

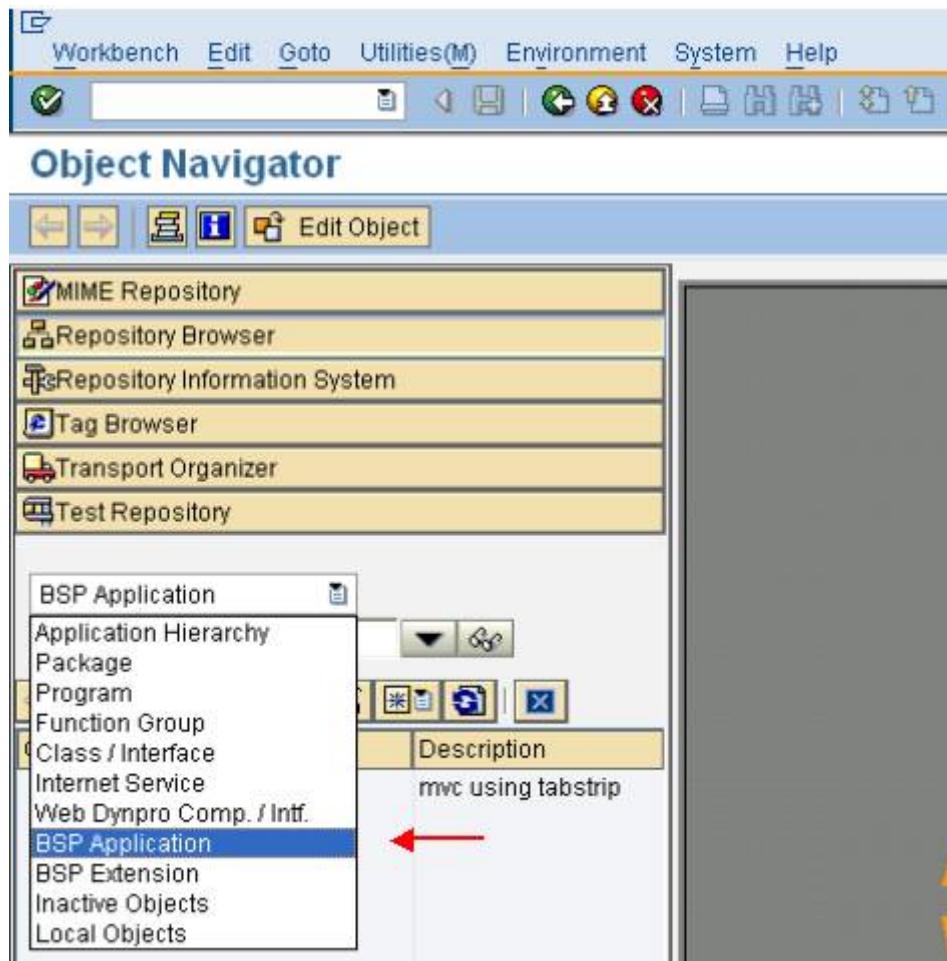
BSP Application using MVC Architecture - Displaying Business Partner data using a BAPI

By Raghava Vakada, Mouri Tech Solutions

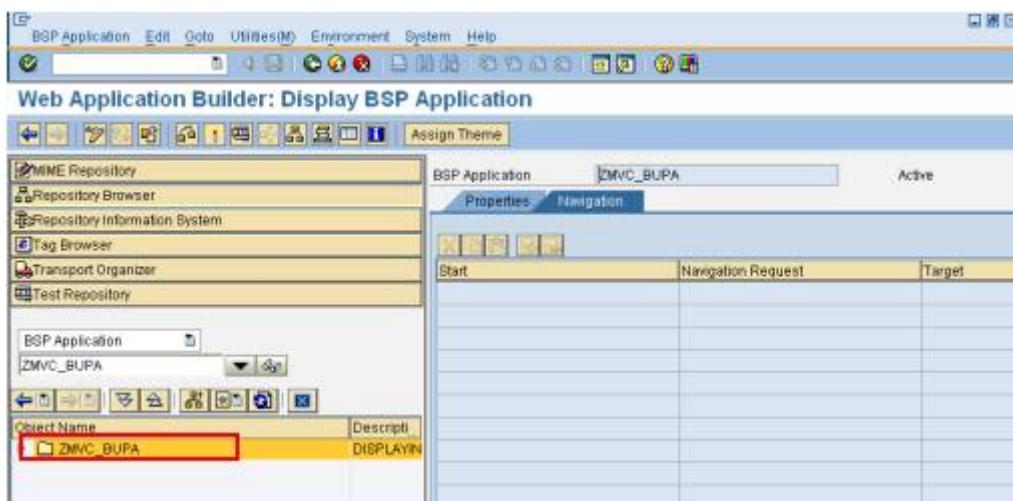
Requirement: To display business partner data using the BAPI bapi_bupa_search_2 on a BSP application view.

STEPS:

- 1) Go to transaction SE80, select 'BSP application' from the dropdown list.



- 2) Create a BSP application with the name ZMVC_BUPA.



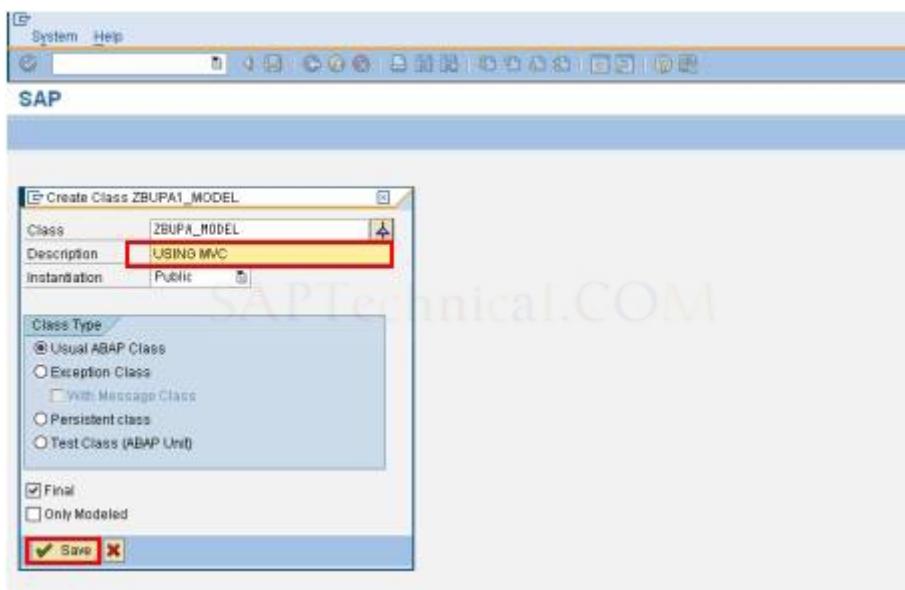
3) Creating a Model Class:

Go to transaction SE24 and enter the name of the class as shown below.

