Building Your First SSIS Package

PLANNING DATA INTEGRATION USING SSIS

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Agenda

- Audience for modules
- Tools and files installed
- Navigate SQL Server Data Tools
- Creating a project and package
- Developing the flow of data integration

Audience for Modules

ETL Developer

ETL stands for Extract, Transform, and Load. An ETL developer works on moving data from source systems to data warehouse structures.

Application Integration Developer

An application integration developer creates processes to move data from one system to another. The data might come in the form of an exported file.

B2B Developers

Electronic exchange of data has become popular for the business 2 business integrations. Another term for this is EDI – electronic data integration. EDI formats are common based on industry.

Tools and Files Installed

Tools Installed

SQL Server 2016 Developers Edition or higher

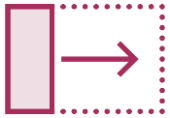
- Install SSIS

SQL Server Data Tools (SSDT) – contains Visual Studio shell

Visual Studio 2017 or higher

Adventure Works OLTP database

Version of SSDT



2017 supports deployment to multiple releases

2017 and older - installed from external outside of Visual Studio

2019 installs as extensions

2019 menus moved to extension main menu

Demo

Find location of files

Step thru database restore

Navigating SQL Server Data Tools

SQL Server Data Tools

Development environment for Microsoft business intelligence tools Integration Server (SSIS), Analysis Services (SSAS) and Reporting Services (SSRS). This does not include Power BI.

