1. APA ITU ALV ?

ALV adalah program yg di gunakan untuk menampilkan list data. ALV dibuat menggunakan modul standart yg telah ada di SAP.

ALV menyediakan banyak function untuk membangun report beberapa di antaranya adalah :

1. Sorting of records.
2. Filtering of records.
3. Totals and Sub-totals.
4. Download the report output to Excel/HTML.
5. Changing the order of the columns in the report.
6. Hide the unwanted columns from the report.

Dengan menggunakan function – function ALV diatas kita dapat mengurangi waktu develop secara signifikan.

|  |  |
| --- | --- |
| FUNCTION MODULE | DESCRIPTION |
| REUSE\_ALV\_LIST\_DISPLAY | Untuk Menampilkan ALV berbentuk List. |
| REUSE\_ALV\_GRID\_DISPLAY | Untuk Menampilkan ALV berbentuk grid. |
| REUSE\_ALV\_COMMENTARY\_WRITE | Untuk Menampilkan label header |
| REUSE\_ALV\_VARIANT\_F4 | Menampilkan bermacam selection dialog |
| REUSE\_ALV\_VARIANT\_EXISTENCE | Untuk mengecek apakah terdapat variant. |
| REUSE\_ALV\_FIELDCATALOG\_MERGE | Digunakan untuk mengisi fieldcatalog menggunakan structure. |

SIMPLE ALV :

DATA: it\_pegawai TYPE TABLE OF ztb\_br\_pegawai.

SELECT \* FROM ztb\_br\_pegawai INTO TABLE it\_pegawai.

CALL FUNCTION 'REUSE\_ALV\_GRID\_DISPLAY'

EXPORTING

i\_structure\_name = 'ZTB\_BR\_PEGAWAI'

TABLES

t\_outtab = it\_pegawai.

1. Create Simple SAP ALV Report.

ALV report dibuat menggunakan function yang terdapat di SAP.

ALV report dapat dibuat dengan langkah langkah sebagai berikut :

1. Mendefinisikan SLIS type Pool

SLIS type pool didalamnya terdapat semua data tipe yg di gunakan oleh ALV function.

1. Data Retrieval

Inisiasi variable yang diisi oleh data – data, seperti itab dan structure.

1. Field catalog

Menambahkan data ke iternal table untuk di tampilkan di ALV.

1. Melewatkan data table dan field catalog ke dalam ALV function module.

TYPE-POOLS: slis. " SLIS contains all the ALV data types

\*&---------------------------------------------------------------------\*

\*& Data Declaration

\*&---------------------------------------------------------------------\*

DATA: it\_pegawai TYPE TABLE OF ztb\_br\_pegawai.

DATA: it\_fieldcat TYPE slis\_t\_fieldcat\_alv,

wa\_fieldcat TYPE slis\_fieldcat\_alv.

\*&---------------------------------------------------------------------\*

\*& START-OF-SELECTION

\*&---------------------------------------------------------------------\*

START-OF-SELECTION.

\*Fetch data from the database

SELECT \* FROM sbook INTO TABLE it\_sbook.

\*Build field catalog

wa\_fieldcat-fieldname = 'IDPEGAWAI'. " Fieldname in the data table

wa\_fieldcat-seltext\_m = 'No Pegawai'. " Column description in the output

APPEND wa\_fieldcat TO it\_fieldcat.

wa\_fieldcat-fieldname = 'NAMA'.

wa\_fieldcat-seltext\_m = 'Nama Pegawai'.

APPEND wa\_fieldcat TO it\_fieldcat.

wa\_fieldcat-fieldname = 'ALAMAT'.

wa\_fieldcat-seltext\_m = 'Alamat'.

APPEND wa\_fieldcat TO it\_fieldcat.

wa\_fieldcat-fieldname = 'TANGGAL\_LAHIR'.

wa\_fieldcat-seltext\_m = 'Tanggal Lahir'.

APPEND wa\_fieldcat TO it\_fieldcat.

wa\_fieldcat-fieldname = 'GAJI'.

wa\_fieldcat-seltext\_m = 'Gaji'.

APPEND wa\_fieldcat TO it\_fieldcat.

