

Working with the Class Builder



Alex Gönczy

ABAP DEVELOPER

@abapmentor <http://abapmentor.expertise-team.com/>



CL_SALV_TABLE Class

```
TRY.  
    cl_salv_table=>factory(  
        IMPORTING  
            r_salv_table = DATA(alv)  
        CHANGING  
            t_table      = flight_bookings  
    ).  
    CATCH cx_salv_msg INTO DATA(salv_msg).  
        MESSAGE e398(00) WITH salv_msg->get_text( ).  
ENDTRY.
```

```
alv->get_functions( )->set_all( ).
```

```
alv->get_columns( )->set_optimize( ).
```

```
alv->get_display_settings( )->set_striped_pattern( abap_true ).
```

```
alv->get_display_settings( )->set_list_header( CONV #( title_of_alv ) ).
```

```
TRY.  
    alv->get_columns( )->get_column( 'MANDT' )->set_visible( abap_false ).  
    alv->get_columns( )->get_column( 'CLASS' )->set_visible( abap_false ).  
    alv->get_columns( )->get_column( 'FORCURAM' )->set_visible( abap_false ).  
    alv->get_columns( )->get_column( 'FORCURKEY' )->set_visible( abap_false ).  
    alv->get_columns( )->get_column( 'COUNTER' )->set_visible( abap_false ).  
    alv->get_columns( )->get_column( 'PASSFORM' )->set_visible( abap_false ).  
    CATCH cx_salv_not_found INTO DATA(salv_not_found).  
        MESSAGE e398(00) WITH salv_not_found->get_text( ).  
ENDTRY.
```

