

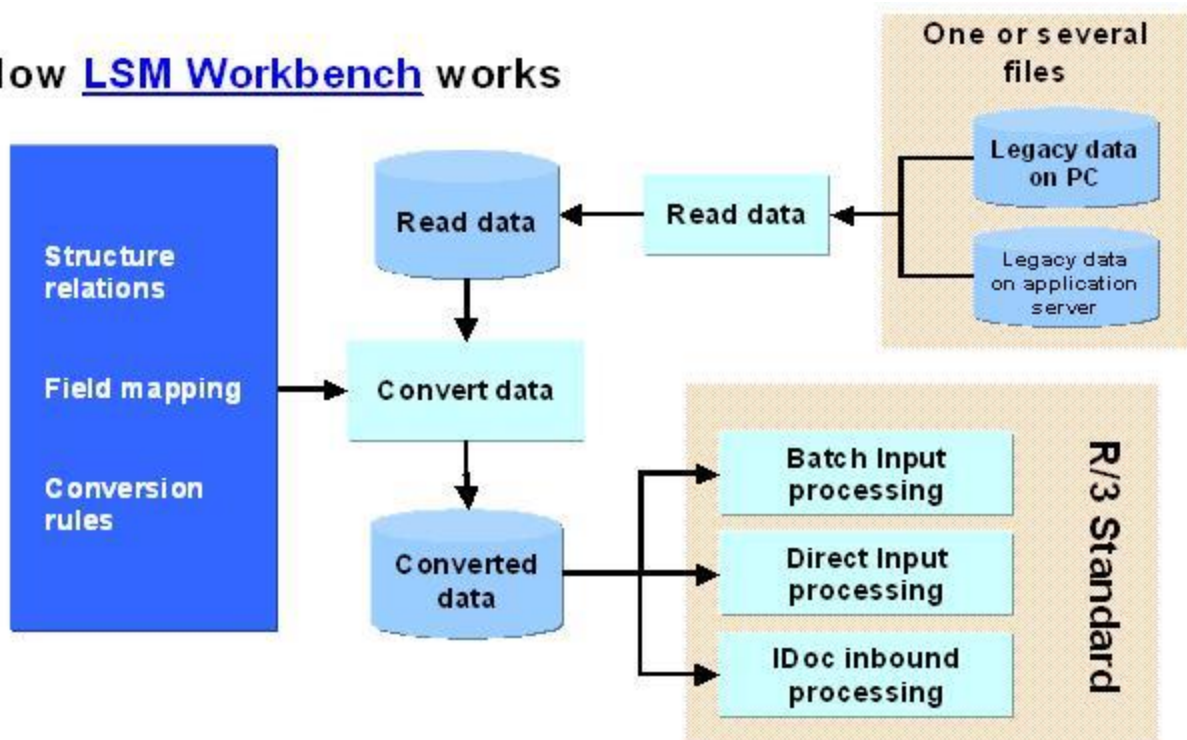
LEGACY SYSTEM MIGRATION WORKBENCH

The LSMW Workbench is an tool that **supports the transfer of data from non-SAP systems ("Legacy Systems") to SAP R/3 systems**. This can be a one-time transfer as well as a periodic one.

LSMW also supports **conversion of data** of the legacy system in numerous way. The data can then be imported into the SAP R/3 system via **batch input, direct input, BAPIs or IDocs**.

Furthermore, the LSM Workbench provides a recording function that allows generating a "**data migration object**" to enable migration from any required transaction.