\*Pass data and field catalog to ALV function module to display ALV list

CALL FUNCTION 'REUSE\_ALV\_GRID\_DISPLAY'

EXPORTING

it\_fieldcat = it\_fieldcat

TABLES

t\_outtab = it\_pegawai

EXCEPTIONS

program\_error = 1

OTHERS = 2.

1. FIELD CATALOG di SAP ALV.

Field catalog adalah sebuah table yg berisi field yang ditampilkan di ALV

Pertama kita harus membuat field catalog untuk menampilkan output di ALV. Kita harus mengikuti 3 cara untuk membangun field catalog.

1. Secara otomatis melalui struktur data dictionary.
2. Secara manual di ABAP program.
3. Semi otomatis dengan menggunakan gabungan kedua cara diatas.

Ketiga cara diatas digunakan untuk .

1. Ketika kita ingin menampilkan semua field dari DDIC structure tetapi kita juga ingin mengubah attribute tertentu seperti deskripsi.
2. Ketika kita ingin menampilkan semua field atau menyembunyikannya.
3. Ketika kita ingin menambah sebuah field.

TYPE-POOLS: slis. " SLIS contains all the ALV data types

\*&---------------------------------------------------------------------\*

\*& Data Declaration

\*&---------------------------------------------------------------------\*

DATA: BEGIN OF wa\_pegawai,

status(4).

INCLUDE STRUCTURE ztb\_br\_pegawai.

DATA: END OF wa\_pegawai.

DATA: it\_pegawai TYPE TABLE OF ztb\_br\_pegawai.

DATA: it\_fieldcat TYPE slis\_t\_fieldcat\_alv,

wa\_fieldcat TYPE slis\_fieldcat\_alv.

\*&---------------------------------------------------------------------\*

\*& START-OF-SELECTION

\*&---------------------------------------------------------------------\*

START-OF-SELECTION.

\*Fetch data from the database

SELECT \* UP TO 10 ROWS FROM ztb\_br\_pegawai INTO TABLE it\_pegawai.

\*Build field catalog

wa\_fieldcat-fieldname = 'STATUS'. " Fieldname in the data table

wa\_fieldcat-seltext\_m = 'Status'. " Column description in the output

APPEND wa\_fieldcat TO it\_fieldcat.

\*Merge Field Catalog

CALL FUNCTION 'REUSE\_ALV\_FIELDCATALOG\_MERGE'

EXPORTING

i\_structure\_name = 'ztb\_br\_pegawai'

CHANGING

ct\_fieldcat = it\_fieldcat

EXCEPTIONS

inconsistent\_interface = 1

program\_error = 2

OTHERS = 3.

\*Pass data and field catalog to ALV function module to display ALV list

CALL FUNCTION 'REUSE\_ALV\_GRID\_DISPLAY'

EXPORTING

it\_fieldcat = it\_fieldcat

TABLES

t\_outtab = it\_pegawai

EXCEPTIONS

program\_error = 1

OTHERS = 2.

1. Menampilkan Header di ABAP ALV.

Untuk menampilkan header di ALV sebagai berikut .

1. Build ALV header Table.
2. Lewatkan subroutine TOP-OF-EVENT dan panggil kembali parameter nama program I\_CALLBACK\_TOP\_OF\_PAGE dan I\_CALLBACK\_PROGRAM ke function REUSE\_ALV\_GRID\_DISPLAY .
3. Tampilkan ALV header dengan melewatkan ALV header table ke dalam function REUSE\_ALV\_COMMENTARY\_WRITE didalam subroutine TOP-OF-EVENT

TYPE-POOLS: slis.

\*----------------------------------------------------------------------\*

\* Data Decalaration

\*----------------------------------------------------------------------\*

DATA: it\_pegawai TYPE TABLE OF pegawai.

DATA: g\_repid TYPE sy-repid.

DATA: it\_listheader TYPE slis\_t\_listheader,

wa\_listheader TYPE slis\_listheader.

\*----------------------------------------------------------------------\*

\* START-OF-SELECTION

\*----------------------------------------------------------------------\*

START-OF-SELECTION.

g\_repid = sy-repid.

SELECT \* FROM ztb\_br\_pegawai INTO TABLE it\_pegawai.

PERFORM build\_alv\_header.

