWorldImporters].[dbo].[T1_Hist].[Vf] < [WideWorldImporters].[dbo].[T1_Hist].[Vt] OR [WideWorldImporters].[dbo].[T1_Hist].[Vf] > [WideWorldImporters].[dbo].[T1_Hist].[Vt]

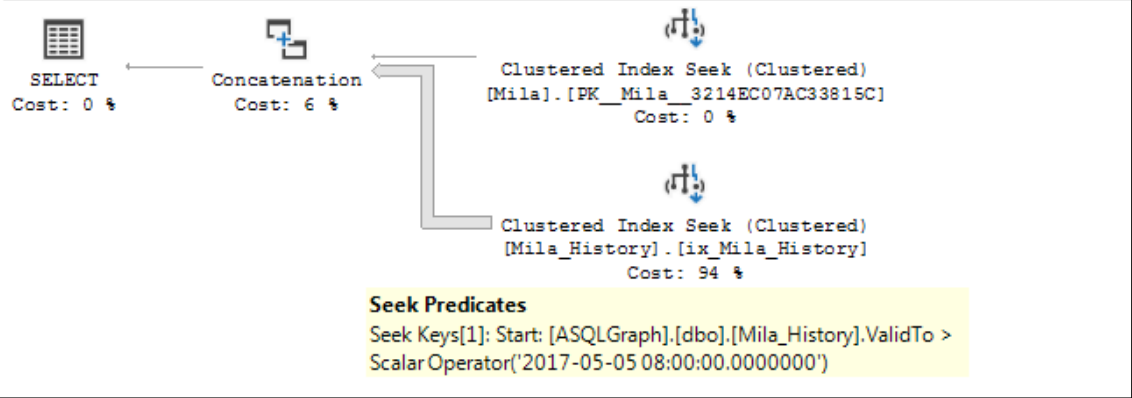
Object
[WideWorldImporters].[dbo].[T1_Hist].[IX_CL_T1_Hist]

Output List
[WideWorldImporters].[dbo].[T1_Hist].Id; [WideWorldImporters].[dbo].[T1_Hist].C1; [WideWorldImporters].[dbo].[T1_Hist].Vf; [WideWorldImporters].[dbo].[T1_Hist].Vt

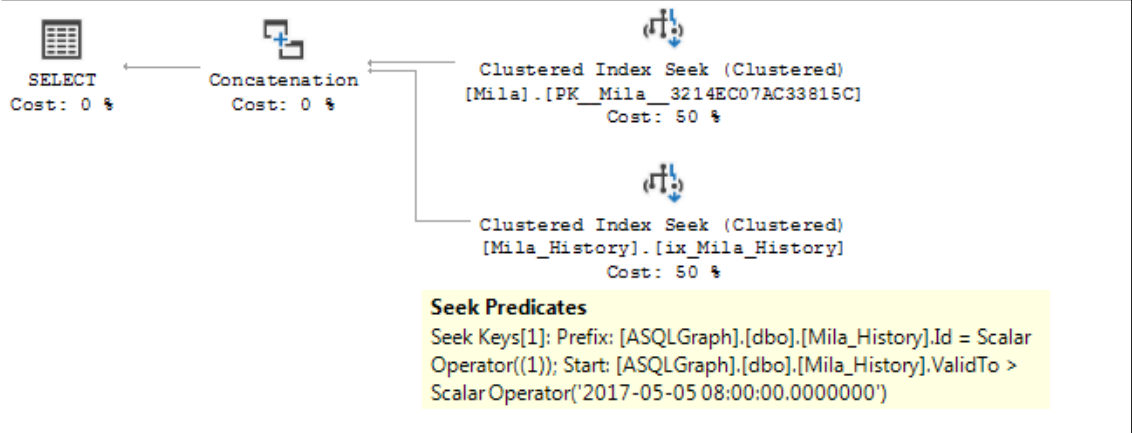
Seek Predicates
Seek Keys[1]: Start: [WideWorldImporters].[dbo].[T1_Hist].Vt > =
Scalar Operator(dateadd(day,-3),sysutcdatetime())

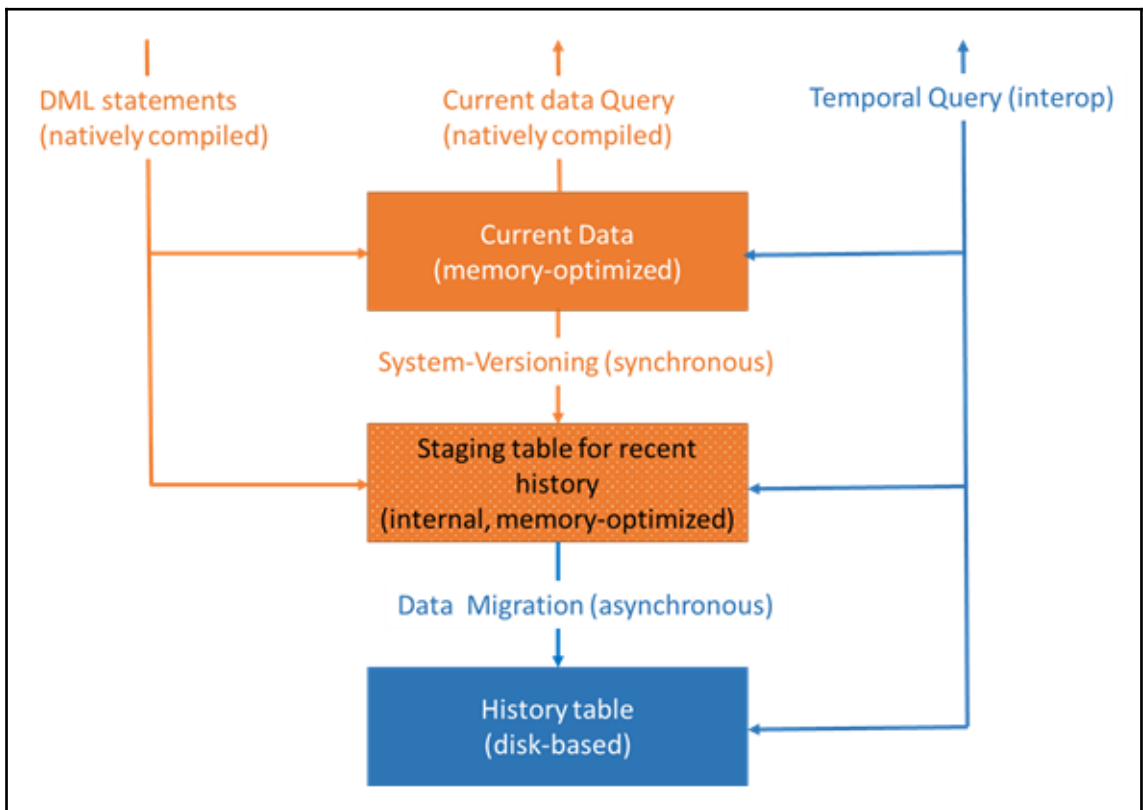
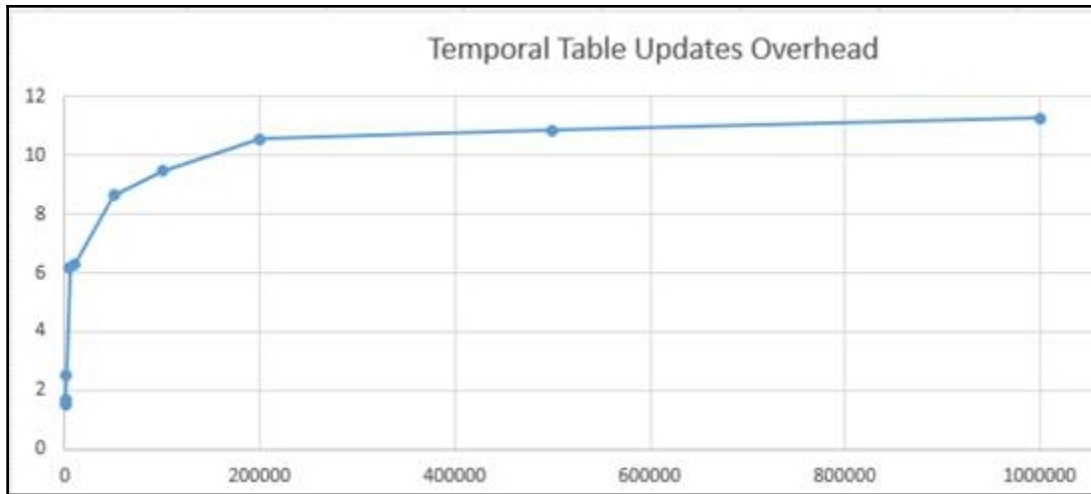
temporal_type_desc	history_retention_period	history_retention_period_unit
SYSTEM_VERSIONED_TEMPORAL_TABLE	3	3

Query 1: Query cost (relative to the batch): 100%
 SELECT * FROM dbo.Mila FOR SYSTEM_TIME AS OF '20170505 08:00:00' WHERE Id = 1
 Missing Index (Impact 99.9213): CREATE NONCLUSTERED INDEX [<Name of Missing



Query 1: Query cost (relative to the batch): 100%
 SELECT * FROM dbo.Mila FOR SYSTEM_TIME AS OF '20170505 08:00:00' WHERE Id = 1

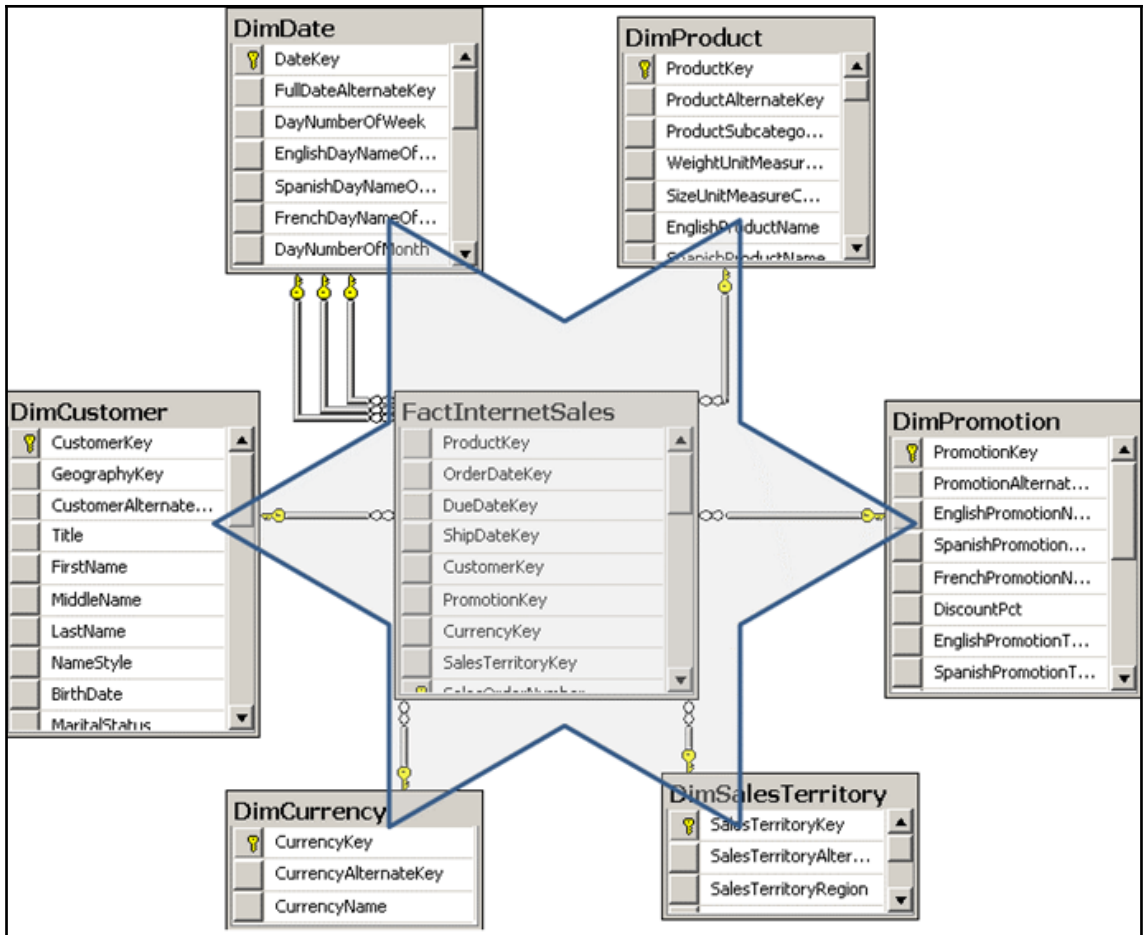




table_name	internal_type_desc
sys.memory_optimized_history_table_1575676661	INTERNAL_TEMPORAL_HISTORY_TABLE

ProductId	ProductName	Price
2	Away Jersey Juventus	89.95
1	Home Jersey Benfica	79.95

ProductId	ProductName	Price	ValidFrom	ValidTo
1	Home Jersey Benfica	89.95	2017-12-17 20:25:50	2017-12-17 20:25:51



- OLTP data

CUSTID	FULLNAME	CITY	OCCUPATION
17	Bostjan Strazar	Vienna	Professional

- OLTP data and DW SCD Type 1 after change

CUSTID	FULLNAME	CITY	OCCUPATION
17	Bostjan Strazar	Ljubljana	Professional

- DW SCD Type 2 after change

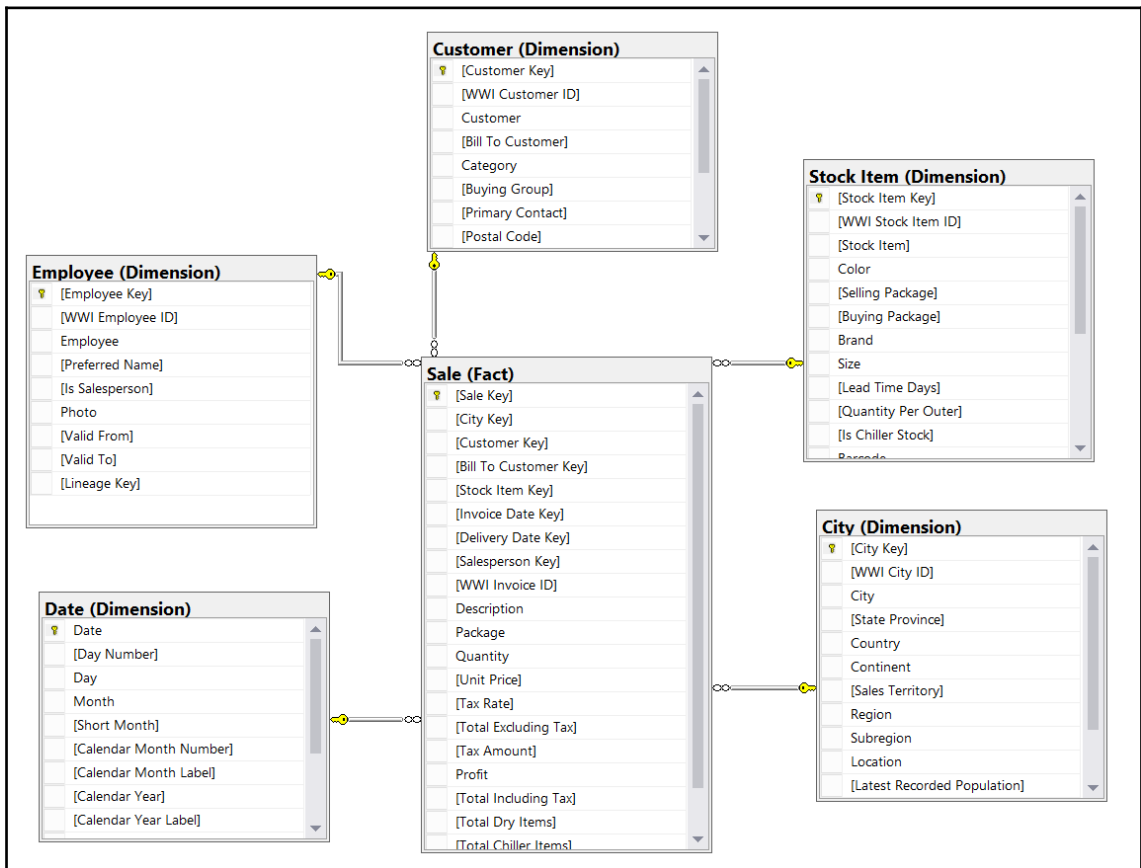
DWCID	CUSTID	FULLNAME	CITY	OCCUPATION	CURRENT
17	17	Bostjan Strazar	Vienna	Professional	0
289	17	Bostjan Strazar	Ljubljana	Professional	1

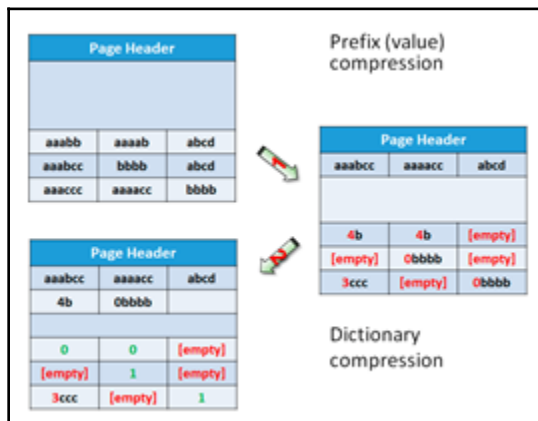
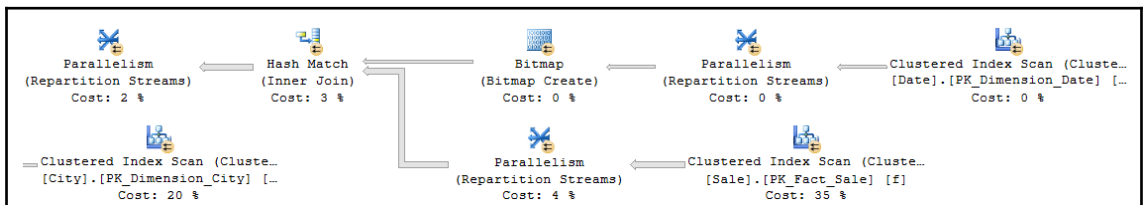
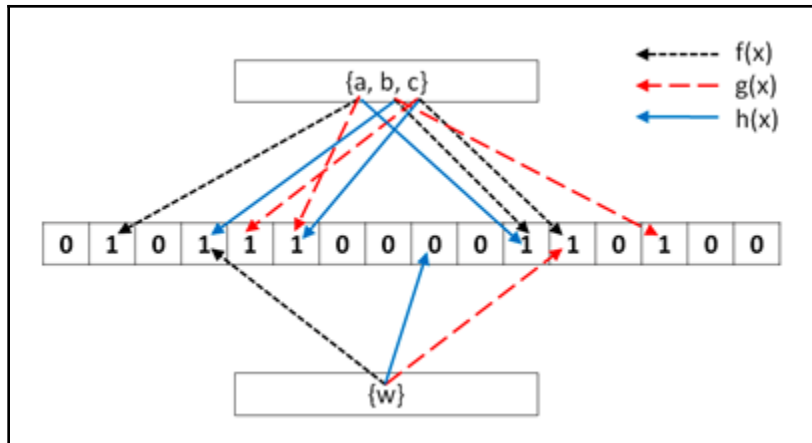
- DW SCD Type 1 & 2 after change

DWCID	CUSTID	FULLNAME	CITY	OCCUPATION	CURRENT
17	17	Bostjan Strazar	Vienna	Professional	0
289	17	Bostjan Strazar	Ljubljana	Management	1

PersonID	FullName	ValidFrom	ValidTo
14	Lily Code	2016-05-31 23:14:00.0000000	9999-12-31 23:59:59.9999999
14	Lily Code	2013-01-01 00:00:00.0000000	2013-01-01 08:00:00.0000000
14	Lily Code	2013-01-01 08:00:00.0000000	2013-01-19 08:00:00.0000000
14	Lily Code	2013-01-19 08:00:00.0000000	2013-02-14 08:00:00.0000000

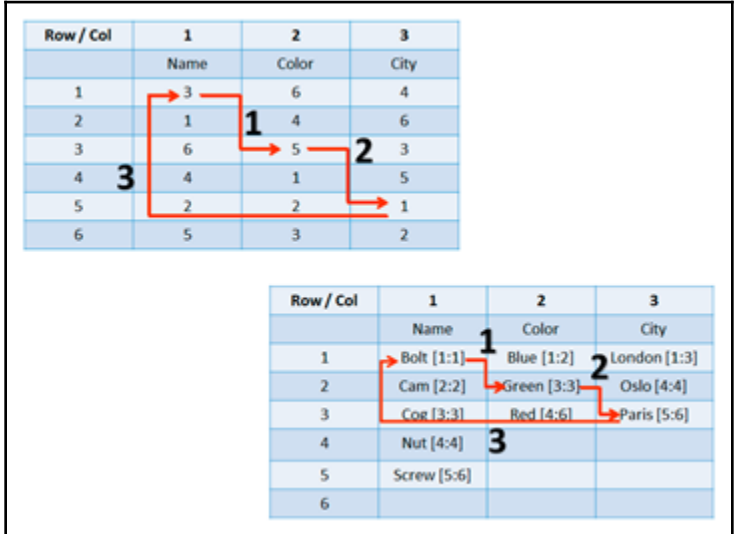
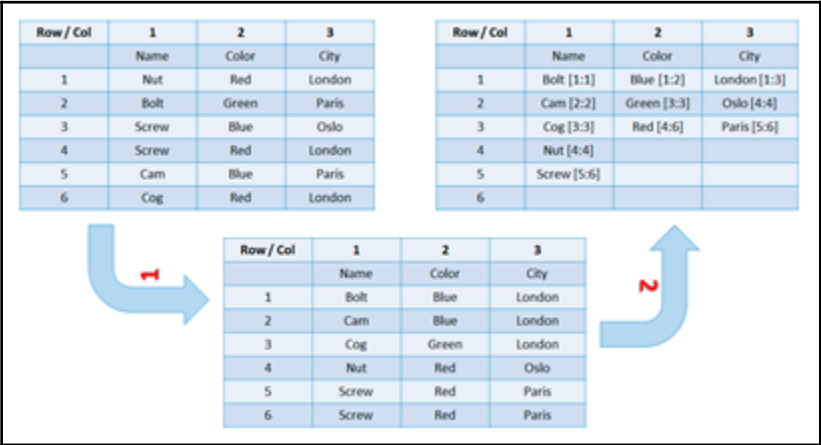
Chapter 6: Columnstore Indexes

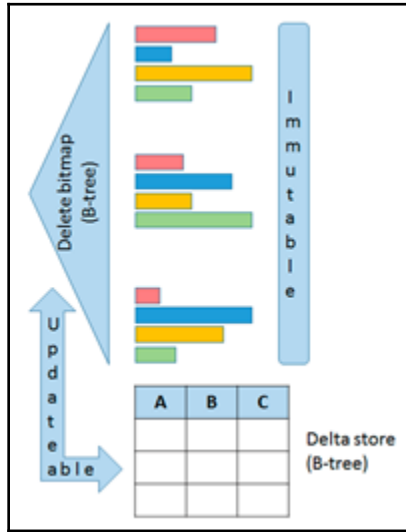
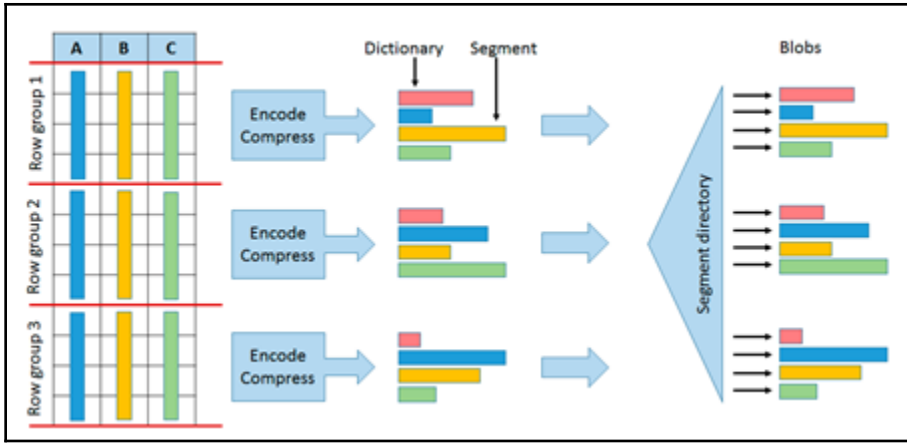




Input stream	Position	1	2	3	4	5	6	7	8	9
Byte		A	A	B	C	B	B	A	B	C

Step	Position	Match	Byte	Output
1.	1	~	A	(0, 0) A
2.	2	A	~	(1, 1)
3.	3	~	B	(0, 0) B
4.	4	A	C	(0, 0) C
5.	5	B	~	(2, 1)
6.	6	B	~	(1, 1)
7.	7	A B C	~	(5, 3)






```

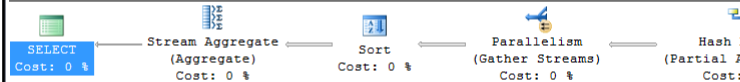
SELECT f.StockItemKey,
SUM(f.TotalAmount) AS Sales
FROM dbo.FactTest AS f
WHERE f.StockItemKey < 30
GROUP BY f.StockItemKey
ORDER BY f.StockItemKey;
-- Only row mode operators

```

100 %

Results Messages Execution plan

Query 1: Query cost (relative to the batch): 100%
 SELECT f.StockItemKey, SUM(f.TotalAmount) AS Sales FROM dbo.FactTest AS f
 Missing Index (Impact 95.6071): CREATE NONCLUSTERED INDEX [<Name of Missing Index>] ON [dbo].[FactTest] ([StockItemKey])



Query executed successfully.

Hash Match

Use each row from the top input to build a hash table, and each row from the bottom input to probe into the hash table, outputting all matching rows.

Physical Operation	Hash Match
Logical Operation	Partial Aggregate
Actual Execution Mode	Row
Estimated Execution Mode	Row
Actual Number of Rows	232
Actual Number of Batches	0
Estimated Operator Cost	0.666 (1%)
Estimated I/O Cost	0
Estimated CPU Cost	0.392443
Estimated Subtree Cost	47.4554
Number of Executions	8
Estimated Number of Executions	1
Estimated Number of Rows	116
Estimated Row Size	28 B
Actual Rebinds	0
Actual Rewinds	0
Node ID	3

Output List

[WideWorldImportersDW].[dbo].
 [FactTest].[StockItemKey], partialagg1003

```

SELECT f.StockItemKey,
SUM(f.TotalAmount) AS sales
FROM dbo.FactTest AS f
WHERE f.StockItemKey < 30
GROUP BY f.StockItemKey
ORDER BY f.StockItemKey;
-- Row and batch mode operators
GO

```

100% ▾

Results Messages Execution plan

Query 1: Query cost (relative to the batch): 100%
 SELECT f.StockItemKey, SUM(f.TotalAmount) AS Sale

Hash Match
 Use each row from the top input to build a hash table, and each row from the bottom input to probe into the hash table, outputting all matching rows.

Physical Operation	Hash Match
Logical Operation	Aggregate
Actual Execution Mode	Batch
Estimated Execution Mode	Batch
Actual Number of Rows	29
Actual Number of Batches	3
Estimated Operator Cost	0.2945 (1%)
Estimated I/O Cost	0
Estimated CPU Cost	0.0392082
Estimated Subtree Cost	47.0839
Number of Executions	8
Estimated Number of Executions	1
Estimated Number of Rows	29
Estimated Row Size	28 B
Actual Rebinds	0
Actual Rewinds	0
Node ID	2

Query executed successfully.

Output List
 [WideWorldImportersDW].[dbo].
 [FactTest].StockItemKey, Expr1002

```

-- Simple query
SELECT f.StockItemKey,
       SUM(f.TotalAmount) AS Sales
FROM dbo.FactTest AS f
WHERE f.StockItemKey < 30
GROUP BY f.StockItemKey
ORDER BY f.StockItemKey
OPTION (ignore_nonclustered_columnstore_index);
| -- Full scan - 63,601
| -- Row mode operators only

```

100 %

Results Messages Execution plan

Query 1: Query cost (relative to the batch): 100%

SELECT f.StockItemKey, SUM(f.TotalAmount) AS Sales FROM dbo.FactTest AS f

Missing Index (Impact 95.6071): CREATE NONCLUSTERED INDEX [Name of Missi

Physical Operation Hash Match

Logical Operation	Physical Operation
Actual Execution Mode	Row
Estimated Execution Mode	Row
Actual Number of Rows	232
Actual Number of Batches	0
Estimated Operator Cost	0.656 (1%)
Estimated I/O Cost	0
Estimated CPU Cost	0.392443
Estimated Subtree Cost	47.4554
Number of Executions	8
Estimated Number of Executions	1
Estimated Number of Rows	116
Estimated Row Size	28 B
Actual Rebinds	0
Actual Rewinds	0
Node ID	3

Query executed successfully.

Ln 435 Col 16

Output List

[WideWorldImportersDW].[dbo].[FactTest].StockItemKey, partialagg1003

```

-- Simple query
SELECT f.StockItemKey,
       SUM(f.TotalAmount) AS Sales
FROM dbo.FactTest AS f
WHERE f.StockItemKey < 30
GROUP BY f.StockItemKey
ORDER BY f.StockItemKey;
| -- Columnstore index scan - lob logical reads 2,001, segment reads 4
| -- Row and batch mode operators

```

100 %

Results Messages Execution plan

Query 1: Query cost (relative to the batch): 100%

SELECT f.StockItemKey, SUM(f.TotalAmount) AS Sales FROM dbo.FactTest AS f WHERE f.StockItemKey <

Physical Operation Hash Match

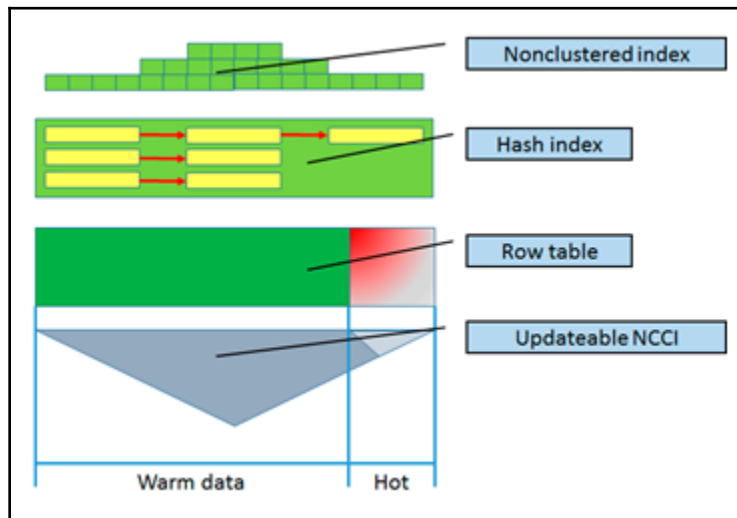
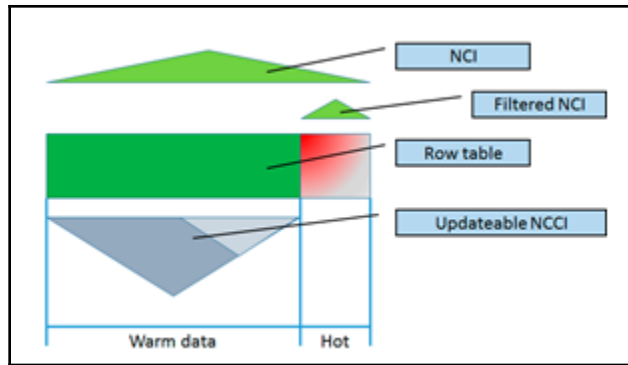
Logical Operation	Physical Operation
Actual Execution Mode	Row
Estimated Execution Mode	Row
Actual Number of Rows	232
Actual Number of Batches	0
Estimated Operator Cost	0.656 (1%)
Estimated I/O Cost	0
Estimated CPU Cost	0.392443
Estimated Subtree Cost	47.4554
Number of Executions	8
Estimated Number of Executions	1
Estimated Number of Rows	116
Estimated Row Size	28 B
Actual Rebinds	0
Actual Rewinds	0
Node ID	3

Query executed successfully.

Ln 435 Col 16

Output List

[WideWorldImportersDW].[dbo].[FactTest].StockItemKey, partialagg1003



```

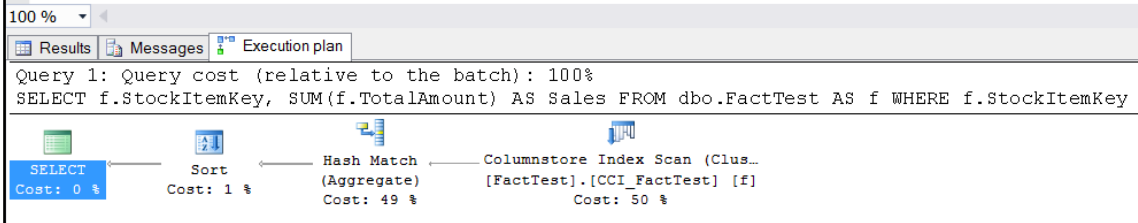
-- simple query
SELECT f.StockItemKey,
       SUM(f.TotalAmount) AS Sales
FROM   dbo.FactTest AS f
WHERE  f.StockItemKey < 30
GROUP BY f.StockItemKey
ORDER BY f.StockItemKey;

```

```

-- columnstore index scan - 10b logical reads 82, segment reads 4
-- Row and batch mode operators

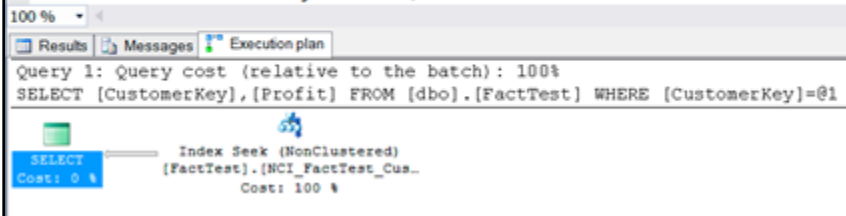
```

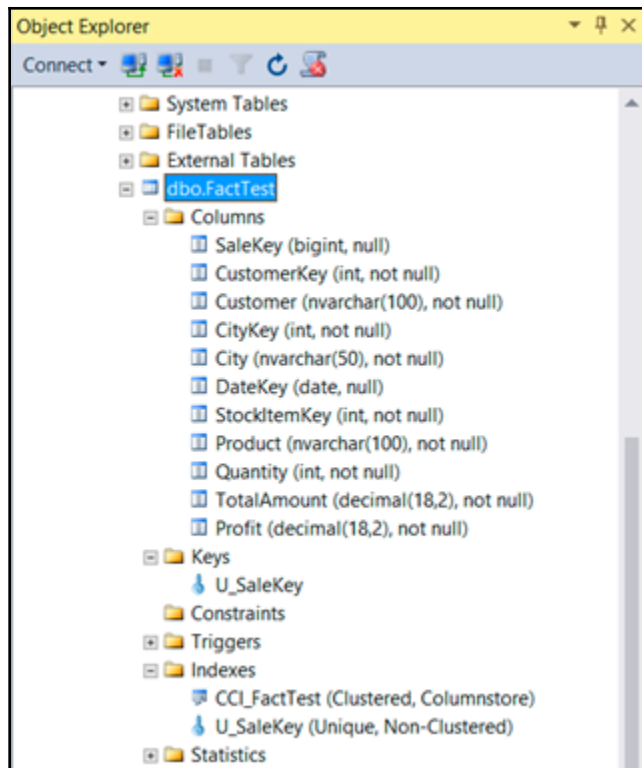


```

-- Point query
SELECT CustomerKey, Profit
FROM   dbo.FactTest
WHERE  CustomerKey = 378;

```





Messages Execution plan

Query 1: Query cost (rela
 INSERT INTO dbo.FactTest

T-SQL
 INSERT
 Cost: 0

Columnstore I
 [FactTest].[CCI
 Cost:

Columnstore Index Insert
 Insert rows in a columnstore index.

Physical Operation	Columnstore Index Insert
Logical Operation	Insert
Actual Execution Mode	Row
Estimated Execution Mode	Row
Actual Number of Rows	75993
Actual Number of Batches	0
Estimated Operator Cost	19.57413 (86%)
Estimated I/O Cost	19.4973
Estimated CPU Cost	0.0759963
Estimated Subtree Cost	22.7992
Number of Executions	1
Estimated Number of Executions	1
Estimated Number of Rows	75996.3
Estimated Row Size	9 B
Actual Rebinds	0
Actual Rewinds	0
Node ID	0

Query executed successfully.

Object
 [WideWorldImportersDW].[dbo].[FactTest].[CCI_FactTest]

Messages Execution plan

Query 1: Query cost (relative to query plan) 100%
 DELETE [dbo].[FactTest] WHERE [CCI_FactTest].[CCI_FactTest].[CCI_FactTest].[CCI_FactTest].[CCI_FactTest].[CCI_FactTest].[CCI_FactTest].[CCI_FactTest].[CCI_FactTest].[CCI_FactTest]

T-SQL

DELETE
 Cost: 0 %

Columnstore Index Delete
 [FactTest].[CCI_FactTest]
 Cost: 56 %

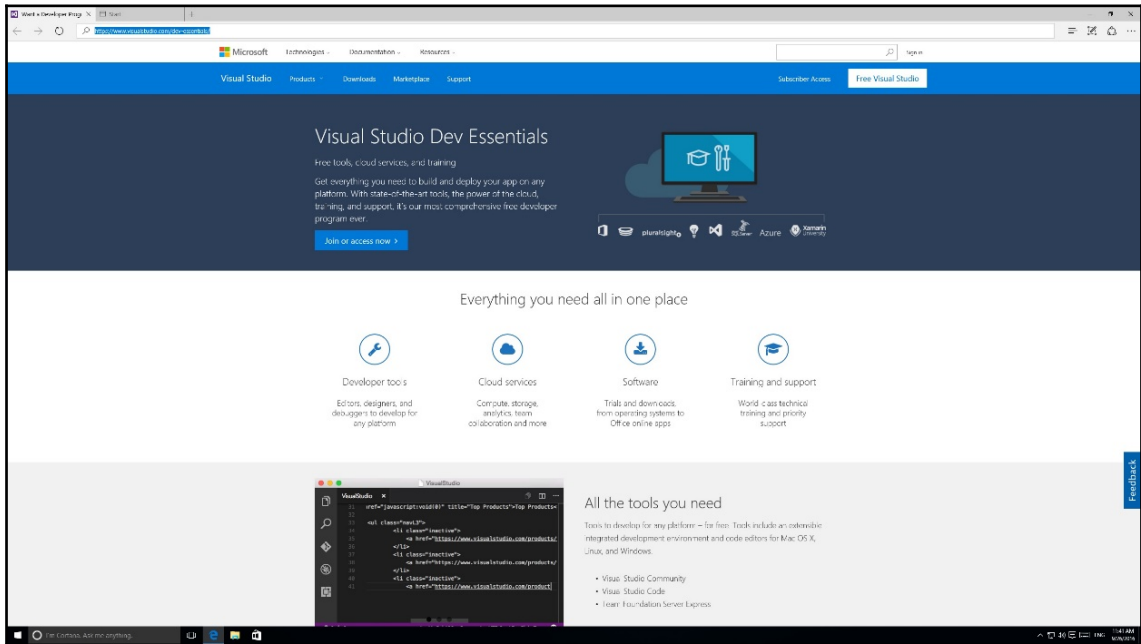
Columnstore Index Delete
 Delete rows from a columnstore index.

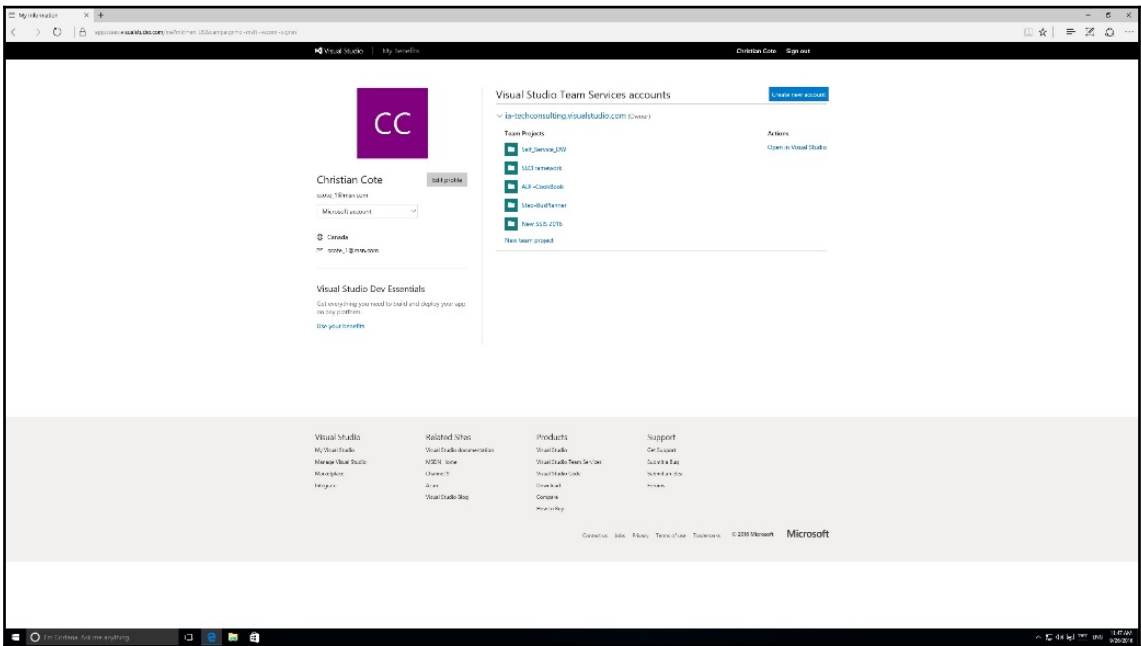
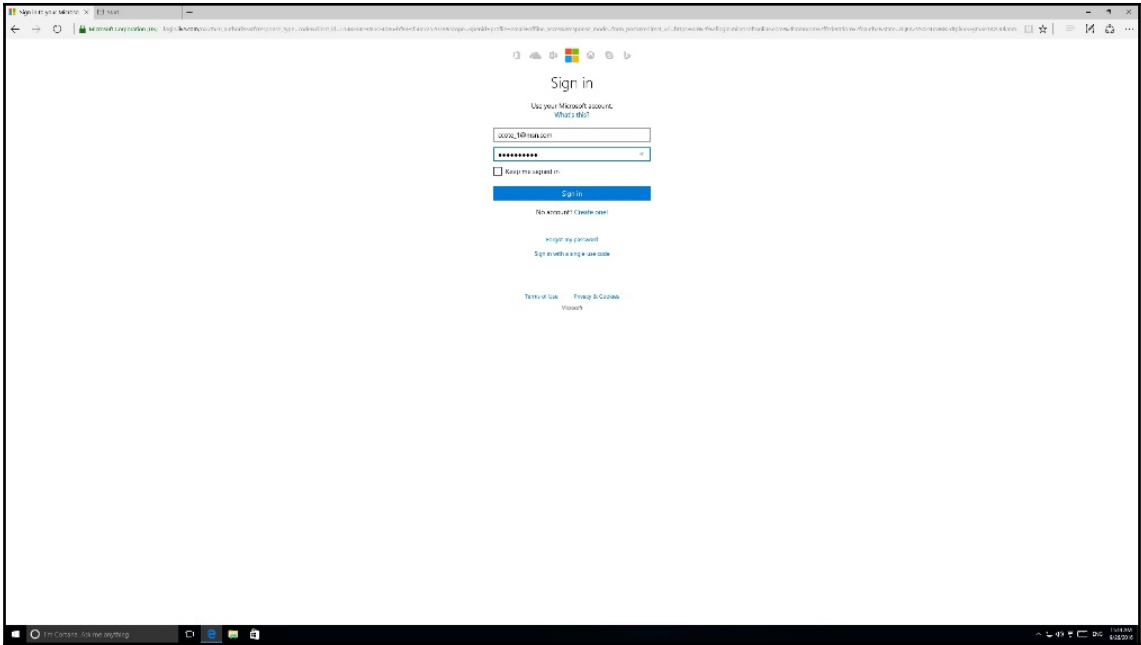
Physical Operation	Columnstore Index Delete
Logical Operation	Delete
Actual Execution Mode	Row
Estimated Execution Mode	Row
Actual Number of Rows	75993
Actual Number of Batches	0
Estimated Operator Cost	0.738275 (56%)
Estimated I/O Cost	0.554324
Estimated CPU Cost	0.0653378
Estimated Subtree Cost	1.31013
Number of Executions	1
Estimated Number of Executions	1
Estimated Number of Rows	65337.8
Estimated Row Size	9 B
Actual Rebinds	0
Actual Rewinds	0
Node ID	0

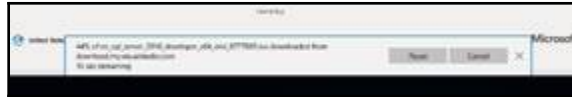
✓ Query executed successfully.

Object
 [WideWorldImportersDW].[dbo].[FactTest].[CCI_FactTest]

Chapter 7: SSIS Setup







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Linux x64	52.68 MB	jre-8u101-linux-x64.rpm
Linux x64	68.49 MB	jre-8u101-linux-x64.tar.gz
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Java SE Runtime Environor x +

oracle.com/technetwork/java/javase/downloads/jre8-downloads-2133155.html

Java SE Support
 Java SE Advanced & Suite
 Java Embedded
 Java DB
 Web Tier
 Java Card
 Java TV
 New to Java
 Community
 Java Magazine

Do you want to run Java™ programs, or do you want to develop Java programs? If you want to run Java programs, but not develop them, download the Java Runtime Environment, or JRE™. If you want to develop applications for Java, download the Java Development Kit, or JDK™. The JDK includes the JRE, so you do not have to download both separately.

JRE 8u101 Checksum
 JRE 8u102 Checksum

Java SE Runtime Environment 8u101

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Linux x64	68.49 MB	jre-8u101-linux-x64.tar.gz
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http://download.oracle.com/otn-pub/java/jdk/8u102-b14/jre-8u102-windows-x64.tar.gz

Ask me anything 123 PM 10/2/2016

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Windows x86	59.42 MB	jre-8u102-windows-i586.tar.gz
Windows x64 Offline	60.19 MB	jre-8u102-windows-x64.exe

jre-8u102-windows-x64.exe finished downloading.

Run Open folder View downloads X



Welcome to Java

Java provides access to a world of amazing content. From business solutions to helpful utilities and entertainment, Java makes your Internet experience come to life.

Note: No personal information is gathered as part of our install process.
[Click here](#) for more information on what we do collect.

Click Install to accept the [license agreement](#) and install Java now.

Change destination folder

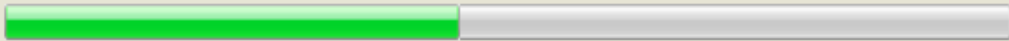
Cancel

Install >

Java Setup - Progress



Status: Installing Java



ATMs, Smartcards, POS Terminals, Blu-ray Players, PCs
Set Top Boxes, Mobile Phones, Servers, Switches
Routers, Smart TVs, Tablets, Servers, Switches
Automobiles, Parking Systems, Lottery
Systems, Access Control Systems, Building Controls
Programs, Servers, Switches, Modules...

3 Billion Devices Run Java

 Java™ | #1 Development Platform 

Java Setup - Complete

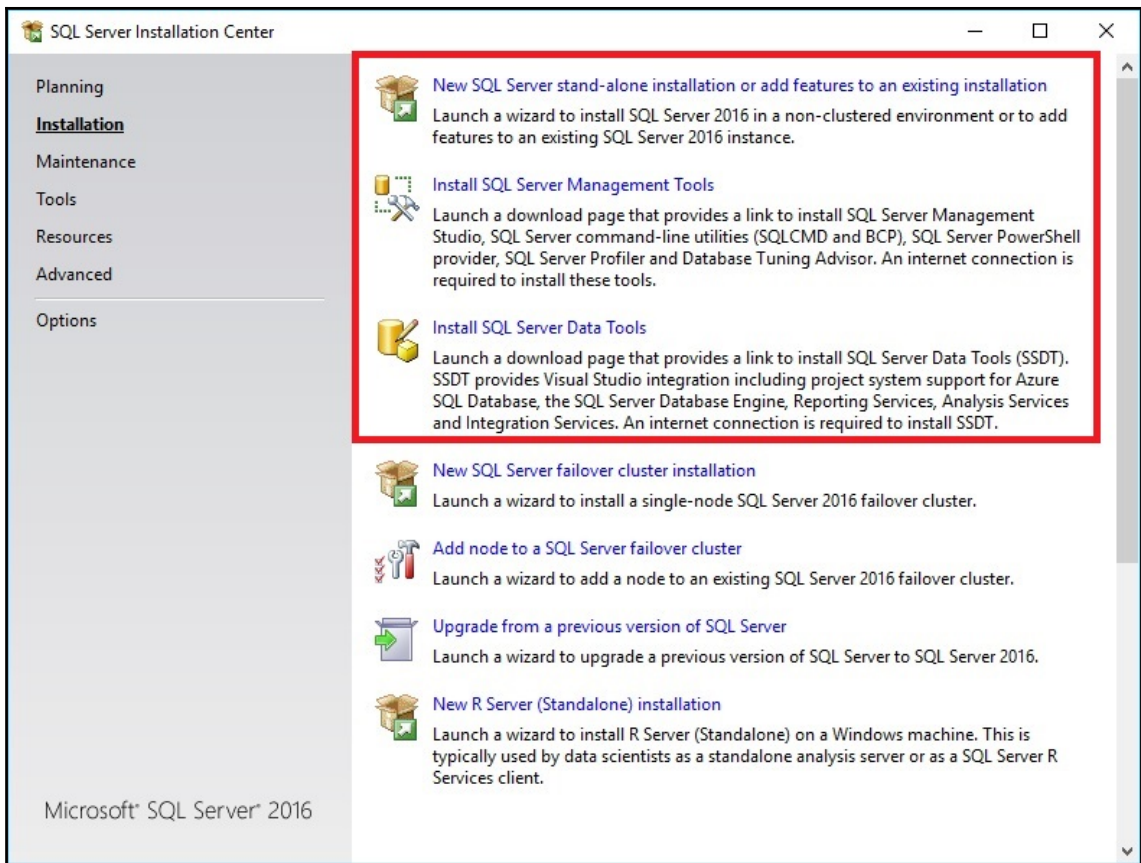


 **You have successfully installed Java**

You will be prompted when Java updates are available. Always install updates to get the latest performance and security improvements.

[More about update settings](#)

Close



Product Key

Specify the edition of SQL Server 2016 to install.

Product Key

License Terms

Global Rules

Microsoft Update

Product Updates

Install Setup Files

Install Rules

Feature Selection

Feature Rules

Feature Configuration Rules

Ready to Install

Installation Progress

Complete

Validate this instance of SQL Server 2016 by entering the 25-character key from the Microsoft certificate of authenticity or product packaging. You can also specify a free edition of SQL Server: Developer, Evaluation, or Express. Evaluation has the largest set of SQL Server features, as documented in SQL Server Books Online, and is activated with a 180-day expiration. Developer edition does not have an expiration, has the same set of features found in Evaluation, but is licensed for non-production database application development only. To upgrade from one installed edition to another, run the Edition Upgrade Wizard.

Specify a free edition:

Developer ▾

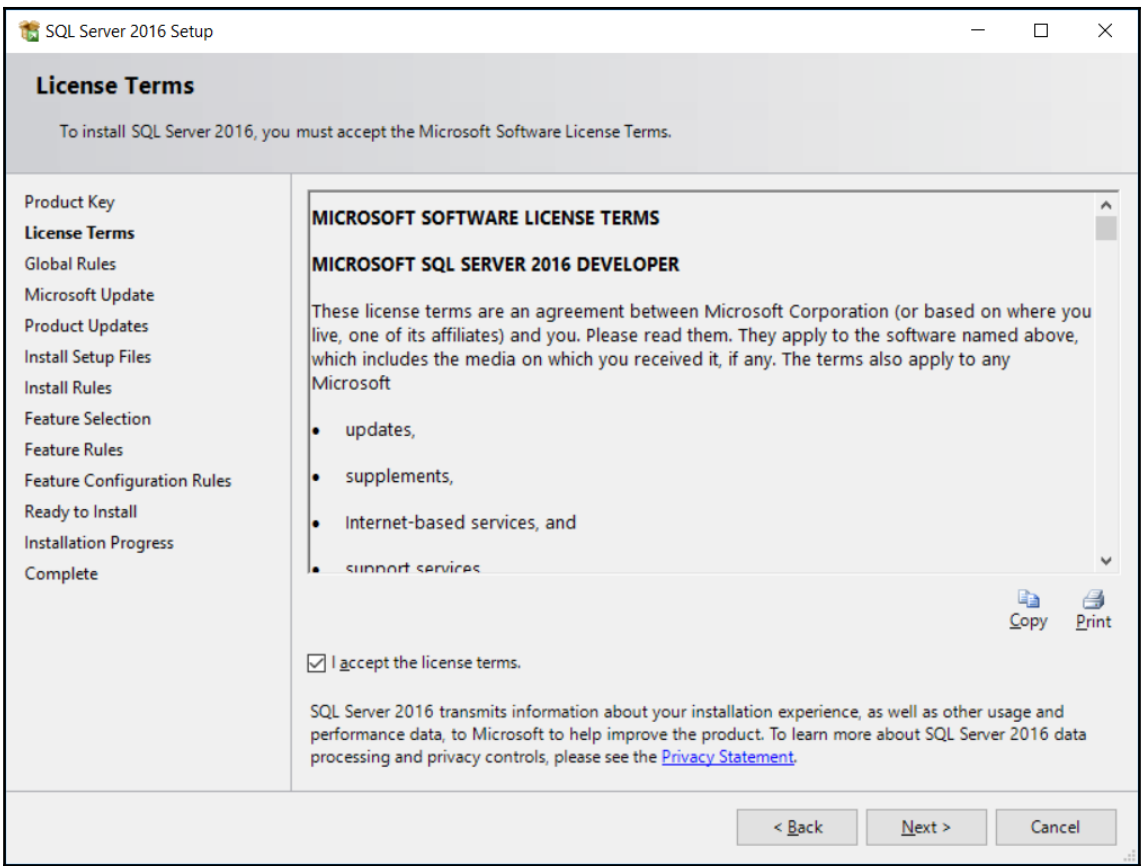
Enter the product key:

____-____-____-____-____

< Back

Next >

Cancel



Microsoft Update

Use Microsoft Update to check for important updates

- Product Key
- License Terms
- Global Rules
- Microsoft Update**
- Product Updates
- Install Setup Files
- Install Rules
- Feature Selection
- Feature Rules
- Feature Configuration Rules
- Ready to Install
- Installation Progress
- Complete

Microsoft Update offers security and other important updates for Windows and other Microsoft software, including SQL Server 2016. Updates are delivered using Automatic Updates, or you can visit the Microsoft Update website.

Use Microsoft Update to check for updates (recommended)

[Microsoft Update FAQ](#)

[Microsoft Update Privacy Statement](#)

< Back

Next >

Cancel

Product Updates

Always install the latest updates to enhance your SQL Server security and performance.

Product Key
License Terms
Global Rules
Microsoft Update
Product Updates
Install Setup Files
Install Rules
Feature Selection
Feature Rules
Feature Configuration Rules
Ready to Install
Installation Progress
Complete

Include SQL Server product updates

Name	Size (MB)	More Information
Critical Update for SQL Server 2016 MSVCRT Prerequisites KB3164398	37	KB 3164398

1 updates (37 MB) found online.

The Setup updates (37 MB) will be installed when you click Next.

[Read our privacy statement online](#)

[Learn more about SQL Server product updates](#)

< Back

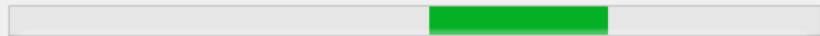
Next >

Cancel

Install Setup Files

If an update for SQL Server Setup is found and specified to be included, the update will be installed.

Product Key
License Terms
Global Rules
Microsoft Update
Product Updates
Install Setup Files
Install Rules
Feature Selection
Feature Rules
Feature Configuration Rules
Ready to Install
Installation Progress
Complete



Task	Status
Scan for product updates	Completed
Download Setup files	Completed
Extract Setup files	In Progress
Install Setup files	Not started

< Back

Next >

Cancel

Install Rules

Setup rules identify potential problems that might occur while running Setup. Failures must be corrected before Setup can continue.

Install Rules

Feature Selection

Feature Rules

Feature Configuration Rules

Ready to Install

Installation Progress

Complete






Operation completed. Passed: 4. Failed 0. Warning 1. Skipped 0.



Hide details <<

Re-run

[View detailed report](#)

Rule	Status
 Fusion Active Template Library (ATL)	Passed
 Consistency validation for SQL Server registry keys	Passed
 Computer domain controller	Passed
 Microsoft .NET Application Security	Passed
 Windows Firewall	Warning

< Back

Next >

Cancel

SQL Server 2016 Setup

Feature Selection

Select the Developer features to install.

Install Rules

Feature Selection

Feature Rules

Instance Configuration

PolyBase Configuration

Server Configuration

Database Engine Configuration

Analysis Services Configuration

Reporting Services Configuration

Feature Configuration Rules

Ready to Install

Installation Progress

Complete

Features:

Instance Features

- Database Engine Services
 - SQL Server Replication
 - R Services (In-Database)
 - Full-Text and Semantic Extractions for Search
 - Data Quality Services
 - PolyBase Query Service for External Data
- Analysis Services
- Reporting Services - Native

Shared Features

- R Server (Standalone)
- Reporting Services - SharePoint
- Reporting Services Add-in for SharePoint Products
- Data Quality Client
- Client Tools: Connectivity
- Integration Services
- Client Tools: Backwards Compatibility
- Client Tools: SDK
- Documentation Components
- Distributed Replay Controller
- Distributed Replay Client
- SQL Client Connectivity SDK
- Master Data Services

Redistributable Features

Feature description:

The configuration and operation of each instance feature of a SQL Server instance is isolated from other SQL Server instances. SQL Server instances can operate side-by-side on the same computer.

Prerequisites for selected features:

Already installed:

- Windows PowerShell 3.0 or higher
- Microsoft Visual Studio 2010 Redistributables
- Oracle SE Java Runtime Environment Version 7 Update 51 or higher (64-bit)
- Microsoft .NET Framework 4.6

To be installed from media:

- Microsoft Visual Studio 2010 Shell
- Microsoft Visual C++ 2015 Redistributable

Disk Space Requirements

Drive C: 4297 MB required, 99282 MB available

Select All
Unselect All

Instance root directory: ...

Shared feature directory: ...

Shared feature directory (x86): ...

< Back
Next >
Cancel

Instance Configuration

Specify the name and instance ID for the instance of SQL Server. Instance ID becomes part of the installation path.

Install Rules

Feature Selection

Feature Rules

Instance Configuration

PolyBase Configuration

Server Configuration

Database Engine Configuration

Analysis Services Configuration

Reporting Services Configuration

Feature Configuration Rules

Ready to Install

Installation Progress

Complete

Default instance

Named instance:

Instance ID:

SQL Server directory: C:\Program Files\Microsoft SQL Server\MSSQL13.MSSQLSERVER

Analysis Services directory: C:\Program Files\Microsoft SQL Server\MSAS13.MSSQLSERVER

Reporting Services directory: C:\Program Files\Microsoft SQL Server\MSRS13.MSSQLSERVER

Installed instances:

Instance Name	Instance ID	Features	Edition	Version

< Back

Next >

Cancel

PolyBase Configuration

Specify PolyBase scale-out option and port range.

Install Rules

Feature Selection

Feature Rules

Instance Configuration

PolyBase Configuration

Server Configuration

Database Engine Configuration

Analysis Services Configuration

Reporting Services Configuration

Feature Configuration Rules

Ready to Install

Installation Progress

Complete

Use this SQL Server as standalone PolyBase-enabled instance.

Choose this option to use this SQL Server instance as a standalone Head node.

Use this SQL Server as a part of PolyBase scale-out group.