Class name: ZBUPA_MODEL

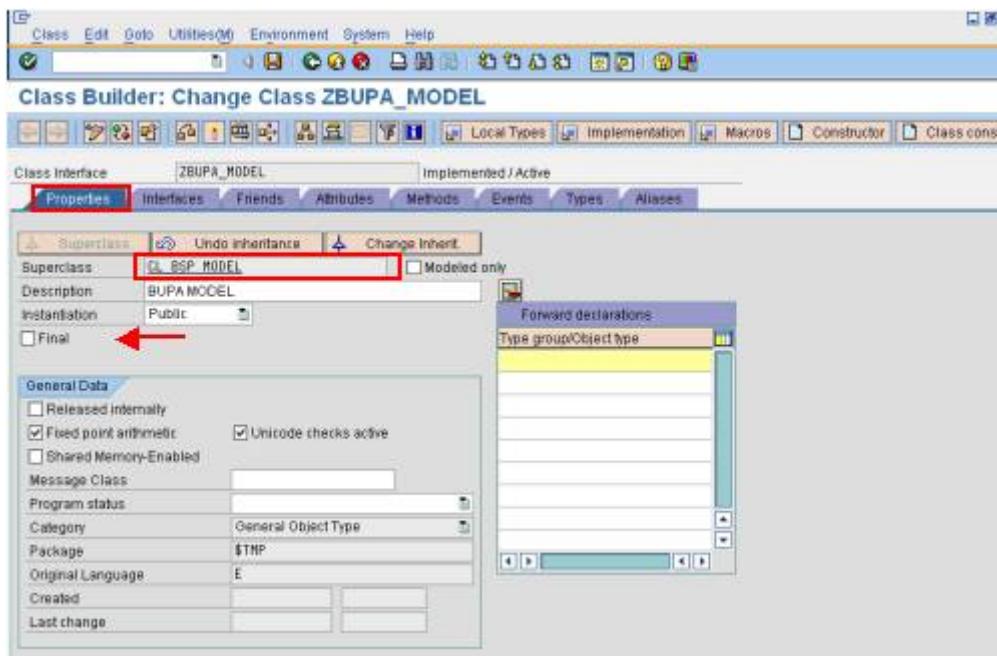


In the pop up window that appears, enter the description and then click on the 'save' button.



In the class, go to the properties tab and then specify the superclass for the new model class so that all the methods and attributes will be inherited to the model class.

You can uncheck the checkbox 'Final'.



Add attributes to the new model class. Please create table types for those attributes in the tables tab of the BAPI. Here, you can see that I have used the table types to refer to the attributes of our class.

Class Builder: Change Class ZBUPA_MODEL																																																																																																																												
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Attributes: <table border="1"> <thead> <tr> <th>Attribute</th><th>Level</th><th>Visibility</th><th>Read-Only</th><th>Type</th><th>Associated Type</th><th>Description</th></tr> </thead> <tbody> <tr> <td>IF_BSP_MODEL_BINDING</td><td>Constant</td><td>Public</td><td><input type="checkbox"/></td><td>Type</td><td></td><td>Error Level: Error</td></tr> <tr> <td>IF_BSP_MODEL_BINDING</td><td>Constant</td><td>Public</td><td><input type="checkbox"/></td><td>Type</td><td></td><td>Error Level: Fatal Error</td></tr> <tr> <td>IF_BSP_MODEL_BINDING</td><td>Constant</td><td>Public</td><td><input type="checkbox"/></td><td>Type</td><td></td><td>Error Level: Information</td></tr> <tr> <td>IF_BSP_MODEL_BINDING</td><td>Constant</td><td>Public</td><td><input type="checkbox"/></td><td>Type</td><td></td><td>Error Level: Success Mess</td></tr> <tr> <td>IF_BSP_MODEL_BINDING</td><td>Constant</td><td>Public</td><td><input type="checkbox"/></td><td>Type</td><td></td><td>Error Level: Warning</td></tr> <tr> <td>IF_BSP_MODEL_BINDING</td><td>Constant</td><td>Public</td><td><input type="checkbox"/></td><td>Type</td><td></td><td>Attribute Type: Scale</td></tr> <tr> <td>IF_BSP_MODEL_BINDING</td><td>Constant</td><td>Public</td><td><input type="checkbox"/></td><td>Type</td><td></td><td>Attribute Type: Structure</td></tr> <tr> <td>IF_BSP_MODEL_BINDING</td><td>Constant</td><td>Public</td><td><input type="checkbox"/></td><td>Type</td><td></td><td>Attribute Type: Table</td></tr> <tr> <td>IF_BSP_MODEL_BINDING</td><td>Constant</td><td>Public</td><td><input type="checkbox"/></td><td>Type</td><td></td><td>Attribute Type not Supported</td></tr> <tr> <td>IF_BSP_MODEL_M_FORM</td><td>Instance Attribute</td><td>Public</td><td><input type="checkbox"/></td><td>Type Ref To CL_BSP_MESSAGES</td><td></td><td>HTTP Framework (HTTP)</td></tr> <tr> <td>ERRORS</td><td>Instance Attribute</td><td>Protect</td><td><input type="checkbox"/></td><td>Type Ref To CL_BSP_MESSAGES</td><td></td><td>Errors</td></tr> <tr> <td>M_FORMFIELDS</td><td>Instance Attribute</td><td>Protect</td><td><input type="checkbox"/></td><td>Type TIHTTPNVP</td><td></td><td>HTTP Framework (HTTP)</td></tr> <tr> <td>ADDRESSDATA</td><td>Instance Attribute</td><td>Public</td><td><input type="checkbox"/></td><td>Type BAPIBUS1006_ADDR_SEARCH</td><td></td><td>BAPI Structure for Search</td></tr> <tr> <td>CENTRALDATA</td><td>Instance Attribute</td><td>Public</td><td><input type="checkbox"/></td><td>Type BAPIBUS1006_CENTRAL_SEARCH</td><td></td><td>BAPI Structure for Search</td></tr> <tr> <td>SEARCHRESULT</td><td>Instance Attribute</td><td>Public</td><td><input type="checkbox"/></td><td>Type ZSEARCHRESULT</td><td></td><td>BAPIBUS1006_BP_ADDR</td></tr> <tr> <td>RETURN</td><td>Instance Attribute</td><td>Public</td><td><input type="checkbox"/></td><td>Type ZRETURN</td><td></td><td>Table type for BAPIRET2</td></tr> </tbody> </table>						Attribute	Level	Visibility	Read-Only	Type	Associated Type	Description	IF_BSP_MODEL_BINDING	Constant	Public	<input type="checkbox"/>	Type		Error Level: Error	IF_BSP_MODEL_BINDING	Constant	Public	<input type="checkbox"/>	Type		Error Level: Fatal Error	IF_BSP_MODEL_BINDING	Constant	Public	<input type="checkbox"/>	Type		Error Level: Information	IF_BSP_MODEL_BINDING	Constant	Public	<input type="checkbox"/>	Type		Error Level: Success Mess	IF_BSP_MODEL_BINDING	Constant	Public	<input type="checkbox"/>	Type		Error Level: Warning	IF_BSP_MODEL_BINDING	Constant	Public	<input type="checkbox"/>	Type		Attribute Type: Scale	IF_BSP_MODEL_BINDING	Constant	Public	<input type="checkbox"/>	Type		Attribute Type: Structure	IF_BSP_MODEL_BINDING	Constant	Public	<input type="checkbox"/>	Type		Attribute Type: Table	IF_BSP_MODEL_BINDING	Constant	Public	<input type="checkbox"/>	Type		Attribute Type not Supported	IF_BSP_MODEL_M_FORM	Instance Attribute	Public	<input type="checkbox"/>	Type Ref To CL_BSP_MESSAGES		HTTP Framework (HTTP)	ERRORS	Instance Attribute	Protect	<input type="checkbox"/>	Type Ref To CL_BSP_MESSAGES		Errors	M_FORMFIELDS	Instance Attribute	Protect	<input type="checkbox"/>	Type TIHTTPNVP		HTTP Framework (HTTP)	ADDRESSDATA	Instance Attribute	Public	<input type="checkbox"/>	Type BAPIBUS1006_ADDR_SEARCH		BAPI Structure for Search	CENTRALDATA	Instance Attribute	Public	<input type="checkbox"/>	Type BAPIBUS1006_CENTRAL_SEARCH		BAPI Structure for Search	SEARCHRESULT	Instance Attribute	Public	<input type="checkbox"/>	Type ZSEARCHRESULT		BAPIBUS1006_BP_ADDR	RETURN	Instance Attribute	Public	<input type="checkbox"/>	Type ZRETURN		Table type for BAPIRET2
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Add a method to the new model class to get the business partner details