CALL FUNCTION 'REUSE\_ALV\_GRID\_DISPLAY'

EXPORTING

i\_callback\_program = g\_repid

i\_callback\_top\_of\_page = 'TOP\_OF\_PAGE'

i\_structure\_name = 'ztb\_br\_pegawai'

TABLES

t\_outtab = it\_pegawai.

\*&---------------------------------------------------------------------\*

\*& Form BUILD\_ALV\_HEADER

\*&---------------------------------------------------------------------\*

FORM build\_alv\_header .

\* Type H is used to display headers i.e. big font

wa\_listheader-typ = 'H'.

wa\_listheader-info ='Detail Pegawai'.

APPEND wa\_listheader TO it\_listheader.

CLEAR wa\_listheader.

\* Type S is used to display key and value pairs

wa\_listheader-typ = 'S'.

wa\_listheader-key = 'Date :' .

CONCATENATE sy-datum+6(2)

sy-datum+4(2)

sy-datum(4)

INTO wa\_listheader-info

SEPARATED BY '/'.

APPEND wa\_listheader TO it\_listheader.

CLEAR wa\_listheader.

\* Type A is used to display italic font

wa\_listheader-typ = 'A'.

wa\_listheader-info ='SAP ALV Report'.

APPEND wa\_listheader TO it\_listheader.

CLEAR wa\_listheader.

ENDFORM. " BUILD\_ALV\_HEADER

\*&---------------------------------------------------------------------\*

\*& Form top\_of\_page

\*&---------------------------------------------------------------------\*

FORM top\_of\_page.

CALL FUNCTION 'REUSE\_ALV\_COMMENTARY\_WRITE'

EXPORTING

it\_list\_commentary = it\_listheader.

ENDFORM. "top\_of\_page

1. Display Logo.
2. Upload terlebih dahulu menggunakan T-code OAOR.
3. Build ALV Header Table karena logo di letakkan di table.
4. Lewatkan subroutine TOP-OF-EVENT dan panggil kembali parameter nama program I\_CALLBACK\_TOP\_OF\_PAGE dan I\_CALLBACK\_PROGRAM ke function REUSE\_ALV\_GRID\_DISPLAY .
5. Tampilkan ALV header dan logo dengan melewatkan ALV header table ke dalam function REUSE\_ALV\_COMMENTARY\_WRITE didalam subroutine TOP-OF-EVENT

TYPE-POOLS: slis.

\*----------------------------------------------------------------------\*

\* Data Decalaration

\*----------------------------------------------------------------------\*

DATA: it\_pegawai TYPE TABLE OF ztb\_br\_pegawai.

DATA: g\_repid TYPE sy-repid.

DATA: it\_listheader TYPE slis\_t\_listheader,

wa\_listheader TYPE slis\_listheader.

\*----------------------------------------------------------------------\*

\* START-OF-SELECTION

\*----------------------------------------------------------------------\*

START-OF-SELECTION.

g\_repid = sy-repid.

SELECT \* FROM pegawai INTO TABLE it\_pegawai.

PERFORM build\_alv\_header.

CALL FUNCTION 'REUSE\_ALV\_GRID\_DISPLAY'

EXPORTING

i\_callback\_program = g\_repid

i\_callback\_top\_of\_page = 'TOP\_OF\_PAGE'

i\_structure\_name = 'ztb\_br\_pegawai’

TABLES

t\_outtab = it\_pegawai.

\*&---------------------------------------------------------------------\*

\*& Form BUILD\_ALV\_HEADER

\*&---------------------------------------------------------------------\*

FORM build\_alv\_header .

\* Type H is used to display headers i.e. big font

wa\_listheader-typ = 'H'.

wa\_listheader-info ='Detail Pegawai’.

APPEND wa\_listheader TO it\_listheader.

CLEAR wa\_listheader.

\* Type S is used to display key and value pairs

wa\_listheader-typ = 'S'.

wa\_listheader-key = 'Date :' .

CONCATENATE sy-datum+6(2)

sy-datum+4(2)

sy-datum(4)

INTO wa\_listheader-info

SEPARATED BY '/'.

APPEND wa\_listheader TO it\_listheader.

CLEAR wa\_listheader.

\* Type A is used to display italic font

wa\_listheader-typ = 'A'.

wa\_listheader-key = 'Date :' .

wa\_listheader-info ='SAP ALV Report'.

APPEND wa\_listheader TO it\_listheader.