How LSM Workbench works

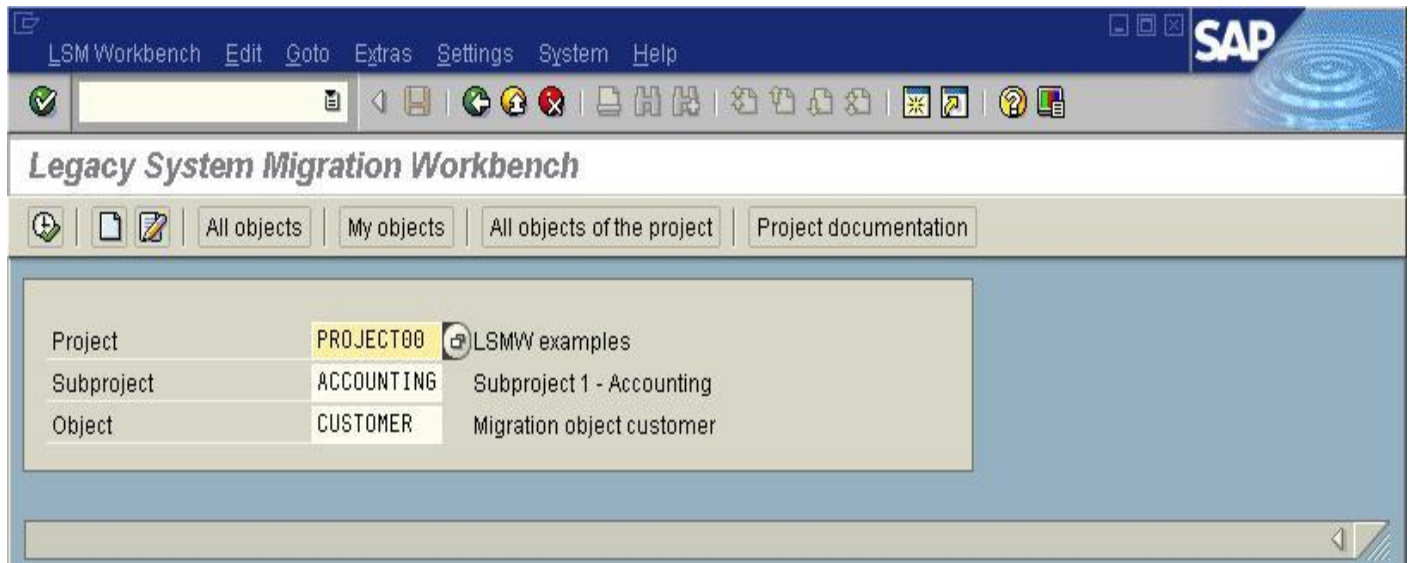


LSMW can be used for following **3 functions** -

The main functions of the LSM Workbench are:

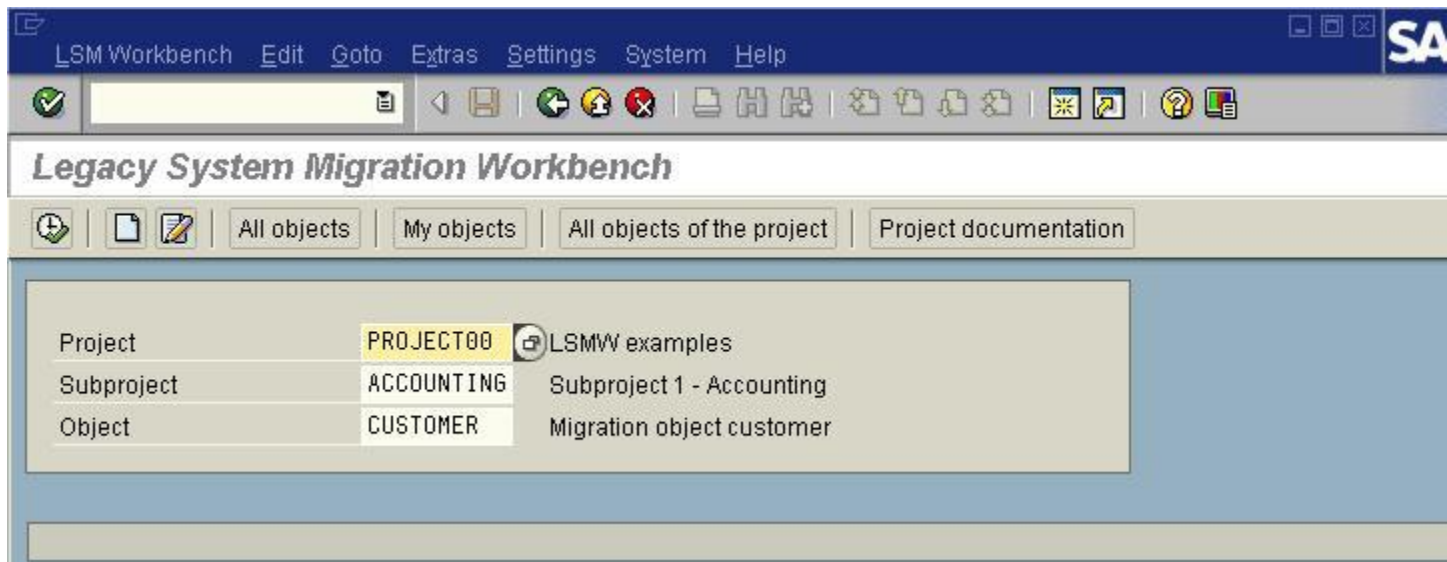
1. **Import data** (legacy data in spreadsheet tables and/or sequential files)
2. **Convert data** (from source format to target format)
3. **Import data** (into the database of the R/3 application)