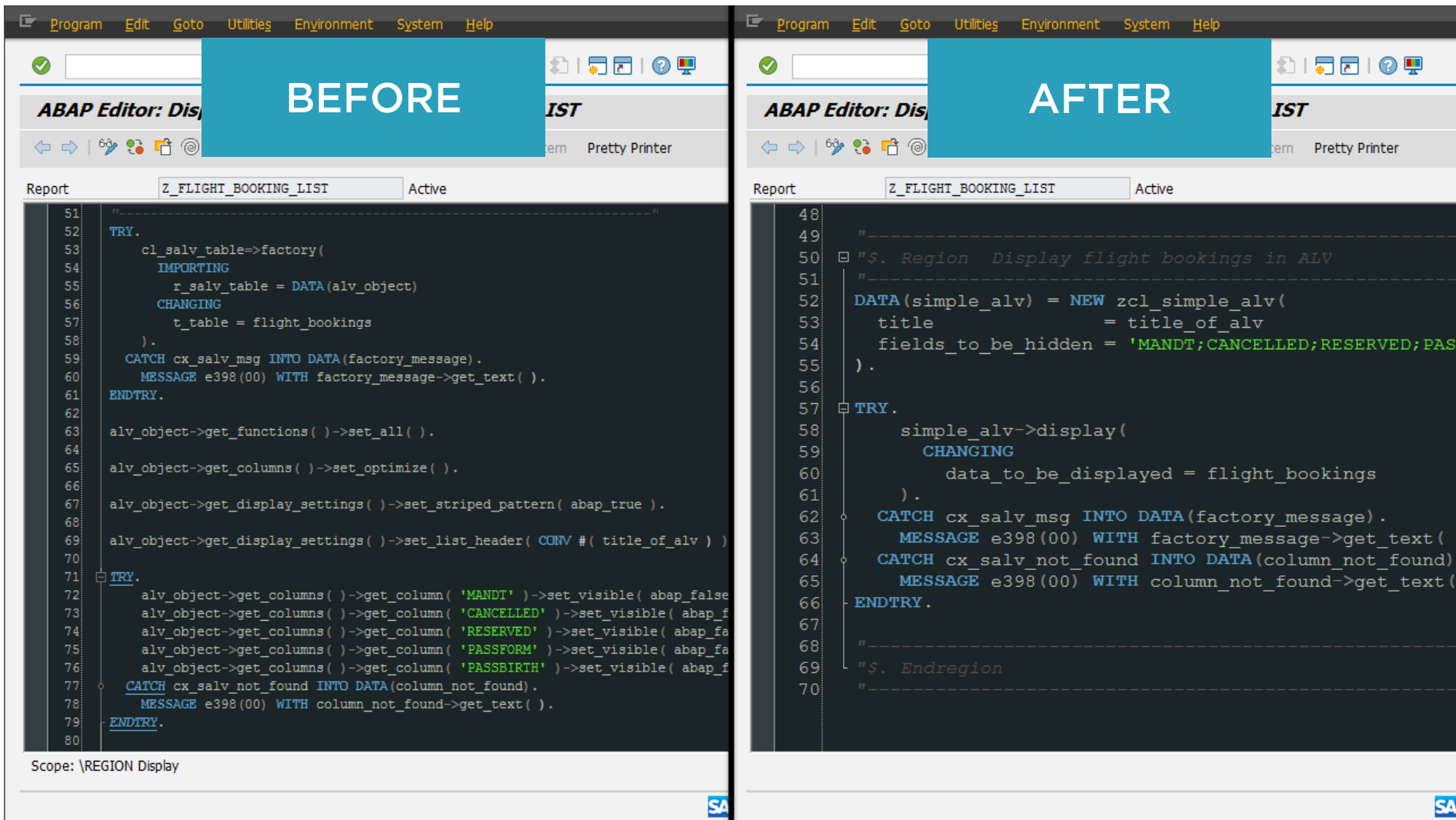
```
alv->display( ).
```



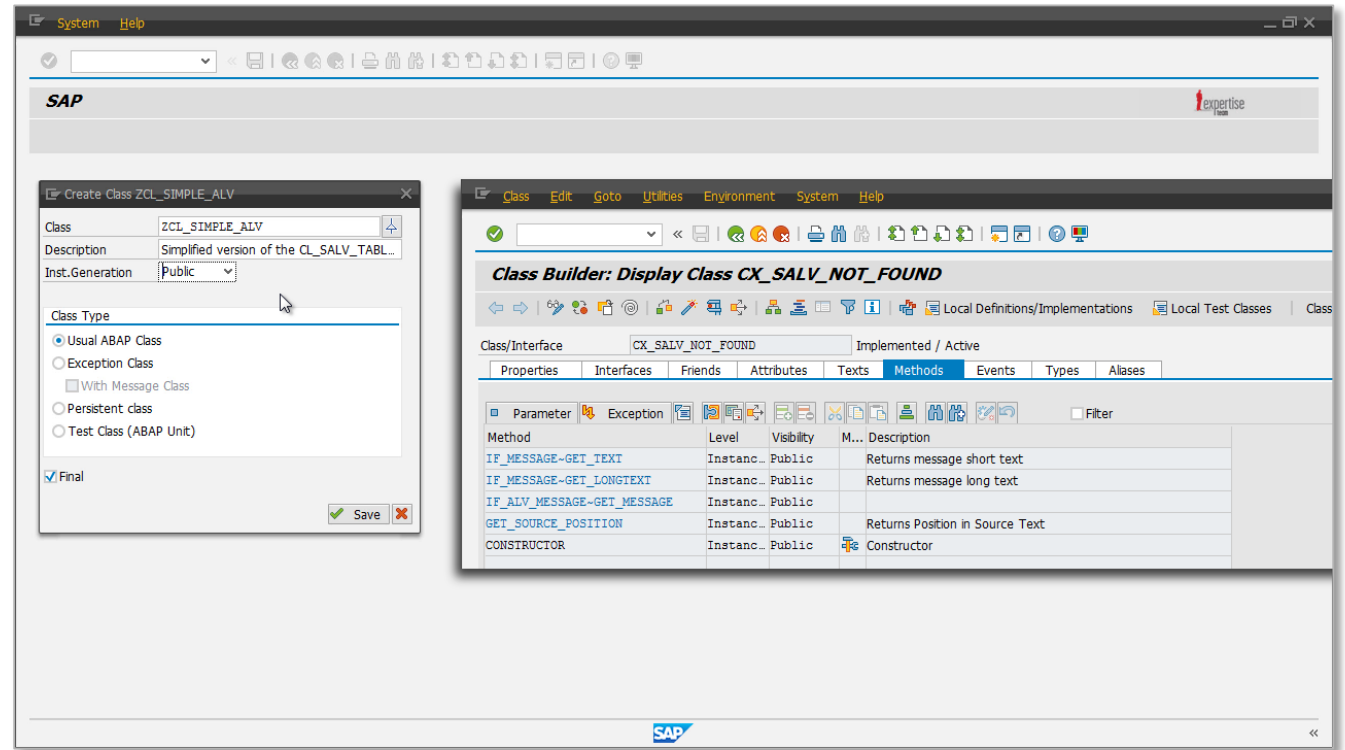
Simple ALV



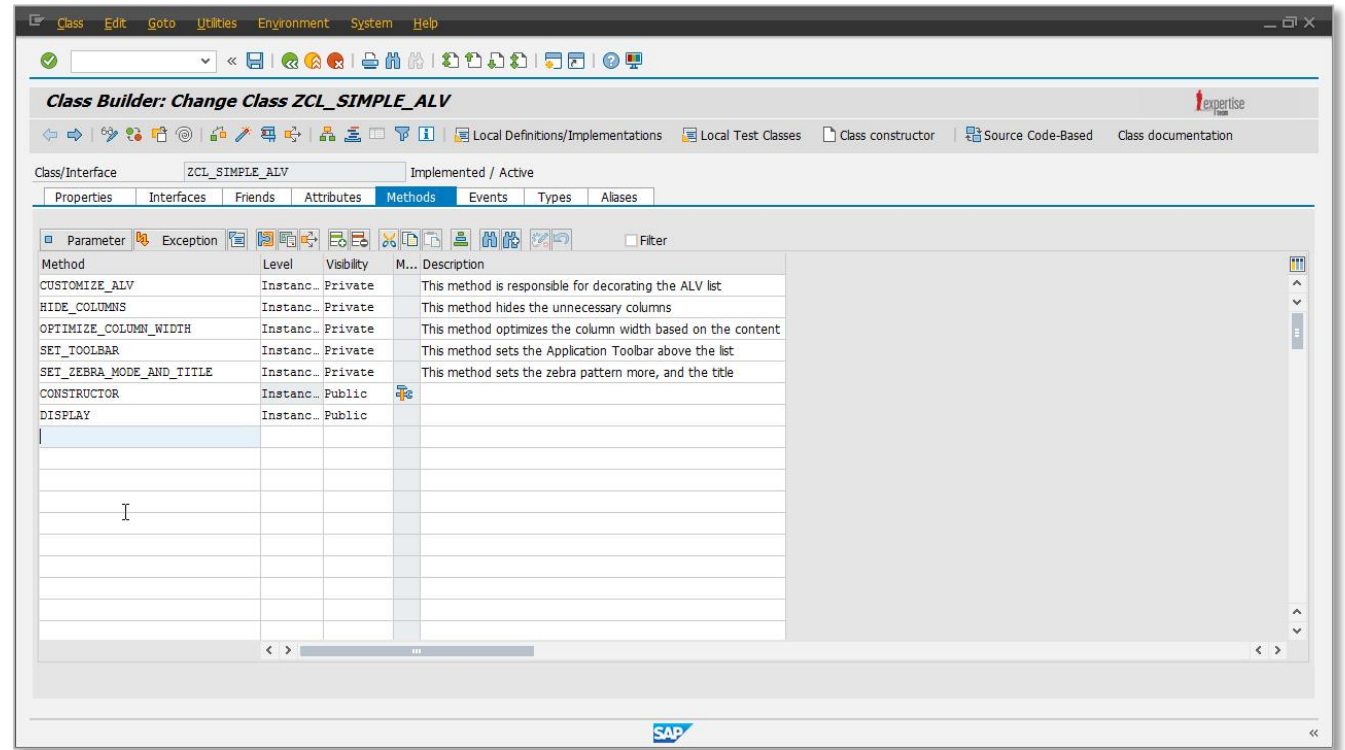
The Goal of This Module



Creating ZCL_SIMPLE_ALV



Implementing the Methods



Using ZCL_SIMPLE_ALV

A screenshot of the SAP ABAP Editor interface. The title bar reads "ABAP Editor: Change Report Z_FLIGHT_BOOKING_LIST". The editor shows the source code for the class ZCL_SIMPLE_ALV. The code includes a constructor, a TRY block for displaying the ALV, and several CATCH blocks for handling exceptions. The status bar at the bottom indicates "Active object generated" and the SAP logo is visible.

```
48
49
50 " $. Region Display flight bookings in ALV
51
52 DATA(simple_alv) = NEW zcl_simple_alv(
53     title           = title_of_alv
54     fields_to_be_hidden = 'MANDT;CANCELLED;RESERVED;PASSFORM;PASSBIRTH'
55 ).
56
57 TRY.
58     simple_alv->display(
59         CHANGING
