

# Enhancement of LO Datasource



## Applies to:

SAP BI, NW2004s Business Intelligence, ABAP. For more information, visit the [Business Intelligence homepage](#). For more information, visit the [ABAP homepage](#).

## Summary

This article explains about enhancing the LO datasource. It includes the code to populate the datasource.

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## Author Bio

P Renjith Kumar is presently working in SAP Labs India Pvt Ltd and specializes in Extraction and Modeling areas of BI. Basically as an ABAP consultant, he has extensive cross functional experience and has been with end to end SAP ERP and BI implementation projects across manufacturing domain.

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## Introduction

The SAP enhancement **RSAP0001** is available if you want to fill fields that you have added to the extraction structure of a DataSource as an append structure. This enhancement is made up of the following enhancement components:

| Data Type         | Enhancement Component |
|-------------------|-----------------------|
| Transaction data  | exit_saplr.sap_001    |
| Attributes, texts | exit_saplr.sap_002    |
| Hierarchies       | exit_saplr.sap_004    |

## Scenario:

You have to append the standard business content data source 2LIS\_11\_VAITEM with a field MTART ( Material Type ) from MARA table .

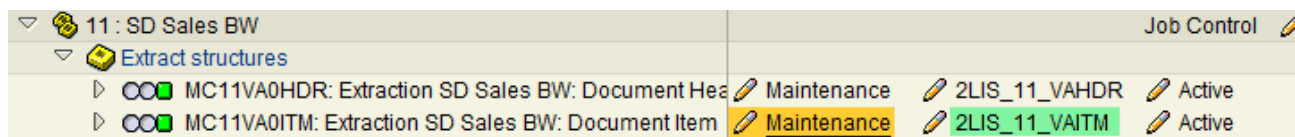
## Communication structure check

First check if the field that you need to enhance is available in the communication structure. If it is there

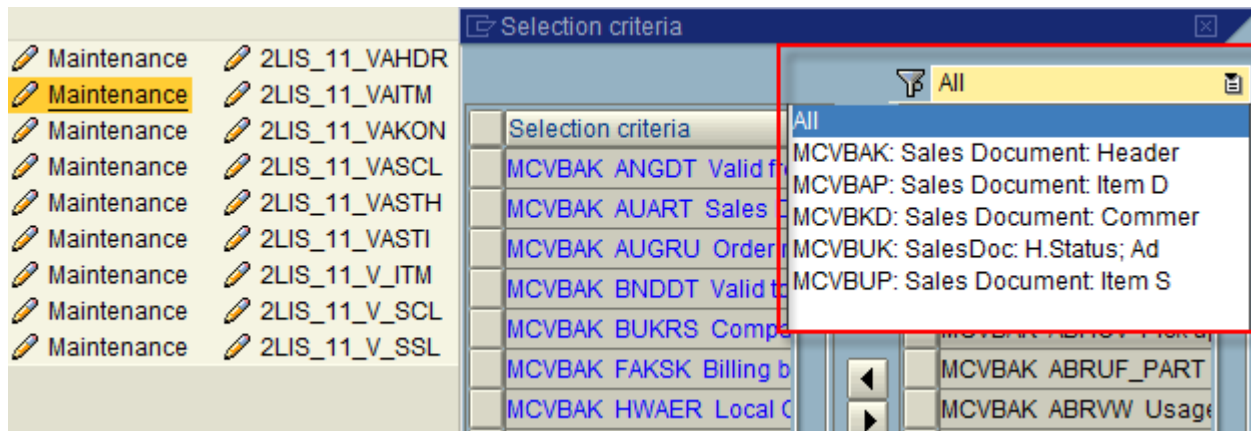
1. Deactivate the datasource in LBWE & clear the delta queue (RSA7)
2. Drag the fields from the pool.
3. Activate the datasource..

This scenario requires no coding to populate the enhanced filed.

Every extract structure is related to one or more communication structures (and for every communication structure involved an include)



If you select Maintenance, then you can see the pool. You have fields in the communication structure you can add those fields to the extract structure. Here in maintenance you can see the already selected fields in extract structure and the available fields in communication structure.

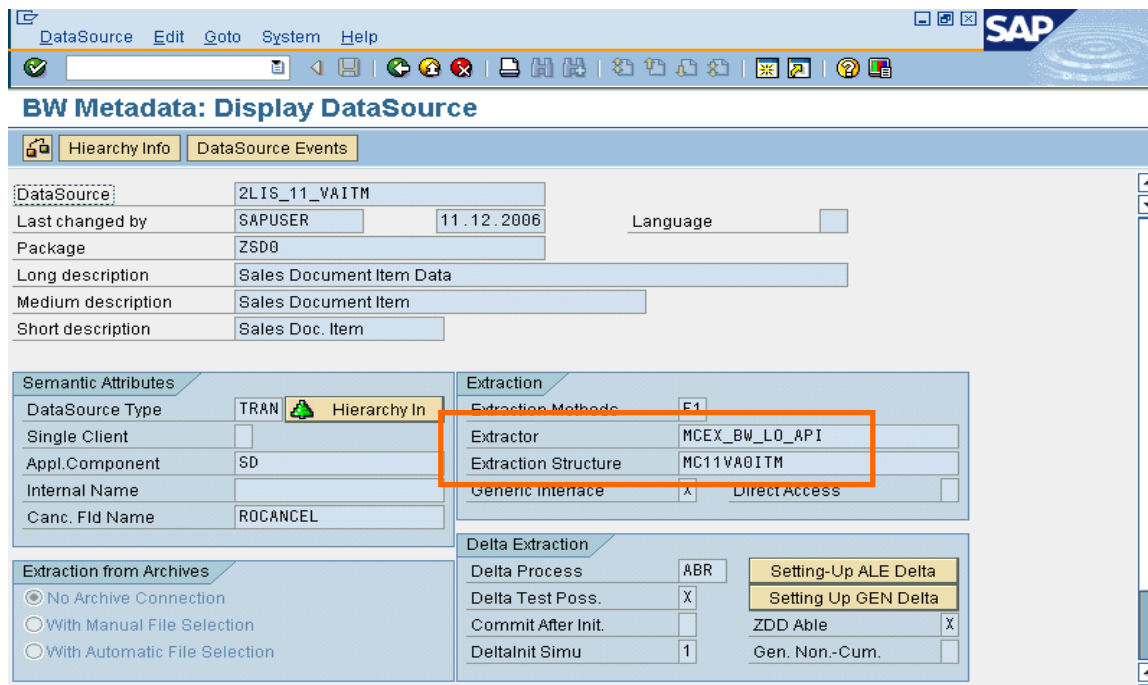
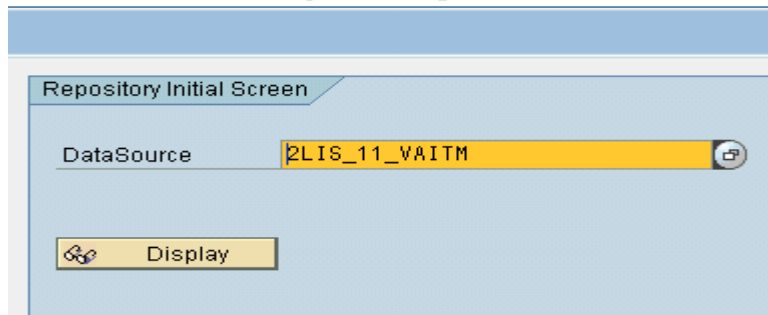