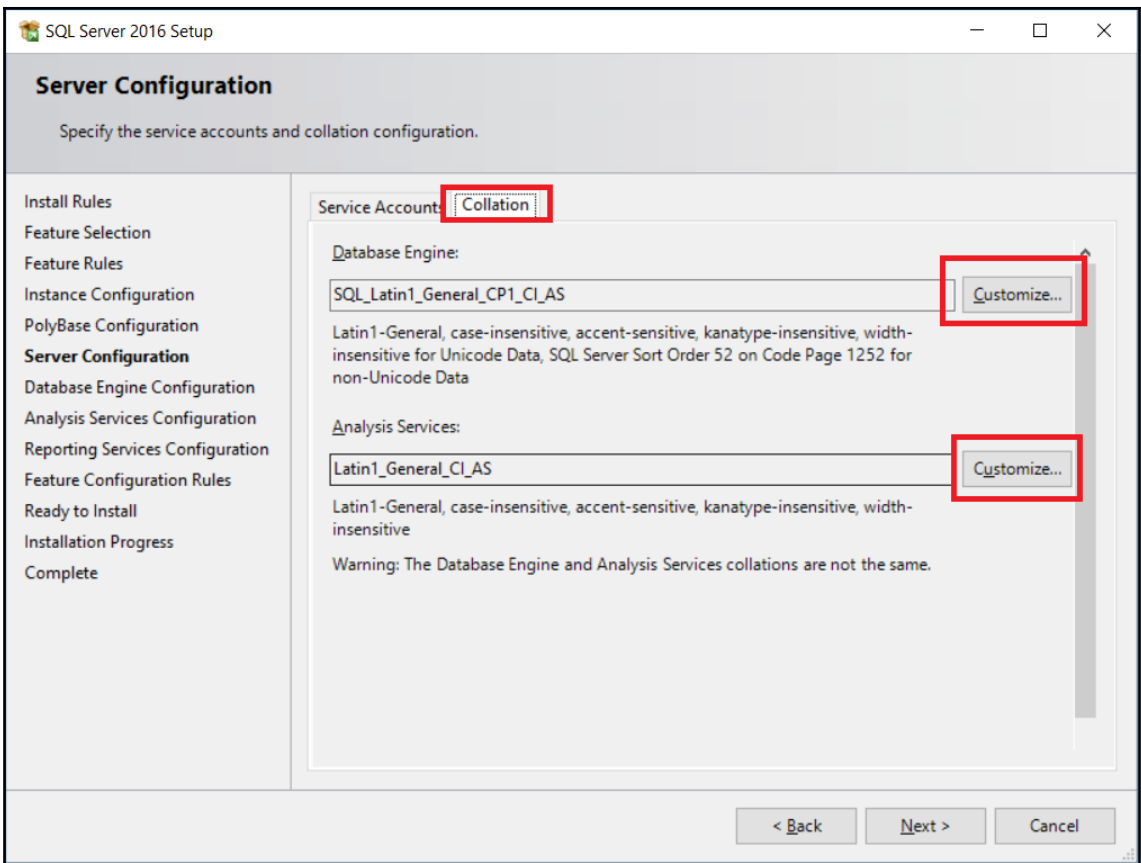
Choose this option to use this SQL Server instance as a Head or Compute node in a PolyBase Scale-out group. Selecting this option will open Firewall on this machine to allow incoming connections to SQL Server Database Engine, SQL Server PolyBase services and SQL Browser. Selecting this option will also enable MSDTC firewall connections and modify MSDTC registry settings.

Specify a port range for PolyBase services:

< Back

Next >

Cancel



Customize the SQL Server 2016 Database Engine Collation

Select the collation you would like to use:

Windows collation designator and sort order

Collation designator:

- | | |
|---|--|
| <input type="checkbox"/> Binary | <input type="checkbox"/> Binary-code point |
| <input type="checkbox"/> Case-sensitive | <input type="checkbox"/> Kana-sensitive |
| <input type="checkbox"/> Accent-sensitive | <input type="checkbox"/> Width-sensitive |
| <input type="checkbox"/> Supplementary characters | |

SQL collation, used for backwards compatibility

- SQL_Hungarian_CP1250_CI_AS
- SQL_Hungarian_CP1250_CS_AS
- SQL_Icelandic_Pref_CP1_CI_AS
- SQL_Latin1_General_CP1_CI_AI
- SQL_Latin1_General_CP1_CI_AS**

Collation description:

Latin1-General, case-insensitive, accent-sensitive, kanatype-insensitive, width-insensitive for Unicode Data, SQL Server Sort Order 52 on Code Page 1252 for non-Unicode Data

OK

Cancel

Customize the SQL Server 2016 Analysis Services Collation

Select the collation you would like to use:

Windows collation designator and sort order

Collation designator:

Binary Binary-code point

Case-sensitive Kana-sensitive

Accent-sensitive Width-sensitive

OK

Cancel

Server Configuration

Specify the service accounts and collation configuration.

- Install Rules
- Feature Selection
- Feature Rules
- Instance Configuration
- PolyBase Configuration
- Server Configuration**
- Database Engine Configuration
- Analysis Services Configuration
- Reporting Services Configuration
- Feature Configuration Rules
- Ready to Install
- Installation Progress
- Complete

Service Accounts Collation

Database Engine:

Latin1_General_100_CI_AI

Customize...

Latin1-General-100, case-insensitive, accent-insensitive, kanatype-insensitive, width-insensitive

Analysis Services:

Latin1_General_100_CI_AI

Customize...

Latin1-General-100, case-insensitive, accent-insensitive, kanatype-insensitive, width-insensitive

< Back

Next >

Cancel

Database Engine Configuration

Specify Database Engine authentication security mode, administrators, data directories and TempDB settings.

- Install Rules
- Feature Selection
- Feature Rules
- Instance Configuration
- PolyBase Configuration
- Server Configuration
- Database Engine Configuration**
- Analysis Services Configuration
- Reporting Services Configuration
- Feature Configuration Rules
- Ready to Install
- Installation Progress
- Complete

Server Configuration | Data Directories | TempDB | FILESTREAM

Specify the authentication mode and administrators for the Database Engine.

Authentication Mode

- Windows authentication mode
- Mixed Mode (SQL Server authentication and Windows authentication)

Specify the password for the SQL Server system administrator (sa) account.

Enter password: [password field]

Confirm password: [password field]

Specify SQL Server administrators

- SSISCOOKBOOK\Christian (Christian)

SQL Server administrators have unrestricted access to the Database Engine.

Add Current User | Add... | Remove

< Back | Next > | Cancel

Analysis Services Configuration

Specify Analysis Services server modes, administrators, and data directories.

- Install Rules
- Feature Selection
- Feature Rules
- Instance Configuration
- PolyBase Configuration
- Server Configuration
- Database Engine Configuration
- Analysis Services Configuration**
- Reporting Services Configuration
- Feature Configuration Rules
- Ready to Install
- Installation Progress
- Complete

Server Configuration **Data Directories**

Server Mode:

- Multidimensional and Data Mining Mode
- Tabular Mode**
- PowerPivot Mode

Specify which users have administrative permissions for Analysis Services.

SSISCOOKBOOK\Christian (Christian)

Analysis Services administrators have unrestricted access to Analysis Services.

Add Current User

Add...

Remove

< Back

Next >

Cancel

Reporting Services Configuration

Specify the Reporting Services configuration mode.

- Install Rules
- Feature Selection
- Feature Rules
- Instance Configuration
- PolyBase Configuration
- Server Configuration
- Database Engine Configuration
- Analysis Services Configuration
- Reporting Services Configura...**
- Feature Configuration Rules
- Ready to Install
- Installation Progress
- Complete

Reporting Services Native Mode

- Install and configure.**
Installs and configures the report server in native mode. The report server is operational after setup completes.
- Install only.**
Installs the report server files. After installation, use Reporting Services Configuration Manager to configure the report server for native mode.

Reporting Services SharePoint Integrated Mode

- Install only.**
Installs the report server files. After installation use SharePoint Central Administration to complete the configuration. Verify the SQL Server Reporting Services service is started and create at least one SQL Server Reporting Services service application. For more information, click Help.

< Back

Next >

Cancel

Ready to Install

Verify the SQL Server 2016 features to be installed.

- Install Rules
- Feature Selection
- Feature Rules
- Instance Configuration
- PolyBase Configuration
- Server Configuration
- Database Engine Configuration
- Analysis Services Configuration
- Reporting Services Configuration
- Feature Configuration Rules
- Ready to Install**
- Installation Progress
- Complete

Ready to install SQL Server 2016:

- [-] Summary
 - ... Edition: Developer
 - ... Action: Install (Product Update)
 - [-] Prerequisites
 - [-] Already installed:
 - ... Windows PowerShell 3.0 or higher
 - ... Microsoft Visual Studio 2010 Redistributables
 - ... Oracle SE Java Runtime Environment Version 7 Update 51 or higher (64-bit)
 - ... Microsoft .NET Framework 4.6
 - [-] To be installed from media:
 - ... Microsoft Visual Studio 2010 Shell
 - ... Microsoft Visual C++ 2015 Redistributable
 - ... Microsoft Visual Studio Tools for Applications 2015
 - [-] General Configuration
 - [-] Features
 - ... Database Engine Services
 - ... Data Quality Services
 - ... PolyBase Query Service for External Data

Configuration file path:

C:\Program Files\Microsoft SQL Server\130\Setup Bootstrap\Log\20161002_132923\ConfigurationFile.ini

< Back Install Cancel

Installation Progress

- Install Rules
- Feature Selection
- Feature Rules
- Instance Configuration
- PolyBase Configuration
- Server Configuration
- Database Engine Configuration
- Analysis Services Configuration
- Reporting Services Configuration
- Feature Configuration Rules
- Ready to Install
- Installation Progress**
- Complete

Expanding user features.

Next >

Cancel

Complete

Your SQL Server 2016 installation completed successfully with product updates.

- Install Rules
- Feature Selection
- Feature Rules
- Instance Configuration
- PolyBase Configuration
- Server Configuration
- Database Engine Configuration
- Analysis Services Configuration
- Reporting Services Configuration
- Feature Configuration Rules
- Ready to Install
- Installation Progress
- Complete**

Information about the Setup operation or possible next steps:

Feature	Status
✓ Reporting Services - Native	Succeeded
✓ PolyBase Query Service for External Data	Succeeded
✓ Database Engine Services	Succeeded
✓ Data Quality Services	Succeeded
✓ Master Data Services	Succeeded
✓ Integration Services	Succeeded

Details:

Empty text box for details.

Summary log file has been saved to the following location:

[\Summary_SISCookBook_20161002_132923.txt](C:\Program Files\Microsoft SQL Server\130\Setup Bootstrap\Log\20161002_132923)

Close

SQL Server Installation Center

Planning

Installation

Maintenance








Tools

Resources

Advanced

Options

Microsoft SQL Server 2016

-  New SQL Server stand-alone installation or add features to an existing installation
Launch a wizard to install SQL Server 2016 in a non-clustered environment or to add features to an existing SQL Server 2016 instance.
-  [Install SQL Server Management Tools](#)
Launch a download page that provides a link to install SQL Server Management Studio, SQL Server command-line utilities (SQLCMD and BCP), SQL Server PowerShell provider, SQL Server Profiler and Database Tuning Advisor. An internet connection is required to install these tools.
-  [Install SQL Server Data Tools](#)
Launch a download page that provides a link to install SQL Server Data Tools (SSDT). SSDT provides Visual Studio integration including project system support for Azure SQL Database, the SQL Server Database Engine, Reporting Services, Analysis Services and Integration Services. An internet connection is required to install SSDT.
-  New SQL Server failover cluster installation
Launch a wizard to install a single-node SQL Server 2016 failover cluster.
-  Add node to a SQL Server failover cluster
Launch a wizard to add a node to an existing SQL Server 2016 failover cluster.
-  Upgrade from a previous version of SQL Server
Launch a wizard to upgrade a previous version of SQL Server to SQL Server 2016.
-  New R Server (Standalone) installation
Launch a wizard to install R Server (Standalone) on a Windows machine. This is typically used by data scientists as a standalone analysis server or as a SQL Server R Services client.

S)
Studio -
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Studio)

Download SQL Server Management Studio (SSMS)

Updated: September 23, 2016

SQL Server Management Studio (SSMS) is an integrated environment for accessing, configuring, managing, administering, and developing all components of SQL Server. SSMS combines a broad group of graphical tools with a number of rich script editors to provide developers and administrators of all skill levels access to SQL Server. This release features improved compatibility with previous versions of SQL Server, a stand-alone web installer, and toast notifications within SSMS when new releases become available.



Download SQL Server Management Studio (SSMS)

[Download SQL Server Management Studio \(16.4.1\)](#)

Note

- SSMS releases are now branded numerically, not by months.
- This generally available release of SSMS is free and does not require a SQL Server license to install and use.



RELEASE 16.4.1

Microsoft SQL Server Management Studio

Welcome. Click "Install" to begin.

By clicking the "Install" button, I acknowledge that I accept the [License Terms](#) and [Privacy Statement](#).

SQL Server Management Studio transmits information about your installation experience, as well as other usage and performance data, to Microsoft to help improve the product. To learn more about SQL Server Management Studio data processing and privacy controls, see the [privacy statement link](#) above.

Install

Close



RELEASE 16.4.1

Microsoft SQL Server Management Studio

Loading packages. Please wait...



Cancel



RELEASE 16.4.1

Microsoft SQL Server Management Studio

Setup Completed

All specified components have been installed successfully.

Close

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Servers and Enterprise Development > SQL Server > SQL Server Tools

Download SQL Server Data Tools (SSDT)

Updated: July 7, 2016

[Download SQL Server Data Tools for Visual Studio 2015!](#)

SQL Server Data Tools is a modern development tool that you can download for free to build SQL Server relational databases, Azure SQL databases, Integration Services packages, Analysis Services data models, and Reporting Services reports. With SSDT, you can design and deploy any SQL Server content type with the same ease as you would develop an application in Visual Studio.

This release supports SQL Server 2016 through SQL Server 2005, and provides the design environment for adding features that are new in SQL Server 2016.

- [Download SQL Server Data Tools for Visual Studio 2015 here!](#)

SSDT works best with Visual Studio 2015

[Download Visual Studio Community 2015](#)

If you don't have Visual Studio installed on your machine, installing SSDT will also install a minimal "Integrated Shell" version of Visual Studio 2015. This version of Visual Studio is free to install and use on as many machines as you wish. It gives you all the SQL Server project types, plus SQL Server Object Explorer and other SQL tools experiences.

If you do have [Visual Studio 2015 Community Edition](#) (or above) installed on your machine, installing SSDT will add the full set of SQL Server tools into your existing Visual Studio installation. Visual Studio includes many features you might want to use, such as Source Code Control integration and non-SQL language support. We recommend using Visual Studio 2015 Community or above to get the best experience when developing T-SQL.

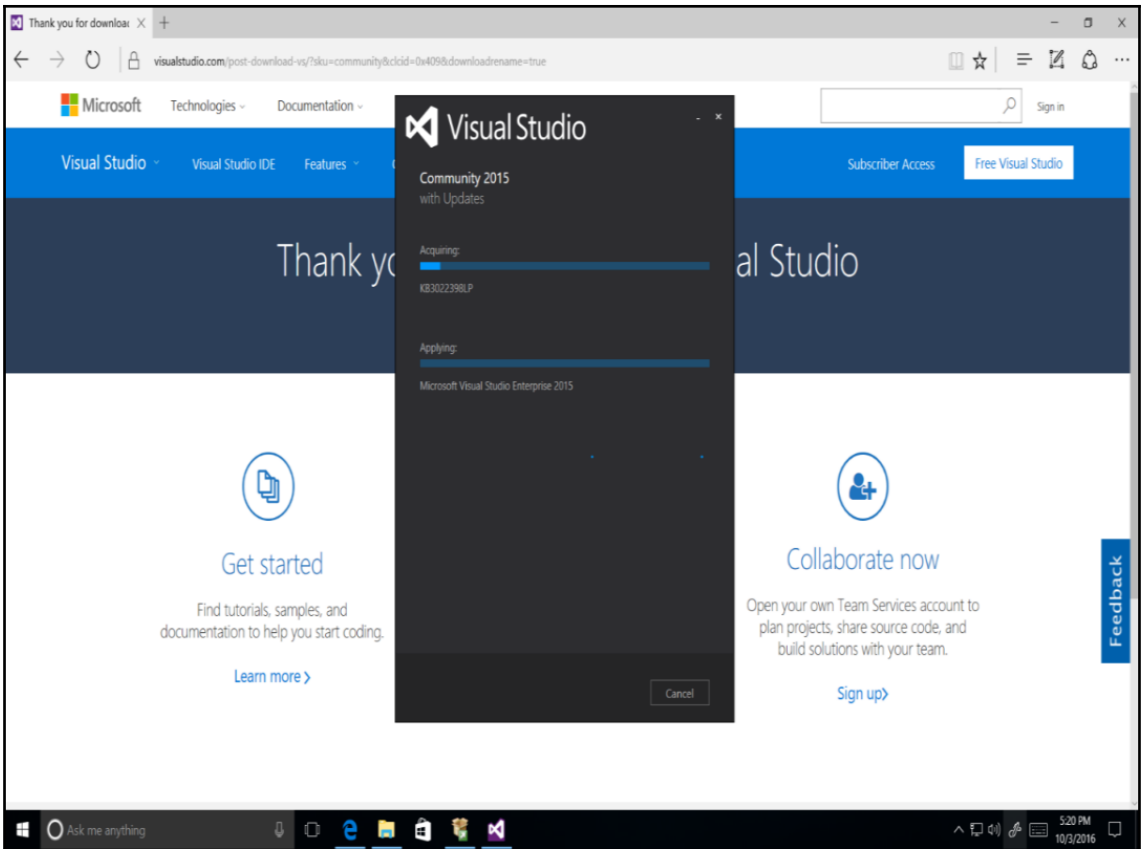
- [Compare Visual Studio 2015 features by Edition](#)

Supported SQL versions

Project Templates	SQL Platforms Supported
-------------------	-------------------------

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[SSDT works best with Visual Studio 2015](#)
Supported SQL versions
Next steps
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Download Visual Studio Community 2015

If you don't have Visual Studio installed on your machine, installing SSDT will also install a minimal "Integrated Shell" version of Visual Studio 2015. This version of Visual Studio is free to install and use on as many machines as you wish. It gives you all the SQL Server project types, plus SQL Server Object Explorer and other SQL tools experiences.

If you do have Visual Studio 2015 Community Edition (or above) installed on your machine, installing SSDT will add the full set of SQL Server tools into your existing Visual Studio installation. Visual Studio includes many features you might want to use, such as Source Code Control integration and non-SQL language support. We recommend using Visual Studio 2015 Community or above to get the best experience when developing T-SQL.

Compare Visual Studio 2015 features by Edition

Supported SQL versions

Project Templates	SQL Platforms Supported

Print Export (0) Share

IN THIS ARTICLE
 SSDT works best with Visual Studio 2015
 Supported SQL versions
 Next Steps
 See Also

Download SQL Server Man... SQL Server Data Tools II... +

msdn.microsoft.com/en-us/ml186501

1 Software Requirements

- We recommend installing Visual Studio 2015 prior to applying this update. Installing this update will replace SSDT RTM in Visual Studio 2015 with the latest preview.
- If you do not have Visual Studio 2015, SSDT preview will install Visual Studio 2015 integrated shell and Visual Studio 2015 isolated shell with limited feature support for SQL Server Database Projects.

Supported Operating Systems

- Windows 10 (x86 and x64)
- Windows 8, 8.1 (x86 and x64)
- Windows 7 SP1 (x86 and x64)
- Windows Server 2012 (x64), R2 (x64)
- Windows Server 2008 R2 SP1 (x64)

2 Install SQL Server Data Tools in Visual Studio 2015

Since SQL Server tooling is included in VS, the updates will be pushed through VS Update and users will be prompted when VS is open. If you'd like to check for updates manually, open Visual Studio 2015 and choose the Tools > Extensions and Updates menu. SQL Server tooling updates will appear in the updates list.

The download may be available a few days prior to Visual Studio Updates being published. To directly apply the update, refer to the links in the administrative install section. You can run the links directly without making the administrative layout.

3 Set up an Administrative Install Point (optional)

For locations without internet access, create an **Administrative Install Point** for SQL Server Data Tools by following this procedure:

- Download the appropriate version of SSDTSetup.exe for your chosen language from the table below (use the "save" option in your browser, rather than "run"):

Portuguese (Brazil)	https://go.microsoft.com/fwlink/?linkid=828740&clcid=0416
Chinese (PRC)	https://go.microsoft.com/fwlink/?linkid=828740&clcid=0404
German	https://go.microsoft.com/fwlink/?linkid=828740&clcid=0407
English (United States)	https://go.microsoft.com/fwlink/?linkid=828740&clcid=0409
Spanish	https://go.microsoft.com/fwlink/?linkid=828740&clcid=040a
French	https://go.microsoft.com/fwlink/?linkid=828740&clcid=040c
Italian	https://go.microsoft.com/fwlink/?linkid=828740&clcid=0410
Japanese	https://go.microsoft.com/fwlink/?linkid=828740&clcid=0411
Korean	https://go.microsoft.com/fwlink/?linkid=828740&clcid=0412
Russian	https://go.microsoft.com/fwlink/?linkid=828740&clcid=0419
Chinese (Taiwan)	https://go.microsoft.com/fwlink/?linkid=828740&clcid=0404

- Once downloaded, run the following command using an administrator command prompt (cmd.exe run as administrator):

<https://go.microsoft.com/fwlink/?linkid=828740&clcid=0409>

Install tools for these SQL Server features:



- SQL Server Database
- SQL Server Analysis Services
- SQL Server Reporting Services
- SQL Server Integration Services

To learn more about SQL Server Data Tools,

[Click Here](#)

To learn more about Privacy and Customer Feedback,

[Click Here](#)

Next

Cancel



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MICROSOFT SQL SERVER DATA TOOLS

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Install

Cancel

Setup Progress

To learn more about SQL Server Data Tools,
[Click Here](#)



Download Progress



Installation Progress

Microsoft Visual Studio 2015 Shell (Integrated)



Cancel

Setup Successful



To learn more about SQL Server Data Tools,

[Click Here](#)

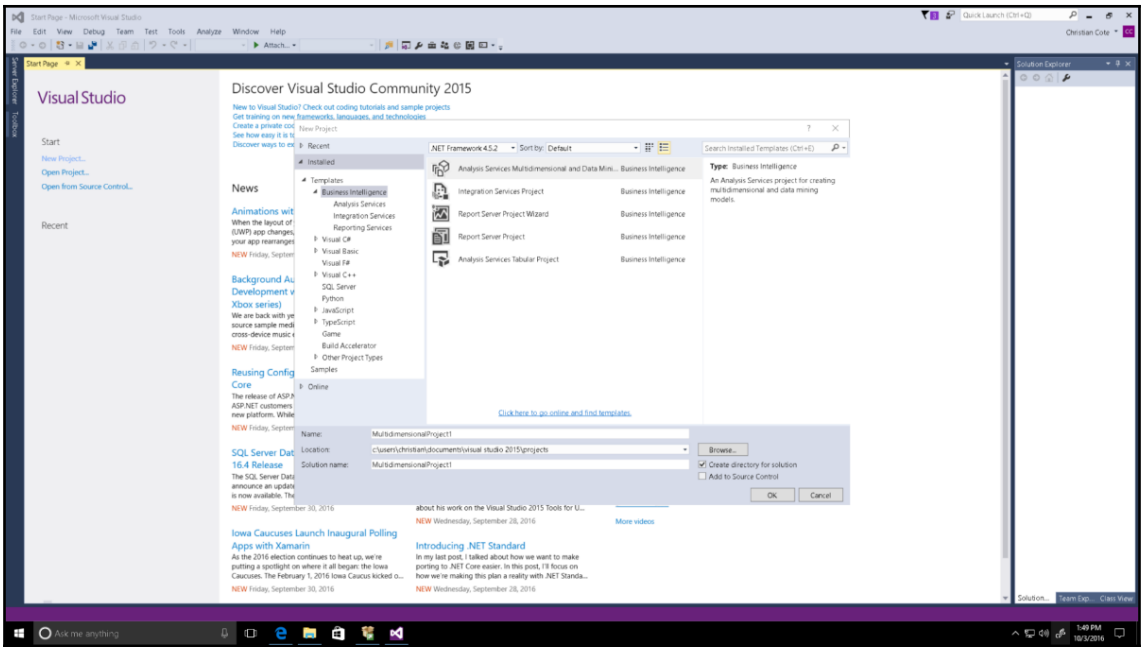
To learn more about Privacy and Customer Feedback,

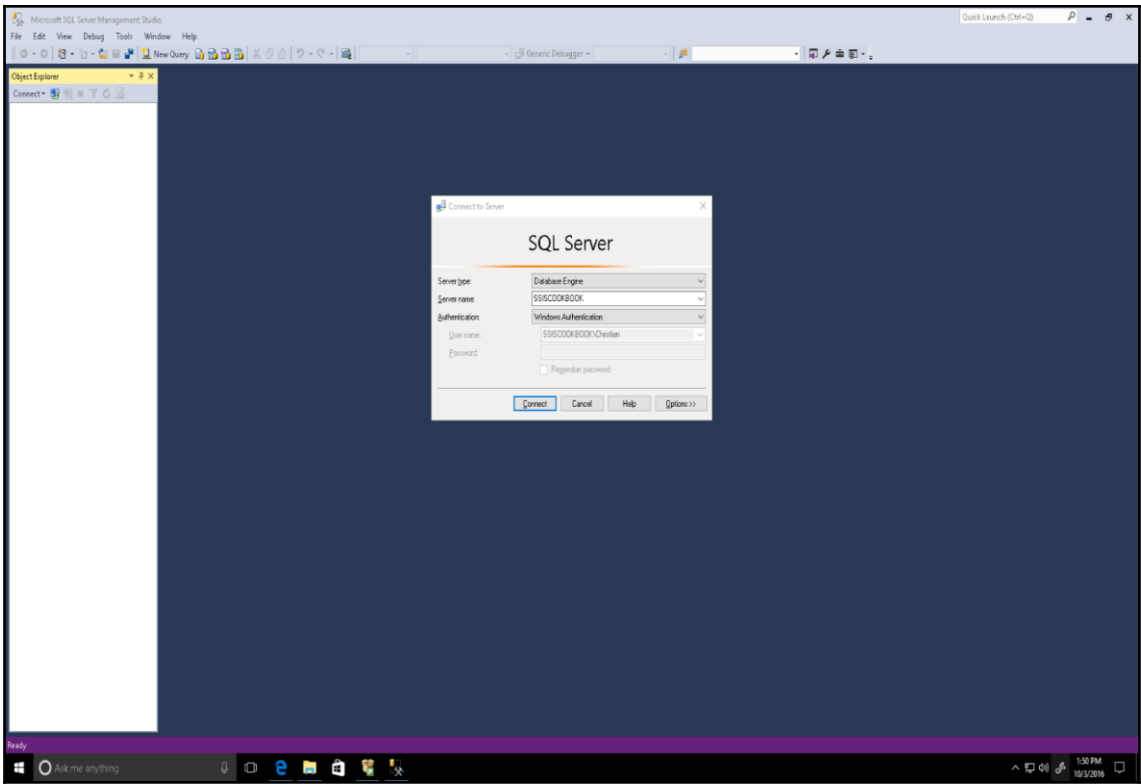
[Click Here](#)

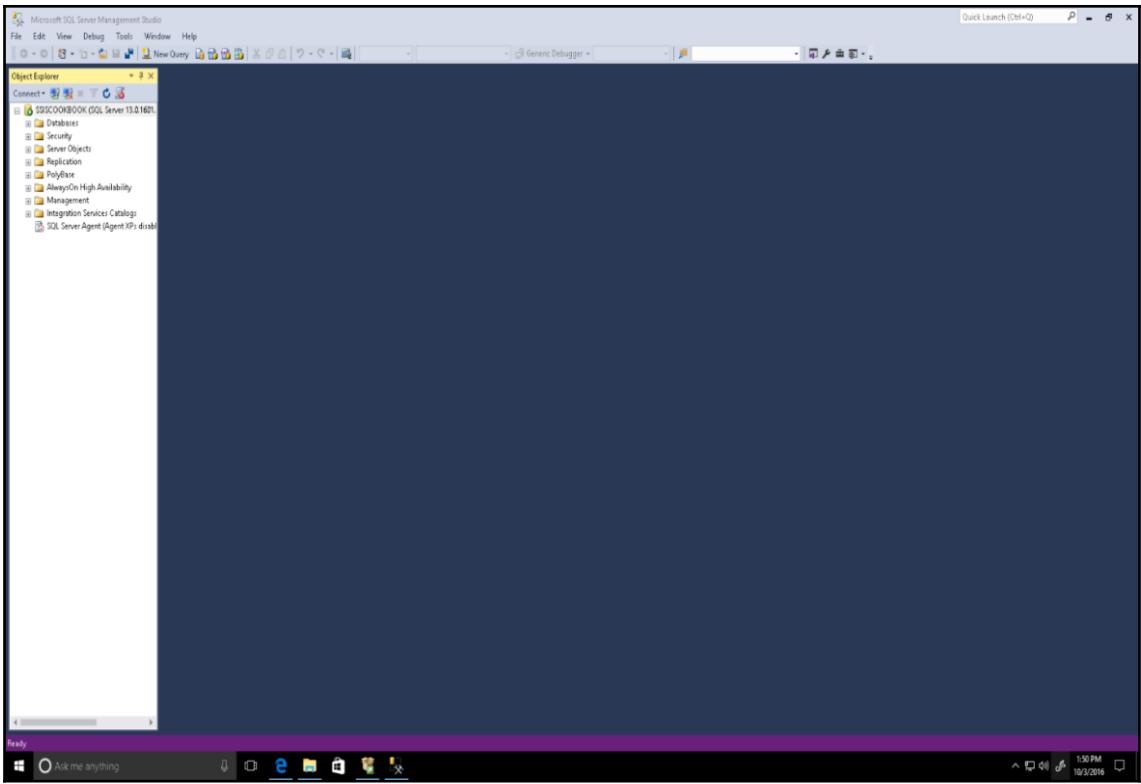
One or more setup operations require the computer to restart.

Restart

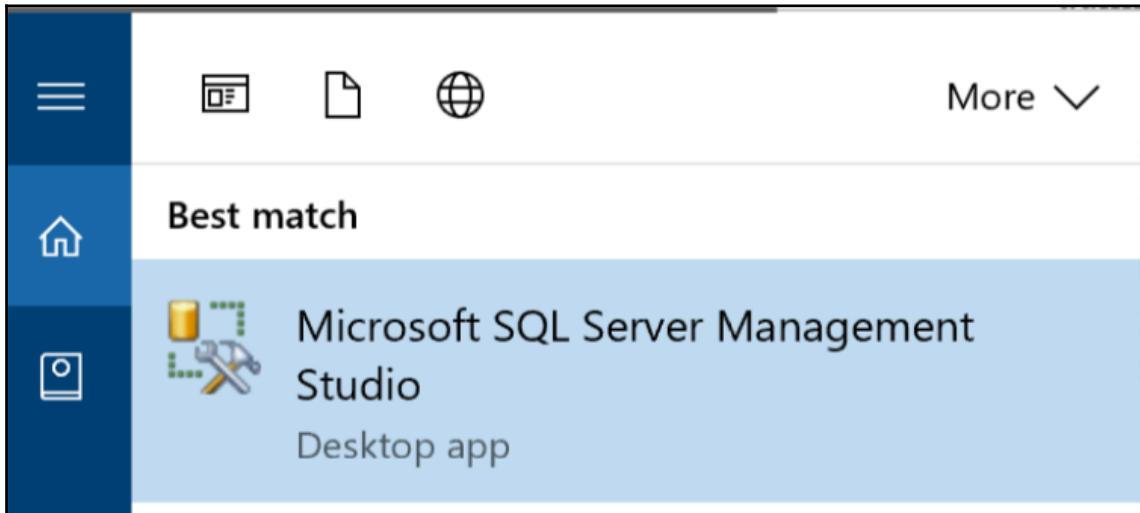
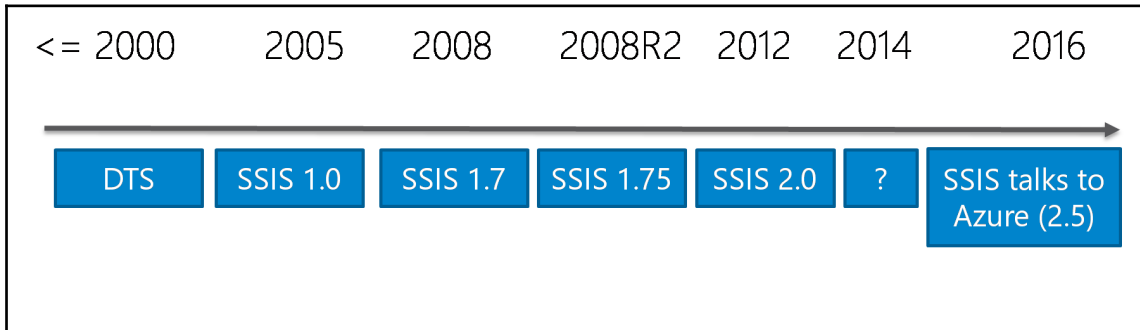
Close

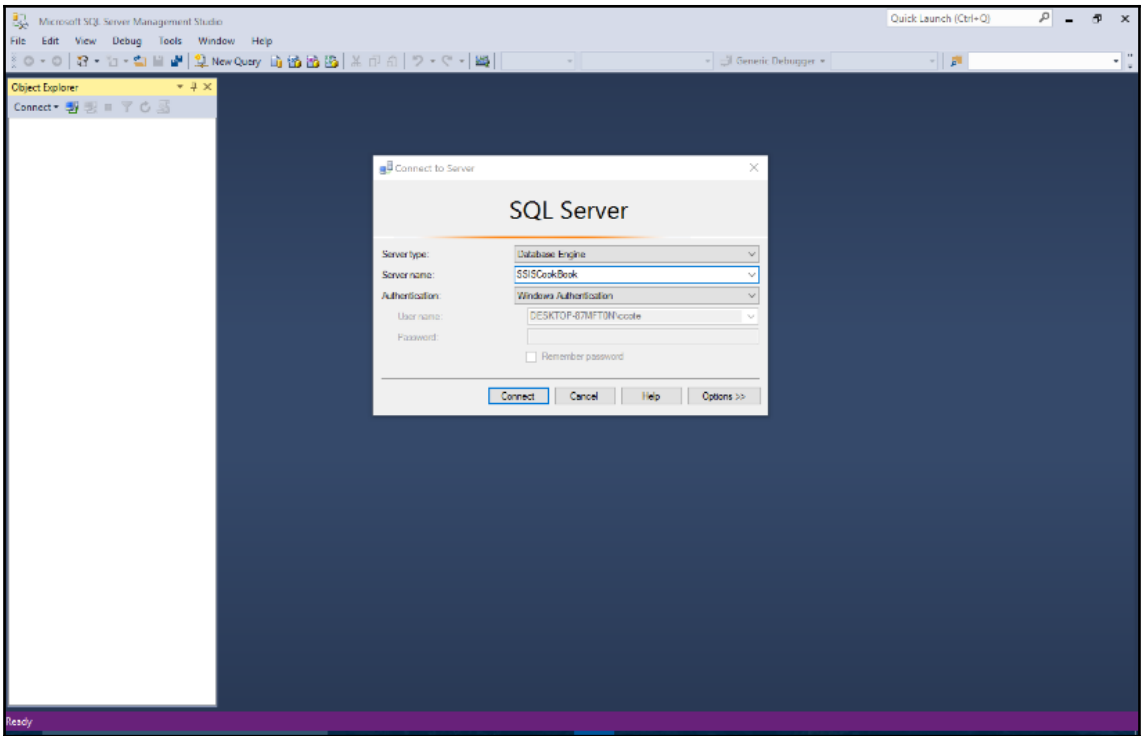


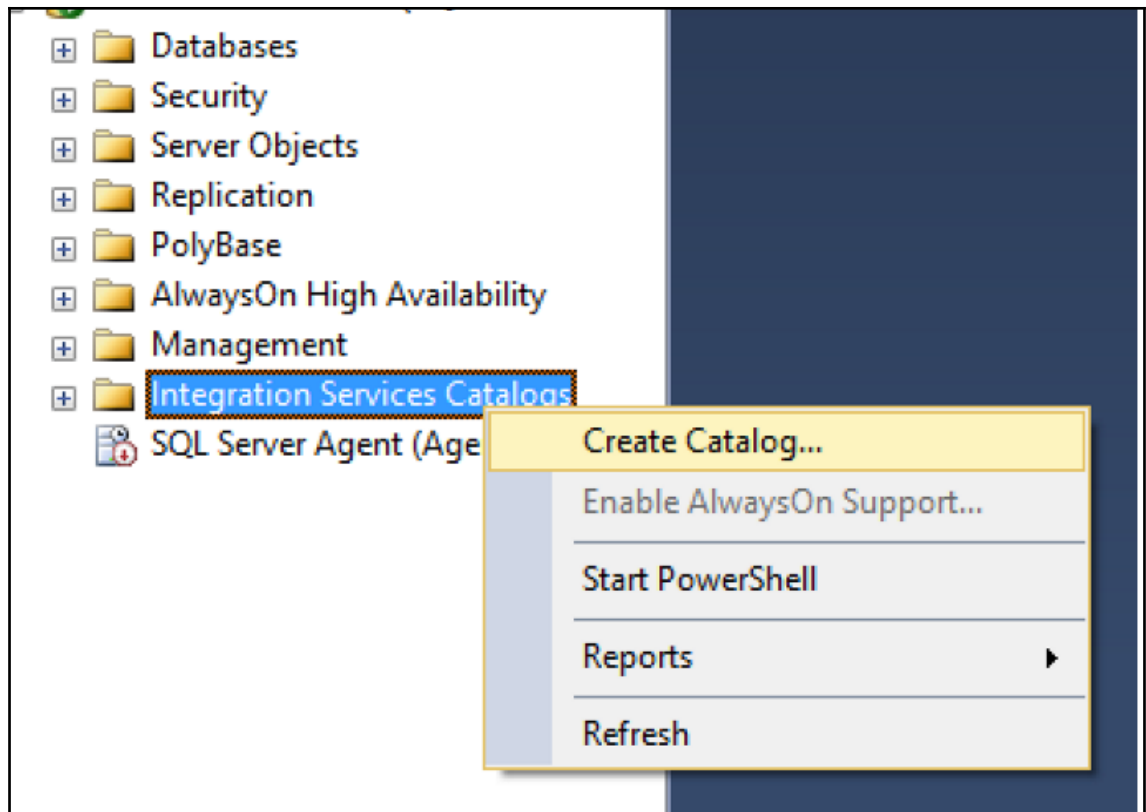


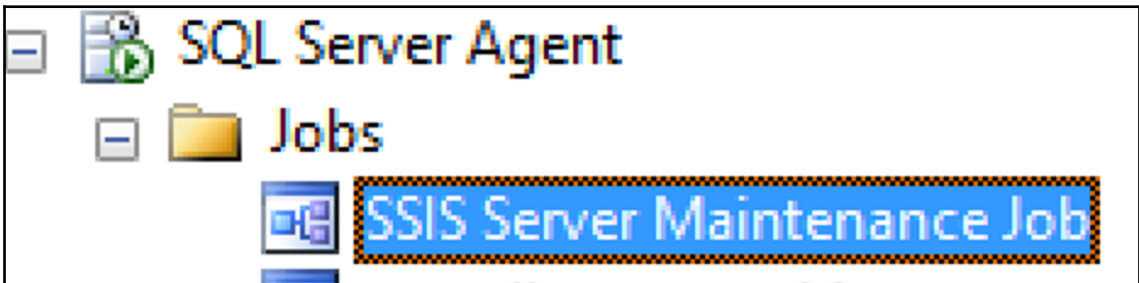
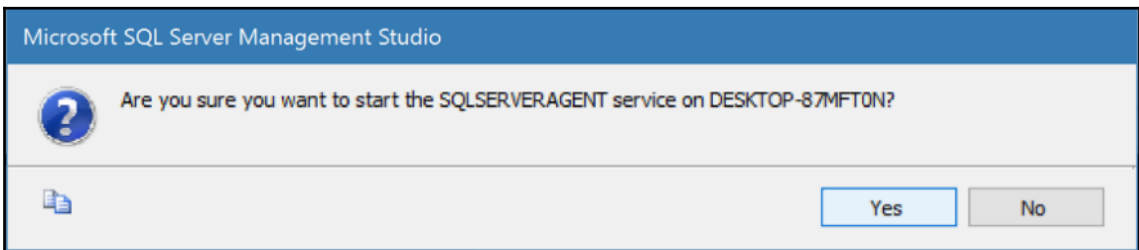
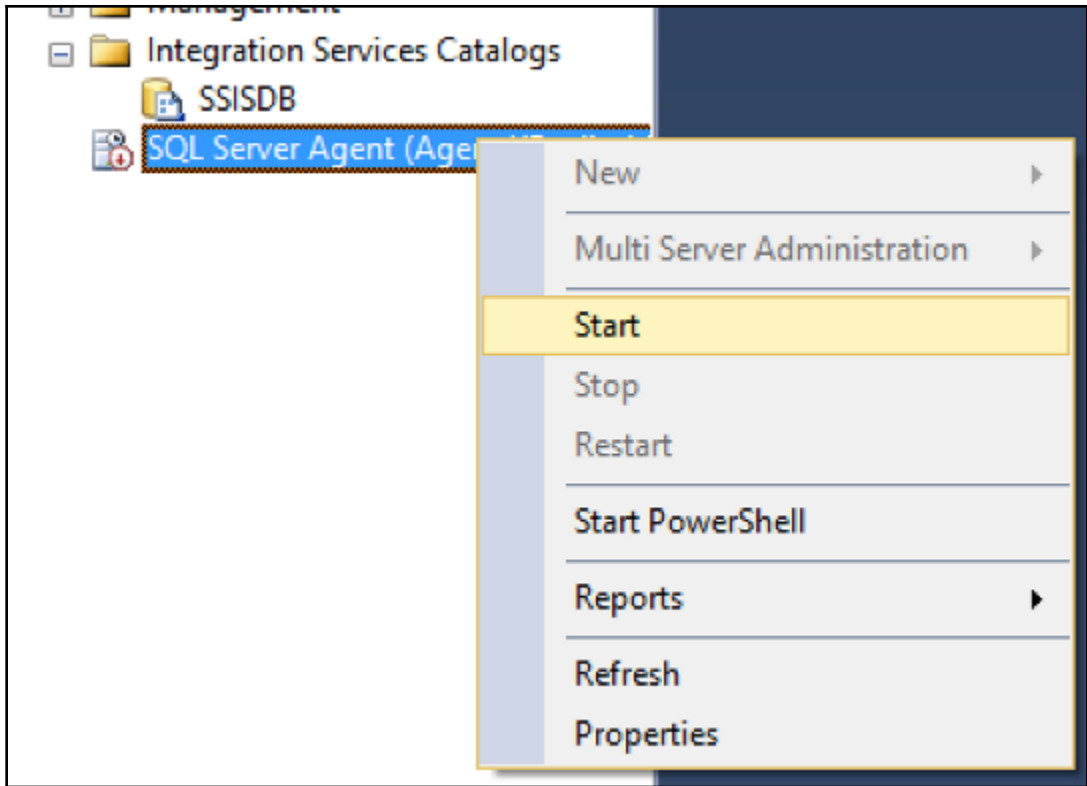


Chapter 8: What Is New in SSIS 2016









Connect - SQL Server Enterprise Edition (64-bit) - SQL Server 13.0.1601.1

DESKTOP-87MFT0N (SQL Server 13.0.1601.1)

- Databases
- Security
- Server Objects
- Replication
- PolyBase
- AlwaysOn High Availability
- Management
- Integration Services Catalogs
- SSISDB
- SQL Server Agent
 - Jobs
 - SSIS Server Maintenance Job
 - syspolicy_purge_history
 - Job Activity Monitor
 - Alerts
 - Operators
 - Proxies
 - Error Logs

Find Results 1

Job Properties - SSIS Server Maintenance Job

Script Help

Select a page

- General
- Steps
- Schedules
- Alerts
- Notifications
- Targets

Connection

Server: DESKTOP-87MFT0N

Connection: DESKTOP-87MFT0N\ccote

[View connection properties](#)

Progress

Ready

Name: SSIS Server Maintenance Job

Owner: ##MS_SSISServerCleanupJobLogin##

Category: [Uncategorized (Local)]

Description: Runs every day. The job removes operation records from the database that are outside the retention window and maintains a maximum number of versions per project.

Enabled

Source:

Created: 2016-10-24 8:02:46 AM

Last modified: 2016-10-24 8:02:47 AM

Last executed: 2016-10-25 12:00:00 AM

[View Job History](#)

OK Cancel

Catalog Properties

Ready

Select a page

General

Script | Help

Connection

DESKTOP-87MFT0N
[DESKTOP-87MFT0N\ccote]

[View connection properties](#)

Progress

Ready

General	
Name	SSISDB
Schema Version	4
Schema Build	13.0.1601.5
Encryption Algorithm Name	AES_256

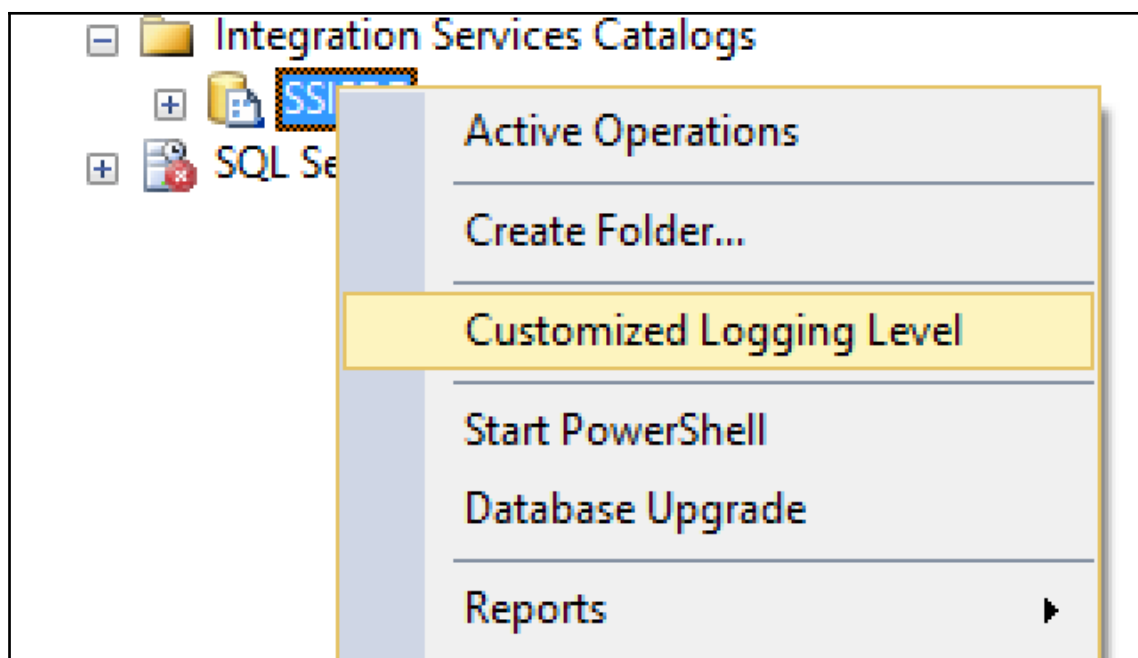
Operations Log	
Clean Logs Periodically	True
Current Number of Records	7
Current Size of Operation Log (KB)	16
Retention Period (days)	365
Server-wide Default Logging Level	Basic

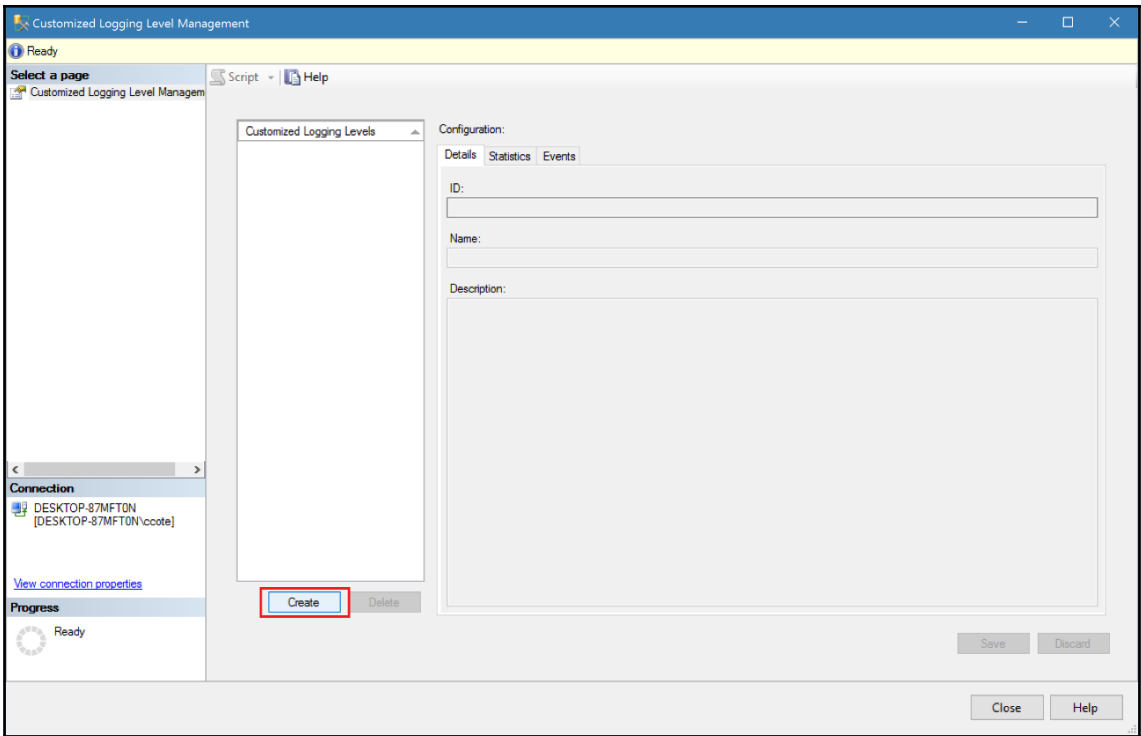
Project Versions	
Current Size of Versions Log (KB)	0
Maximum Number of Versions per Project	10
Periodically Remove Old Versions	True

Retention Period (days)

The number of days that operation details and operation messages are stored in the catalog. Note: If no cleanup is desired, set Clean Logs Periodically to FALSE.

OK Cancel Help





Create Customized Logging Level

Name:
LogRowsSent

Description:
This custom logging level allows various rows counts to be logged in the catalogs statistics tables.

Create from existing logging level:

Basic

OK Cancel Help

Customized Logging Levels

LogRowsSent

Configuration:

Details Statistics Events

<input checked="" type="checkbox"/> Name	Description
<input type="checkbox"/> Executable Execution Statistics	During package execution, the execution time and result of executables would be saved into SSISDB.
<input checked="" type="checkbox"/> Component Data Volume Statistics	During package execution, the number of rows pass through data flow component would be saved into SSISDB.
<input type="checkbox"/> Component Execution Statistics	During package execution, the execution time of data flow component would be saved into SSISDB.

Create Delete

Save Discard

Close Help

New Database

Select a page

- General
- Options
- Filegroups

Script Help

Database name: **TestCustomLogging**

Owner: <default>

Use full-text indexing

Database files:

Logical Name	File Type	Filegroup	Initial Size (MB)	Autogrowth / Maxsize
TestCustom...	ROWS...	PRIMARY	8	By 64 MB, Unlimited
TestCustom...	LOG	Not Applicable	8	By 64 MB, Unlimited

Connection

Server: SSISCOOKBOOK

Connection: SSISCOOKBOOK\Christian

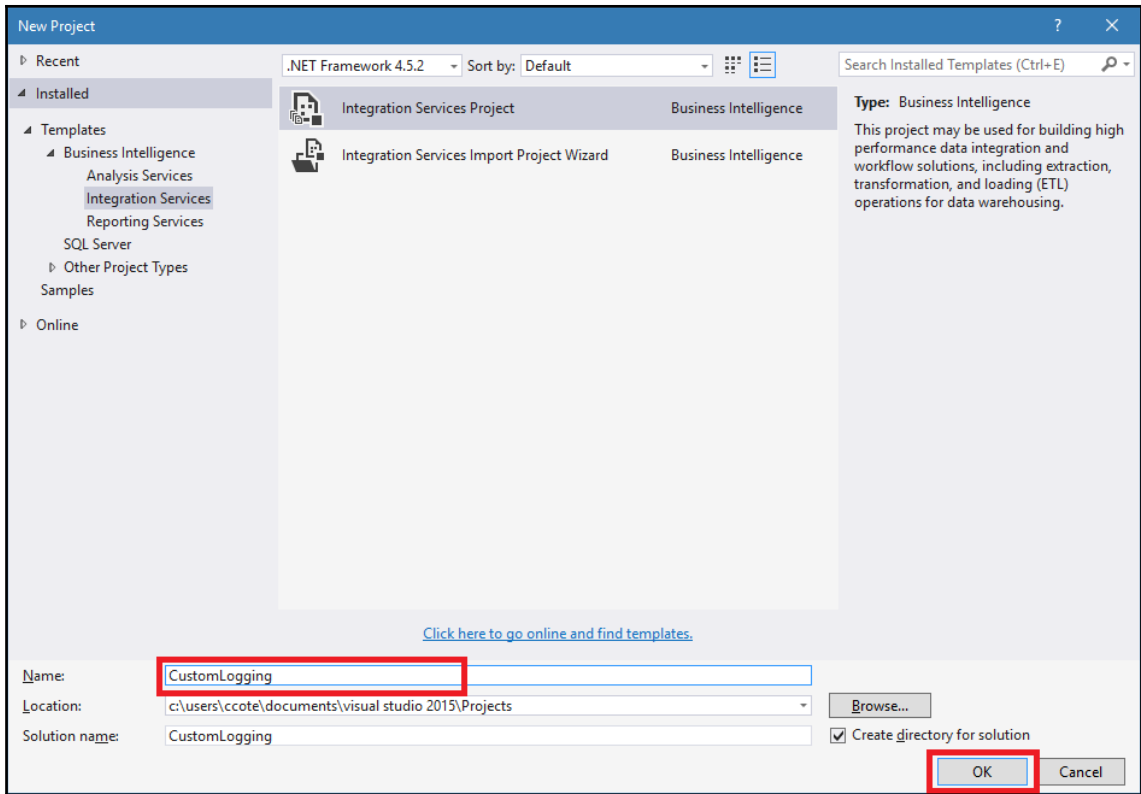
[View connection properties](#)

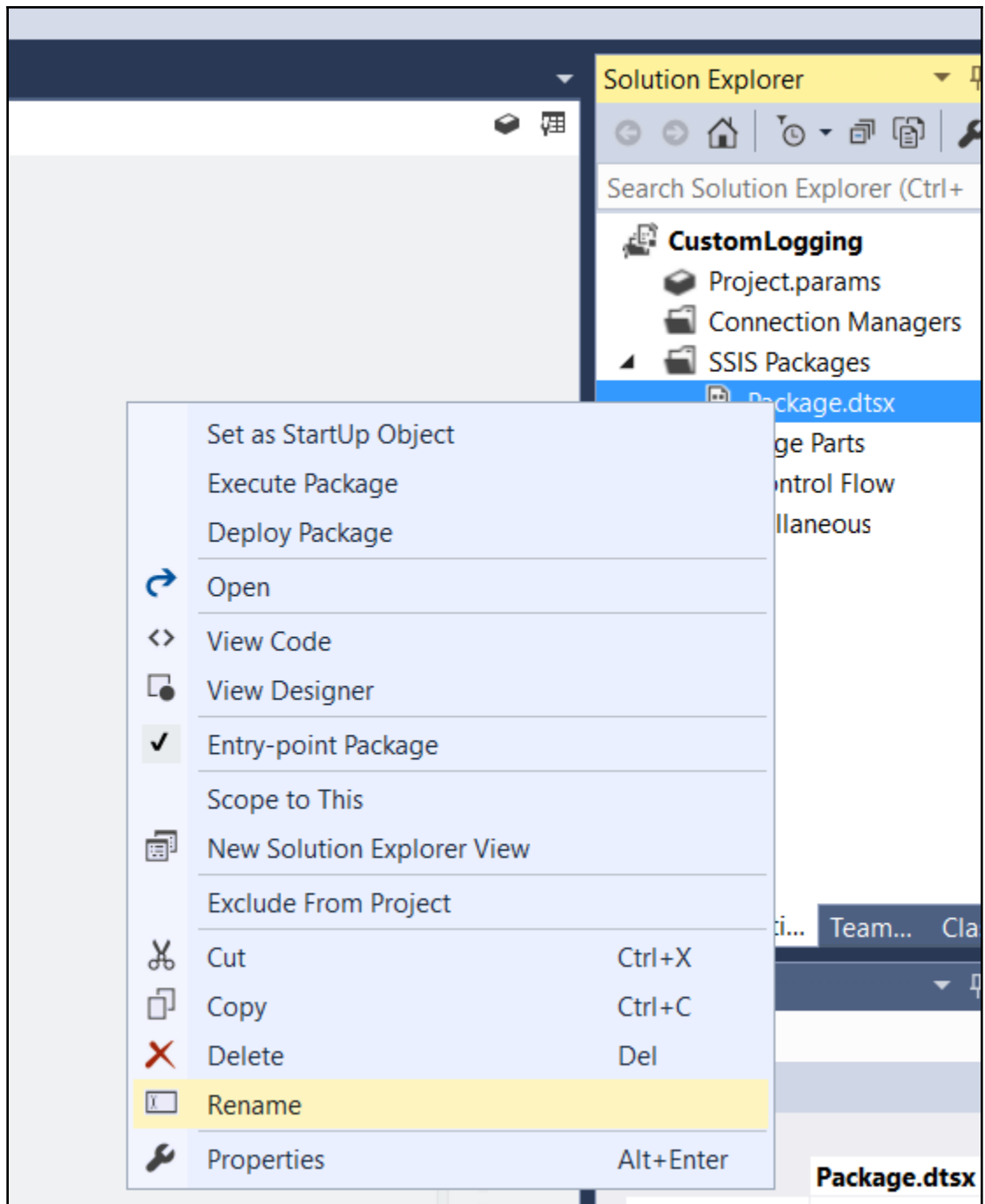
Progress

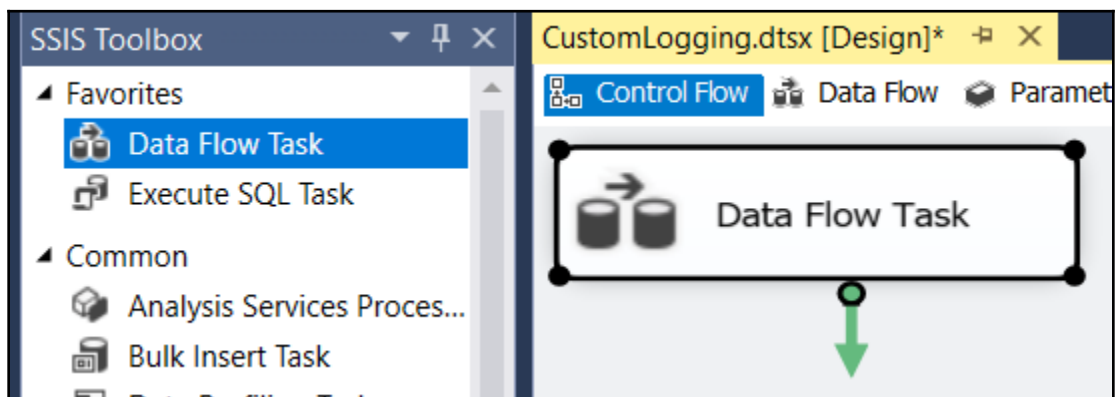
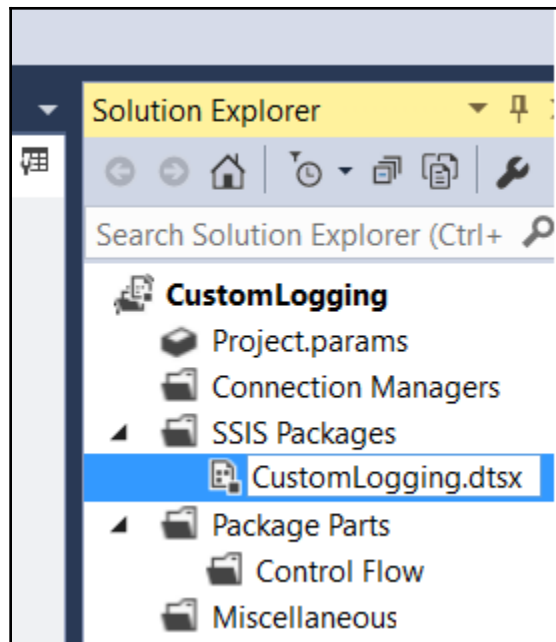
Ready

