

```

*&-----*
*& Report   ZALV_FCAT                                     *
*& Author   : Swarna.S                                   *
*&-----*
*& AS : ALV report which displays the contents of the table T006
*& (as a docking container in the bottom) along with the
*& editable ALV which contains the ALV fieldcatalogue table structure.
*& With the available toolbar options of the editable ALV in the output,
*& user can change the fieldcatalogue as per his requirement.
*& When the user clicks 'SUBMIT',the display of the ALV with table T006
*& gets modified and customised accordingly to the user's requirement.
*&-----*

```

```
REPORT zalv_fcat.
```

```
* Output table T006 structure declaration
```

```
TYPES : BEGIN OF ty_t006.
        INCLUDE STRUCTURE t006.
TYPES : END OF ty_t006.
```

```
*Internal table and wa declaration for T006
```

```
DATA : it_t006 TYPE STANDARD TABLE OF ty_t006,
        wa_t006 TYPE ty_t006.
```

```
*declarations for ALV
```

```
DATA: ok_code          TYPE sy-ucomm,
* fieldcatalog for T006
    it_fielcat         TYPE lvc_t_fcat,
* fieldcatalog for fieldcatalog itself:
    it_fielcatalogue   TYPE lvc_t_fcat,
    it_layout          TYPE lvc_s_layo.
```

```
*declaration for toolbar function
```

```
DATA: it_excl_func     TYPE ui_functions.
```

```
* Controls to display it_t006 and corresponding fieldcatalog
```

```
DATA: cont_dock TYPE REF TO cl_gui_docking_container,
        cont_alvgd TYPE REF TO cl_gui_alv_grid.
```

```
*controls to display the fieldcatalog as editable alv grid and container
```

```
DATA: cont_cust TYPE REF TO cl_gui_custom_container,
        cont_editalvgd TYPE REF TO cl_gui_alv_grid.
```

```
*intialization event
```

```
INITIALIZATION.
```

```
*start of selection event
```

```
START-OF-SELECTION.
```

```
*****
* LOCAL CLASS Definition for data changed in fieldcatalog ALV
*****
```

```
CLASS lcl_event_receiver DEFINITION.
    PUBLIC SECTION.
```

```
        METHODS handle_data_changed
                FOR EVENT data_changed OF cl_gui_alv_grid
                IMPORTING er_data_changed.
```

```
ENDCLASS. "lcl_event_receiver DEFINITION
```

```
*****
```

```
* LOCAL CLASS implementation for data changed in fieldcatalog ALV
```

```

*****
CLASS lcl_event_receiver IMPLEMENTATION.
  METHOD handle_data_changed.
    ENDMETHOD.                "handle_data_changed
ENDCLASS.                    "lcl_event_receiver IMPLEMENTATION

*data declaration for event receiver
DATA: event_receiver TYPE REF TO lcl_event_receiver.

*end of selection event
END-OF-SELECTION.

*setting the screen for alv output for table display and
*changed fieldcatalogue display
SET SCREEN 600.

*On this statement double click it takes you to the screen painter SE51.Enter
the attributes
*Create a Custom container and name it CCONT and OK code as OK_CODE.
*Save check and Activate the screen painter.
*Now a normal screen with number 600 is created which holds the ALV grid.
* PBO of the actual screen , Here we can give a title and customized menus
*Go to SE41 and create status 'STATUS600' and create THE function code 'SUBMIT'
*and 'EXIT' with icons and icon texts
*Also create a TitleBar 'TITLE600' and give the relevant title.

*&-----*
*&      Module STATUS_0600 OUTPUT
*&-----*
MODULE status_0600 OUTPUT.
  SET PF-STATUS 'STATUS600'.
  SET TITLEBAR 'TITLE600'.
  * CREATE ALV GRID CONTROL IF DOES NOT EXISTS INITIALLY
  IF cont_dock IS INITIAL.
    PERFORM create_alv.
  ENDIF.

ENDMODULE.                " STATUS_0600 OUTPUT

* PAI module of the screen created. In case we use an interactive ALV or
*for additional functionalities we can create OK codes and based on the
*user command we can do the coding as shown below
*&-----*
*&      Module USER_COMMAND_0600 INPUT
*&-----*
MODULE user_command_0600 INPUT.

  CASE ok_code.
    WHEN 'SUBMIT'.
*TO GET THE CURRENT FIELDATALOGUE FROM THE FRONTEND
    CALL METHOD cont_alvkd->set_frontend_fieldcatalog
      EXPORTING
        it_fieldcatalog = it_fielcat.
*refresh the alv
    CALL METHOD cont_alvkd->refresh_table_display.
*to Send Buffered Automation Queue to Frontend
    CALL METHOD cl_gui_cfw=>flush.

*Exit button clicked to leave the program
    WHEN 'EXIT'.
      LEAVE PROGRAM.

