SAP® Legacy System Migration Workbench (LSMW)

Antje Kunz
Content

1 Introduction 7

2 Overview of the Legacy System Migration Workbench (LSMW) 11

2.1 Areas of Application 11
2.2 System Prerequisites and Authorizations 13
2.3 Starting LSMW 15
2.4 The LSMW Initial Screen 16
2.5 Creating a Project 17
2.6 Buttons and Central Functions 19

3 Data Migration 23

3.1 LSMW Main Menu 24
3.1.1 Execute 25
3.1.2 User Menu 25
3.1.3 Numbering On/Off 26
3.1.4 Double-Click = Display/Change 27
3.1.5 Object Overview 27
3.1.6 Action Log 27
3.2 Maintaining Object Attributes 28
3.3 Maintaining Source Structures 33
3.4 Maintaining Source Fields 35
3.5 Maintaining Structure Relationships 39
3.6 Maintaining Field Mapping and Conversion Rules 42
3.7 Maintaining Fixed Values, Translations, and User-Defined Routines 56
3.8 Specifying Files 62
3.9 Assigning Files 68
3.10 Importing Files 69
3.11 Displaying Imported Data 71
3.12 Converting Data 72
3.13 Displaying Converted Data 74
3.14 Creating Batch Input Sessions 76
3.15 Processing Batch Input Sessions 79
3.16 Object Overview 83

4 Recordings 87
4.1 Creating Recordings 88
4.2 Using the Recording Import Technology in the LSMW 97

5 LSMW Using BAPI and IDoc Import Technology 107
5.1 General Definitions 108
5.2 Basic Settings for Using BAPIs and IDocs 109
5.3 Creating Orders Using the BAPI Technology 114

6 Long Texts 127
6.1 Long Texts in SAP 127
6.2 LSMW Objects for Long Texts 129
6.3 Long Texts — Source Structures, Source Fields, Structure Relationships 132
6.4 Long Text — Field Mapping 133
6.5 Final Process Steps for Transferring Long Texts 136

7 Transporting Projects 139
7.1 Transport via Change Request 139
7.2 Exporting Projects 140
7.3 Importing Projects 141
8 Additional Information 143
  8.1 Periodic Data Transfer 143
  8.2 Global Functions and Variables 147
  8.3 Display Variants and Processing Times 149
  8.4 Suppressing Data Records 152
  8.5 Creating Additional Data Records 153

9 Closing Words 157
A The Author 160
B Index 161
C Disclaimer 166

More books from Espresso Tutorials 165
2  Overview of the Legacy System Migration Workbench (LSMW)

In this chapter, you will learn about the areas of application for LSMW and what exactly Legacy System Migration Workbench means. You will also learn about the support this tool offers and what its core functions are.

The Legacy System Migration Workbench (LSMW) is part of the SAP system and has been included in the standard SAP system since Basis Release ERP 6.0. You can use this integrated development environment to migrate external data (from non-SAP systems) and to perform mass updates within existing SAP systems.

LSMW is a cross-application (CA) component of the SAP system. Its use is not specific to any platform, and it has interfaces to the Data Transfer Center, to batch input (BTCI), and direct input processing, as well as to the standard interfaces BAPI and IDoc.

From a historical perspective, the LSM Workbench is based on the standard tool for migration from SAP R/2 to SAP R/3.

2.1  Areas of Application

You can use the LSM Workbench to migrate both simple and complex data, referred to in the SAP context as source structures.
The advantages of the LSM Workbench are particularly beneficial if you want to migrate legacy data whose structures are very different to the structures in SAP, meaning that you have to convert data.

However, the LSM Workbench is not only useful for migrations and new implementations; it can also be very helpful in a live SAP system. The technology is particularly useful if you want to make changes to user-specific fields but cannot perform these changes using the mass change transactions (e.g., MASS, XD99, XK99).

The LSM Workbench is used to migrate external data to SAP, that is, from legacy systems to R/3. You can perform this data transfer as a one-time transfer or at recurring periodic intervals. Within the LSMW tool, you can also convert data.

The following SAP standard methods are available for importing external or legacy data to SAP using LSMW:

- Batch input
- Direct input
- IDocs
- BAPIs

We will look at the individual functions in more detail in Chapters 4 to 6 with extensive examples.