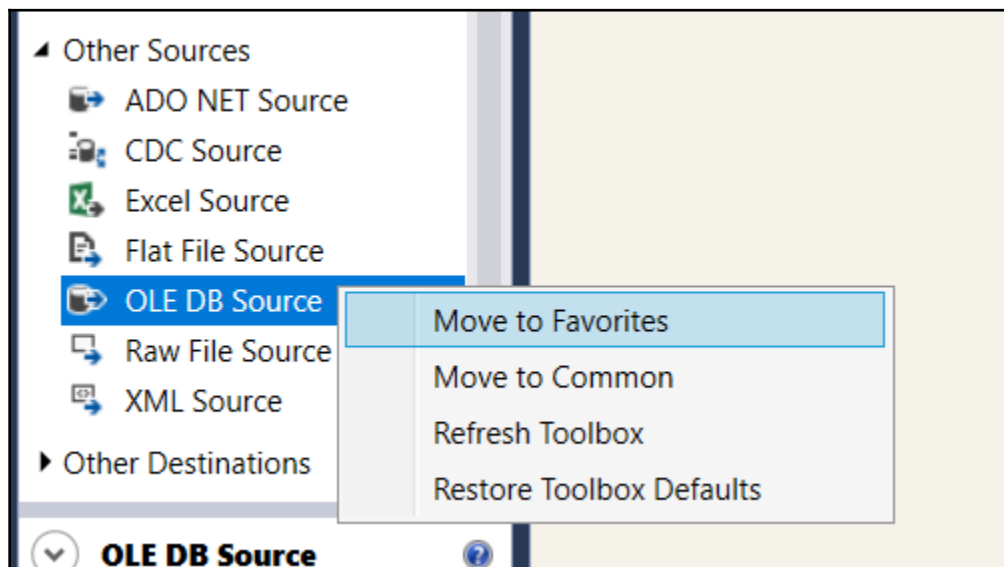
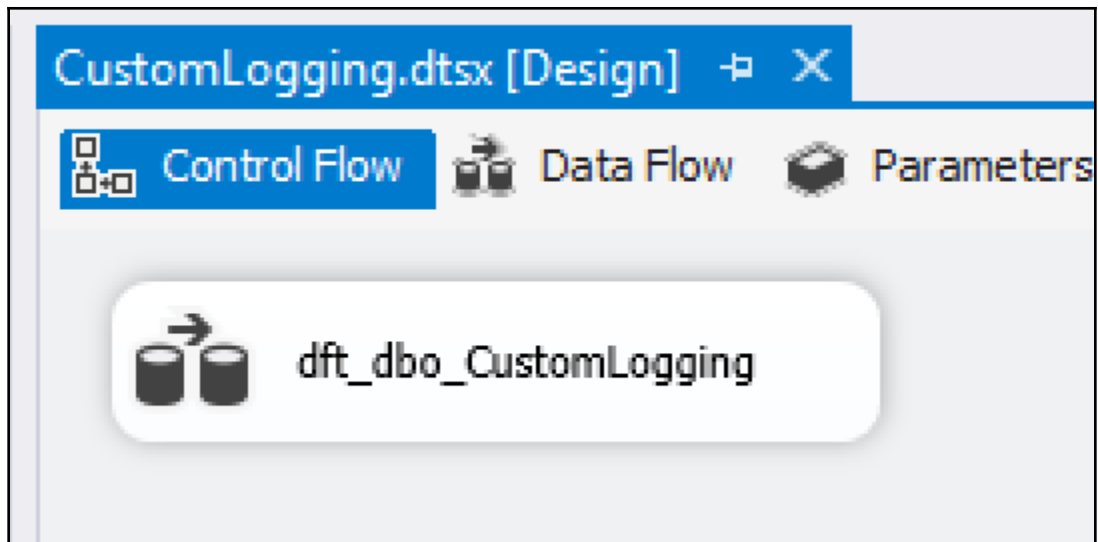
Add Remove

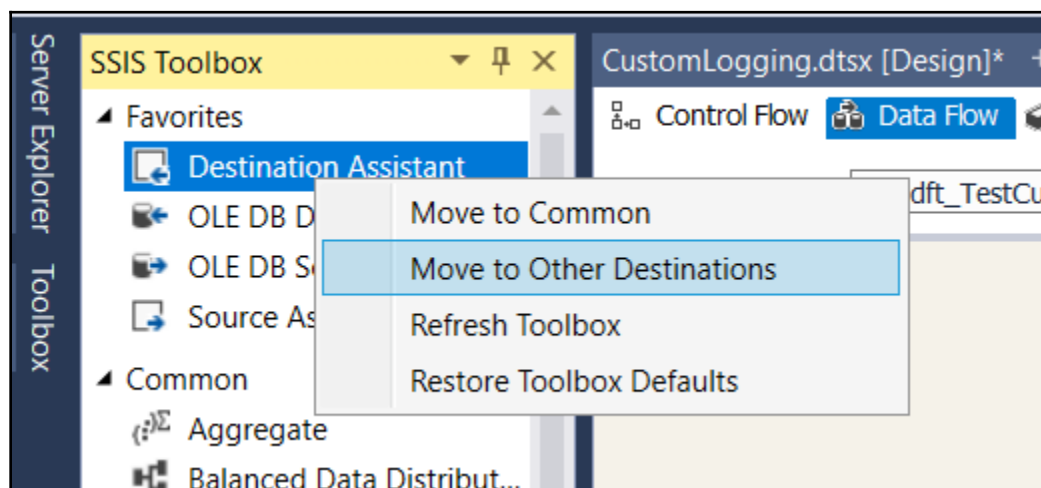
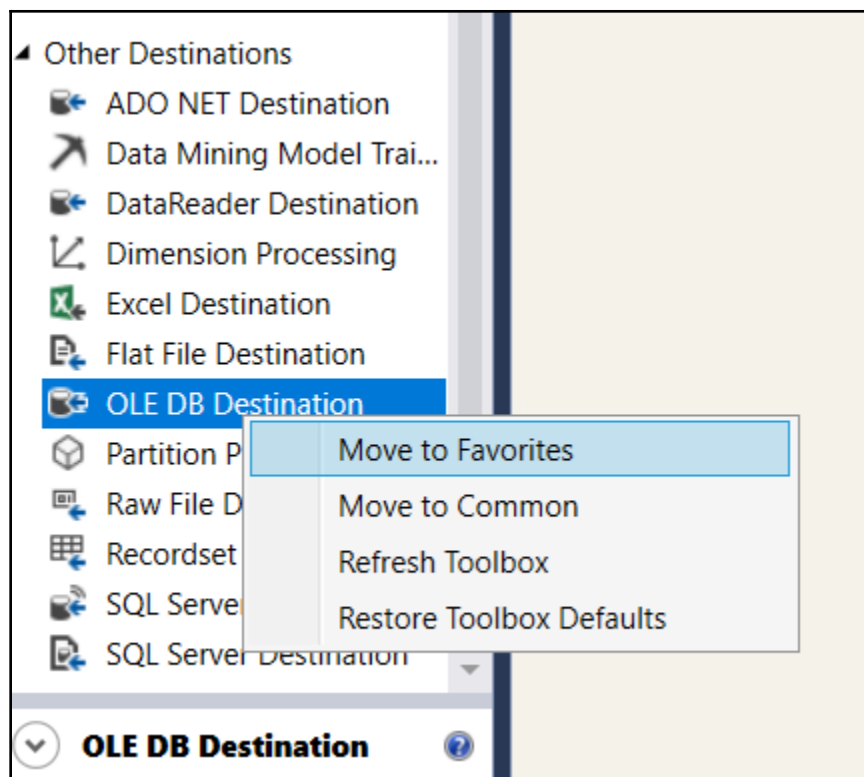
OK Cancel

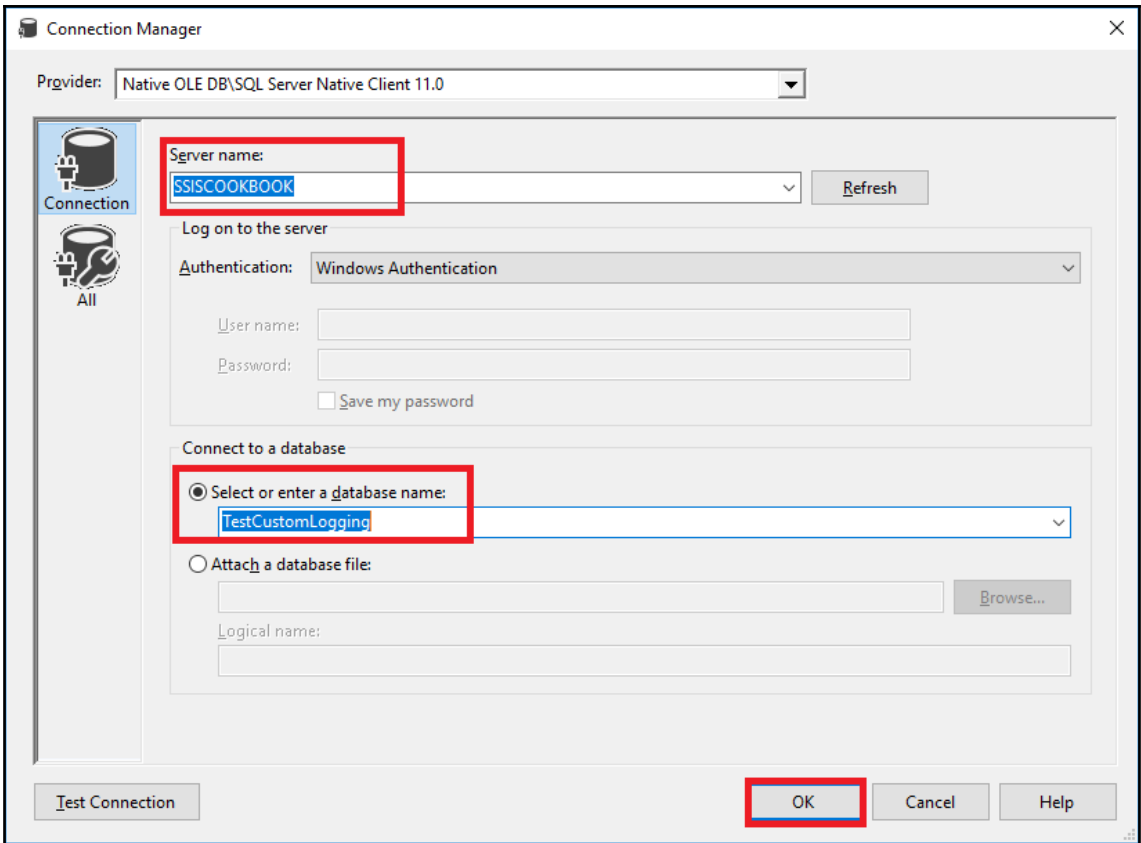
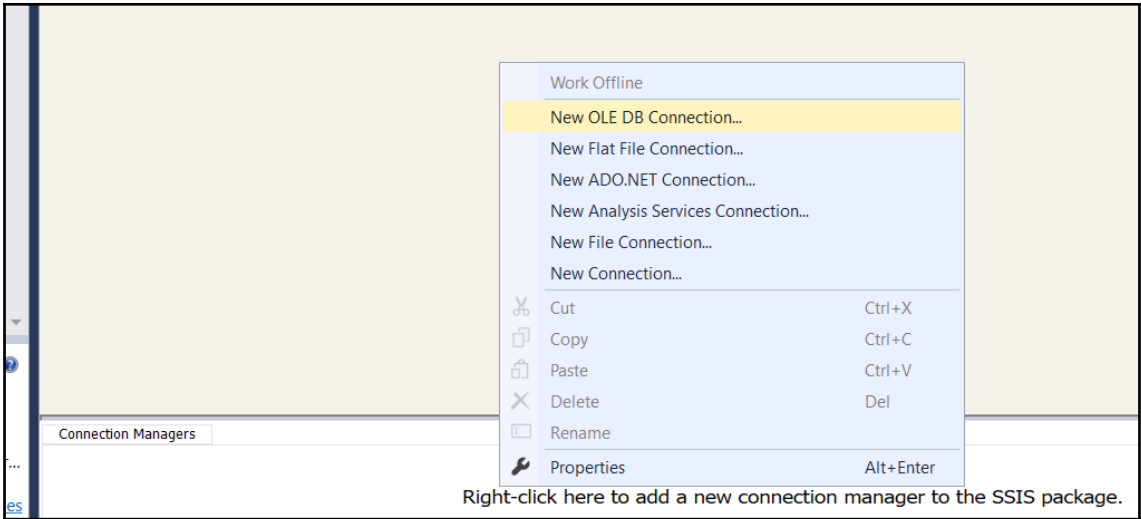


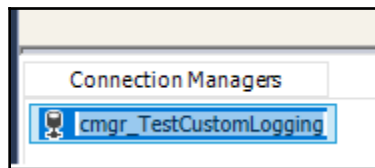
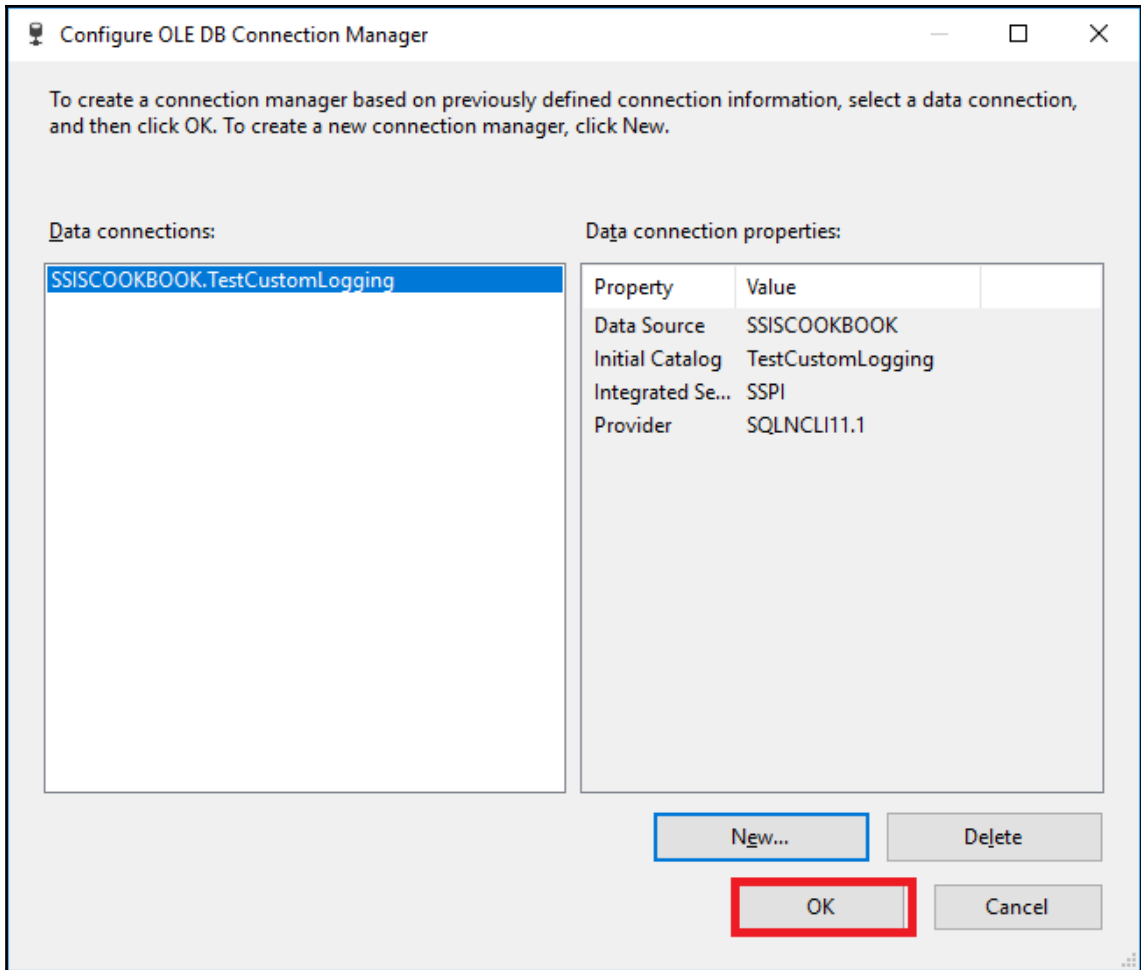


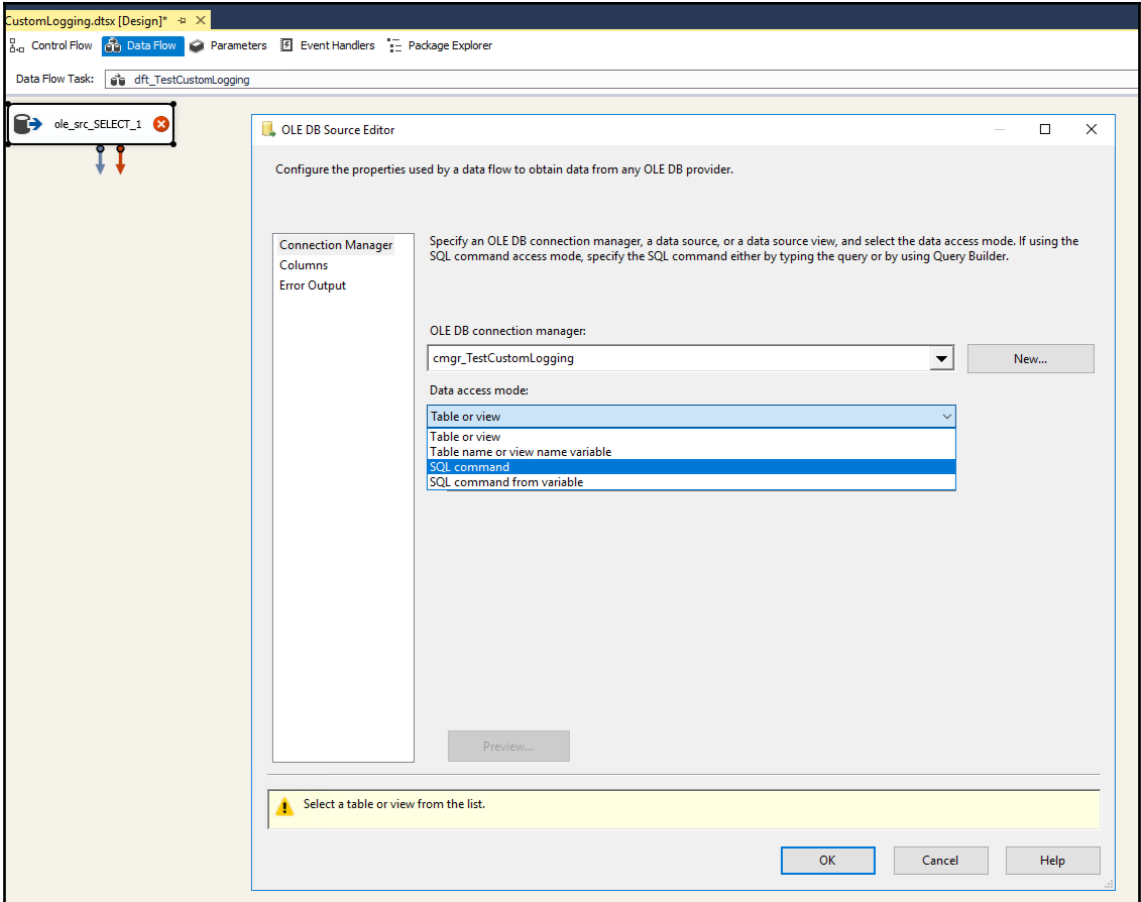












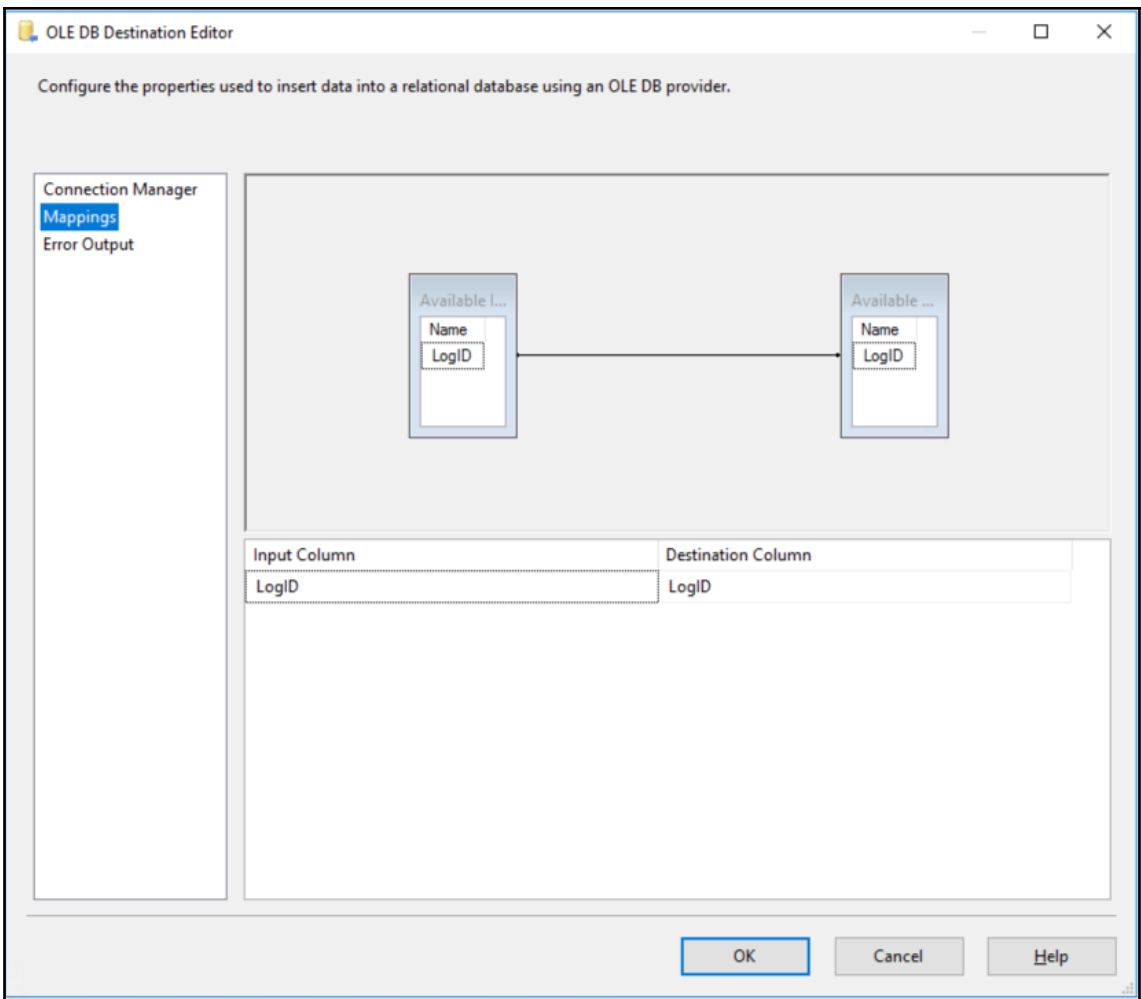
The screenshot displays the SQL Server Data Tools (SSDT) interface for configuring a Data Flow Task. The main window shows a Data Flow Task named 'dft_TestCustomLogging' with two tasks: 'ole_src_SELECT_1' and 'ole_dest_CustomLogging'. The 'OLE DB Destination Editor' dialog is open, showing the following configuration:

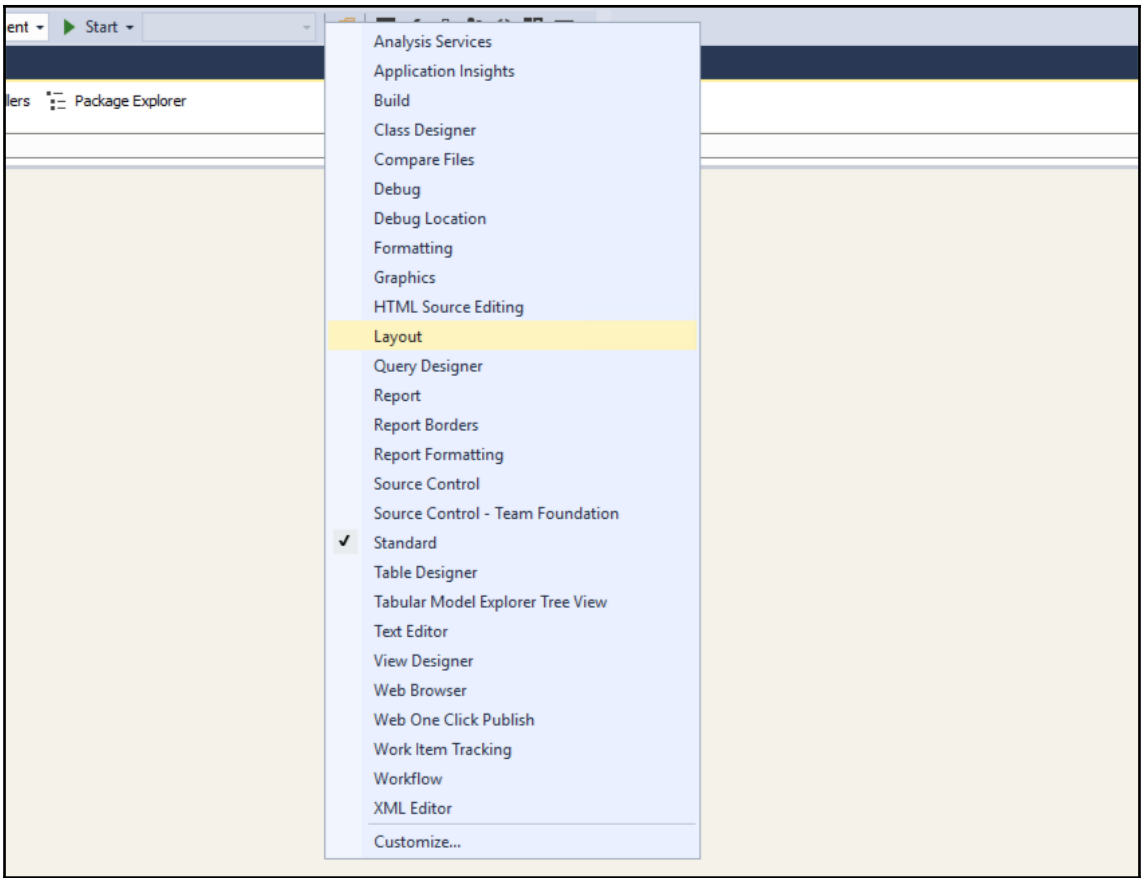
- Connection Manager:** cmgr_TestCustomLogging
- Data access mode:** Table or view - fast load
- Name of the table or the view:** (Empty)
- Options:**
 - Keep identity
 - Keep nulls
 - Rows per batch: (Empty)
 - Maximum insert commit size: (Empty)

A yellow warning message at the bottom of the OLE DB Destination Editor states: "Select a table or view from the list." The 'Create Table' dialog is also open, showing the following SQL command:

```
CREATE TABLE [CustomLogging] (  
  LogID int  
)
```

The 'Connection Managers' pane at the bottom left shows 'cmgr_TestCustomLogging'.





- Analysis Services
- Application Insights
- Build
- Class Designer
- Compare Files
- Debug
- Debug Location
- Formatting
- Graphics
- HTML Source Editing
- Layout**
- Query Designer
- Report
- Report Borders
- Report Formatting
- Source Control
- Source Control - Team Foundation
- Standard
- Table Designer
- Tabular Model Explorer Tree View
- Text Editor
- View Designer
- Web Browser
- Web One Click Publish
- Work Item Tracking
- Workflow
- XML Editor
- Customize...

SSISCookBook8191.cloudapp.net:3389 - Remote Desktop Connection

CustomLogging - Microsoft Visual Studio

File Edit View Project Build Debug Team Format SSIS Te

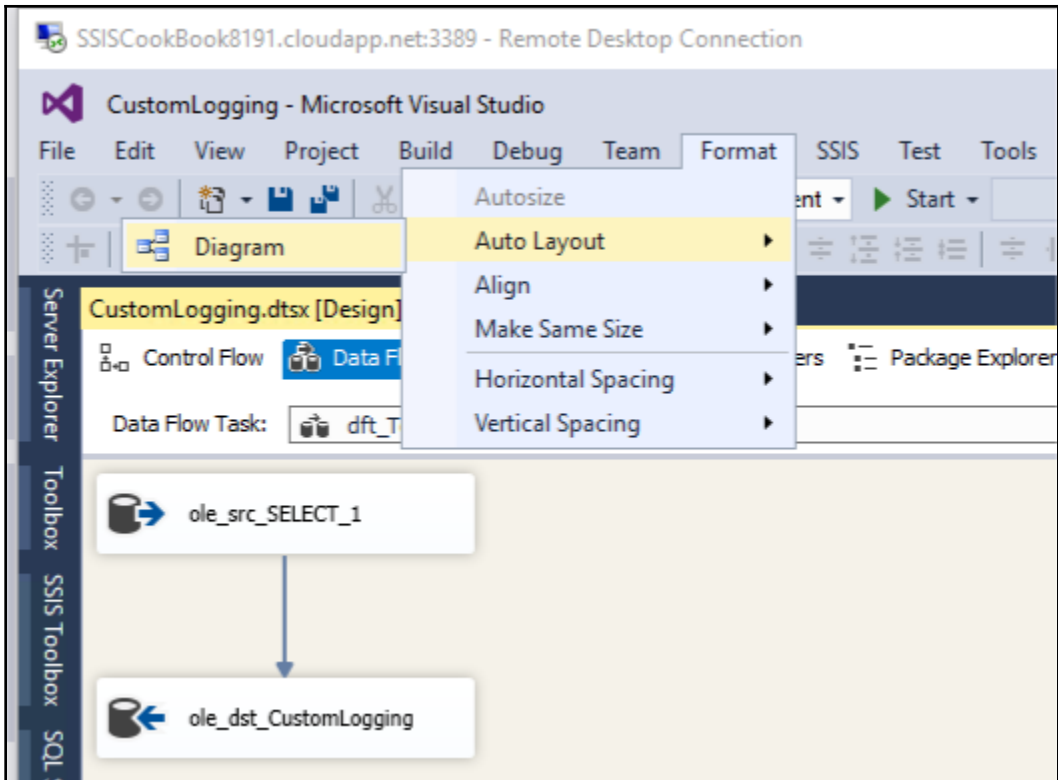
Development

CustomLogging Make Same Width

Control Flow Data Flow Parameters Event Handlers Pa

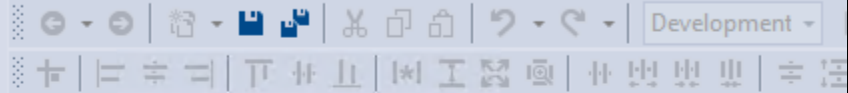
Data Flow Task: dft_TestCustomLogging

The diagram shows a Data Flow Task named 'dft_TestCustomLogging'. It contains two components: 'ole_src_SELECT_1' (OLE DB Source) and 'ole_dst_CustomLogging' (OLE DB Destination). A data flow arrow connects the output of 'ole_src_SELECT_1' to the input of 'ole_dst_CustomLogging'.



CustomLogging (Running) - Microsoft Visual Studio

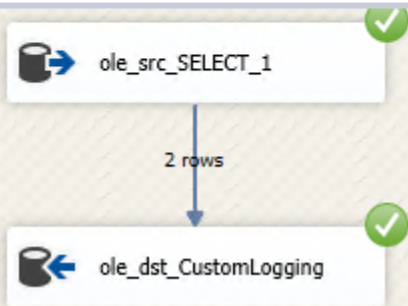
File Edit View Project Build Debug Team Format SSIS

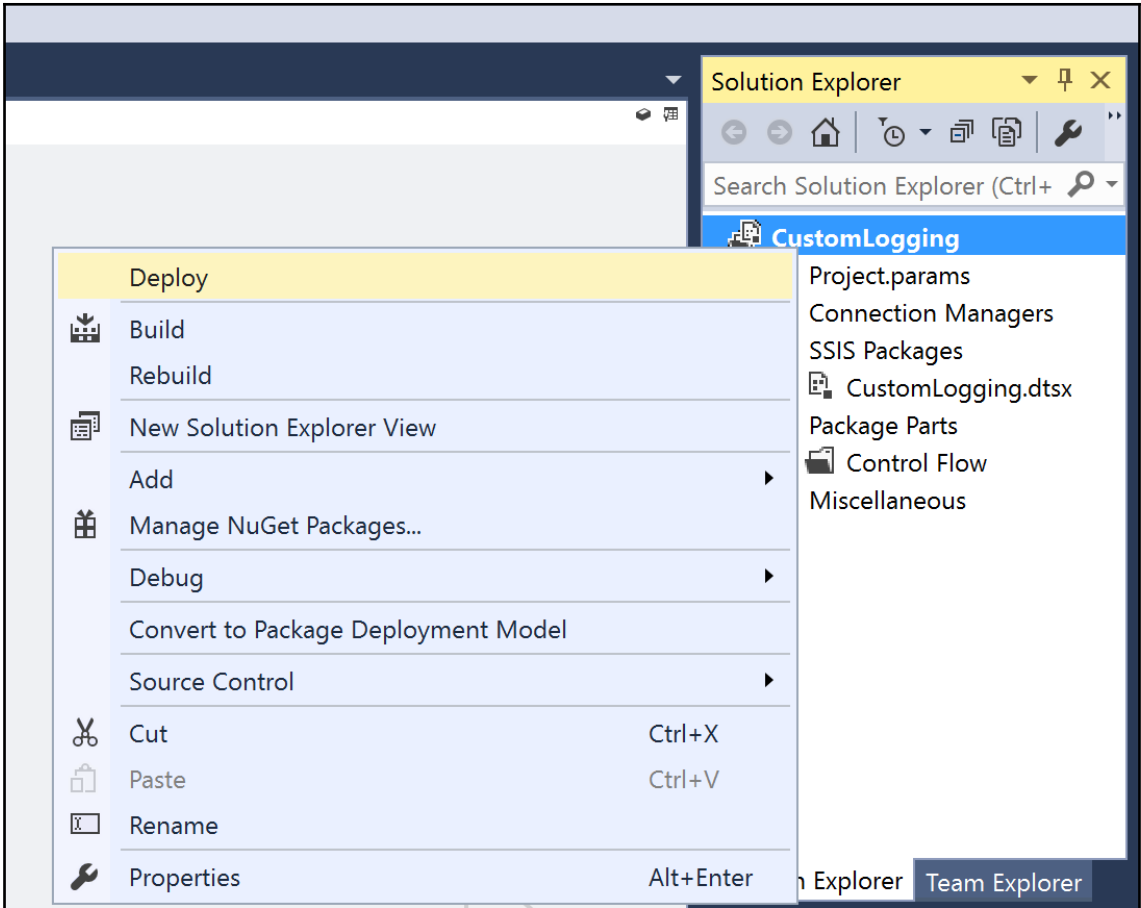


CustomLogging.dtsx [Design] [Close]

Control Flow Data Flow Parameters Event Handlers Packages

Data Flow Task: dft_TestCustomLogging







Introduction

Introduction

Help

Select Source

Select Destination

Review

Results

Deploy Integration Services project or packages.

This wizard deploys Integration Services project or packages to an Integration Services catalog on an instance of SQL Server.

There are five steps to completing this wizard:

1. Select the Deployment Model: Project Deployment or Package Deployment.
2. Select the Integration Services project or packages that you want to deploy.
3. Select the destination.
4. Review your selections.
5. Deploy the project or packages.

Click Next to continue.

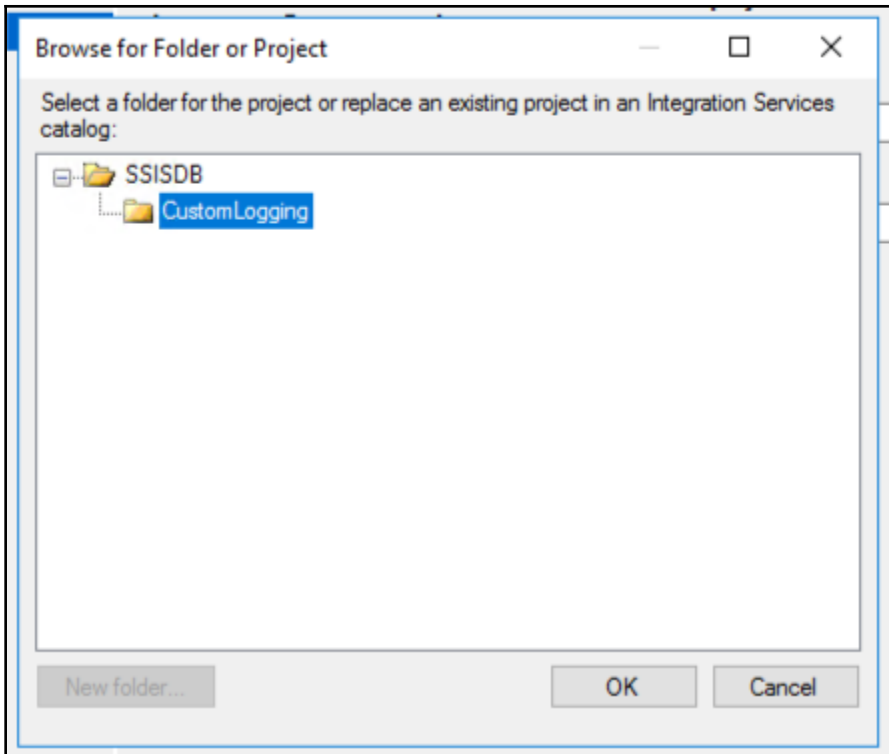
Do not show this page again

< Previous

Next >

Deploy

Cancel



Integration Services Deployment Wizard

Select Destination

Introduction Help

Select Source

Select Destination

Review

Results

Enter the destination server name and where the project will be located in the Integration Services catalog.

Server name:

Path:

< Previous **Next >** Deploy Cancel

Integration Services Deployment Wizard

Review

Introduction
Select Source
Select Destination
Review
Results

Help

Review your selections.

Summary:

- [-] Use the following arguments to perform this deployment from the command line:
 - [-] Command line: /Silent /ModelType:Project /SourcePath:"C:\Users\Christian\Documents\W
- [-] Source
 - [-] Path: C:\Users\Christian\Documents\Visual Studio 2015\projects\CustomLogging\CustomL
- [-] Destination
 - [-] Server name: SSISCOOKBOOK
 - [-] Path: /SSISDB/CustomLogging/CustomLogging

< Previous Next > **Deploy** Cancel



Results

- Introduction
- Select Source
- Select Destination
- Review
- Results

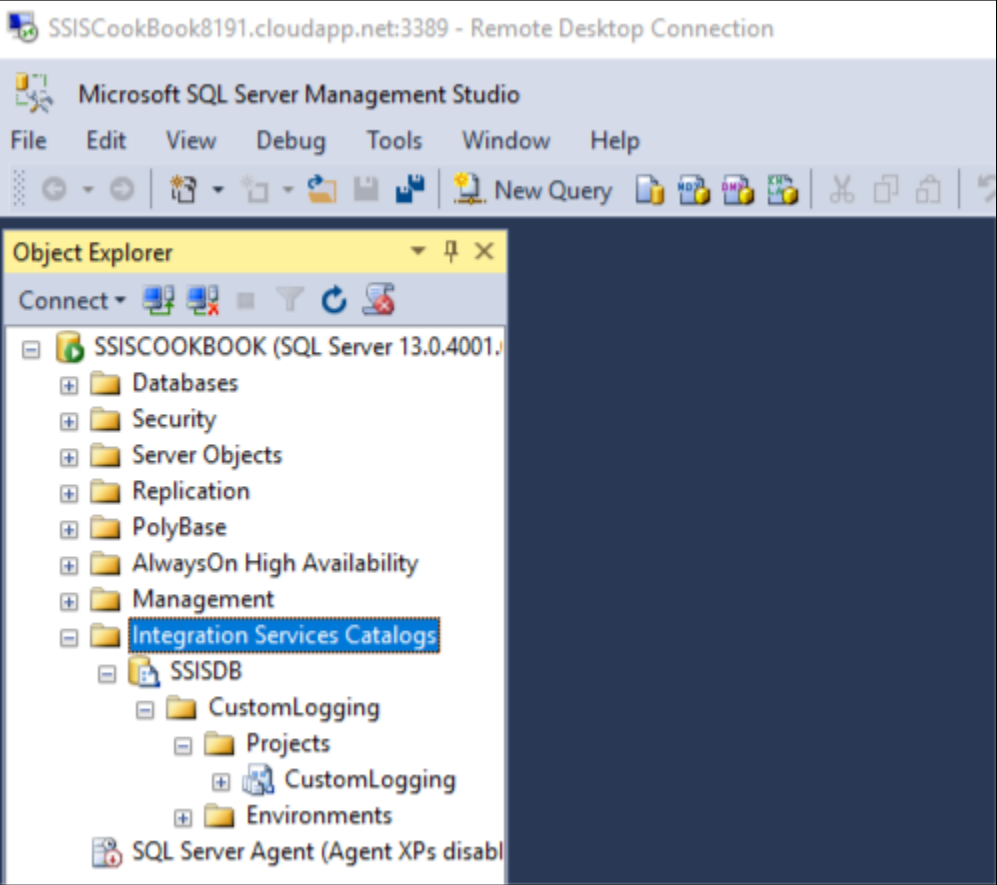
Help

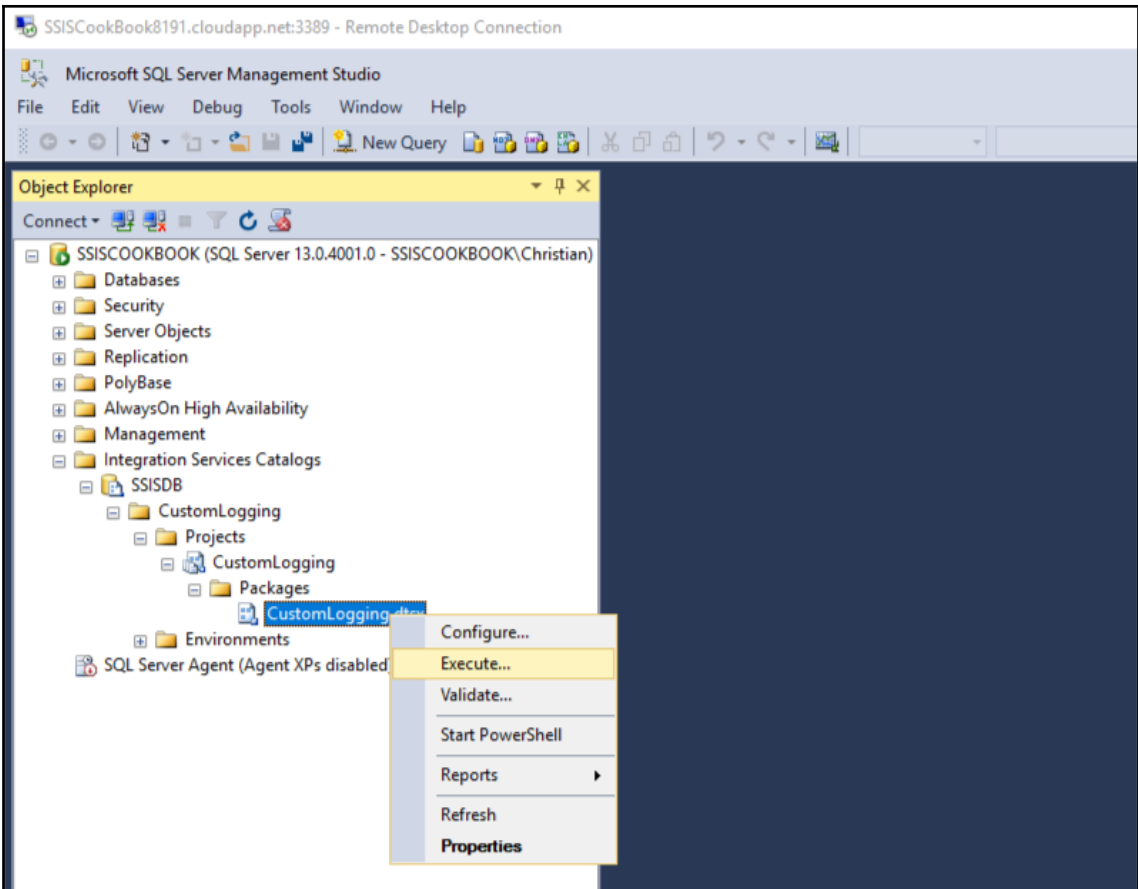
Results

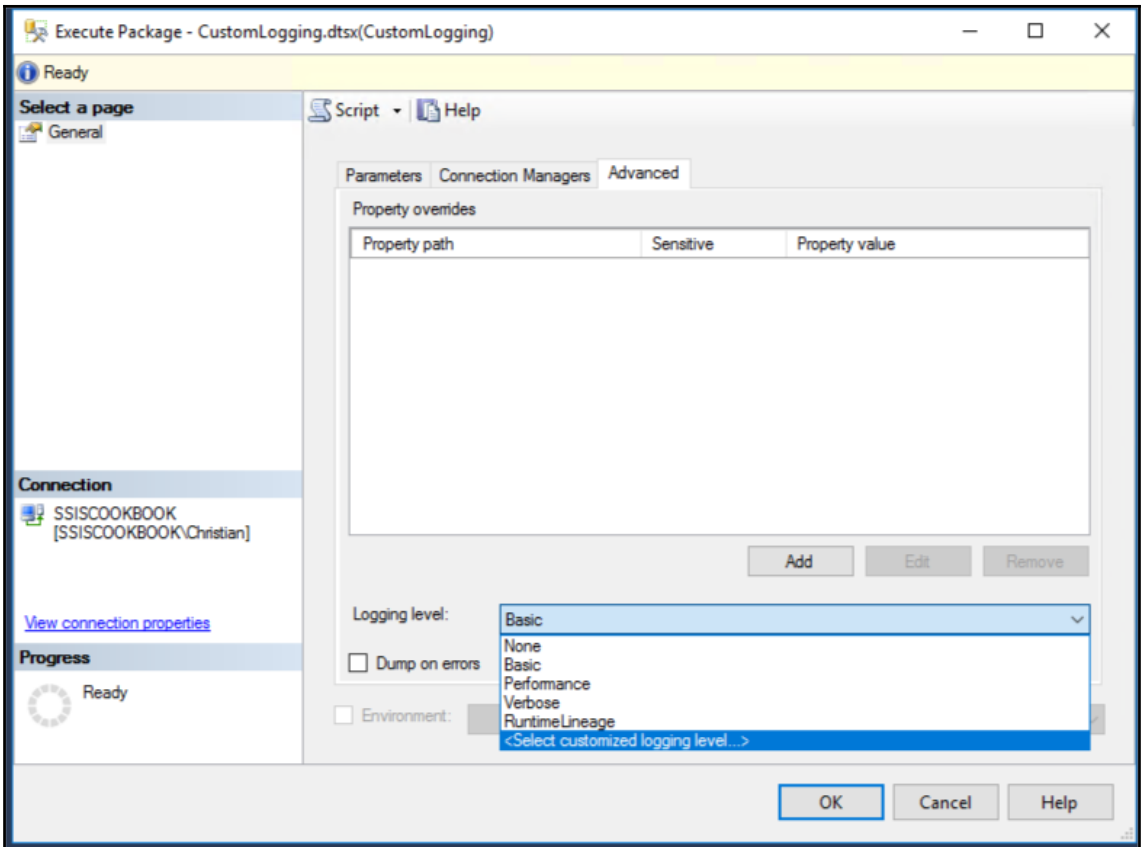
Action	Result
Loading project	Passed
Connecting to destination server	Passed
Changing protection level	Passed
Deploying project	Passed

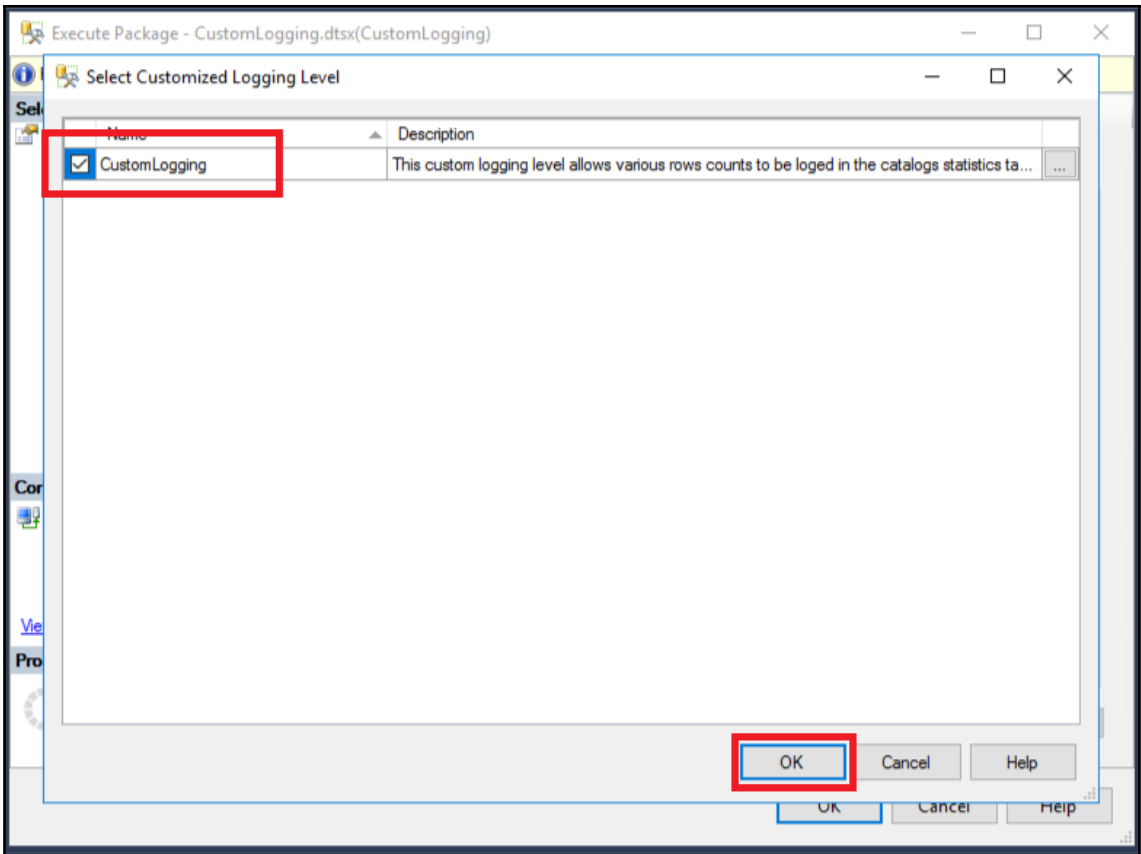
Save Report...

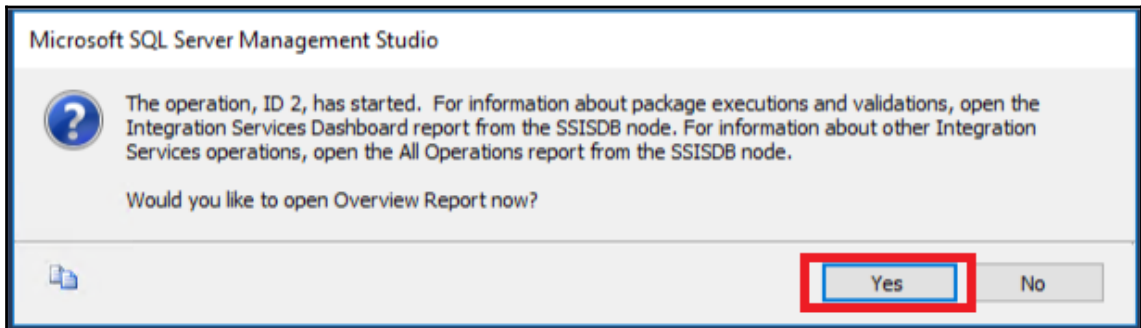
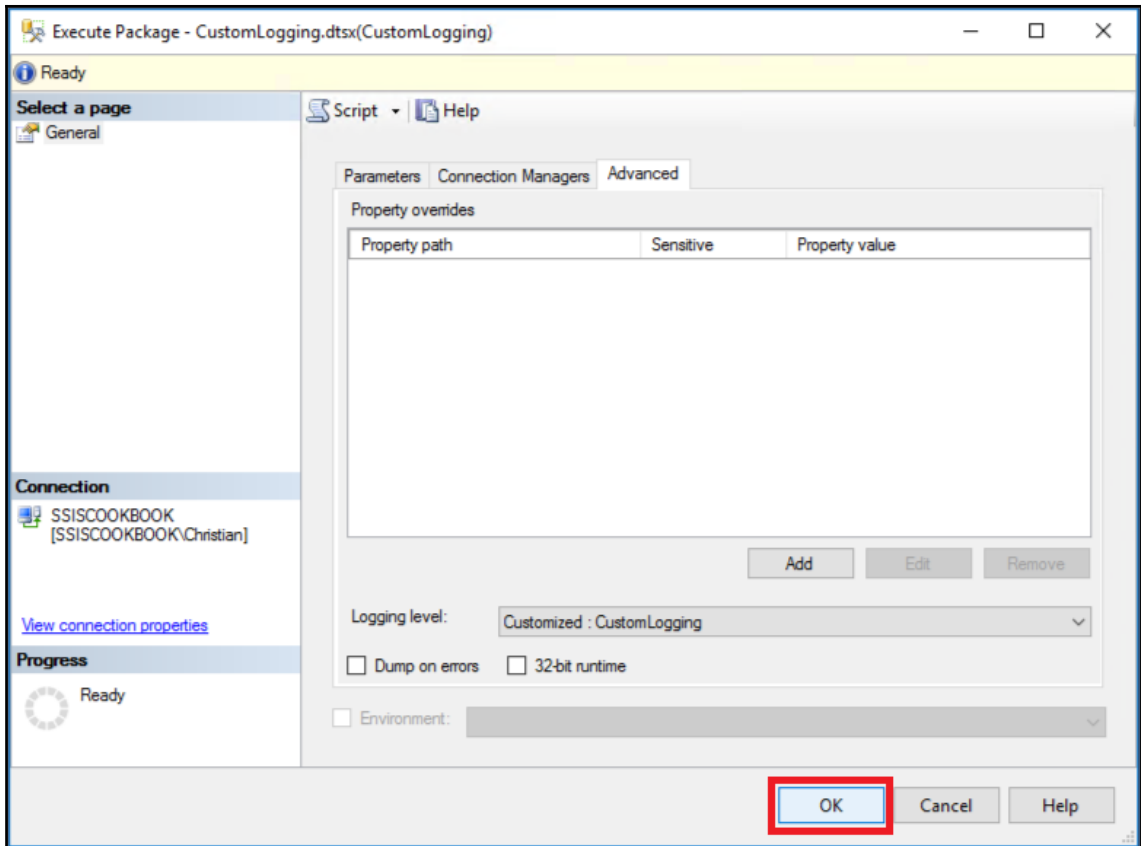
< Previous Next > **Close** Cancel











SQL Server

Overview

on SSISCOOKBOOK at 11/30/2016 8:57:14 PM

This report provides an overview of the package tasks and parameters, including execution or validation information.

[View Messages](#)

[View Performance](#)

Execution Information

Operation ID	2
Package	CustomLogging\CustomLogging\CustomLogging.dtsx
Environment	-
Status	Succeeded
Machine	SSISCOOKBOOK

Duration (sec)	6.125
Start Time	11/30/2016 8:56:34 PM
End Time	11/30/2016 8:56:40 PM
Caller	SSISCOOKBOOK\Christian

Execution Overview

Filter: Result: All: (3 more)

Result	Duration (sec)	Package Name	Task Name	Execution Path
--------	----------------	--------------	-----------	----------------

Parameters Used

Name	Value	Data Type
CALLER_INFO		String
CUSTOMIZED_LOGGING_LEVEL	CustomLogging	String
DUMP_EVENT_CODE	0	String
DUMP_ON_ERROR	False	Boolean
DUMP_ON_EVENT	False	Boolean
LOGGING_LEVEL	100	Int32
SYNCHRONIZED	False	Boolean

Property Overrides

Property Path	Property Value
---------------	----------------

GetRowCounts.sql -...OK\Christian (145) -> X

```
USE SSISDB
GO

DECLARE @RowcountExecution_id bigint = (SELECT MAX(execution_id) FROM [catalog] . [execution_data_statistics]);

SELECT
  @RowcountExecution_id AS SSISExecutionID
  , [package_name]
  , [dataflow_path_id_string]
  , [source_component_name]
  , [destination_component_name]
  , SUM( [rows_sent] ) as [Rows]
FROM [catalog].[execution_data_statistics]
WHERE execution_id = @RowCountExecution_id
GROUP BY [package_name]
         , [dataflow_path_id_string]
         , [source_component_name]
         , [destination_component_name]
```

100 %

Results Messages

	SSISExecutionID	package_name	dataflow_path_id_string	source_component_name	destination_component_name	Rows
1	3	CustomLogging.dtsx	Paths[ole_src_SELECT_1.OLE DB Source Output]	ole_src_SELECT_1	ole_dst_CustomLogging	2

- ▲ Azure
- ▶ Containers
- ▶ Other Tasks
- ▲ Package Parts


▼ **Azure** ⓘ

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Microsoft SQL Server 2016 Integration Services Feature Pack for Azure

Language: English [Download](#)

Choose the download you want

<input checked="" type="checkbox"/> File Name	Size
<input checked="" type="checkbox"/> SsisAzureFeaturePack_2016_x64.msi	3.8 MB
<input checked="" type="checkbox"/> SsisAzureFeaturePack_2016_x86.msi	3.8 MB

Download Summary:

- SsisAzureFeaturePack_2016_x64.msi
- SsisAzureFeaturePack_2016_x86.msi

Total Size: 7.6 MB

[Next](#)

What do you want to do with SsisAzureFeaturePack_2016_x64.msi (3.79 MB)?
From: download.microsoft.com

Save Save as Cancel

Microsoft SQL Server Feature Pack Setup

Welcome to the Microsoft SQL Server 2016 Integration Services Feature Pack for Azure (x86) Setup Wizard

Microsoft SQL Server 2016 Integration Services (SSIS) Feature Pack for Azure provides SSIS the capability of connecting to Azure Blob Storage and Azure HDInsight. It enables you to create SSIS packages that transfer data between an Azure Blob Storage and on-premises data sources, and process data using Azure HDInsight.