The screenshot shows the SAP Class Builder interface for the class ZBUPA_MODEL. The Methods tab is selected. A method named GETBUPA is highlighted with a red border. The method details are as follows:

Method	Level	Visiblity	Description
IF_BSP_MODEL_BINDING~GET_InstanPubl1			Returns the Value of an Attribute in String Representation
IF_BSP_MODEL_BINDING~GET_InstanPubl1			Returns the Metadata of an Attribute
IF_BSP_MODEL_BINDING~GET_InstanPubl1			Returns the (HTML) Name of an Attribute
IF_BSP_MODEL_BINDING~GET_InstanPubl1			Returns the ID of the Model
IF_BSP_MODEL_BINDING~IS_InstanPubl1			Queries Attribute Valid?
IF_BSP_MODEL_BINDING~SET_InstanPubl1			Sets an Attribute According to String Representation
IF_BSP_MODEL_BINDING~SET_InstanPubl1			Returns an Attribute Reference
IF_BSP_MODEL_BINDING~BUILDInstanPubl1			Returns the Binding Path of an Attribute
IF_BSP_MODEL~INIT_InstanPubl1			Initialization Method for all Model Implementations
IF_BSP_MODEL~GET_BINDING_InstanPubl1			Returns a Reference to the Binding Interface
IF_BSP_MODEL~GET_ERROR_InstanPubl1			Inserts the Assignment Error to the Specified Messages
IF_BSP_MODEL~INSTANTIATE_InstanPubl1			Filling the Model from the Request
IF_BSP_MODEL~RESET_ERROR_InstanPubl1			Inserts the Assignment Error to the Specified Messages
IF_BSP_MODEL~ADD_TO_CHECKInstanPubl1			Inserts the control ID into the checktable
CREATE_Static Publ1			Factory Method for all Model Implementations
CREATE_STANDALONE_MODEL_Static Publ1			Factory Method for all Model Implementations
GETBUPA [InstanPubl1]			Method to get the Business Partner Details

Modified method implementations

Double click on the GETBUPA method.

Write the following code.

```
Method GETBUPA.
CALL FUNCTION 'BAPI_BUPA_SEARCH_2'
  EXPORTING
    ADDRESSDATA          = ADDRESSDATA
    CENTRALDATA          = CENTRALDATA
  TABLES
    SEARCHRESULT        = SEARCHRESULT
    RETURN              = RETURN.
endmethod.
```

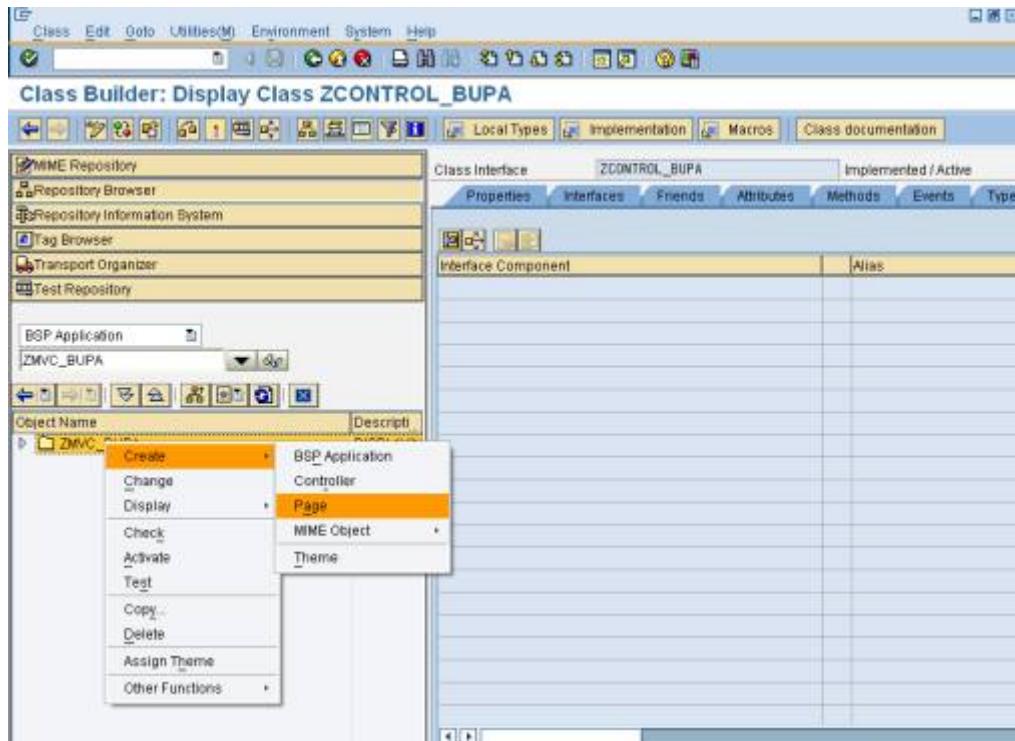
The screenshot shows the SAP Class Builder interface for the class ZBUPA_MODEL Change. The Method tab is selected, and the method GETBUPA is shown. The code is identical to the one provided in the previous step:

```
Method GETBUPA.
CALL FUNCTION 'BAPI_BUPA_SEARCH_2'
  EXPORTING
    ADDRESSDATA          = ADDRESSDATA
    CENTRALDATA          = CENTRALDATA
  TABLES
    SEARCHRESULT        = SEARCHRESULT
    RETURN              = RETURN .
endmethod.
```

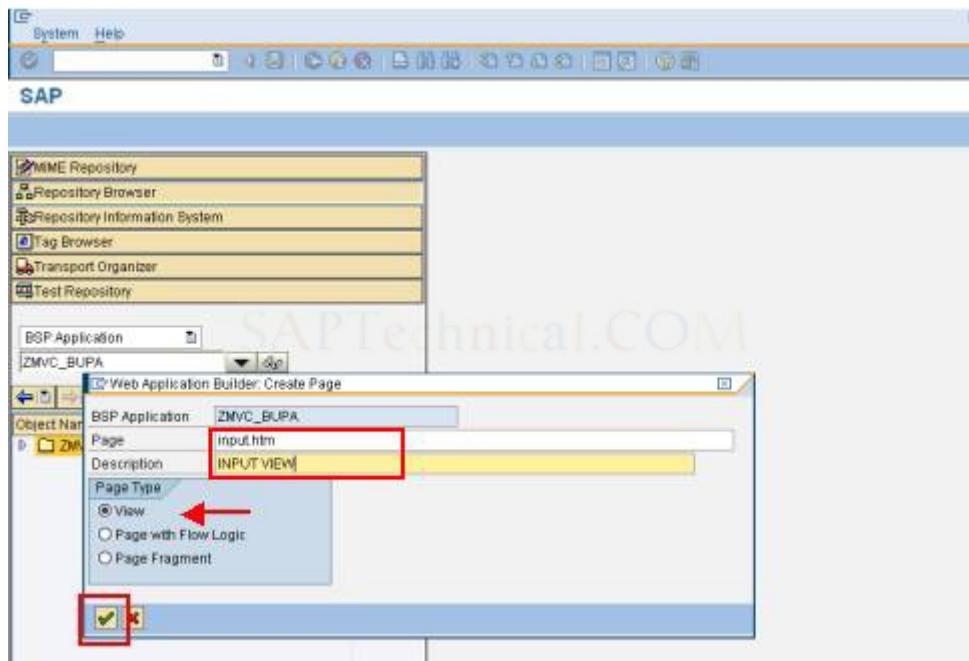
Save, check and activate the class.

CREATING VIEWS.

