**To implement a Lookup transformation in full cache mode in one package by using Cache connection manager and a data source in the data flow**

1. In SQL Server Data Tools (SSDT), open a Integration Services project, and then open a package.
2. On the Control Flow tab, add two Data Flow tasks, and then connect the tasks by using a green connector:
3. In the first data flow, add a Cache Transform transformation, and then connect the transformation to a data source.Configure the data source as needed.
4. Double-click the Cache Transform, and then in the Cache Transformation Editor, on the Connection Manager page, click New to create a new Cache connection manager.
5. Click the Columns tab of the Cache Connection Manager Editor dialog box, and then specify which columns are the index columns by using the Index Position option.

For non-index columns, the index position is 0. For index columns, the index position is a sequential, positive number.

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| **NoteNote** |
| When the Lookup transformation is configured to use a Cache connection manager, only index columns in the reference dataset can be mapped to input columns. Also, all index columns must be mapped. |

1. To save the cache to a file, in the Cache Connection Manager Editor, on the General tab, configure the Cache connection manager by setting the following options:
   * Select Use file cache.
   * For File name, either type the file path or click Browse to select the file.

If you type a path for a file that does not exist, the system creates the file when you run the package.

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| **NoteNote** |
| The protection level of the package does not apply to the cache file. If the cache file contains sensitive information, use an access control list (ACL) to restrict access to the location or folder in which you store the file. You should enable access only to certain accounts.. |

1. Configure the Cache Transform as needed..
2. In the second data flow, add a Lookup transformation, and then configure the transformation by doing the following tasks:
   * Connect the Lookup transformation to the data flow by dragging a connector from a source or a previous transformation to the Lookup transformation.

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| **NoteNote** |
| A Lookup transformation might not validate if that transformation connects to a flat file that contains an empty date field. Whether the transformation validates depends on whether the connection manager for the flat file has been configured to retain null values. To ensure that the Lookup transformation validates, in the Flat File Source Editor, on the Connection Manager Page, select the Retain null values from the source as null values in the data flow option. |

* + Double-click the source or previous transformation to configure the component.
  + Double-click the Lookup transformation, and then in the Lookup Transformation Editor, on the General page, select Full cache.
  + In the Connection type area, select Cache connection manager.
  + From the Specify how to handle rows with no matching entries list, select an error handling option.
  + On the Connection page, from the Cache connection manager list, select a Cache connection manager.
  + Click the Columns page, and then drag at least one column from the Available Input Columns list to a column in the Available Lookup Column list.

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| **NoteNote** |
| The Lookup transformation automatically maps columns that have the same name and the same data type. |
| **NoteNote** |
| Columns must have matching data types to be mapped. |

* + In the Available Lookup Columns list, select columns. Then in the Lookup Operation list, specify whether the values from the lookup columns replace values in the input column or are written to a new column.
  + To configure the error output, click the Error Output page and set the error handling options.
  + Click OK to save your changes to the Lookup transformation.

1. Run the package.

**To implement a Lookup transformation in full cache mode in two packages by using Cache connection manager and a data source in the data flow**

1. In SQL Server Data Tools (SSDT), open a Integration Services project, and then open two packages.
2. On the Control Flow tab in each package, add a Data Flow task.
3. In the parent package, add a Cache Transform transformation to the data flow, and then connect the transformation to a data source.

Configure the data source as needed.

1. Double-click the Cache Transform, and then in the Cache Transformation Editor, on the Connection Manager page, click New to create a new Cache connection manager.
2. In the Cache Connection Manager Editor, on the General tab, configure the Cache connection manager by setting the following options:
   * Select Use file cache.
   * For File name, either type the file path or click Browse to select the file.

If you type a path for a file that does not exist, the system creates the file when you run the package.

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| **NoteNote** |
| The protection level of the package does not apply to the cache file. If the cache file contains sensitive information, use an access control list (ACL) to restrict access to the location or folder in which you store the file. You should enable access only to certain accounts.. |

1. Click the Columns tab, and then specify which columns are the index columns by using the Index Position option.

For non-index columns, the index position is 0. For index columns, the index position is a sequential, positive number.

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| **NoteNote** |
| When the Lookup transformation is configured to use a Cache connection manager, only index columns in the reference dataset can be mapped to input columns. Also, all index columns must be mapped.. |

1. Configure the Cache Transform as needed. For more information, Do one of the following to populate the Cache connection manager that is used in the second package:
   * Run the parent package.
   * Double-click the Cache connection manager you created in step 4, click Columns, select the rows, and then press CTRL+C to copy the column metadata.
2. In the child package, create a Cache connection manager by right-clicking in the Connection Managers area, clicking New Connection, selecting CACHE in the Add SSIS Connection Manager dialog box, and then clicking Add.

The Connection Managers area appears on the bottom of the Control Flow, Data Flow, and Event Handlers tabs of Integration Services Designer.

1. In the Cache Connection Manager Editor, on the General tab, configure the Cache connection manager to read the data from the cache file that you selected by setting the following options:
   * Select Use file cache.
   * For File name, either type the file path or click Browse to select the file.