To start the LSMW workbench use transaction **LSMW**



How to Migrate Data using LSMW

Enter Transaction **LSMW** in SAP ,to start the workbench.



LSMW workbench shows the following information-

- **Project** : An ID with a maximum of 10 characters to name your data transfer project. If you want to transfer data from several legacy systems, you may create a project e.g. for every legacy system.
 - **Subproject**: An ID with a maximum of 10 characters that is used as a further structuring attribute.
 - **Object** : An ID with a maximum of 10 characters to name the business object.
- Enter Project ID , Subproject ID , Object ID. Click Execute The next screen gives the **STEPS** in your LSMW data Migration

LSM Workbench: ALU US TAX CODE, TAXCODE, TAXCODE: taxcode



User Menu Numbering Off Double Click=Display Object Overview Action Log

Process Step	Last Action (Date, Time, User)
<input checked="" type="radio"/> Maintain Object Attributes	
<input type="radio"/> Maintain Source Structures	
<input type="radio"/> Maintain Source Fields	
<input type="radio"/> Maintain Structure Relations	
<input type="radio"/> Maintain Field Mapping and Conversion Rules	
<input type="radio"/> Maintain Fixed Values, Translations, User-Defined Routines	
<input type="radio"/> Specify Files	
<input type="radio"/> Assign Files	
<input type="radio"/> Read Data	
<input type="radio"/> Display Read Data	
<input type="radio"/> Convert Data	
<input type="radio"/> Display Converted Data	
<input type="radio"/> Create Batch Input Session	
<input type="radio"/> Run Batch Input Session	
<input type="radio"/> Start Direct Input Program	
<input type="radio"/> Start IDoc Generation	
<input type="radio"/> Start IDoc Processing	
<input type="radio"/> Create IDoc Overview	
<input type="radio"/> Start IDoc Follow-Up	
<input type="radio"/> Frame Program for Periodic Data Transfer	

You can select a desired step and click execute. Lets look into each step in details

Step 1- Maintain Object Attributes.

LSM Workbench: Change object attributes


 

Attributes

Object	CUSTOMERS	Customer master (BI)
Owner	OHLIGER	OHLIGER
Data transfer	<input checked="" type="radio"/> once	<input type="radio"/> periodic
File names	<input type="checkbox"/> system dependent	

Object type and import technique

Standard Batch/Direct Input

Object	0050	Customer master
Method	0000	
Program name	RFBIDE00	
Program type	B	Batch input

Batch Input Recording

Recording

Business Object Method (BAPI)

Business object

Method

Message type



Basic type

IDoc (Intermediate Document)