So if we can find the field MTART in any of this communication structure then we can drag the field to the extract structure, But in our case the field MTART is not in MCVBAK and MCVBAP. So now the option is to append the extract structure and write a code to populate that. In simple terms To do this, go to RSA6, choose your datasource, double-click on it and then on the extract structure: you will see an SE16 screen, create an append, insert your ZZ\* fields, save.

## Steps: Source System Side

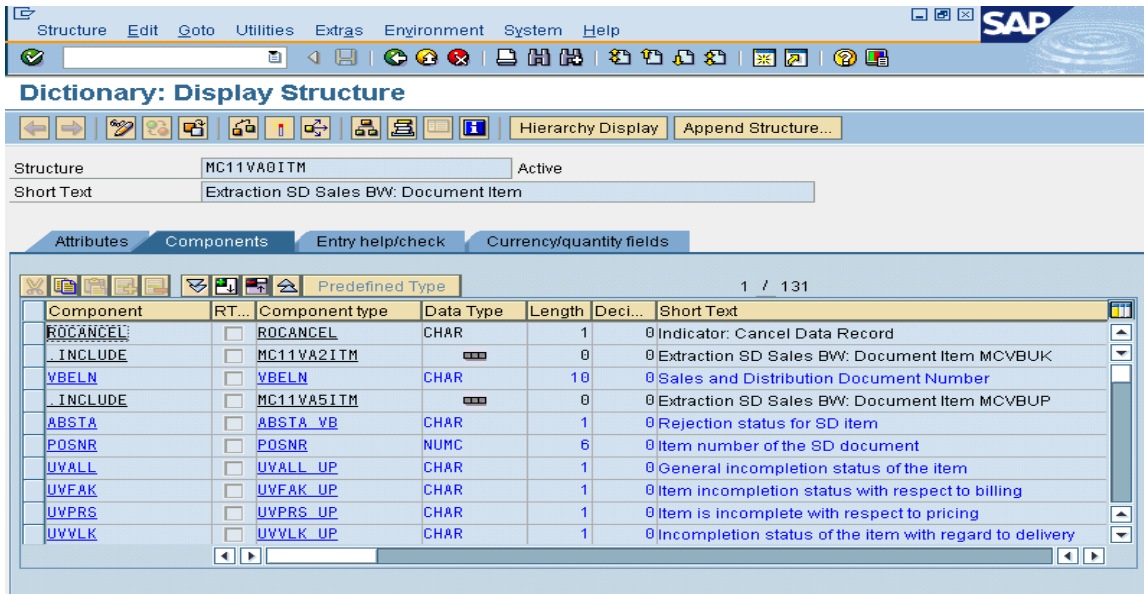
RSA2 -> Give the data source name -> Click Display, Note Extract structure Name