60         data_to_be_displayed = flight_bookings
61     ).
62 CATCH cx_salv_msg INTO DATA(factory_message).
63     MESSAGE e398(00) WITH factory_message->get_text( ).
64 CATCH cx_salv_not_found INTO DATA(column_not_found).
65     MESSAGE e398(00) WITH column_not_found->get_text( ).
66 ENDTRY.
67
68 " $. Endregion
69
70
```



Next

Creating ZCL_SIMPLE_ALV



```
Report Z_FLIGHT_BOOKING_LIST Active

48
49 .....
50 *2. Begin: Display flight bookings in ALV
51 .....
52 DATA(simple_alv) = NEW zcl_simple_alv(
53     title      = title_of_alv
54     fields_to_be_hidden = 'MANOT;CANCELLED;RESERVED;PASSFORM;PASSBIRTH'
55 ).
56
57 *TRY.
58     simple_alv->display(
59         CHANGING
60         data_to_be_displayed = flight_bookings
61     ).
62     CATCH cx_salv_msg INTO DATA(factory_message).
63         MESSAGE e398(00) WITH factory_message->get_text( ).
64     CATCH cx_salv_not_found INTO DATA(column_not_found).
65         MESSAGE e398(00) WITH column_not_found->get_text( ).
66 *ENDTRY.
67 .....
68 .....
69 *3. Endprogram
70 .....
```

Creating ZCL_SIMPLE_ALV



Implementing the CONSTRUCTOR Method



Implementing the DISPLAY Method



Implementing the CUSTOMIZE_ALV Method



Implementing the SET_TOOLBAR Method



Implementing the OPTIMIZE_COLUMN_WIDTH Method



Implementing the SET_ZEBRA_MODE_AND_TITLE Method



Implementing the HIDE_COLUMNS Method



Exception Chain



Fields To Be Hidden

MANDT;CANCELLED;RESERVED;PASSFORM;PASSBIRTH

SPLIT ↓

MANDT

CANCELLED

RESERVED

PASSFORM

PASSBIRTH



Using ZCL_SIMPLE_ALV



Summary



Working with the Class Builder

- How to create Classes
- How to reuse Classes

What are the benefits?

- No need to implement it one more time
- Reduces the development costs
- You can change it on a central place
- Improves the consistency
- Makes your source code more readable



Summary



Next

Course Summary

What are the benefits?