CLEAR wa\_listheader.

ENDFORM. " BUILD\_ALV\_HEADER

\*&---------------------------------------------------------------------\*

\*& Form top\_of\_page

\*&---------------------------------------------------------------------\*

FORM top\_of\_page.

CALL FUNCTION 'REUSE\_ALV\_COMMENTARY\_WRITE'

EXPORTING

it\_list\_commentary = it\_listheader

i\_logo = 'ABYORLOGO'.

ENDFORM. "top\_of\_page

1. Display Subtotal dan Total di ALV.
   1. Build field catalog dan centang atau ‘X’ pada field DO\_SUM pada field yg ingin di hitung.
   2. Lewatkan parameter ke dalam function module REUSE\_ALV\_GRID\_DISPLAY.

TYPE-POOLS: slis. " SLIS contains all the ALV data types

\*&---------------------------------------------------------------------\*

\*& Data Declaration

\*&---------------------------------------------------------------------\*

DATA: it\_pegawai TYPE TABLE OF ztb\_br\_pegawai.

DATA: it\_fieldcat TYPE slis\_t\_fieldcat\_alv,

wa\_fieldcat TYPE slis\_fieldcat\_alv.

\*&---------------------------------------------------------------------\*

\*& START-OF-SELECTION

\*&---------------------------------------------------------------------\*

START-OF-SELECTION.

\*Fetch data from the database

SELECT \* FROM pegawai INTO TABLE it\_pegawai.

\*Build field catalog

\*Build field catalog

wa\_fieldcat-fieldname = 'IDPEGAWAI'. " Fieldname in the data table

wa\_fieldcat-seltext\_m = 'No Pegawai'. " Column description in the output

APPEND wa\_fieldcat TO it\_fieldcat.

wa\_fieldcat-fieldname = 'NAMA'.

wa\_fieldcat-seltext\_m = 'Nama Pegawai'.

APPEND wa\_fieldcat TO it\_fieldcat.

wa\_fieldcat-fieldname = 'ALAMAT'.

wa\_fieldcat-seltext\_m = 'Alamat'.

APPEND wa\_fieldcat TO it\_fieldcat.

wa\_fieldcat-fieldname = 'TANGGAL\_LAHIR'.

wa\_fieldcat-seltext\_m = 'Tanggal Lahir'.

APPEND wa\_fieldcat TO it\_fieldcat.

wa\_fieldcat-fieldname = 'GAJI'.

wa\_fieldcat-seltext\_m = 'Gaji'.

\*Calculate Total for Price

wa\_fieldcat-do\_sum = 'X'.

APPEND wa\_fieldcat TO it\_fieldcat.

wa\_fieldcat-fieldname = 'WAERS'.

wa\_fieldcat-seltext\_m = 'Currency'.

APPEND wa\_fieldcat TO it\_fieldcat.

\*Pass data and field catalog to ALV function module to display ALV list

CALL FUNCTION 'REUSE\_ALV\_GRID\_DISPLAY'

EXPORTING

it\_fieldcat = it\_fieldcat

TABLES

t\_outtab = it\_pegawai

EXCEPTIONS

program\_error = 1

OTHERS = 2.

1. Disable Icon

TYPE-POOLS: slis. " SLIS contains all the ALV data types

\*&---------------------------------------------------------------------\*

\*& Data Declaration

\*&---------------------------------------------------------------------\*

DATA: it\_pegawai TYPE TABLE OF ztb\_br\_pegawai.

DATA: it\_fieldcat TYPE slis\_t\_fieldcat\_alv,

wa\_fieldcat TYPE slis\_fieldcat\_alv.

DATA: it\_excluding TYPE slis\_t\_extab,

wa\_excluding TYPE slis\_extab.

DATA: g\_repid TYPE sy-repid.

\*&---------------------------------------------------------------------\*

\*& START-OF-SELECTION

\*&---------------------------------------------------------------------\*

START-OF-SELECTION.

g\_repid = sy-repid.

\*Fetch data from the database

SELECT \* FROM ztb\_br\_pegawai INTO TABLE it\_pegawai.

