Integration Services (SSIS) Connections

**SQL Server 2016**

[Other Versions](javascript:;)

Applies To: SQL Server 2016

Microsoft SQL Server Integration Services packages use connections to perform different tasks and to implement Integration Services features:

* Connecting to source and destination data stores such as text, XML, Excel workbooks, and relational databases to extract and load data.
* Connecting to relational databases that contain reference data to perform exact or fuzzy lookups.
* Connecting to relational databases to run SQL statements such as SELECT, DELETE, and INSERT commands and also stored procedures.
* Connecting to SQL Server to perform maintenance and transfer tasks such as backing up databases and transferring logins.
* Writing log entries in text and XML files and SQL Server tables and package configurations to SQL Server tables.
* Connecting to SQL Server to create temporary work tables that some transformations require to do their work.
* Connecting to Analysis Services projects and databases to access data mining models, process cubes and dimensions, and run DDL code.
* Specifying existing or creating new files and folders to use with Foreach Loop enumerators and tasks.
* Connecting to message queues and to Windows Management Instrumentation (WMI), SQL Server Management Objects (SMO), Web, and mail servers.

To make these connections, Integration Services uses connection managers, as described in the next section.

[Connection Managers](javascript:void(0))

Integration Services uses the connection manager as a logical representation of a connection. At design time, you set the properties of a connection manager to describe the physical connection that Integration Services creates when the package runs. For example, a connection manager includes the **ConnectionString** property that you set at design time; at run time, a physical connection is created using the value in the connection string property.

A package can use multiple instances of a connection manager type, and you can set the properties on each instance. At run time, each instance of a connection manager type creates a connection that has different attributes.

SQL Server Integration Services provides different types of connection managers that enable packages to connect to a variety of data sources and servers:

* There are built-in connection managers that Setup installs when you install Integration Services.
* There are connection managers that are available for download from the Microsoft website.
* You can create your own custom connection manager if the existing connection managers do not meet your needs.

Built-in Connection Managers

The following table lists the connection manager types that SQL Server Integration Services provides.

| **Type** | **Description** | **Topic** |
| --- | --- | --- |
| ADO | Connects to ActiveX Data Objects (ADO) objects. | [ADO Connection Manager](https://msdn.microsoft.com/en-us/library/ms140147.aspx) |
| ADO.NET | Connects to a data source by using a .NET provider. | [ADO.NET Connection Manager](https://msdn.microsoft.com/en-us/library/ms141676.aspx) |
| CACHE | Reads data from the data flow or from a cache file (.caw), and can save data to the cache file. | [Cache Connection Manager](https://msdn.microsoft.com/en-us/library/bb895290.aspx) |
| DQS | Connects to a Data Quality Services server and a Data Quality Services database on the server. | [DQS Cleansing Connection Manager](https://msdn.microsoft.com/en-us/library/ee677621.aspx) |
| EXCEL | Connects to an Excel workbook file. | [Excel Connection Manager](https://msdn.microsoft.com/en-us/library/ms139836.aspx) |
| FILE | Connects to a file or a folder. | [File Connection Manager](https://msdn.microsoft.com/en-us/library/ms137955.aspx) |
| FLATFILE | Connect to data in a single flat file. | [Flat File Connection Manager](https://msdn.microsoft.com/en-us/library/ms140266.aspx) |
| FTP | Connect to an FTP server. | [FTP Connection Manager](https://msdn.microsoft.com/en-us/library/ms141015.aspx) |
| HTTP | Connects to a webserver. | [HTTP Connection Manager](https://msdn.microsoft.com/en-us/library/ms137602.aspx) |
| MSMQ | Connects to a message queue. | [MSMQ Connection Manager](https://msdn.microsoft.com/en-us/library/ms141219.aspx) |
| MSOLAP100 | Connects to an instance of SQL Server Analysis Services or an Analysis Services project. | [Analysis Services Connection Manager](https://msdn.microsoft.com/en-us/library/ms141018.aspx) |
| MULTIFILE | Connects to multiple files and folders. | [Multiple Files Connection Manager](https://msdn.microsoft.com/en-us/library/ms137798.aspx) |
| MULTIFLATFILE | Connects to multiple data files and folders. | [Multiple Flat Files Connection Manager](https://msdn.microsoft.com/en-us/library/ms137830.aspx) |
| OLEDB | Connects to a data source by using an OLE DB provider. | [OLE DB Connection Manager](https://msdn.microsoft.com/en-us/library/ms141013.aspx) |
| ODBC | Connects to a data source by using ODBC. | [ODBC Connection Manager](https://msdn.microsoft.com/en-us/library/ms141665.aspx) |
| SMOServer | Connects to a SQL Server Management Objects (SMO) server. | [SMO Connection Manager](https://msdn.microsoft.com/en-us/library/ms141770.aspx) |
| SMTP | Connects to an SMTP mail server. | [SMTP Connection Manager](https://msdn.microsoft.com/en-us/library/ms137684.aspx) |
| SQLMOBILE | Connects to a SQL Server Compact database. | [SQL Server Compact Edition Connection Manager](https://msdn.microsoft.com/en-us/library/ms141253.aspx) |
| WMI | Connects to a server and specifies the scope of Windows Management Instrumentation (WMI) management on the server. | [WMI Connection Manager](https://msdn.microsoft.com/en-us/library/ms141690.aspx) |