Message type

Basic type

Enhancement

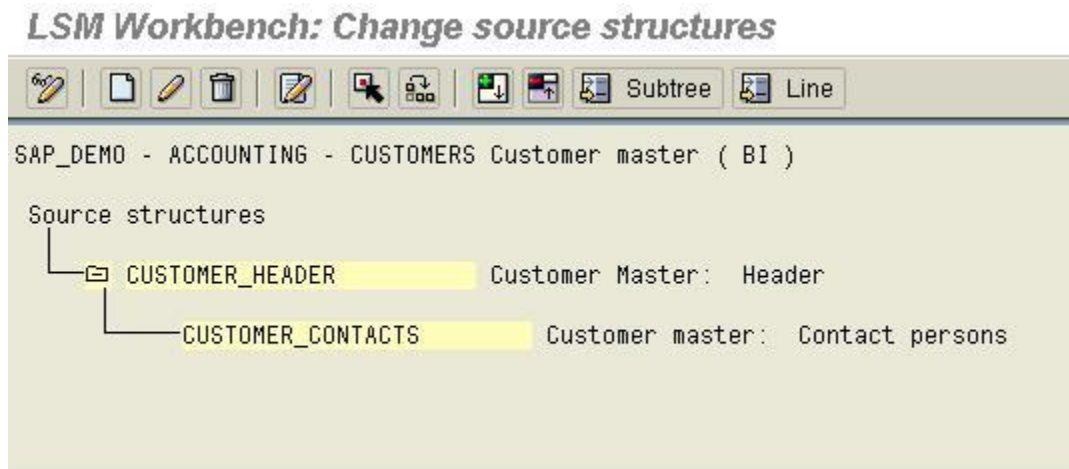
 

There are **four Modes of Data Transfer** :

1. **Standard/ Batch Input** : Standard upload Programs
2. **Batch Input Recording** : Here you can create a recording of your own and use it to upload / change data
3. **BAPIs** : Standard BAPIs are used to upload Data
4. **IDOCs** : Any Inbound IDOC function modules can be used to process the data

Based on the requirement we try to find a suitable method to be processed. If it is a standard Master we can find it in the first method, Otherwise we try to use BAPIs or Idocs. If the requirement is a very custom one we use a recording to process the data.