\*Build field catalog

wa\_fieldcat-fieldname = 'IDPEGAWAI'. " Fieldname in the data table

wa\_fieldcat-seltext\_m = 'No Pegawai'. " Column description in the output

APPEND wa\_fieldcat TO it\_fieldcat.

wa\_fieldcat-fieldname = 'NAMA'.

wa\_fieldcat-seltext\_m = 'Nama Pegawai'.

APPEND wa\_fieldcat TO it\_fieldcat.

wa\_fieldcat-fieldname = 'ALAMAT'.

wa\_fieldcat-seltext\_m = 'Alamat'.

APPEND wa\_fieldcat TO it\_fieldcat.

wa\_fieldcat-fieldname = 'TANGGAL\_LAHIR'.

wa\_fieldcat-seltext\_m = 'Tanggal Lahir'.

APPEND wa\_fieldcat TO it\_fieldcat.

wa\_fieldcat-fieldname = 'GAJI'.

wa\_fieldcat-seltext\_m = 'Gaji'.

\*Calculate Total for Price

wa\_fieldcat-do\_sum = 'X'.

APPEND wa\_fieldcat TO it\_fieldcat.

wa\_fieldcat-fieldname = 'WAERS'.

wa\_fieldcat-seltext\_m = 'Currency'.

APPEND wa\_fieldcat TO it\_fieldcat.

\*Build excluding table. Append the function codes of the icons to

\*excluding table that you want to disable

wa\_excluding-fcode = '&ILT'. " Function code for filter icon

APPEND wa\_excluding TO it\_excluding.

\*Pass data and field catalog to ALV function module to display ALV list

CALL FUNCTION 'REUSE\_ALV\_GRID\_DISPLAY'

EXPORTING

i\_callback\_program = g\_repid

it\_fieldcat = it\_fieldcat

it\_excluding = it\_excluding

TABLES

t\_outtab = it\_pegawai

EXCEPTIONS

program\_error = 1

OTHERS = 2.

1. Currency wise and Quantity wise Totals in SAP ALV

TYPE-POOLS: slis. " SLIS contains all the ALV data types

\*&---------------------------------------------------------------------\*

\*& Data Declaration

\*&---------------------------------------------------------------------\*

DATA: it\_pegawai TYPE TABLE OF ztb\_br\_pegawai.

DATA: it\_fieldcat TYPE slis\_t\_fieldcat\_alv,

wa\_fieldcat TYPE slis\_fieldcat\_alv.

DATA: g\_repid TYPE sy-repid.

\*&---------------------------------------------------------------------\*

\*& START-OF-SELECTION

\*&---------------------------------------------------------------------\*

START-OF-SELECTION.

g\_repid = sy-repid.

\*Fetch data from the database

SELECT \* UP TO 20 ROWS FROM ztb\_br\_pegawai INTO TABLE it\_pegawai.

\*Build field catalog

wa\_fieldcat-fieldname = 'IDPEGAWAI'. " Fieldname in the data table

wa\_fieldcat-seltext\_m = 'No Pegawai'. " Column description in the output

APPEND wa\_fieldcat TO it\_fieldcat.

wa\_fieldcat-fieldname = 'NAMA'.

wa\_fieldcat-seltext\_m = 'Nama Pegawai'.

APPEND wa\_fieldcat TO it\_fieldcat.

wa\_fieldcat-fieldname = 'ALAMAT'.

wa\_fieldcat-seltext\_m = 'Alamat'.

APPEND wa\_fieldcat TO it\_fieldcat.

wa\_fieldcat-fieldname = 'TANGGAL\_LAHIR'.

wa\_fieldcat-seltext\_m = 'Tanggal Lahir'.

APPEND wa\_fieldcat TO it\_fieldcat.

wa\_fieldcat-fieldname  = 'GAJI'.  
  wa\_fieldcat-seltext\_m  = 'Gaji Pegawai'.  
  wa\_fieldcat-do\_sum     = 'X'.  
  wa\_fieldcat-cfieldname = 'WAERS'.  
  APPEND wa\_fieldcat TO it\_fieldcat.

  wa\_sort-spos      = 1.  
  wa\_sort-fieldname = 'IDGOLONGAN'.  
  wa\_sort-up        = 'X'.  
  wa\_sort-subtot    = 'X'.  
  APPEND wa\_sort TO it\_sort.

