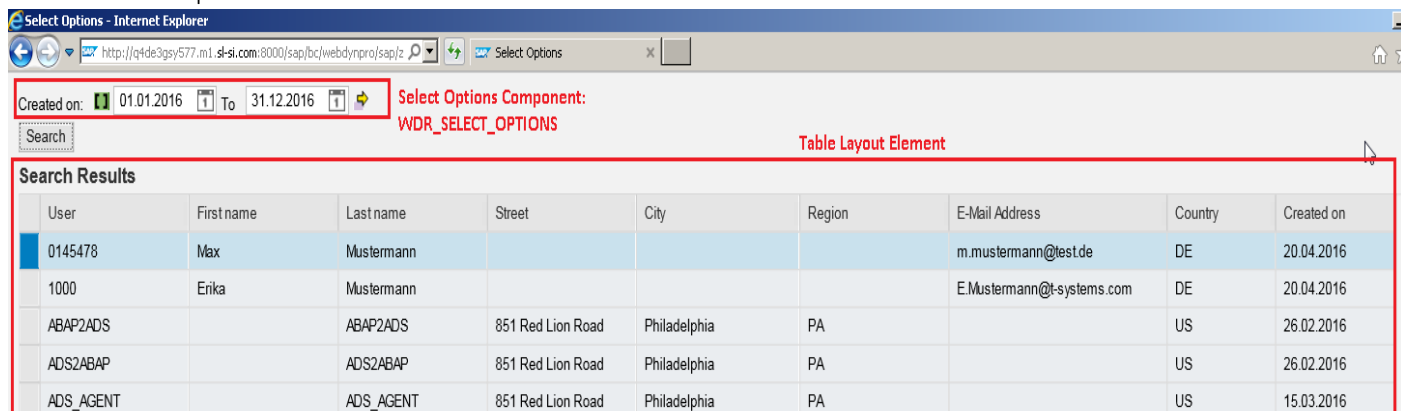




Version 1.0
Date 06.07.2016
Status In Development
Number 3
Initial version by Igor Muntoreanu

Exercise Review:

We are going to create an Application with Select-Options, Table Element by using an Assistance Class and concepts of ABAP 7.4

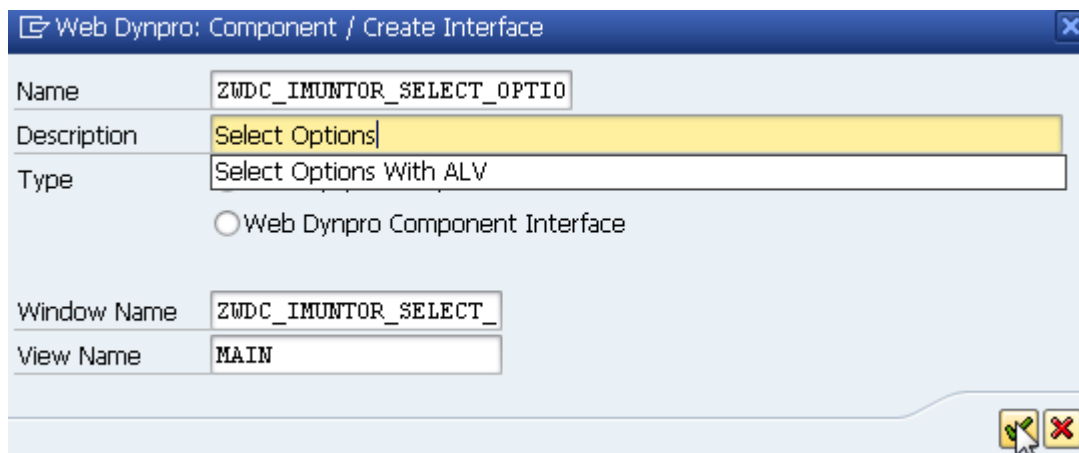
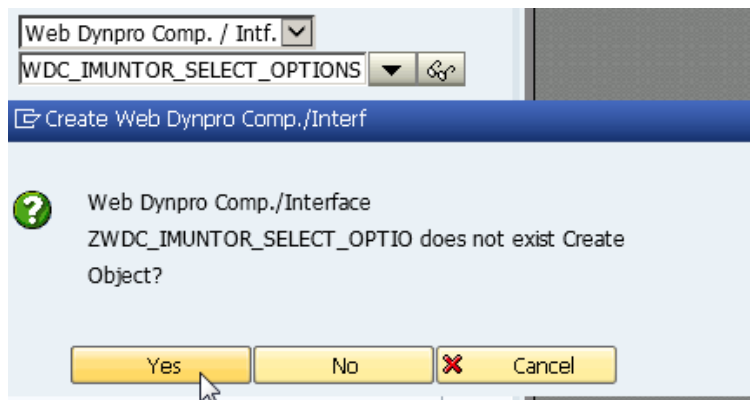


The screenshot shows the SAP Select Options dialog. At the top, it says "Select Options - Internet Explorer" and the URL is "http://q4de3gsy577.m1.s1-si.com:8000/sap/bc/webdynpro/sap/z...". Below the URL bar, there is a "Created on:" field with a date range from "01.01.2016" to "31.12.2016". To the right of this, it says "Select Options Component: WDR_SELECT_OPTIONS". Below this, there is a "Search" button and a "Table Layout Element" label. The main part of the dialog is a table titled "Search Results" with the following data:

User	First name	Last name	Street	City	Region	E-Mail Address	Country	Created on
0145478	Max	Mustermann				m.mustermann@test.de	DE	20.04.2016
1000	Erika	Mustermann				E.Mustermann@t-systems.com	DE	20.04.2016
ABAP2ADS		ABAP2ADS	851 Red Lion Road	Philadelphia	PA		US	26.02.2016
ADS2ABAP		ADS2ABAP	851 Red Lion Road	Philadelphia	PA		US	26.02.2016
ADS_AGENT		ADS_AGENT	851 Red Lion Road	Philadelphia	PA		US	15.03.2016

Practical Guide:

- 1) Let's create a new WD Component:
SE80:



- 2) Go to the component and add the Component Usage WDR_SELECT_OPTIONS, and create an Assistance Class.

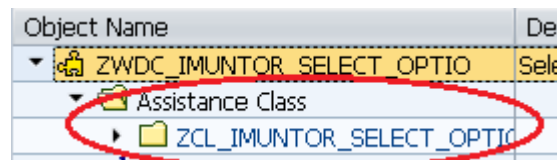
Assistance Class:

The screenshot shows the 'Create Class' dialog box with the 'Yes' button highlighted. Below it, the 'Used Web Dynpro Components' table is visible, showing the component 'WDR_SELECT_OPTIONS' with the description 'Select Options'.