### DataSource Repository

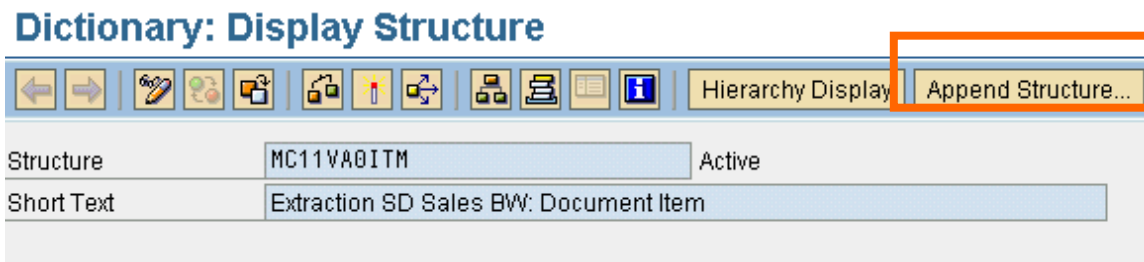


The extract structure for 2LIS\_11\_VAHDR is MC11VAITM

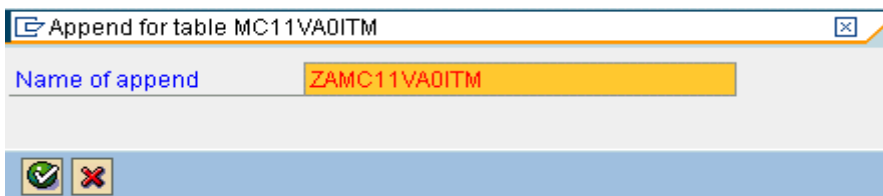
SE11 -> MC11VAITM ->Display



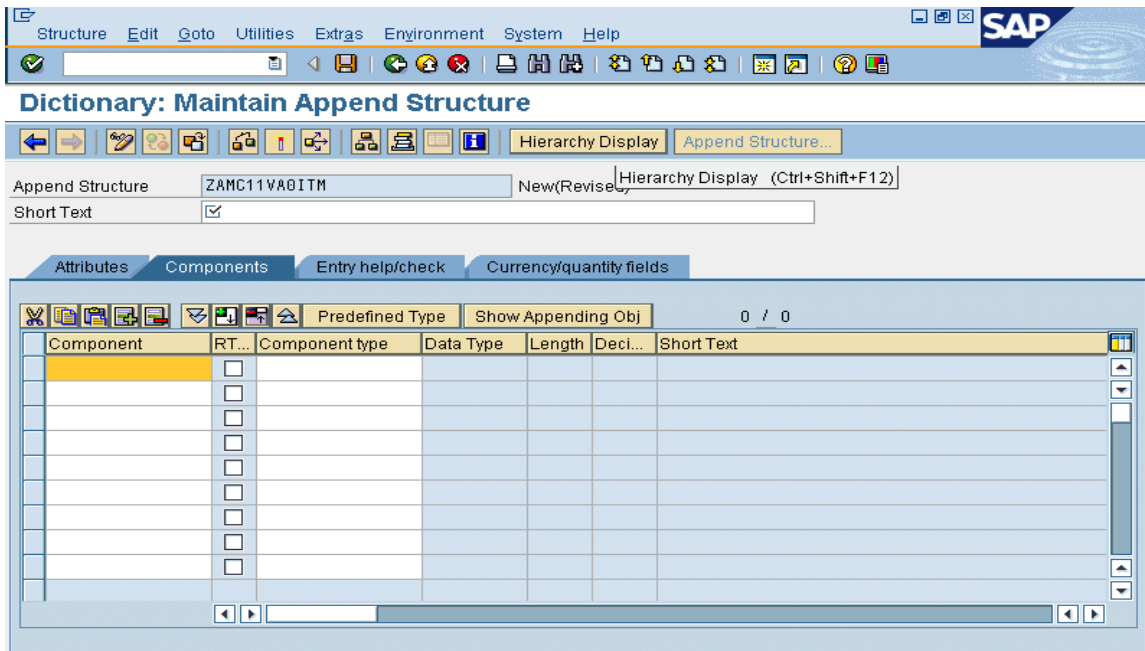
You can see many fields, In this You have to add MTART Filed from MARA, So click Append Structure Button in application tool bar .



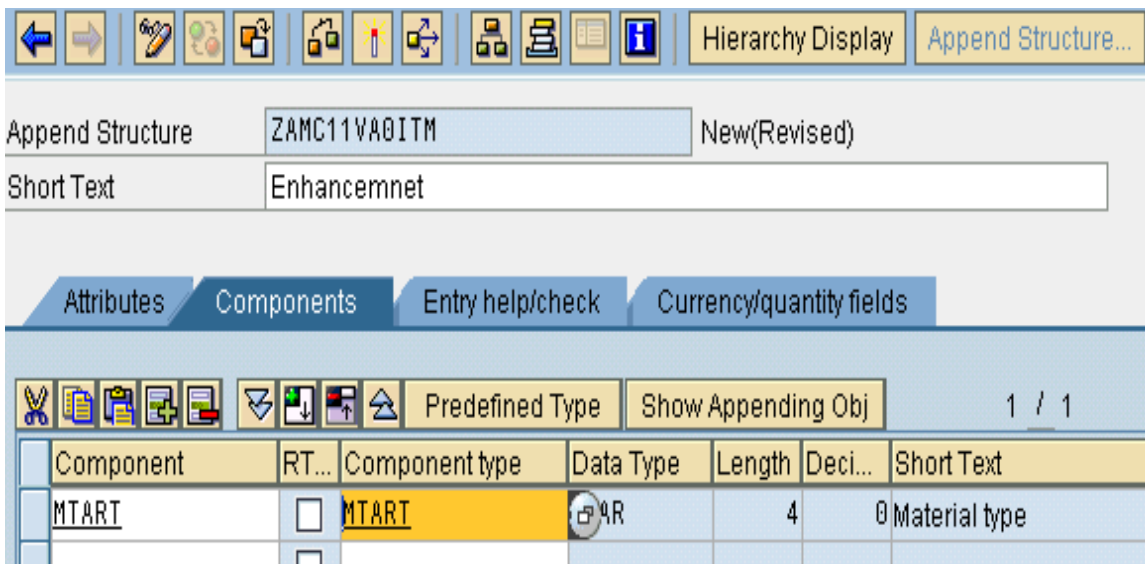
Now Name of append will come automatically, Just Enter



The screen will be like this initially



Now give the Field you need to Enhance and enter , Save , Check , Activate

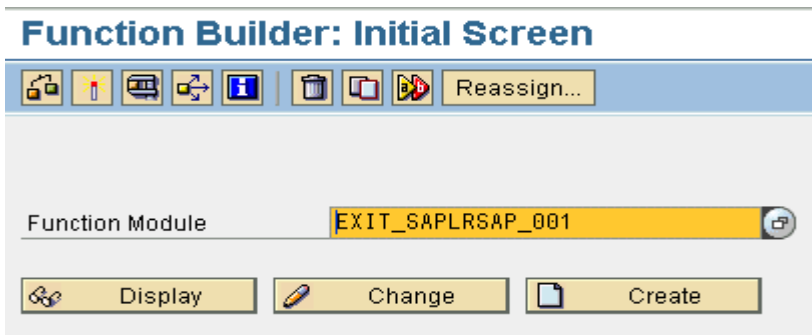


Now come back and activate , See the last row you will have got the appended field