```

```

ENDCASE.

ENDMODULE.                                " USER_COMMAND_0600  INPUT

*&-----*
*&      Form  CREATE_ALV
*&-----*

FORM create_alv.

*create a docking container and dock the control at the botton
  CREATE OBJECT cont_dock
    EXPORTING
      dynnr = '600'
      extension = 100
      side = cl_gui_docking_container=>dock_at_bottom.

*create the alv grid for display the table
  CREATE OBJECT cont_alvgd
    EXPORTING
      i_parent = cont_dock.

*create custome container for alv
  CREATE OBJECT cont_cust
    EXPORTING
      container_name = 'CCONT'.

*create alv editable grid
  CREATE OBJECT cont_editalvgd
    EXPORTING
      i_parent = cont_cust.

* register events for the editable alv
  CREATE OBJECT event_receiver.
  SET HANDLER event_receiver->handle_data_changed FOR cont_editalvgd.

  CALL METHOD cont_editalvgd->register_edit_event
    EXPORTING
      i_event_id = cl_gui_alv_grid=>mc_evt_modified.

*building the fieldcatalogue for the initial display
  PERFORM build_fieldcat CHANGING it_fielcat it_fielcatalogue.

*building the fieldcatalogue after the user has changed it
  PERFORM change_fieldcat CHANGING it_fielcatalogue.

*fetch data from the table
  PERFORM fetch_data.

*      Get excluding functions for the alv editable tool bar

  APPEND cl_gui_alv_grid=>mc_fc_loc_append_row TO it_excl_func.
  APPEND cl_gui_alv_grid=>mc_fc_loc_insert_row TO it_excl_func.
  APPEND cl_gui_alv_grid=>mc_fc_loc_cut TO it_excl_func.
  APPEND cl_gui_alv_grid=>mc_fc_sort TO it_excl_func.
  APPEND cl_gui_alv_grid=>mc_fc_sort_asc TO it_excl_func.
  APPEND cl_gui_alv_grid=>mc_fc_sort_dsc TO it_excl_func.
  APPEND cl_gui_alv_grid=>mc_fc_subtot TO it_excl_func.
  APPEND cl_gui_alv_grid=>mc_fc_sum TO it_excl_func.
  APPEND cl_gui_alv_grid=>mc_fc_graph TO it_excl_func.
  APPEND cl_gui_alv_grid=>mc_fc_info TO it_excl_func.
  APPEND cl_gui_alv_grid=>mc_fc_print TO it_excl_func.
  APPEND cl_gui_alv_grid=>mc_fc_filter TO it_excl_func.

```

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APPEND cl_gui_alv_grid=>mc_fc_views TO it_excl_func.
APPEND cl_gui_alv_grid=>mc_mb_export TO it_excl_func.
APPEND cl_gui_alv_grid=>mc_mb_sum TO it_excl_func.
APPEND cl_gui_alv_grid=>mc_mb_sum TO it_excl_func.
APPEND cl_gui_alv_grid=>mc_mb_paste TO it_excl_func.
APPEND cl_gui_alv_grid=>mc_fc_find TO it_excl_func.
APPEND cl_gui_alv_grid=>mc_fc_loc_copy TO it_excl_func.