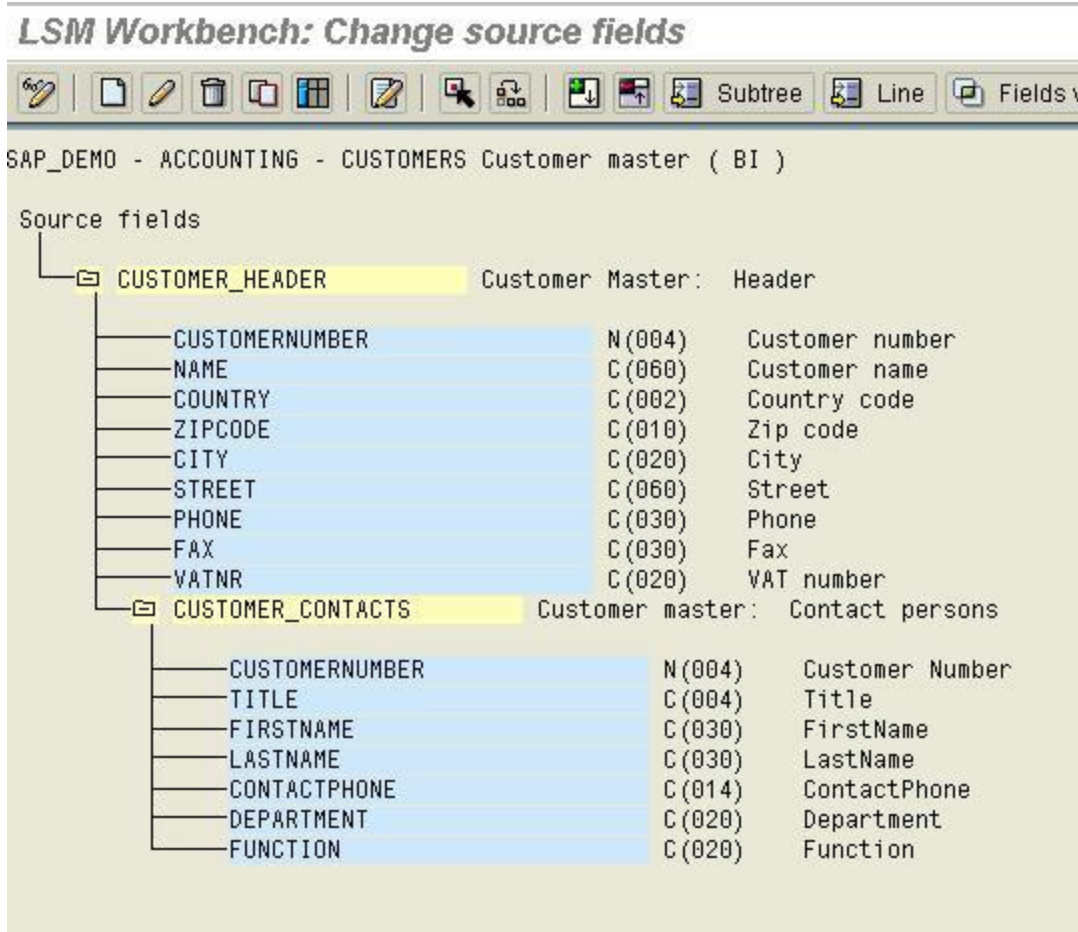
Step 2 - Maintain Source Structures



The source structures can be used to design the hierarchy of the files to be uploaded.

Step 3- Maintain Source Fields

In this screen, the Fields which will be uploaded from the text file can be maintained here. The fields with identical names are taken as the Key



Source Filed is used to identify whether a certain record should go to the specified structure. Eg : Suppose a file contains header rows and item rows, we can specify the first field as the indicator say 'H' for header and 'I' for Item. Thus when the file is being read, it checks the first field, if it is 'H' then it is read into the Header source structure else it is written to the item source structure.

The Source fields can be easily maintained in the form of a table maintenance.

Step 4 - Maintain Structure Relationships

The Structures which are needed for the processing of the data need to be assigned here. The Object may contain many structures and many source structures. The Mapping between the source and the target structures should be done after careful checking.

LSM Workbench: Change structure relations

SAP_DEMO - ACCOUNTING - CUSTOMERS Customer master (BI)

Structure relations

BGR00	Batch Input Structure for Session Data The target structure BGR00 must be selected.	<<<< CUSTOMER_HEADER Customer Master: Header
BKN00	Customer Master Record Transaction Data for Batch Input The target structure BKN00 must be selected.	<<<< CUSTOMER_HEADER Customer Master: Header
BKNA1	General Customer Master Record Part 1 (Batch Input) The target structure BKNA1 must be selected.	<<<< CUSTOMER_HEADER Customer Master: Header
BKNB1	Customer Master Record Company Code Data (Batch Input)	<<<< CUSTOMER_HEADER Customer Master: Header
BKNBK	Customer Master Record Bank Data (Batch Input Structure)	
BKNVA	Customer master unloading points (batch input structure)	
BKNVK	Debitor Master Contact Person (Batch Input Structure)	<<<< CUSTOMER_CONTACTS Customer master: Cor
BKNB5	Customer Dunning Data (Batch Input Structure)	
BKNZA	Customer Master Record Altern.Payer (Batch Input Structure)	
BKNKA	Customer credit limit: Across control areas (batch input)	
BKNKK	Customer credit limit control area data (batch input)	
BKNVV	Customer master sales data (batch input structure)	
BKNVD	Customer master output (batch input structure)	
BKNVI	Customer master tax (batch input structure)	
BKNVL	Customer master licenses (batch input structure)	
BKNVP	Customer Master Partner Functions (Batch Input Structure)	
BKNAT	Cust. master record: Tax categories (batch input structure)	
BKNEX	Customer Master: Export Control Data (Batch-Input-Structure)	
BKNBW	Customer master record w/tax types (batch input structure)	
BIADDR2	BI Structure for Consumers	
BWRF4	Departments	
BWRF12	Receiving points	

Step 5- Maintain Field Mapping and Conversion Rules

In this step, you assign source fields to target fields and define how the field contents will be converted.