Component Use	Component	Description of Component
SELECT_OPTIONS	WDR_SELECT_OPTIONS	Select Options

Save and Activate.

As we can see, a new class was generated in our Tree.



Double click on the Assistance Class. It is Inactive. Activate.



The screenshot shows the 'Class/Interface Editor' for 'ZCL_IMUNTOR_SELECT_OPTIONS'. The 'Methods' tab is selected, showing a list of methods:

Method	Level	Visibility	M...	Description
IF_WD_COMPONENT_ASSISTANCE->GET	Instanc...	Public		Returns text for model class
SET_NOT_FOUND_TEXT_KEY	Instanc...	Protected		Sets Key for Text that Cannot Be Found

- 3) Create a method in the Assistance Class and Code it
The method that we are going to create will bring a list of users according with the creation date entry:

Create Type ZS_USER_DETAILS

☐ Data element
☒ Structure
☐ Table type

Structure ZWD_USER_DETAILS Active

Short Description User Details

Attributes Components Entry help/check Currency/quantity fields

Predefined Type 1 / 9



Component	Typing Method	Component Type	Data Type	Length	Deci...	Short Description
USERNAME	Types	XUBNAME	CHAR	12		0User Name in User Master Record
FIRSTNAME	Types	AD_NAMEFIR	CHAR	40		0First name
LASTNAME	Types	AD_NAMELAS	CHAR	40		0Last name
STREET	Types	AD_STREET	CHAR	60		0Street
CITY	Types	AD_CITY1	CHAR	40		0City
REGION	Types	REGIO	CHAR	3		0Region (State, Province, County)
E_MAIL	Types	AD_SMTPADR	CHAR	241		0E-Mail Address
COUNTRY	Types	LAND1	CHAR	3		0Country Key
ERDAT	Types	ERDAT	DATS	8		0Date on Which Record Was Created

Create a table type in SE11:

☒ Data type
 ZWD_USER_DETAILS T

Create Type ZWD_USER_DET...

☐ Data element
☐ Structure
☒ Table type

Dictionary: Change Table Type

Table Type: ZWD_USER_DETAILS_T New(Revised)

Short text: ZWD_USER_DETAILS_T Table Type

Attributes Line Type Initialization and Access Primary Key

Line Type: ZWD_USER_DETAILS

Return to our Assistance Class:

Class/Interface: ZCL_IMUNTOR_SELECT_OPTIONS

Create now the output of the method:

Class/Interface: ZCL_IMUNTOR_SELECT_OPTIONS Implemented / Inactive (revised)

Properties Interfaces Friends Attributes Methods Events Types

Method parameters: SELECT_USERS

Method parameters table:

Parameter	Type	P...	O...	Typing ...	Associated Type
IM_ERDAT	Importing	<input type="checkbox"/>	<input type="checkbox"/>	Type	RANGE DATE T
EX_user_details	Exporting	<input type="checkbox"/>	<input type="checkbox"/>	Type	ZWD_USER_DETAILS_T

Save and Activate.

Finally, let's code it!

```
METHOD select_users.

    DATA: lt_usr02          TYPE TABLE OF usr02,
            lt_return       TYPE TABLE OF bapiret2,
            ls_user_details TYPE LINE OF zwd_user_details_t,
            ls_address      TYPE bapiaddr3,
            lr_erdat        TYPE RANGE OF sy-datum.

    lr_erdat[] = im_erdat[].
    " Select the Users that were created according to the input date range.
    SELECT *
    FROM usr02
```

```

        INTO TABLE lt_usr02
        WHERE erdat IN lr_erdat[] .
    IF sy-subrc = 0 .
        LOOP AT lt_usr02 ASSIGNING FIELD-SYMBOL(<fs_usr02>) .
            CLEAR ls_address.
            " Lookup the user's contact information:
            CALL FUNCTION 'BAPI_USER_GET_DETAIL'
                EXPORTING
                    username = <fs_usr02>-bname
                IMPORTING
                    address  = ls_address
                TABLES
                    return   = lt_return.

            READ TABLE lt_return WITH KEY type = 'E' TRANSPORTING NO FI
            ELDS.

            IF sy-subrc <> 0.

                ls_user_details-username      = <fs_usr02>-bname.
                ls_user_details-erdat         = <fs_usr02>-erdat.

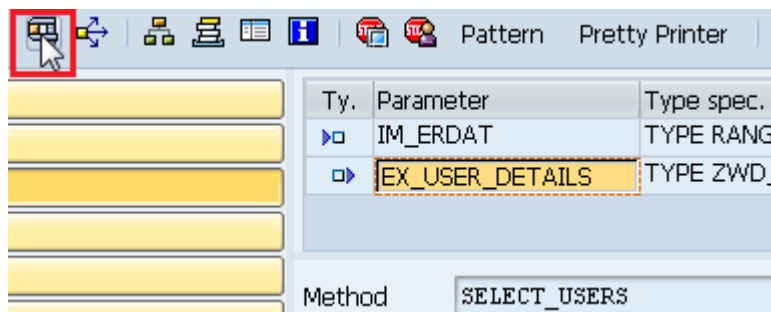
                ls_user_details-firstname     = ls_address-firstname.
                ls_user_details-lastname      = ls_address-lastname.
                ls_user_details-street        = ls_address-street.
                ls_user_details-city          = ls_address-city.
                ls_user_details-region        = ls_address-region.
                ls_user_details-e_mail        = ls_address-e_mail.
                ls_user_details-country       = ls_address-country.

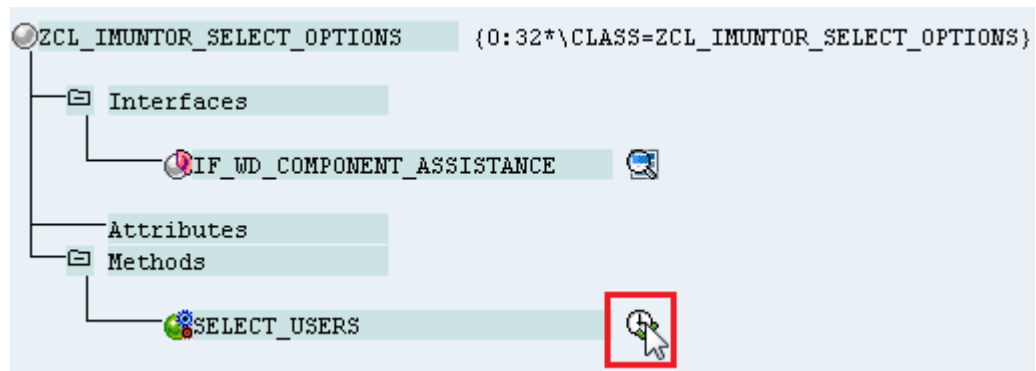
                APPEND ls_user_details TO ex_user_details.
                CLEAR ls_user_details.

            ENDIF.
        ENDLOOP.
    ENDIF.
ENDMETHOD.

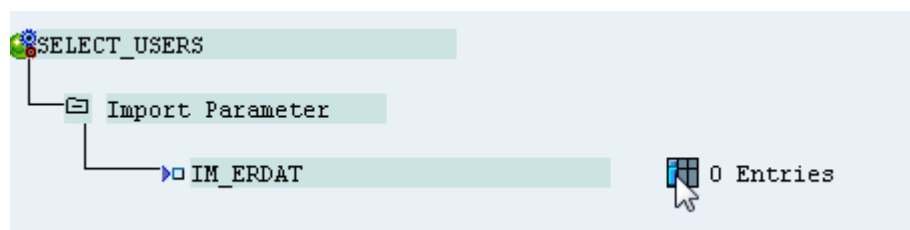
```