The sequence of the data migration using LSMW, starting from importing one or more files up to transfer into the SAP system, is shown in figure 2.1. The core functions of the LSM Workbench are:
► Read in data from the legacy system
► Convert data into SAP format
► Import data into the SAP database

Figure 2.1: Central functions of LSMW

2.2 System Prerequisites and Authorizations

The system prerequisite for using the LSM Workbench is SAP Basis Release 4.0 or higher. However, LSMW is not included in the standard SAP delivery scope until Basis Release 6.20, meaning R/3 Enterprise, ERP 2004, ECC 6.0, and higher versions. If you want to use LSMW in an older release, you have to install this SAP functionality first via a transport request. You can download this free of charge from SAP Service Marketplace (https://service.sap.com/lsmw).
The logistical prerequisite for successful data migration with LSMW is completion of the Customizing in the target SAP system. It must be possible to process the relevant transactions manually without any errors: this means that you can only use LSMW when you have installed the SAP system and completed the application Customizing.

To determine which fields have to be filled in the target system, you should first run the processes that you want to migrate data for with test data from the legacy system. This will indicate quickly whether data from the legacy system can be delivered for all SAP required fields. If this is not the case, you should consult users from the corresponding specialist departments to agree on a standard value to be defined in LSMW.

Before starting the LSMW work, it is important to be clear about which fields are to be transferred 1:1 from the legacy system, which fields require translation, and where you will have to program conversion logic. You should document these analyses in writing so that you can refer to them at any time during the migration project.

As you can use the LSMW to change and/or supplement the data in SAP, an authorization concept is defined for checking access authorization. This means that to use the LSM Workbench, special authorizations are required, and these are subdivided into the following four profiles (see Table 2.1):
## 2.3 Starting LSMW

You start the Legacy System Migration Workbench by calling up SAP transaction LSMW. This is not a transaction that is already defined in the SAP menu. Via the menu path **Favorites • Insert Transaction**, add transaction LSMW to your favorites (see Figure 2.2).

![Figure 2.2: Adding favorites 1](image)

### Table 2.1: Authorization profiles in LSMW

<table>
<thead>
<tr>
<th>Authorization level</th>
<th>Profile</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>Display</td>
<td>B_LSMW_ SHOW</td>
<td>The user can display all projects together with their process steps. He cannot switch to change mode.</td>
</tr>
<tr>
<td>Execute</td>
<td>B_LSMW_ EXEC</td>
<td>The user can display, read in, convert, and import data.</td>
</tr>
<tr>
<td>Change</td>
<td>B_LSMW_ CHG</td>
<td>The user has “Execute” authorization and can thus change and copy objects.</td>
</tr>
<tr>
<td>Administration</td>
<td>B_LSMW_ ALL</td>
<td>The user can use all of the functions that the tool provides.</td>
</tr>
</tbody>
</table>

Figure 2.2: Adding favorites 1
# Index

## A
- ABAP 30, 136
- ABAP code 50, 62, 148, 150
- ABAP instruction 153
- ABAP subroutines 152
- Action log 27
- Administration 21
- Authorization concept 14
- Automatic value collector 61

## B
- BAPI 11, 12, 48, 49, 107, 108, 116
- BAPI Explorer 116
- BAPI import technology 114
- BAPI method 117
- Batch input 11, 12, 29, 32, 42, 77, 79, 80, 82
- BTCI 11, 79, 102
- BTCI session 102, 104
- Business Application Programming Interface 108
- Business Framework 108
- Business method 115
- Business object 115

## C
- Change log 22, 27
- Change mode 28
- Code 150, 151, 152
- Concatenation 50
- Control record 42
- Conversion rules 42
- Customizing 14

## D
- Data conversion 12
- Data conversion file 62
- Data Dictionary 41, 46
- Data migration 12
- Data migration object 16
- Data transfer 29
- Data Transfer Center 11
- Direct input 11, 12, 29, 32, 42, 48, 49
- Display variant 149
- Dynpro 81