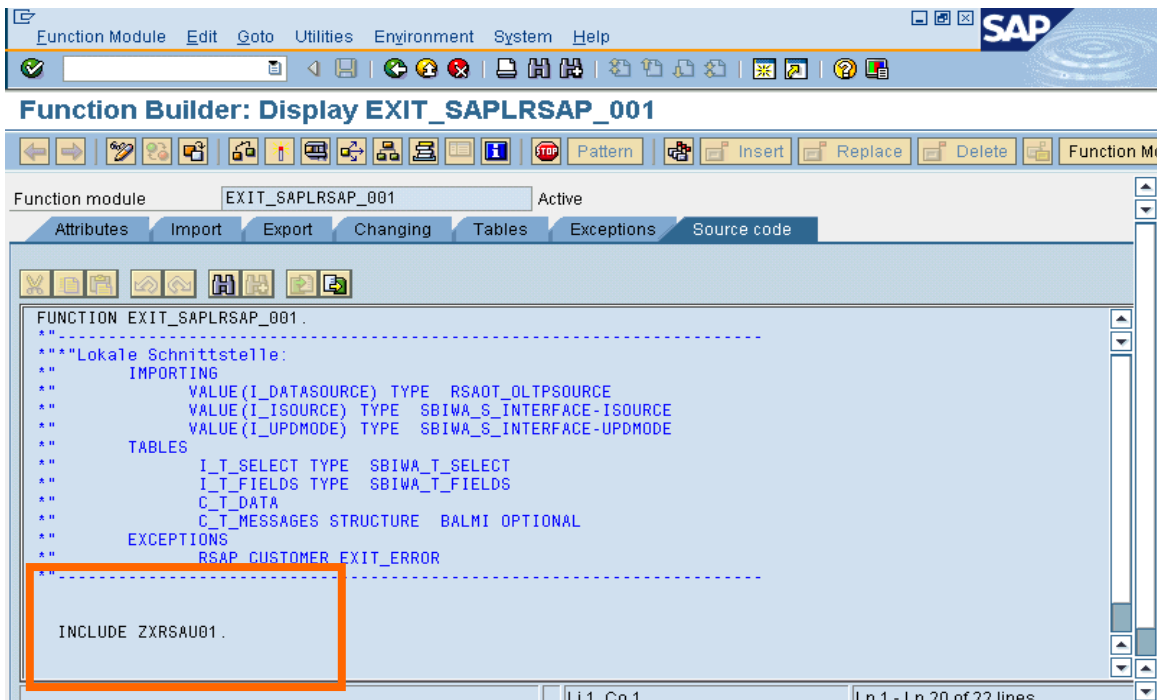
| Structure  | MC11VA0ITM                            | Active          |           |        |         |   |
|--|---------------------------------------|-----------------|-----------|--------|---------|---|
| Short Text   | Extraction SD Sales BW: Document Item |                 |           |        |         |   |
| <p>Attributes   Components   Entry help/check   Currency/quantity fields</p> <p>Predefined Type <span style="float: right;">128 / 133</span></p> |                                       |                 |           |        |         |   |
| Component  | RT...                                 | Component type  | Data Type | Length | Deci... | Short Text  |
| ANZAUPD  | <input type="checkbox"/>              | MC_ANZAUPD      | DEC       | 9      | 0       | Number of order items                                   |
| PERIV  | <input type="checkbox"/>              | PERIV           | CHAR      | 2      | 0       | Fiscal Year Variant                                     |
| MCEX_APCAMPAIGN  | <input type="checkbox"/>              | MCEX_APCAMPAIGN | CHAR      | 32     | 0       | Campaign of referred sales order item for BW-Extraction |
| APOPLANNED   | <input type="checkbox"/>              | APOPLANNED      | CHAR      | 1      | 0       | Planning in APO   |
| .APPEND  | <input type="checkbox"/>              | ZAMC11VA0ITM    | ---       | 0      | 0       | Enhancemnet   |
| MIARI  | <input type="checkbox"/>              | MIARI           | CHAR      | 4      | 0       | Material type   |

Now we have to write Code

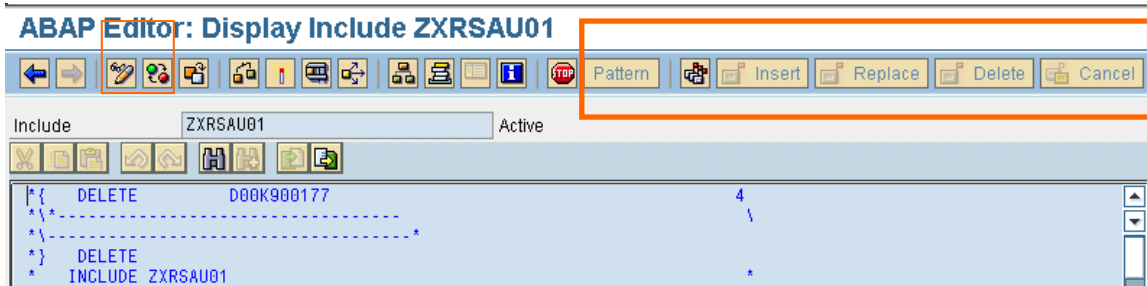
SE37->EXIT\_SAPLRSAP\_001 ->Display




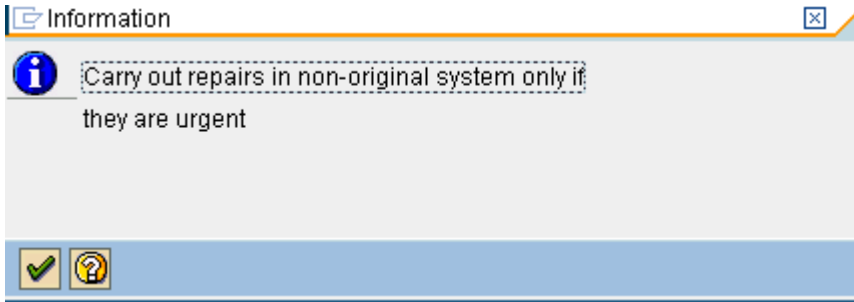
Press Display , Now double click the Include



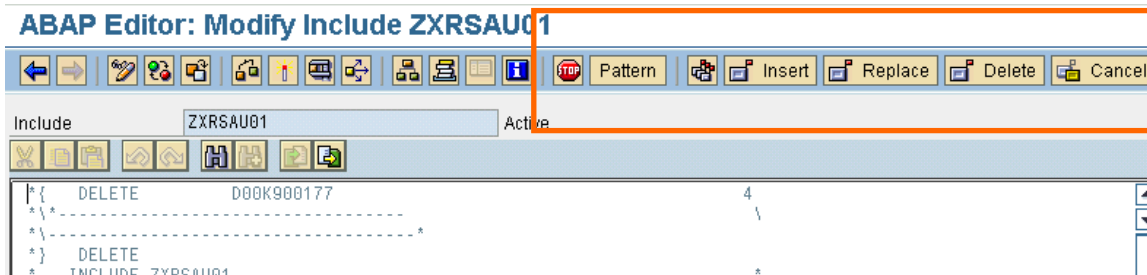
Initially the screen will have Grayed Buttns



Now Press Dispay -> Change  , The following Message comes , Press Enter



Now the Buttons will be enabled and editor color changes



Now To insert a Code Press Insert Button within that Write the ABAP code



## ABAP Code: These are the things that You need to do in the editor .

The table MARA has MTART Field , So include MARA in the tables .

Tables : MARA .

Declare the L\_S\_VAITEM to have structure if MC11VAOITM .

Data : L\_S\_VAITEM LIKE MC11VAOITM .

Place Cursor within Case Data Dource .....Enddata source , Press Insert .

Give the Name of Data Source that you have Enhanced and write the Code

```

case i_datasource.
  When '2LIS_11_VAITEM'.
    Loop at C_T_DATA Into L_S_VAITEM .
      L_TABIX = SY-TABIX .
      Select Single * From MARA where MATNR = L_S_VAITEM-MATNR.
      If sy-subrc = 0.
        L_S_VAITEM-MTART = MARA-MTART.
        Modify C_T_DATA FROM L_S_VAITEM INDEX L_TABIX.
      Endif .
    Endloop.