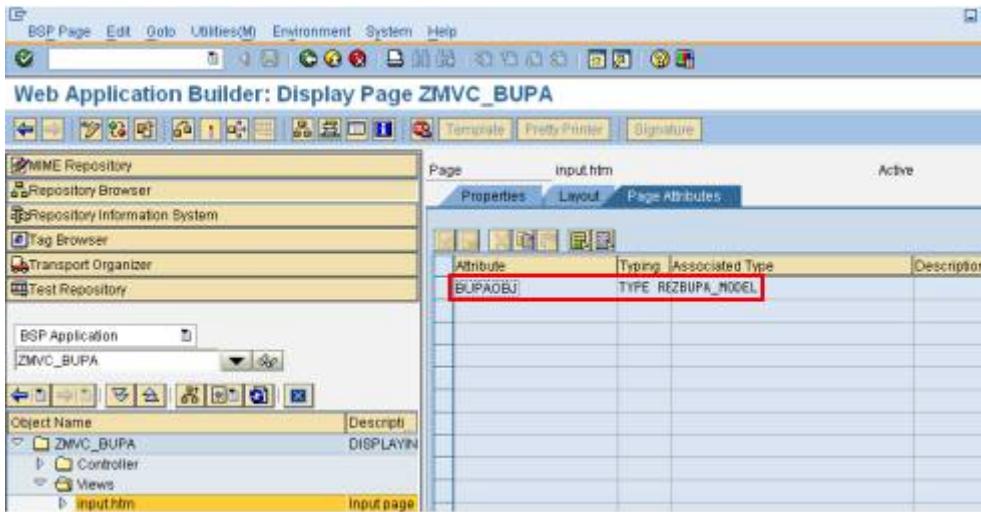
- 1) Create view: In transaction SE80, Right-click on the BSP application name and navigate to Create → Page.



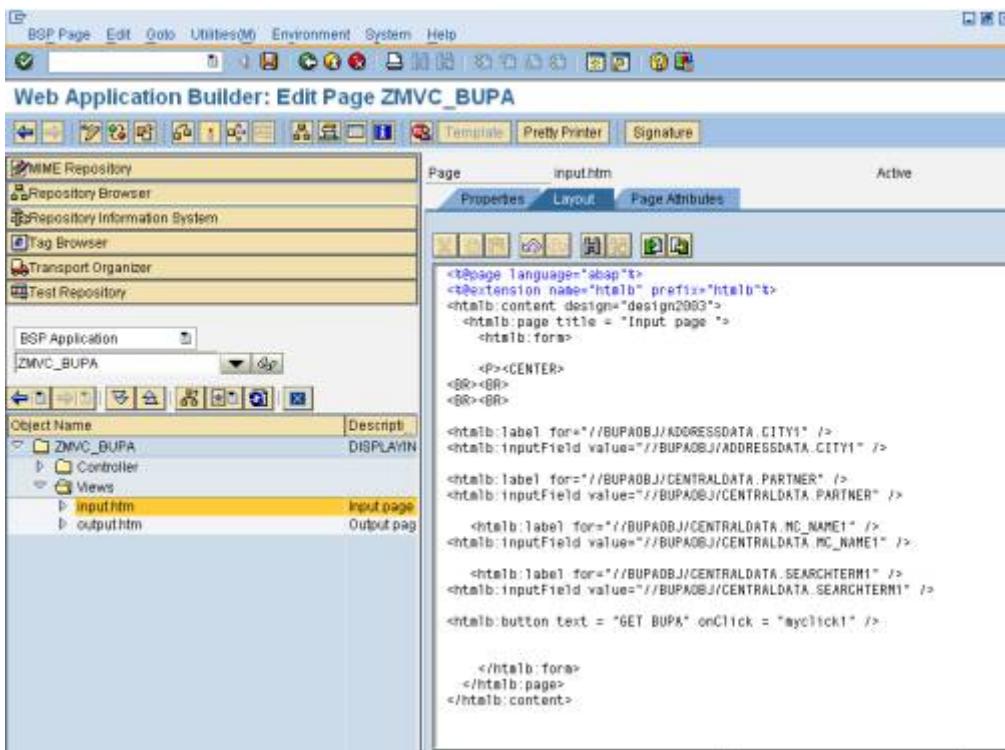
As shown below, enter the name and description of the view that you want to create. Select the radio button 'View', and then click on the 'Continue' button.



Give the page attributes of the view. The attribute of the view is an object reference of the model class that we created previously.



Modify layout code for the search view (input.htm) as shown below.



Code :

Code :

```

<%@page language="abap"%>
<%@extension name="htmlb" prefix="htmlb" %>
<htmlb:content design="design2003">
  <htmlb:page title = "Input page ">
    <htmlb:form>
      <P><CENTER>
      <BR><BR>
      <BR><BR>

      <htmlb:label for="//BUPAOBJ/ADDRESSDATA.CITY1" />
      <htmlb:inputField value="//BUPAOBJ/ADDRESSDATA.CITY1" />

      <htmlb:label for="//BUPAOBJ/CENTRALDATA.PARTNER" />
      <htmlb:inputField value="//BUPAOBJ/CENTRALDATA.PARTNER" />

      <htmlb:label for="//BUPAOBJ/CENTRALDATA.MC_NAME1" />
      <htmlb:inputField value="//BUPAOBJ/CENTRALDATA.MC_NAME1" />

      <htmlb:label for="//BUPAOBJ/CENTRALDATA.SEARCHTERM1" />
      <htmlb:inputField value="//BUPAOBJ/CENTRALDATA.SEARCHTERM1" />

      <htmlb:button text = "GET BUPA" onClick = "myclick1" />

    </htmlb:form>
  </htmlb:page>
</htmlb:content>

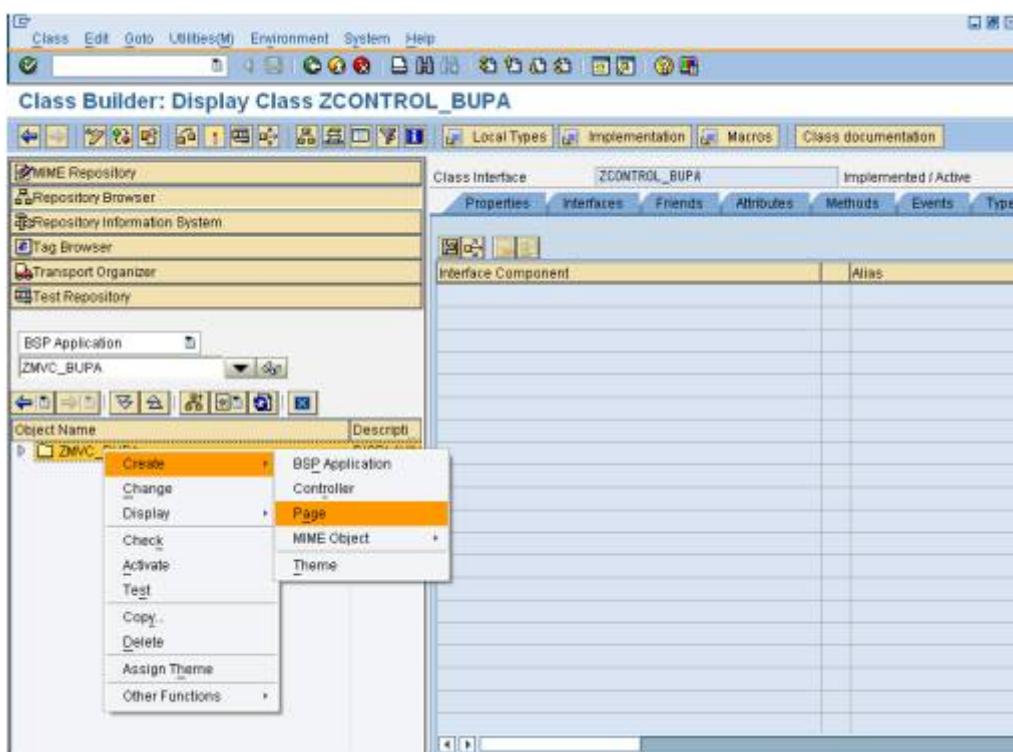
```

