



ABAP Part I

Lesson 04: Selection Screen

Lesson Objectives

After completing this lesson, participants will be able to understand -

- Learn to create a selection screen





There are three ABAP statements for defining selection screens:

- PARAMETERS for single fields
- SELECT-OPTIONS for complex selections
- SELECTION-SCREEN for formatting the selection screen and defining user-specific selection screens

The selection screen that is defined using PARAMETERS or SELECT-OPTIONS statements on their own, has a standard layout in which all parameters appear line by line.

This layout is not always sufficient.

For example, when you define a group of radio buttons, you should set off these buttons against other input fields so that the user can identify them as a group.

Selection Screen: Declaring Fields with Parameters

```
PARAMETERS :      <f>[TYPE <type>] [DECIMALS <n>] [LIKE <f1>] [MEMORY pad*]  
                [OBLIGATORY] [DEFAULT <value >] [LOWER CASE] [VALUE CHECK]  
                [AS CHECKBOX]  
                [RADIOBUTTON GROUP < grp >]
```

```
REPORT saphc405_  ascd_checkbox_radiobutton .  
...  
PARAMETERS:  pa_carr  LIKE aflight -carrid ,  
             pa_name  AS CHECKBOX DEFAULT 'X',  
             pa_curr  AS CHECKBOX DEFAULT 'X',  
             pa_lim_1 RADIOBUTTON GROUP   lim ,  
             pa_lim_2 RADIOBUTTON GROUP   lim ,  
             pa_lim_3 RADIOBUTTON GROUP   lim .  
CONSTANTS mark VALUE      'X' .  
  
* Check, if any checkbox has been selected  
IF pa_name EQ mark.      ... .  ENDDIF.  
IF pa_curr EQ mark.      ... .  ENDDIF.  
  
* Check, which      radiobutton  has been selected  
CASE mark.  
  WHEN pa_ lim_1. ... .  
  WHEN pa_ lim_2. ... .  
  WHEN pa_ lim_3. ... .  
ENDCASE.
```

Airline

☒ Output name

☒ Output local currency

Price (local currency): up to 500 ☒

 500 to 1000 ☐

 1000 to 1500 ☐

PARAMETERS Statement



A parameter is a special type of variable that is defined using the parameters statement.

Parameters is a lot like the data statement, but when you run the program, the system will display the parameters as input fields on a selection screen before the program actually begins to execute.

The rules for parameters names are the same as for variables names, except for the following:

- The maximum length is 8 characters instead of 30.
- You can assign the initial value of a parameter using the parameter default.

Syntax for PARAMETERS Statement



The following code is the syntax for defining a variable using the parameters statement.

```
parameters p1[ (l) ]          [type t]          [decimals d]
```

Or

```
parameters p1  like      v1  
[default 'xxx'] [obligatory]      [lower case]      [as check box]  
[radiobutton group g]
```

Example



parameters p1(2)

type c.

parameters p2

like p1.

parameters max_value

type i default 100.

parameters cur_date

type d default '20030827' obligatory.

parameters cur_date

Like sy-datum default sy-datum
obligatory.

Example



You declare parameters in the PARAMETERS statement analogous to report internal fields:

```
PARAMETERS: NAME(30) OBLIGATORY DEFAULT 'Renu ',  
              AGE(2)      TYPE P.
```

You assign the initial value of a parameter using the parameter DEFAULT.
The parameters statement can not be used for type f .

Additions to Parameter statement



Addition	Use
Type	Same as the data
decimals	Same as the data
Like	Same as the data
default	Same as the <i>value</i> addition on the <i>data</i> statement
obligatory	The user must enter a value into the field before the program will execute
lower case	Prevents values from being translated to uppercase
as checkbox	Displays the input field as check box
Radio button group g	Displays the input field as a radio button belonging to group g



Using the Addition : Lower Case

- All values entered into a parameter are translated into uppercase by default. To turn off this translation, use the addition *lower case*.
- This translation applies only to character fields.