LSM Workbench: Change Fieldmapping and Conversion Rules

SAP_DEMO - ACCOUNTING - CUSTOMERS Customer master (BI)

Fieldmapping and conversion ru

- BGR00 Batch Input Structure for Session Data
 - Fields
 - BKN00 Customer Master Record Transaction Data for Batch Input
 - Fields
 - TCODE Transaction code
 - Rule : Constant
 - Coding: BKN00-TCODE = 'XD01'.
 - KUNNR Customer number
 - Source: CUSTOMER_HEADER-CUSTOMERNUMBER (Customer number)
 - Rule : Prefix
 - Coding: concatenate 'C_'
CUSTOMER_HEADER-CUSTOMERNUMBER
into BKN00-KUNNR.
 - BUKRS Company code
 - Rule : Fixed value (reusable)
 - Coding: BKN00-BUKRS = FV_BUKRS.
 - VKORG Sales organization
 - Rule : Constant
 - Coding: BKN00-VKORG = '0001'.
 - VTWEG Distribution channel
 - SPART Division
 - KTOKD Customer Account Group
 - Rule : Constant
 - Coding: BKN00-KTOKD = 'KUNA'.
 - KKBER Credit control area
 - BKNA1 General Customer Master Record Part 1 (Batch Input)

All fields of all target structures, which you selected in the previous step, will be displayed. For each target field the following information is displayed:

- Field description
- Assigned source fields (if any)
- Rule type (fixed value, translation etc.)
- Coding.

Note: Some fields are preset by the system. These fields are called "technical fields" are marked with "Default setting". The coding for these fields is not displayed when first entering the fieldmapping; it can be displayed via the display variant. Changing the default setting may seriously affect the flow of the data conversion. If you erroneously changed the default setting, you can restore it by choosing Extras -> Restore default.

Step 6- Maintain Fixed Values, Translations and User-written Routines

Here the 3 reusable functions are maintained :

1. **Fixed Values** : Fixed values are values which are fixed across the project eg : Company Code. We can assign a fixed value to BUKRS and this fixed value can be used in all the objects in this project. So if the value changes we can only change at one place i.e. in the fixed values instead of changing in each and every object.
2. **Translations** : Here you can maintain the fixed translation for any legacy field and the translation can be assigned to the field in Field Mapping and Conversion Rules. Translation can be 1:1 or many : 1 etc.
3. **User Defined Routines** : These are user defined subroutines that are used in the object for processing the data.

All the Three functions mentioned above are reusable Rules which are valid for all objects in one Project.

LSM Workbench: Fixedvalue, translation, individual routines

Reusable rules

PROJECT00 LSMW examples 07.07.1999 OHLIGER

- Fixed values
 - BUKRS Company code
 - VKORG Sales Organization
 - VSBED shipment condition
 - VTWEG distribution channel
 - XFELD Yes/No Field
- Translations
 - ABTNR Department classification
 - BKLAS valuation class
 - BUKRS Company code
 - LAND1 country key
 - MATKL material group
 - MBRSH industry key
 - MEINS Units of measurement of various types
 - MRPCONTR MRP controller
 - MRPTYPE MRPTYPE
 - PAFKT Contact person function
 - SPRAS Language indicator
- User-defined routines
 - ACCOUNT
 - MGVBR_BI Korrigierter Gesamtverbrauch

Step7- Specify Files

Here we define the Files that we use to upload the data. The File can be on the Front end or in the application server.