If you want to test you method follow the steps bellow:





Lets fill some entry:

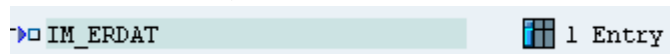


Structure Editor: Change SEL...

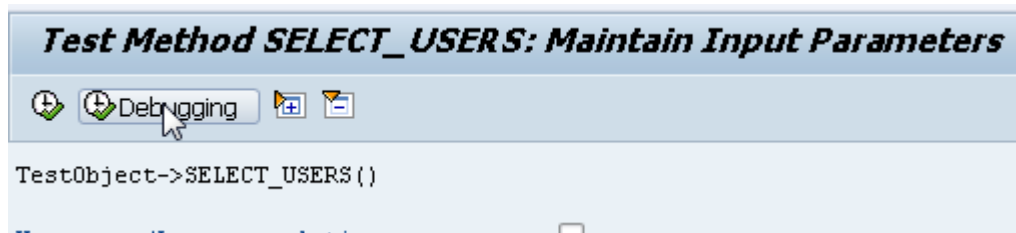
0 Entries

S	OP	LOW	HIGH
I	BT	01.01.2016	31.12.9999

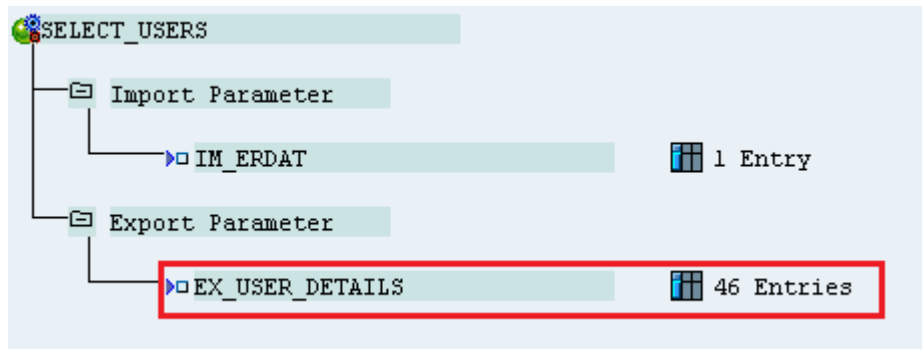
Now it has an entry:



Execute Debugging:



The result will be displayed:

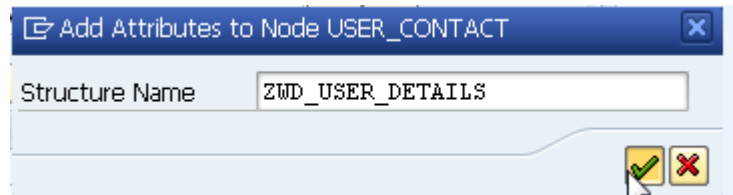
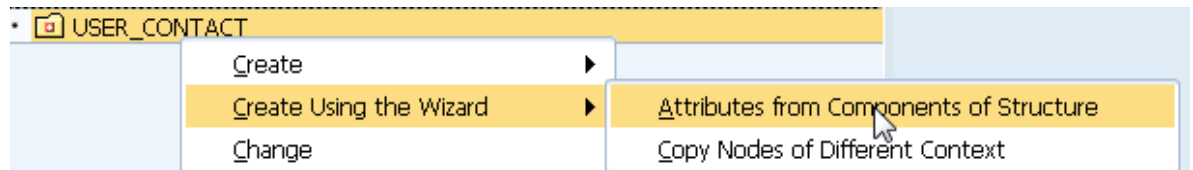



- 4) Go back to the WD Component:

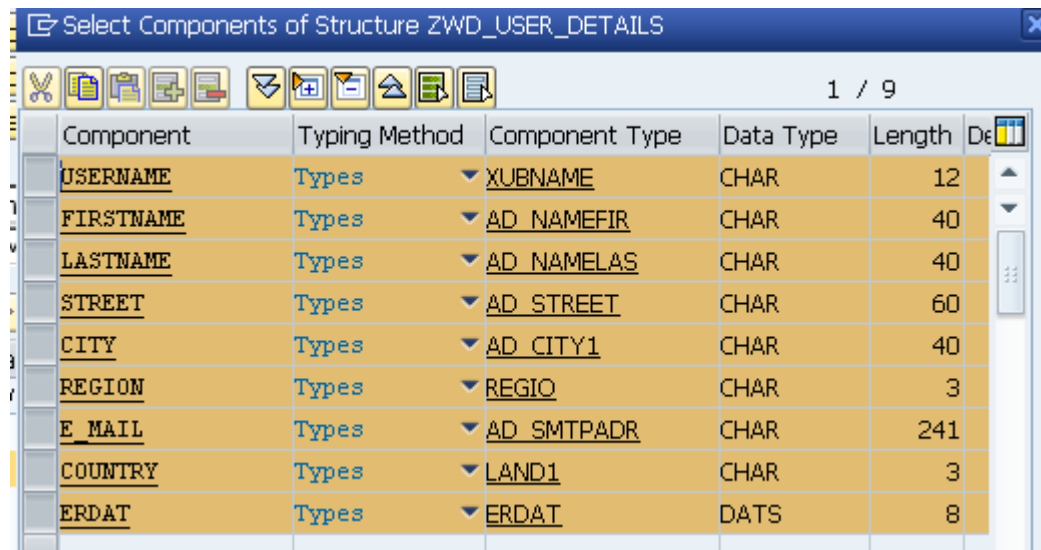
Create the COMPONENTCONTROLLER Node:

This time put the Cardinality 0..n -> It means that 0 to N users can be selected

Create the Attributes:

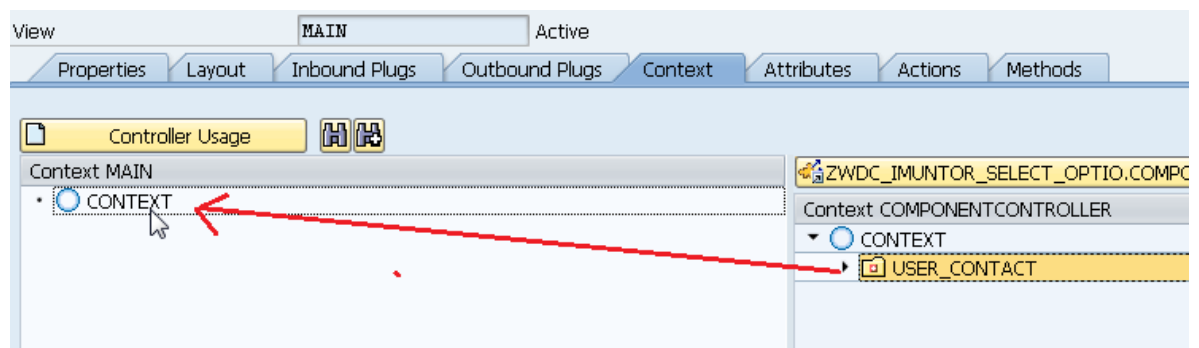


Select all and confirm 

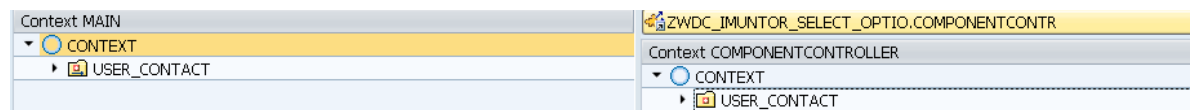


5) Go to the MAIN view

Bind the context:

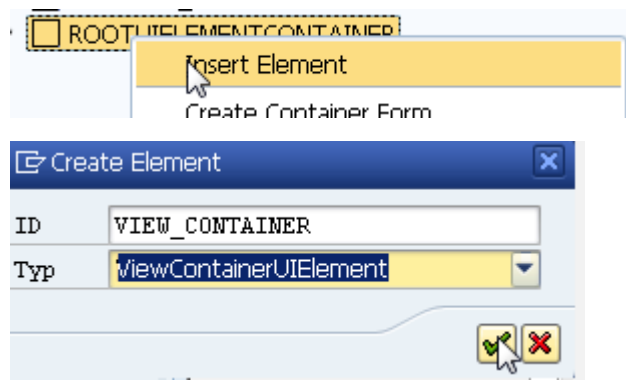


Result:

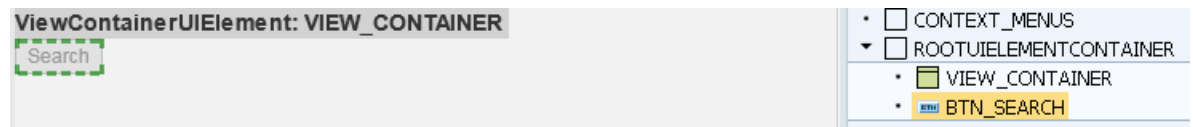


Go to the Layout tab.

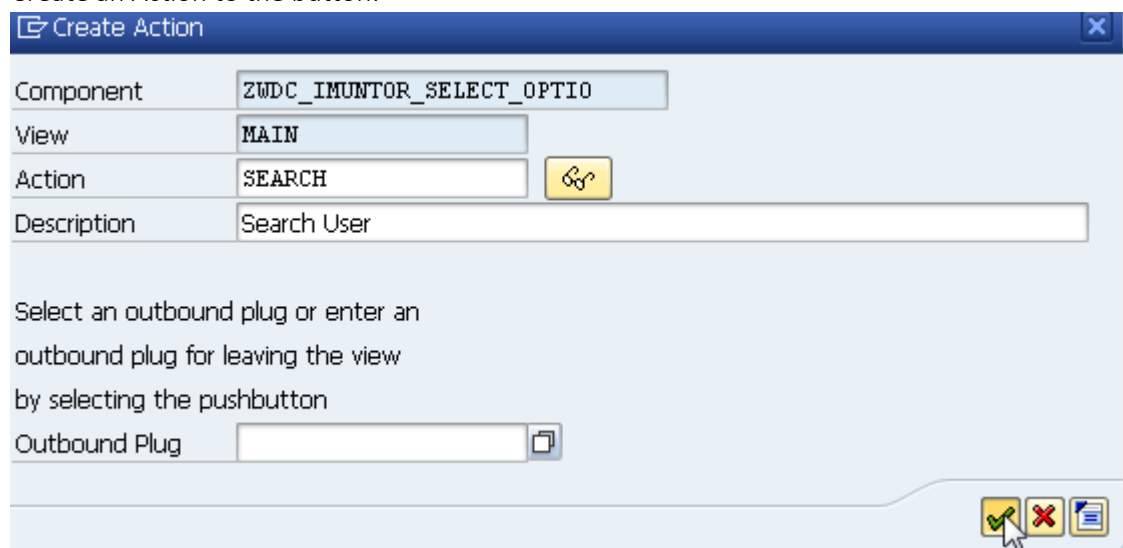
Insert a new Element:



Create also a Search button:



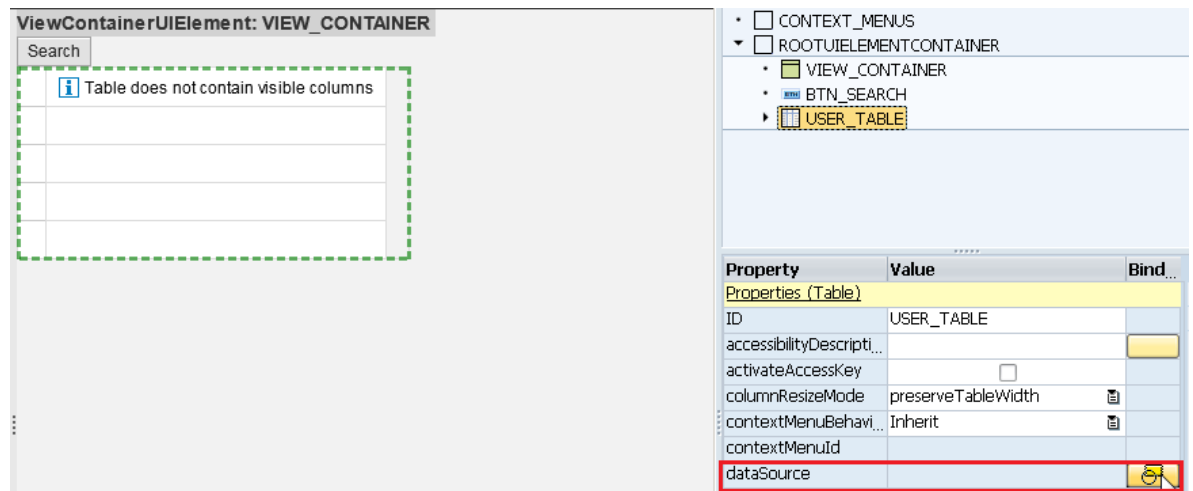
Create an Action to the button:



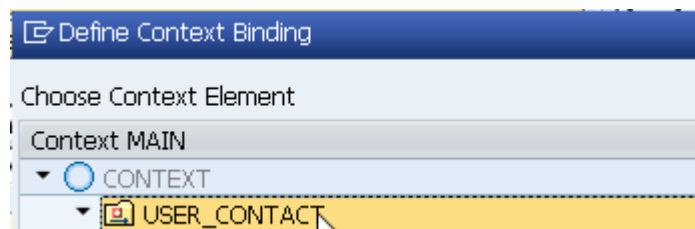
Create a Table Element:



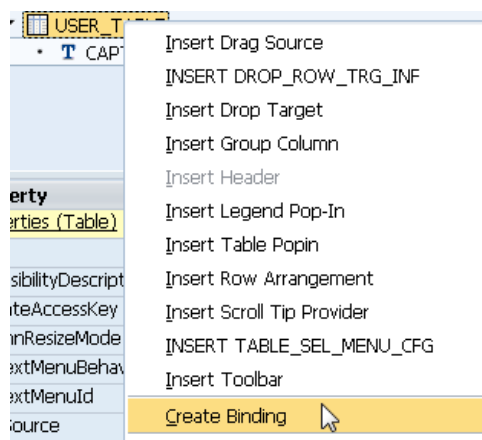
Go to the table Data Source:




Select our node:



Right click on the USER_TABLE, and create the Binding as shown on the next images:








Create Context Binding for Table "USER_TABLE"

Context Node:  Context

Standard Cell Editor:

Standard Property:

Context Attribute	Cell Editor of Table Column	Binding	Name of Property to Be Bound
USERNAME	TextView	<input checked="" type="checkbox"/>	text
FIRSTNAME	TextView	<input checked="" type="checkbox"/>	text
LASTNAME	TextView	<input checked="" type="checkbox"/>	text
STREET	TextView	<input checked="" type="checkbox"/>	text
CITY	TextView	<input checked="" type="checkbox"/>	text
REGION	TextView	<input checked="" type="checkbox"/>	text
E_MAIL	TextView	<input checked="" type="checkbox"/>	text
COUNTRY	TextView	<input checked="" type="checkbox"/>	text
ERDAT	TextView	<input checked="" type="checkbox"/>	text

   Context Attribute Property Bindings  

Your screen will look like this now:

MAIN Active(revised)

Inbound Plugs Outbound Plugs Context Attributes Actions Methods

ViewContainerUIElement: VIEW_CONTAINER

User	First name	Last name
MAIN.USER_CONTACT.USERNAME	MAIN.USER_CONTACT.FIRSTNAME	MAIN.USER_CONTACT.LASTNAME
MAIN.USER_CONTACT.USERNAME	MAIN.USER_CONTACT.FIRSTNAME	MAIN.USER_CONTACT.LASTNAME
MAIN.USER_CONTACT.USERNAME	MAIN.USER_CONTACT.FIRSTNAME	MAIN.USER_CONTACT.LASTNAME
MAIN.USER_CONTACT.USERNAME	MAIN.USER_CONTACT.FIRSTNAME	MAIN.USER_CONTACT.LASTNAME
MAIN.USER_CONTACT.USERNAME	MAIN.USER_CONTACT.FIRSTNAME	MAIN.USER_CONTACT.LASTNAME

USER_TABLE

- USER_TABLE_USERNAME
 - USER_TABLE_USERNAME_E
 - USER_TABLE_USERNAME_F
- USER_TABLE_FIRSTNAME
 - USER_TABLE_FIRSTNAME_E
 - USER_TABLE_FIRSTNAME_F
- USER_TABLE_LASTNAME
 - USER_TABLE_LASTNAME_E

Property	Value
Properties (Table)	

Give a text name to the table caption:

• T CAPTION [Header]

Property	Value	Bindi...
Properties (Caption)		
ID	CAPTION	
contextMenuBehaviour	Inherit	
contextMenuId		
enabled	<input checked="" type="checkbox"/>	
imageFirst	<input checked="" type="checkbox"/>	
imageIsDecorative	<input type="checkbox"/>	
imageSource		
isDragHandle	<input type="checkbox"/>	
text	Search Results	

On the **USER_TABLE** properties, change the following properties:

fixedTableLayout	<input checked="" type="checkbox"/>
visibleRowCount	20

Save and Activate everything.

Go to the Properties of the MAIN View and create an Usage:

View **MAIN** Active(revised)

Properties Layout Inbound Plugs Outbound Plugs Context

Description **Main View**

Lifetime framework con...