Back Next Cancel

Microsoft SQL Server Feature Pack Setup

Please read the Microsoft SQL Server 2016 Integration Services Feature Pack for Azure (x86) License Agreement

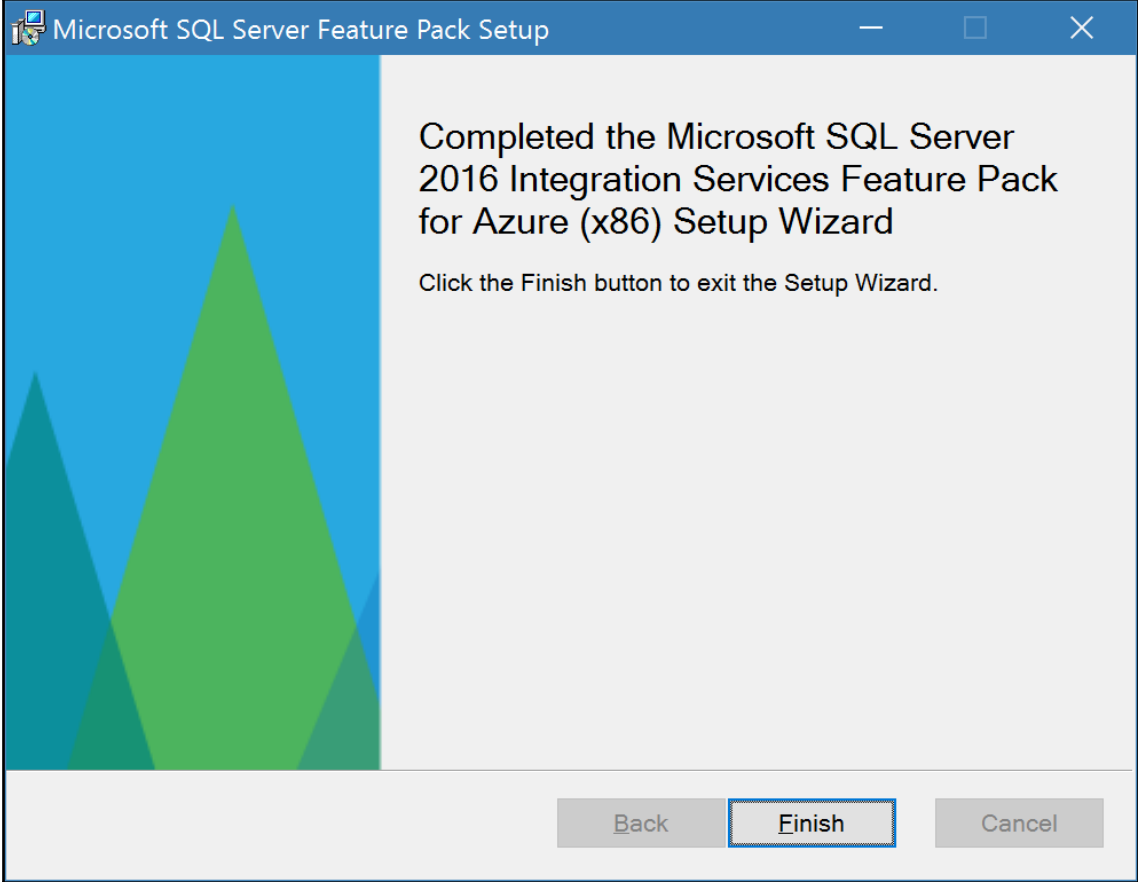
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MICROSOFT SQL SERVER 2016 INTEGRATION SERVICES FEATURE PACK FOR AZURE







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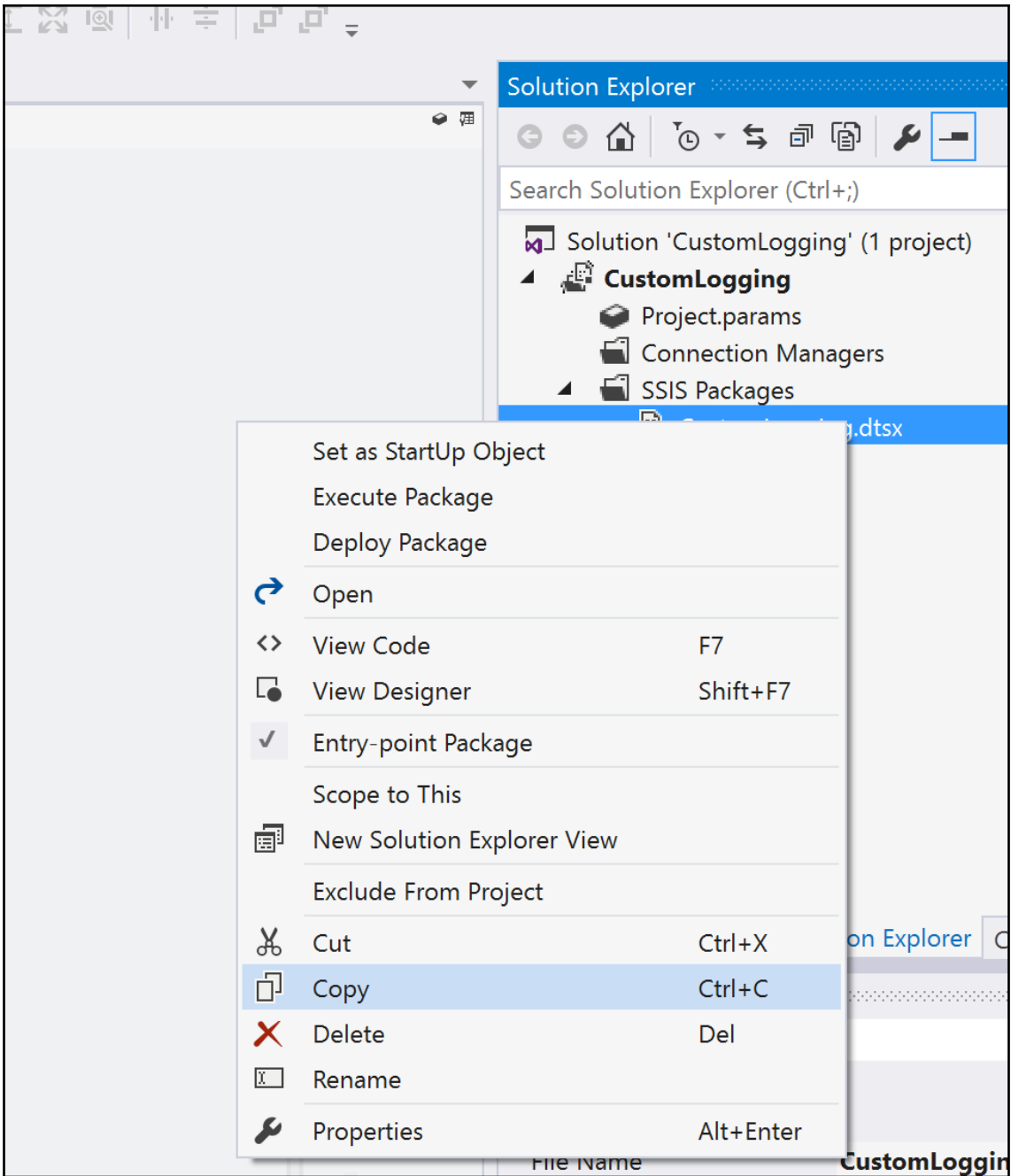
I accept the terms in the License Agreement

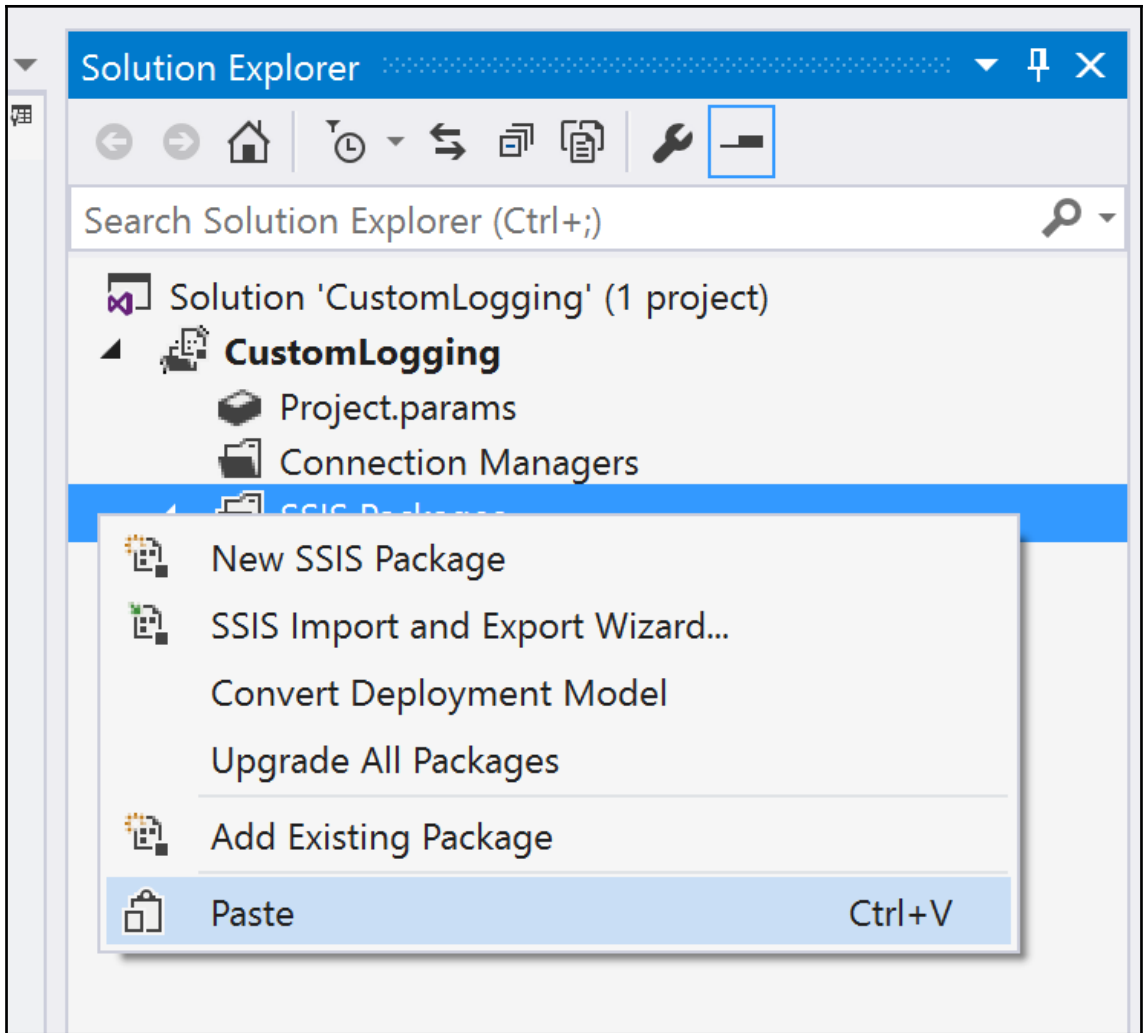
Print Back Next Cancel



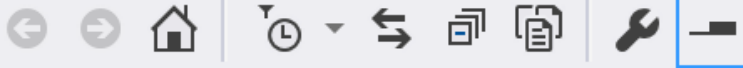
▲ Azure

-  Azure Blob Download T...
-  Azure Blob Upload Task
-  Azure HDInsight Create...
-  Azure HDInsight Delete...
-  Azure HDInsight Hive T...
-  Azure HDInsight Pig Task






Solution Explorer



Search Solution Explorer (Ctrl+;)




 Solution 'CustomLogging' (1 project)


▲  **CustomLogging**

 Project.params


 Connection Managers


▲  SSIS Packages

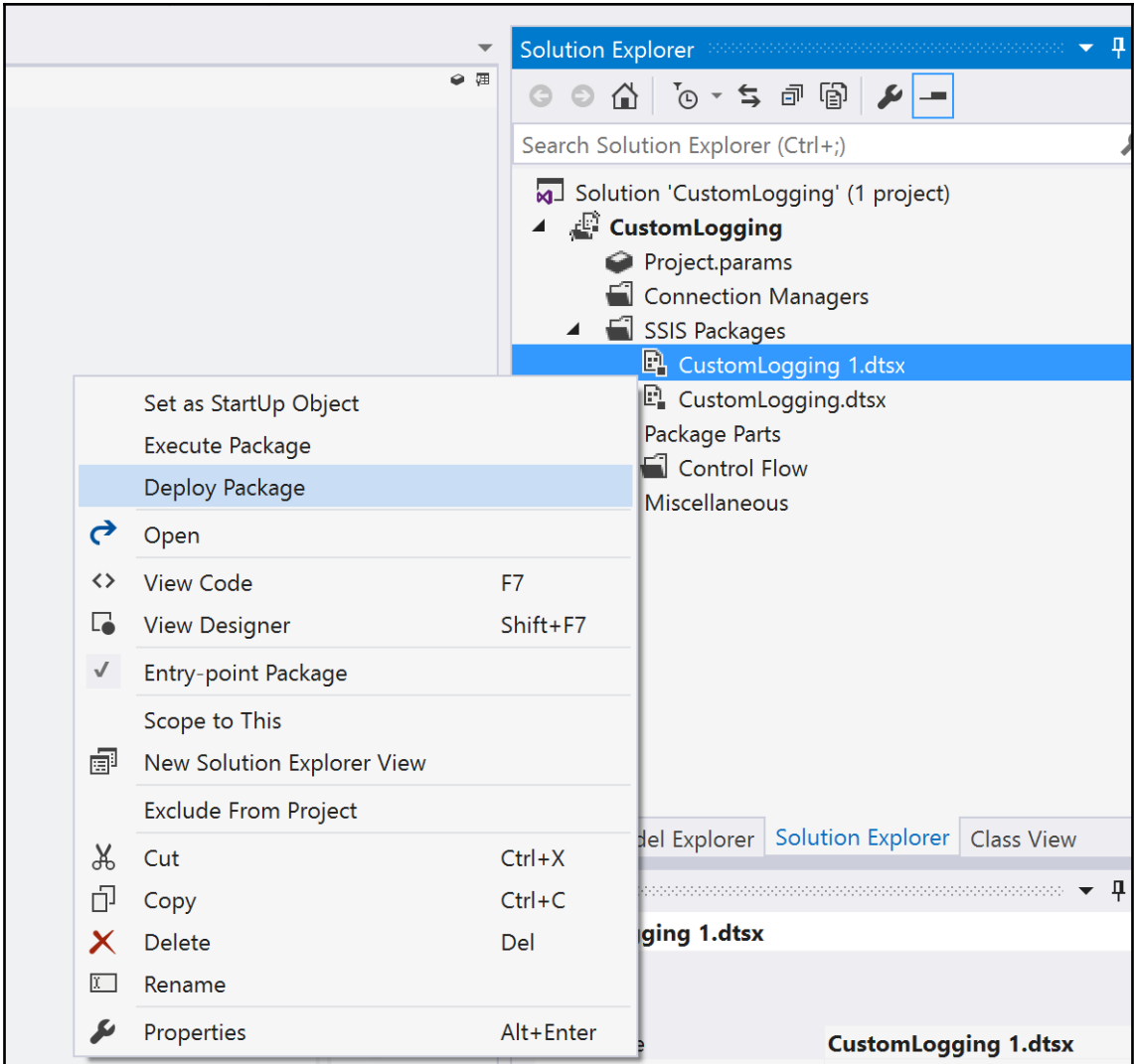
 CustomLogging 1.dtsx

 CustomLogging.dtsx

▲  Package Parts

 Control Flow

 Miscellaneous





Integration Services Deployment ...



Select Destination

Introduction

Select Source

Select Destination

Review

Results

Help

Enter the destination server name and where the project will be located in the Integration Services catalog.

Server name:

Path:



The packages would be deployed to selected project. The same name packages would be replaced.



Review

Introduction

Select Source

Select Destination

Review

Results

Help

Review your selections.

Summary:

- Use the following arguments to perform this deployment from the command line:
 - ... Command line: /Silent /ModelType:Package /SourcePath:"C:\Users\Christian\Documents\
- Source
 - ... Path: C:\Users\Christian\Documents\Visual Studio 2015\projects\CustomLogging\CustomL
 - ... Package#1: CustomLogging 1.dtsx
- Destination
 - ... Server name: SSISCOOKBOOK
 - ... Path: /SSISDB/CustomLogging/CustomLogging



< Previous

Next >

Deploy

Cancel



Integration Services Deployment ...



Results

Introduction

Select Source

Select Destination

Review

Results

Help

Results

Action	Result
Loading packages	Passed
Connecting to destination server	Passed
Changing packages protection level	Passed
Deploying packages	Passed

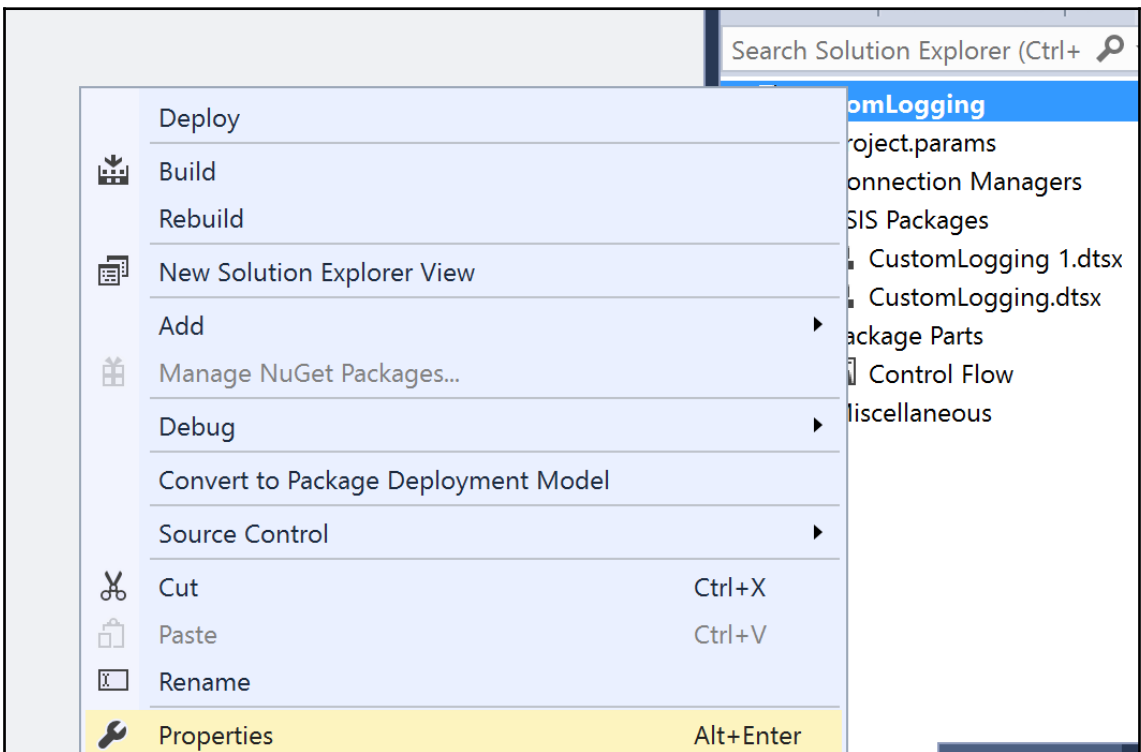
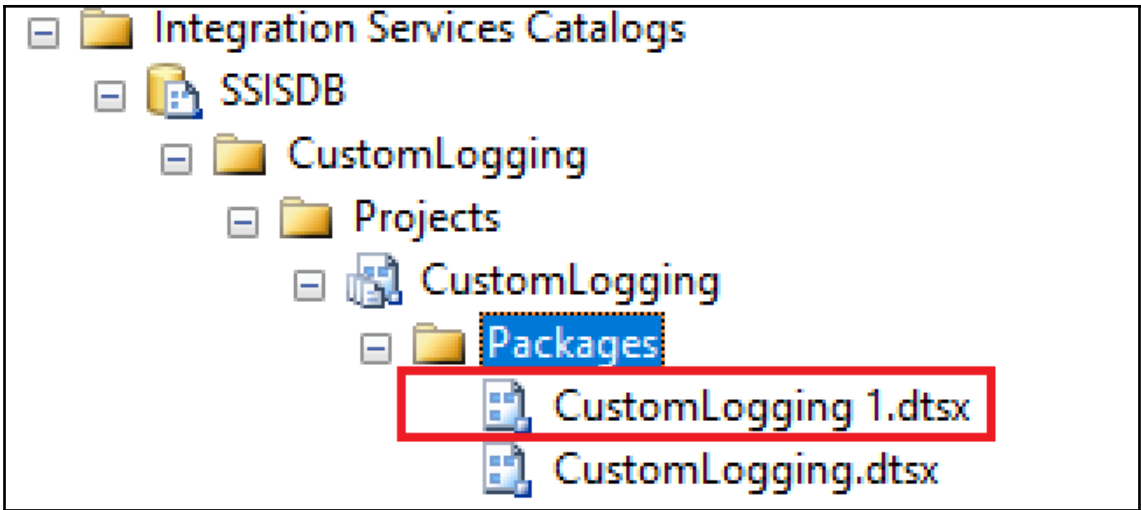
Save Report...

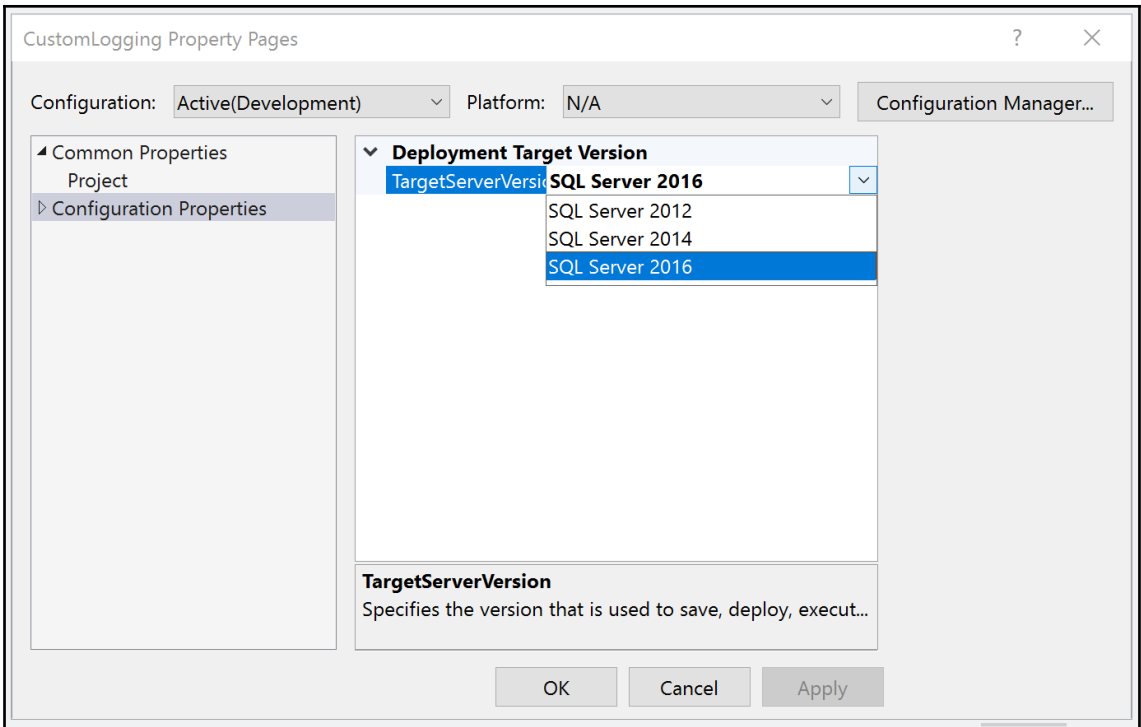
< Previous

Next >

Close

Cancel







ole_src_SELECT_1








ole_dst_dbo

- Edit...
- Resolve References
- Enable Data Viewer

- Autosize

- Zoom ▶

-  Cut Ctrl+X
-  Copy Ctrl+C
-  Paste Ctrl+V
-  Delete Del
-  Properties Alt+Enter

Derived Column Transformation Editor

Specify the expressions used to create new column values, and indicate whether the values update existing columns or populate new columns.

- Variables and Parameters
- Columns

- Mathematical Functions
- String Functions
- Date/Time Functions
- NULL Functions
- Type Casts
- Operators

Description:

Derived Column Name	Derived Column	Expression	Data Type	Le
DateToConvert	<add as new column>	"1600-01-00"	Unicode string [DT_WSTR]	10

Configure Error Output... OK Cancel Help

Data Conversion Transformation Editor

Configure the properties used to convert the data type of an input column to a different data type. Depending on the data type to which the column is converted, set the length, precision, scale, and code page of the column.

Available Input Columns

- Name
- LogID
- DateToConvert

Input Column	Output Alias	Data Type *	Length	Precision	Scale	Code Page
DateToConvert	DateConverted	Unicode string [DT_WS...	10			
		database timestamp wit...				
		database timestamp wit...				
		date [DT_DATE]				
		decimal [DT_DECIMAL]				
		double-precision float [...]				
		eight-byte signed integ...				
		eight-byte unsigned int...				
		file timestamp [DT_FILE...				

Configure Error Output... OK Cancel Help

Configure the properties used to convert the data type of an input column to a different data type. Depending on the data type to which the column is converted, set the length, precision, scale, and code page of the column.

Available Input Columns

- Name
- LogID
- DateToConvert

Input Column	Output Alias	Data Type	Length	Precision	Scale	Code Page
DateToConvert	DateConverted	date [DT_DATE]				

Configure Error Output...

OK

Cancel

Help

Configure Error Output

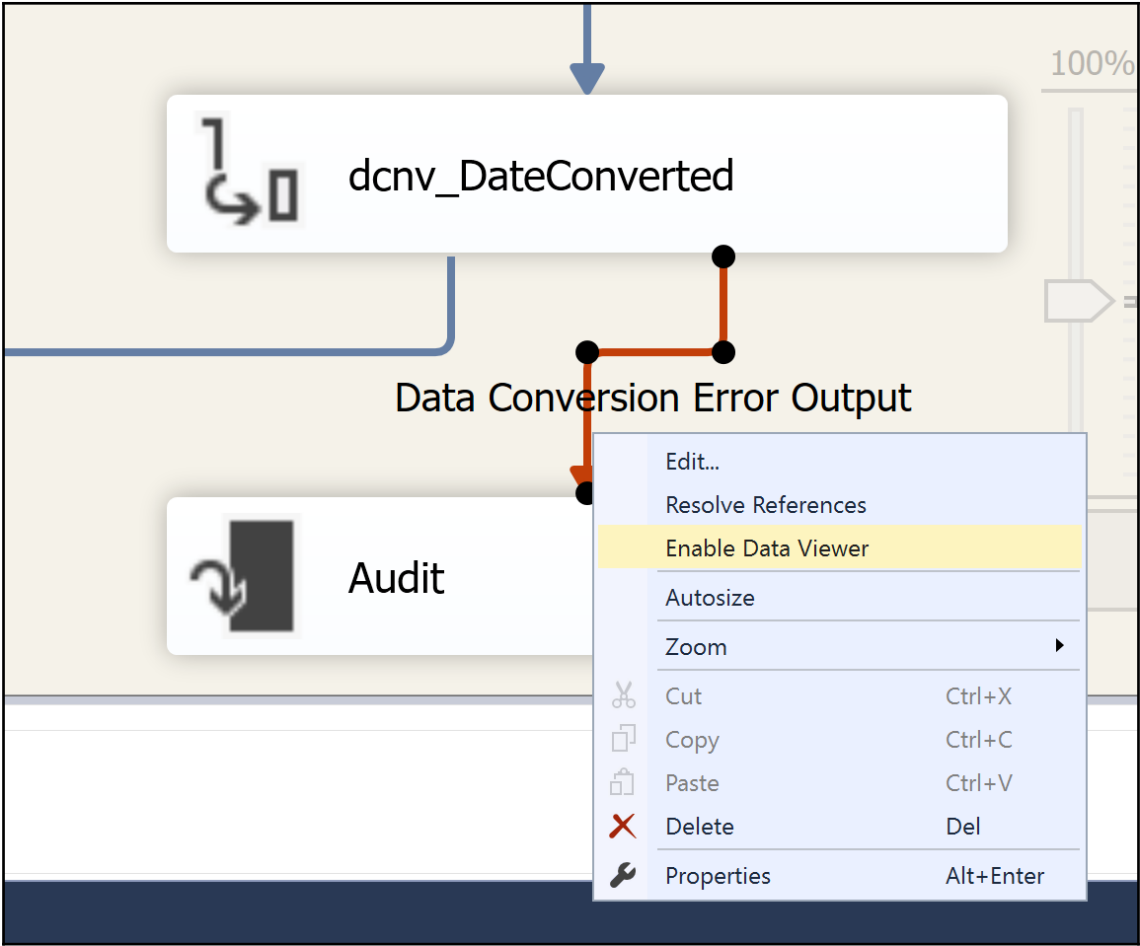
Specify how row-level errors are handled by this component. You can handle errors in the row, or truncation errors in columns. Errors can fail the component, or they can be ignored, or they can be redirected to an error output.

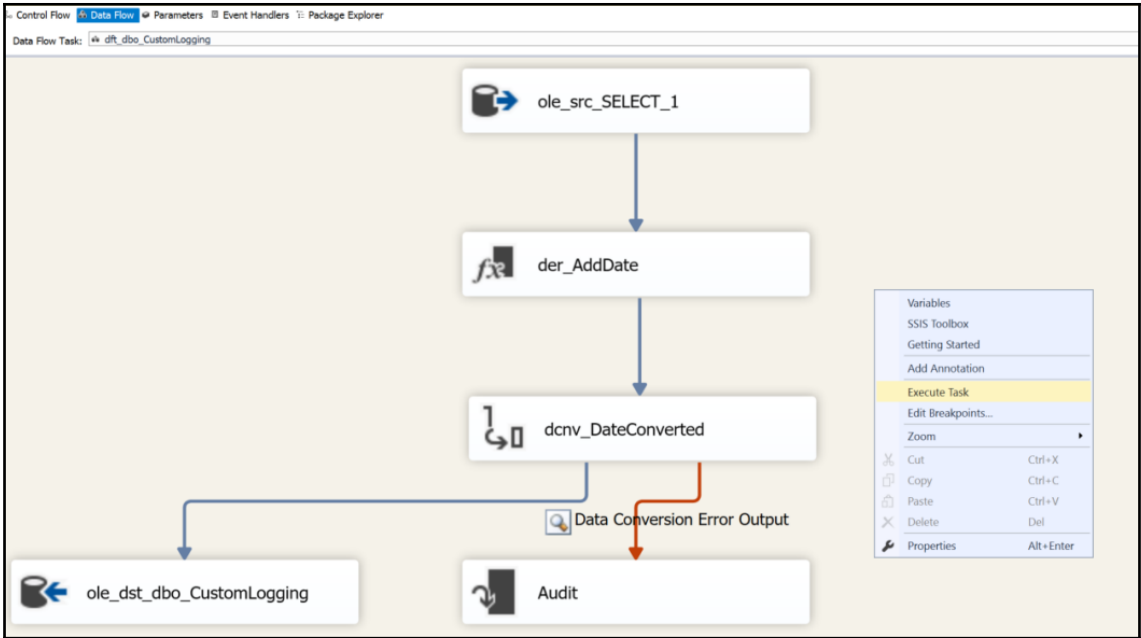
Input or ...	Column	Error	Truncation	Descri...
Data ...	Date...	Fail component	Fail component	Conv...

Set this value to selected cells:

Redirect row
Fail component
Ignore failure
Redirect row

Apply
OK
Cancel

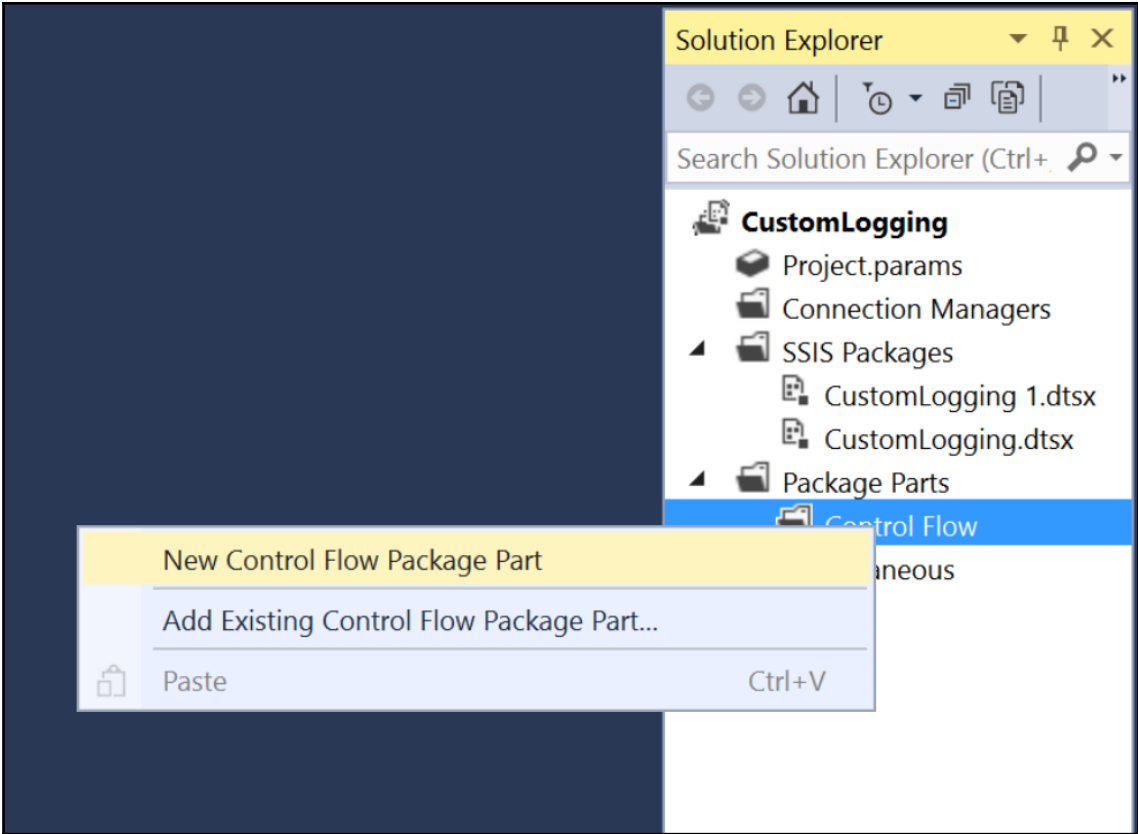


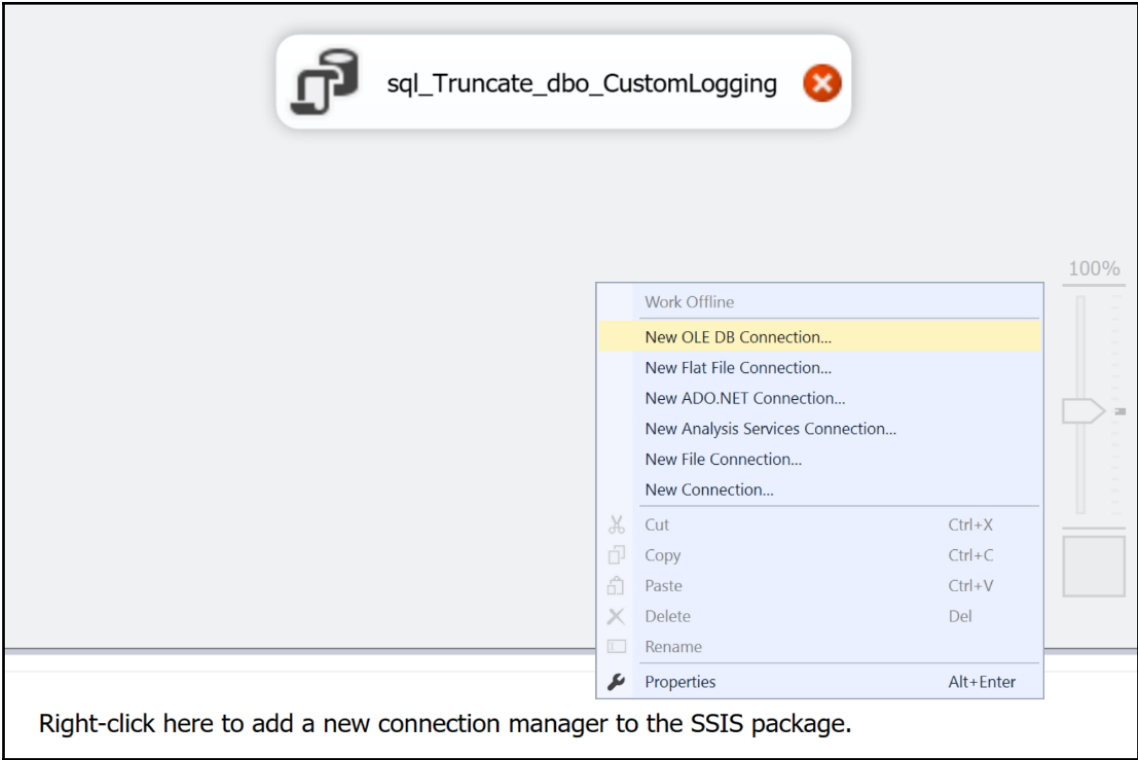


Data Conversion Error Output Data Viewer at dft_dbo_CustomLogging

Detach Copy Data

LogID	DateToConvert	Error...	Error...	ErrorCode - Description	ErrorColumn - Description
1	1600-01-00	-107...	9	The data value cannot be converted for reasons other than sign mismatch or data overflow.	dcnv_DateConverted.Outputs[Data Conversion Output].Columns[DateConverted]
2	1600-01-00	-107...	9	The data value cannot be converted for reasons other than sign mismatch or data overflow.	dcnv_DateConverted.Outputs[Data Conversion Output].Columns[DateConverted]





Configure OLE DB Connection Manager

To create a connection manager based on previously defined connection information, select a data connection, and then click OK. To create a new connection manager, click New.

Data connections:

SSISCOOKBOOK.TestCustomLogging

Data connection properties:

Prope...	Value
Data S...	SSISCOOKB...
Initial ...	TestCustom...
Integr...	SSPI
Provider	SQLNCLI11.1

New...

Delete

OK

Cancel

Execute SQL Task Editor

Configure the properties required to run SQL statements and stored procedures using the selected connection.

General

Parameter Mapping

Result Set

Expressions




General	
Name	sql_Truncate_dbo_CustomLogging
Description	Execute SQL Task
Options	
TimeOut	0
CodePage	1252
TypeConversionMode	Allowed
Result Set	
ResultSet	None
SQL Statement	
ConnectionType	OLE DB
Connection	SSISCOOKBOOK.TestCustomLogging
SQLSourceType	Direct input
SQLStatement	TRUNCATE TABLE [dbo].[CustomLogging]; ...
IsQueryStoredProcedure	False
BypassPrepare	True

SQLStatement
Specifies the query to be run by the task.

Browse...
Build Query...
Parse Query


OK
Cancel
Help

▲ Containers

-  For Loop Container
-  Foreach Loop Container
-  Sequence Container

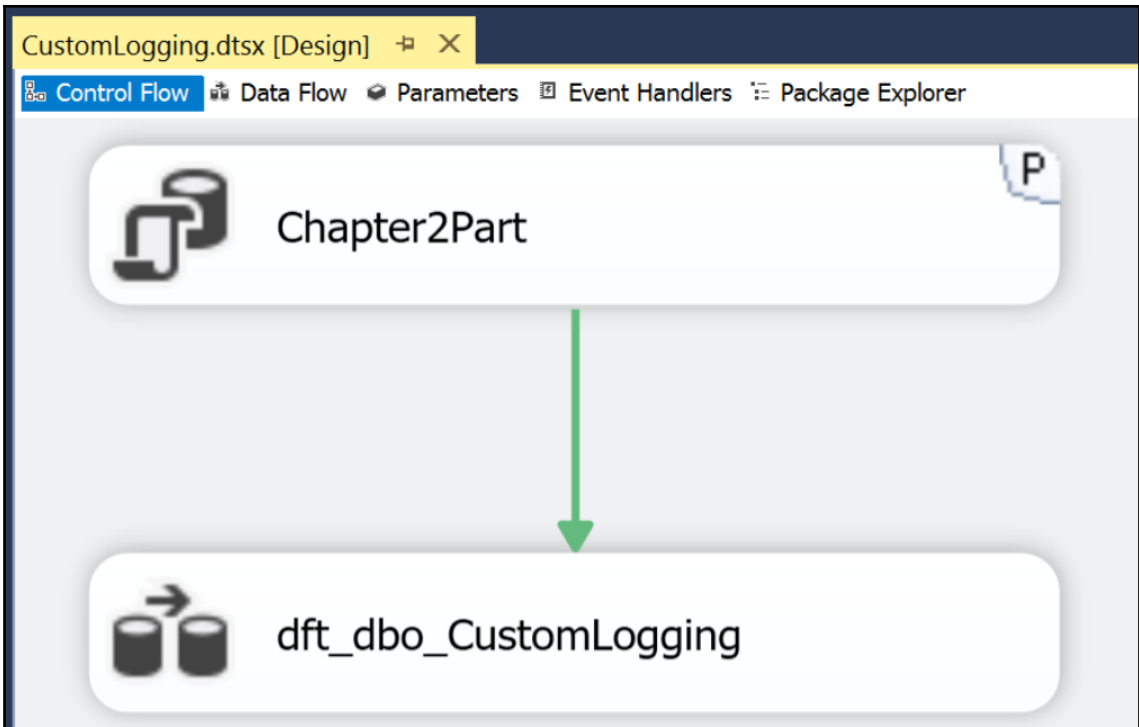
▶ Other Tasks

▲ Package Parts

-  Chapter2Part

▼ **Chapter2Part** 

This is a simple template that is meant to truncate the table [dbo].[CustomLogging].

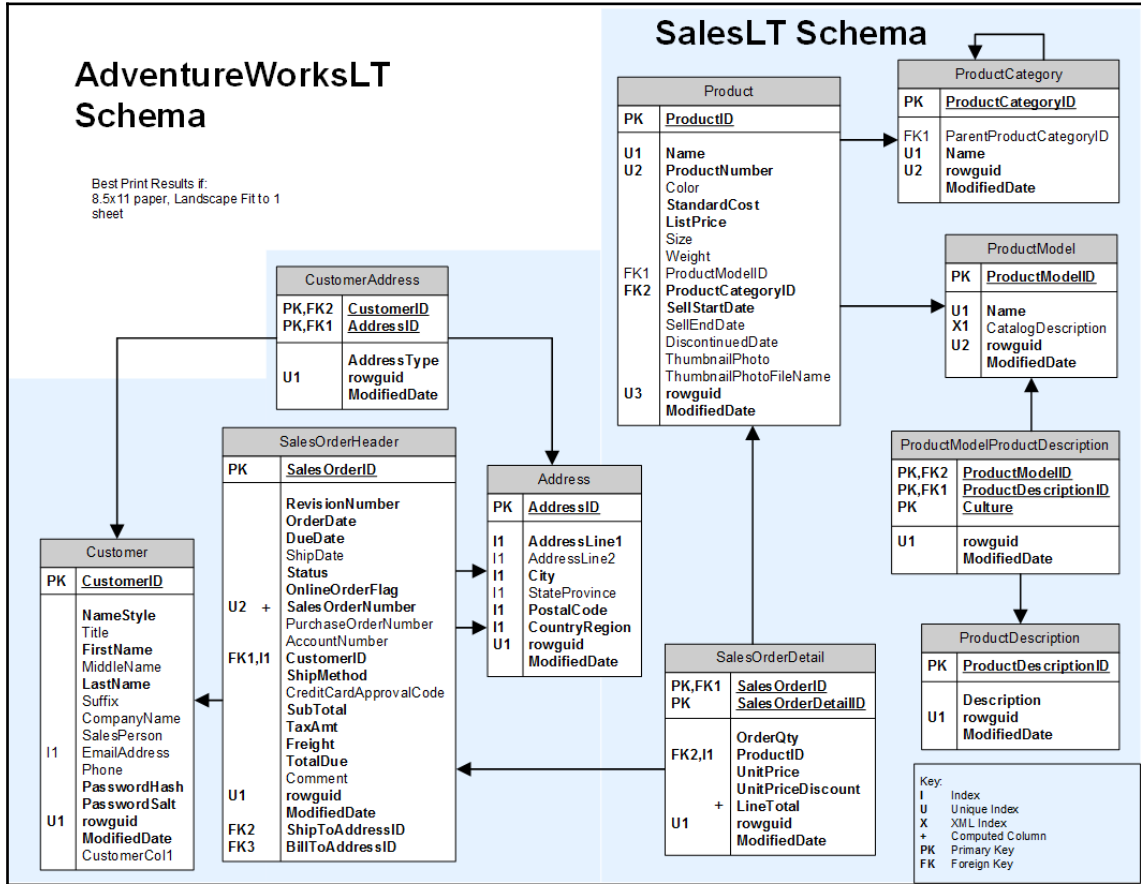


Package Part Configuration Dialog

Properties: **Connection Managers**

Name	Properties																																	
(PackagePart)SSISCOOKBOOK.TestCustomLogginq	<table border="1"> <thead> <tr> <th>Set</th> <th>Property Name</th> <th>Value</th> </tr> </thead> <tbody> <tr> <td></td> <td>ConnectionString</td> <td>Data Source=SSISCOOKBOOK;Initial Catalog=TestCustomLogginq;Provider=SQLNCLI11;Integrated Security=SSIS;User=sa</td> </tr> <tr> <td></td> <td>Description</td> <td></td> </tr> <tr> <td></td> <td>InitialCatalog</td> <td>TestCustomLogginq</td> </tr> <tr> <td></td> <td>Name</td> <td>(PackagePart)SSISCOOKBOOK.TestCustomLogginq</td> </tr> <tr> <td></td> <td>Password</td> <td>*****</td> </tr> <tr> <td></td> <td>ProtectionLevel</td> <td>1</td> </tr> <tr> <td></td> <td>RetainSameConnection</td> <td>False</td> </tr> <tr> <td></td> <td>Scope</td> <td>0</td> </tr> <tr> <td></td> <td>ServerName</td> <td>SSISCOOKBOOK</td> </tr> <tr> <td></td> <td>UserName</td> <td></td> </tr> </tbody> </table>	Set	Property Name	Value		ConnectionString	Data Source=SSISCOOKBOOK;Initial Catalog=TestCustomLogginq;Provider=SQLNCLI11;Integrated Security=SSIS;User=sa		Description			InitialCatalog	TestCustomLogginq		Name	(PackagePart)SSISCOOKBOOK.TestCustomLogginq		Password	*****		ProtectionLevel	1		RetainSameConnection	False		Scope	0		ServerName	SSISCOOKBOOK		UserName	
Set	Property Name	Value																																
	ConnectionString	Data Source=SSISCOOKBOOK;Initial Catalog=TestCustomLogginq;Provider=SQLNCLI11;Integrated Security=SSIS;User=sa																																
	Description																																	
	InitialCatalog	TestCustomLogginq																																
	Name	(PackagePart)SSISCOOKBOOK.TestCustomLogginq																																
	Password	*****																																
	ProtectionLevel	1																																
	RetainSameConnection	False																																
	Scope	0																																
	ServerName	SSISCOOKBOOK																																
	UserName																																	

Chapter 9: Key Components of a Modern ETL Solution



AdventureWorksLTDW Staging Schema

Orders
(facts)

Customer

Product

StgSalesOrderDetail	
SalesOrderID	int
OrderQty	smallint
ProductID	int
UnitPrice	money
UnitPriceDiscount	money
LineTotal	numeric(38,6)
ModifiedDate	datetime
SalesOrderDetailID	int
LoadExecutionId	bigint

StgSalesOrderHeader	
SalesOrderID	int
RevisionNumber	tinyint
OrderDate	datetime
DueDate	datetime
ShipDate	datetime
Status	tinyint
OnlineOrderFlag	bit
SalesOrderNumber	varchar(25)
PurchaseOrderNumber	varchar(25)
AccountNumber	varchar(25)
CustomerID	int
ShipMethod	varchar(50)
CreditCardApprovalCode	varchar(15)
SubTotal	money
TaxAmt	money
Freight	money
TotalDue	money
Comment	varchar(128)
ModifiedDate	datetime
ShipToAddressID	int
BillToAddressID	int
LoadExecutionId	bigint

StgProductModel	
ProductModelID	int
Name	varchar(50)
CatalogDescription	xml
ModifiedDate	datetime
LoadExecutionId	bigint

StgProductCategory	
ProductCategoryID	int
ParentProductCategoryID	int
Name	varchar(50)
ModifiedDate	datetime
LoadExecutionId	bigint

StgCustomer	
CustomerID	int
NameStyle	bit
Title	varchar(8)
FirstName	varchar(50)
MiddleName	varchar(50)
LastName	varchar(50)
Suffix	varchar(10)
CompanyName	varchar(128)
SalesPerson	varchar(256)
EmailAddress	varchar(50)
Phone	varchar(25)
PasswordHash	varchar(128)
PasswordSalt	varchar(10)
ModifiedDate	datetime
LoadExecutionId	bigint

StgCustomerAddress	
CustomerID	int
AddressID	int
AddressType	varchar(50)
ModifiedDate	datetime
LoadExecutionId	bigint

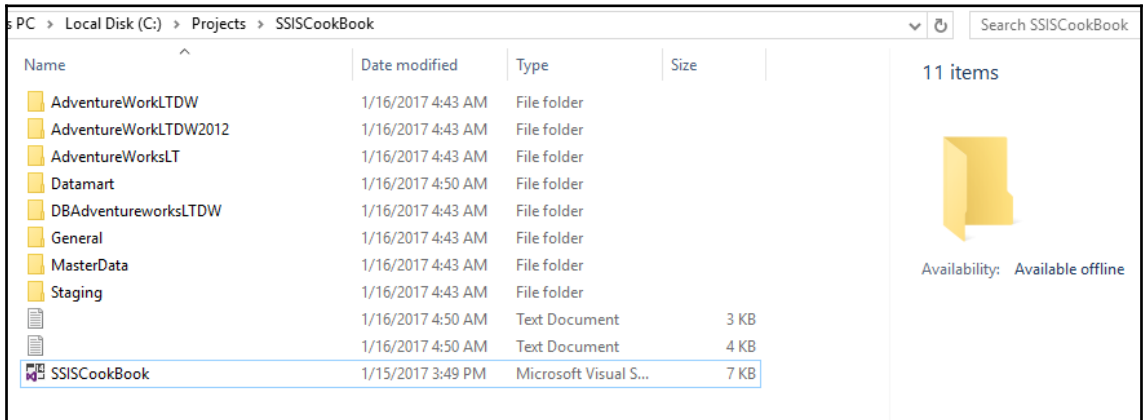
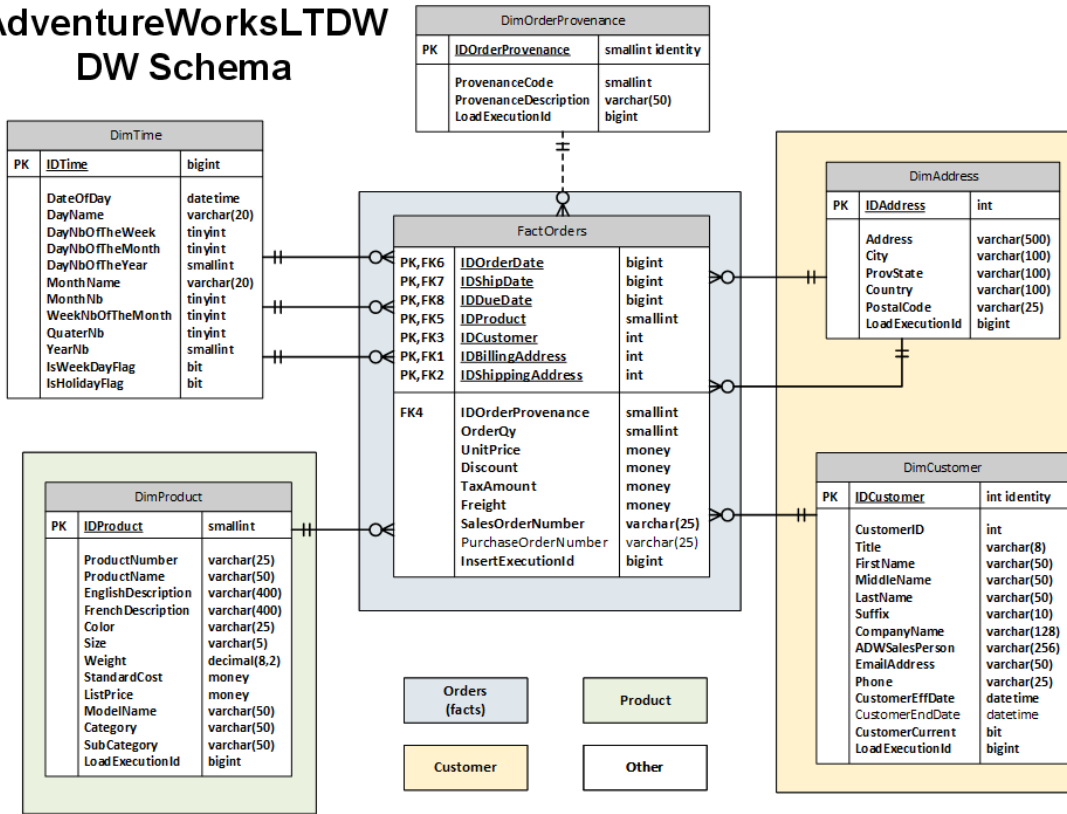
StgAddress	
AddressID	int
AddressLine1	varchar(60)
AddressLine2	varchar(50)
City	varchar(30)
StateProvince	varchar(50)
PostalCode	varchar(15)
CountryRegion	varchar(50)
ModifiedDate	datetime
LoadExecutionId	bigint

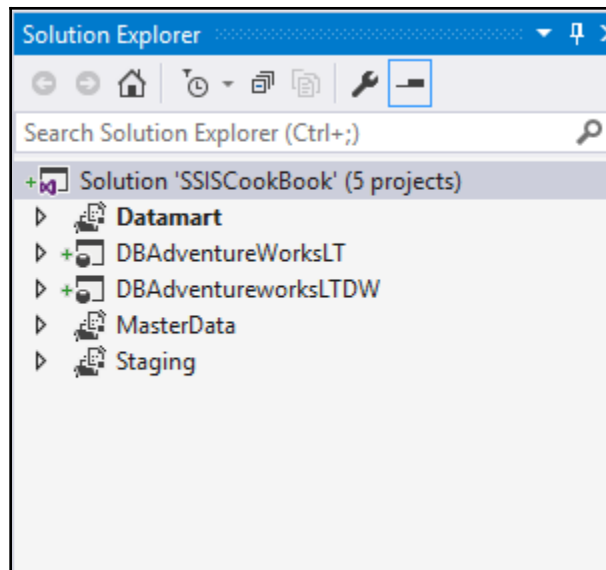
StgProduct	
ProductID	int
Name	varchar(50)
ProductNumber	varchar(25)
Color	varchar(15)
StandardCost	money
ListPrice	money
Size	varchar(5)
Weight	decimal(8,2)
ProductModelID	int
ProductCategoryID	int
SellStartDate	datetime
SellEndDate	datetime
DiscontinuedDate	datetime
ModifiedDate	datetime
LoadExecutionId	bigint

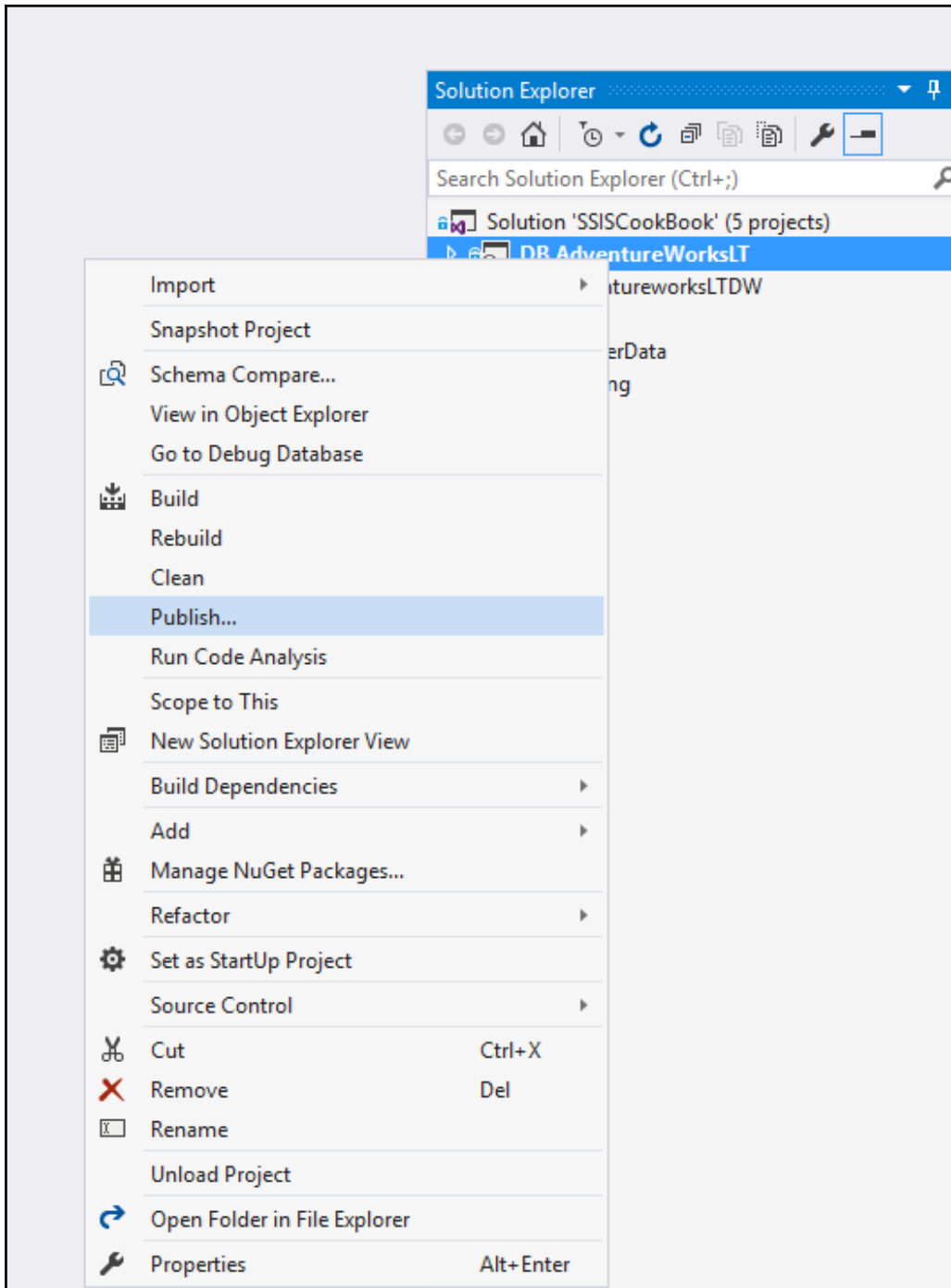
StgProductModelProductDescription	
ProductModelID	int
ProductDescriptionID	int
Culture	varchar(10)
ModifiedDate	datetime
LoadExecutionId	bigint

StgProductDescription	
ProductDescriptionID	int
Description	varchar(400)
ModifiedDate	datetime
LoadExecutionId	bigint

AdventureWorksLTDW DW Schema







Publish Database ? X

Target Database Settings

Target database connection:

Edit... Clear

Database name:

Publish script name:

Register as a Data-tier Application

Block publish when database has drifted from registered version Advanced...

Load Profile...