- No need to implement it one more time
- Reduces the development costs
- You can change it on a central place
- Improves the consistency
- Makes your source code more readable





SAP **Industry** Solutions



Mercedes AMG
McLaren Group



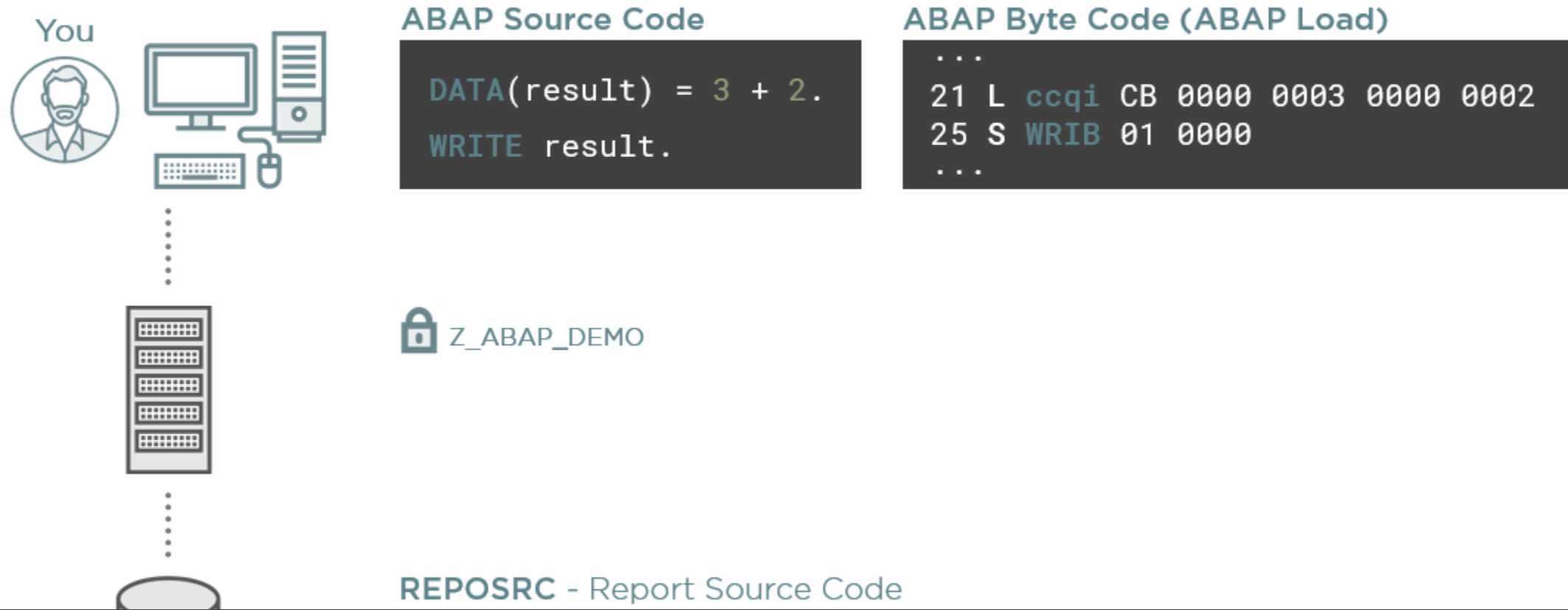
FC Bayern München
NBA



Bank of America
Deutsche Bank

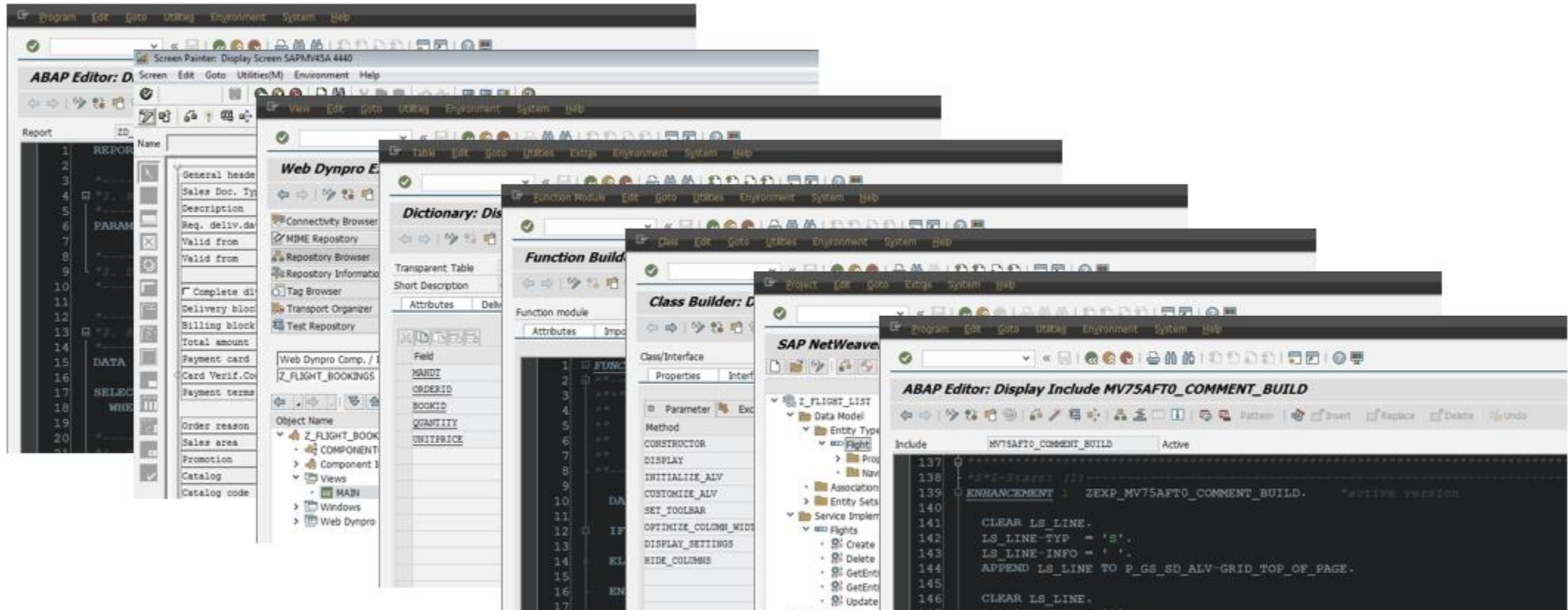
Introduction to ABAP

Where Does SAP Store **Your Source Code**?