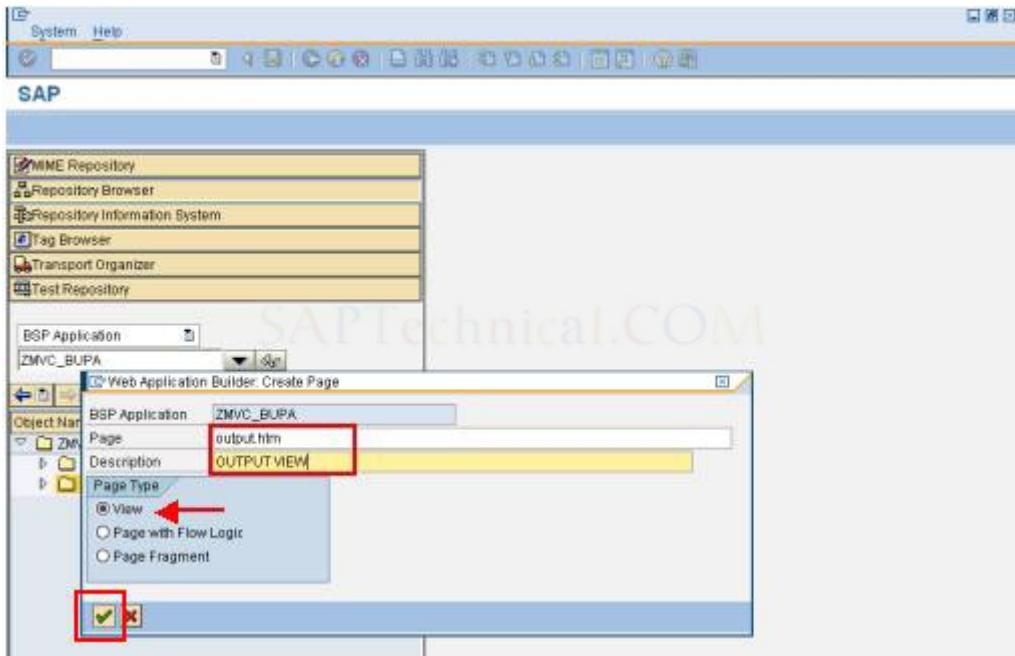
```

<BR><BR>
<htmlb:label for="/BUPAOBJ/ADDRESSDATA.CITY1" />
<htmlb:inputField value="/BUPAOBJ/ADDRESSDATA.CITY1" />
<htmlb:label for="/BUPAOBJ/CENTRALDATA.PARTNER" />
<htmlb:inputField value="/BUPAOBJ/CENTRALDATA.PARTNER" />
    <htmlb:label for="/BUPAOBJ/CENTRALDATA.MC_NAME1" />
<htmlb:inputField value="/BUPAOBJ/CENTRALDATA.MC_NAME1" />
    <htmlb:label for="/BUPAOBJ/CENTRALDATA.SEARCHTERM1" />
<htmlb:inputField value="/BUPAOBJ/CENTRALDATA.SEARCHTERM1" />
<htmlb:button text = "GET BUPA" onClick = "myclick1" />
</htmlb:form>
</htmlb:page>
</htmlb:content>

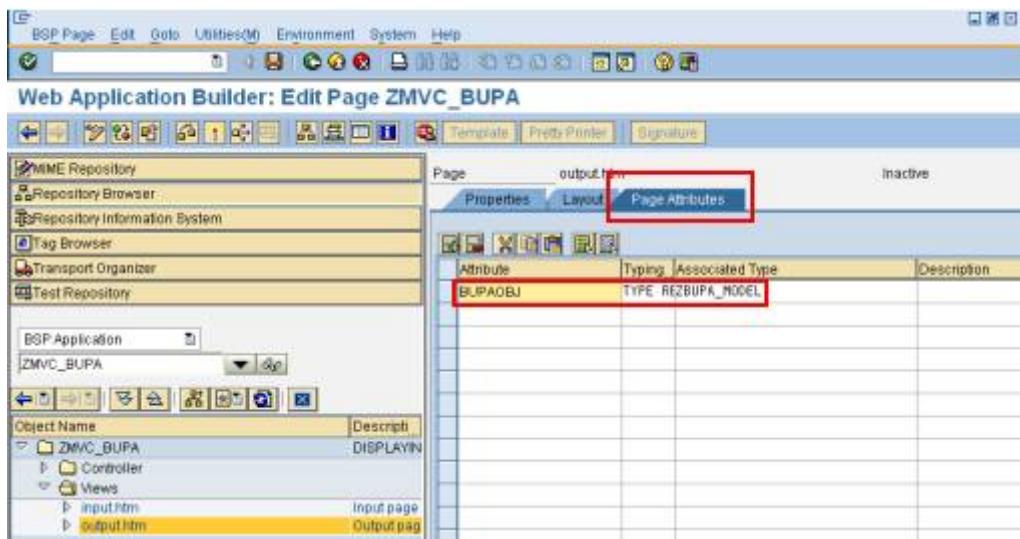
```

2) Create second view.

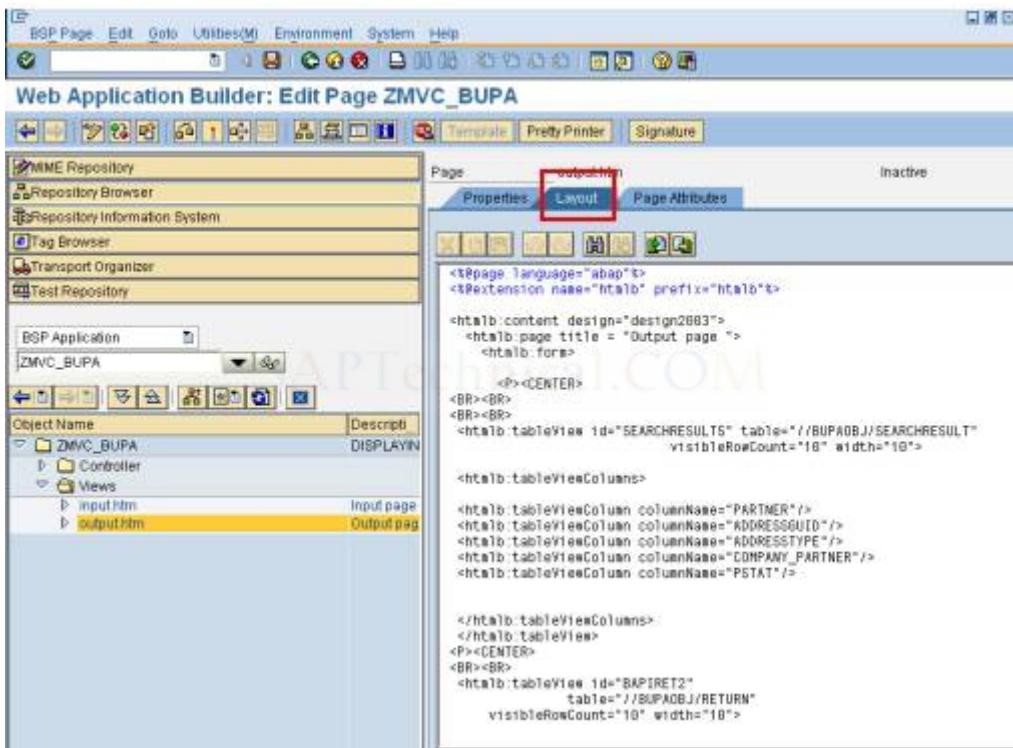




Give the page attributes of the view. The attribute of the view is an object reference of the model class that we created previously.



Modify layout code for the search view (output.htm) as shown below.