Created By IMUNTOR Created on 07.07.2016

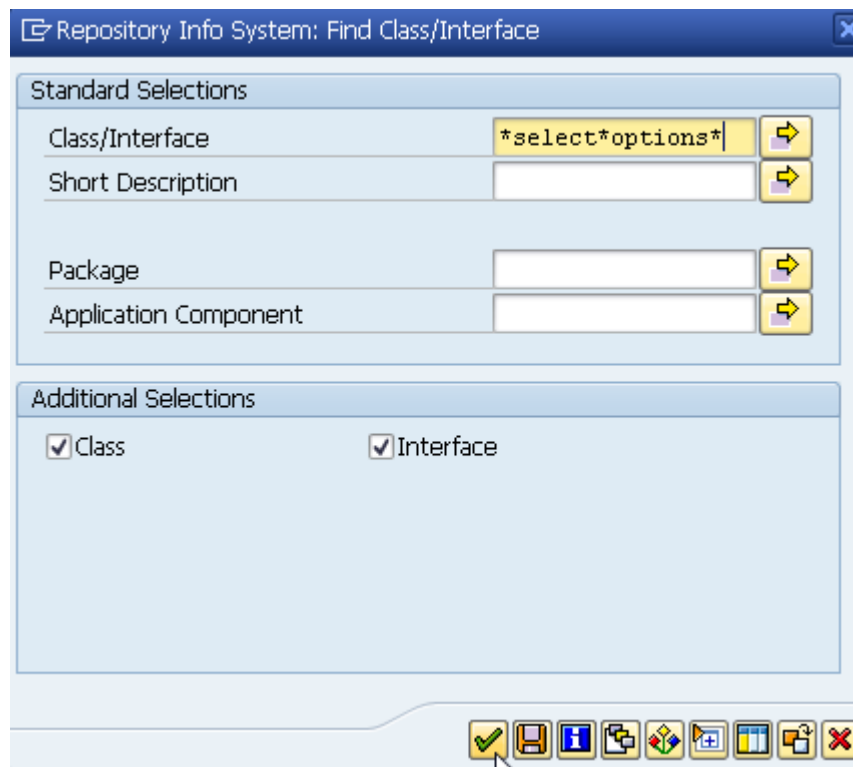
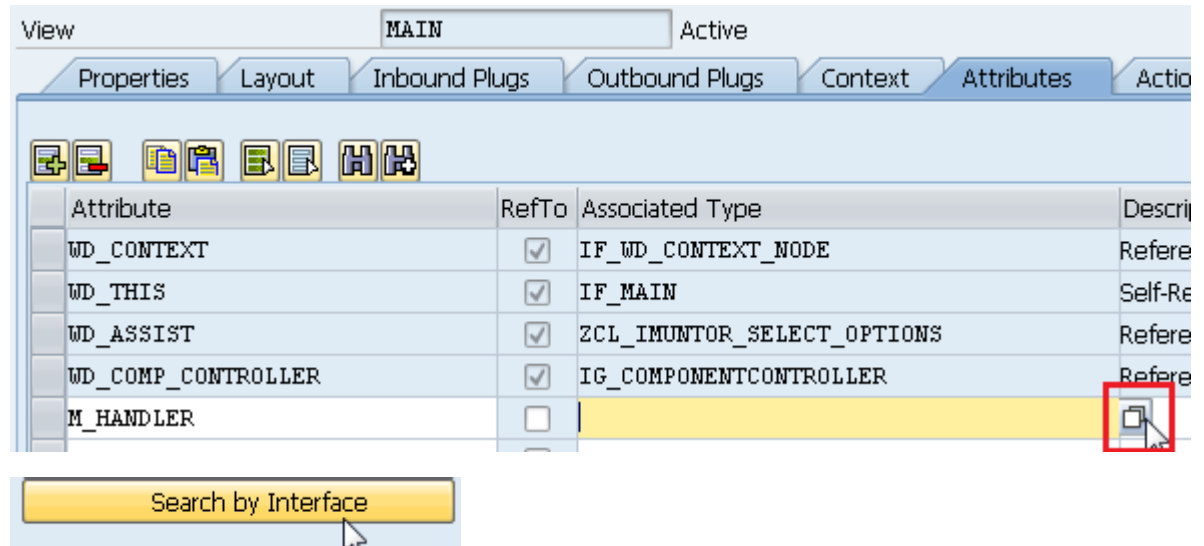
Last Changed By IMUNTOR Changed On 07.07.2016

Used Controllers/Components

Your view you look something like this now

Used Controllers/Components			
Component Use	Component	Controller	Description
	ZWDC_IMUNTOR_SELECT_OPTIO	COMPONENTCONTROLLER	
SELECT_OPTIONS	WDR_SELECT_OPTIONS		Select Options
SELECT_OPTIONS	WDR_SELECT_OPTIONS	INTERFACECONTROLLER	

In the view controller, we need an attribute that holds the reference to the instance of the Select Options component. This is necessary because at runtime we access this reference to the search criteria that have been entered in the event-handler method.



Restrict Value Range (1) 16 Entries found

Search by Class Search by Interface

☒
☐
☐
☐
☐
☐
☐
☐

Object Type Name	Short Description
/PLMU/CL_FRW_G_SELECT_OPTIONS	Select Options
/PLMU/IF_FRW_G_SELECT_OPTIONS	Select Options
CL_ISHMED_PDS_SELECT_OPTIONS	Selection Criteria
CL_WDR_SELECT_OPTIONS	
CL_WDR_SELECT_OPTIONS_20	Select Options in Accordance with UI Guidelines 2.0
CL_WDR_TEST_SELECT_OPTIONS	Assistance Class for WDR_TEST_SELECT_OPTIONS
CL_WFDS_C_SELECT_OPTIONS	Controller Class for WFDS_RPA
CL_WFDS_O_SELECT_OPTIONS_TAG	Element-Handler: <WFDS:selectOptions>
CL_WGDS_SELECTION_OPTIONS	contains ranges to construct WHERE condition
CLG_WFDS_SELECTOPTIONS	Base: <WFDS:selectOptions>
IF_ISHMED_PDS_SELECT_OPTIONS	Selection Criteria of Model
IF_SLAD_SELECT_OPTIONS	SLAD: Select-Options
IF_WD_SELECT_OPTIONS	Public Interface for Select Options
IF_WD_SELECT_OPTIONS_20	Select Options in Accordance with UI Guidelines 2.0

View MAIN Active

Properties Layout Inbound Plugs Outbound Plugs Context

☐
☐
☐
☐
☐
☐
☐
☐

Attribute	RefTo	Associated Type
WD_CONTEXT	<input checked="" type="checkbox"/>	IF_WD_CONTEXT_NODE
WD_THIS	<input checked="" type="checkbox"/>	IF_MAIN
WD_ASSIST	<input checked="" type="checkbox"/>	ZCL_IMUNTOR_SELECT_OPTIONS
WD_COMP_CONTROLLER	<input checked="" type="checkbox"/>	IG_COMPONENTCONTROLLER
M_HANDLER	<input type="checkbox"/>	IF_WD_SELECT_OPTIONS
M_WD_SELECT_OPTIONS	<input type="checkbox"/>	IWCI_WDR_SELECT_OPTIONS

Go to the INIT Method in the Methods tab and click twice:

WDDOINIT	Method	Controller Initialization Method
----------	--------	----------------------------------