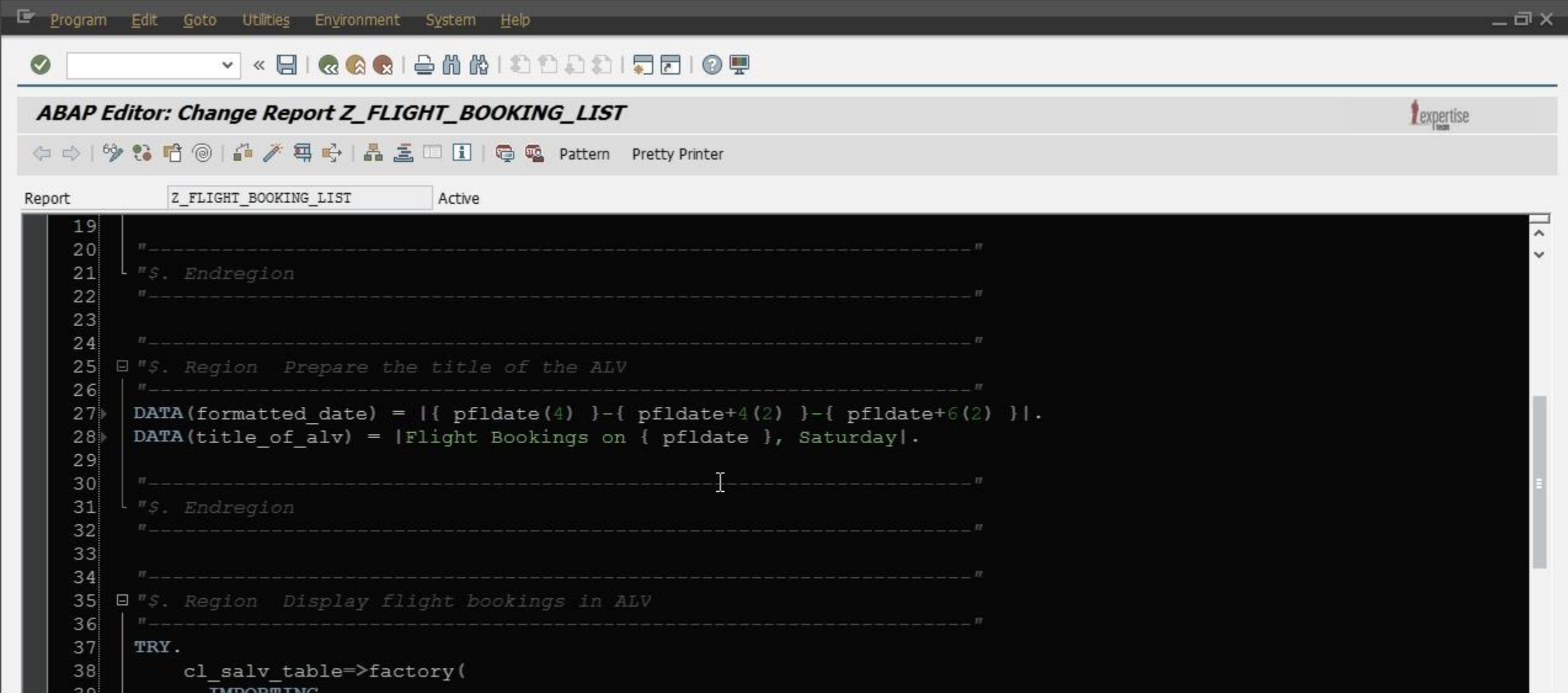


ABAP: Behind the Scenes

ABAP Workbench Tools



Introducing the ABAP Workbench



Working with the ABAP Editor

Function Module Edit Goto Utilities Environment System Help

Function Builder: Change Z_DETERMINE_NAME_OF_THE_DAY expertise

Function module Z_DETERMINE_NAME_OF_THE_DAY Active

Attributes Import Export Changing Tables Exceptions Source code

```
7  *"      REFERENCE(NAME_OF_THE_DAY) TYPE STRING
8  *"-----
9
10 DATA(day_of_the_week) = date MOD 7.
11
12 IF day_of_the_week > 1.
13     day_of_the_week = day_of_the_week - 1.
14 ELSE.
15     day_of_the_week = day_of_the_week + 6.
16 ENDIF.
17
18 name_of_the_day = SWITCH string(
19     day_of_the_week WHEN 1 THEN 'Monday'
20                     WHEN 2 THEN 'Tuesday'
21                     WHEN 3 THEN 'Wednesday'
22                     WHEN 4 THEN 'Thursday'
23                     WHEN 5 THEN 'Friday'
24                     WHEN 6 THEN 'Saturday'
```

Working with the Function Builder

Method	Level	Visibility	M...	Description
CUSTOMIZE_ALV	Instanc...	Private		This method is responsible for decorating the ALV list
HIDE_COLUMNS	Instanc...	Private		This method hides the unnecessary columns
OPTIMIZE_COLUMN_WIDTH	Instanc...	Private		This method optimizes the column width based on the content
SET_TOOLBAR	Instanc...	Private		This method sets the Application Toolbar above the list
SET_ZEBRA_MODE_AND_TITLE	Instanc...	Private		This method sets the zebra pattern more, and the title
CONSTRUCTOR	Instanc...	Public		
DISPLAY	Instanc...	Public		
I				
I				

Working with the Class Builder

Program Edit Goto Utilities Environment System Help

ABAP Editor: Display Report ZD_FLIGHT_BOOKING_LIST

Report ZD_FLIGHT_BOOKING_LIST Active

```
1 REPORT zd_flight_booking_list.
2
3
4 "S. Region Define a selection field for Flight Date
5
6 PARAMETERS pfldate TYPE sy-datum OBLIGATORY DEFAULT '20100111'
7
8 "S. Endregion
9
```

Screen Painter: Display Screen SAPMV45A 4440

Screen Edit Goto Utilities(M) Environment Help

Name

General header data

Sales Doc. Type					
Description					
Req. deliv.date		Deliver.Plant			
Valid from		Valid to			
Valid from		Valid to			
Complete div.		Total Weight			
Delivery block		Volume			
Billing block		Pricing date			