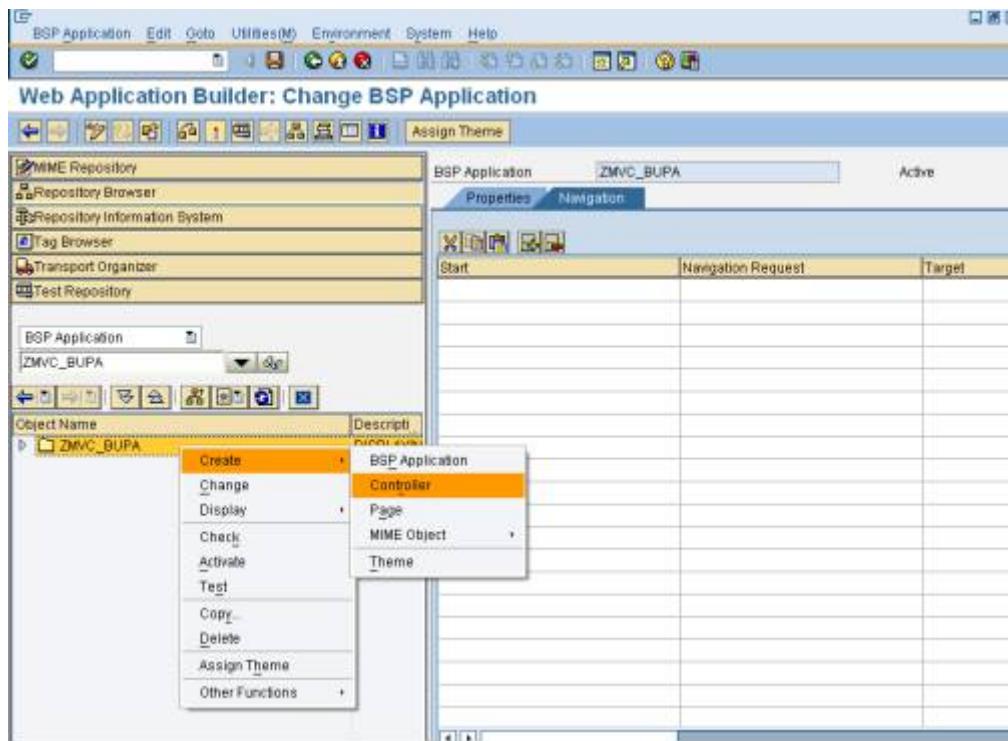
Code :

```

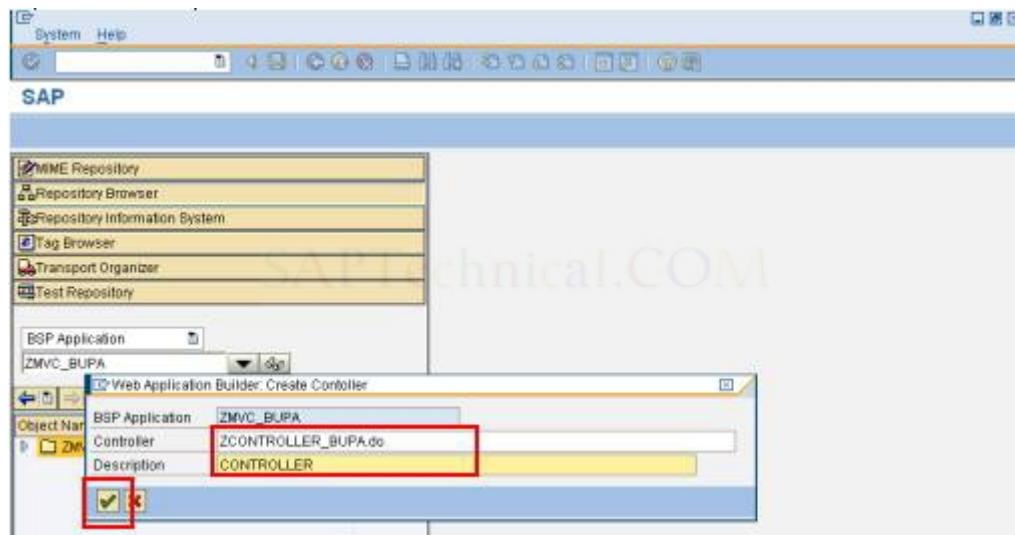
<%@page language="abap"%>
<%@extension name="htmlb" prefix="htmlb"%>
<htmlb:content design="design2003">
  <htmlb:page title = "Output page ">
    <htmlb:form>
      <P><CENTER>
      <BR><BR>
      <BR><BR>
      <htmlb:tableView id="SEARCHRESULTS" table="//BUPAOBJ/SEARCHRESULT"
        visibleRowCount="10" width="10">
        <htmlb:tableViewColumns>
          <htmlb:tableViewColumn columnName="PARTNER" />
          <htmlb:tableViewColumn columnName="ADDRESSGUID" />
          <htmlb:tableViewColumn columnName="ADDRESSTYPE" />
          <htmlb:tableViewColumn columnName="COMPANY_PARTNER" />
          <htmlb:tableViewColumn columnName="PSTAT" />
        </htmlb:tableViewColumns>
      </htmlb:tableView>
      <P><CENTER>
      <BR><BR>
      <htmlb:tableView id="BAPIRET2"
        table="//BUPAOBJ/RETURN"
        visibleRowCount="10" width="10">
        <htmlb:tableViewColumns>
          <htmlb:tableViewColumn columnName="TYPE" />
          <htmlb:tableViewColumn columnName="MESSAGE" />
          <htmlb:tableViewColumn columnName="PARAMETER" />
          <htmlb:tableViewColumn columnName="SYSTEM" />
        </htmlb:tableViewColumns>
      </htmlb:tableView>
    </htmlb:form>
</htmlb:page>
</htmlb:content>

```

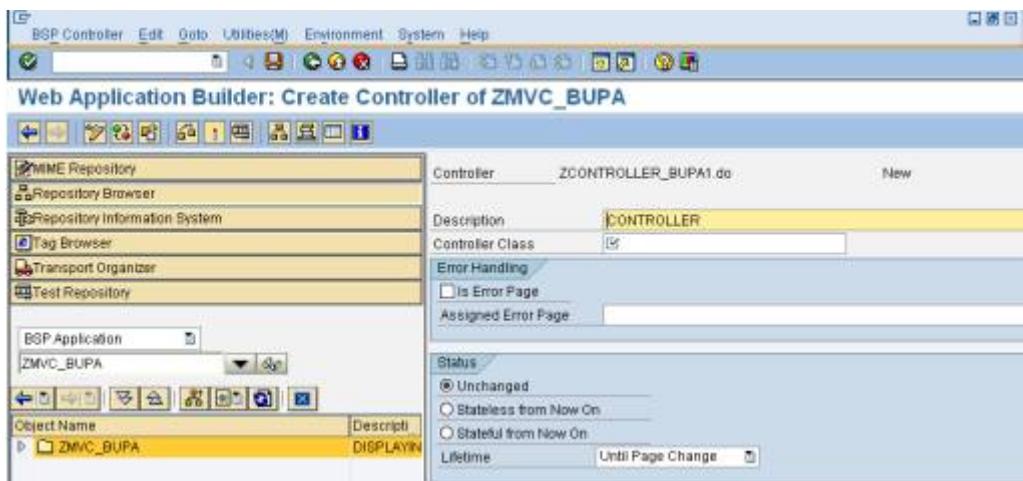
create a controller for the application as shown below. Right click on the application name → Create → Controller.