Connection Managers Available for Download

The following table lists additional types of connection manager that you can download from the Microsoft website.

|  |  |  |
| --- | --- | --- |
| **Important** | | |
| The connection managers listed in the following table work only with Microsoft SQL Server 2012 Enterprise and Microsoft SQL Server 2012 Developer. | | |
| **Type** | **Description** | **Topic** |
| ORACLE | Connects to an Oracle <version info> server. | The Oracle connection manager is the connection manager component of the Microsoft Connector for Oracle by Attunity. The Microsoft Connector for Oracle by Attunity also includes a source and a destination. For more information, see the download page, [Microsoft Connectors for Oracle and Teradata by Attunity](http://go.microsoft.com/fwlink/?LinkId=251526). |
| SAPBI | Connects to an SAP NetWeaver BI version 7 system. | The SAP BI connection manager is the connection manager component of the Microsoft Connector for SAP BI. The Microsoft Connector for SAP BI also includes a source and a destination. For more information, see the download page, [Microsoft SQL Server 2008 Feature Pack](http://go.microsoft.com/fwlink/?LinkId=262016). |
| TERADATA | Connects to a Teradata <version info> server. | The Teradata connection manager is the connection manager component of the Microsoft Connector for Teradata by Attunity. The Microsoft Connector for Teradata by Attunity also includes a source and a destination. For more information, see the download page, [Microsoft Connectors for Oracle and Teradata by Attunity](http://go.microsoft.com/fwlink/?LinkId=251526). |

Custom Connection Managers

You can also write custom connection managers. For more information, see [Developing a Custom Connection Manager](https://msdn.microsoft.com/en-us/library/ms403359.aspx).

# Create Connection Managers

**SQL Server 2016**

[Other Versions](javascript:;)

Applies To: SQL Server 2016

Integration Services includes a variety of connection managers to suit the needs of tasks that connect to different types of servers and data sources. Connection managers are used by the data flow components that extract and load data in different types of data stores, and by the log providers that write logs to a server, SQL Server table, or file. For example, a package with a Send Mail task uses an SMTP connection manager type to connect to a Simple Mail Transfer Protocol (SMTP) server. A package with an Execute SQL task can use an OLE DB connection manager to connect to a SQL Server database. For more information, see [Integration Services (SSIS) Connections](https://msdn.microsoft.com/en-us/library/ms140203.aspx).

To automatically create and configure connection managers when you create a new package, you can use the SQL Server Import and Export Wizard. The wizard also helps you create and configure the sources and destinations that use the connection managers. For more information, see [Create Packages in SQL Server Data Tools](https://msdn.microsoft.com/en-us/library/ms141178.aspx).

To manually create a new connection manager and add it to an existing package, you use the **Connection Managers** area that appears on the**Control Flow**, **Data Flow**, and **Event Handlers** tabs of SSIS Designer. From the **Connection Manager** area, you choose the type of connection manager to create, and then set the properties of the connection manager by using a dialog box that SSIS Designer provides. For more information, see the section, "Using the Connection Managers Area," later in this topic.

After the connection manager is added to a package, you can use it in tasks, Foreach Loop containers, sources, transformations, and destinations. For more information, see [Integration Services Tasks](https://msdn.microsoft.com/en-us/library/ms139892.aspx), [Foreach Loop Container](https://msdn.microsoft.com/en-us/library/ms141724.aspx), and [Data Flow](https://msdn.microsoft.com/en-us/library/ms140080.aspx).

## [Using the Connection Managers Area](javascript:void(0))

You can create connection managers while the **Control Flow**, **Data Flow**, or **Event Handlers** tab of SSIS Designer is active.

The following diagram shows the **Connection Managers** area on the **Control Flow** tab of SSIS Designer.

#### To add, configure, or delete a connection manager in SSIS Designer

* [Add, Delete, or Share a Connection Manager in a Package](https://msdn.microsoft.com/en-us/library/ms140237.aspx)
* [Set the Properties of a Connection Manager](https://msdn.microsoft.com/en-us/library/ms140282.aspx)

## [32-Bit and 64-Bit Providers for Connection Managers](javascript:void(0))

Many of the providers that connection managers use are available in 32-bit and 64-bit versions. The Integration Services design environment is a 32-bit environment and you see only 32-bit providers while you are designing a package. Therefore, you can only configure a connection manager to use a specific 64-bit provider if the 32-bit version of the same provider is also installed.

At run time, the correct version is used, and it does not matter that you specified the 32-bit version of the provider at design time. The 64-bit version of the provider can be run even if the package is run in SQL Server Data Tools (SSDT).

Both versions of the provider have the same ID. To specify whether the Integration Services runtime uses an available 64-bit version of the provider, you set the Run64BitRuntime property of the Integration Services project. If the Run64BitRuntime property is set to **true**, the runtime finds and uses the 64-bit provider; if Run64BitRuntime is **false**, the runtime finds and uses the 32-bit provider. For more information about properties you can set on Integration Services projects, see [Integration Services (SSIS) and Studio Environments](https://msdn.microsoft.com/en-us/library/ms140028.aspx).