```

The editor after this will be like this ,This is our sample ,but you may have many codes along with you codes ,You code is given in Red Box

```

*{  DELETE          D00K900177                4
*\*-----
*\-----*
*}  DELETE
*  INCLUDE ZXRSAU01                          *
*{  INSERT          &&&&&&&&                    8
*
*}  INSERT
*-----*

tables: knvv, mara.

data: l_s_icctrst like s001biws,
      l_counter,
      l_s_icctract like icctract,
      l_s_icctrsta like icctrsta,
*{  INSERT          D00K900177                2
*}  INSERT
      l_tabix      like sy-tabix.

*...local data for generic datasource ZFI_AR_4.....*
tables: knb4.

data: l_s_zoxid30047 like zoxid30047,
      jah            like knb4-jah01,
      mon            like knb4-mon01,
      ags            like knb4-ags01,
      vzs            like knb4-vzs01,
      agn            like knb4-agn01,
      vzn            like knb4-vzn01,
      anz            like knb4-anz01.

```

```

data: begin of temp_data occurs 0,
      bukrs like l_s_zoxid30047-bukrs,
      kunnr like l_s_zoxid30047-kunnr,
      fiscper like l_s_zoxid30047-fiscper,
      agsxx like l_s_zoxid30047-agsxx,
      vzsxx like l_s_zoxid30047-vzsxx,
      agnxx like l_s_zoxid30047-agnxx,
      vznxx like l_s_zoxid30047-vznxx,
      anzxx like l_s_zoxid30047-anzxx,
*{  INSERT          D00K900177          6
*}  INSERT
      end of temp_data.
*{  INSERT          D00K900177          3
*}  INSERT
*{  INSERT          D00K900177          7
*Data : L_S_VAHDR LIKE MC11VA0ITM .
Data : L_S_VAITM LIKE MC11VA0ITM .

*}  INSERT
case i_datasource.
*{  INSERT          D00K900177          1

*}  INSERT

*{  INSERT          D00K900177          5

```

```
When '2LIS_11_VAITM'.
```

```
* Loop at C_T_DATA Into L_S_VAHDR .
Loop at C_T_DATA Into L_S_VAITM .
```

```
L_TABIX = SY-TABIX .
```

```
Select Single * From MARA where MATNR = L_S_VAITM-MATNR.
```

```
If sy-subrc = 0.
```

```
L_S_VAITM-MTART = MARA-MTART.
```

```
Modify C_T_DATA FROM L_S_VAITM INDEX L_TABIX.
```

```
Endif .
```

```
Endloop.
```

```
*}  INSERT
      when '2LIS_01_S001'.
* Endless loop for debugging *
* l_counter = 7.
* while l_counter = 7.
* endwhile.
* find corresponding master data record in KNVV
* loop at c_t_data into l_s_icctrst.
```



```

    varying agn from l_s_zoxid30047-agn01 next l_s_zoxid30047-agn02
    varying vzn from l_s_zoxid30047-vzn01 next l_s_zoxid30047-vzn02
    varying anz from l_s_zoxid30047-anz01 next l_s_zoxid30047-anz02.
*...fill comp. code, fiscal variant, debtor.....*
    move: l_s_zoxid30047-bukrs to temp_data-bukrs,
         l_s_zoxid30047-kunnr to temp_data-kunnr.
*...fill fiscal period.....*
    move: jah to temp_data-fiscper(4),
         '0' to temp_data-fiscper+4(1),
         mon to temp_data-fiscper+5(2).
    check not temp_data-fiscper is initial.
*...fill value fields.....*
    move: ags to temp_data-agsxx,
         vzs to temp_data-vzsxx,
         agn to temp_data-agnxx,
         vzn to temp_data-vznxx,
         anz to temp_data-anzxx.
    append temp_data.
    enddo.

endloop.

clear c_t_data. refresh c_t_data.
loop at temp_data.
    move-corresponding temp_data to l_s_zoxid30047.
    collect l_s_zoxid30047 into c_t_data.
endloop.

when others.
    exit.
endcase.

```

Now save, Check, Activate

Now give transaction LBWE , Select the data source

## Data source relevant changes

The screenshot shows the SAP LO Data Extraction Cockpit interface. The main area displays a tree view of source data and extract structures. The 'Extract structures' section is expanded, showing various data sources with their respective update modes. The '2LIS\_11\_VAITEM' data source is highlighted in yellow.

| Source data  | Structure | DataSource     | Update      | Update Mode  |
|--|-----------|----------------|-------------|--------------|
| Logistics applications                             |           |                |             |              |
| 02 : Purchasing                                    |           |                | Job Control | Unserialized |
| 03 : Inventory Controlling                         |           |                | Job Control | Unserialized |
| 04 : Shop Floor Control                            |           |                | Job Control | Queued Delt  |
| 05 : Quality Management                            |           |                | Job Control | Queued Delt  |
| 08 : Shipment                                      |           |                | Job Control | Queued Delt  |
| 11 : SD Sales BW                                   |           |                | Job Control | Unserialized |
| Extract structures                                 |           |                |             |              |
| MC11VA0HDR: Extraction SD Sales BW: Document He    | Mainte... | 2LIS_11_VAHDR  | Active      |              |
| MC11VA0ITM: Extraction SD Sales BW: Document Item  | Mainte... | 2LIS_11_VAITEM | Active      |              |
| MC11VA0KON: Extraction SD Sales BW: Document Co    | Mainte... | 2LIS_11_VAKON  | Active      |              |
| MC11VA0SCL: Extraction SD Sales BW: Document Sc    | Mainte... | 2LIS_11_VASCL  | Active      |              |
| MC11VA0STH: Extraction MD Order Header Status      | Mainte... | 2LIS_11_VASTH  | Inactive    |              |
| MC11VA0STI: Extraction MD Order Item Status        | Mainte... | 2LIS_11_VASTI  | Inactive    |              |
| MC11V_0ITM: Extraction SD Sales BW: Document Item  | Mainte... | 2LIS_11_V_ITM  | Inactive    |              |
| MC11V_0SCL: Extraction SD Sales BW: Allocation Sch | Mainte... | 2LIS_11_V_SCL  | Inactive    |              |
| MC11V_0SSL: Extraction MD Sales: Order Delivery    | Mainte... | 2LIS_11_V_SSL  | Inactive    |              |
| 12 : LE Shipping BW                                |           |                | Job Control | Unserialized |
| 13 : SD Billing BW                                 |           |                | Job Control | Unserialized |
| 17 : Plant Maintenance BW                          |           |                | Job Control | Queued Delt  |

Click the data source ,Give Request Detail ,The following screen comes ,Note that Hide check box is checked for MTART Field , Uncheck and then save .