## E
- Existing system 29
<table>
<thead>
<tr>
<th><strong>F</strong></th>
<th><strong>L</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Field mapping 42, 44, 48, 134, 152</td>
<td>Legacy data 64</td>
</tr>
<tr>
<td>File port 110</td>
<td>Legacy file 104</td>
</tr>
<tr>
<td>Fixed value 21, 27</td>
<td>Legacy system 12, 29</td>
</tr>
<tr>
<td>Flag file 146</td>
<td>Legacy System Migration Workbench 15</td>
</tr>
<tr>
<td>Form routine 153</td>
<td>Long text 127</td>
</tr>
<tr>
<td>Framework program 144</td>
<td>LSMW 11</td>
</tr>
<tr>
<td><strong>G</strong></td>
<td><strong>L</strong></td>
</tr>
<tr>
<td>Global data definitions 151</td>
<td>LSMW administration area 22</td>
</tr>
<tr>
<td>Global functions 147</td>
<td>LSMW initial screen 16, 19</td>
</tr>
<tr>
<td>Global variables 147, 148</td>
<td>LSMW main menu 33</td>
</tr>
<tr>
<td><strong>I</strong></td>
<td><strong>L</strong></td>
</tr>
<tr>
<td>IDoc 11, 12, 32, 48, 49, 107, 108, 124</td>
<td>LSM Workbench 11, 12, 16, 24</td>
</tr>
<tr>
<td>Import method 28, 29, 31, 87</td>
<td>LSMW user guidance 24</td>
</tr>
<tr>
<td>Import project 141</td>
<td><strong>M</strong></td>
</tr>
<tr>
<td>Import technology 31, 32, 39, 107</td>
<td>MASS 12</td>
</tr>
<tr>
<td>Initial fields 150</td>
<td>Mass change transaction 12</td>
</tr>
<tr>
<td>Intermediate document 108</td>
<td>Mass update 11</td>
</tr>
<tr>
<td><strong>K</strong></td>
<td><strong>M</strong></td>
</tr>
<tr>
<td>Key field 38</td>
<td>Migration 12, 23</td>
</tr>
<tr>
<td><strong>L</strong></td>
<td><strong>O</strong></td>
</tr>
<tr>
<td>Legacy data 64</td>
<td>Object type 28</td>
</tr>
<tr>
<td>Legacy file 104</td>
<td>OK code 81, 104</td>
</tr>
<tr>
<td>Legacy system 12, 29</td>
<td><strong>N</strong></td>
</tr>
<tr>
<td>Legacy System Migration Workbench 15</td>
<td>New implementation 12</td>
</tr>
<tr>
<td>Long text 127</td>
<td><strong>O</strong></td>
</tr>
<tr>
<td>LSMW 11</td>
<td>Object type 28</td>
</tr>
<tr>
<td>LSMW administration area 22</td>
<td>OK code 81, 104</td>
</tr>
<tr>
<td>LSMW initial screen 16, 19</td>
<td><strong>O</strong></td>
</tr>
<tr>
<td>LSMW main menu 33</td>
<td><strong>O</strong></td>
</tr>
<tr>
<td>LSM Workbench 11, 12, 16, 24</td>
<td><strong>O</strong></td>
</tr>
<tr>
<td>LSMW user guidance 24</td>
<td><strong>O</strong></td>
</tr>
<tr>
<td><strong>M</strong></td>
<td><strong>N</strong></td>
</tr>
<tr>
<td>MASS 12</td>
<td>New implementation 12</td>
</tr>
<tr>
<td>Mass change transaction 12</td>
<td><strong>O</strong></td>
</tr>
<tr>
<td>Mass update 11</td>
<td>Object type 28</td>
</tr>
<tr>
<td>Migration 12, 23</td>
<td>OK code 81, 104</td>
</tr>
<tr>
<td>Migration object 17</td>
<td><strong>O</strong></td>
</tr>
<tr>
<td>Migration project 17, 24</td>
<td><strong>O</strong></td>
</tr>
<tr>
<td>Migration test 37</td>
<td><strong>O</strong></td>
</tr>
<tr>
<td><strong>N</strong></td>
<td><strong>O</strong></td>
</tr>
<tr>
<td>New implementation 12</td>
<td><strong>O</strong></td>
</tr>
</tbody>
</table>
P
Partner number 112
Partner status 112
Partner type 112
Periodic data transfer 143
Port 110
Prefix 49
Processing time 149, 151
Project name 17

R
Recording 48, 87, 88, 90, 95, 98
Recording technology 32
Reusable rules 21, 27

S
SAP required field 14
SAP standard method 12
SAP Transport Management 139
Screen 93
Selection parameter 73
Source field 35, 37, 38, 44, 45, 50, 69, 73
Source record 153
Source structure 11, 33, 35, 38, 65, 83, 99
Source system 23
Standard batch 48
Standard interface 32
Structure relationship 39, 40, 41, 83
Suffix 49

T
Target field 44, 46, 48
Target structure 39, 83
Technical fields 150
Text header 134
Text line 134
Text pool 127
Transaction 14, 15, 32, 78, 90, 93, 97, 102, 114, 115, 126, 144
Transfer rule 44, 45
Translation 14, 21, 27, 49, 58, 59, 60, 61
Translation rules 58

U
User-defined routine 50
User ID 102
User menu 25
User-specific fields 12

W
Welcome screen 16
Wildcard 67, 73

X
XD99 12
X FIELD 50
XK99 12