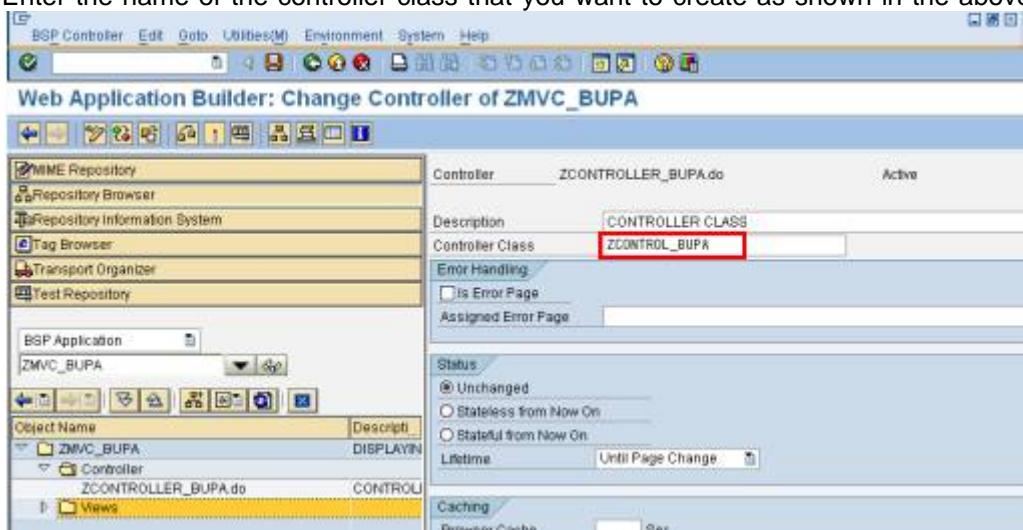
Input the description of the controller and click on the continue button.



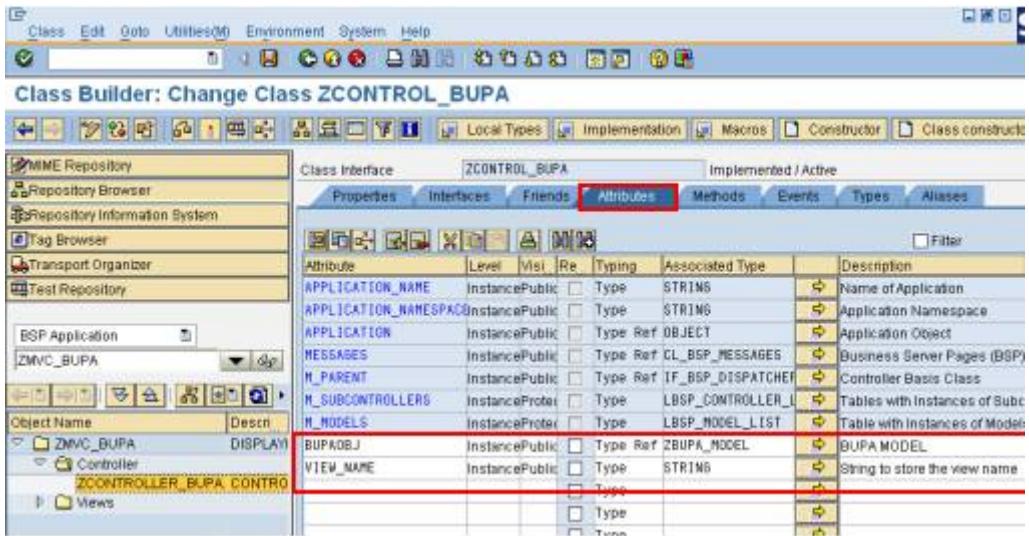
The screen appears as shown below.



Enter the name of the controller class that you want to create as shown in the above screen.



Double click on the controller class to enter into it. Give the attributes of the class as shown.



_ Redefining The Controller Class Methods

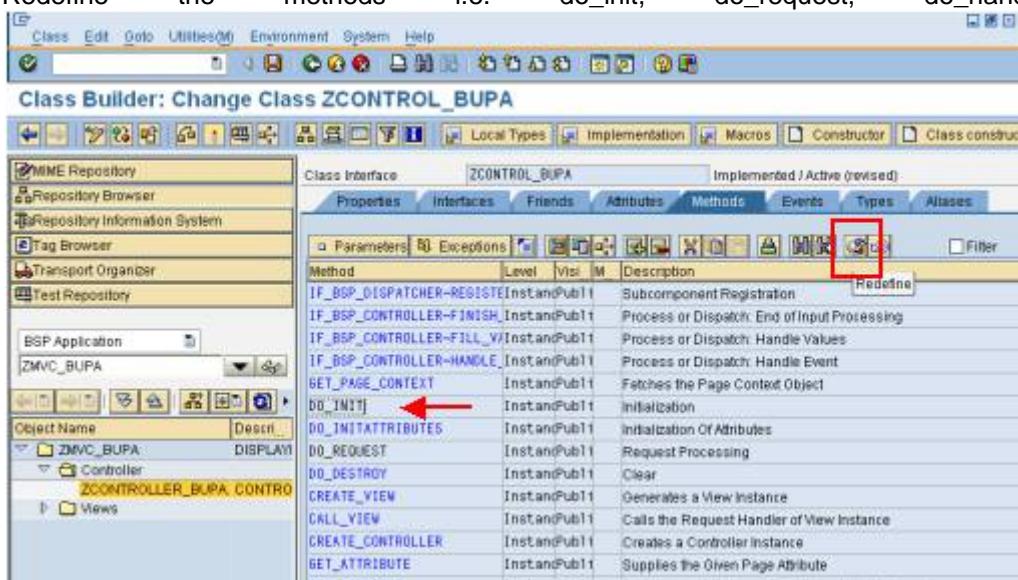
to use our model and views in controller class zcontroller_bupa.do, we have to redefine some of the methods inherited from base class cl_bsp_controller2 using the class builder's redefine function.

The redefinition steps automatically add commented coding (shown in bold in the do_init example below):

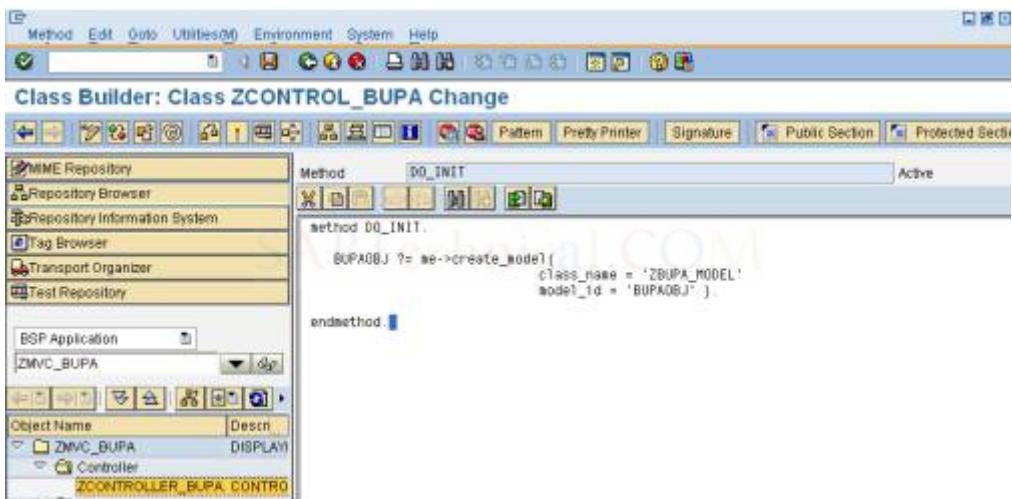
```
method do_init .
* call method super->do_init.
* .
endmethod.
```

If you uncomment those lines, you would execute the method implementation of the parent class. this is helpful when you want to carry out the parent logic and some additional custom logic. we don't want to reuse functionality of the parent class in the example, however, so be sure to delete the commented code before adding the new code.

Redefine the methods i.e. do_init, do_request, do_handle_event.