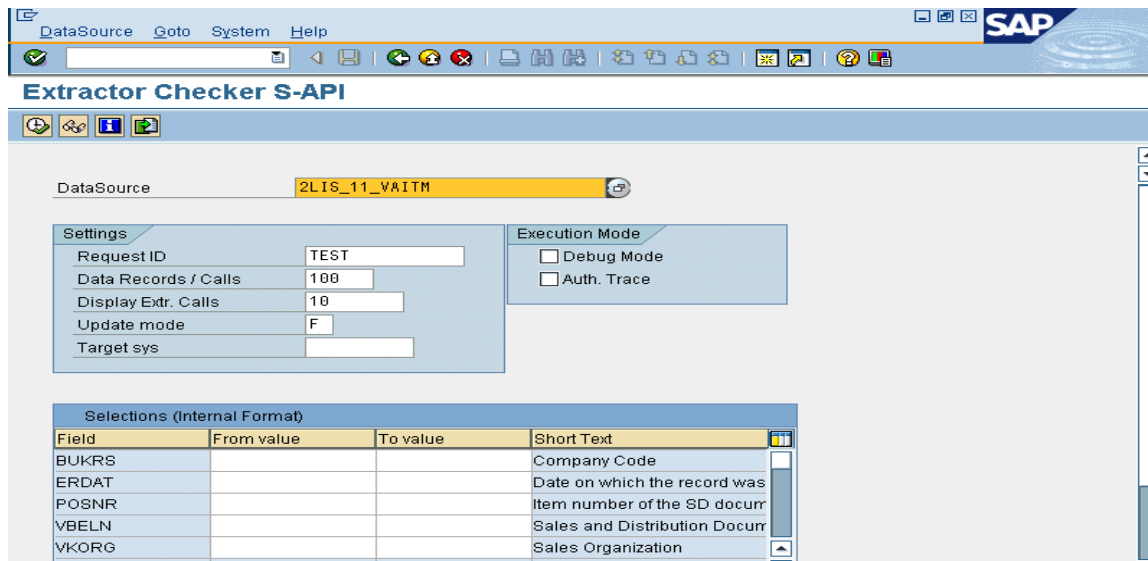
The screenshot shows the 'DataSource: Customer version Edit' screen. The 'Header Data' section shows the DataSource as '2LIS\_11\_VAITEM' and the Package as 'ZSD0'. The 'Extraction' section shows the ExtractStruct as 'MC11VA0ITM'. The 'Field Name' table below shows the selection options for various fields. The 'MTART' field is highlighted with a red box, and its 'Hide field' checkbox is checked.

| Field Name | Short text                              | Selection                | Hide field                          | Inversion                | Field only...                       |
|------------|---|--------------------------|-------------------------------------|--------------------------|-------------------------------------|
| MATKL      | Material group                          | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/>            |
| MATNR      | Material Number                         | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/>            |
| MATWA      | Material entered                        | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/>            |
| MCEX_APCA  | Campaign of referred sales order item f | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            |
| MEINS      | Base Unit of Measure                    | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/>            |
| MTART      | Material type                           | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| MVGR1      | Material group 1                        | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/>            |
| MVGR2      | Material group 2                        | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/>            |

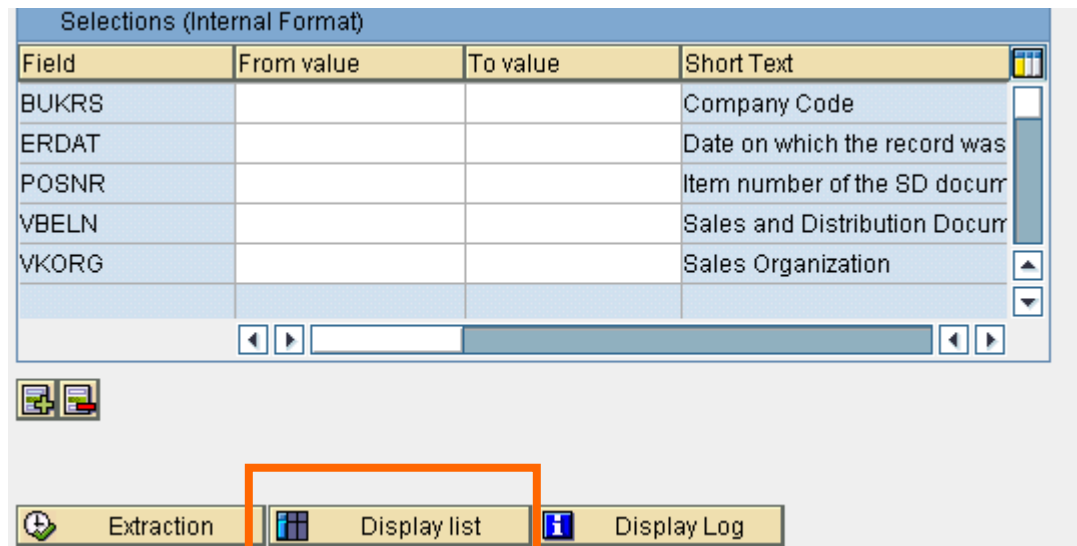
After Removing Hide check .