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| **NoteNote** |
| The protection level of the package does not apply to the cache file. If the cache file contains sensitive information, use an access control list (ACL) to restrict access to the location or folder in which you store the file. You should enable access only to certain accounts. |

1. If you copied the column metadata in step 8, click Columns, select the empty row, and then press CTRL+V to paste the column metadata.
2. Add a Lookup transformation, and then configure the transformation by doing the following:
   * Connect the Lookup transformation to the data flow by dragging a connector from a source or a previous transformation to the Lookup transformation.

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| **NoteNote** |
| A Lookup transformation might not validate if that transformation connects to a flat file that contains an empty date field. Whether the transformation validates depends on whether the connection manager for the flat file has been configured to retain null values. To ensure that the Lookup transformation validates, in the Flat File Source Editor, on the Connection Manager Page, select the Retain null values from the source as null values in the data flow option. |

* + Double-click the source or previous transformation to configure the component.
  + Double-click the Lookup transformation, and then select Full cache on the General page of the Lookup Transformation Editor.
  + Select Cache connection manager in the Connection type area.
  + Select an error handling option for rows without matching entries from the Specify how to handle rows with no matching entries list.
  + On the Connection page, from the Cache connection manager list, select the Cache connection manager that you added.
  + Click the Columns page, and then drag at least one column from the Available Input Columns list to a column in the Available Lookup Column list.

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| **NoteNote** |
| The Lookup transformation automatically maps columns that have the same name and the same data type. |
| **NoteNote** |
| Columns must have matching data types to be mapped. For more information, see [Integration Services Data Types](http://msdn.microsoft.com/en-us/library/ms141036.aspx). |

* + In the Available Lookup Columns list, select columns. Then in the Lookup Operation list, specify whether the values from the lookup columns replace values in the input column or are written to a new column.
  + To configure the error output, click the Error Output page and set the error handling options. Click OK to save your changes to the Lookup transformation.

1. Open the parent package, add an Execute Package task to the control flow, and then configure the task to call the child package..
2. Run the packages.

**To implement a Lookup transformation in full cache mode by using Cache connection manager and an existing cache file**

1. In SQL Server Data Tools (SSDT), open a Integration Services project, and then open a package.
2. Right-click in the Connection Managers area, and then click New Connection.

The Connection Managers area appears on the bottom of the Control Flow, Data Flow, and Event Handlers tabs of Integration Services Designer.

1. In the Add SSIS Connection Manager dialog box, select CACHE, and then click Add to add a Cache connection manager.
2. Double-click the Cache connection manager to open the Cache Connection Manager Editor.
3. In the Cache Connection Manager Editor, on the General tab, configure the Cache connection manager by setting the following options:
   * Select Use file cache.
   * For File name, either type the file path or click Browse to select the file.

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| **NoteNote** |
| The protection level of the package does not apply to the cache file. If the cache file contains sensitive information, use an access control list (ACL) to restrict access to the location or folder in which you store the file. You should enable access only to certain accounts. |

1. Click the Columns tab, and then specify which columns are the index columns by using the Index Position option.

For non-index columns, the index position is 0. For index columns, the index position is a sequential, positive number.

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| **NoteNote** |
| When the Lookup transformation is configured to use a Cache connection manager, only index columns in the reference dataset can be mapped to input columns. Also, all index columns must be mapped.. |

1. On the Control Flow tab, add a Data Flow task to the package, and then add a Lookup transformation to the data flow.
2. Configure the Lookup transformation by doing the following:
   * Connect the Lookup transformation to the data flow by dragging a connector from a source or a previous transformation to the Lookup transformation.

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| **NoteNote** |
| A Lookup transformation might not validate if that transformation connects to a flat file that contains an empty date field. Whether the transformation validates depends on whether the connection manager for the flat file has been configured to retain null values. To ensure that the Lookup transformation validates, in the Flat File Source Editor, on the Connection Manager Page, select the Retain null values from the source as null values in the data flow option. |

* + Double-click the source or previous transformation to configure the component.
  + Double-click the Lookup transformation, and then in the Lookup Transformation Editor, on the General page, select Full cache.
  + Select Cache connection manager in the Connection type area.
  + Select an error handling option for rows without matching entries from the Specify how to handle rows with no matching entries list.
  + On the Connection page, from the Cache connection manager list, select the Cache connection manager that you added.
  + Click the Columns page, and then drag at least one column from the Available Input Columns list to a column in the Available Lookup Column list.

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| **NoteNote** |
| The Lookup transformation automatically maps columns that have the same name and the same data type. |
| **NoteNote** |
| Columns must have matching data types to be mapped. |

* + In the Available Lookup Columns list, select columns. Then in the Lookup Operation list, specify whether the values from the lookup columns replace values in the input column or are written to a new column.
  + To configure the error output, click the Error Output page and set the error handling optionsClick OK to save your changes to the Lookup transformation.

1. Run the package.