Create Profile Save Profile As... Generate Script Publish Cancel

Connect ×

History **Browse**

Local

- SSISCOOKBOOK
- MSSQLLocalDB
- ProjectsV13

Network

Azure

Server Name:

Authentication:

User Name:

Password:

Remember Password

Database Name:

[Details...](#)

Advanced Publish Settings



General Drop Ignore

Deployment Behavior

- Deploy database properties
- Always re-create database
- Block incremental deployment if data loss might occur
- Execute deployment script in single-user mode
- Back up database before deployment
- Do not use alter assembly statements to update CLR types

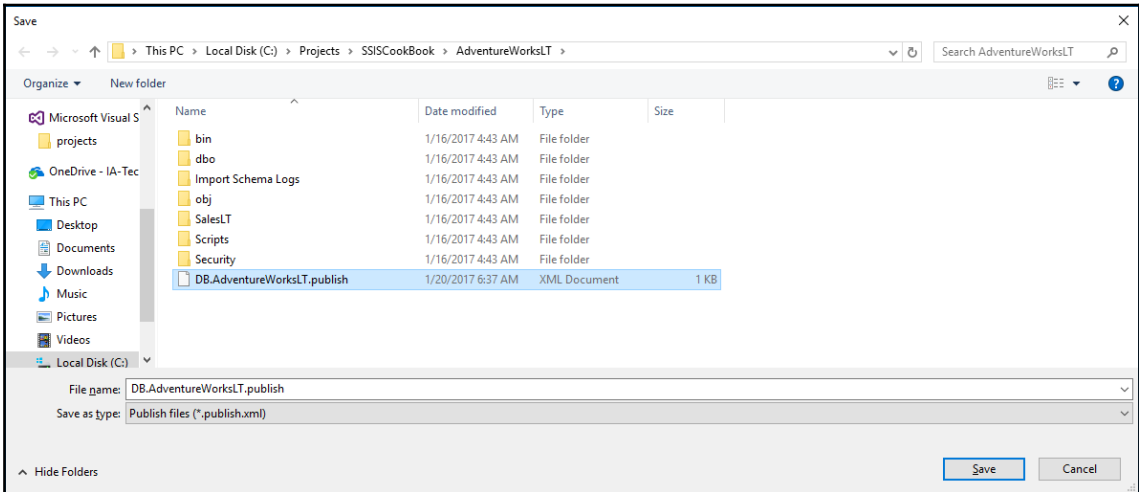
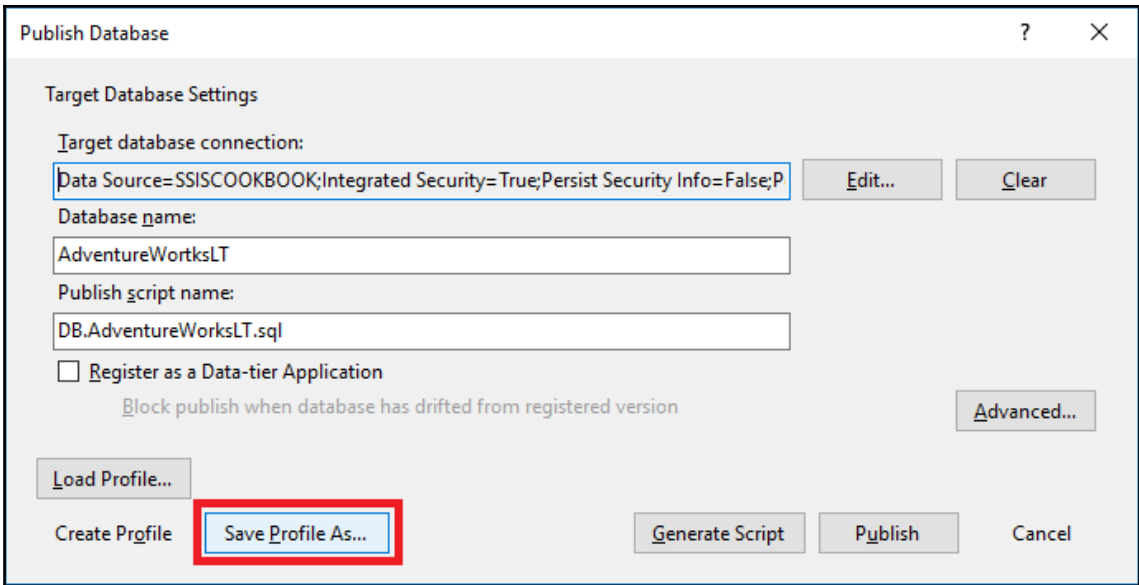
Advanced Deployment Options

Enabled	Option
<input type="checkbox"/>	Allow drop blocking assemblies
<input type="checkbox"/>	Allow incompatible platform
<input type="checkbox"/>	Allow unsafe row level security data movement
<input type="checkbox"/>	Comment out SetVar declarations
<input type="checkbox"/>	Compare using target collation
<input checked="" type="checkbox"/>	Disable and reenable DDL triggers
<input checked="" type="checkbox"/>	Do not alter Change Data Capture objects
<input checked="" type="checkbox"/>	Do not ALTER replicated objects
<input checked="" type="checkbox"/>	Drop statistics not in source
<input type="checkbox"/>	Generate smart defaults, when applicable
<input checked="" type="checkbox"/>	Include composite objects
<input type="checkbox"/>	Include transactional scripts

This property is used by SqlClr deployment to cause any blocking assemblies to be dropped as part of the deployment plan. By default, any blocking/referencing assemblies will block an assembly update if the referencing assembly needs to be

OK

Cancel



Publish Database DB.AdventureWorksLT.publish.xml

Target Database Settings

Target database connection:
Data Source=.;Integrated Security=True;Persist Security Info=False;Pooling=False;M

Database name:
AdventureworksLT

Publish script name:
DB.AdventureWorksLT.sql


Register as a Data-tier Application
 Block publish when database has drifted from registered version

Advanced...

Load Profile...

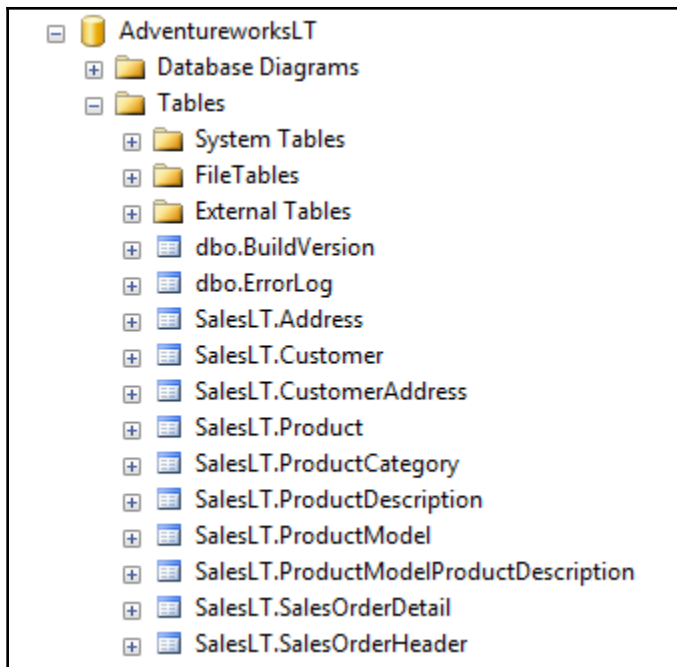
Save Profile Save Profile As... Generate Script Publish Cancel

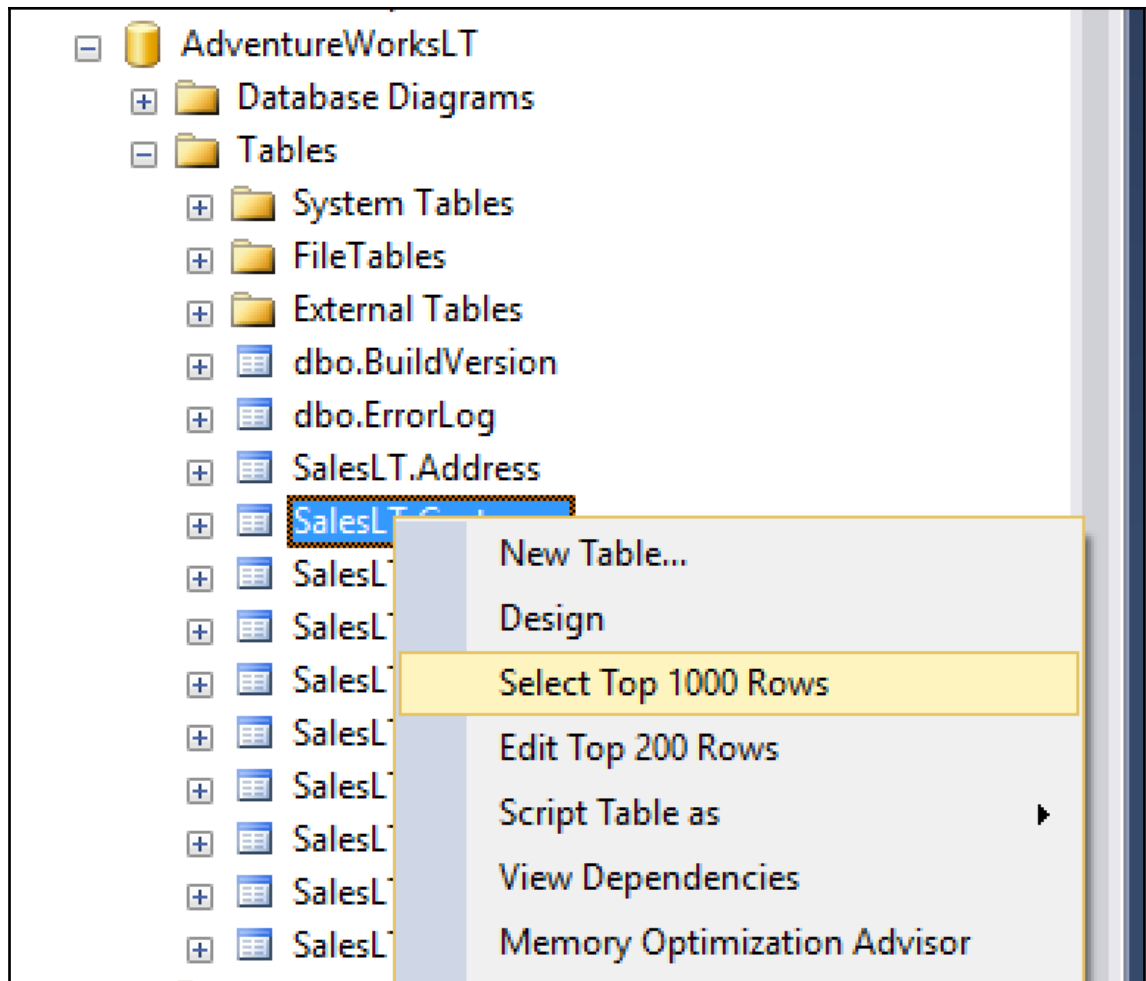
Data Tools Operations



- ✓ Publish AdventureworksLT to . 6:50:07 AM - 6:54:18 AM (0:04:11)
 - ✓ Creating publish preview...
 - ✓ Creating database script...
 - ✓ Executing publish script on database 'AdventureworksLT'...

Publish completed successfully



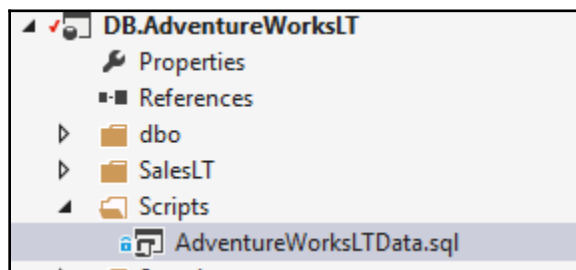


```

SELECT TOP (1000) [CustomerID]
, [NameStyle]
, [Title]
, [FirstName]
, [MiddleName]
, [LastName]
, [Suffix]
, [CompanyName]
, [SalesPerson]
, [EmailAddress]
, [Phone]
, [PasswordHash]
, [PasswordSalt]
, [rowguid]
, [ModifiedDate]
FROM [AdventureWorksLT].[SalesLT].[Customer]

```

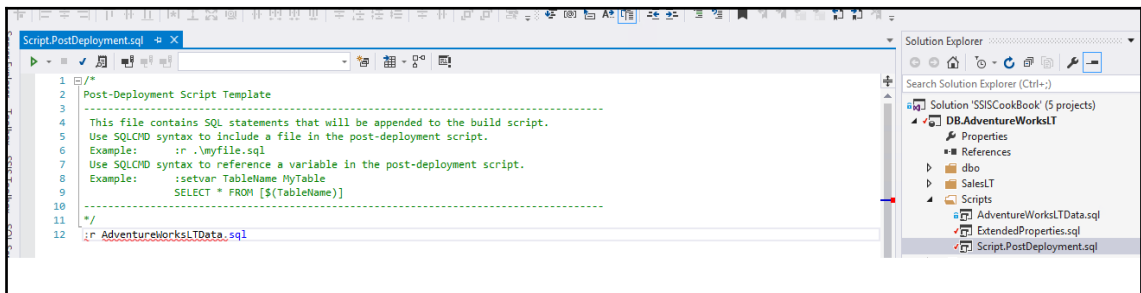
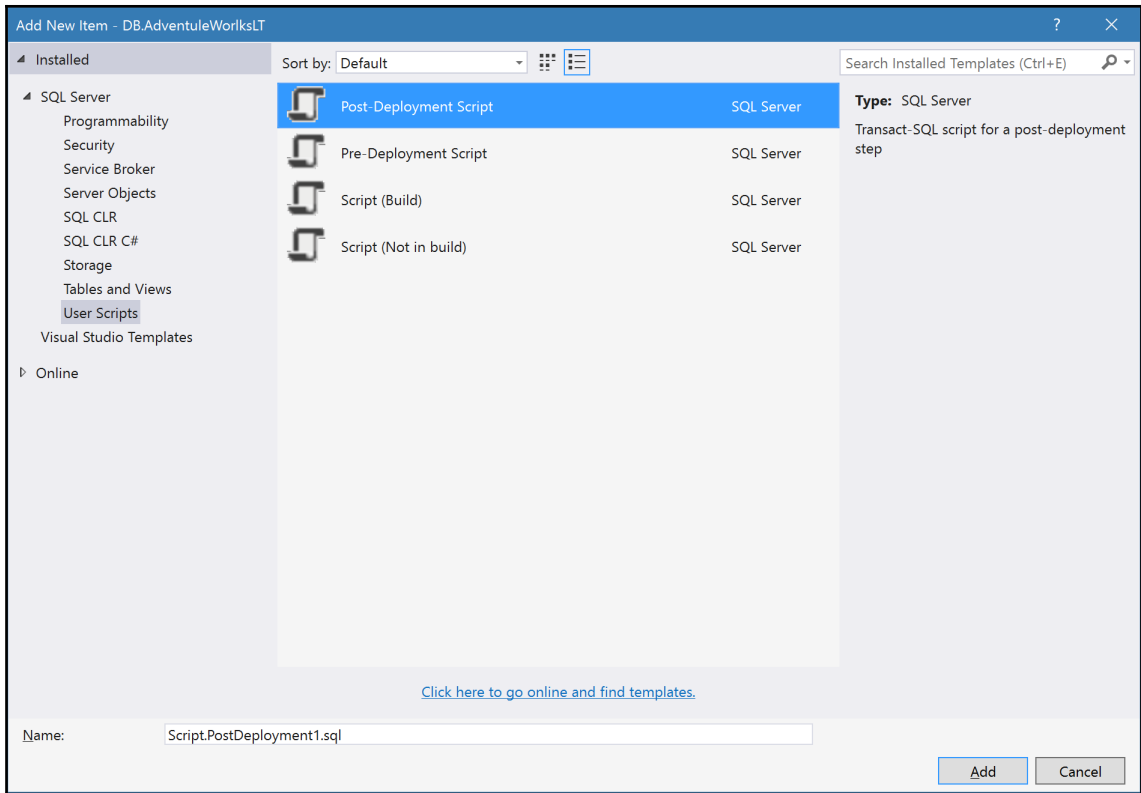
CustomerID	NameStyle	Title	FirstName	MiddleName	LastName	Suffix	CompanyName	SalesPerson
1	0	Mr.	Orlando	N.	Gee	NULL	A Bike Store	adventure-works\pamela0
2	0	Mr.	Keith	NULL	Harris	NULL	Progressive Sports	adventure-works\david8
3	0	Ms.	Donna	F.	Carreras	NULL	Advanced Bike Components	adventure-works\jillian0
4	0	Ms.	Janet	M.	Gates	NULL	Modular Cycle Systems	adventure-works\jillian0
5	0	Mr.	Lucy	NULL	Harrington	NULL	Metropolitan Sports Supply	adventure-works\shu0

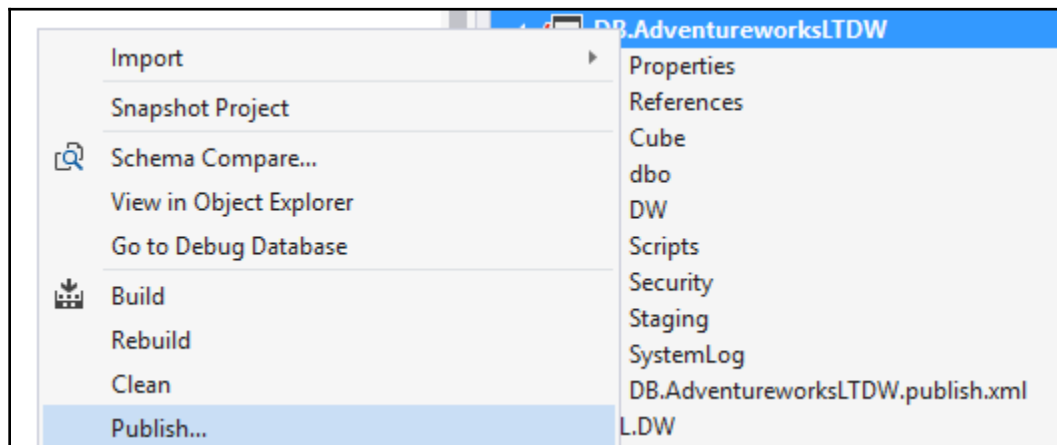
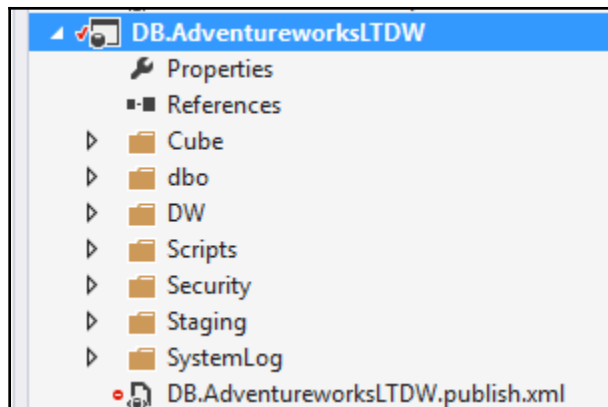


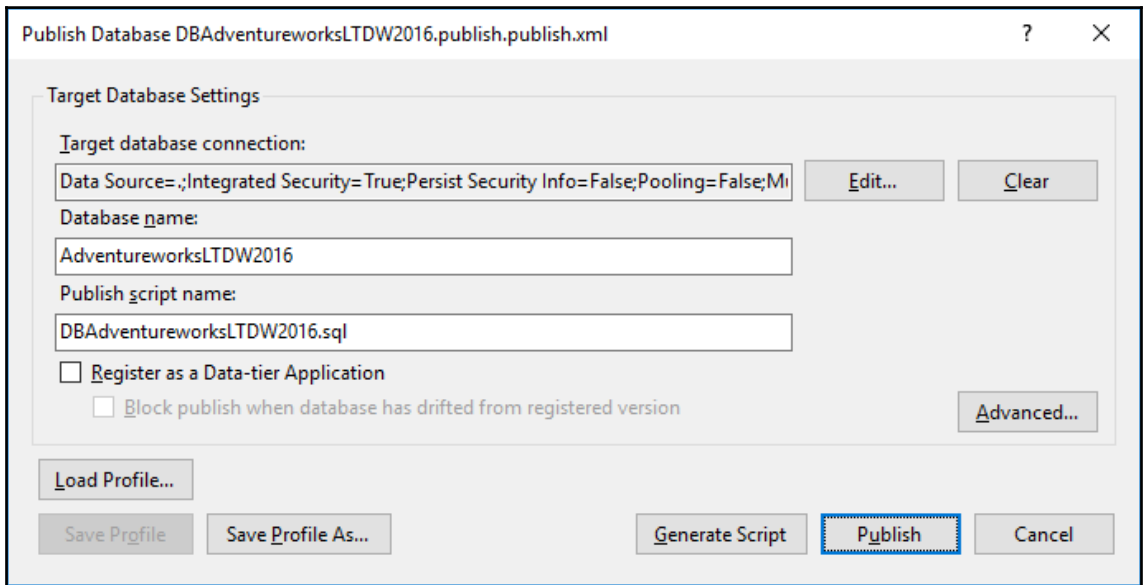
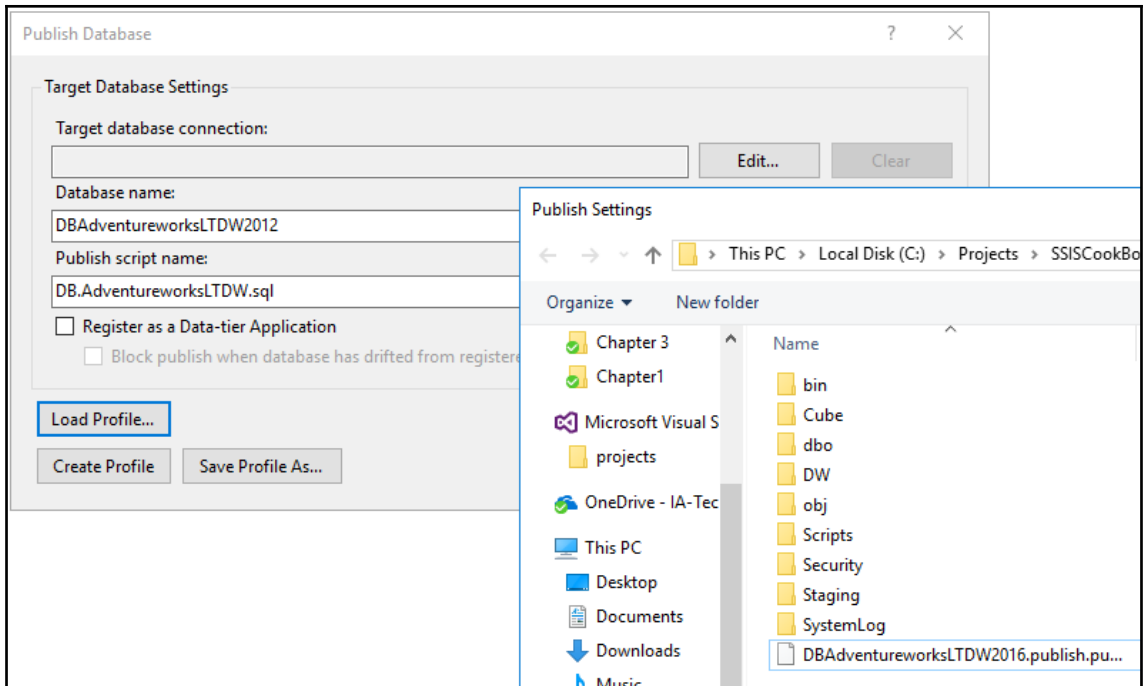
```

AdventureWorksLTData.sql
1
2 SET IDENTITY_INSERT [SalesLT].[Address] ON
3
4 GO
5 INSERT [SalesLT].[Address] ([AddressID], [AddressLine1], [AddressLine2], [City], [StateProvince], [CountryRegion], [PostalCode], [rowguid], [ModifiedDate]) VALUES (9, N'8713 Yosemite Ct.', NULL, N'Bothell', N'Washington', N'United States')
6 GO
7 INSERT [SalesLT].[Address] ([AddressID], [AddressLine1], [AddressLine2], [City], [StateProvince], [CountryRegion], [PostalCode], [rowguid], [ModifiedDate]) VALUES (11, N'1318 Lasalle Street', NULL, N'Bothell', N'Washington', N'United States')
8 GO
9 INSERT [SalesLT].[Address] ([AddressID], [AddressLine1], [AddressLine2], [City], [StateProvince], [CountryRegion], [PostalCode], [rowguid], [ModifiedDate]) VALUES (25, N'9178 Dumping St.', NULL, N'Dallas', N'Texas', N'United States', N'')
10 GO
11 INSERT [SalesLT].[Address] ([AddressID], [AddressLine1], [AddressLine2], [City], [StateProvince], [CountryRegion], [PostalCode], [rowguid], [ModifiedDate]) VALUES (28, N'9228 Via Del Sol', NULL, N'Phoenix', N'Arizona', N'United States', N'')
12 GO
13 INSERT [SalesLT].[Address] ([AddressID], [AddressLine1], [AddressLine2], [City], [StateProvince], [CountryRegion], [PostalCode], [rowguid], [ModifiedDate]) VALUES (32, N'26910 Indela Road', NULL, N'Montreal', N'Quebec', N'Canada', N'HS')
14 GO
15 INSERT [SalesLT].[Address] ([AddressID], [AddressLine1], [AddressLine2], [City], [StateProvince], [CountryRegion], [PostalCode], [rowguid], [ModifiedDate]) VALUES (185, N'2681 Eagle Peak', NULL, N'Bellevue', N'Washington', N'United States', N'')
16 GO
17 INSERT [SalesLT].[Address] ([AddressID], [AddressLine1], [AddressLine2], [City], [StateProvince], [CountryRegion], [PostalCode], [rowguid], [ModifiedDate]) VALUES (297, N'7943 Walnut Ave', NULL, N'Renton', N'Washington', N'United States', N'')

```



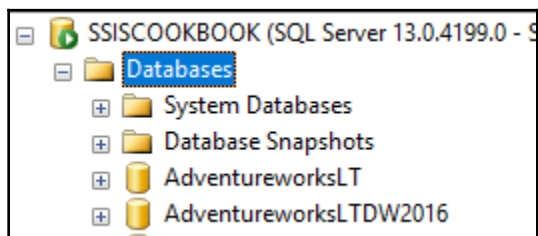


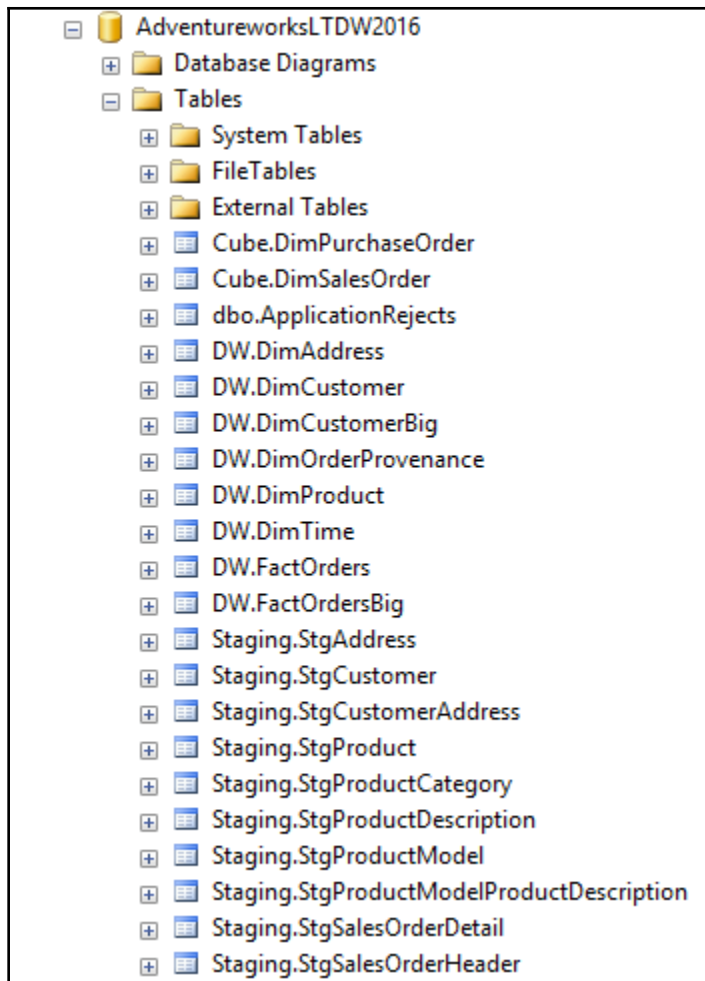


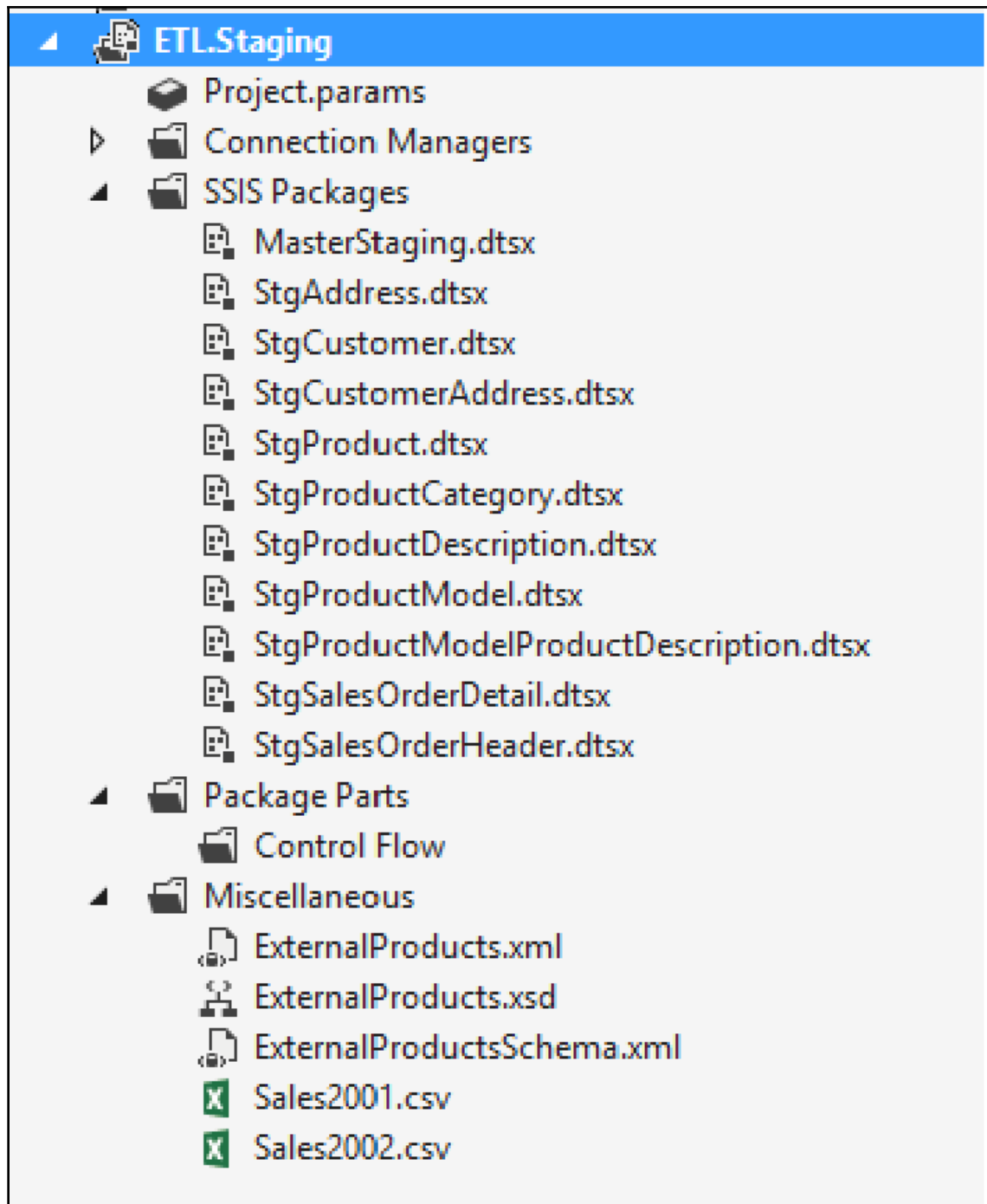
Data Tools Operations



- ✓ Publish AdventureworksLTDW2016 to . 6:44:10 AM - 6:44:22 AM (0:00:11)
 - ✓ Creating publish preview...
 - ✓ Creating database script...
 - ✓ Executing publish script on database 'AdventureworksLTDW2016'...
- Publish completed successfully

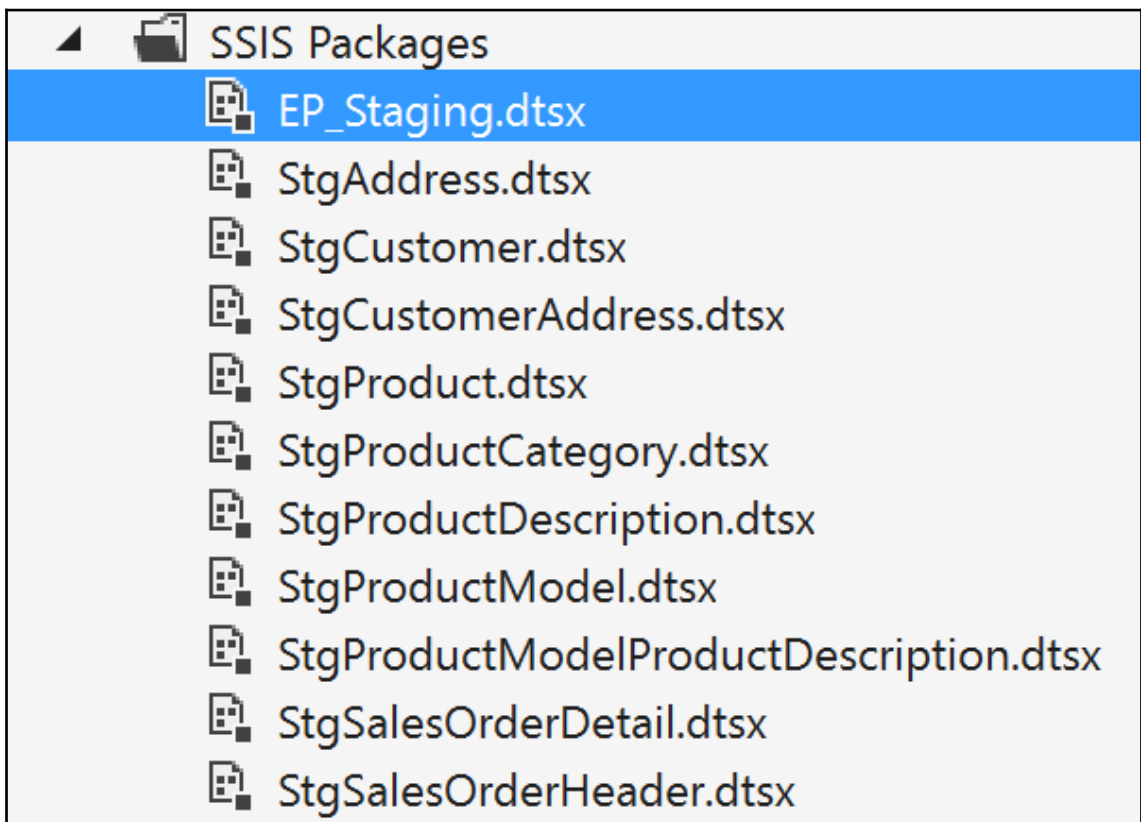
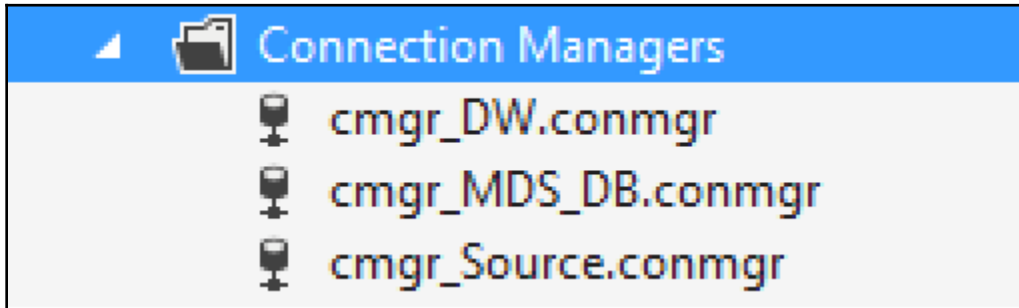


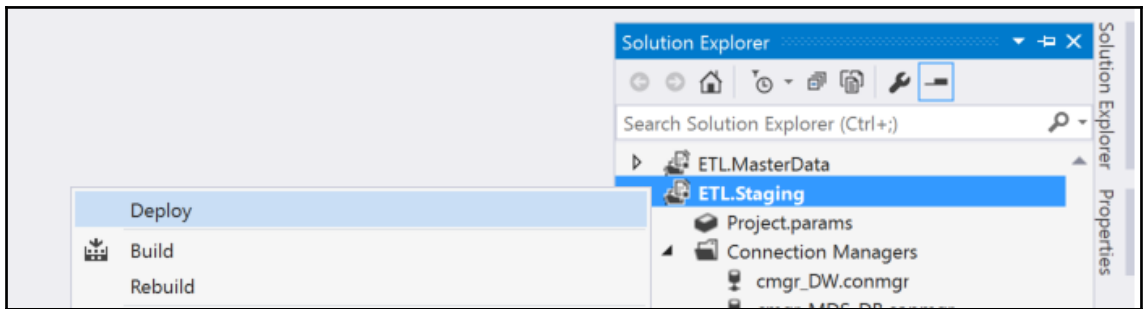
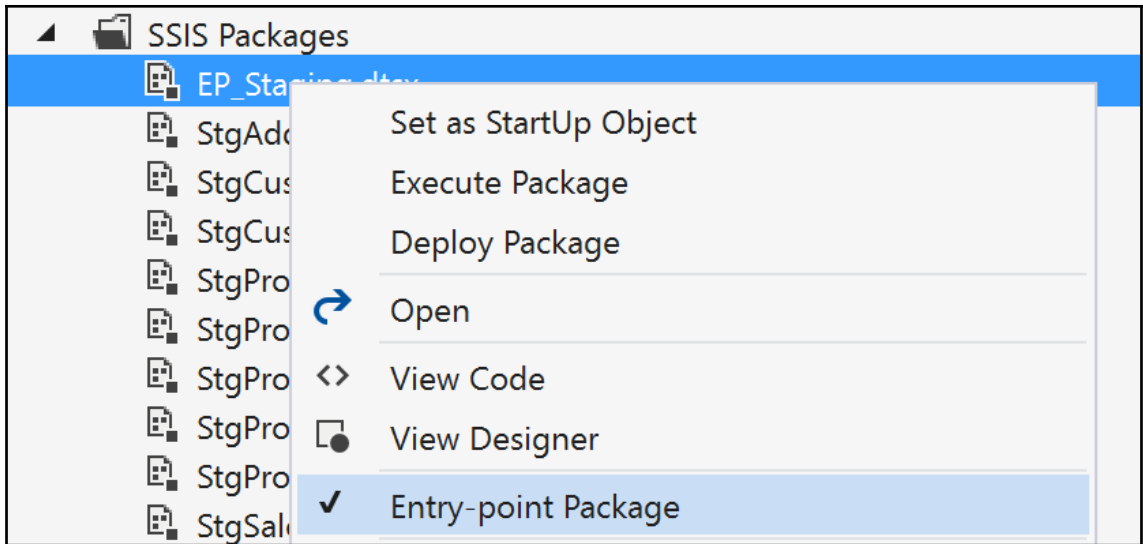


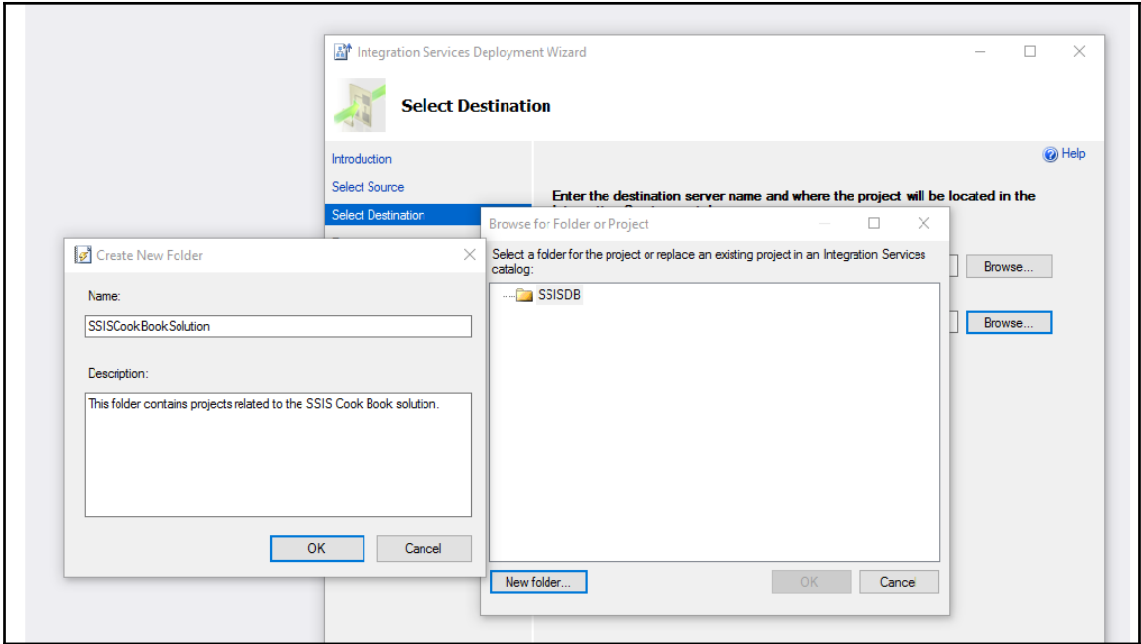


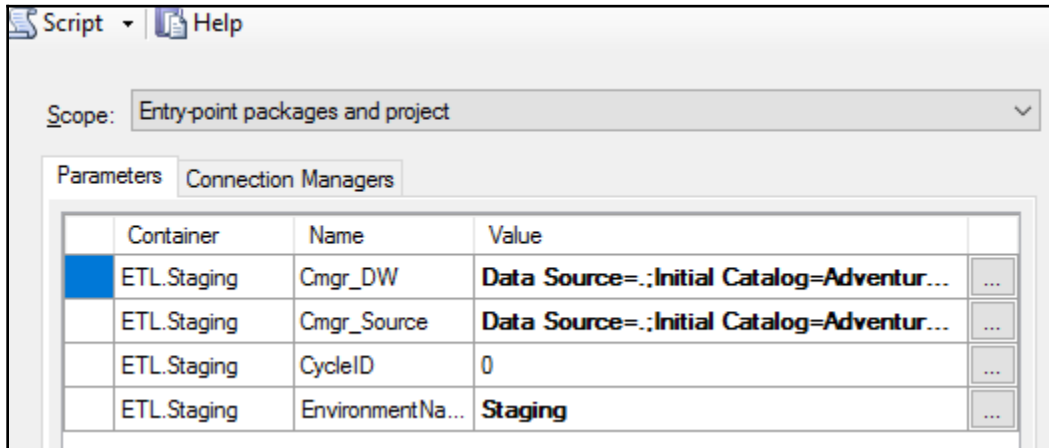
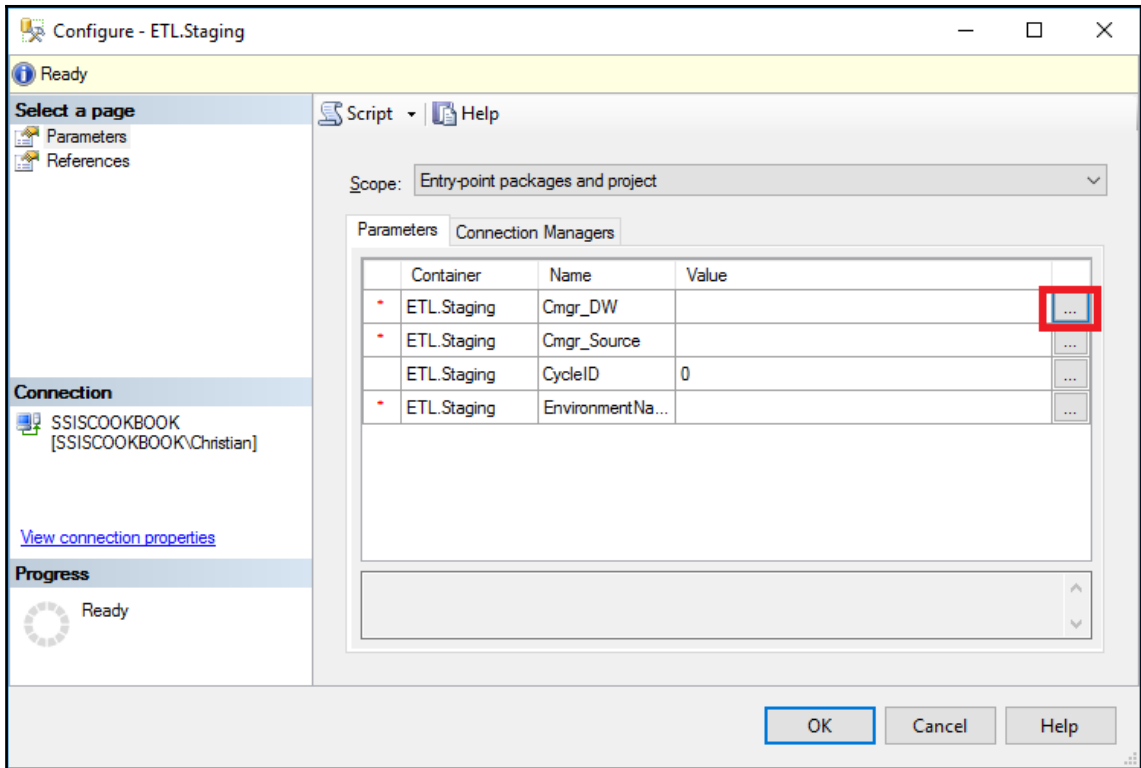
Project.params [Design] [X]

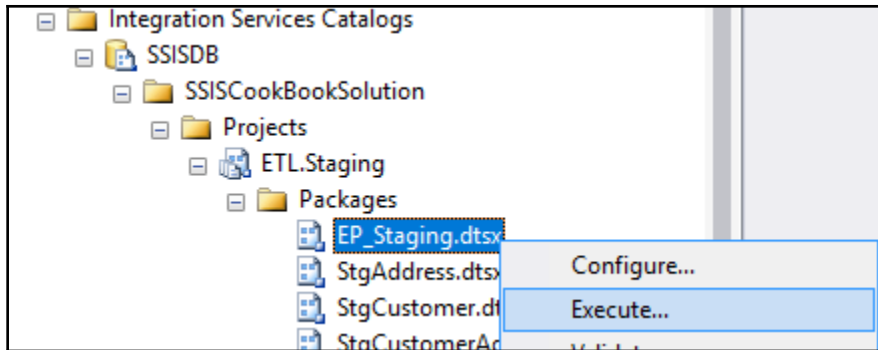
Name	Data type	Value
cmgr_DW	String	Data Source=.;Initial Catalog=AdventureWorksLTDW2016;Provider=SQLNCLI11.1;Integrated Security=SSPI;
cmgr_Source	String	Data Source=.;Initial Catalog=AdventureWorksLT;Provider=SQLNCLI11.1;Integrated Security=SSPI;











SQL S

Overview

on SSISCOOKBOOK at 2/11/2017 12:07:33 PM

This report provides an overview of the package tasks and parameters, including execution or validation information.

[View Messages](#)
[View Performance](#)

Execution Information

Operation ID	2	Duration (sec)	2
Package	SSISCookBookSolution\ETL.Staging\EP_Staging.dtsx	Start Time	2
Environment	-	End Time	2
Status	Succeeded	Caller	9
Machine	SSISCOOKBOOK		

Parameters Used

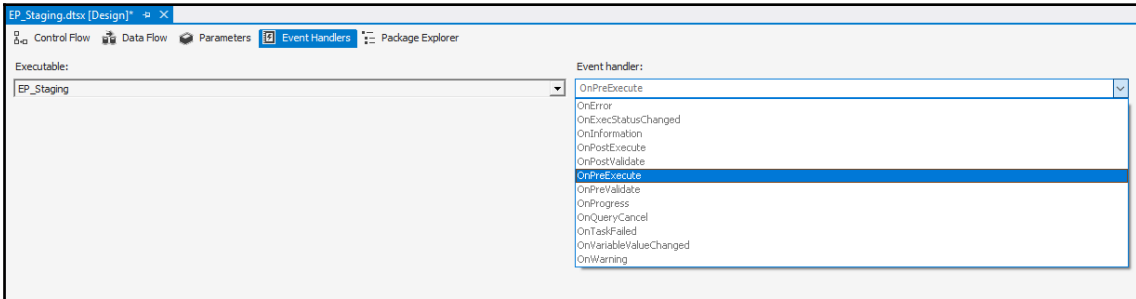
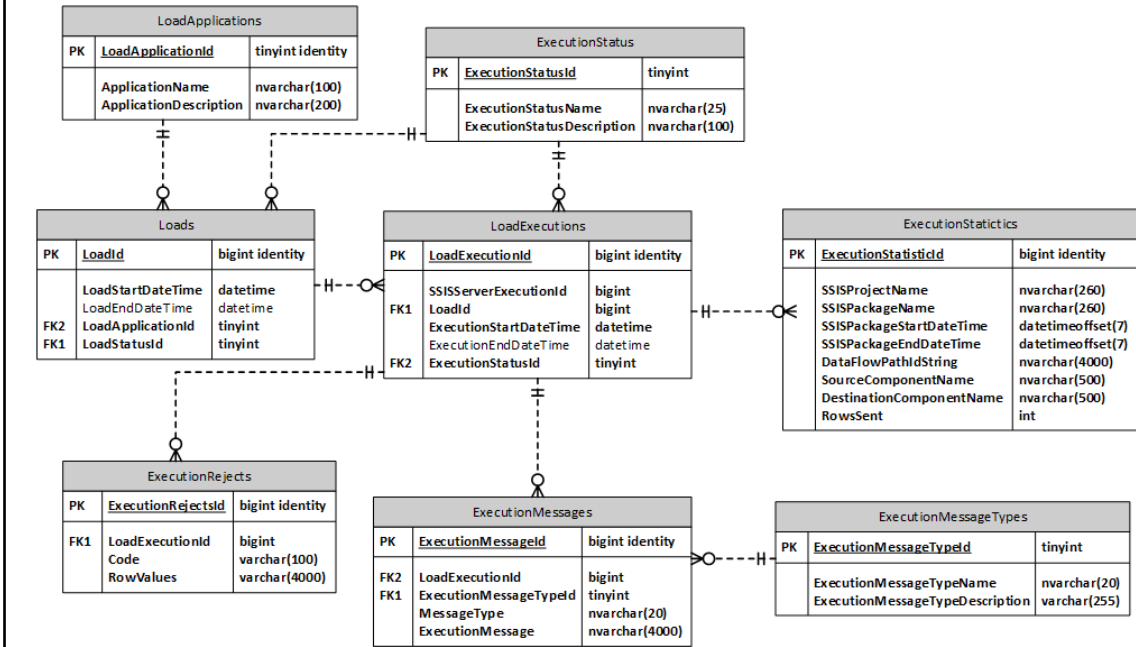
Name
CALLER_INFO
Cmgr_DW
Cmgr_Source
CycleID

Execution Overview

Filter: Result: All; (3 more)

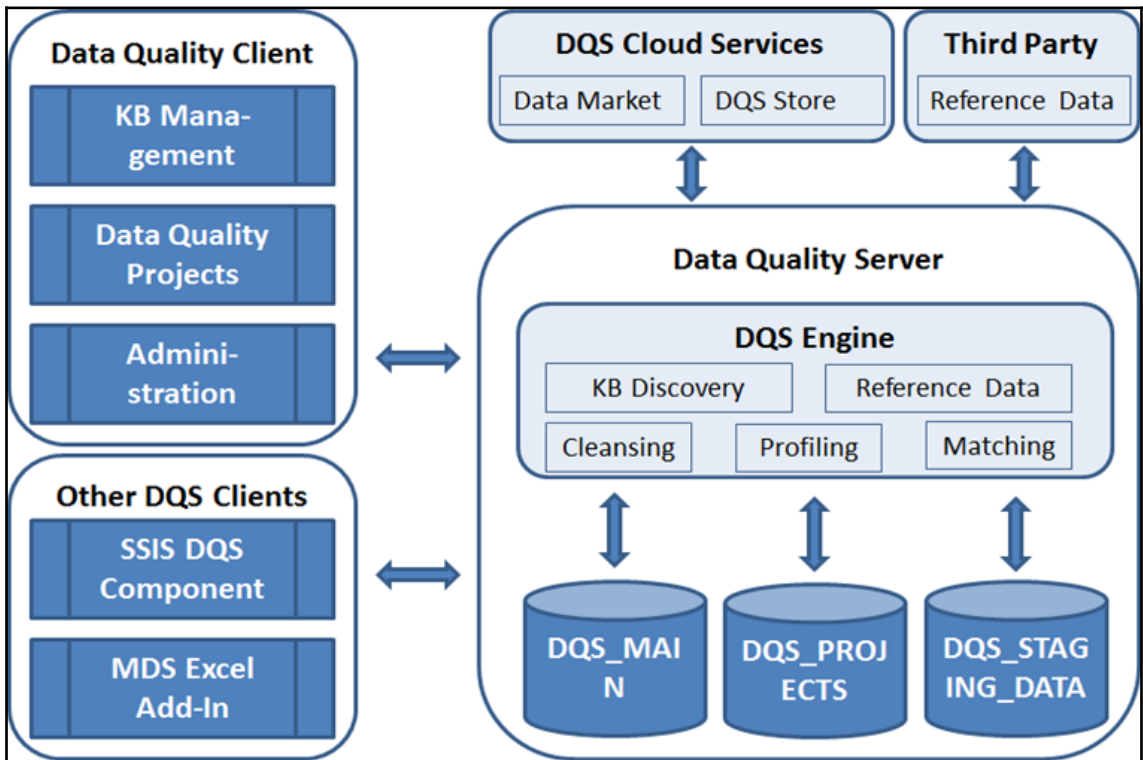
Result	Duration (sec)	Package Name	Task Name	Execution Path
Succeeded	23.391	EP_Staging.dtsx	EP_Staging	\EP_Staging
Succeeded	0	EP_Staging.dtsx	sql_CloseLoad	\EP_Staging\OnPostExecute \sql_CloseLoad
Failed	0.656	EP_Staging.dtsx	sql_OpenLoad	\EP_Staging\OnPreExecute \sql_OpenLoad

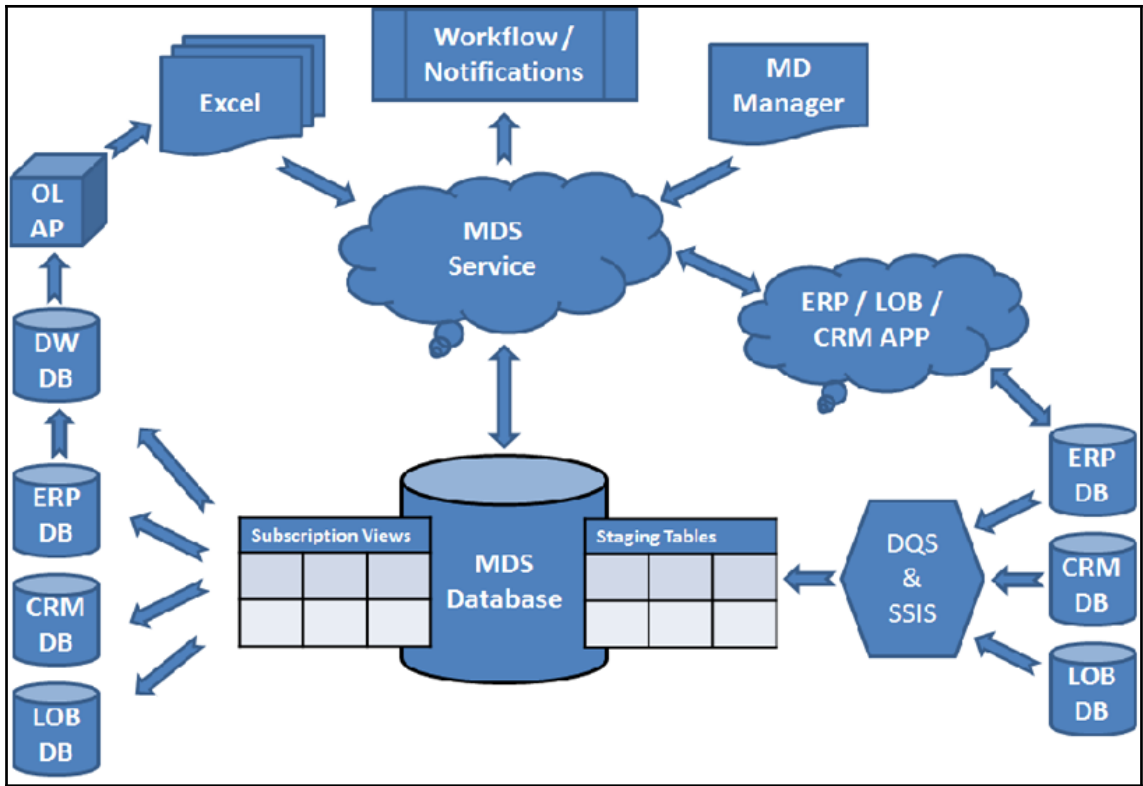
AdventureWorksLTDW SystemLog Schema

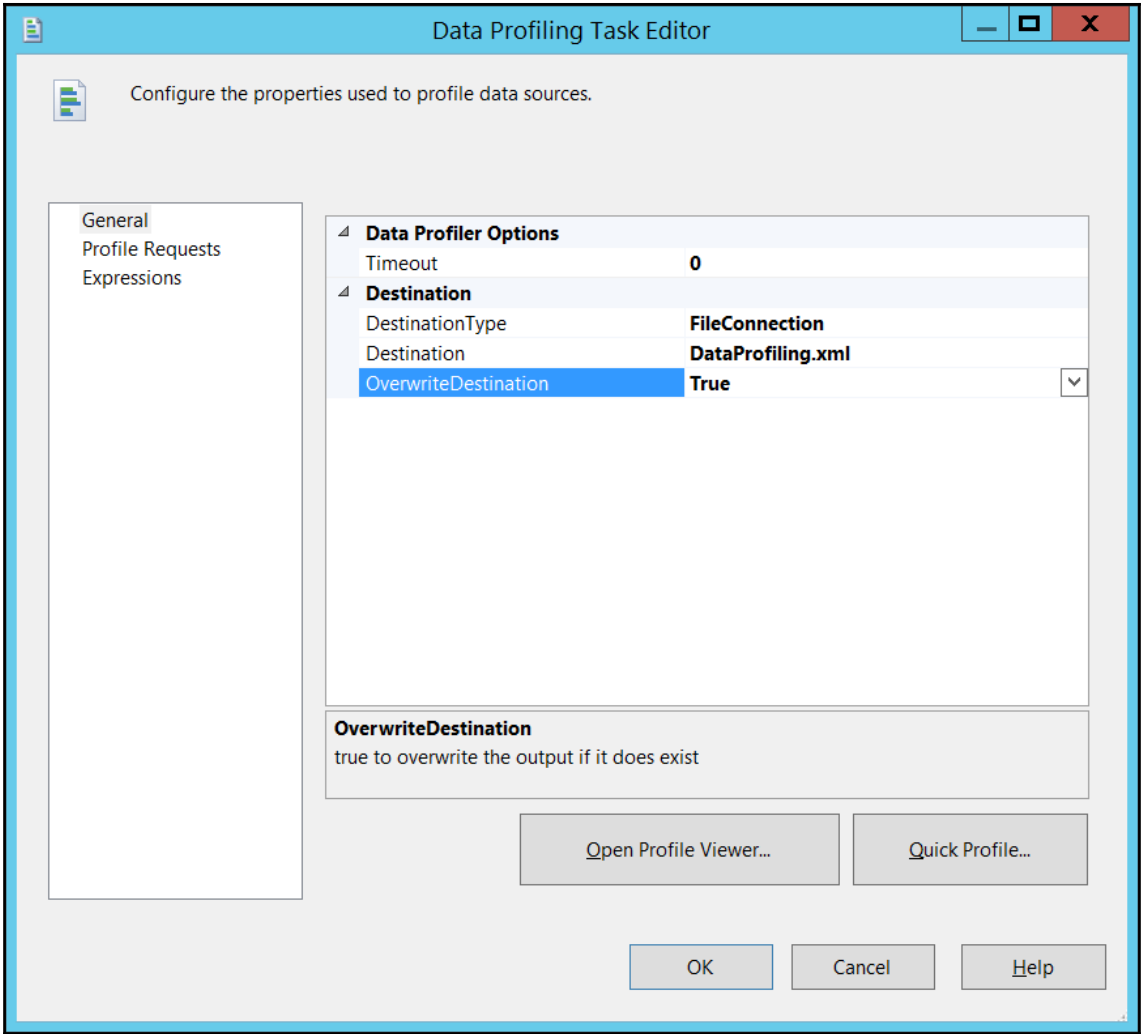


[Click here to create an 'OnPreExecute' event handler for executable 'EP_Staging'](#)

Chapter 10: Dealing with Data Quality







Data Profiling Task Editor

Configure the properties used to profile data sources.

General

Profile Requests

Expressions

View: All Requests

Profile Type	Request ID
Column Null Ratio Profile Request	NullRatioReq
Column Length Distribution Profile Reque...	LengthDistReq
Candidate Key Profile Request	KeyReq
Functional Dependency Profile Request	FDReq
Column Pattern Profile Request	PatternReq
Column Statistics Profile Request	StatisticsReq
Column Value Distribution Profile Request	ValueDistReq

Request Properties:

Data	
ConnectionManager	localhost.AdventureWorksDW2014
TableOrView	[dbo].[Chapter05Profiling]
Column	NumberCarsOwned
General	
RequestID	ValueDistReq
Options	
ValueDistributionOption	FrequentValues

Column
Column Name and its options for comparing strings

OK Cancel Help

Data Profile Viewer - C:\SSIS2016Cookbook\DataProfiling.xml

Open Refresh

Profiles (Table View)

- Data Sources
 - localhost
 - Databases
 - AdventureWorksDW2014
 - Tables
 - [dbo].[Chapter05Profiling]
 - Candidate Key Profiles
 - Column Length Distribution Profiles
 - Column Null Ratio Profiles
 - Column Pattern Profiles
 - Column Statistics Profiles
 - Column Value Distribution Profiles
 - Functional Dependencies

Column Length Distribution Profiles - [dbo].[Chapter05Profiling]

Column	Minimum Length	Maximum Length	Ignore Leading Space
MiddleName	1	10	<input type="checkbox"/>



Length Distribution - MiddleName Encrypted Connection 1000 Rows

Length	Count	Percentage
3	1	0.0054 %
6	2	0.0108 %
1	10610	57.4010 %
10	1	0.0054 %
4	1	0.0054 %
2	39	0.2110 %

[MiddleName]'s Length = 10

HouseOwnerF	LastName	MaritalStatus	MiddleName	NumberCarsO	NumberChildr
	Agbonile	M	Uwai fiokun	1	1


Message [MiddleName]'s Length = 3 [MiddleName]'s Length = 1 [MiddleName]'s Length = 10


 **Create Domain** 


Domain Name: (Required)


Description:


Data Type:


Use Leading Values 

Normalize String 

Format Output to: 

Language: 

Enable Speller 

Disable Syntax Error Algorithms 



Data Quality Project

Knowledge Base: AWCUSTOMERS

Data Quality Project: AWCUSTOMERSCle...