Using the Addition : Check Box

- A checkbox has two states: ticked and clear.
- You use them when you want to present the user with an on/off or true or false type of choice.
- You can use more than one checkbox on a screen.

E.g. parameters: cb1 as checkbox default 'X',
cb2 as checkbox,



Using the Addition : radiobutton group

- Like check boxes, a radio button also has two states: selected and not selected.
- Unlike check boxes, radio buttons never operate alone; they operate in groups.
- You can have any number of radio buttons in a group (greater than 1), but only one can be selected at a time.
- They are used when you need to present the user with a list of alternatives in which only one option can be chosen

To display a parameter as a radio button, use the addition radiobutton group g.

- E.g. parameters: `rb1 radiobutton group g1 default 'X',`
`rb2 radiobutton group g1,`
`rb3 radiobutton group g1.`



Parameter Input Field Labels

- On the selection screen to the left of each parameter's input field is a label.
- By default, the label is the same as the name of the parameter.
- You can set these labels manually.
- For parameters defined like Data Dictionary fields, you can retrieve the label automatically from the data element.

Changing Parameter Labels

- You can change the labels for the parameters appearing on the selection screen by using the text symbols.
- Follow this path to change the text symbols.
 - (Menu bar -GOTO->TEXT ELEMENTS ->SELECTION TEXTS)



Program on using Parameters and its options

Selection Screen: Declaring Fields with Select-Options



MEMORY ID <PID>, the system retrieves the current value from SAP system memory and supplies it on the screen automatically

OBLIGATORY generates a mandatory field.

NO-EXTENSION suppresses multiple single or multiple range selections.

NO INTERVALS suppresses the SELTAB-HIGH (upper interval limit) entry on the selection screen.

```
SELECT - OPTIONS:  <seltab > FOR <f>.
```

```
REPORT  sapbc405_ ssed _select_options .  
TABLES: sflight .  
SELECT - OPTIONS:  so_carr FOR sflight -carrid  DEFAULT 'AA',  
                  so_fldt FOR sflight -fldate .
```

Internal Table
so_carr

Sign	Option	Low	High
I	EQ	AA	

Airline

AA

to

Y+

Flight date

to

Y+

Demo

Program on using select-options



Defining Selection Screens

The `SELECTION-SCREEN` statement has its own formatting options that you can use to define the layout for selection screens.

You can define the layout of parameters and selection criteria and display comments and underlines on the selection screen.

In addition, you can place pushbuttons in the application toolbar and on the screen itself

User-defined selection screens

- Defined Using :

SELECTION-SCREEN BEGIN OF SCREEN numb [TITLE tit] [AS WINDOW].

...

SELECTION-SCREEN END OF SCREEN numb

- Define a user-defined selection screen with screen number numb
- Screen number numb is a four-digit number other than 1000
- AS WINDOW
 - User-defined selection screen is called as a modal dialog box

Formatting Selection Screen

A standard layout is defined for the selection screen when defined using the `PARAMETERS` or `SELECT-OPTIONS` statements

Changing Standard layout

- use `SELECTION-SCREEN` statement
 - Has its own formatting options

Blank Lines, Underlines, and Comments

Blank Lines

- To place blank lines on the Selection screen, use
SELECTION-SCREEN SKIP [n]