LSM Workbench: Specify files (Change)

SAP_DEMO - ACCOUNTING - CUSTOMERS Customer master (BI)

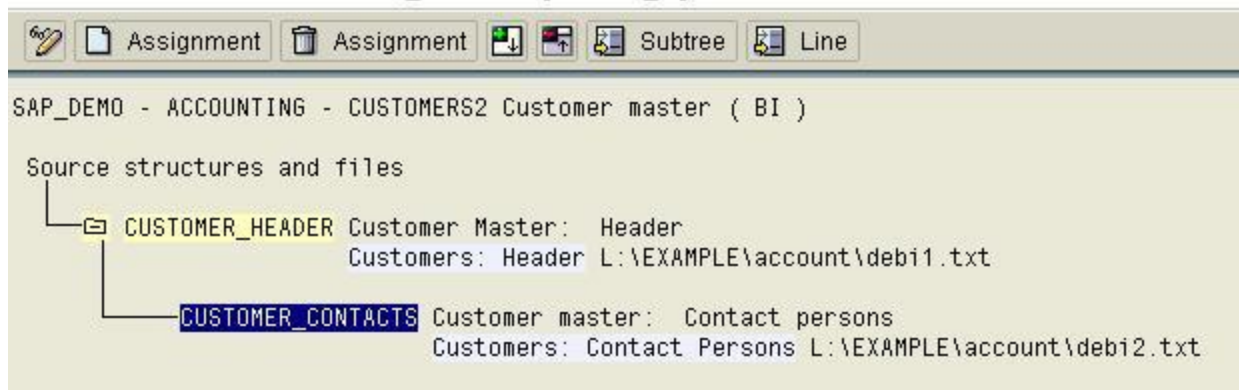
Files

- Legacy data On the PC (frontend)
 - Customers: Contact Persons L:\EXAMPLE\account\debi2.txt
Data for one source structure (table)
Delimiter tabulator
Field names at the beginning of the file
Order of fields as in source structure definition
With end of record sequence (text file)
Code page ASCII
 - Customers: Header L:\EXAMPLE\account\debi1.txt
Data for one source structure (table)
Delimiter tabulator
Field names at the beginning of the file
Order of fields as in source structure definition
With end of record sequence (text file)
Code page ASCII
- Legacy data On the R/3 server (application server)
 - Read Data File for read data (application server)
 - Read Data /tmp/SAP_DEMO_ACCOUNTING_CUSTOMERS.lsmw.read
 - Converted Data File for converted data (application server)
 - Converted Data /tmp/SAP_DEMO_ACCOUNTING_CUSTOMERS.lsmw.conv
- Values for wildcard Values for wildcard '*' in file names

Step 8- Assign Files

Here we define which file we are going to use for current upload i.e. whether the file is on Presentation server or application server.

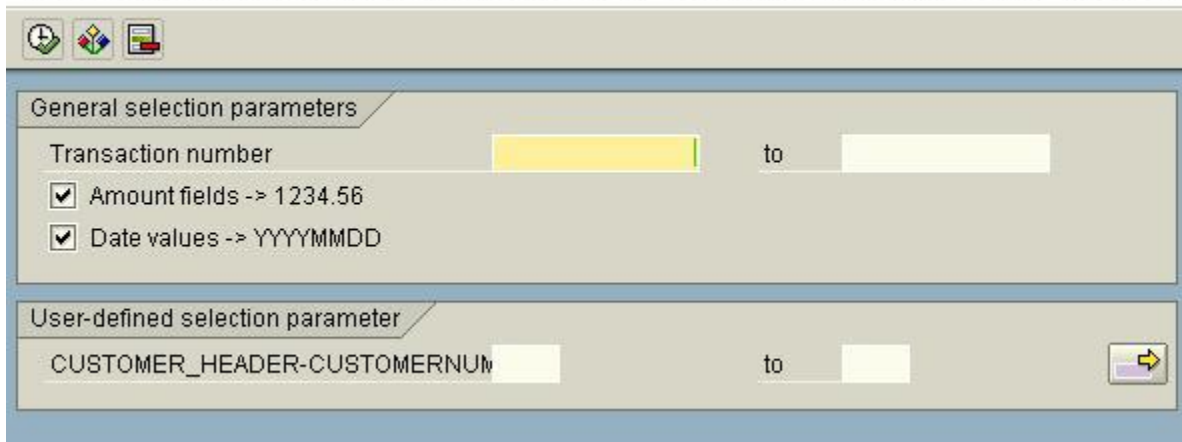
LSM Workbench: Assign files (Change)