Activity: Cleansing

- 1 Map
- 2 Cleanse
- 3 Manage and View results
- 4 Export

Choose a database to cleanse against the mapped domains

Data Source: SQL Server

Database: DQS_STAGING_DATA

Table/View: CustomersCh05DQS

Mappings:

Source Column	Domain
BirthDate (date)	BirthDate
StreetAddress (nvarchar)	StreetAddress
City (nvarchar)	City
StateProvince (nvarchar)	State
CountryRegion (nvarchar)	Country
EmailAddress (nvarchar)	EmailAddress
Occupation (nvarchar)	Occupation

View/Select Composite Domains

Knowledge Base details: AWCUSTOMERS

Domains

- BirthDate
- City
- Country
- EmailAddress
- Occupation
- State
- StreetAddress

Profiler ▲

Close

Back

Next

Finish

Browser address bar: <http://sql2016eim:80> Manage Models - Master D...

SQL Server 2016 Master Data Services

Home > Manage Models Feedback

Manage Deployment

Manage Models

Add Delete Edit | Go to: Entities

Derived Hierarchies

Status	Name	Description	Log Retention
--------	------	-------------	---------------

Add Model

Name :

Description :

Log Retention :

Days :

Create entity with same name as model

Save Cancel

SQL Server 2016 Master Data Services

Home > AWCustomer Model > AWCustomer Entity > Manage Attribute Groups

Manage Deployment

Manage Attribute Groups

Model : AWCustomer Entity : AWCustomer

Member Type : Leaf

Add Delete Edit

Status	Name	Included Attribute
--------	------	--------------------

Add Attribute Group

Name : Demography

Attributes

Available :

- StateProvince
- StreetAddress
- City
- EmailAddress

Assigned :

- MaritalStatus
- BirthDate
- YearlyIncome

Users

Add Business Rule



Name

EmailAt

Description

Send N

SQL2016

Exclude

If

Add

Then

Add

Else

Add

Create Action



Attribute

EmailAddress



Operator

must contain the pattern



Must contain the pattern

Attribute value



Attribute value

@|



Save

Cancel

Save

Cancel

SQL Server 2016 Master Data Services

Home > Explore (Model : AWCustomer | Version : VERSION_1)

Entities Entity Dependencies Hierarchies Collections Changesets

AWCustomer Entity

+ Add Member | - Delete Members | Apply Rules | View History | Filter

Demography [All Attributes]

	Name	Code	StateProvince	Street
✓	Jon Yang	1	1 {Queensland }	3761 N. 14th St
! Validation failed	Lauren Walker	2	2 {Washington}	4785 Scott Street

Validation failed

1-2 of 2 members Page 1 of 1

Details

Name: Lauren Walker

Code: 2

StateProvince: Washington

StreetAddress: 4785 Scott Street

City: Bremerton

EmailAddress: lauren41#adventure-works.com

MaritalStatus: M

BirthDate: 1970/01/18

YearlyIncome: 100000

Annotations:

[View History](#)

Validation Errors (1)

EmailAt: EmailAddress must contain the pattern @

OK Cancel

> Changesets

> Related Entities

Lookupt Transformation Editor

This transform enables the performance of simple equi-joins between the input and a reference data set.

General
Connection
Columns
Advanced
Error Output

Available Input C...

Name
CustomerKey
FullName
StreetAddress
Updated

Available Lookup Colu...

<input type="checkbox"/>	Name	Index
<input checked="" type="checkbox"/>	CustomerKey	
<input type="checkbox"/>	FullName	
<input type="checkbox"/>	StreetAddress	

Lookup Column	Lookup Operation	Output Alias
CustomerKey	Replace 'CleanCustomerKey'	CleanCustomerKey

OK Cancel Help



Knowledge Base Management

Knowledge Base: AWCUSTOMERSMATCHING

Activity: Matching Policy

- 1 Map
- 2 Matching Policy
- 3 Matching Results

Choose a database sample to create matching policy rules

Data Source:

Database:

Table/View:

Mappings:

Source Column	Domain
FullName (nvarchar)	FullName
StreetAddress (nvarchar)	StreetAddress

[View/Select Composite Domains](#)

Knowledge Base details: AWCUSTOMERSMATCHING

- Domains
 - FullName
 - NameAddress
 - FullName
 - StreetAddress
 - StreetAddress

Profiler ▲

Cancel

Close

Back

Next

Finish

Fuzzy Lookup Transformation Editor

Configure the properties used to perform a lookup operation between an input dataset and a reference dataset using a best-match algorithm.

Reference Table Columns **Advanced**

Specify the join columns and the use of reference columns.

Available Input Columns	
Name	Pass Thr...
CustomerKey	<input checked="" type="checkbox"/>
FullName	<input checked="" type="checkbox"/>
StreetAddress	<input checked="" type="checkbox"/>
Updated	<input checked="" type="checkbox"/>
CleanCustomerKey	<input type="checkbox"/>

Available Lookup...	
<input checked="" type="checkbox"/> Name	
<input checked="" type="checkbox"/> CustomerKey	
<input type="checkbox"/> FullName	
<input type="checkbox"/> StreetAddress	

Lookup Column	Output Alias
CustomerKey	CleanCustomerKey

OK Cancel Help

Chapter05 - Microsoft Visual Studio (Administrator)

File Edit View Project Build Debug Team Format SSIS Tools Test R.Tools Analyze Window Help

SSIS Toolbox

- Term Extraction
- Term Lookup
- Unpivot
- Other Sources
 - ADO NET Source
 - CDC Source
 - Excel Source
 - Flat File Source
 - OLE DB Source
 - Raw File Source
 - XML Source
- Other Destinations
 - ADO NET Destination
 - Data Mining Model Tr...
 - DataReader Destination
 - Dimension Processing
 - Excel Destination
 - Flat File Destination
 - OLE DB Destination**
 - Partition Processing
 - Raw File Destination
 - Recordset Destination

OLE DB Destination

Loads data into an OLE DB-compliant relational database, such as SQL Server. Many types of databases are OLE DB-compliant...

Find Samples

SSIS Tools: SSIS, SQL S...

Control Flow Data Flow Parameters Event Handlers Package Expl... Execution Resu...

Data Flow Task: Data Flow Task

The diagram illustrates a data flow task for data matching. It starts with a source 'CustomersDirty'. This data is processed by an 'ExactMatches' task, which has two outputs: 'Lookup Match Output' and 'Lookup No Match Output'. The 'Lookup Match Output' is connected to a 'Match' task, which then feeds into a 'CustomersDirtyMatch' destination. The 'Lookup No Match Output' is connected to a 'NoMatch' task, which has two outputs: one leading to a 'CustomersDirtyNoMatch' destination and another leading to a 'FuzzyMatches' task. The 'FuzzyMatches' task also receives input from the 'Match' task and outputs to a 'Union All' task. The 'Union All' task then feeds into a 'FuzzyMatchingResults' destination. A progress indicator shows 100% completion.

Connection Managers

- localhost.DQS_STAGING_DATA

Solution Explorer

Search Solution Explorer (Ctrl+Q)

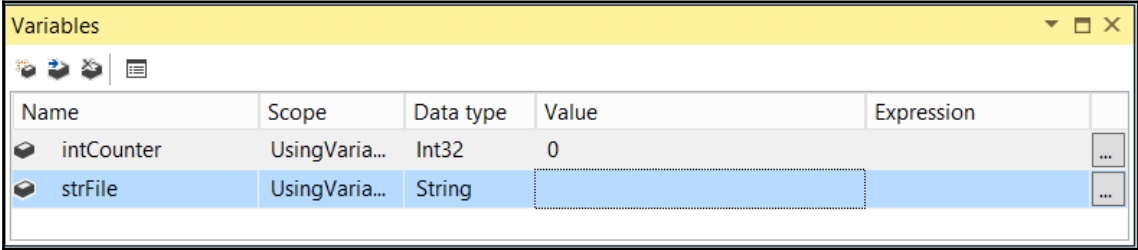
- Solution Chapter05 (1 project)
- Chapter05
 - Project.params
 - Connection Managers
 - SSIS Packages
 - DataProfiling.dtsx
 - DataMatching.dtsx
 - Package Parts
 - Control Flow
 - Miscellaneous

Ready

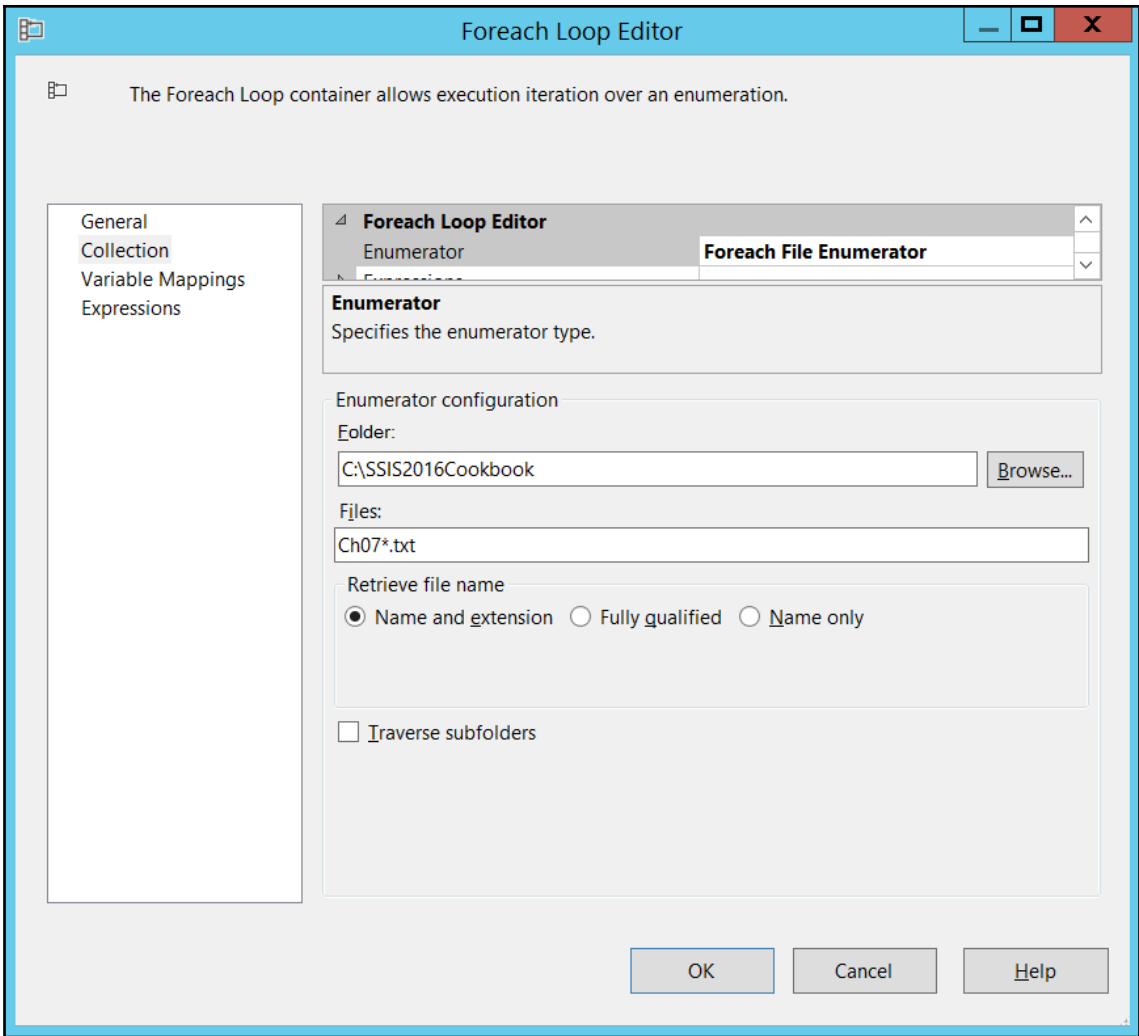
Publish

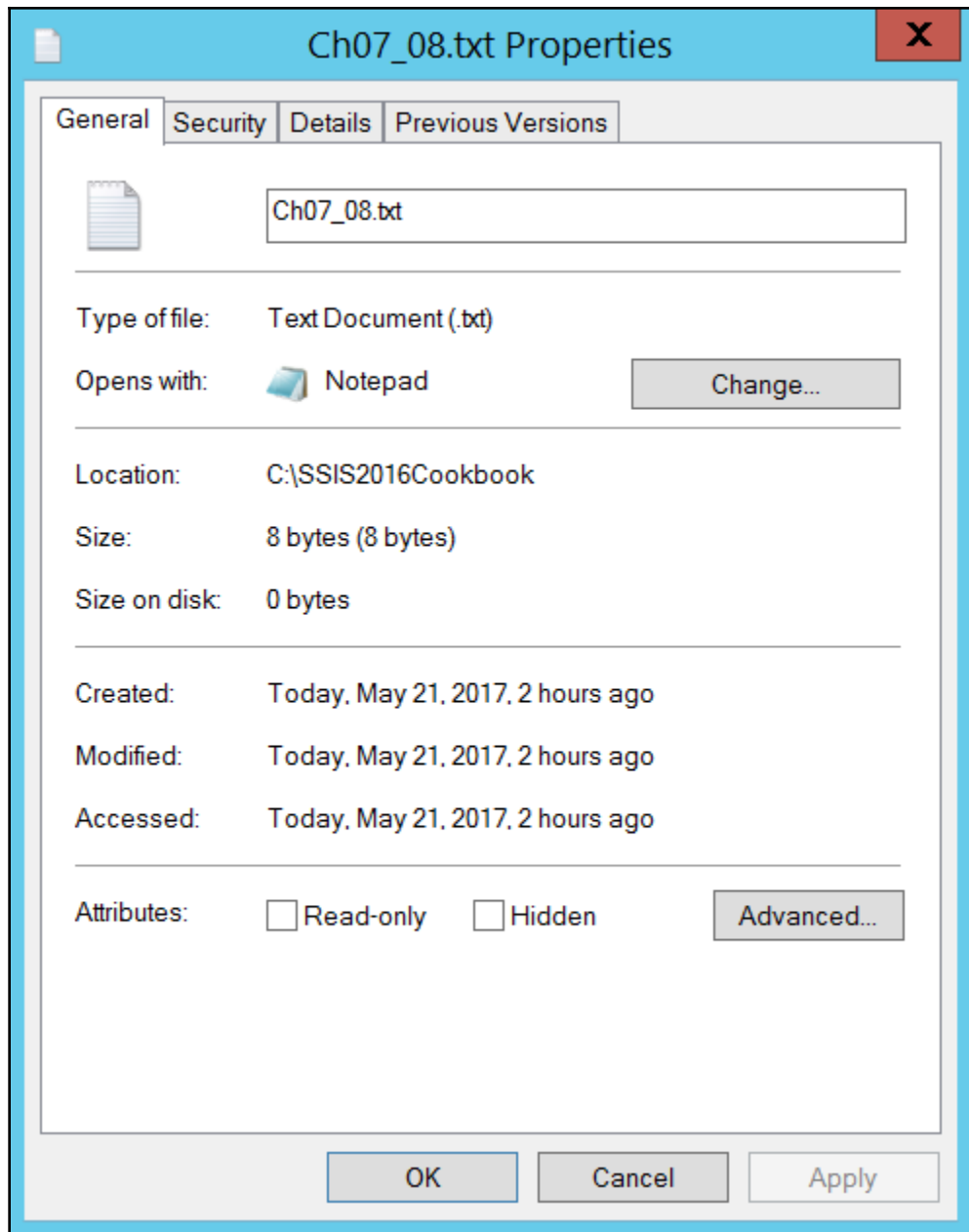
ENG 2:52 PM

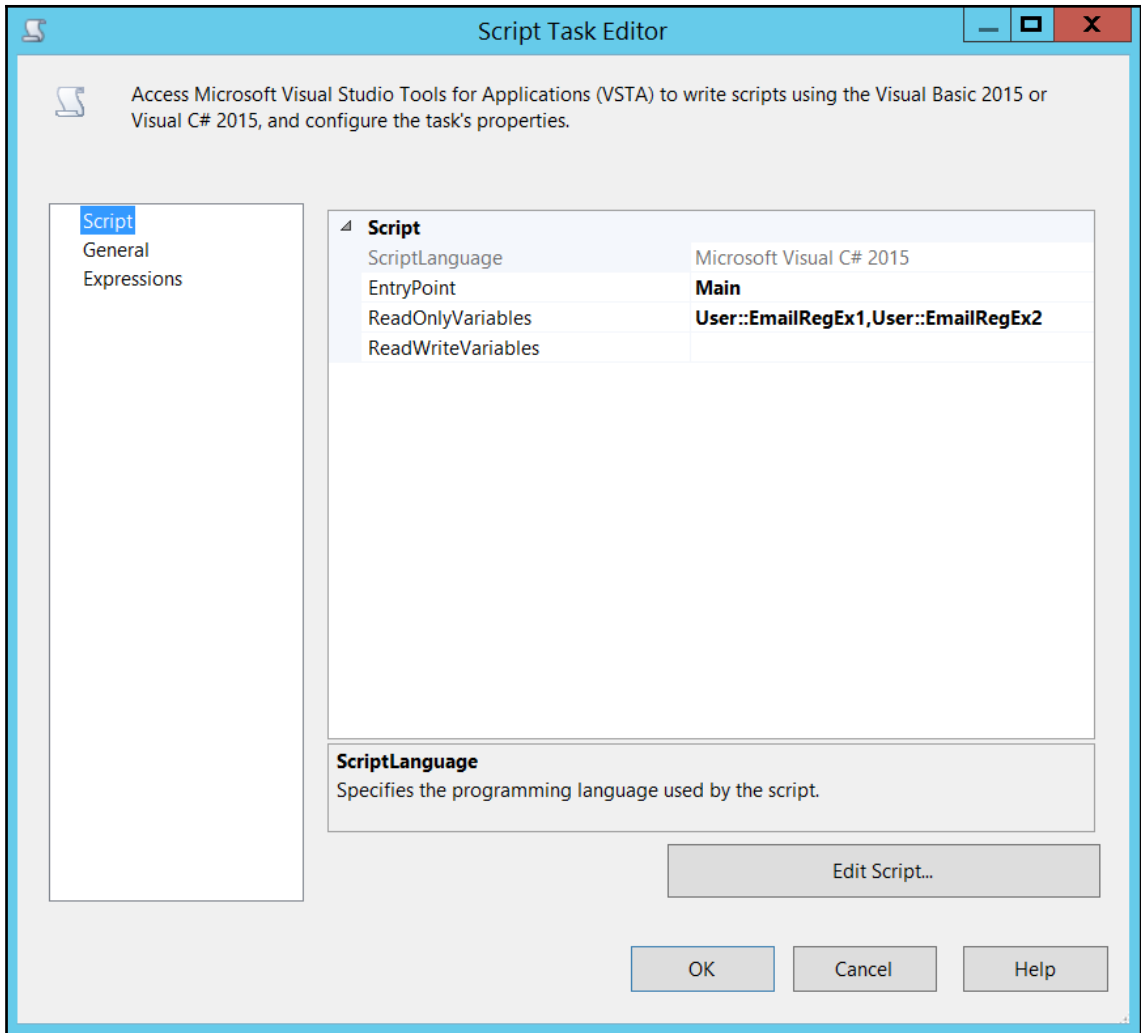
Chapter 11: Unleash the Power of SSIS Script Task and Component



Name	Scope	Data type	Value	Expression
intCounter	UsingVaria...	Int32	0	
strFile	UsingVaria...	String		







OrderId	Date	Product	Quantity
1	20160915	ABC	1
		DEF	5
		GHI	3
2	20160916	GHI	2
		ABC	4

Excel Connection Manager

Specify an Excel file to connect to by selecting an existing file or by providing a file path to create a new file.

Excel connection settings

Excel file path:
C:\SSIS2016Cookbook\Chapter07\Files\Ch07_Orders.xls [Browse...](#)

Excel version:
Microsoft Excel 97-2003

First row has column names

[OK](#) [Cancel](#)

Excel Source Editor

Configure the properties that enable the Data Flow task to obtain data from Excel provider.

Connection Manager
Columns
Error Output

Specify a connection manager, data source, or data source view for the Excel source. Then, select the mode used to access data within the source. After selecting the data access mode, select from among the additional data access options that appear.

Excel connection manager:
Excel_Ch07_Orders

Data access mode:
Table or view

Name of the Excel sheet:
Sheet1\$

Preview...

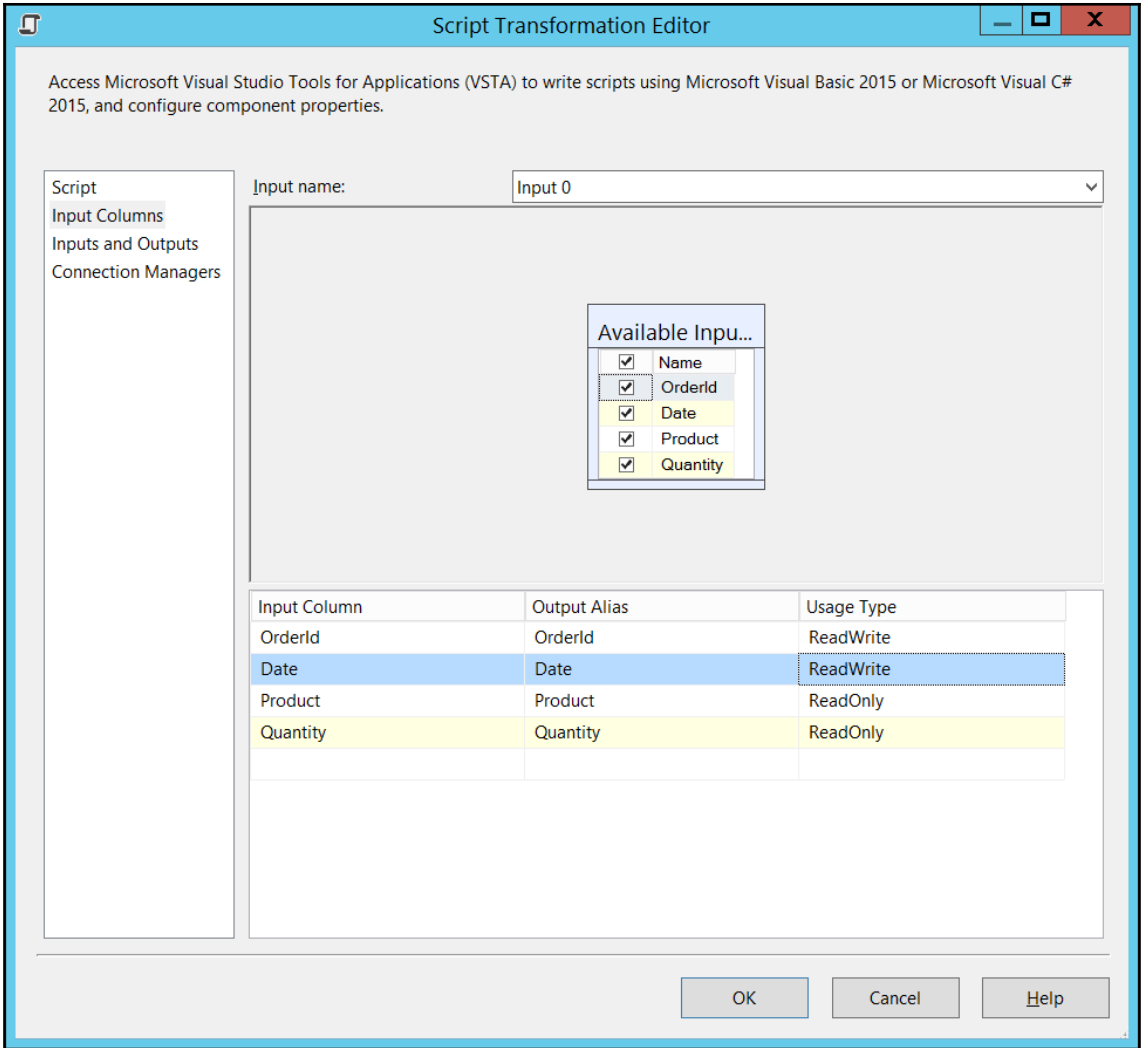
Preview Query Results

Query result (up to the first 200 rows):

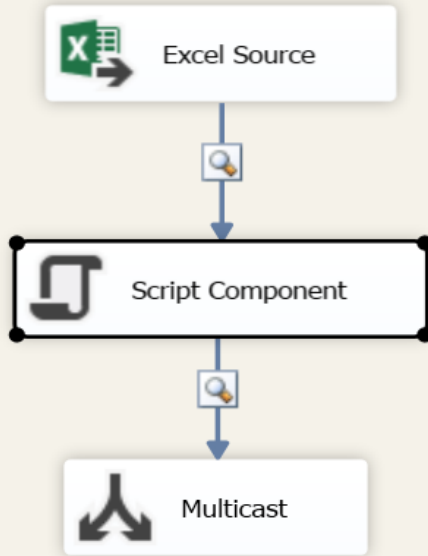
OrderId	Date	Product	Quantity
1	201609...	ABC	1
NULL	NULL	DEF	5
NULL	NULL	GHI	3
2	201609...	GHI	2
NULL	NULL	ABC	4

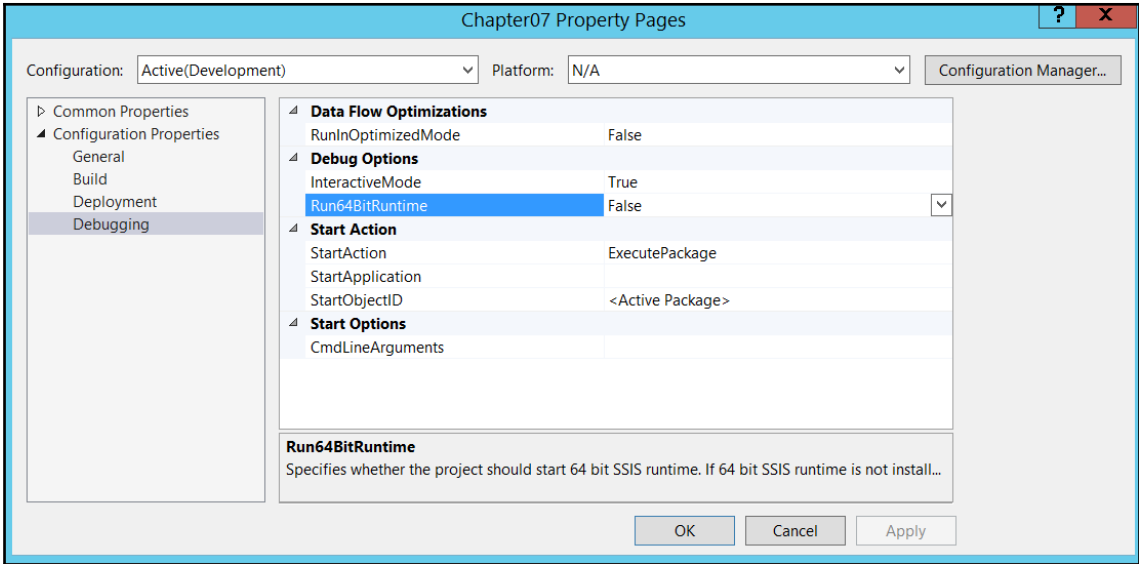
Close

OK Cancel Help



Data Flow Task: ProcessExcelOrders





Flat File Connection Manager Editor

Connection manager name:

Description:

General
Columns
Advanced
Preview

Select a file and specify the file properties and the file format.

File name:

Locale: Unicode

Code page:

Format:

Text qualifier:

Header row delimiter:

Header rows to skip:

Column names in the first data row

Select Script Component Type



Specify how the script will be used in the data flow:

Source

Script is a source in the data flow and provides data to output columns.

Destination

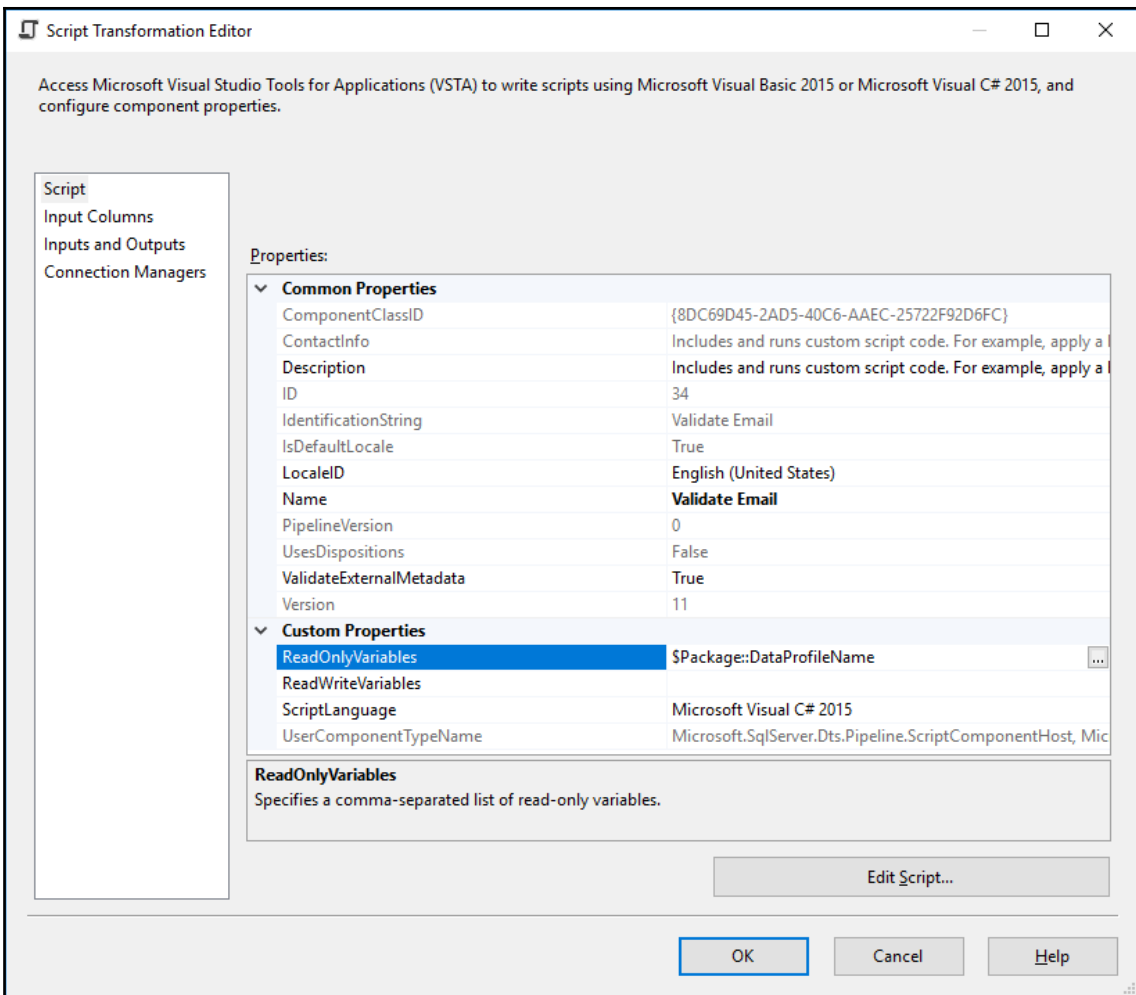
Script is a destination in the data flow and consumes data from input columns.

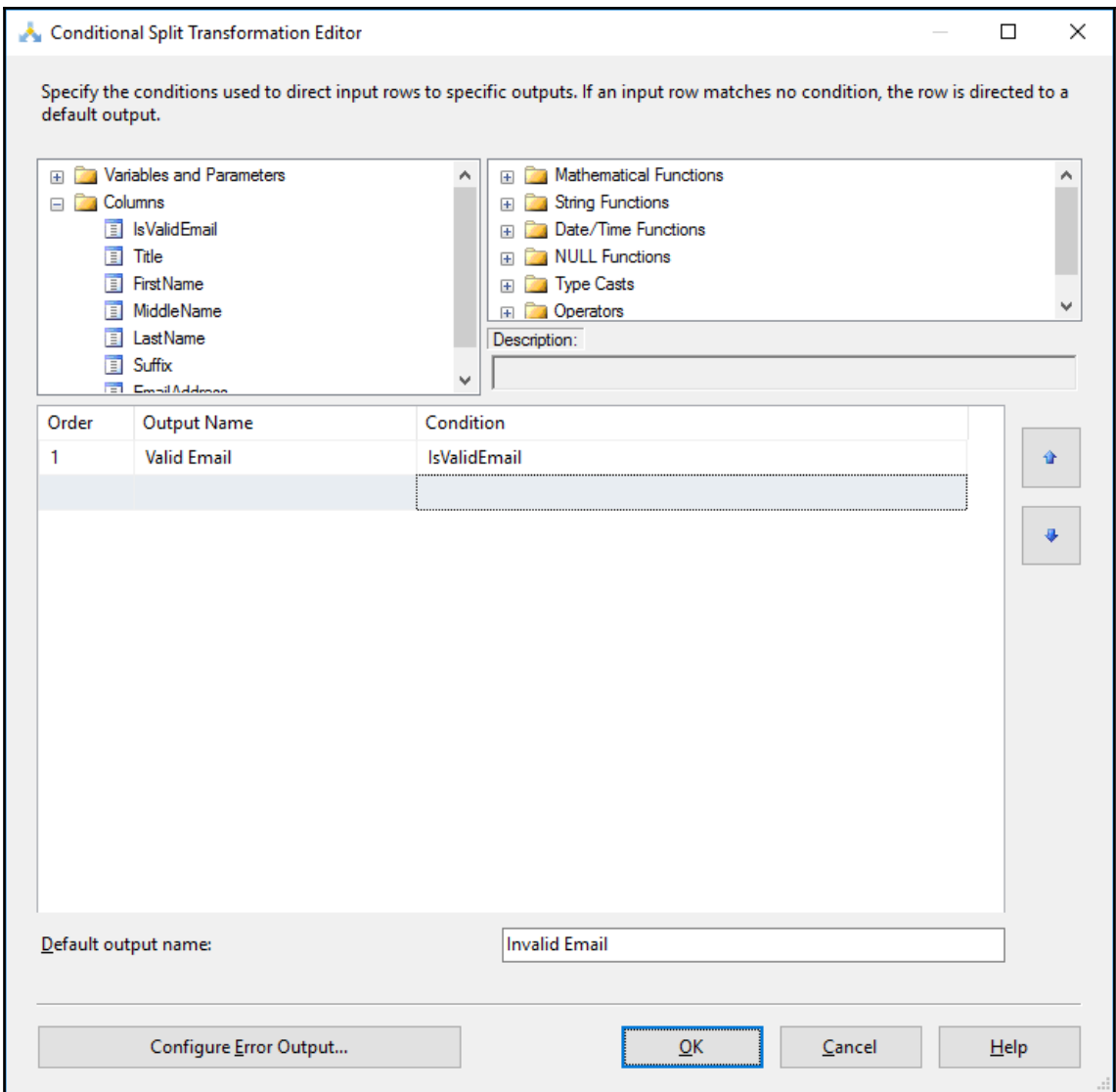
Transformation

Script is a transformation in the data flow and operates on data from input columns and provides data to output columns.

OK

Help





Input Output Selection



The source or the destination component contains multiple inputs or outputs. Select an input and an output to connect the components.

Output:

Invalid Email

Input:

Multicast Input 1

OK

Cancel

Select Script Component Type



Specify how the script will be used in the data flow:

Source

Script is a source in the data flow and provides data to output columns.

Destination

Script is a destination in the data flow and consumes data from input columns.

Transformation

Script is a transformation in the data flow and operates on data from input columns and provides data to output columns.

OK

Help

Access Microsoft Visual Studio Tools for Applications (VSTA) to write scripts using Microsoft Visual Basic 2015 or Microsoft Visual C# 2015, and configure component properties.

Script
Inputs and Outputs
Connection Managers

Specify column properties of the script component.

Inputs and outputs:

- AirportInfoOutput
 - Output Columns
 - Country
 - AirportName
 - AirportCode
 - RunwayLengthFeet

Add Output

Add Column

Remove Output

Remove Column

Common Properties	
ComparisonFlags	
Description	
ErrorOrTruncationC	
ErrorRowDispositio	RD_NotUsed
ID	53
IdentificationString	Airport Info by Country
LineageID	53
LineageIdentificati	Airport Info by Country
MappedColumnID	0
Name	RunwayLengthFeet
SortKeyPosition	0
SpecialFlags	0
TruncationRowDisp	RD_NotUsed

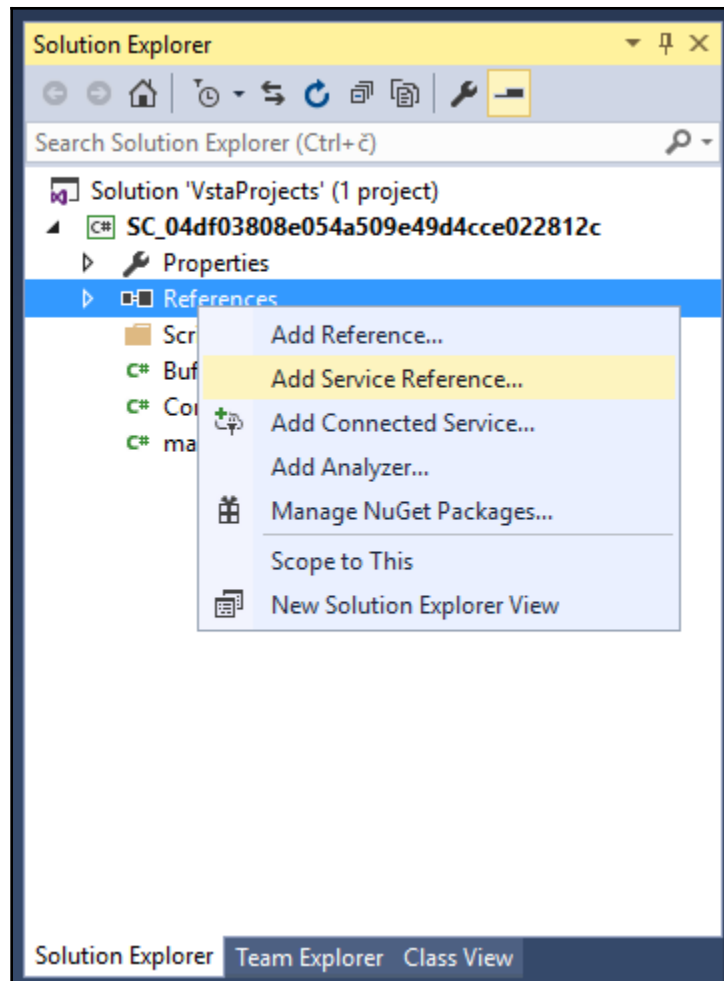
Data Type Properties	
CodePage	0
DataType	four-byte signed intege
Length	0
Precision	0
Scale	0

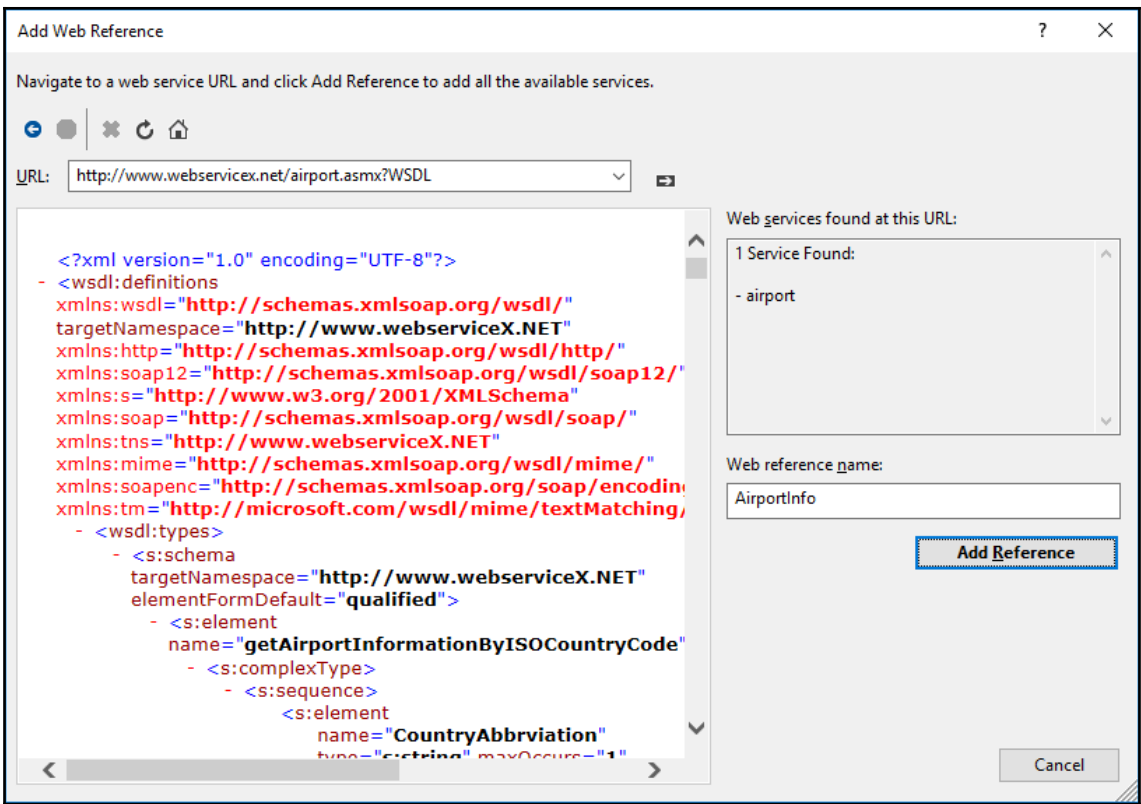
ID

OK

Cancel

Help





Select Script Component Type



Specify how the script will be used in the data flow:

Source

Script is a source in the data flow and provides data to output columns.

Destination

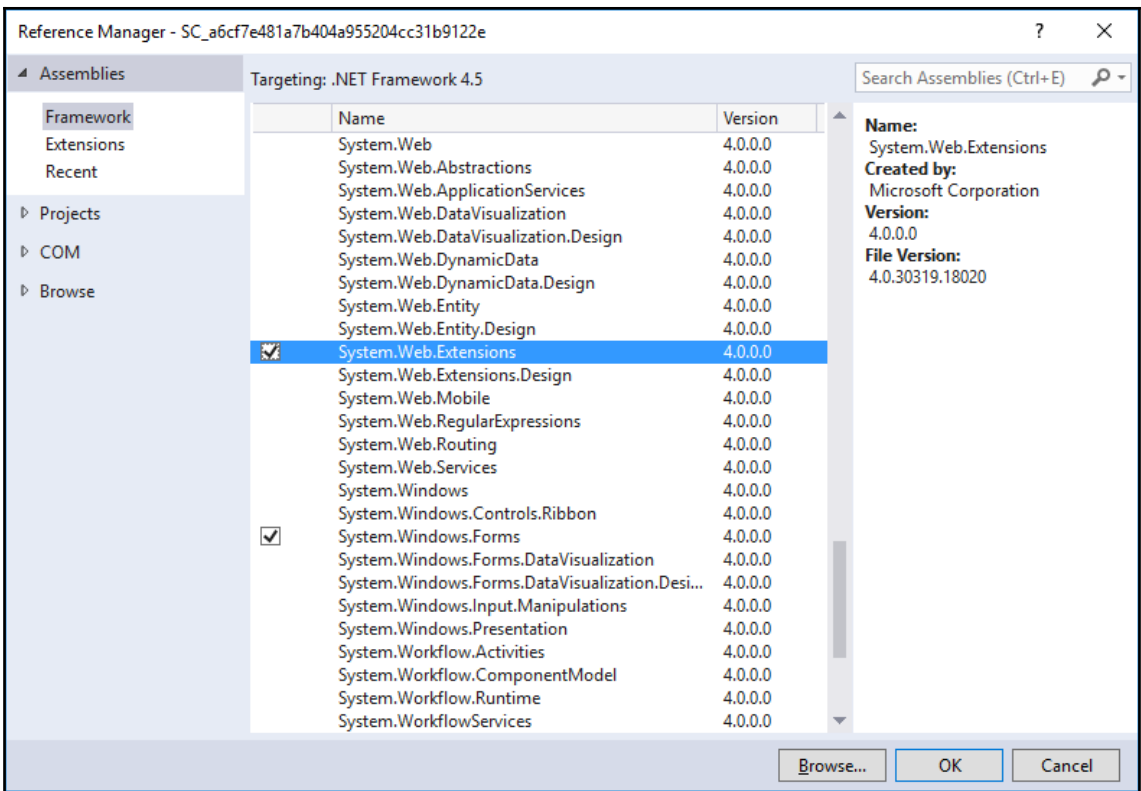
Script is a destination in the data flow and consumes data from input columns.

Transformation

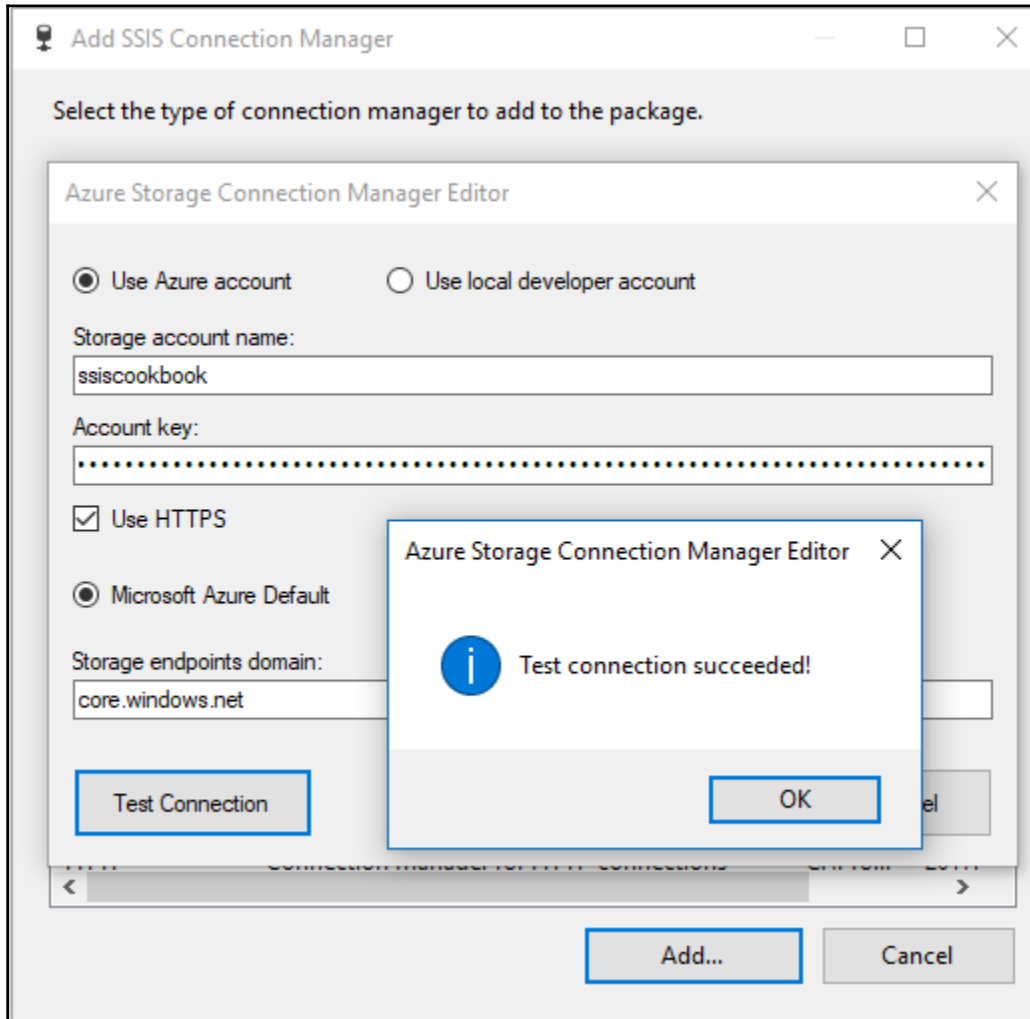
Script is a transformation in the data flow and operates on data from input columns and provides data to output columns.

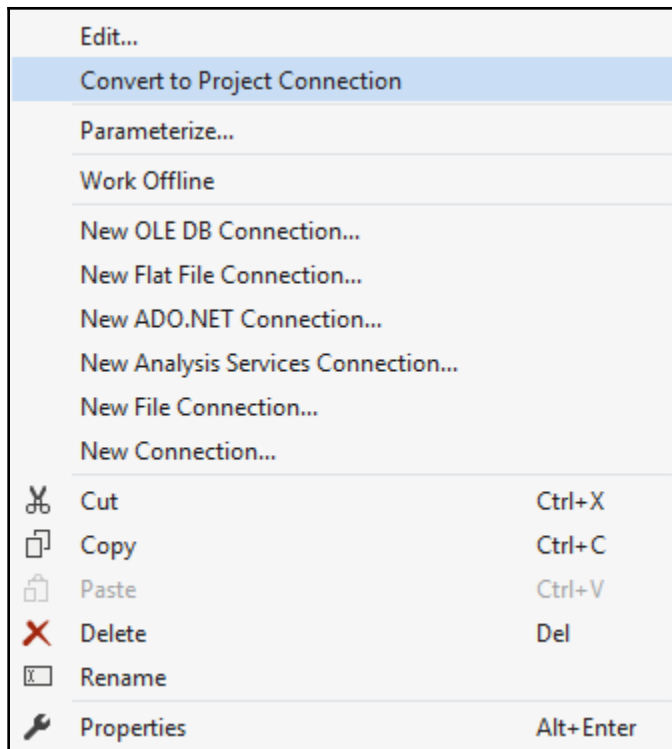
OK

Help



Chapter 12: On-Premises and Azure Big Data Integration





Parameterize - cmgr_AzureStorage_ssiscookbook



Specify the property to parameterize and the parameter to use. An expression referencing the parameter will be created on the property.

Property: AccountKey

Do not use parameter

Use existing parameter

\$Project::Cmgr_AzureStorage_ssiscookbook_AccountKey

Create new parameter

Name: Cmgr_AzureStorage_ssiscookbook_AccountKey1

Description:

Value:

Scope:

Package

Project

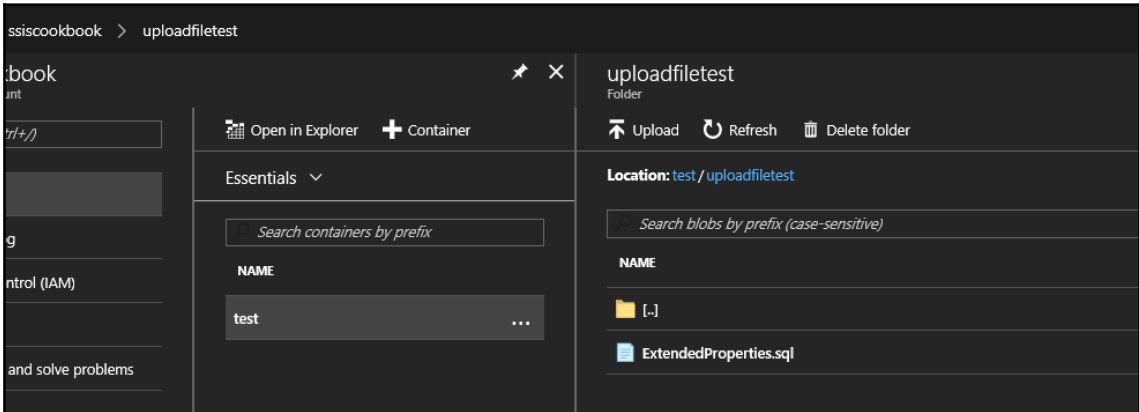
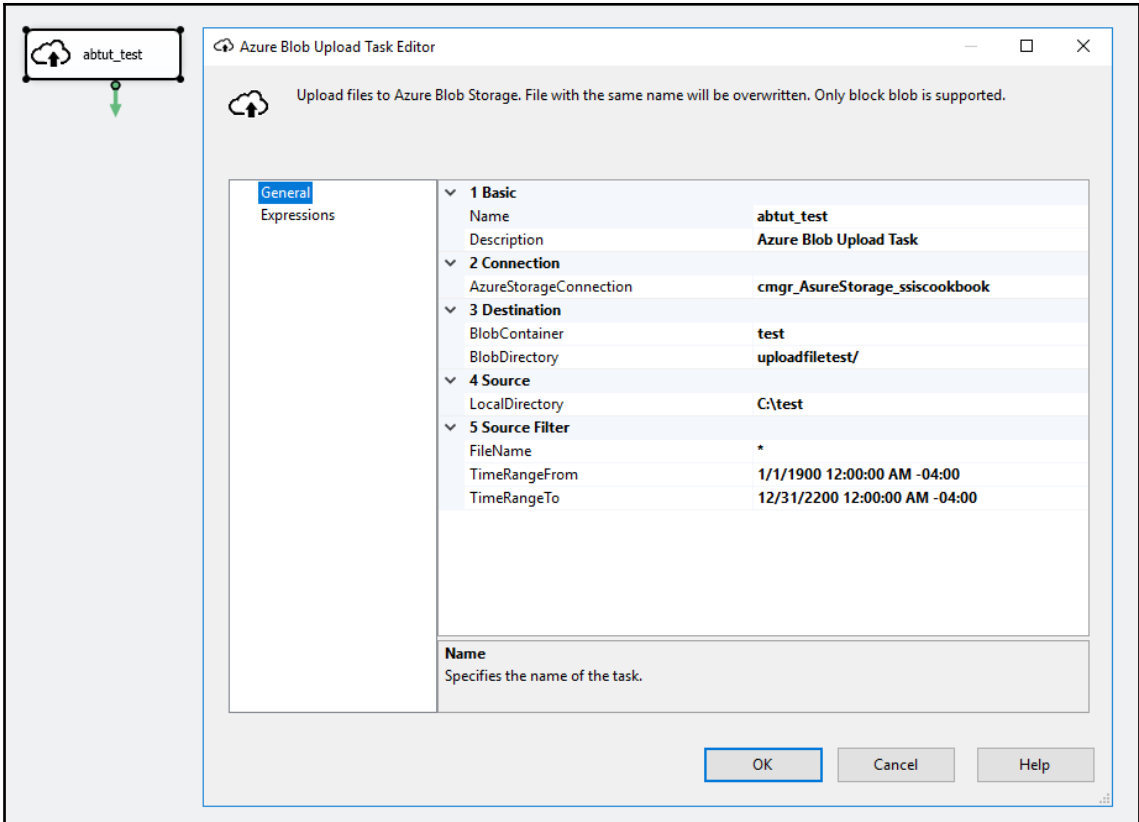
Sensitive

Required

Help

OK

Cancel



Hortonworks Sandbox

Hortonworks Sandbox on a VM

HDP® 2.6 on Hortonworks Sandbox

[Tutorials](#) | [Release Notes](#) | [Import on Virtual Box](#) | MD5 : 9cb91797dc2a53bf3799007c5c80770e

[DOWNLOAD FOR VIRTUALBOX](#)

[Tutorials](#) | [Release Notes](#) | [Import on VMware](#) | MD5 : 50aab8be7ef25418d475000045abe571

[DOWNLOAD FOR VMWARE](#)

[Tutorials](#) | [Release Notes](#) | [Import on Docker](#) | MD5 : f1663bbff04721c3b1a32a39fef676e3

[DOWNLOAD FOR DOCKER](#)

```
# Additionally, comments (such as these) may be inserted on individual
# lines or following the machine name denoted by a '#' symbol.
```

```
#
```

```
# For example:
```

```
#
```

```
#      102.54.94.97      rhino.acme.com      # source server
```


```
#      38.25.63.10      x.acme.com          # x client host
```

```
# localhost name resolution is handled within DNS itself.
```

```
#      127.0.0.1        localhost
```


```
#      ::1              localhost
```

```
127.0.0.1 sandbox.hortonworks.com
```



[GET HELP](#)


SAND BOX HDP2.6



NEW TO HDP

Explore the Hortonworks Data Platform (HDP)
Walk through a typical use case with the tutorial

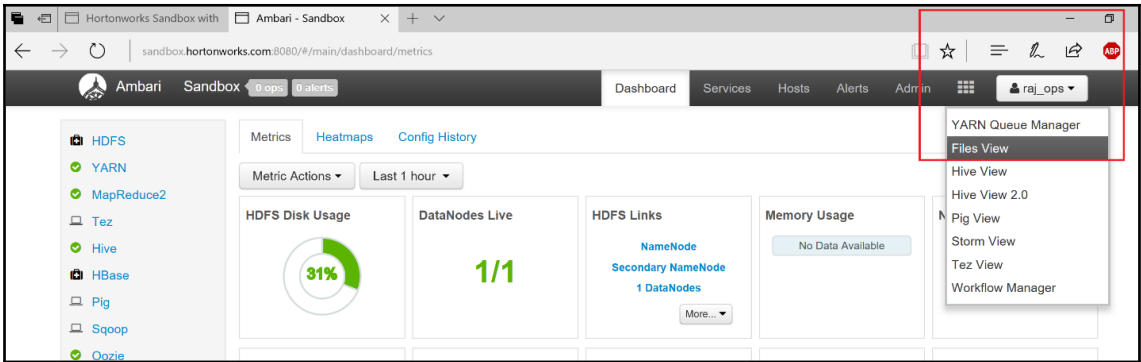
[LAUNCH DASHBOARD](#)



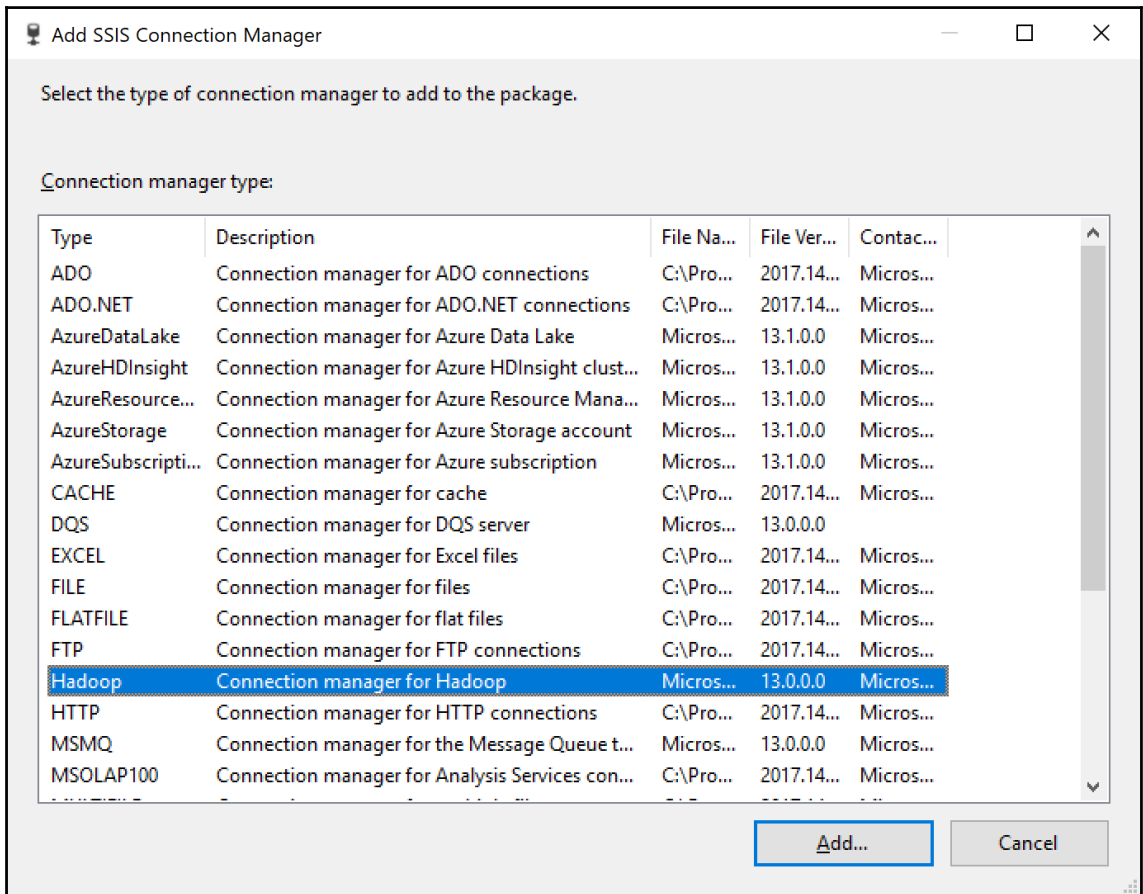
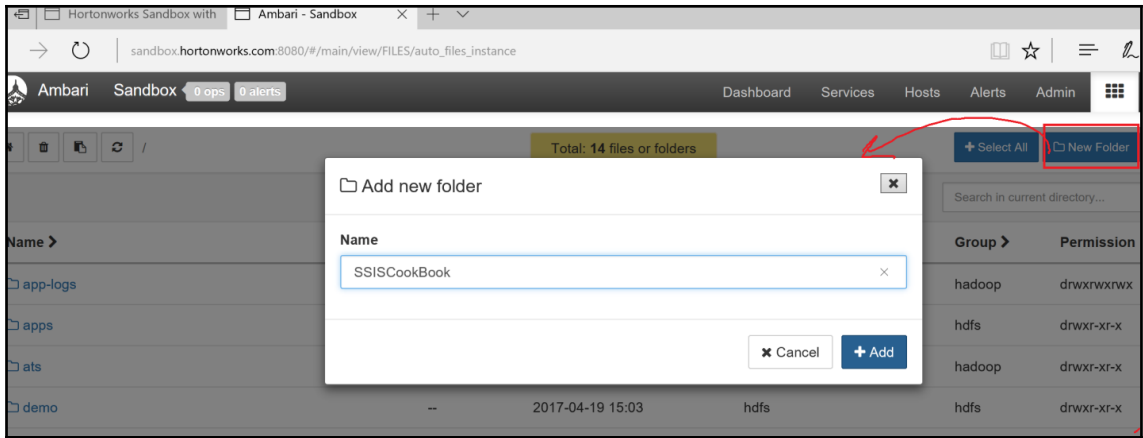
ADVANCED HDP

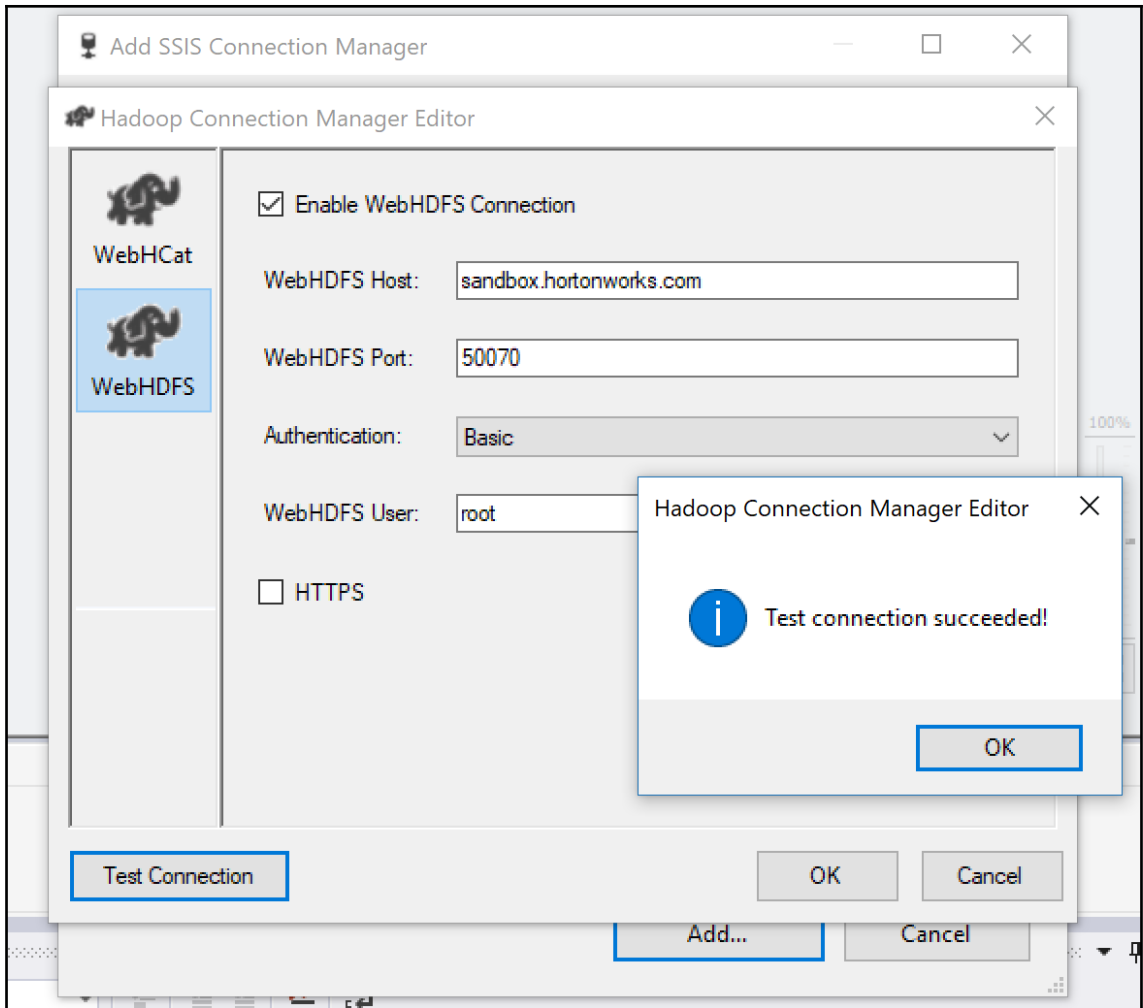
Expand your Hortonworks Data Platform (HDP) experience
Access components in Sandbox

[QUICK LINKS](#)










The screenshot shows the Ambari Sandbox dashboard interface. The browser address bar displays `sandbox.hortonworks.com:8080/#/main/dashboard/metrics`. The top navigation bar includes 'Dashboard', 'Services', 'Hosts', 'Alerts', and 'Admin'. A user profile dropdown menu is open, showing the name 'raj_ops' and a list of navigation options: 'YARN Queue Manager', 'Files View', 'Hive View', 'Hive View 2.0', 'Pig View', 'Storm View', 'Tez View', and 'Workflow Manager'. The main dashboard area features several widgets: 'Metrics' (with a '31%' gauge), 'DataNodes Live' (showing '1/1'), 'HDFS Links' (listing 'NameNode' and 'Secondary NameNode'), and 'Memory Usage' (showing 'No Data Available'). A left sidebar lists various services like HDFS, YARN, MapReduce2, Tez, Hive, HBase, Pig, Sqoop, and Oozie.