Integration Services

Solution

Container for projects like SSIS, SSAS and SSRS plus external files

Project

Container for packages and supporting objects like connections and parameters

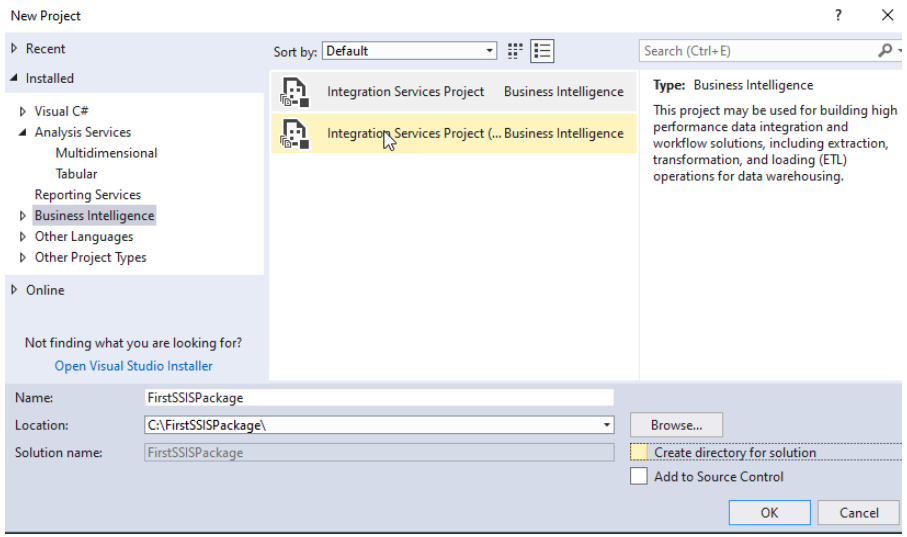
Creating a Project and Package

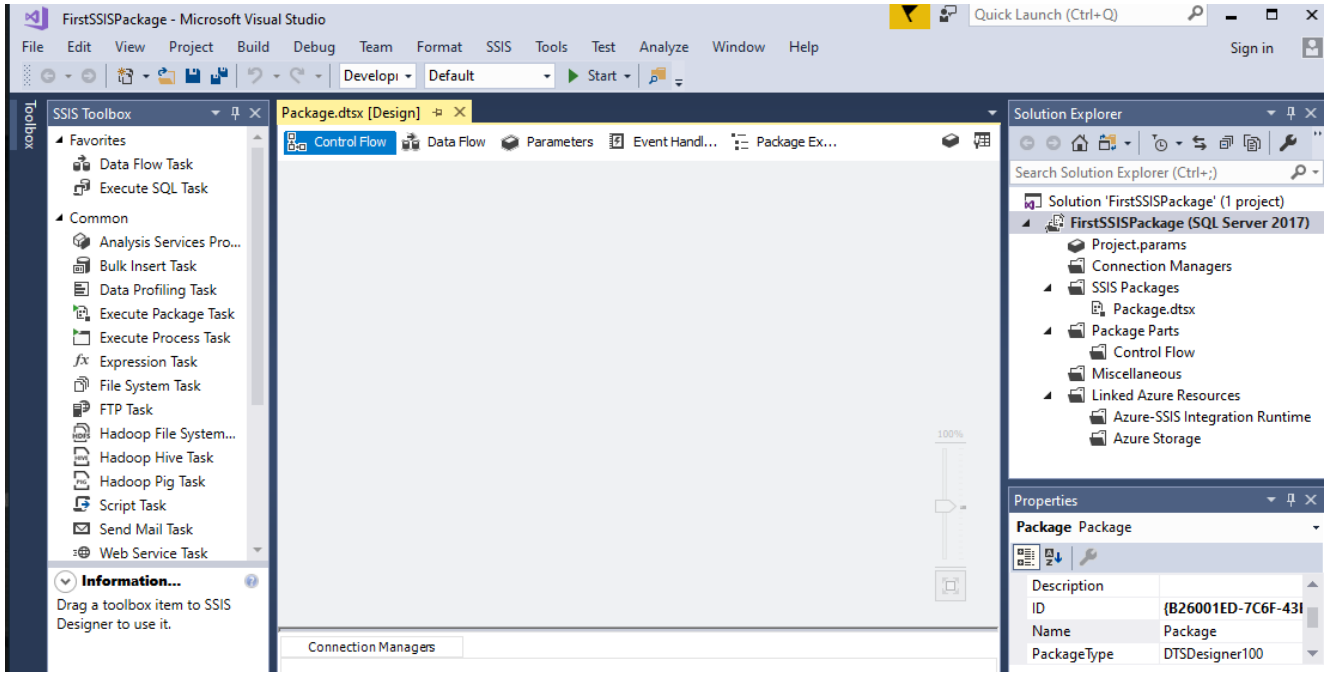
Create project

Creates solution

Creates package.dtsx

Rename package





Demo

Create project/package

Developing the Flow of Data Integration

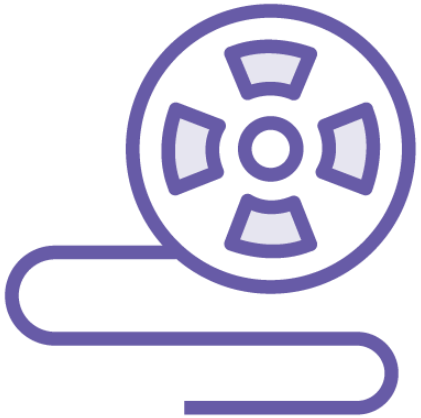
Data Flow

Extract

Connect to source of data

Transform

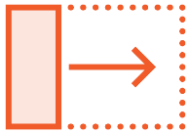
Change the structure or display of the data



Load

Insert data into a destination

Data Flow



Source – text file, data table or API call

Conform the structure to the reporting requirements

Target – end placement of the new structured data

Text data

Comma separated

First row - column names

Products.csv - Notepad

File Edit Format View Help

```
ProductID,ProductName,SupplierID,CategoryID,QuantityPerUnit,UnitPrice,UnitsInStock,UnitsOnOrder,ReorderLevel,Discontinued
1,Chai,1,1,10 boxes x 20 bags,18,39,0,10,False
2,Chang,1,1,24 - 12 oz bottles,19,17,40,25,False
3,Aniseed Syrup,1,2,12 - 550 ml bottles,10,13,70,25,False
4,Chef Anton's Cajun Seasoning,2,2,48 - 6 oz jars,22,53,0,0,False
5,Chef Anton's Gumbo Mix,2,2,36 boxes,21.35,0,0,0,True
6,Grandma's Boysenberry Spread,3,2,12 - 8 oz jars,25,120,0,25,False
7,Uncle Bob's Organic Dried Pears,3,7,12 - 1 lb pkgs.,30,15,0,10,False
8,Northwoods Cranberry Sauce,3,2,12 - 12 oz jars,40,6,0,0,False
9,Mishi Kobe Niku,4,6,18 - 500 g pkgs.,97,29,0,0,True
10,Ikura,4,8,12 - 200 ml jars,31,31,0,0,False
```

Demo

ETL – Extract, Transform, and Load

Summary

- Tools and files needed
- Understanding 2017 versus 2019
- Getting started...
- Project and package (in a solution)
- CSV file as input