Underlines

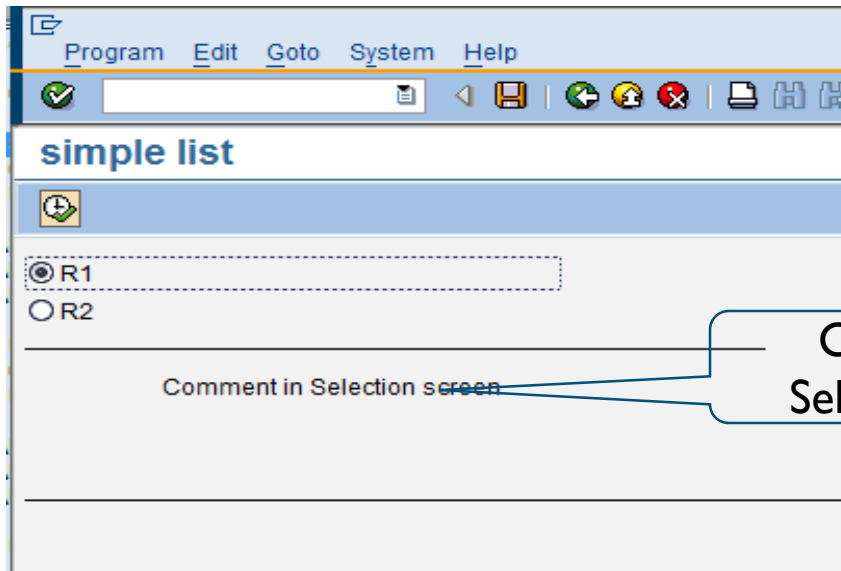
- To place underlines on the Selection screen, use
SELECTION-SCREEN ULINE [[/]pos(len)] [MODIF ID key]

Comments

- To place comments on the Selection screen, use
SELECTION-SCREEN COMMENT [/]pos(len) comm [FOR FIELD f]
[MODIF ID key]

Example

PARAMETERS: r1 RADIOBUTTON GROUP rad1,
 r2 RADIOBUTTON GROUP rad1.
SELECTION-SCREEN ULINE /1(50).
SELECTION-SCREEN COMMENT /10(30) comm1.
SELECTION-SCREEN SKIP 2.
SELECTION-SCREEN ULINE.
INITIALIZATION.
 comm1 ='Comment in Selection



Comments in
Selection Screen

Several Elements in a Single Line

SELECTION-SCREEN BEGIN OF LINE.

...

SELECTION-SCREEN END OF LINE.

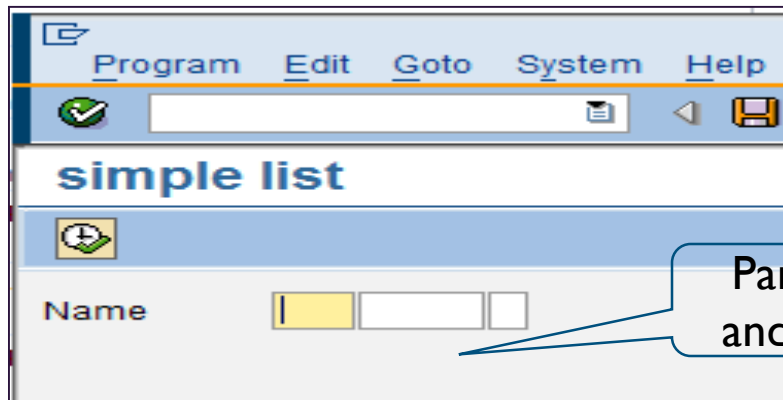
– Example

SELECTION-SCREEN BEGIN OF LINE.

SELECTION-SCREEN COMMENT 1(10) text-001.

PARAMETERS: p1(3) TYPE c, p2(5) TYPE c, p3(1) TYPE c.

SELECTION-SCREEN END OF LINE.



Parameters :P1, P2
and P3 in single line

Blocks of Elements

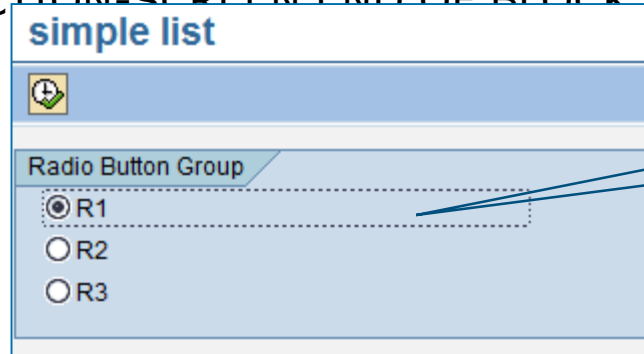
```
SELECTION-SCREEN BEGIN OF BLOCK block  
    [WITH FRAME [TITLE title]]  
    [NO INTERVALS].
```