Code the Following:

```
METHOD wddoinit .

    DATA: lt_range_table TYPE REF TO data,
          rt_range_table TYPE REF TO data,
          read_only      TYPE abap_bool,
          typename       TYPE string.

    DATA: lr_componentcontroller TYPE REF TO ig_componentcontroller,
          l_ref_cmp_usage       TYPE REF TO if_wd_component_usage.

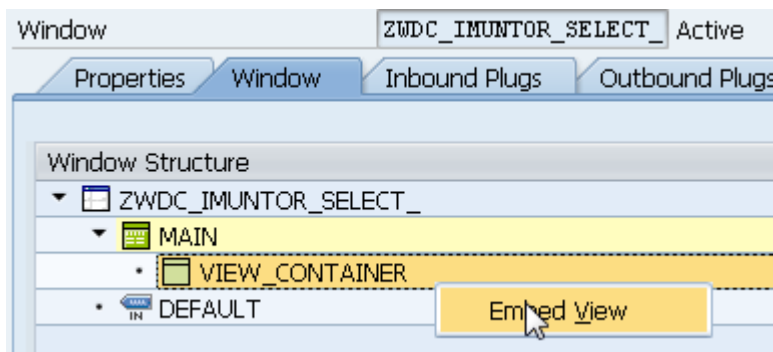
    * Create the SELECT-OPTIONS Component
    l_ref_cmp_usage = wd_this->wd_cpuse_select_options( ).
    IF l_ref_cmp_usage->has_active_component( ) IS INITIAL.
        l_ref_cmp_usage->create_component( ).
    ENDIF.

    wd_this->m_wd_select_options = wd_this-
>wd_cpifc_select_options( ).
    * Init the Selection Screen
    wd_this->m_handler = wd_this->m_wd_select_options-
>init_selection_screen( ).
    wd_this->m_handler->set_global_options(
                                i_display_btn_cancel = abap_false
                                i_display_btn_check   = abap_false
                                i_display_btn_reset   = abap_false
                                i_display_btn_execute = abap_false ).

    * Create a range table that consists of this new data element
    lt_range_table = wd_this->m_handler-
>create_range_table( i_typename = 'ERDAT' ).
    * Add a new field to the selection
    wd_this->m_handler->add_selection_field( i_id = 'S_ERDAT'
    it_result = lt_range_table i_read_only = read_only ).

ENDMETHOD.
```

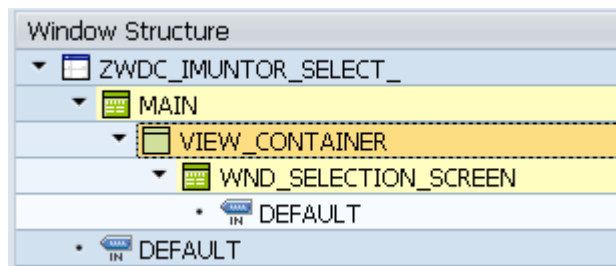
6) Go to the WINDOW



Web Dynpro: Choose View or Interface View (1) 3 Entries found

Restrictions

Component Use	Component	View / Interface View	Description
----	ZWDC_IMUNTOR_SELECT_OPTIO	MAIN	Main View
----	ZWDC_IMUNTOR_SELECT_OPTIO	EMPTYVIEW	
SELECT_OPTIONS	WDR_SELECT_OPTIONS	WND_SELECTION_SCREEN	Selection Screen with All Selection Fields



7) Create the WebDynpro Application

Object Name	Description
ZWDC_IMUNTOR_SELECT_OPTIO	<ul style="list-style-type: none"> Create Change Display Create/Change Configuration Check Activate Cgpy... Rename...

Web Dynpro Component (Interface)
View
Window
Custom Controller
Service Call
Mime Object
Web Dynpro Application
Web Dynpro CHIP