Project.params [Design]

FactOrdersToHDPCuster.dtsx [Design]  

 Control Flow  **Data Flow**  Paramet...  Event Handl...  Package Explo...

Data Flow Task:  dft_FactOrders



ole_src_DW_vwFactOrders



der_LoadExecutionId



hdfs_dst_FactOrders

Connection Manag

Ambari Sandbox 0 ops 0 alerts Dashboard Services Hosts Alerts Admin

SSISCookBook > Import 1 Files, 0 Folders selected

Open Rename

File Preview

/SSISCookBook/Import/FactOrders.txt

```
OrderDate|FirstName|LastName|CompanyName|Category|ProductName|ProvenanceCode|ProvenanceDescription|EnglishDescription|
OrderQty|UnitPrice|Discount|TaxAmount|Freight|SalesOrderNumber|PurchaseOrderNumber|LoadExecutionId
2004-06-01 00:00:00.0000000|Catherine|Abel|Professional Sales and Service|Accessories|Sport-100 Helmet, Red|0|Order pl
aced by sales person|Universal fit, well-vented, lightweight , snap-on visor.|3|20.994|0.0000|3182.8264|994.6333|50717
82|P019372114749|0
2004-06-01 00:00:00.0000000|Catherine|Abel|Professional Sales and Service|Components|HL Bottom Bracket|0|Order placed
by sales person|Aluminum alloy cups and a hollow axle.|4|72.894|0.0000|3182.8264|994.6333|5071782|P019372114749|0
2004-06-01 00:00:00.0000000|Catherine|Abel|Professional Sales and Service|Components|LL Bottom Bracket|0|Order placed
by sales person|Chromoly steel.|1|32.394|0.0000|3182.8264|994.6333|5071782|P019372114749|0
2004-06-01 00:00:00.0000000|Catherine|Abel|Professional Sales and Service|Bikes|Touring-3000 Blue, 44|0|Order placed b
y sales person|All-occasion value bike with our basic comfort and safety features. Offers wider, more stable tires for
a ride around town or weekend trip.|1|445.41|0.0000|3182.8264|994.6333|5071782|P019372114749|0
2004-06-01 00:00:00.0000000|Catherine|Abel|Professional Sales and Service|Bikes|Touring-3000 Blue, 50|0|Order placed b
y sales person|All-occasion value bike with our basic comfort and safety features. Offers wider, more stable tires for
a ride around town or weekend trip.|2|445.41|0.0000|3182.8264|994.6333|5071782|P019372114749|0
2004-06-01 00:00:00.0000000|Catherine|Abel|Professional Sales and Service|Bikes|Touring-2000 Blue, 50|0|Order placed b
y sales person|The plush custom saddle keeps you riding all day, and there's plenty of space to add panniers and bike
bags to the newly-redesigned carrier. This bike has stability when fully-loaded.|4|728.91|0.0000|3182.8264|994.6333|
```

Cancel Download

Admin



 raj_ops ▾

YARN Queue Manager

Files View

Hive View

Hive View 2.0

M Pig View

Storm View

Tez View

Workflow Manager

HIVE

 QUERY

 JOBS

 TABLES

 SAVED QUERIES

Worksheet1 *



DATABASE

Select or search
database/schema


  default

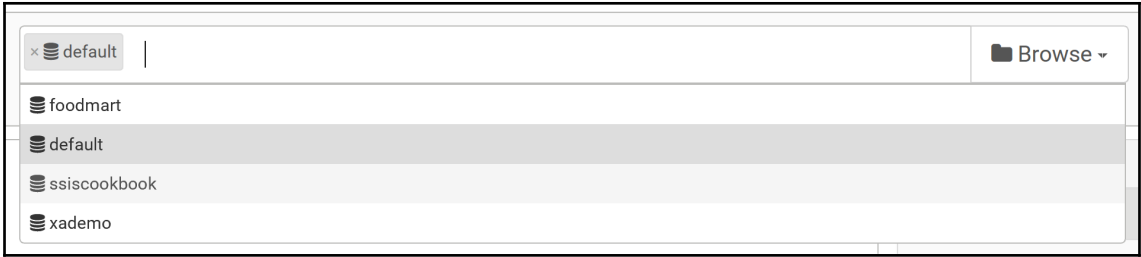
```
1 create database SSISCookBook
```

 Execute

 Save As

Insert UDF 

 Visual Explain



dft_FactOrders

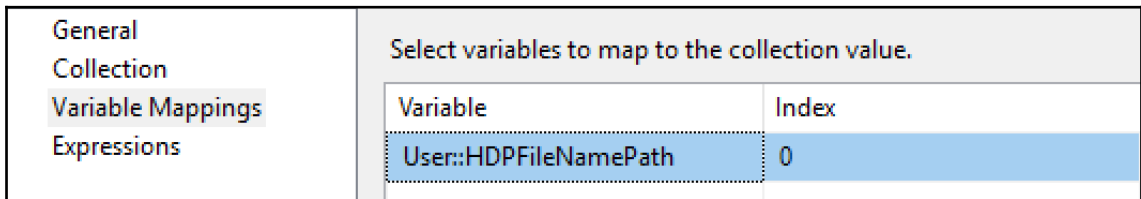
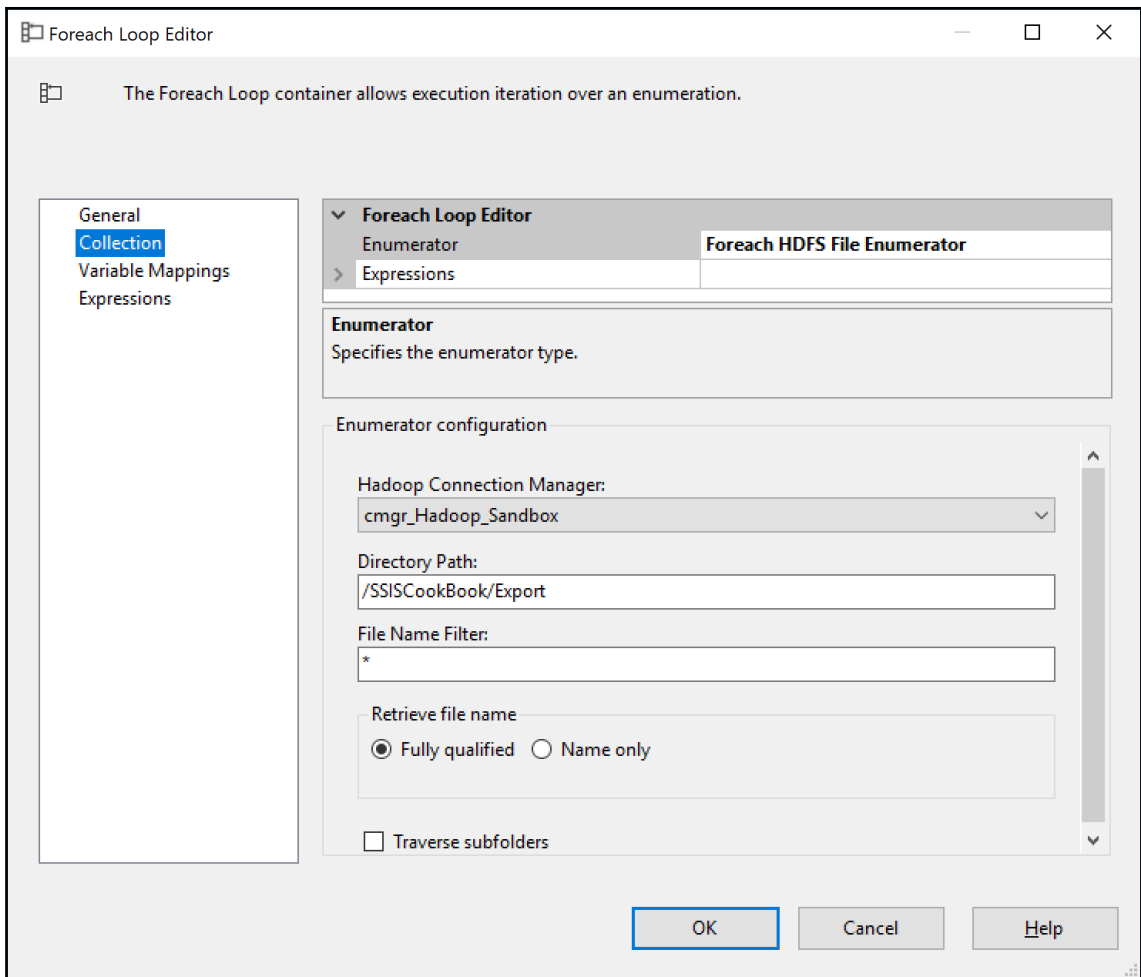
HIVE hht_HDPDWHiveTable

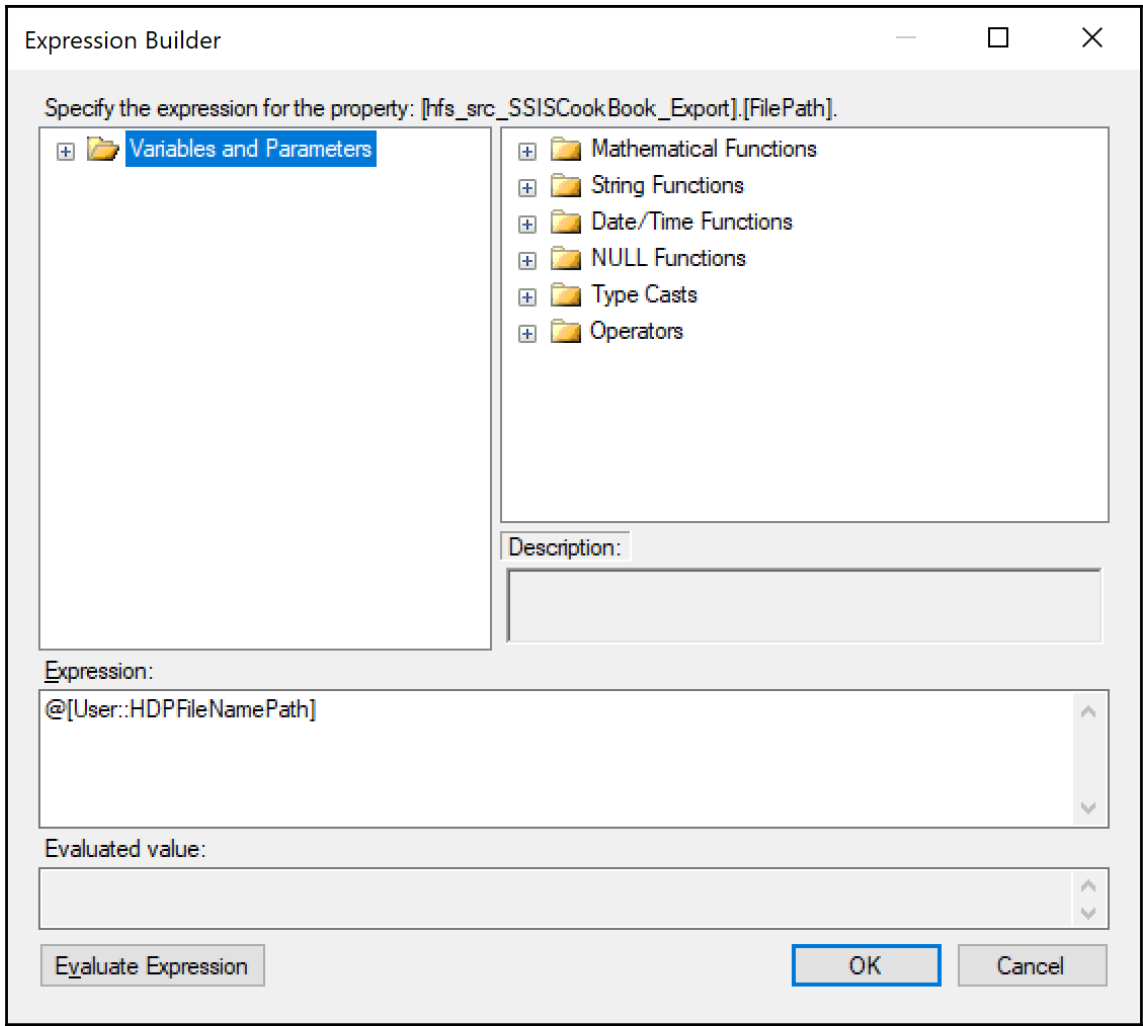
Hadoop Hive Task Editor

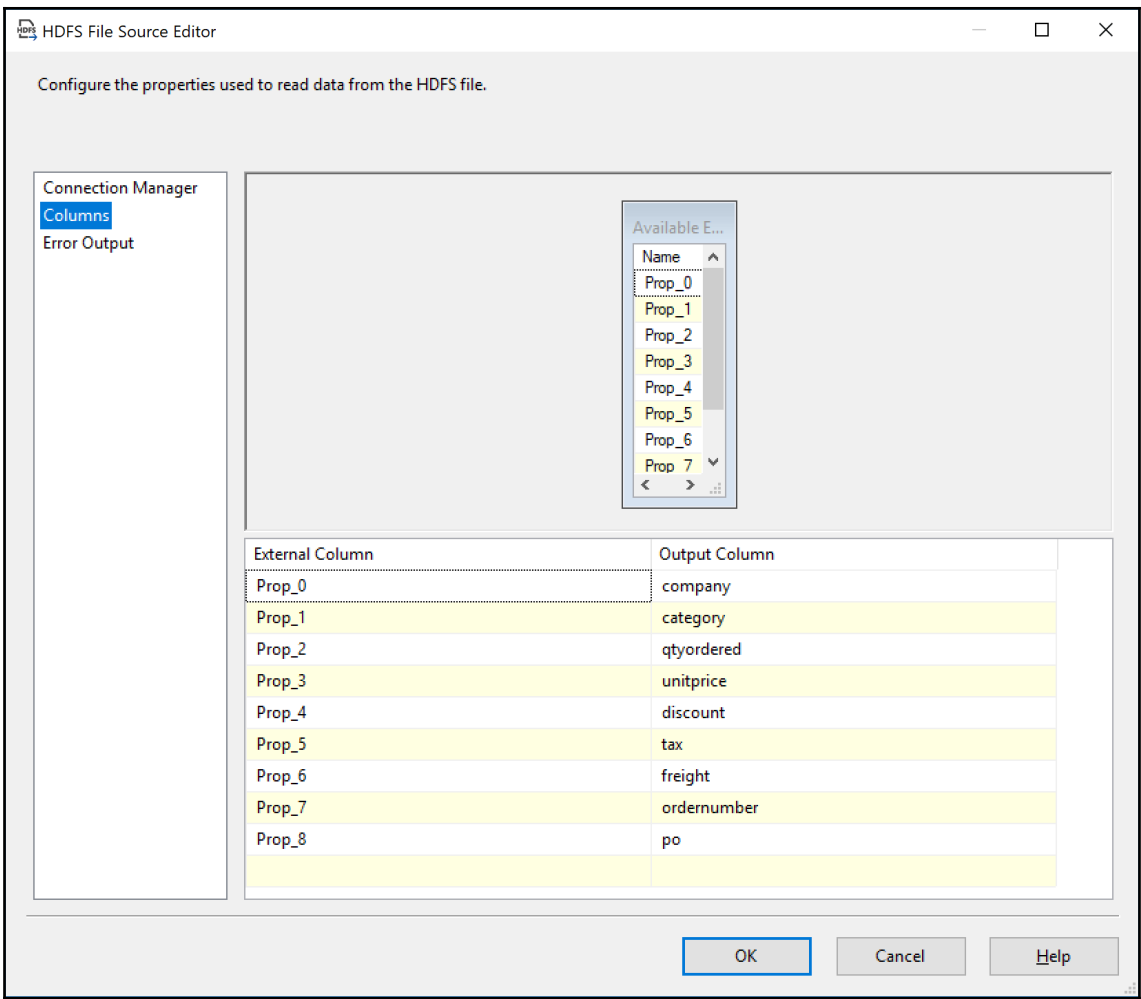
Submit a Hive job to Hadoop cluster

General	Basic
Expressions	Name: hht_HDPDWHiveTable
	Description: Hadoop Hive Task
	General
	HadoopConnection: cmgr_Hadoop_Sandbox
	SourceType: DirectInput
	InlineScript: USE SSISCookBook;
	TimeoutInMinutes: DROP TABLE SalesExtracts;
	CREATE EXTERNAL TABLE SalesExtracts(OrderDate timestamp, FirstName string , LastName string , CompanyName string , Category string , ProductName string , ProvenanceCode smallint , ProvenanceDescription string , EnglishDescription string , OrderQty int, UnitPrice decimal(12,4), Discount decimal(12,4), TaxAmount decimal(12,4), Freight decimal(12,4), SalesOrderNumber string , PurchaseOrderNumber string , LoadExecutionId int) ROW FORMAT DELIMITED FIELDS TERMINATED BY ' ' STORED AS TEXTFILE LOCATION '/SSISCookBook/Import/' tblproperties("skip.header.line.count"="1");
	Name Specifies the name of the task.

CREATE TABLE IF NOT EXISTS HDPDWHiveTable (
company string,
category string,
qtyordered int,
unitprice decimal(12,4),
discount decimal(3,2),
tax decimal(12,4),
freight decimal(12,4),
ordernumber string,
po ...







Azure Blob Destination Editor

Configure the properties used to insert data into Azure Storage blob. If the blob exists, its content will be overwritten. Only block blob is supported.

Connection Manager
Mappings

Specify an Azure storage connection manager, blob container name, blob name and blob file format. Click New to create a connection manager.

Azure storage connection manager:
cmgr_AzureStorage_ssiscookbook New...

Location

Blob container name:
ssiscookbook

Blob name:
Import/FactOrdersAggregated.txt

Format

Blob file format:
Text

Column delimiter character:
|

Column names in the first data row

Compression

OK Cancel Help

StgAggregatedSale...udDW.dtsx [Design] ✖

Control Flow Data Flow Parameters Event Hand

Data Flow Task: dft_Transfert_HDP_Hive_Azure_Blob



hfs_src_SISCookBook_Export



der_LoadExecutionId



abd_dst_ssiscookbook_Import_FactOrdersAggregated

Import
Folder

Upload Refresh Delete folder

Location: [ssiscookbook/Import](#)

Search blobs by prefix (case-sensitive)

NAME	MODIFIED	BLOB TYPE	SIZE
[.]			
FactOrdersAggregated.txt	5/25/2017 7:10:16 AM	Block blob	7.46 KiB

Azure Resource Manager Connection Manager Editor

Authentication:
Service Principal

Application ID:
753a0b6a-de54-4f36-84f4-062cd4e58305

Application Key:
.....

Tenant ID:
ae2153e2-576e-4b04-a024-5f77036a2db

Environment:
Microsoft Azure Default

Test Connection OK Cancel



Create an Azure HDInsight cluster

General

Expressions

1 Basic	
Name	acc_ssiscookbook
Description	Azure HDInsight Create Cluster Task
2 Connection	
AzureResourceManagerConnection	cmgr_AzureResourceManager
AzureStorageConnection	cmgr_AzureStorage_ssiscookbook
3 General	
SubscriptionId	[REDACTED]
ResourceGroup	ssiscookbook
Location	[REDACTED]
ClusterName	ssiscookbook
ClusterSize	1
BlobContainer	ssiscookbook
UserName	admin
Password
SshUserName	[REDACTED]
SshPassword
FailIfExists	False

Name
Specifies the name of the task.

OK Cancel Help



Secure Shell (SSH)

ssiscookbook



You can connect to your HDInsight cluster using a Secure Shell (SSH) connection.



Windows users

For instructions on how to use PuTTY to connect to your HDInsight cluster, visit the [Azure documentation](#).



Host name

ssiscookbook-ssh.azurehdinsight.net



Linux, Unix, and OS X users

For instructions on how to use the terminal to connect to your HDInsight cluster, visit that [Azure documentation](#).



To connect to the <head> node of your cluster, open a new terminal session and enter the following

```
ssh [redacted]@ssiscookbook-ssh.azurehdinsight.net
```



Copied

Azure HDInsight Delete Cluster Task Editor

Delete an Azure HDInsight cluster

General
Expressions

1 Basic	
Name	adc_ssiscookbook
Description	Azure HDInsight Delete Cluster Task
2 Connection	
AzureResourceManagerConnection	cmgr_AzureResourceManager
3 General	
SubscriptionId	[REDACTED]
ResourceGroup	ssiscookbook
ClusterName	ssiscookbook
FailIfNotExists	False

Name
Specifies the name of the task.

OK Cancel Help

Azure HDInsight Pig Task Editor

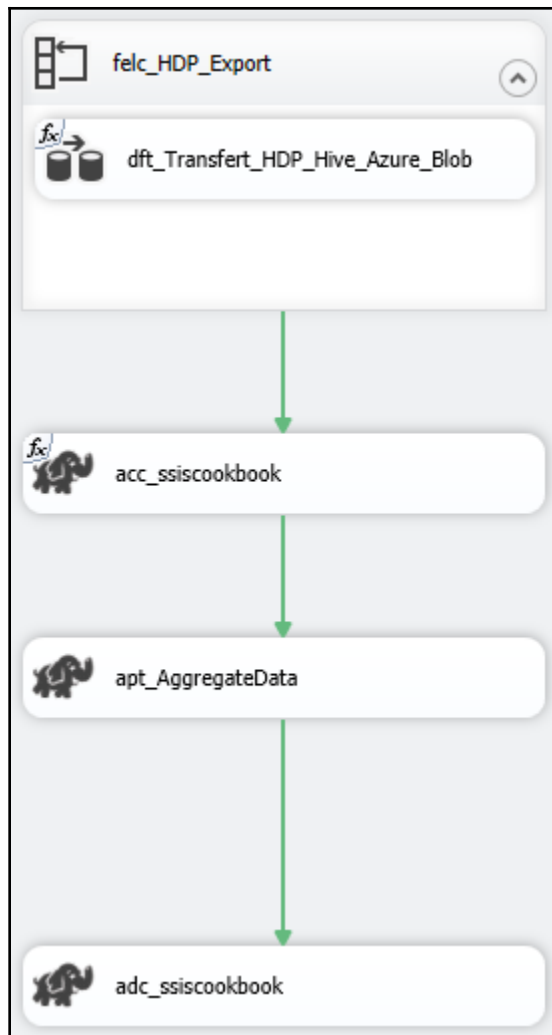
Submit a Pig job to Azure HDInsight

General
Expressions

1 Basic	
Name	apt_AggregateData
Description	Azure HDInsight Pig Task
2 Connection	
HDInsightConnection	cmgr_AzureHDInsight
3 General	
AzureStorageConnection	cmgr_AzureStorage_ssiscookbook
BlobContainer	ssiscookbook
LocalLogFolder	D:\
4 In-line Script	
Script	SalesExtractsSource = LOAD 'wasbs:///Import/FactOrdersAggregated.txt'; rmf wasbs:///Export/; STORE SalesExtractsSource INTO 'wasbs:///Export/' USING PigStorage(' ');
5 Script File	
BlobName	
ExternalStorageAccountName	
ExternalBlobContainer	

Name
Specifies the name of the task.

OK Cancel Help



General Collection Variable Mappings Expressions	Foreach Loop Editor	
	Enumerator	Foreach Azure Blob Enumerator
	> Expressions	
	Enumerator Specifies the enumerator type.	
	Enumerator configuration	
	Azure storage connection manager:	cmgr_AzureStorage_ssiscookbook
	Location	
	Blob container name:	ssiscookbook
	Blob directory:	Export/
	File Name Filter Specifies a name filter to select files with certain name pattern. E.g. MySheet*.xlsx will include files such as MySheet001.xlsx and MySheetABC.xlsx.	
Name filter:	*	
Time Range Filter Specifies a time range filter. Files that are modified within the specified range will be included.		
From:	1/1/1900 12:00:00 AM -04:00	
To:	12/31/2200 12:00:00 AM -04:00	

Configure the properties used to read data from Azure blob. Only block blob is supported.

- Connection Manager
- Columns
- Error Output

Specify an Azure storage connection manager, blob container name, blob name and blob file format. Click New to create a connection manager.

Azure storage connection manager:

cmgr_AzureStorage_ssiscookbook New...

Location

Blob container name:
ssiscookbook

Blob name:
Export/part-m-00000

Format

Blob file format:
Text

Column delimiter character:
|

Column names in the first data row

Decompression

Decompress the file

Compression type:
GZIP

Data Flow Task:



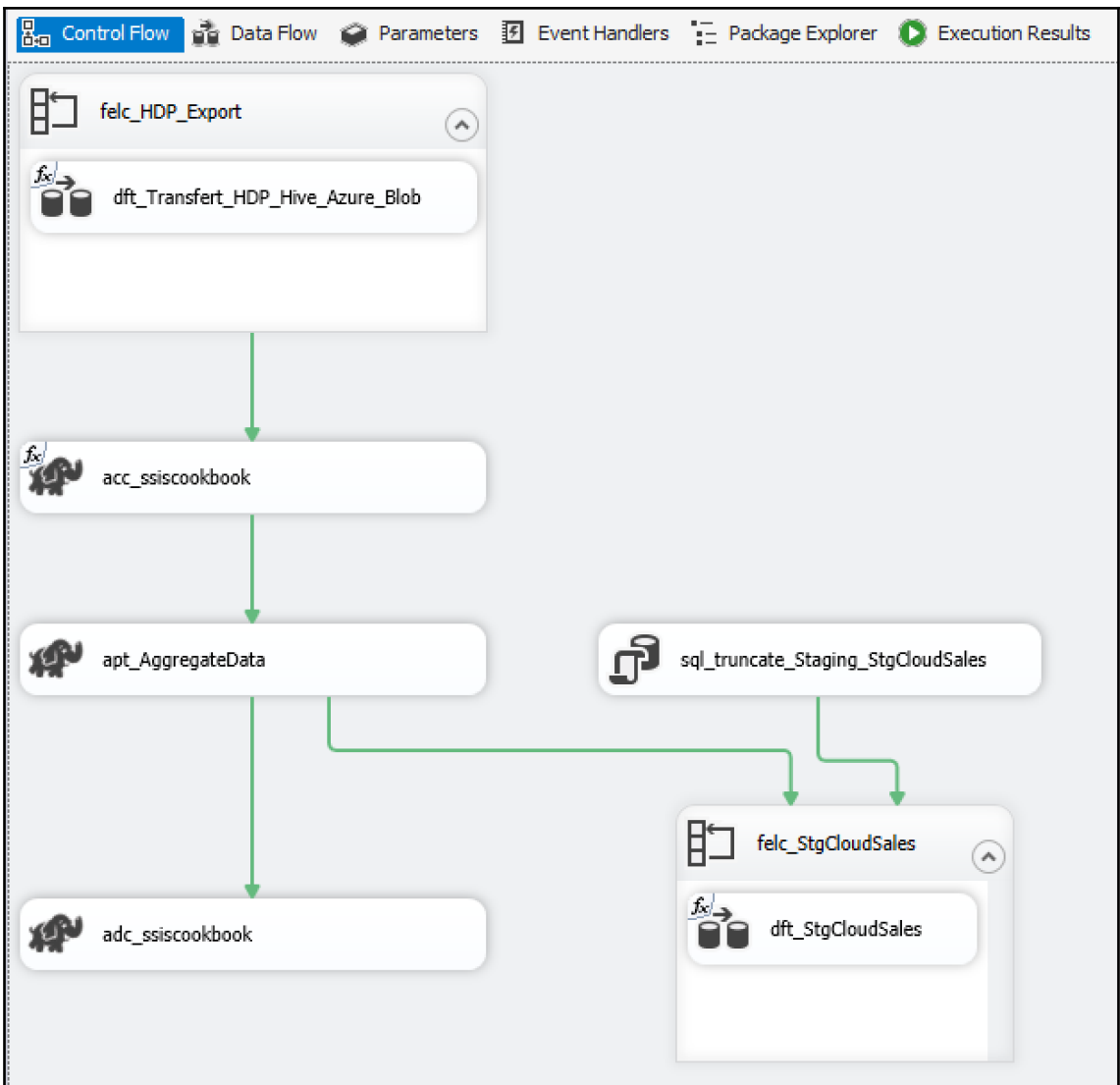
dft_StgCloudSales



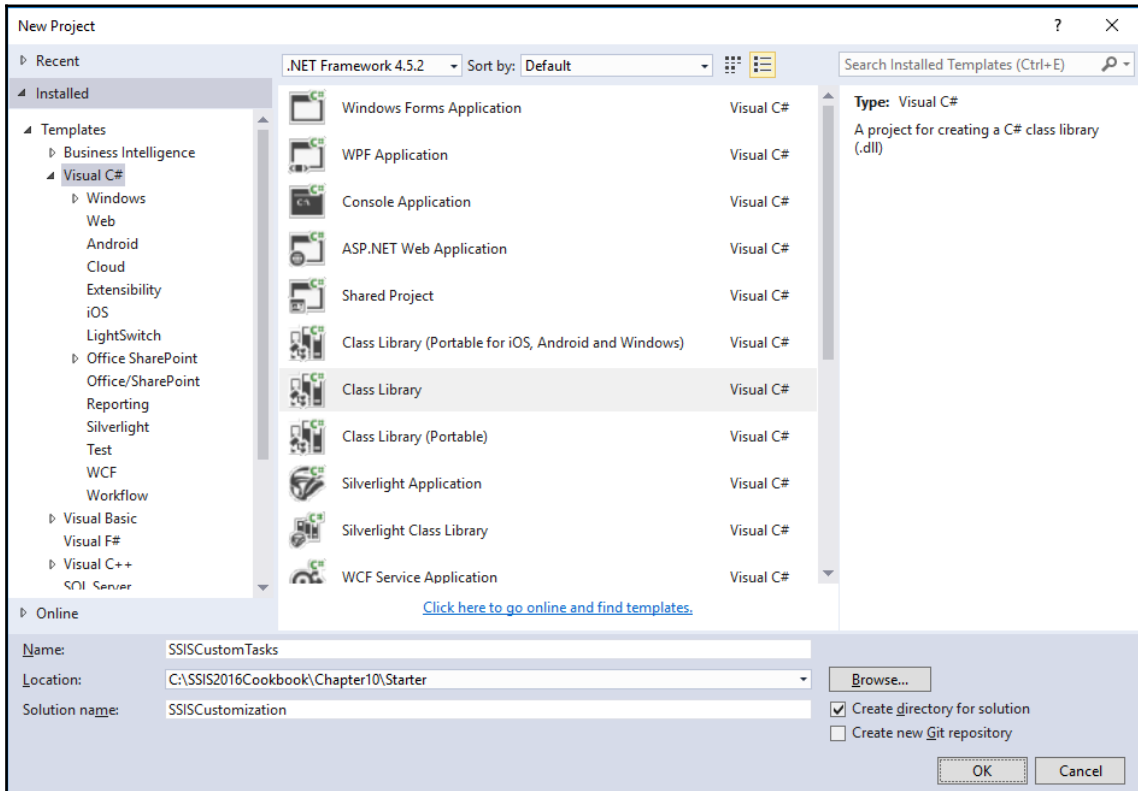
azure_blob_src_ExportBlob

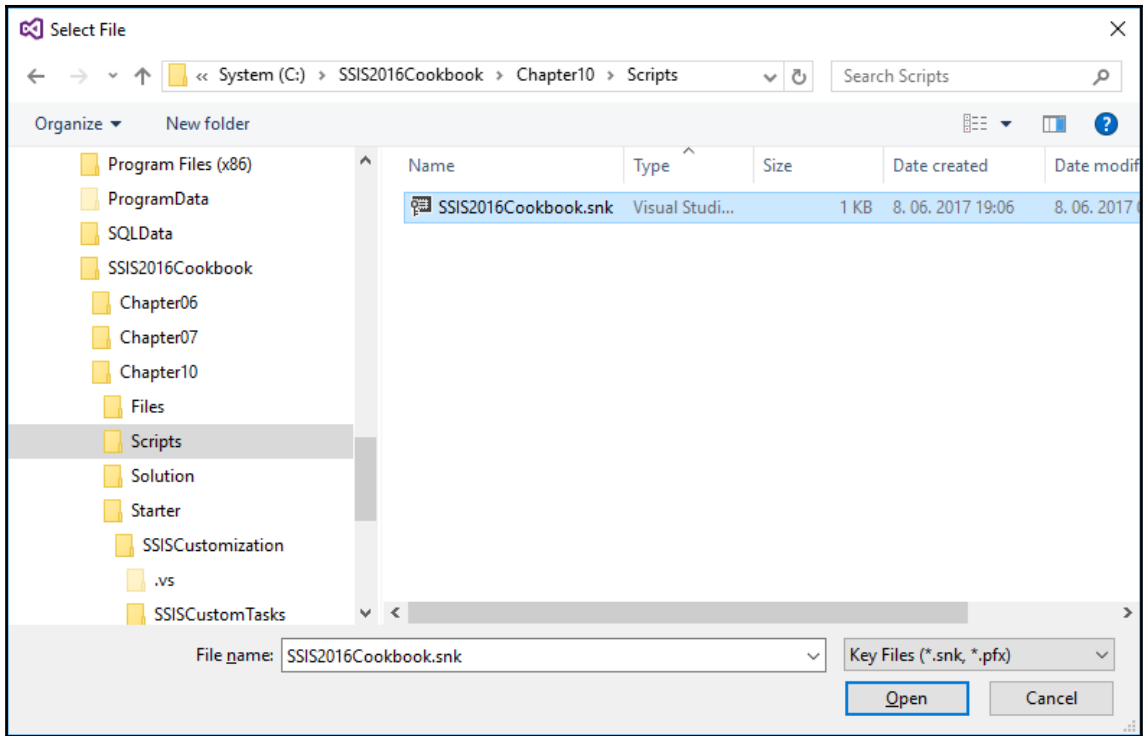


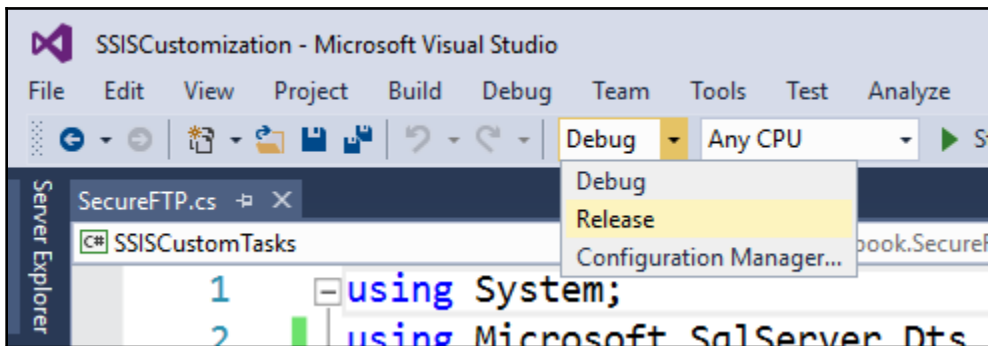
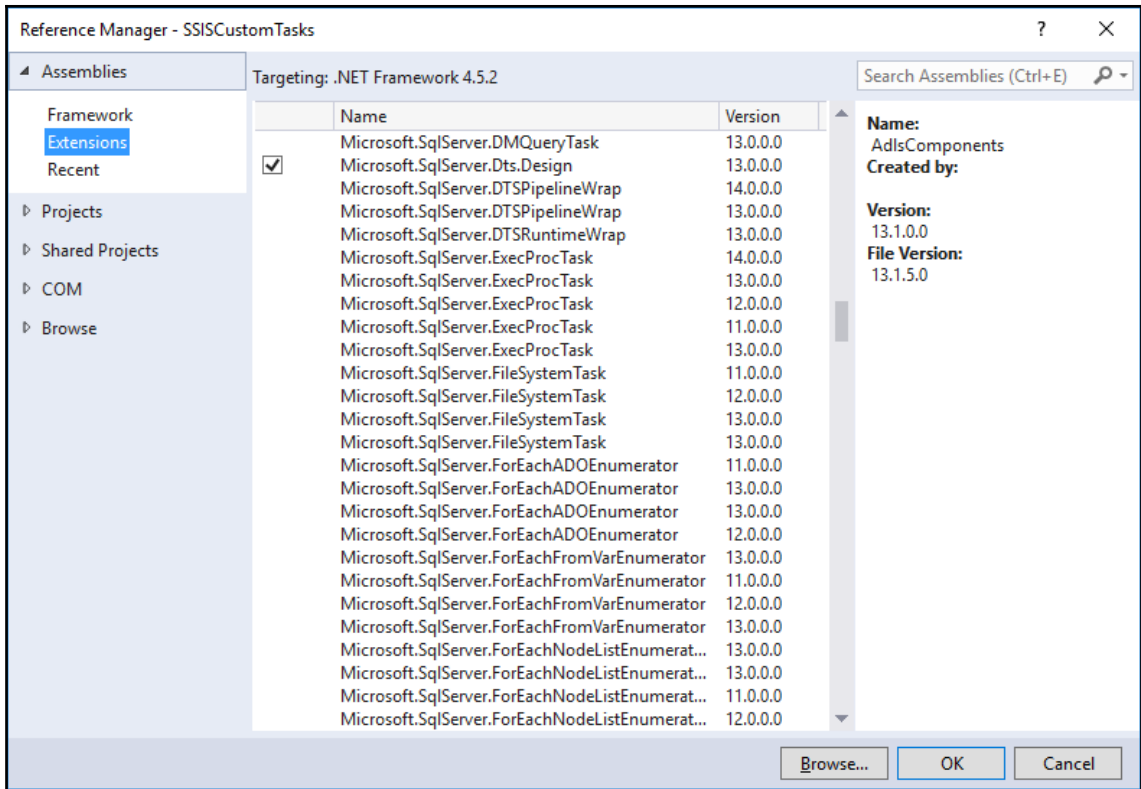
ole_dst_Staging_StgCloudSales

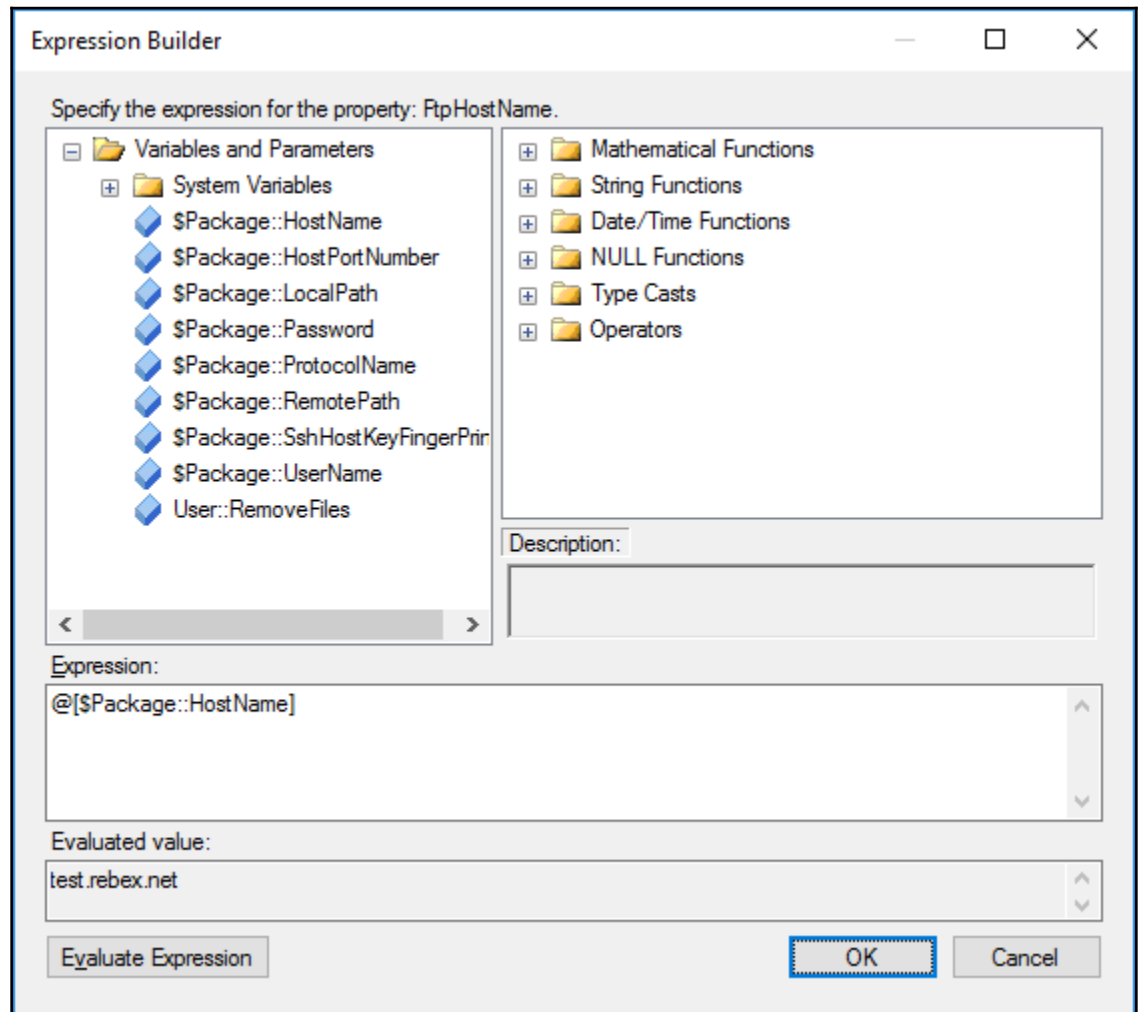
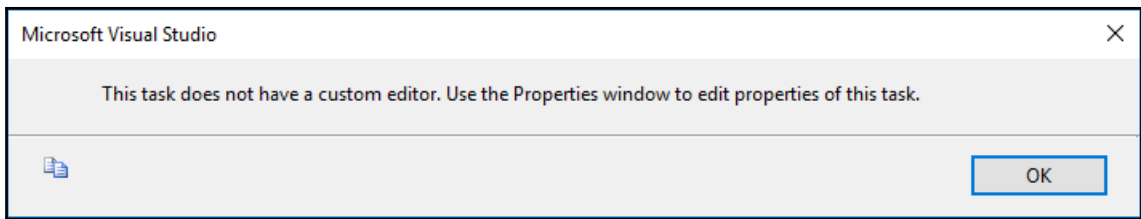


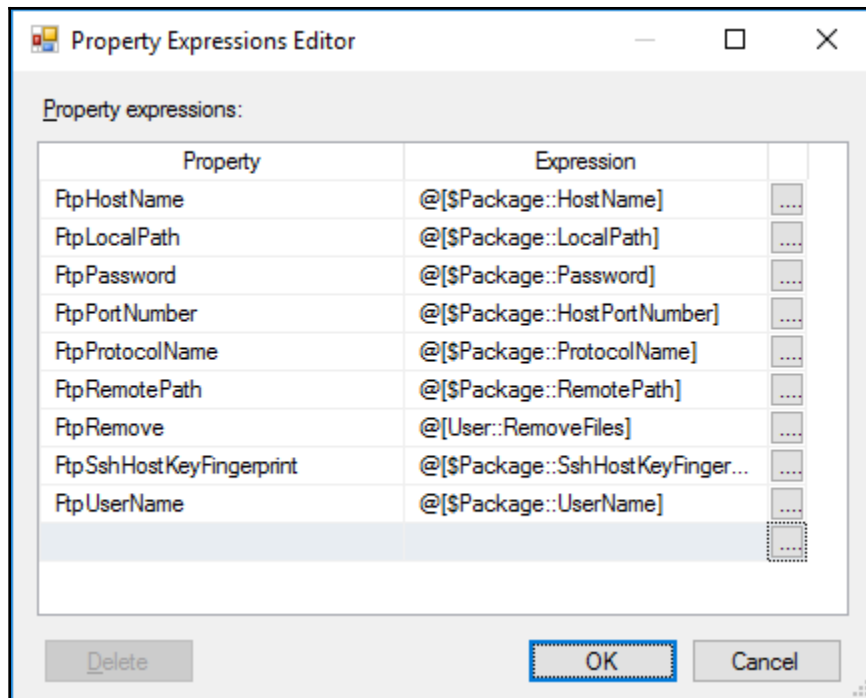
Chapter 13: Extending SSIS Custom Tasks and Transformations

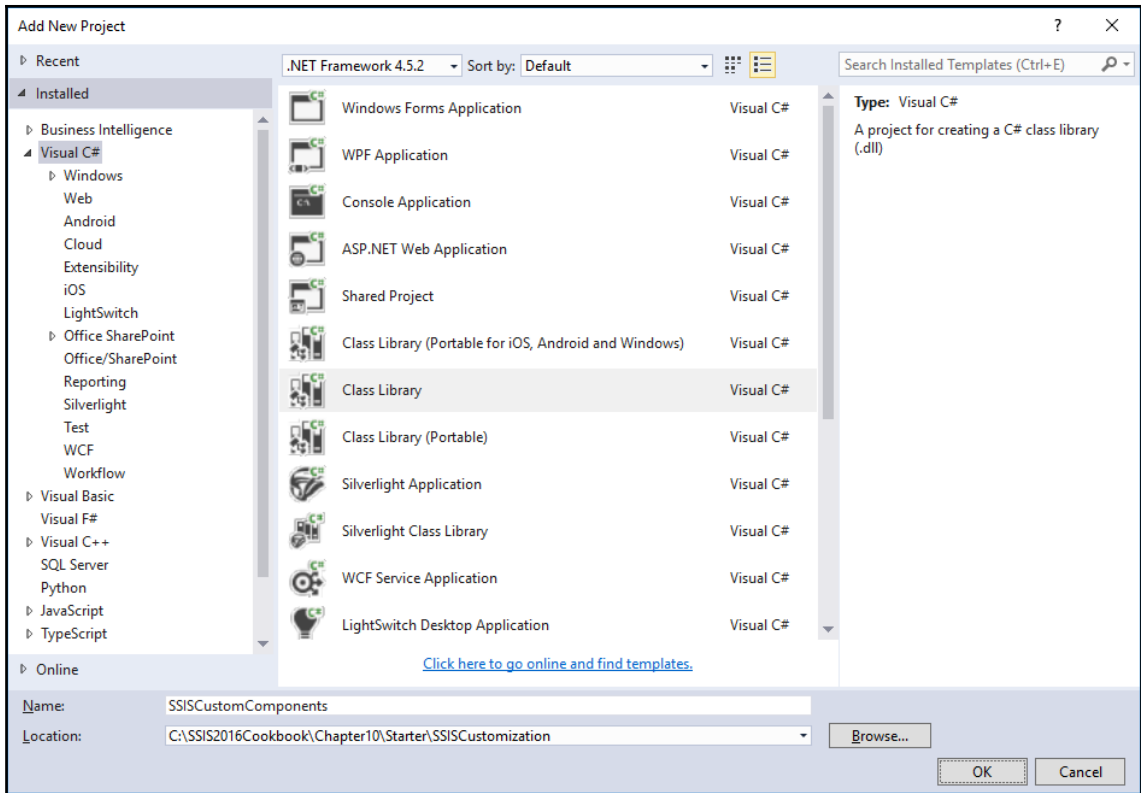


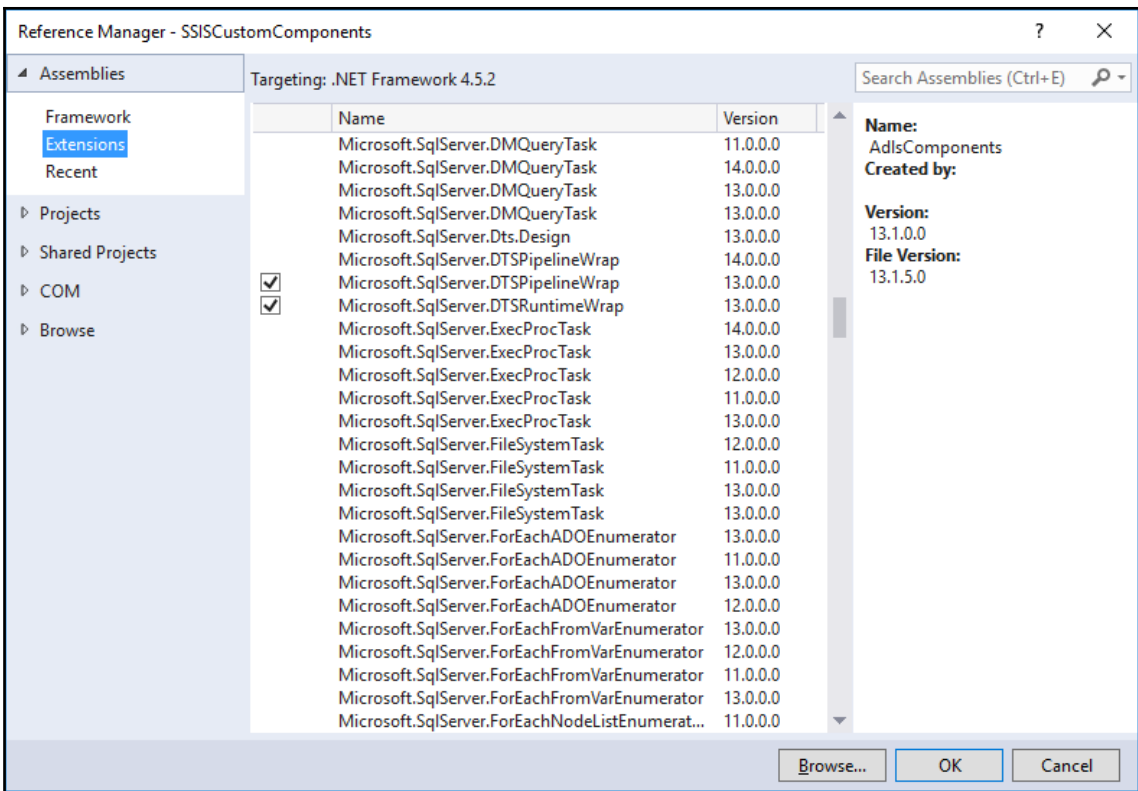












Solution Explorer

Search Solution Explorer (Ctrl+ĉ)

- References
 - Analyzers
 - Microsoft.CSharp
 - Microsoft.SqlServer.DTSPipelineWrap
 - Microsoft.SqlServer.DTSRuntimeWrap
 - Microsoft.SqlServer.PipelineHost
 - System
 - System.Core
 - System.Data
 - System.Data.DataSetExtensions
 - System.Net.Http
 - System.Xml
 - System.Xml.Linq
- SSIS2016Cookbook.snk
- ValidateEmailAddress.cs
- SSISCustomTasks
 - Properties
 - References

Solution Explorer | Team Explorer | Class View

Properties

Microsoft.SqlServer.DTSPipelineWrap Reference Properties

Misc

(Name)	Microsoft.SqlServer.DTSPipelir
Aliases	global
Copy Local	True
Culture	
Description	
Embed Interop Types	False
File Type	Assembly
Identity	Microsoft.SqlServer.DTSPipelir
Path	C:\Program Files (x86)\Micros
Resolved	True
Runtime Version	v4.0.30319
Specific Version	True
Strong Name	True
Version	13.0.0.0

Embed Interop Types
Indicates whether types defined in this assembly will be embedded into the target assembly.

Advanced Editor for Validate Email

The advanced editor provides access to the low-level properties of data flow components. Additionally, the advanced editor can be used to configure components that do not have a custom user interface.

Component Properties | Input Columns | Input and Output Properties

Specify advanced properties for the data flow component.

Properties:

Common Properties

ComponentClassID	{8DC69D45-2AD5-40C6-AAEC-25722F92D6FC}
ContactInfo	
Description	Validates email addresses using the corresponding rule in a data profile
ID	52
IdentificationString	Validate Email
IsDefaultLocale	True
LocaleID	English (United States)
Name	Validate Email
PipelineVersion	0
UsesDispositions	False
ValidateExternalMetadata	True
Version	0

Custom Properties

Data Profile Column Name	EmailAddress
Data Profile File Name	\$Package::DataProfileName
UserComponentTypeName	SSIS2016Cookbook.ValidateEmail, SSISCustomComponents, Version=

Data Profile File Name

Data profile file name (fully qualified).

Refresh

OK

Cancel

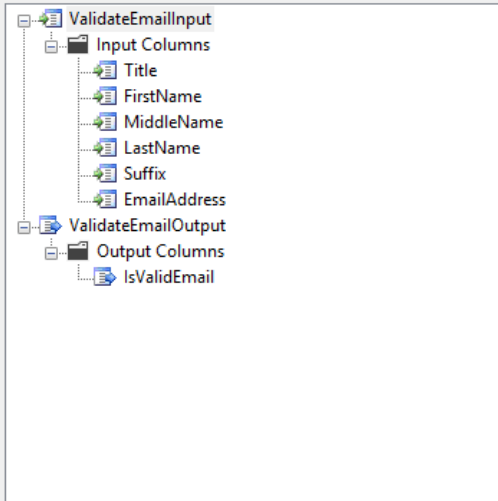
Help

The advanced editor provides access to the low-level properties of data flow components. Additionally, the advanced editor can be used to configure components that do not have a custom user interface.

Component Properties Input Columns **Input and Output Properties**

Specify properties for the inputs and outputs of the data flow component.

Inputs and outputs:



Add Output	Add Column
Remove Output	Remove Column

Common Properties	
AreInputColumnsAssociate	True
Description	
ErrorOrTruncationOperator	
ErrorRowDisposition	RD_NotUsed
HasSideEffects	False
ID	54
IdentificationString	Validate Email.Inputs[ValidateEmail
IsSorted	False
Name	ValidateEmailInput
SourceLocale	1060
TruncationRowDisposition	RD_NotUsed
Custom Properties	
Input Column Name	EmailAddress

ID

Refresh	OK	Cancel	Help
---------	-----------	--------	------

Advanced Editor for Validate Email

The advanced editor provides access to the low-level properties of data flow components. Additionally, the advanced editor can be used to configure components that do not have a custom user interface.