*Alv display for the T006 table at the bottom
CALL METHOD cont_alvkd->set_table_for_first_display
  CHANGING
    it_outtab          = it_t006[]
    it_fieldcatalog    = it_fielcat[]

* optimize column width of grid displaying fieldcatalog
it_layout-cwidth_opt = 'X'.

* Get fieldcatalog of table T006 - alv might have
* modified it after passing.
CALL METHOD cont_alvkd->get_frontend_fieldcatalog
  IMPORTING
    et_fieldcatalog = it_fielcat[]

*to Send Buffered Automation Queue to Frontend

CALL METHOD cl_gui_cfw=>flush.

* Display fieldcatalog of table T006 in editable alv grid
CALL METHOD cont_editalvkd->set_table_for_first_display
  EXPORTING
    is_layout          = it_layout
    it_toolbar_excluding = it_excl_func
  CHANGING
    it_outtab          = it_fielcat[]
    it_fieldcatalog    = it_fielcatalogue[]

ENDFORM.                                " CREATE_alv
*&-----*
*&      Form  fetch_data
*&-----*
FORM fetch_data.

* select data of T006
SELECT * FROM t006 INTO TABLE it_t006 UP TO 50 ROWS.

ENDFORM.                                " fetch_data
*&-----*
*&      Form  BUILD_FIELDCAT
*&-----*
FORM build_fieldcat CHANGING it_fldcat TYPE lvc_t_fcat
                      it_fcat TYPE lvc_t_fcat.

* Fieldcatalog for table T006: it_fldcat
* to generate the fields automatically

CALL FUNCTION 'LVC_FIELDATALOG_MERGE'
  EXPORTING
    i_structure_name    = 'T006'

```

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    CHANGING
      ct_fieldcat          = it_fldcat[]
    EXCEPTIONS
      inconsistent_interface = 1
      program_error         = 2
      OTHERS                = 3.
  IF sy-subrc <> 0.
* MESSAGE ID SY-MSGID TYPE SY-MSGTY NUMBER SY-MSGNO
*   WITH SY-MSGV1 SY-MSGV2 SY-MSGV3 SY-MSGV4.
  ENDIF.

*-----
* Fieldcatalog for table LVC_T_FCAT:it_fcat
*-----
* Generate fieldcatalog of fieldcatalog structure.
* This fieldcatalog is used to display fieldcatalog 'it_fldcat'
* on the top of the screen.

  CALL FUNCTION 'LVC_FIELDCATALOG_MERGE'
    EXPORTING
      i_structure_name      = 'LVC_S_FCAT'
    CHANGING
      ct_fieldcat          = it_fcat[]
    EXCEPTIONS
      inconsistent_interface = 1
      program_error         = 2
      OTHERS                = 3.
  IF sy-subrc <> 0.
* MESSAGE ID SY-MSGID TYPE SY-MSGTY NUMBER SY-MSGNO
*   WITH SY-MSGV1 SY-MSGV2 SY-MSGV3 SY-MSGV4.
  ENDIF.

ENDFORM.                                " BUILD_FIELDCAT

*&-----*
*&      Form  CHANGE_FIELDCAT
*&-----*
*after the user has modified the fieldcatalogue we build another fieldcat
*for the modified alv display
FORM change_fieldcat CHANGING it_fcat TYPE lvc_t_fcat.

  DATA ls_fcat TYPE lvc_s_fcat.

  LOOP AT it_fcat INTO ls_fcat.
    ls_fcat-coltext = ls_fcat-fieldname.
    ls_fcat-edit = 'X'.

    IF ls_fcat-fieldname = 'COL_POS' OR ls_fcat-fieldname = 'FIELDNAME'.
      ls_fcat-key = 'X'.
    ENDIF.

    MODIFY it_fcat FROM ls_fcat.
  ENDLLOOP.

ENDFORM.                                " CHANGE_FIELDCAT