Step 9- Read Data

Reading the data from the file gives us an option to read only a few records and not the entire chunk in order to enable testing of first few records. This also provides the user defined selection parameter which can be used to restrict the read data based on the condition specified.

LSM Workbench: Read Data for SAP_DEMO, ACCOUNTING, CUSTO.



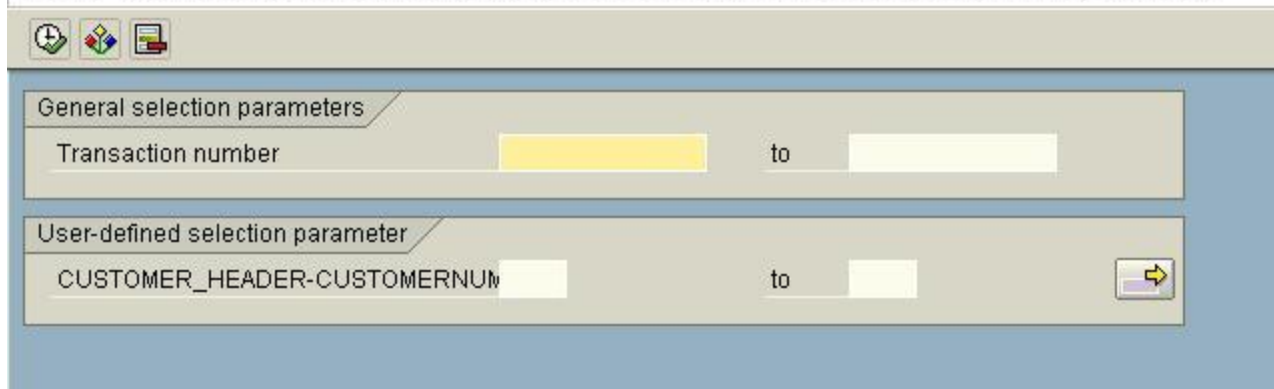
Step 10- Display Read Data

- In this step, you can display all or a part of the read data in table form. Clicking on a line displays all information for this line in a clear way. The same happens when you click on Field contents.
- Change display allows to select either a one-line or multi-line view.
- Display color palette displays the colors for the individual hierarchy levels.

Step 11- Convert Data

Converting the data is the transfer of data from source to target structures based on the conversion routines written in maintain Field Mapping and conversion routines.

LSM Workbench: Convert Data for SAP_DEMO, ACCOUNTING, CUS...



The screenshot shows the LSM Workbench interface with the following elements:

- Three icons at the top: a clock, a multi-colored diamond, and a document.
- A section titled "General selection parameters" containing a "Transaction number" field with a yellow highlight, followed by "to" and an empty field.
- A section titled "User-defined selection parameter" containing the text "CUSTOMER_HEADER-CUSTOMERNUM" followed by a yellow highlight, "to", an empty field, and a yellow arrow icon.

Step 12- Import Data

The steps displayed by the program depend on the selected object type:

Standard batch input or recording:

1. Generate batch input session
2. Run batch input session

Standard direct input:

1. Start direct input session

BAPI or IDoc:

1. Start IDoc creation
2. Start IDoc processing
3. Create IDoc overview
4. Start IDoc post processing

This completes a detailed overview of steps to transfer your data using LSMW in SAP.