Component Properties | Input Columns | Input and Output Properties

Specify advanced properties for the data flow component.

Properties:

Common Properties

ComponentClassID	{8DC69D45-2AD5-40C6-AAEC-25722F92D6FC}
ContactInfo	
Description	Validates email addresses using the corresponding rule in a data profil
ID	50
IdentificationString	Validate Email
IsDefaultLocale	True
LocaleID	English (United States)
Name	Validate Email
PipelineVersion	0
UsesDispositions	False
ValidateExternalMetadata	True
Version	2

Custom Properties

Data Profile Column Name	EmailAddress
Data Profile File Name	\$Package::DataProfileName
Regular Expressions Options	513
UserComponentTypeName	SSIS2016Cookbook.ValidateEmail, SSISCustomComponents, Version=

Regular Expressions Options

The Regular Expressions options to be used in email address validation.

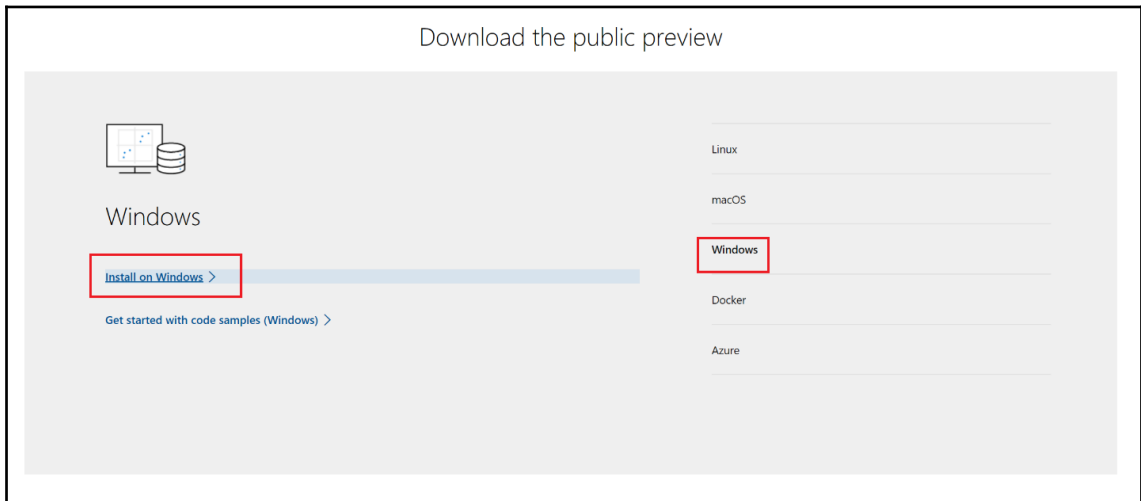
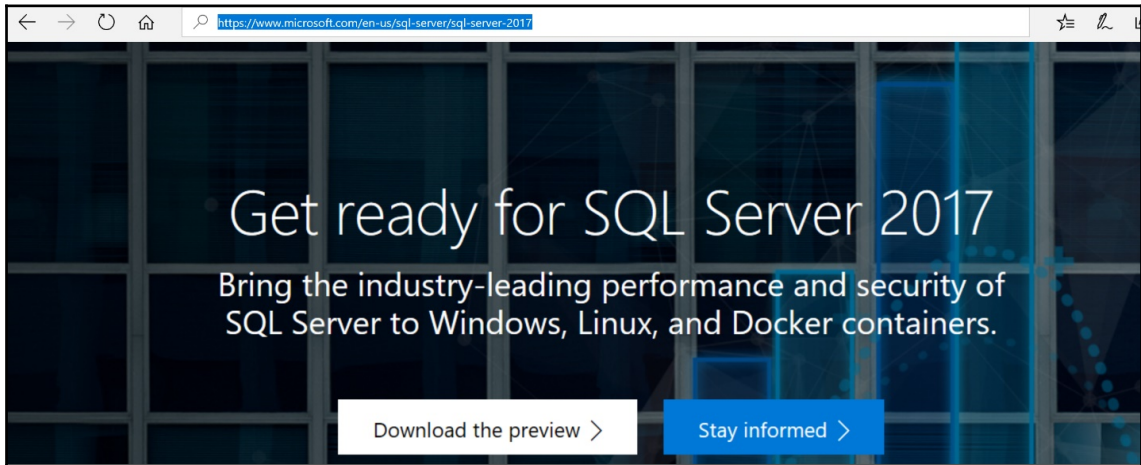
Refresh

OK

Cancel

Help

Chapter 14: Scale Out with SSIS 2017



SQL Server 2017 Community Technical Preview (CTP)
Evaluations | **180 days**

Download

Please fill out the following form to begin your download:

* First name	<input type="text"/>
* Last name	<input type="text"/>
* Company name	<input type="text"/>
* Work email address	<input type="text"/>
Work phone number	<input type="text"/>
* Country	<input type="text" value=""/>

* Indicates a required field

Continue

SQL Server 2017 Community Technical Preview (CTP)
Evaluations | **180 days**

Download

Please fill out the following form to begin your download:

* Please choose a file type:

ISO

CAB

* Indicates a required field

Continue

microsoft.com/en-us/evalcenter/evaluate-sql-server-2017-ctp

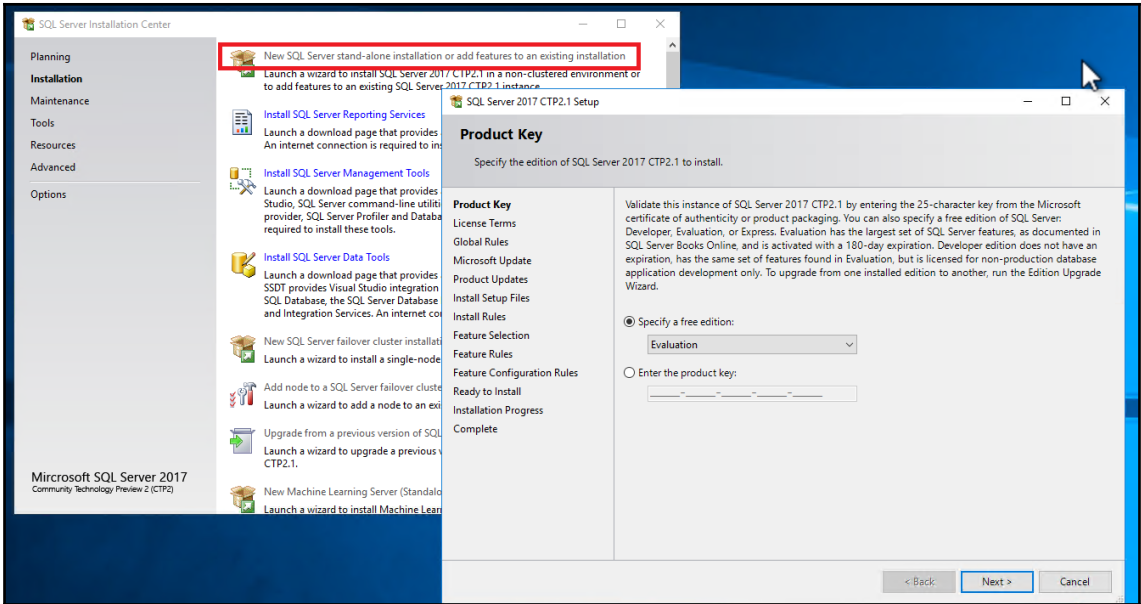
SQL Server Technical Preview (CTP)

Please select your product language

- Chinese (Simplified)
- Chinese (Traditional)
- English**
- French
- German
- Italian
- Japanese
- Korean
- Portuguese (Brazil)
- Russian
- Spanish

Download

Name	Date modified	Type	Size
1033_ENU_LP	5/11/2017 1:02 AM	File folder	
redist	5/11/2017 12:57 AM	File folder	
resources	5/11/2017 12:57 AM	File folder	
Tools	5/11/2017 12:57 AM	File folder	
x64	5/11/2017 12:57 AM	File folder	
autorun	4/7/2017 3:17 AM	Setup Information	1 KB
MedialInfo	5/11/2017 1:00 AM	XML Document	1 KB
setup	5/10/2017 7:20 PM	Application	107 KB
setup.exe	4/12/2017 4:03 AM	XML Configuratio...	1 KB
SqlSetupBootstrapper.dll	5/10/2017 7:11 PM	Application extens...	235 KB
sqmapi.dll	4/7/2017 3:11 AM	Application extens...	131 KB



SQL Server 2017 CTP2.1 Setup

License Terms

To install SQL Server 2017 CTP2.1, you must accept the Microsoft Software License Terms.



- Product Key
- License Terms**
- Global Rules
- Microsoft Update
- Product Updates
- Install Setup Files
- Install Rules
- Feature Selection
- Feature Rules
- Feature Configuration Rules
- Ready to Install
- Installation Progress
- Complete

MICROSOFT PRE-RELEASE SOFTWARE LICENSE TERMS

MICROSOFT SQL SERVER 2017 COMMUNITY TECHNOLOGY PREVIEW 2 (CTP2)

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- updates,
- supplements,
- Internet-based services, and
- support services

 
Copy Print

I accept the license terms.

SQL Server 2017 CTP2.1 transmits information about your installation experience, as well as other usage and performance data, to Microsoft to help improve the product. To learn more about SQL Server 2017 CTP2.1 data processing and privacy controls, please see the [Privacy Statement](#).

< Back Next > Cancel

Microsoft Update

Use Microsoft Update to check for important updates

- Product Key
- License Terms
- Global Rules
- Microsoft Update**
- Product Updates
- Install Setup Files
- Install Rules
- Feature Selection
- Feature Rules
- Feature Configuration Rules
- Ready to Install
- Installation Progress
- Complete

Microsoft Update offers security and other important updates for Windows and other Microsoft software, including SQL Server 2017 CTP2.1. Updates are delivered using Automatic Updates, or you can visit the Microsoft Update website.

Use Microsoft Update to check for updates (recommended)

[Microsoft Update FAQ](#)

[Microsoft Update Privacy Statement](#)

< Back

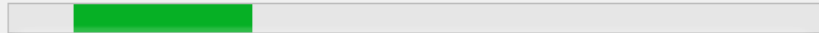
Next >

Cancel

Install Setup Files

If an update for SQL Server Setup is found and specified to be included, the update will be installed.

- Product Key
- License Terms
- Global Rules
- Microsoft Update
- Product Updates
- Install Setup Files**
- Install Rules
- Feature Selection
- Feature Rules
- Feature Configuration Rules
- Ready to Install
- Installation Progress
- Complete



Task	Status
Scan for product updates	Completed
Download Setup files	Skipped
Extract Setup files	Skipped
Install Setup files	Not started

Install Rules

Setup rules identify potential problems that might occur while running Setup. Failures must be corrected before Setup can continue.

Product Key

License Terms

Global Rules

Microsoft Update

Product Updates

Install Setup Files

Install Rules

Feature Selection

Feature Rules

Feature Configuration Rules

Ready to Install

Installation Progress

Complete

Operation completed. Passed: 3. Failed 0. Warning 1. Skipped 0.

Hide details <<

Re-run

[View detailed report](#)

	Rule	Status
✓	Fusion Active Template Library (ATL)	Passed
✓	Consistency validation for SQL Server registry keys	Passed
✓	Computer domain controller	Passed
⚠	Windows Firewall	Warning

< Back

Next >

Cancel

SQL Server 2017 CTP2.1 Setup

Feature Selection

Select the Evaluation features to install.

Product Key
License Terms
Global Rules
Microsoft Update
Product Updates
Install Setup Files
Install Rules
Feature Selection
Feature Rules
Instance Configuration
Server Configuration
Database Engine Configuration
Integration Services Scale Out ...
Integration Services Scale Out ...
Feature Configuration Rules
Ready to Install
Installation Progress
Complete

Looking for Reporting Services? [Download it from the web](#)

Features:

- Instance Features**
 - Database Engine Services
 - SQL Server Replication
 - Machine Learning Services (In-Database)
 - R
 - Python
 - Full-Text and Semantic Extractions for Search
 - Data Quality Services
 - PolyBase Query Service for External Data
 - Analysis Services
- Shared Features**
 - Machine Learning Server (Standalone)
 - R
 - Python
 - Data Quality Client
 - Client Tools Connectivity
 - Integration Services
 - Scale Out Master
 - Scale Out Worker
 - Client Tools Backwards Compatibility
 - Client Tools SDK

Select All Unselect All

Instance root directory: C:\Program Files\Microsoft SQL Server\ ...

Shared feature directory: C:\Program Files\Microsoft SQL Server\ ...

Shared feature directory (x86): C:\Program Files (x86)\Microsoft SQL Server\ ...

Feature description:
The configuration and operation of each instance feature of a SQL Server instance is isolated from other SQL Server instances. SQL Server instances can operate side-by-side on the same computer.

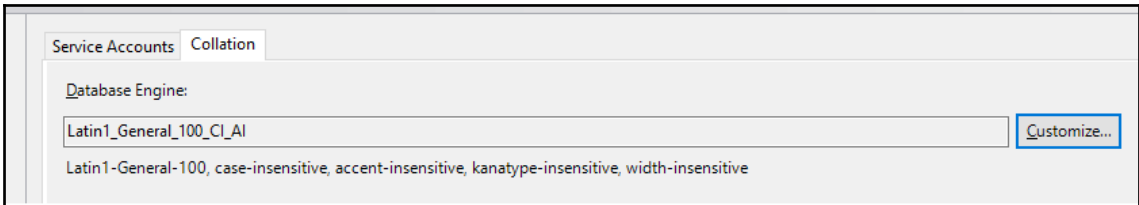
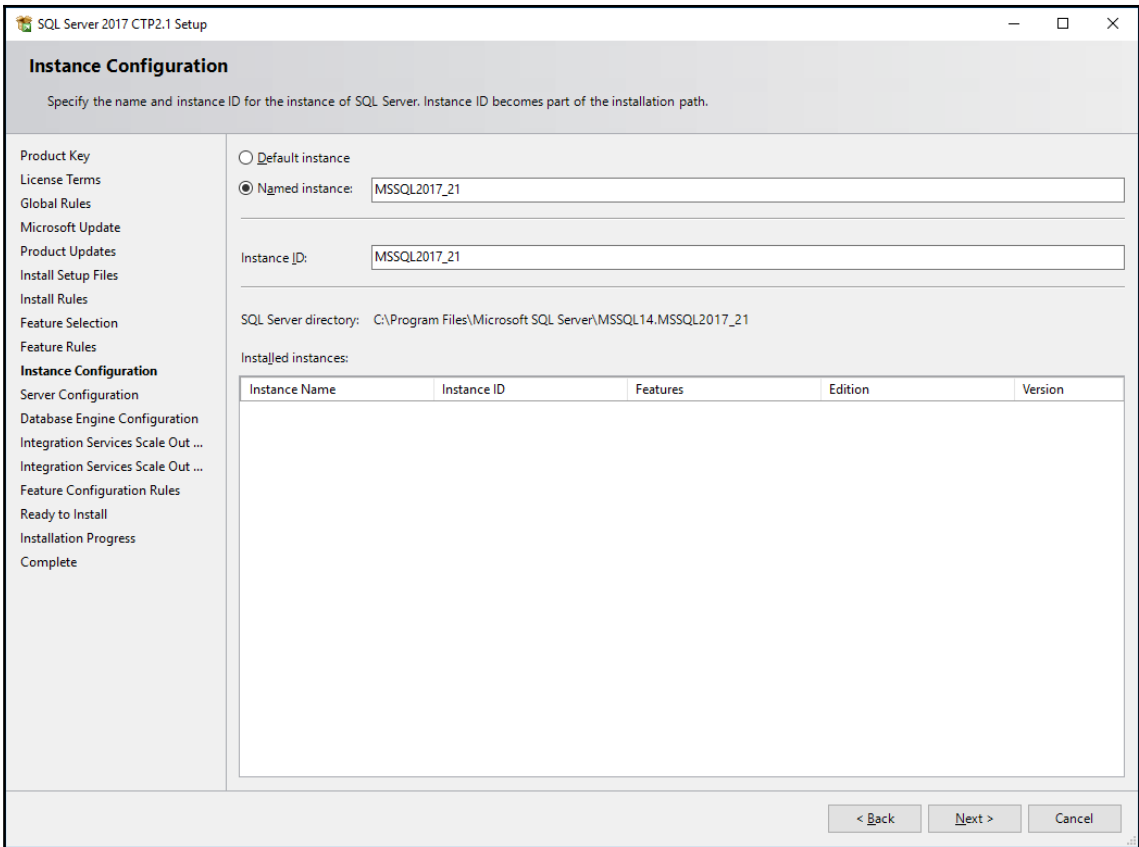
Prerequisites for selected features:

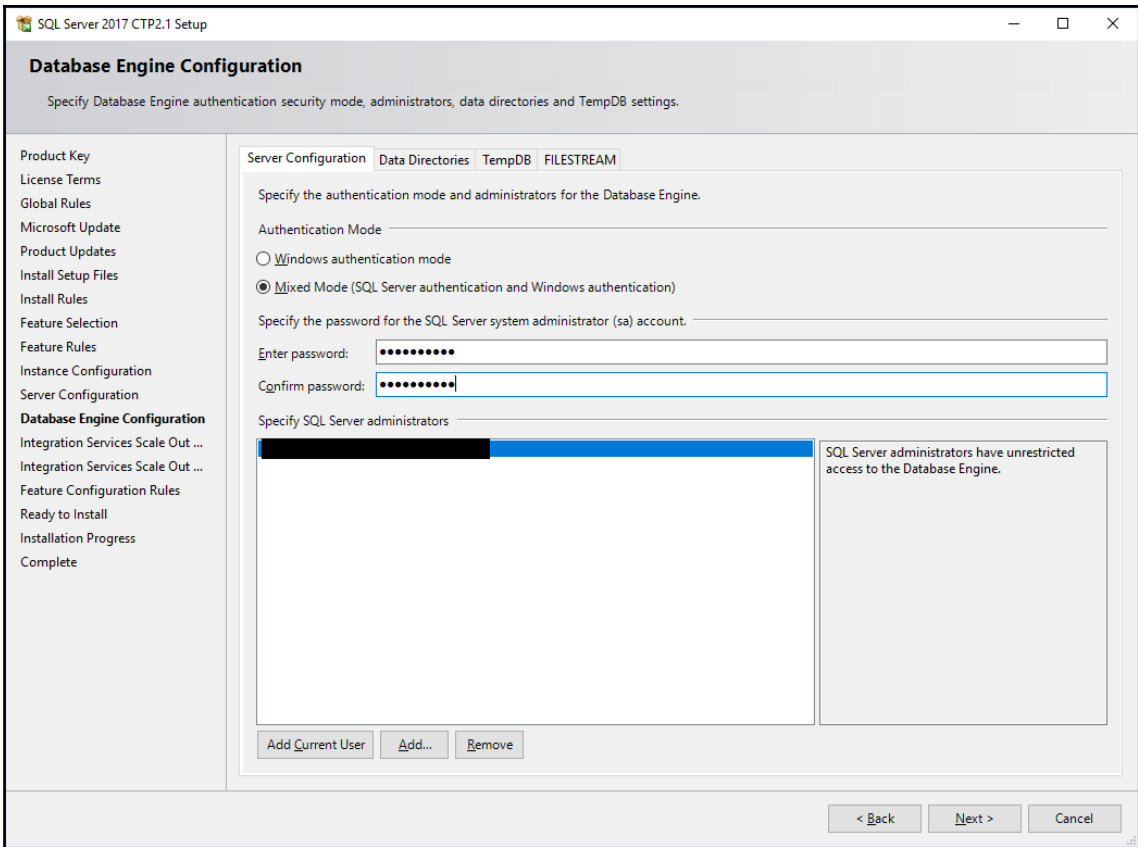
Already installed:
... Microsoft Visual C++ 2015 Redistributable
... Windows PowerShell 3.0 or higher
... Microsoft .NET Framework 4.6

To be installed from media:
... Microsoft Visual Studio 2010 Redistributables

Disk Space Requirements
Drive C: 1233 MB required, 55553 MB available

< Back Next > Cancel





SQL Server 2017 CTP2.1 Setup

Integration Services Scale Out Configuration - Master Node

Specify the port number and security certificate for the Scale Out Master node.

- Product Key
- License Terms
- Global Rules
- Microsoft Update
- Product Updates
- Install Setup Files
- Install Rules
- Feature Selection
- Feature Rules
- Instance Configuration
- Server Configuration
- Database Engine Configuration
- Integration Services Scale Ou...**
- Integration Services Scale Out ...
- Feature Configuration Rules
- Ready to Install
- Installation Progress
- Complete

Specify a port number that the master node uses to communicate with the worker nodes.

Port Number:

Select a SSL certificate that is used for the communication between the master node and worker nodes in the scale out topology. A default self-signed certificate is created if you choose to create a new SSL certificate.

Create a new SSL certificate

CNs in the certificate:

Use an existing SSL certificate

< Back Next > Cancel

SQL Server 2017 CTP2.1 Setup

Integration Services Scale Out Configuration - Worker Node

Specify the master node endpoint and security certificate used by the Scale Out Worker node.

Product Key
License Terms
Global Rules
Microsoft Update
Product Updates
Install Setup Files
Install Rules
Feature Selection
Feature Rules
Instance Configuration
Server Configuration
Database Engine Configuration
Integration Services Scale Out ...
Integration Services Scale Ou...
Feature Configuration Rules
Ready to Install
Installation Progress
Complete

Provide the master node endpoint which the worker node needs to connect to (e.g. https://[MasterNodeMachineName]:[Port]):

Configure the SSL certificate of master node to trust in this machine. The master's SSL certificate needs to be trusted on this worker node for establishing the connection between worker and master. This is optional if your master certificate has already been trusted, i.e. it's issued by a trusted CA (Certification Authority) on this machine, or the master is installed on the same machine. Otherwise, please provide the master's client SSL certificate, i.e. the certificate is created and self-signed by yourself and the master is not on the same machine.

SQL Server 2017 CTP2.1 Setup

Ready to Install

Verify the SQL Server 2017 CTP2.1 features to be installed.

- Product Key
- License Terms
- Global Rules
- Microsoft Update
- Product Updates
- Install Setup Files
- Install Rules
- Feature Selection
- Feature Rules
- Instance Configuration
- Server Configuration
- Database Engine Configuration
- Integration Services Scale Out ...
- Integration Services Scale Out ...
- Feature Configuration Rules
- Ready to Install**
- Installation Progress
- Complete

Ready to install SQL Server 2017 CTP2.1:

- Summary
 - Edition: Evaluation
 - Action: Install (Product Update)
- Prerequisites
 - Already installed:
 - Microsoft Visual C++ 2015 Redistributable
 - Windows PowerShell 3.0 or higher
 - Microsoft .NET Framework 4.6
 - To be installed from media:
 - Microsoft Visual Studio 2010 Redistributables
 - Microsoft Visual Studio Tools for Applications 2015
- General Configuration
 - Features
 - Database Engine Services
 - Integration Services
 - Scale Out Master
 - Scale Out Worker
 - Instance configuration
 - Instance Name: MSSQL2017_21
 - Instance ID: MSSQL2017_21
 - Instance IDs
 - SQL Database Engine: MSSQL14.MSSQL2017_21
 - Instance Directory: C:\Program Files\Microsoft SQL Server\
 - Shared component root directory
 - Shared feature directory: C:\Program Files\Microsoft SQL Server\
 - Shared feature (WOW64) directory: C:\Program Files (x86)\Microsoft SQL Server\
 - Product Update
 - Update Enabled: True

Configuration file path:
C:\Program Files\Microsoft SQL Server\140\Setup Bootstrap\Log\20170612_123753\ConfigurationFile.ini

< Back Install Cancel

SQL Server 2017 CTP2.1 Setup

Installation Progress

- Product Key
- License Terms
- Global Rules
- Microsoft Update
- Product Updates
- Install Setup Files
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- Integration Services Scale Out ...
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- Installation Progress**
- Complete














Performing Windows Installer actions.

Next > Cancel

SQL Server Installation Center

Planning
Installation
Maintenance
Tools
Resources
Advanced
Options

Microsoft SQL Server 2017
Community Technology Preview 2 (CTP2)

-  New SQL Server stand-alone installation or add features to an existing installation
-  Launch a wizard to install SQL Server 2017 CTP2.1 in a non-clustered environment or to add features to an existing SQL Server 2017 CTP2.1 instance.
-  **Install SQL Server Reporting Services**
Launch a download page that provides a link to install SQL Server Reporting Services. An internet connection is required to install SSRS.
-  **Install SQL Server Management Tools**
Launch a download page that provides a link to install SQL Server Management Studio, SQL Server command-line utilities (SQLCMD and BCP), SQL Server PowerShell provider, SQL Server Profiler and Database Tuning Advisor. An internet connection is required to install these tools.
-  **Install SQL Server Data Tools**
Launch a download page that provides a link to install SQL Server Data Tools (SSDT). SSDT provides Visual Studio integration including project system support for Azure SQL Database, the SQL Server Database Engine, Reporting Services, Analysis Services and Integration Services. An internet connection is required to install SSDT.
-  New SQL Server failover cluster installation
-  Launch a wizard to install a single-node SQL Server 2017 CTP2.1 failover cluster.
-  Add node to a SQL Server failover cluster
-  Launch a wizard to add a node to an existing SQL Server 2017 CTP2.1 failover cluster.
-  Upgrade from a previous version of SQL Server
-  Launch a wizard to upgrade a previous version of SQL Server to SQL Server 2017 CTP2.1.
-  New Machine Learning Server (Standalone) installation
-  Launch a wizard to install Machine Learning Server (Standalone) on a Windows

Download SQL Server Management Studio (SSMS)

2017-5-30 • 3 min to read • Contributors

SQL Server Management Studio (SSMS) is an integrated environment for managing any SQL infrastructure, from SQL Server to SQL Database. SSMS provides tools to configure, monitor, and administer instances of SQL from wherever you deploy it. SSMS provides tools to deploy, monitor, and upgrade the data-tier components, such as databases and data warehouses used by your applications, and to build queries and scripts.

This release features improved compatibility with previous versions of SQL Server, a stand-alone web installer, and toast notifications within SSMS when new releases become available.

SSMS is free! Download it below!

- [Download SQL Server Management Studio 17.1](#)
- [Download SQL Server Management Studio 17.1 Upgrade Package \(upgrades 17.0 to 17.1\)](#)

What do you want to do with SSMS-Setup-ENU.exe (784 MB)?
From: download.microsoft.com

Save Save as Cancel

Is this page helpful?
YES NO

SQL Server 2017 CTP2.1 Setup

Complete

Your SQL Server 2017 CTP2.1 installation completed successfully with product updates.

- Product Key
- License Terms
- Global Rules
- Microsoft Update
- Product Updates
- Install Setup Files
- Install Rules
- Feature Selection
- Feature Rules
- Instance Configuration
- Server Configuration
- Database Engine Configuration
- Integration Services Scale Out ...
- Integration Services Scale Out ...
- Feature Configuration Rules
- Ready to Install
- Installation Progress
- Complete**

Information about the Setup operation or possible next steps:

Feature	Status
✓ Database Engine Services	Succeeded
✓ Scale Out Worker	Succeeded
✓ Scale Out Master	Succeeded
✓ Integration Services	Succeeded
✓ SQL Browser	Succeeded
✓ SQL Writer	Succeeded
✓ SQL Client Connectivity	Succeeded
✓ SQL Client Connectivity SDK	Succeeded
✓ Setup Support Files	Succeeded

Details:

Install successful.








Summary log file has been saved to the following location:
C:\Program Files\Microsoft SQL Server\140\Setup Bootstrap\Log\20170612_123753\Summary_SSISCookbook17_20170612_123753.txt

Close

SQL Server Installation Center

- Planning
- Installation**
- Maintenance
- Tools
- Resources
- Advanced
- Options

Microsoft SQL Server 2017
Community Technology Preview 2 (CTP2)

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-  Launch a wizard to install Machine Learning Server (Standalone) on a Windows

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docs.microsoft.com/en-us/sql/ssdt/download-sql-server-data-tools-ssdt

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Docs / SQL / SSDT (SQL Server Data Tools)

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Download SSDT

- Changelog for SSDT
- Data-Tier Application Framework - License Terms
- Previous releases of SSDT and SSDT-BI
- SQL Server Tools
- License Terms - SSDT

Download PDF

Download SQL Server Data Tools (SSDT)

2017-3-10 • 3 min to read • Contributors

SQL Server Data Tools is a modern development tool that you can download for free to build SQL Server relational databases, Azure SQL databases, Integration Services packages, Analysis Services data models, and Reporting Services reports. With SSDT, you can design and deploy any SQL Server content type with the same ease as you would develop an application in Visual Studio. This release supports SQL Server 2017 through SQL Server 2005, and provides the design environment for adding features that are new in SQL Server 2016.

Comments

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Theme

Light

In this article

- SQL Server Data Tools
- Download Visual Studio
- Installing SSDT without Visual Studio pre-installed
- Supported SQL versions
- Next steps
- Use SSDT in Visual Studio 2017
- See Also

Download SQL Server Data Tools 17.1 for Visual Studio 2015

Download Data-Tier Application Framework (DacFx) 17.1

SQL Server Data Tools

Version Information

What do you want to do with SSDTSetup.exe (594 KB)?
From: download.microsoft.com

Save Save as Cancel

Is this page helpful?
YES NO

Install tools for these SQL Server features:



- SQL Server Database
- SQL Server Analysis Services
- SQL Server Reporting Services
- SQL Server Integration Services

To learn more about SQL Server Data Tools,

[Click Here](#)

To learn more about Privacy and Customer Feedback,

[Click Here](#)

Next

Cancel



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MICROSOFT SQL SERVER DATA TOOLS

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1. INSTALLATION AND USE RIGHTS.

I agree to the license terms and conditions

Install

Cancel

Setup Progress

To learn more about SQL Server Data Tools,
[Click Here](#)

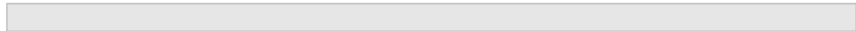


Download Progress

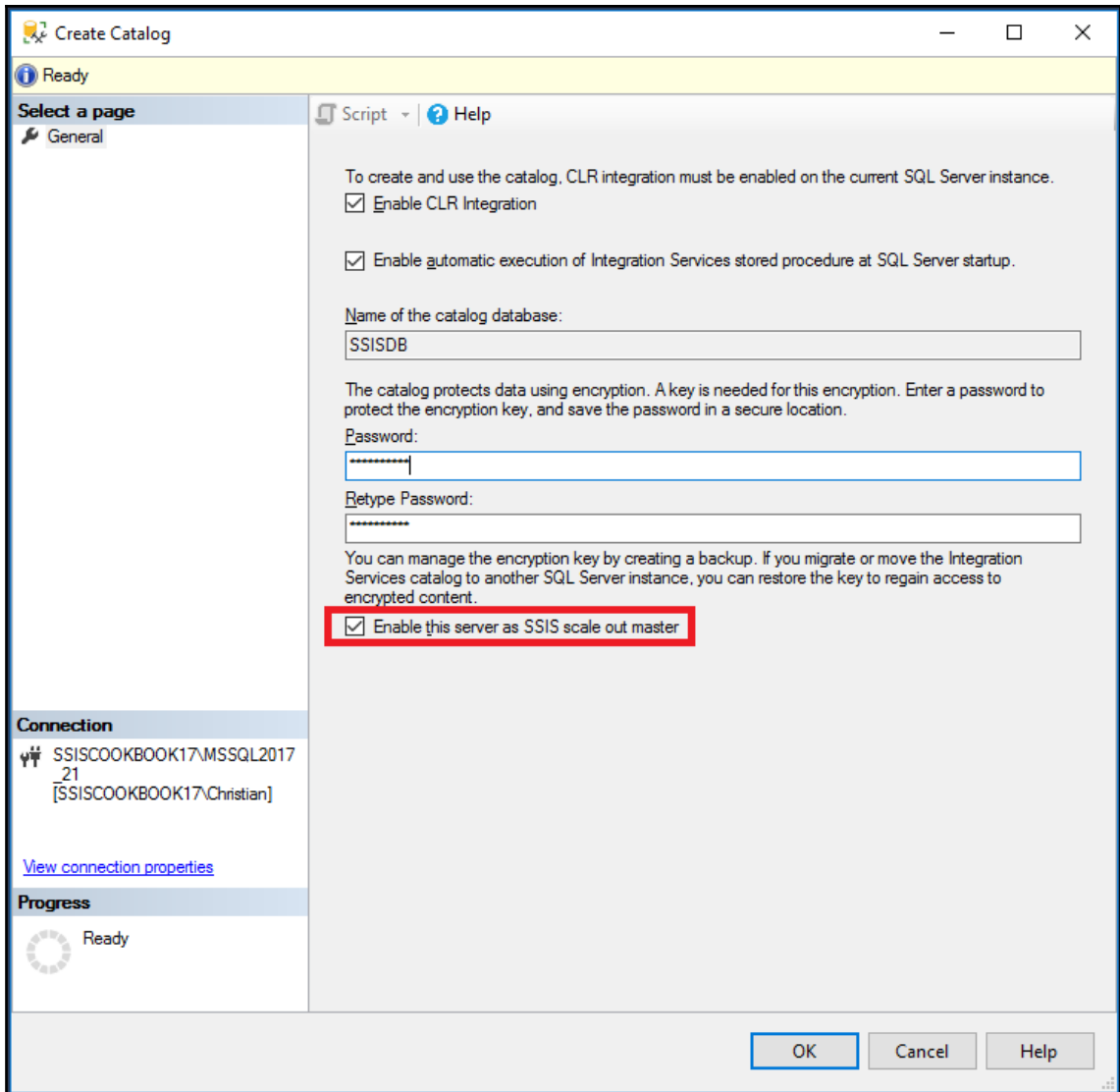
Microsoft SQL Server 2017 Analysis Management Objects CTP2.1



Installation Progress



Cancel



```
SQLQuery1.sql - DE...8PGJ3\ccote (64)*  X  
SELECT * FROM [SSISDB].[catalog].[worker_agents]  
EXEC [catalog].[enable_worker_agent] '*****'
```

Login - New

Select a page

- General
- Server Roles
- User Mapping
- Securables
- Status

Connection

Server: SSISCOOKBOOK17\MSSQL2017

Connection: SSISCOOKBOOK17\Christian

[View connection properties](#)

Progress

Ready

Script Help

Login name: NT SERVICE\SSISScaleOutWorker140 Search...

Windows authentication

SQL Server authentication

Password:

Confirm password:

Specify old password

Old password:

Enforce password policy

Enforce password expiration

User must change password at next login

Mapped to certificate

Mapped to asymmetric key

Map to Credential Add

Mapped Credentials

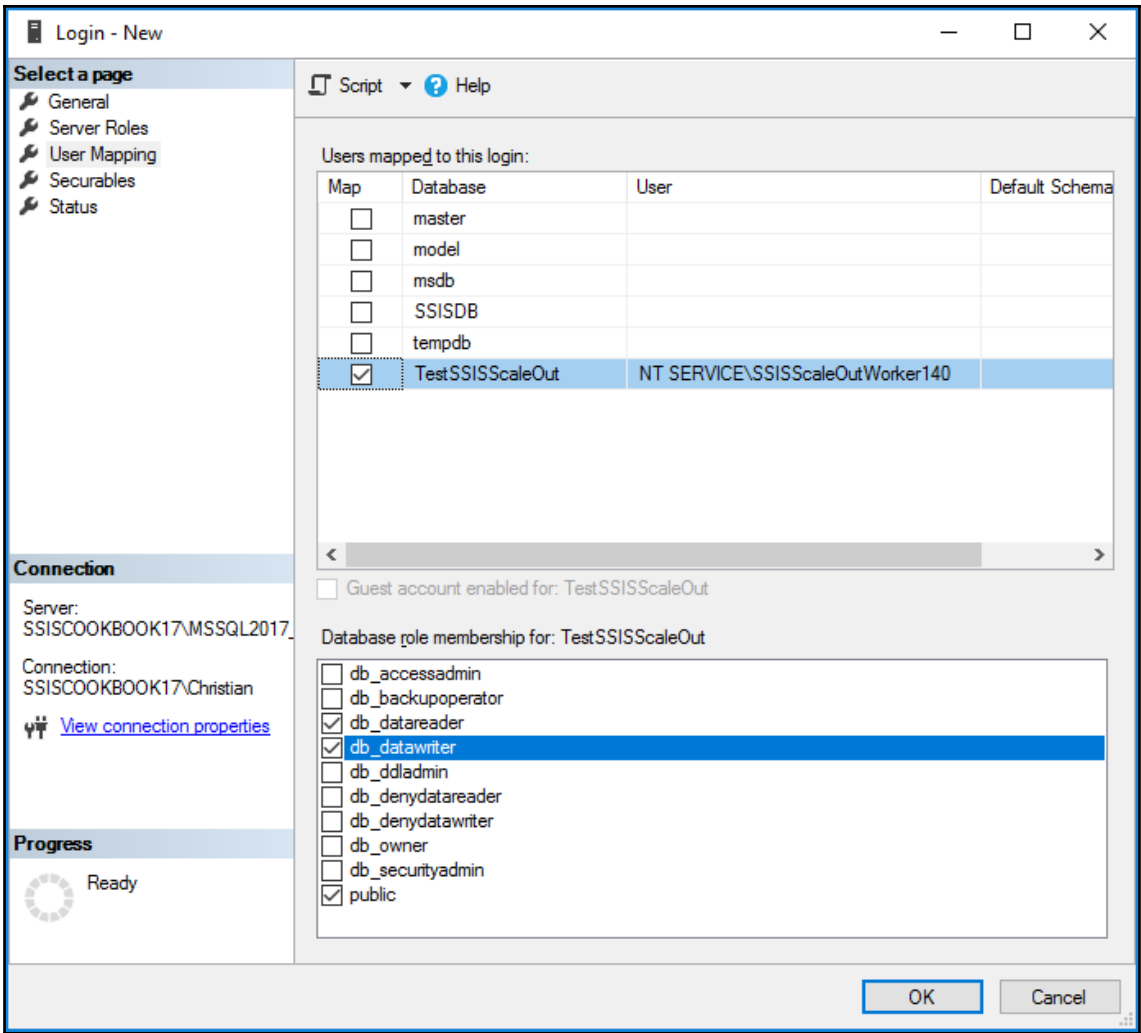
Credential	Provider
------------	----------

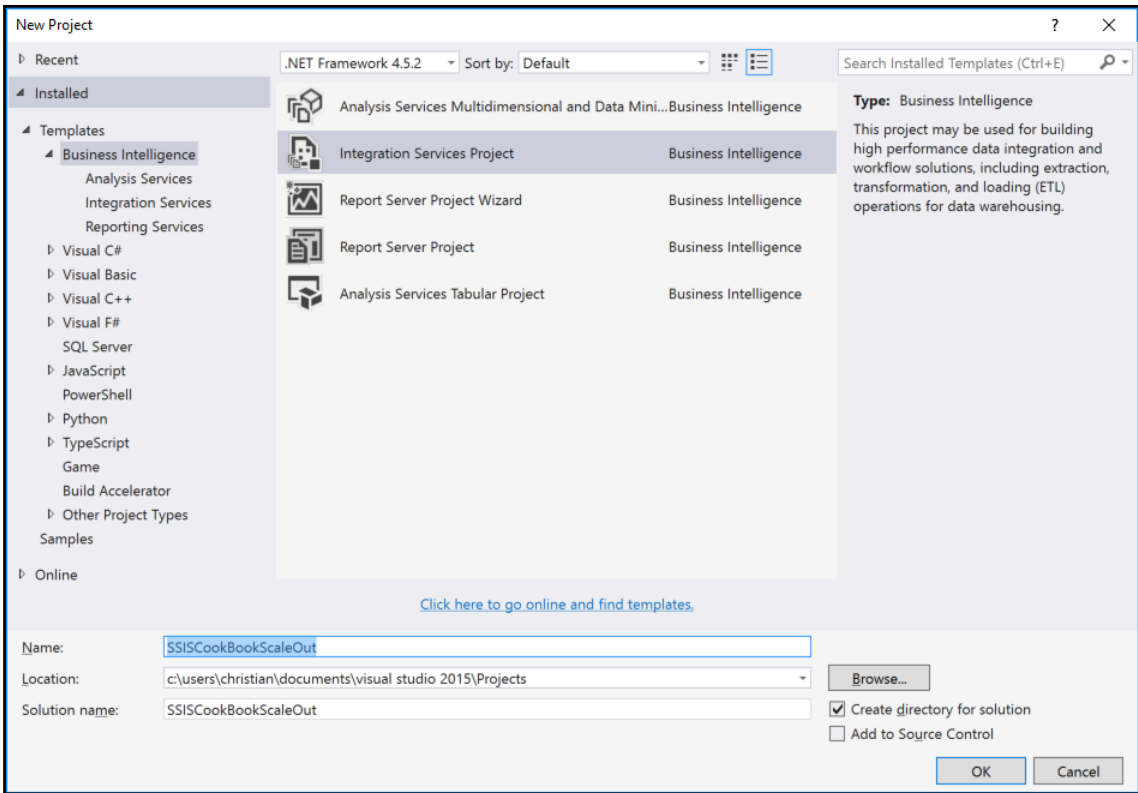
Remove

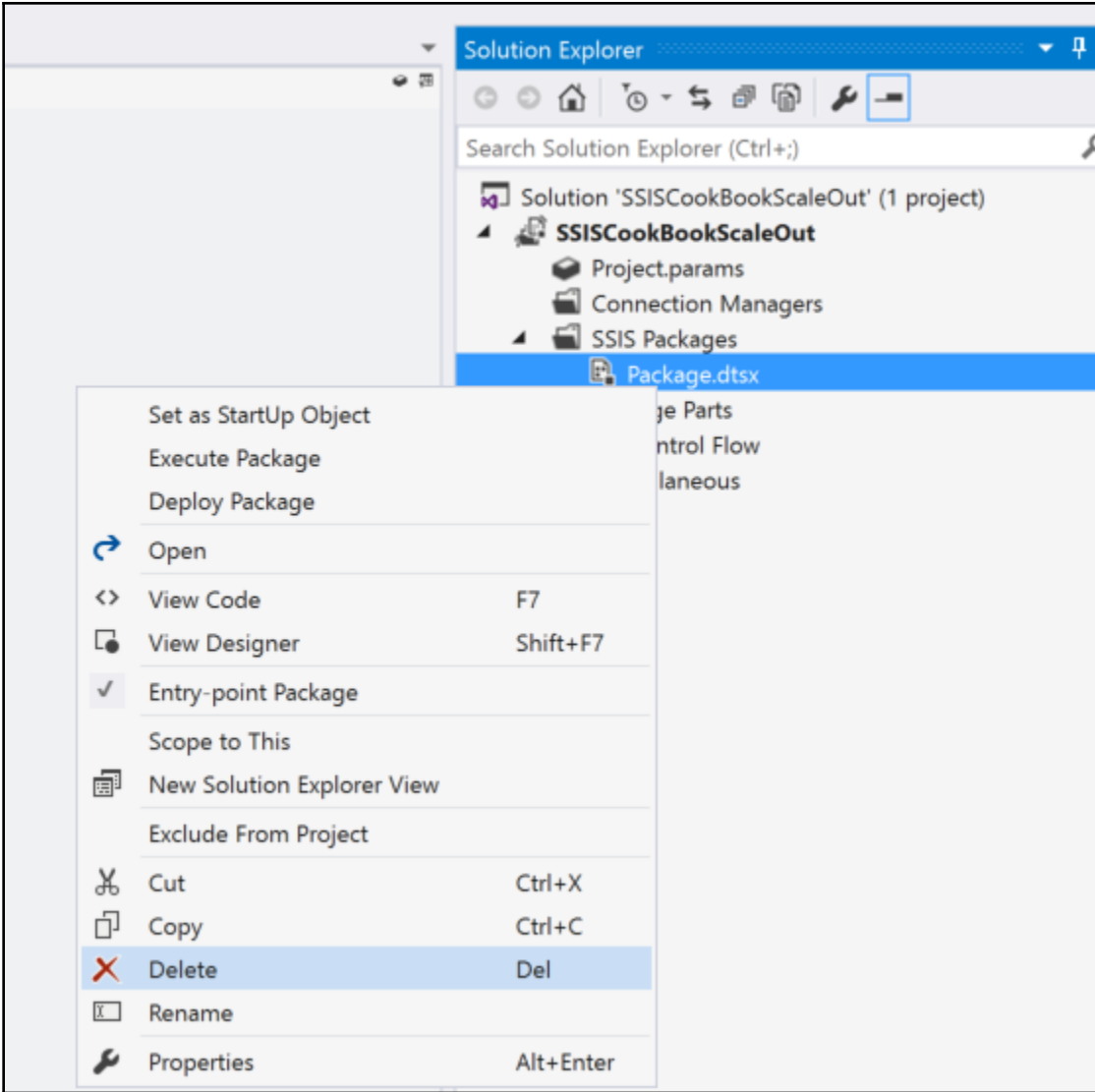
Default database: master

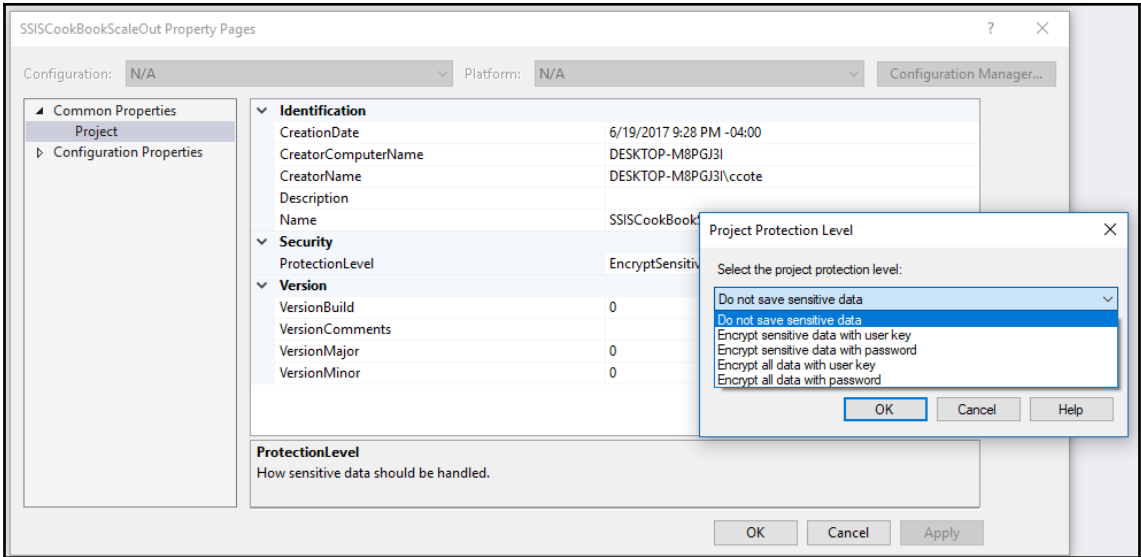
Default language: <default>

OK Cancel











Connection Manager



Provider:

Native OLE DB\SQL Server Native Client 11.0



Connection



All

Server name:

.\MSSQL2017_21



Refresh

Log on to the server

Authentication: Windows Authentication

User name:

Password:

Save my password

Connect to a database

Select or enter a database name:

TestSSISScaleOut

Attach a database file:

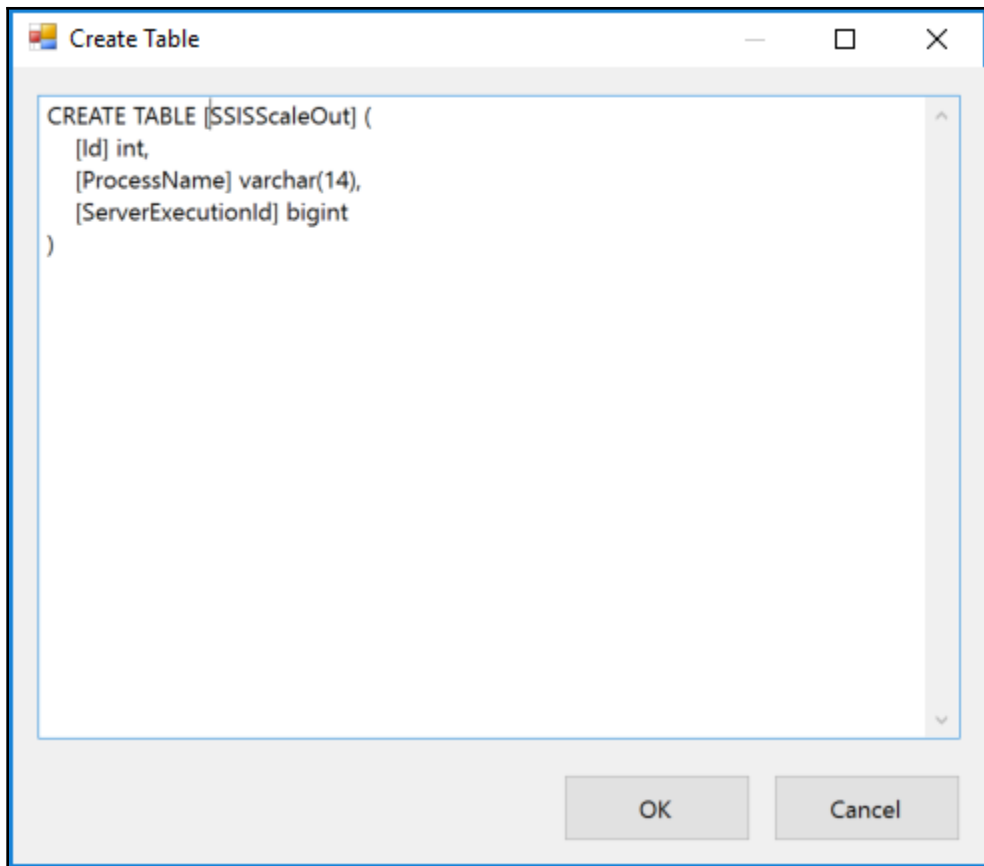
Logical name:

Test Connection

OK

Cancel

Help



Data Flow Task: dft_SSISScaleOut



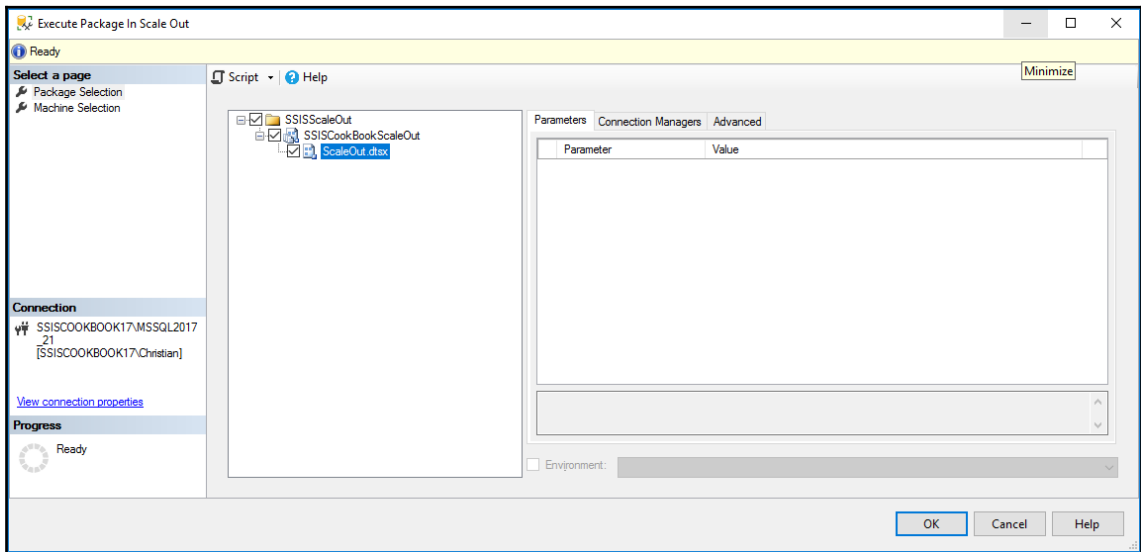
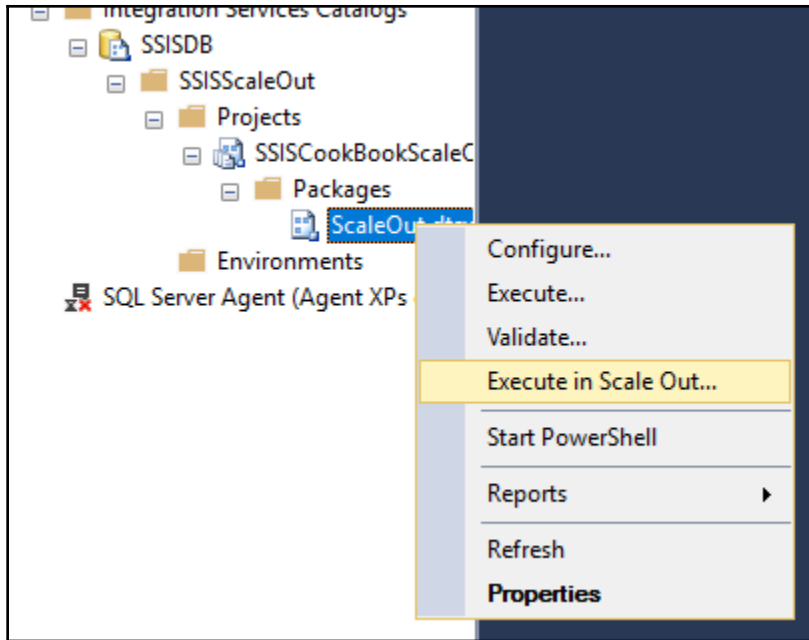
ole_src_AddRow

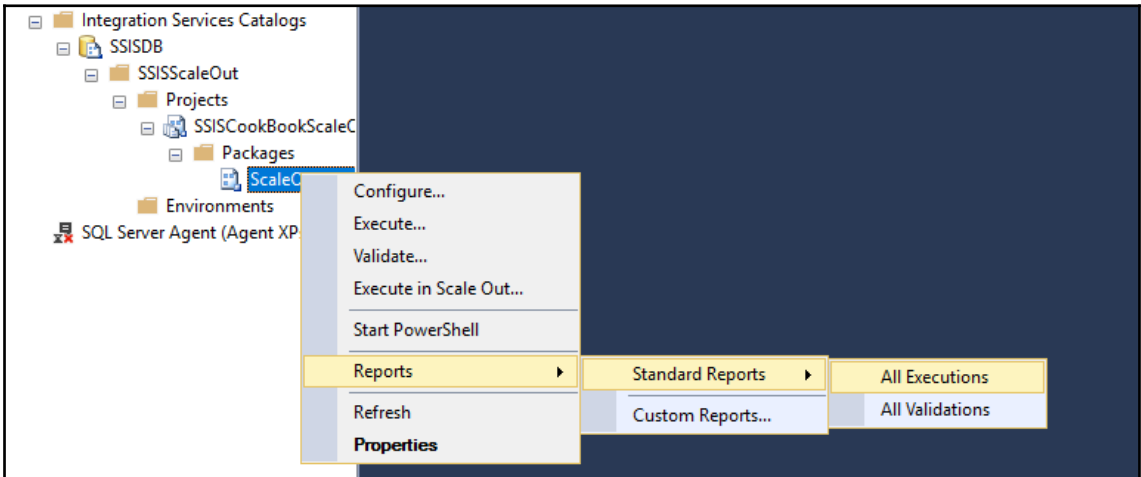
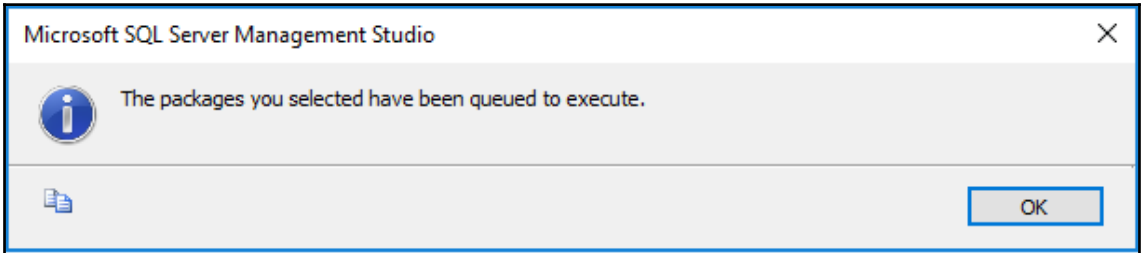
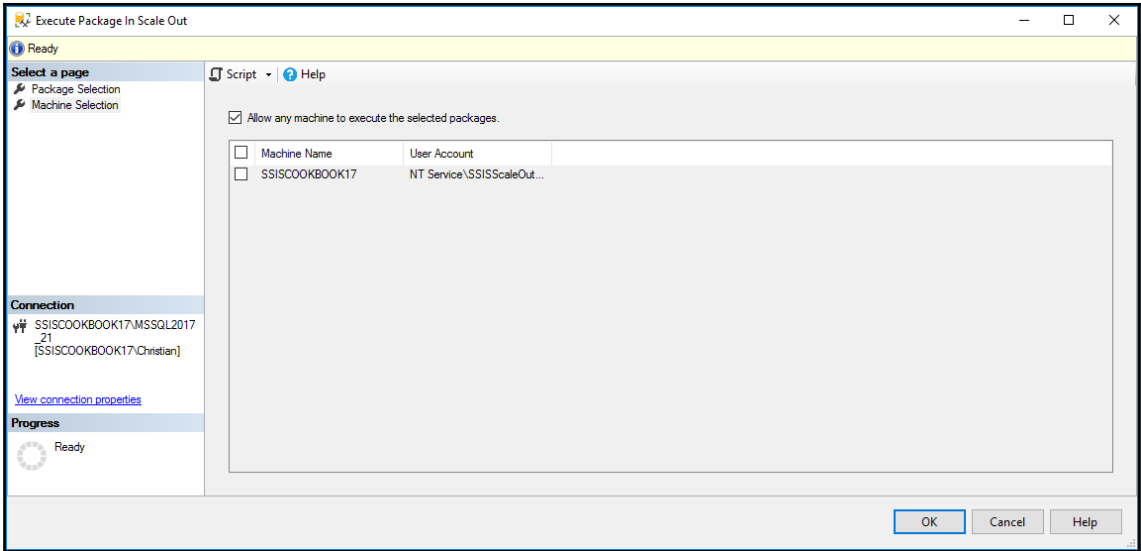


der_ServerExecutionId



ole_dst_SSISScaleOut





Execution Information

0 Failed
 0 Running
 1 Succeeded
 0 Others

ID	Status	Report	Folder Name	Project Name	Package Name
	3 Succeeded	Overview All Messages Execution Performance	SSISScaleOut	SSISCookBookScaleOut	ScaleOut.dtsx

1 / 1

All Messages

Filter: Message Type: All: (4 more)

Message Type	Message Time	Message	Message Source Name	Subcomponent Name	Execution Path
OnPostExecute	6/20/2017 10:37:18 AM	ScaleOut.Finished, 10:37:18 AM, Elapsed time: 00:00:01.110.	ScaleOut		\Package
OnPostExecute	6/20/2017 10:37:18 AM	dft_SSISScaleOut.Finished, 10:37:18 AM, Elapsed time: 00:00:00.282.	dft_SSISScaleOut		\Package\dft_SSISScaleOut
OnInformation	6/20/2017 10:37:18 AM	dft_SSISScaleOut.Information: "ole_dst_SSISScaleOut" wrote 1 rows.	dft_SSISScaleOut	SSIS Pipeline	\Package\dft_SSISScaleOut
OnInformation	6/20/2017 10:37:18 AM	dft_SSISScaleOut.Information: Cleanup phase is beginning.	dft_SSISScaleOut	SSIS Pipeline	\Package\dft_SSISScaleOut
OnInformation	6/20/2017 10:37:18 AM	dft_SSISScaleOut.Information: Post Execute phase is beginning.	dft_SSISScaleOut	SSIS Pipeline	\Package\dft_SSISScaleOut
OnInformation	6/20/2017 10:37:18 AM	dft_SSISScaleOut.Information: The final commit for the data insertion in "ole_dst_SSISScaleOut" has ended.	dft_SSISScaleOut	ole_dst_SSISScaleOut [11]	\Package\dft_SSISScaleOut
OnInformation	6/20/2017 10:37:18 AM	dft_SSISScaleOut.Information: The final commit for the data insertion in "ole_dst_SSISScaleOut" has started.	dft_SSISScaleOut	ole_dst_SSISScaleOut [11]	\Package\dft_SSISScaleOut

Graphics Bundle Ends Here

Index