

# List Migration Tool

## A SharePoint-Healthcare Case Study

### Executive summary

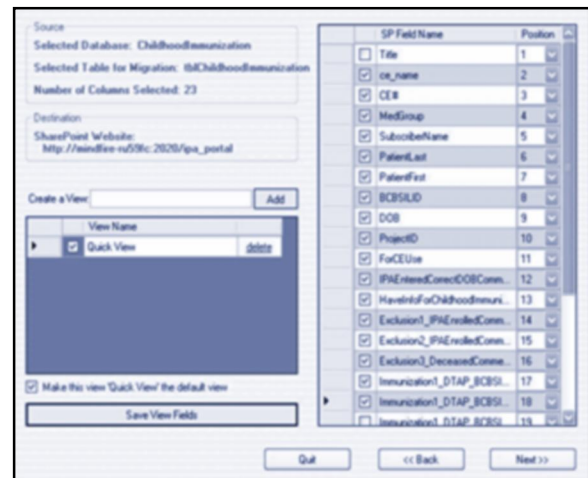
This project involved creation of a tool capable enough for performing migration of data present within SQL external database onto SharePoint lists.

### About our client

**Client** : Software Services and Solutions

**Location** : Chicago, IL, USA

**Industry** : Health Care



### Business situation

The customer used to have different healthcare surveys created through Visual Web GUI forms for which the data was stored within an external SQL database. They had a need to import these patient specific data from SQL tables on to SharePoint lists based on a group name and also at a later stage merge any changes happening within the SQL tables on to the survey specific SharePoint list.

### Solution details

#### What was proposed?

After evaluating various possible options, the development team at Mindfire thought of creating a windows application which will help facilitate the migration process. The idea was to connect to any external database and choose the table which needs to be migrated. Once the table is selected, an interface had to be provided to select the columns, define permissions based on the group name, and another interface to create different views. The process would result in creating a list template based on the columns selected and use that template to replicate the lists based on the group name and then perform the data migration on each of the group-specific lists.

The next job was to find out a way synchronize the data whenever any change happened within the SQL table. For this an SQL CLR Trigger was to be created and attached to the database to look for any

possible changes and then merge the same in the corresponding SharePoint list through SharePoint service calls.

### *Final Results*

#### **Software system**

As planned, a windows application with its corresponding installer was created and handed over to the customer. It helped in the easy installation of the solution within a SharePoint server. The solution comprised of different forms for carrying out data migration operations for which the details are provided below.

#### **Database Connection Form**

This form is used to connect to a specific external SQL database and then select the table whose data needs to be migrated.

#### **Map Column Form**

This form takes the URL of the SharePoint site to which the data needs to be migrated and then populates the columns of the selected table from the database. One can then choose the columns which need to be migrated and the form has the intelligence to select the corresponding SharePoint data-type for the selected columns. Additionally, it provides options for modifying the default data-type of the columns in SharePoint list along with renaming the column from what is otherwise there in the database.

#### **Create View Form**

This form allows creation of custom views by selecting the fields which need to appear within each. While creating the view, it also provides an option to order the fields and set one of the views as default.

#### **Settings Form**

This form allows providing the template name which drives creation of lists based on the group field. Also, one can define the list level and group level permissions here.

#### **Summary Form**

Here the complete overview of all the selections and settings is presented to the users. They can verify everything within this form and accordingly decide to proceed with migration or step back to define any other changes.

#### **Migration Form**

This is the final form which runs the migration process and helps visualize the progress & status of each step associated with the migration.

Screenshots

The 'SQL Connection' form is used to establish a connection to a SQL Server. It includes fields for 'Server Name', 'Authentication' (set to 'SQL Server Authentication'), 'Login' (set to 'sa'), and 'Password'. Below these are options to 'Select Database and Table' (ChildhoodImmunization) and to 'Choose Migration Type' (Fresh Migration or Re-Migration).

Database Connection Form

The 'Map Column' form displays a table of columns from the source database. The columns are mapped to SharePoint list fields. The table below shows the mapping:

DB Column Name	Data Type	Is Null	SP Field Type	SP Field Display Name
id	int(4)	False	Single Line Text	Title
ce_name	varchar(50)	True		
CE#	varchar(50)	True		
MedGroup	varchar(50)	True		
SubgroupName	varchar(50)	True		
PatientLast	varchar(50)	True		
PatientFirst	varchar(50)	True		
BCRSLD	bigint(8)	True		
DOB	datetime(8)	True		
ProjectID	int(4)	True		
FaxCEline	varchar(400)	True		
BCRSLDContact	smallint(2)	True		
IPHEnterCommsCOB	datetime(8)	True		
IPHEnterCommsCOBQC	smallint(2)	True		
IPHEnterCommsCOBComm	varchar(400)	True		
HaveHeldFuChildhoodImmuni	smallint(2)	True		
HaveHeldFuChildhoodImmuni	smallint(2)	True		
HaveHeldFuChildhoodImmuni	varchar(400)	True		

Map Column Form

The 'Create View' form allows users to create a new view for the migration. It shows the source database and table, and a list of selected columns. The columns are mapped to positions in the view. The table below shows the column positions:

SP Field Name	Position
Title	1
ce_name	2
CE#	3
MedGroup	4
SubgroupName	5
PatientLast	6
PatientFirst	7
BCRSLD	8
DOB	9
ProjectID	10
FaxCEline	11
IPHEnterCommsCOBComm	12
HaveHeldFuChildhoodImmuni	13
Exclusion1_IPHEnterComms	14
Exclusion2_IPHEnterComms	15
Exclusion3_DeceasedComms	16
Immunization1_DTAP_BCRSL	17
Immunization1_DTAP_BCRSL	18
Immunization1_DTAP_BCRSL	19

Create View Form

The 'Settings' form is used to configure the migration template. It includes fields for 'Migration Template Name' (ChildhoodImmunization), 'List Permission(s)', and 'Provide CE Group Permission' (Yes/No). The 'Permission Level' is set to 'Kludge'.

Settings Form

**Migration Summary**

Migration Source: Selected Database: REV2\_PPD\_Pharyngitis\_2010  
 Selected Table: tblPharyngitis

Migration Destination: SharePoint Website: http://hccsc.bcbskcaaccess.com/psac  
 Migration Template Name: Pharyngitis\_2010  
 # of CE specific Lists (to be created): 411

Database Column	Sharepoint Field
ID - int(4)	Title - Single Line Text
BillgNumber - varchar(50)	BillgNumber - Single Line Text
NPINumber - varchar(50)	NPINumber - Single Line Text
ProviderName - varchar(50)	ProviderName - Single Line Text
PatientLast - varchar(255)	PatientLast - Single Line Text
PatientFirst - varchar(255)	PatientFirst - Single Line Text
ICD9LD - varchar(255)	ICD9LD - Single Line Text
DOB - datetime(8)	DOB - Single Line Text
ViewResponse - bit	ViewResponse - Link

Sharepoint List View(s):

SP View Name	# of Fields
Quick View	4

Default View: Quick View

Permissions: List permissions: Team Site Owners - Full Control

Include CE group permission: Yes  
 CE group permission level: Khdgje

Buttons: Quit, << Back, Next >>

**Summary Form**

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**Migration Form**

*Technologies*

WSS 3.0, MOSS 2007, SharePoint 2010, C#.Net 3.5

*Customer benefits*

The level of automation achieved through this tool helped the customer in streamlining the migration process and migrate huge amount of data on to SharePoint with ease.

*Future relationship*

Since this tool was a huge success, the client decided to create a few more, related to automating their internal processes, with us.