[1. Summary 2](#_Toc238538349)

[1.1. Overview 2](#_Toc238538350)

[1.2. Solution Overview 2](#_Toc238538351)

[1.2.1. Solution Prerequisites 2](#_Toc238538352)

[1.2.2. Users 2](#_Toc238538353)

[1.2.3. SharePoint field types and Sql Server data types mapping 2](#_Toc238538354)

[2. Solution Diagram and Architecture 2](#_Toc238538355)

[2.1. Architectural Diagram 2](#_Toc238538356)

[2.2. Platforms 2](#_Toc238538357)

[2.3. Components 3](#_Toc238538358)

[2.4. Connectors 3](#_Toc238538359)

[2.5. Configuration Settings 3](#_Toc238538360)

[3. Installation Guide 3](#_Toc238538361)

[3.1. Installation Steps 3](#_Toc238538362)

[3.2. Un-installation Steps 7](#_Toc238538363)

[3.3. Upgrade Steps 7](#_Toc238538364)

[4. Troubleshooting Guide 7](#_Toc238538365)

[4.1. Monitoring Needs/Steps 7](#_Toc238538366)

[4.2. Troubleshooting Tools 7](#_Toc238538367)

[4.3. Troubleshooting Tips 7](#_Toc238538368)

[4.4. System-Generated Error Messages 7](#_Toc238538369)

[4.5. Limitations 7](#_Toc238538370)

[5. Known Issues 8](#_Toc238538371)

[6. Backup, Recovery, and Cleanup 8](#_Toc238538372)

[Appendix A Document Settings 9](#_Toc238538373)

[Appendix B Review and Sign-off 9](#_Toc238538374)

[Appendix C Glossary/ Definitions 9](#_Toc238538375)

[Appendix D Related Documents/References 9](#_Toc238538376)

[Appendix E Document Change History 10](#_Toc238538377)

1. Summary
   1. Overview

* 1. Solution Overview
     1. Solution Prerequisites
        1. WSS 3.0 & MOSS 2007 & SQL Server 2005
     2. Users
     3. SharePoint field types and Sql Server data types mapping

|  |  |  |
| --- | --- | --- |
| Field Type | Sql Data Type | Description |
| Single line of text | nvarchar(255) |  |
| Multiple lines of text | ntext |  |
| Choice | ntext |  |
| Number | float |  |
| Currency | float |  |
| Date and Time | datetime |  |
| Lookup | ntext |  |
| Yes/No | bit |  |
| Person or Group | ntext |  |
| Hyperlink or Picture | nvarchar(510) |  |
| Calculated | ntext | “Calculated” column is actually read-only column in SharePoint list, so it will be ignored in the stored procedure. |

1. Solution Diagram and Architecture
   1. Architectural Diagram
   2. Platforms
   3. Components

.NET Objects

.NET Web Service

* 1. Connectors
  2. Configuration Settings

1. Installation Guide
   1. Installation Steps
      1. Compile the solution
      2. Copy “SPListWithSQLCLR.dll” and “SPListWithSQLCLR.XmlSerializers.dll” assemblies to one of drive of database server, the rest of steps assume these two assemblies have been copied to “C:\SQLDeploy”.
      3. Open “SQL Server Management Studio” and select the right database where the CLR assemblies will be deployed to.
      4. Execute the following sql command, replace <Database Name> with right database name before executing.

SP\_CONFIGURE 'clr enabled' , 1

GO

reconfigure

GO

Alter database <Database Name> set trustworthy on

GO

IF EXISTS (SELECT \* FROM sys.objects WHERE object\_id = OBJECT\_ID(N'[dbo].[InsertListItems]') AND type in (N'P', N'PC'))

DROP PROCEDURE [dbo].[InsertListItems]

GO

IF EXISTS (SELECT \* FROM sys.objects WHERE object\_id = OBJECT\_ID(N'[dbo].[UpdateListItems]') AND type in (N'P', N'PC'))

DROP PROCEDURE [dbo].[UpdateListItems]

GO

IF EXISTS (SELECT [name] FROM sys.assemblies WHERE [name] = N'SPListWithSQLCLR.XmlSerializers')

DROP ASSEMBLY [SPListWithSQLCLR.XmlSerializers] with NO DEPENDENTS;

GO

IF EXISTS (SELECT [name] FROM sys.assemblies WHERE [name] = N'SPListWithSQLCLR')

DROP ASSEMBLY [SPListWithSQLCLR] with NO DEPENDENTS;

GO

CREATE ASSEMBLY [SPListWithSQLCLR]

FROM ''C:\SQLDeploy\SPListWithSQLCLR.dll'

WITH PERMISSION\_SET = EXTERNAL\_ACCESS;

GO

CREATE ASSEMBLY [SPListWithSQLCLR.XmlSerializers]

FROM ''C:\SQLDeploy\SPListWithSQLCLR.XmlSerializers.dll'

WITH PERMISSION\_SET = SAFE;

GO

ALTER ASSEMBLY [SPListWithSQLCLR] WITH VISIBILITY = ON

GO

CREATE PROCEDURE [dbo].[InsertListItems]

@tableName [nvarchar](255),

@webUrl [nvarchar](4000),

@listName [nvarchar](1000),

@folderPath [nvarchar](4000),

@batchSize [int],

@resultMsg [nvarchar](max) OUTPUT

AS

EXTERNAL NAME [SPListWithSQLCLR].[StoredProcedures].[InsertListItems]