```

Output

✓ SUBMIT

COL_POS	FIELDNAME	ROW_POS	TABNAME	CURRENCY	CFIELDNAME	QUANTITY	QFIELDNAME	IFIELDNAME	ROUND	EXPOI
1	MANDT	0 1							0	
1	MSEHI	0 1							0	
2	KZEX3	0 1							0	
3	KZEX6	0 1							0	
4	ANDEC	0 1							0	
5	KZKEH	0 1							0	
6	KZWOB	0 1							0	
7	KZ1EH	0 1							0	
8	KZ2EH	0 1							0	
9	DIMID	0 1							0	
10	ZAEHL	0 1							0	
11	NENNR	0 1							0	
12	EXP10	0 1							0	
13	ADDKO	0 1							0	
14	EXPON	0 1							0	
15	DECAN	0 1							0	
16	ISOCODE	0 1							0	
17	PRIMARY	0 1							0	
18	TEMP_VALUE	0 1							0	

YU	3	6	D...	C	V	1	2	Dimen.	Numerator	Denominator	Exp	Additive const.	fpe	Dec	ISO	P	Temperature	Tun	...	Pressure Value F
%	X	X	0	X				PROP...	1	100	0	0,000000	0	0	P1		0,0000000000000000E+00			0,0000000000000000E+00
%O	X	X	0	X				PROP...	1	1.000	0	0,000000	0	0			0,0000000000000000E+00			0,0000000000000000E+00
D...	X	X	0					PROP...	1	1	0	0,000000	0	0			0,0000000000000000E+00			0,0000000000000000E+00
D	X	X	0	X				TIME	86.400	1	0	0,000000	0	0	DAY		0,0000000000000000E+00			0,0000000000000000E+00
22S	X	X	0					VISKIN	1	1.000.000	0	0,000000	0	0			0,0000000000000000E+00			0,0000000000000000E+00
S...	X	X	0	X				SPEED	1	1	2-	0,000000	0	0	2M		0,0000000000000000E+00			0,0000000000000000E+00

For the display we don't consider the field MANDT, its just meant for the purpose of display in the editable ALV grid.

Now we change the fieldcatalogue in the editable ALV by deleting some fields of the table 'T006' and changing the column position as shown below.

✓ SUBMIT

COL_POS	FIELDNAME	ROW_POS	TABNAME	CURRENCY	CFIELDNAME	QUANTITY	QFIELDNAME	IFIELDNAME	ROUND	EXPONEN
1	MANDT	0	1						0	
1	MSEHI	0	1						0	
5	KZEX6	0	1						0	
4	ANDEC	0	1						0	
3	KZ1EH	0	1						0	
6	KZ2EH	0	1						0	
2	ISOCODE	0	1						0	

MU	3	6	D...	C	V	1	2	Dimen.	Numerator	Denominator	Exp	Additive const.	fpe	Dec	ISO	P	Temperature	Tun ...	F
%	X	X	0	X				PROP...	1	100	0	0,000000	0	0	P1		0,0000000000000000E+00		0,000000000
%O	X	X	0	X				PROP...	1	1.000	0	0,000000	0	0			0,0000000000000000E+00		0,000000000

Now when the 'SUBMIT' button is clicked, the output gets modified as shown here.

COL_POS	FIELDNAME	ROW_POS	TABNAME	CURRENCY	CFIELDNAME	QUANTITY	QFIELDNAME	IFIELDNAME	ROUND	EXPONEN
1	MANDT	0	1						0	
1	MSEHI	0	1						0	
5	KZEX6	0	1						0	
4	ANDEC	0	1						0	
3	KZ1EH	0	1						0	
6	KZ2EH	0	1						0	
2	ISOCODE	0	1						0	

MU	ISO code	1	D...	6	2
%	P1		0	X	
%O			0	X	
O...			0	X	
D	DAY		0	X	