View Edit Goto Utilities Environment System Help

Web Dynpro Explorer: Display View for Z_FLIGHT_BOOKINGS

Connectivity Browser

- MIME Repository
- Repository Browser
- Repository Information System
- Tag Browser
- Transport Organizer
- Test Repository

View MAIN Active

Properties Layout Inbound Plugs Outbound Plugs Conte

Search For Flights

From

City: MAIN.DESTINATION_F Country: MAIN.DESTINATION_F

Table Edit Goto Utilities Extras Environment System Help

Dictionary: Display Table

Transparent Table ZORDERITEM Active

Short Description Order Item

Attributes Delivery and Maintenance Fields Entry help/check Currency/Quantity Fields

Field	Key	Ini...	Data element	Data Type	Length	Deci...	Short Description
MANDT	✓	✓	MANDT	CLNT	3	0	Client
ORDERID	✓	✓	ZORDERID	CHAR	10	0	Order ID
BOOKID	✓	✓	ZBOOKID	CHAR	10	0	Book ID
QUANTITY			ZQUANTITY				
UNITPRICE			ZUNITPRICE				

Function Module Edit Goto Utilities Environment System Help

Function Builder: Display ZD_DETERMINE_NAME_OF_THE_DAY

Function module ZD_DETERMINE_NAME_OF_THE_DAY Active

Attributes Import Export Changing Tables Exceptions Source code

```
1 FUNCTION zd_determine_name_of_the_day.
2
3
4
5
6
7
```

Class Edit Goto Utilities Environment System Help

Class Builder: Display Class ZDCL_SIMPLE_ALV

Class/Interface ZDCL_SIMPLE_ALV Implemented / Active

Properties Interfaces Friends Attributes Methods Events Types Aliases

Method	Level	Visibility	M...	Description
CONSTRUCTOR	Instance Method	Public		
DISPLAY	Instance Method	Public		
INITIALIZE_ALV	Instance Method	Private		
CUSTOMIZE_ALV	Instance Method	Private		

Project Edit Goto Extras System Help

SAP NetWeaver Gateway Service Builder

Properties

Name	Key	Edm Type	Prec.	Scale	Max...	Unit Prop.	Crea...
AirlineId	✓	Edm.String	0	0	3		
FlightConne...	✓	Edm.String	0	0	4		
FlightDate	✓	Edm.DateTi...	0	0	0		
Price		Edm.Decimal	8	2	0		
Currency		Edm.String	0	0	5		
PlaneType		Edm.String	0	0	10		
EconomyM...		Edm.Int32	0	0	0		
EconomyO...		Edm.Int32	0	0	0		
TotalPayme...		Edm.Decimal	9	2	0		
BusinessMa...		Edm.Int32	0	0	0		
BusinessOc...		Edm.Int32	0	0	0		
FirstClassM...		Edm.Int32	0	0	0		
FirstClassO...		Edm.Int32	0	0	0		

Program Edit Goto Utilities Environment System Help

ABAP Editor: Display Include MV75AFT0_COMMENT_BUILD

Include MV75AFT0_COMMENT_BUILD Active

```
137
138
139
140
141
142
143
144
145
146
147
148
149
150
151
152
153
154
155
156
157
```







What do you want to learn?

Alex

gonczy.alex@expertise-team.com



ABAP Workbench: The Big Picture

by Alex Gonczy

Do you have any idea what is ABAP for, where to write ABAP code, or what are the different IDEs for ABAP? This course introduces ABAP and the different ABAP IDEs through simple examples.

▶ Resume Course

Table of contents

Description

Transcript

Exercise files

Discussion

Learning Check

Recommended

Course author



Alex Gonczy

Alex is an ABAP Developer and Trainer with over 4 years of experience. He is also enthusiastic about cross-platform Mobile developments. Lucky, because he can do what he likes.

Course info

Level Beginner

Rating ★★★★★ (91)

My rating ★★★★★