GO

CREATE PROCEDURE [dbo].[UpdateListItems]

@tableName [nvarchar](255),

@webUrl [nvarchar](4000),

@listName [nvarchar](1000),

@keyColumnName [nvarchar](255),

@batchSize [int],

@resultMsg [nvarchar](max) OUTPUT

AS

EXTERNAL NAME [SPListWithSQLCLR].[StoredProcedures].[UpdateListItems]

GO

* + 1. Usage—

**Insert list items**

|  |  |  |  |
| --- | --- | --- | --- |
| Parameter name | Parameter Type | Parameter Direction | Description |
| @tableName | nvarchar(255) | Input |  |
| @webUrl | nvarchar(4000) | Input | Lists.asmx web services entry point. |
| @listName | nvarchar(1000) | Input |  |
| @folderPath | nvarchar(4000) | Input | The folder which list items will be inserted into. It supports hierarchy folder path, for example, ‘Folder1/FolderInFolder1’. If you want to insert items to the root of the list, you can provide a empty value(‘’ or NULL). |
| @batchSize | int | Input | The size of batch inserting/updating to use, the purpose of this parameter is to break a large CAML query into smaller batches to avoid the error "Some part of your SQL statement is nested too deeply. Rewrite the query or break it up into smaller queries". Recommended value is 300. |
| @resultMsg | nvarchar(max) | Output | Operation result message. |
| @return\_value | int | Return Value | 0 – failed  1 – Successful |

Sample –

DECLARE @return\_value int,

@resultMsg nvarchar(max)

EXEC @return\_value = [dbo].[InsertListItems]

@tableName = N'VendorList',

@webUrl = N'http://kevinworkbox:88',

@listName = N'VendorList',

@folderPath = N'F1/F2',

@batchSize = 300,

@resultMsg = @resultMsg OUTPUT

SELECT @resultMsg as N'@resultMsg'

SELECT 'Return Value' = @return\_value

**Update list items**

|  |  |  |  |
| --- | --- | --- | --- |
| Parameter name | Parameter Type | Parameter Direction | Description |
| @tableName | nvarchar(255) | Input |  |
| @webUrl | nvarchar(4000) | Input | Lists.asmx web services entry point. |
| @listName | nvarchar(1000) | Input |  |
| @ keyColumnName | nvarchar(255) | Input | The reference key to do update |
| @batchSize | int | Input | The size of batch inserting/updating to use, the purpose of this parameter is to break a large CAML query into smaller batches to avoid the error "Some part of your SQL statement is nested too deeply. Rewrite the query or break it up into smaller queries". Recommended value is 300. |
| @resultMsg | nvarchar(max) | Output | Operation result message. |
| @return\_value | int | Return Value | 0 – failed  1 – Successful |

Sample –

DECLARE @return\_value int,

@resultMsg nvarchar(max)

EXEC @return\_value = [dbo].[UpdateListItems]

@tableName = N'VendorList',

@webUrl = N'http://kevinworkbox:88',

@listName = N'VendorList',

@keyColumnName = N'VendorID',

@batchSize = 300,

@resultMsg = @resultMsg OUTPUT

SELECT @resultMsg as N'@resultMsg'

SELECT 'Return Value' = @return\_value

* 1. Un-installation Steps
     1. Open “SQL Server Management Studio” and select the right database.
     2. Execute the following sql command.

IF EXISTS (SELECT \* FROM sys.objects WHERE object\_id = OBJECT\_ID(N'[dbo].[UpdateListItems]') AND type in (N'P', N'PC'))

DROP PROCEDURE [dbo].[UpdateListItems]

GO

IF EXISTS (SELECT \* FROM sys.objects WHERE object\_id = OBJECT\_ID(N'[dbo].[InsertListItems]') AND type in (N'P', N'PC'))

DROP PROCEDURE [dbo].[InsertListItems]

GO

IF EXISTS (SELECT \* FROM sys.assemblies asms WHERE asms.name = N'SPListWithSQLCLR.XmlSerializers')

DROP ASSEMBLY [SPListWithSQLCLR.XmlSerializers]

GO

IF EXISTS (SELECT \* FROM sys.assemblies asms WHERE asms.name = N'SPListWithSQLCLR ')

DROP ASSEMBLY [SPListWithSQLCLR]

* 1. Upgrade Steps

1. Troubleshooting Guide
   1. Monitoring Needs/Steps
   2. Troubleshooting Tools
   3. Troubleshooting Tips
   4. System-Generated Error Messages
   5. Limitations
2. Any computer/read only/hidden field type in SharePoint list will be ignored from list schema, for example, “Created By” and “Modified By” columns are read only field in custom list, even they are visible on the UI, they will be ignored in the SqlClr stored procedure. In this case, if you have these kinds of column in table, the stored procedure will consider the schema of table is mismatching with the schema of SharePoint list.
3. Table schema has to match with SharePoint list schema, we consider the schema is match when below three conditions are match —

* Column name
* Column type
* “Allow Nulls” of column

1. “Number” and “Currency” SharePoint field types are considered as “float” data type in table.
2. Cannot change the file name in document type library (Document Library, Form Library, Picture Library and etc.)
3. Known Issues
4. Cannot update check-out files in document type library, if updating on check-out file, it will display "Item does not exist. The page you selected contains an item that does not exist. It may have been deleted by another user" error message.
5. Backup, Recovery, and Cleanup