...

```
SELECTION-SCREEN END OF BLOCK block.
```

– Example

```
SELECTION-  
SCREEN BEGIN OF BLOCK rad1 WITH FRAME TITLE text-002.  
    PARAMETERS r1 RADIOBUTTON GROUP gr1.  
    PARAMETERS r2 RADIOBUTTON GROUP gr1.  
    PARAMETERS r3 RADIOBUTTON GROUP gr1.  
SELECTION-SCREEN END OF BLOCK rad1.
```



Radio buttons in a
block

Calling User-Defined Selection Screens

CALL SELECTION-SCREEN numb [STARTING AT x1 y1] [ENDING AT x2 y2].

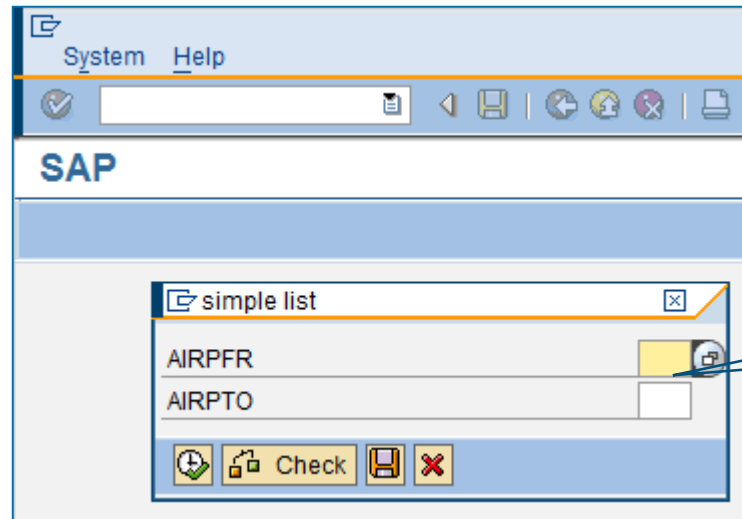
- Example:

SELECTION-SCREEN BEGIN OF SCREEN 500 AS WINDOW.

PARAMETERS: airpfr TYPE spfli-airpfrom,
airpto TYPE spfli-airpto.

SELECTION-SCREEN END OF SCREEN 500.

CALL SELECTION-SCREEN 500 STARTING AT 10 1.



Calling own selection screen

Selection Screen Processing



Selection screens are special screens, defined with the help of ABAP statements

The ABAP runtime environment completely controls the processing flow of the selection screens

The ABAP runtime environment generates a number of special selection screen events before the selection screen is displayed and also after the user has executed actions on the selection screen

Programmers can define event blocks in the program in order to react to these events

Processing Selection Screen (Contd.).

AT SELECTION-SCREEN event is

- the basics of Selection Screen events
- Occurs after all the input data is passed to the underlying ABAP program from selection screen

Overview of Selection Screen Events

Selection Screen Processing

- Started after the INITIALIZATION event
- Other events may be triggered for fields or for F4 help, depending upon user action on the selection screen

The event AT SELECTION SCREEN has to be exited properly for further events to be processed

Selection Screen - Basic Form

On passing the input data from Selection Screen to ABAP Program by the runtime environment, AT SELECTION-SCREEN event is triggered

To modify the Selection Screen elements before display, AT SELECTION-SCREEN OUTPUT event is used

Demo

Create a selection screen



Summary

In this lesson, you have learnt:

- How to create a selection screen



Review Question

1. Selection screen elements can be combined into cohesive units called ____.
2. The default selection screen has the number ____.