\*Pass data and field catalog to ALV function module to display ALV list

CALL FUNCTION 'REUSE\_ALV\_GRID\_DISPLAY'

EXPORTING

i\_callback\_program = g\_repid

it\_fieldcat = it\_fieldcat

TABLES

t\_outtab = it\_pegawai

EXCEPTIONS

program\_error = 1

OTHERS = 2.

1. Display Traffic Light.

TYPE-POOLS: slis. " SLIS contains all the ALV data types

\*&---------------------------------------------------------------------\*

\*& Data Types

\*&---------------------------------------------------------------------\*

TYPES: BEGIN OF ty\_pegawai.

INCLUDE STRUCTURE ztb\_br\_pegawai.

TYPES: icon TYPE c,  " Add field to hold traffic light value

END OF ty\_sbook.

\*&---------------------------------------------------------------------\*

\*& Data Declaration

\*&---------------------------------------------------------------------\*

DATA: it\_pegawai TYPE TABLE OF ty\_pegawai.

DATA: wa\_pegawai TYPE ty\_pegawai.

DATA: it\_fieldcat TYPE slis\_t\_fieldcat\_alv,

wa\_fieldcat TYPE slis\_fieldcat\_alv.

DATA: is\_layout TYPE slis\_layout\_alv.

DATA: g\_repid TYPE sy-repid.

\*&---------------------------------------------------------------------\*

\*& START-OF-SELECTION

\*&---------------------------------------------------------------------\*

START-OF-SELECTION.

g\_repid = sy-repid.

\*Fetch data from the database

SELECT \* UP TO 20 ROWS FROM ztb\_br\_pegawai INTO TABLE it\_pegawai.

\*Assign different traffic lights to each row based on condition

LOOP AT it\_pegawai INTO wa\_pegawai.  
      IF wa\_pegawai-gaji GE 4000000.  
        wa\_pegawai-icon = 1.  
      ELSEIF wa\_pegawai-gaji LE 4000000 AND wa\_pegawai-gaji GE 2500000.  
        wa\_pegawai-icon = 2.  
      ELSEIF wa\_pegawai-gaji LE 2500000.  
        wa\_pegawai-icon = 3.  
      ENDIF.  
      MODIFY it\_pegawai FROM wa\_pegawai TRANSPORTING icon.  
      CLEAR: wa\_pegawai.  
  
  ENDLOOP.

wa\_fieldcat-fieldname = 'IDPEGAWAI'. " Fieldname in the data table

wa\_fieldcat-seltext\_m = 'No Pegawai'. " Column description in the output

APPEND wa\_fieldcat TO it\_fieldcat.

wa\_fieldcat-fieldname = 'NAMA'.

wa\_fieldcat-seltext\_m = 'Nama Pegawai'.

APPEND wa\_fieldcat TO it\_fieldcat.

wa\_fieldcat-fieldname = 'ALAMAT'.

wa\_fieldcat-seltext\_m = 'Alamat'.

APPEND wa\_fieldcat TO it\_fieldcat.

wa\_fieldcat-fieldname = 'TANGGAL\_LAHIR'.

wa\_fieldcat-seltext\_m = 'Tanggal Lahir'.

APPEND wa\_fieldcat TO it\_fieldcat.

wa\_fieldcat-fieldname  = 'GAJI'.  
  wa\_fieldcat-seltext\_m  = 'Gaji Pegawai'.  
  wa\_fieldcat-do\_sum     = 'X'.  
  wa\_fieldcat-cfieldname = 'WAERS'.  
  APPEND wa\_fieldcat TO it\_fieldcat.

  wa\_sort-spos      = 1.  
  wa\_sort-fieldname = 'IDGOLONGAN'.  
  wa\_sort-up        = 'X'.  
  wa\_sort-subtot    = 'X'.  
  APPEND wa\_sort TO it\_sort.

\*Fill layout info.

\*Fill traffic lights field name in the ALV layout

is\_layout-lights\_fieldname = 'ICON'.

\*Pass data and field catalog to ALV function module to display ALV list

CALL FUNCTION 'REUSE\_ALV\_GRID\_DISPLAY'

EXPORTING

i\_callback\_program = g\_repid

is\_layout = is\_layout

it\_fieldcat = it\_fieldcat

it\_sort        = it\_sort

TABLES

t\_outtab = it\_pegawai

EXCEPTIONS

program\_error = 1

OTHERS = 2.