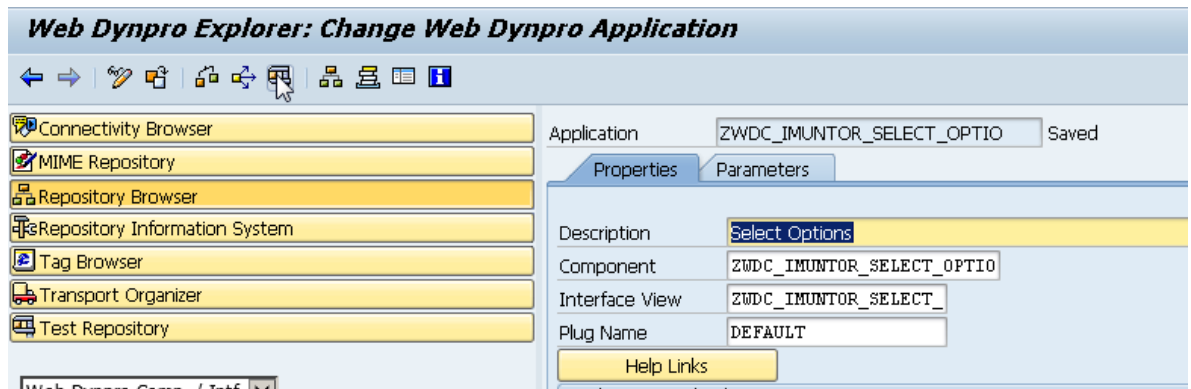
Create Web Dynpro Application

Application: ZWDC_IMUNTOR_SELECT_OPTIO

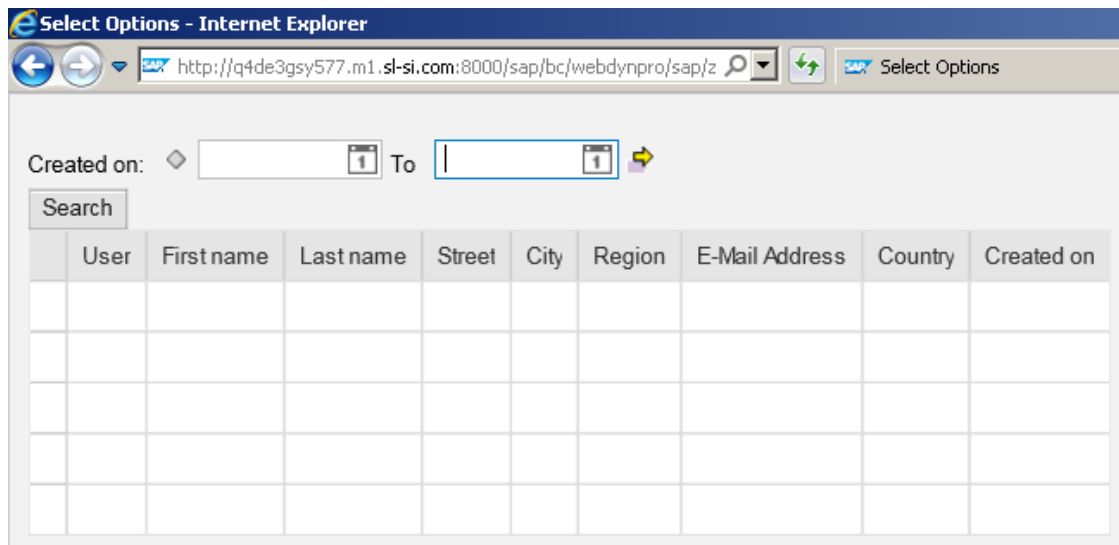
Description: Select Options

✓ ✗

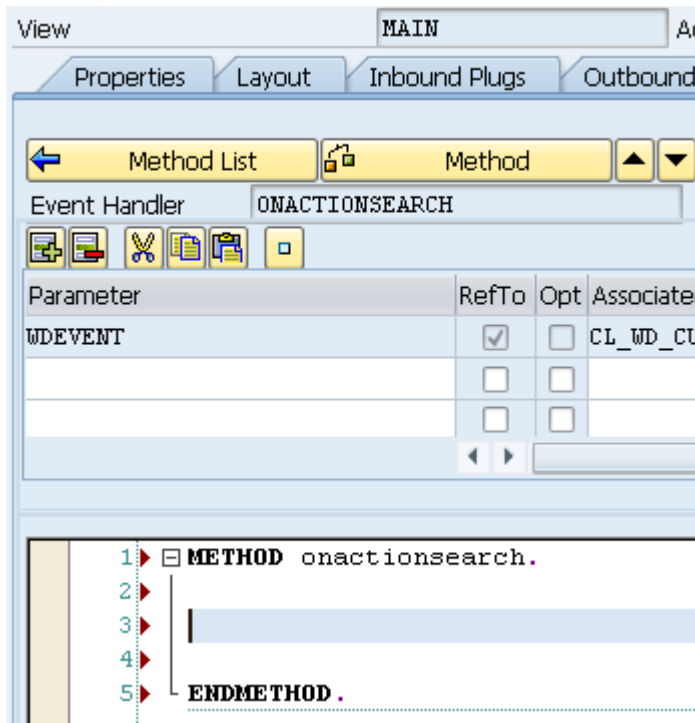
Run it



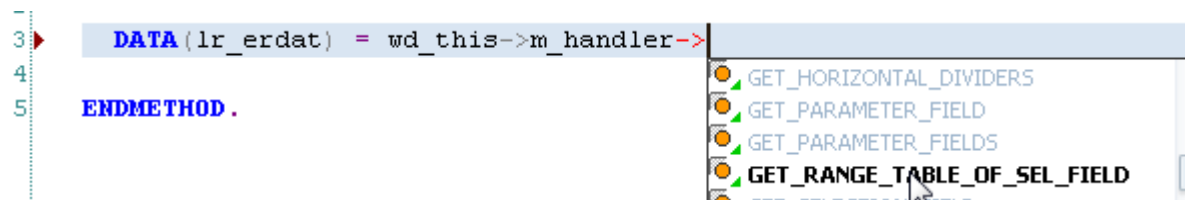
Your Application should look like this:



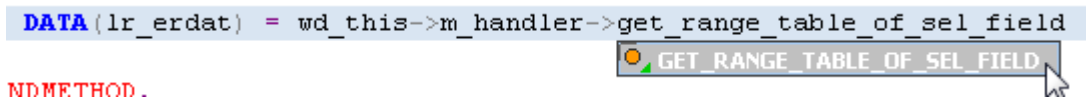
8) Creating the functionality of the SEARCH button:



Lets use the inline declaration(ABAP 7.4 tools) . Another tip is always to use the CTRL + SPACE:



Here press CTRL + SPACE then press "TAB", so the imp/exp parameter will be bringed automatically:



Final code:

```

METHOD onactionsearch.

    DATA(lr_erdat) = wd_this->m_handler-
>get_range_table_of_sel_field( i_id = 'S_ERDAT').

    ASSIGN lr_erdat->* TO FIELD-SYMBOL(<fs_r_erdat>).
    IF <fs_r_erdat> IS ASSIGNED.

```

```

DATA(o_assistance) = NEW zcl_imuntor_select_options( ).

CALL METHOD o_assistance->select_users
EXPORTING
    im_erdat          = <fs_r_erdat>
IMPORTING
    ex_user_details  = DATA(lt_user_details) .

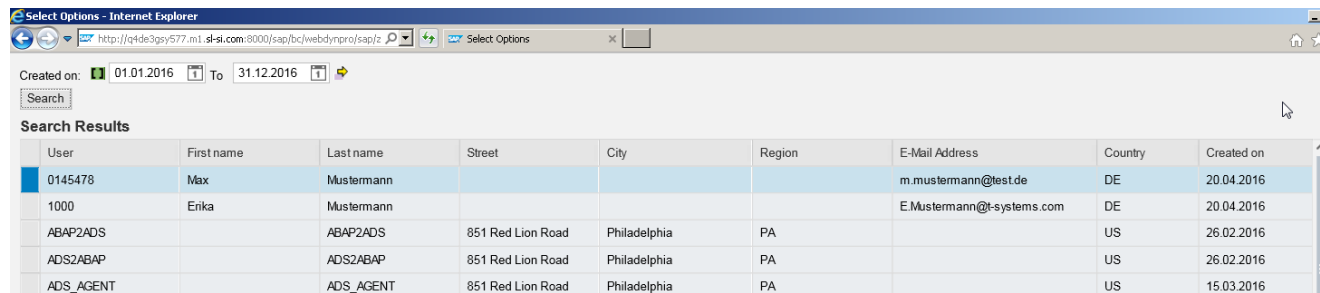
ENDIF.

DATA(node_user_contact) = wd_context-
>get_child_node( name = 'USER_CONTACT' ).
node_user_contact->bind_elements( lt_user_details ).

ENDMETHOD.

```

9) Execute the application



Created on: 01.01.2016 To 31.12.2016

Search

Search Results

User	First name	Last name	Street	City	Region	E-Mail Address	Country	Created on
0145478	Max	Mustermann				m.mustermann@test.de	DE	20.04.2016
1000	Erika	Mustermann				E.Mustermann@t-systems.com	DE	20.04.2016
ABAP2ADS		ABAP2ADS	851 Red Lion Road	Philadelphia	PA		US	26.02.2016
ADS2ABAP		ADS2ABAP	851 Red Lion Road	Philadelphia	PA		US	26.02.2016
ADS_AGENT		ADS_AGENT	851 Red Lion Road	Philadelphia	PA		US	15.03.2016

10) Homework

- Create a new select-option in the screen with the Country. Do not forget to do the filtering.
- Disable the interval of the Country.
- Create a Search Help to the Country Key Field.