## Extract Checker

Give transaction RSA3 -> 2LIS\_11\_VAITEM, now execute



The screen will be like this, Click Display List



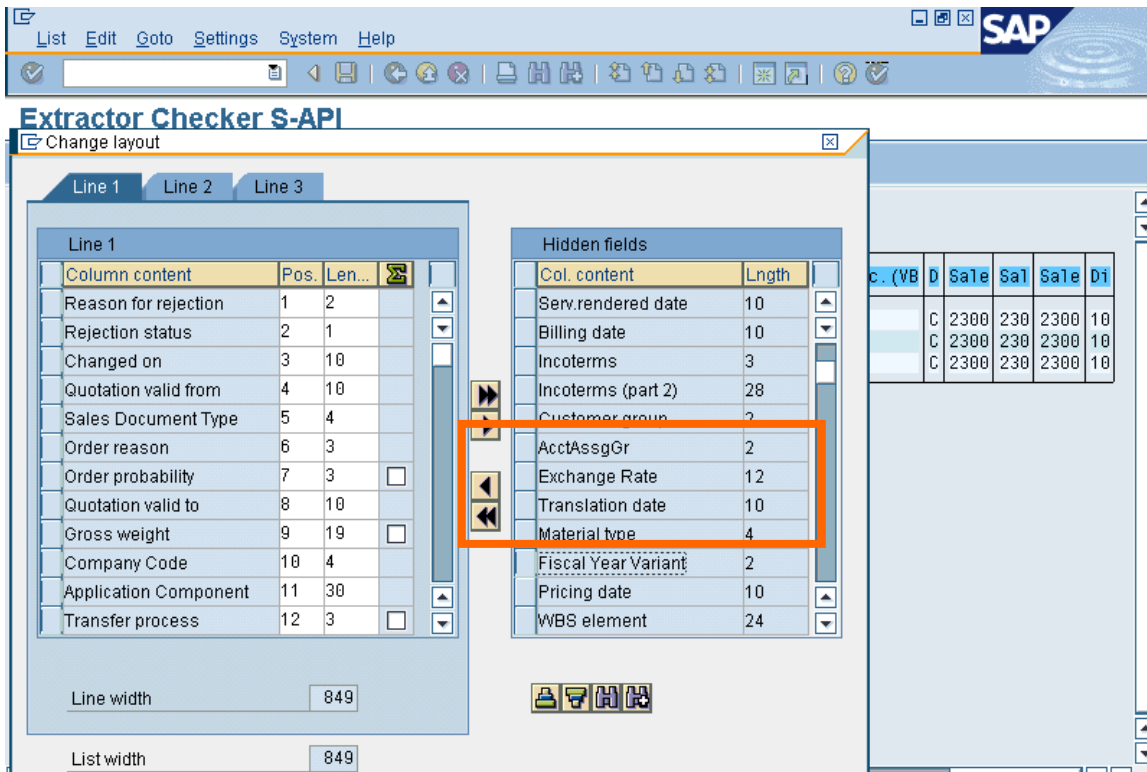
This is the records note last column, in this you will not see MTART , Because you have to get that from hidden field

| e | C | Route | S | D1 | Stats.date | ExRateStat(\$) | Curre | Reas | U | Over | Denomi | Numera | I | P | I | SD Doc. (VB) | D | Sale | Sa1 | Sa2  | D1 |
|---|---|-------|---|----|------------|----------------|-------|------|---|------|--------|--------|---|---|---|--------------|---|------|-----|------|----|
|   |   |       | E | 09 |            | 1,00000        | ESP   |      |   | 0,0  | 1      | 1      | C | C | C | 76           | C | 2300 | 230 | 2300 | 10 |
|   |   |       | E | 09 |            | 1,00000        | ESP   |      |   | 0,0  | 1      | 1      | C | C | C | 77           | C | 2300 | 230 | 2300 | 10 |
|   |   |       | E | 09 |            | 1,00000        | ESP   |      |   | 0,0  | 1      | 1      | C | C | C | 78           | C | 2300 | 230 | 2300 | 10 |

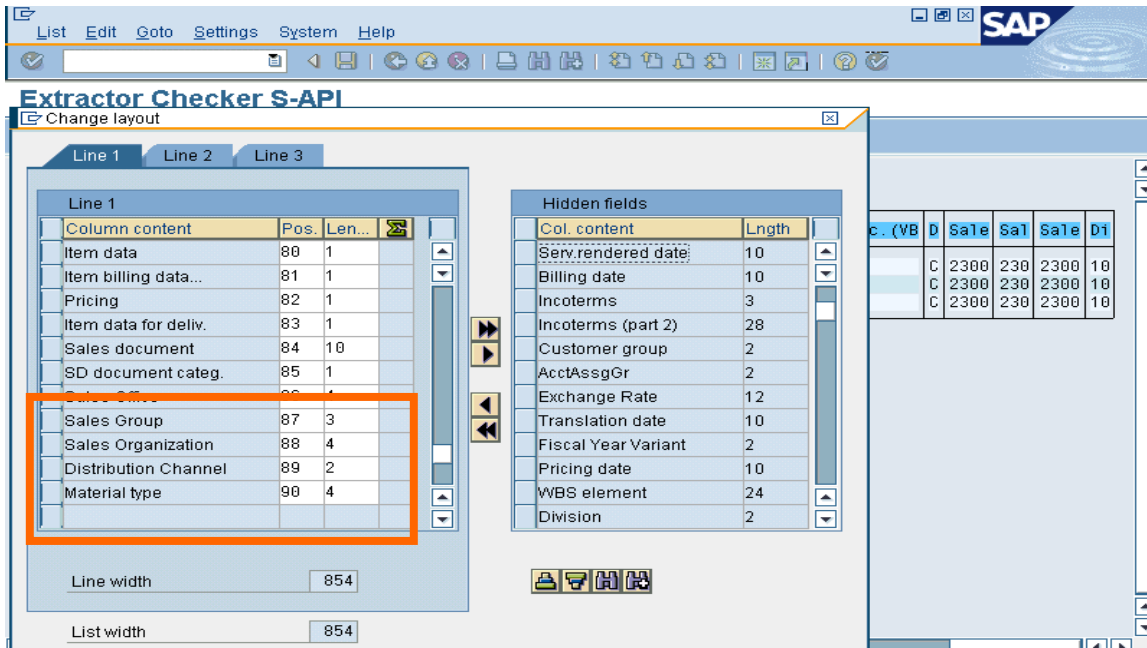
Now in menu bar select

| e | C | Route | S | D1 | Stats.date | ExRateStat(\$) | Curre | Reas | U | Over | Denomi | Numera | I | P | I | SD Doc. (VB) | D | Sale | Sa1 | Sa2  | D1 |
|---|---|-------|---|----|------------|----------------|-------|------|---|------|--------|--------|---|---|---|--------------|---|------|-----|------|----|
|   |   |       | E | 09 |            | 1,00000        | ESP   |      |   | 0,0  | 1      | 1      | C | C | C | 76           | C | 2300 | 230 | 2300 | 10 |
|   |   |       | E | 09 |            | 1,00000        | ESP   |      |   | 0,0  | 1      | 1      | C | C | C | 77           | C | 2300 | 230 | 2300 | 10 |
|   |   |       | E | 09 |            | 1,00000        | ESP   |      |   | 0,0  | 1      | 1      | C | C | C | 78           | C | 2300 | 230 | 2300 | 10 |

Select MTART check box from hidden field and bring that left using < -



The field after transferring





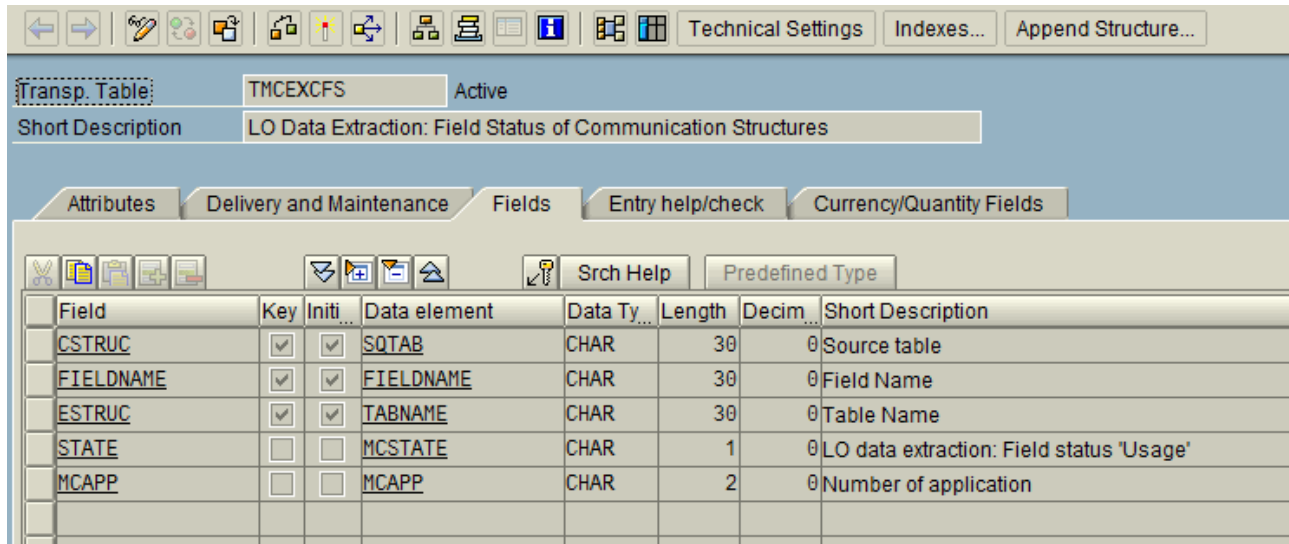
Press Copy, now you get data for MTART in RSA3.

R3 Side process completed.

After this in BW side just replicates the data source, add the field in Cube and upload

## Useful Tables

### 1. TMCEXCFS: LO Data Extraction: Field Status of Communication Structures

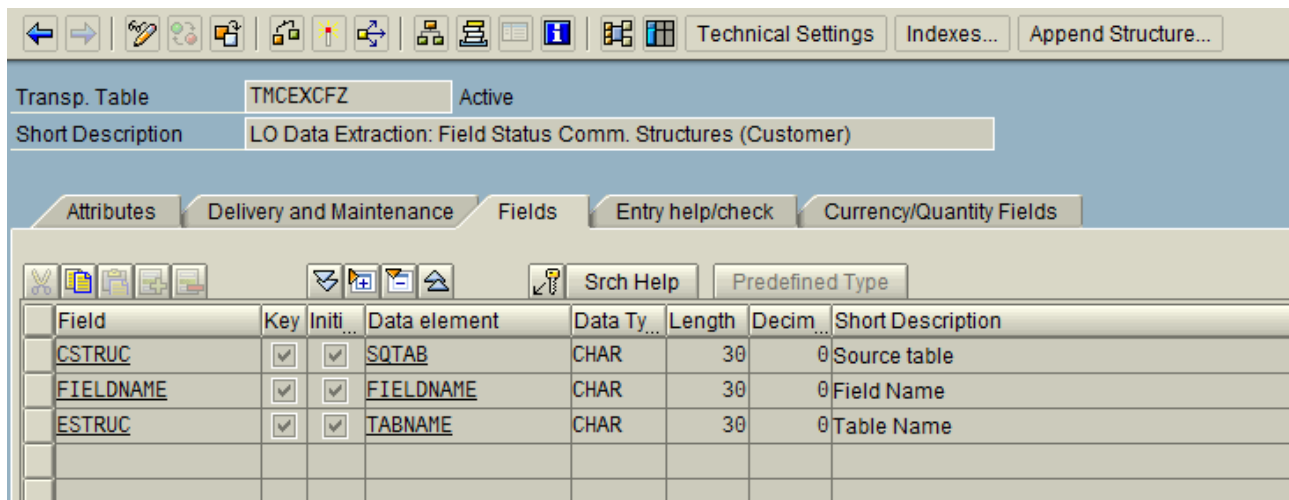


The screenshot shows the SAP Data Dictionary table TMCEXCFS. The table is active and has the short description 'LO Data Extraction: Field Status of Communication Structures'. The table is viewed in the 'Fields' tab. The table structure is as follows:

| Field     | Key                                 | Initi...                            | Data element | Data Ty... | Length | Decim... | Short Description                        |
|-----------|-------------------------------------|-------------------------------------|--------------|------------|--------|----------|--|
| CSTRUC    | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | SQTAB        | CHAR       | 30     | 0        | Source table                             |
| FIELDNAME | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | FIELDNAME    | CHAR       | 30     | 0        | Field Name                               |
| ESTRUC    | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | TABNAME      | CHAR       | 30     | 0        | Table Name                               |
| STATE     | <input type="checkbox"/>            | <input type="checkbox"/>            | MCSTATE      | CHAR       | 1      | 0        | LO data extraction: Field status 'Usage' |
| MCAPP     | <input type="checkbox"/>            | <input type="checkbox"/>            | MCAPP        | CHAR       | 2      | 0        | Number of application                    |

You can see each field details it has a status per extract structure and communication structure: initial (inactive), A (active) or F (forbidden). The input is communication structure name and field name.

### 2. TMCEXCFZ: LO Data Extraction: Field Status Comm. Structures (Customer)



The screenshot shows the SAP Data Dictionary table TMCEXCFZ. The table is active and has the short description 'LO Data Extraction: Field Status Comm. Structures (Customer)'. The table is viewed in the 'Fields' tab. The table structure is as follows:

| Field     | Key                                 | Initi...                            | Data element | Data Ty... | Length | Decim... | Short Description |
|-----------|-------------------------------------|-------------------------------------|--------------|------------|--------|----------|-------------------|
| CSTRUC    | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | SQTAB        | CHAR       | 30     | 0        | Source table      |
| FIELDNAME | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | FIELDNAME    | CHAR       | 30     | 0        | Field Name        |
| ESTRUC    | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | TABNAME      | CHAR       | 30     | 0        | Table Name        |

Here you get all fields selected by the customer, per extract structure and communication structure.

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