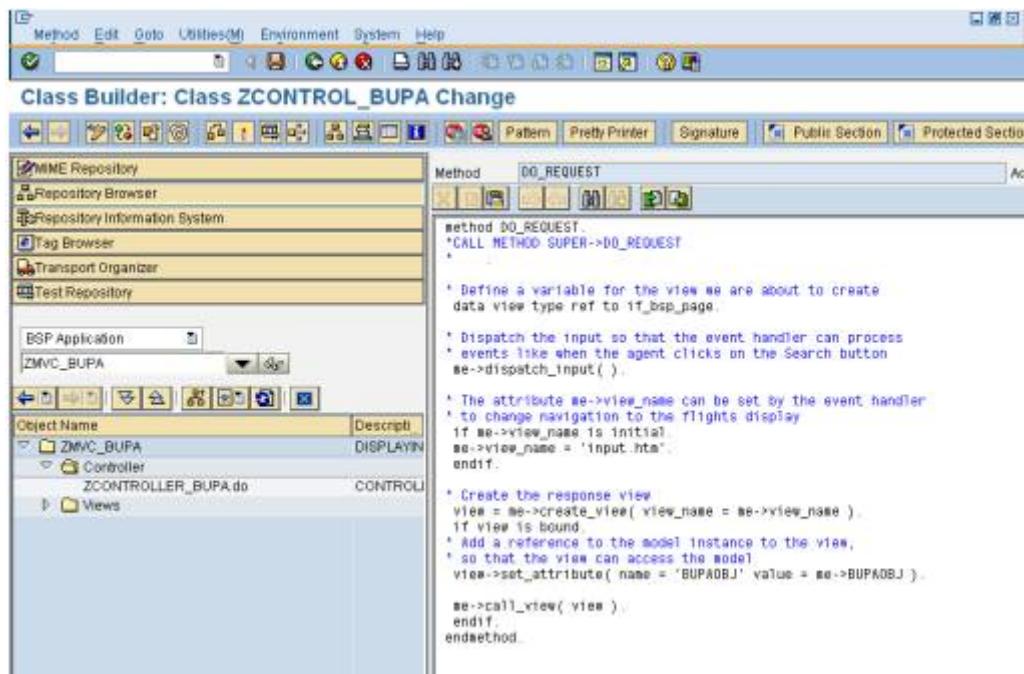
After that double click on the method do_init to implement it (write the code in the method).



CODE:

```
method DO_INIT.
    BUPAOBJ ?= me->create_model(
        class_name = 'ZBUPA_MODEL'
        model_id = 'BUPAOBJ' ).
endmethod.
```

Follows the same procedure for the 'do_request', 'do_handle_event'.



CODE:

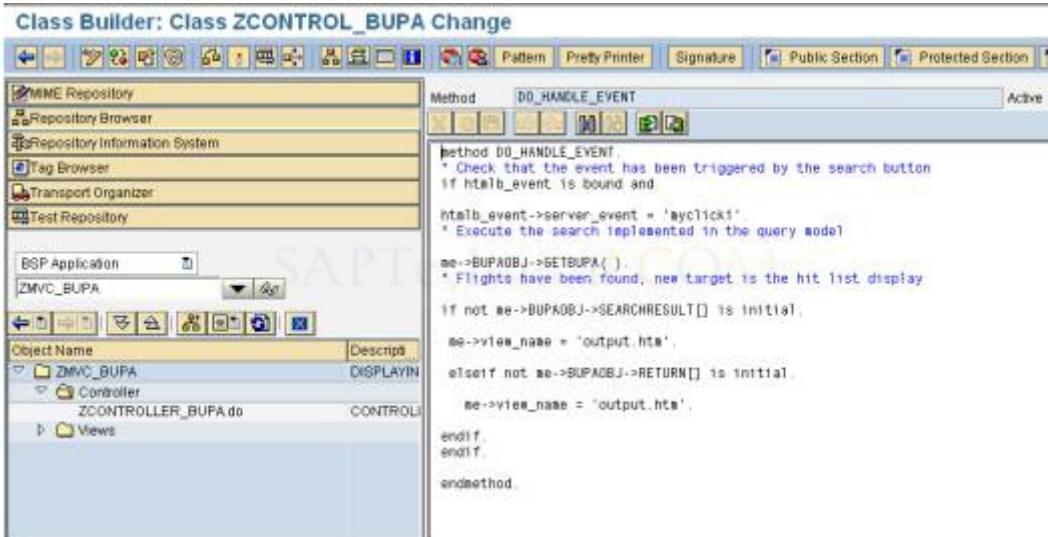
```
method DO_REQUEST.
*CALL METHOD SUPER->DO_REQUEST
*
* Define a variable for the view we are about to create
* data view type ref to if_bsp_page.
* Dispatch the input so that the event handler can process
* events like when the agent clicks on the Search button
* me->dispatch_input( ). .
* The attribute me->view_name can be set by the event handler
* to change navigation to the flights display
```

```

if me->view_name is initial.
me->view_name = 'input.htm'.
endif.
* Create the response view
view = me->create_view( view_name = me->view_name ).
if view is bound.
* Add a reference to the model instance to the view,
* so that the view can access the model
view->set_attribute( name = 'BUPAOBJ' value = me->BUPAOBJ ).
me->call_view( view ).
endif.
endmethod.

```

CLICK ON DO_HANDLE_EVENT METHOD.



CODE:

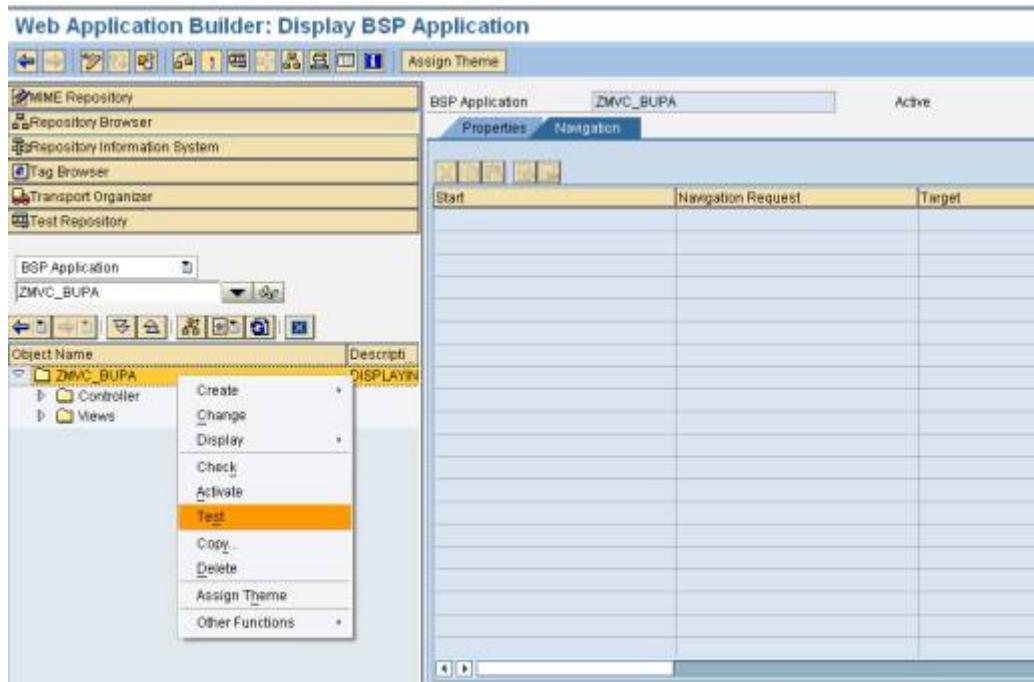
```

method DO_HANDLE_EVENT.
* Check that the event has been triggered by the search button
if htmlb_event is bound and
htmlb_event->server_event = 'myclick1'.
* Execute the search implemented in the query model
me->BUPAOBJ->GETBUPA( ).
* Flights have been found, new target is the hit list display
if not me->BUPAOBJ->SEARCHRESULT[] is initial.
  me->view_name = 'output.htm'.
elseif not me->BUPAOBJ->RETURN[] is initial.
  me->view_name = 'output.htm'.
endif.
endif.
endmethod.

```

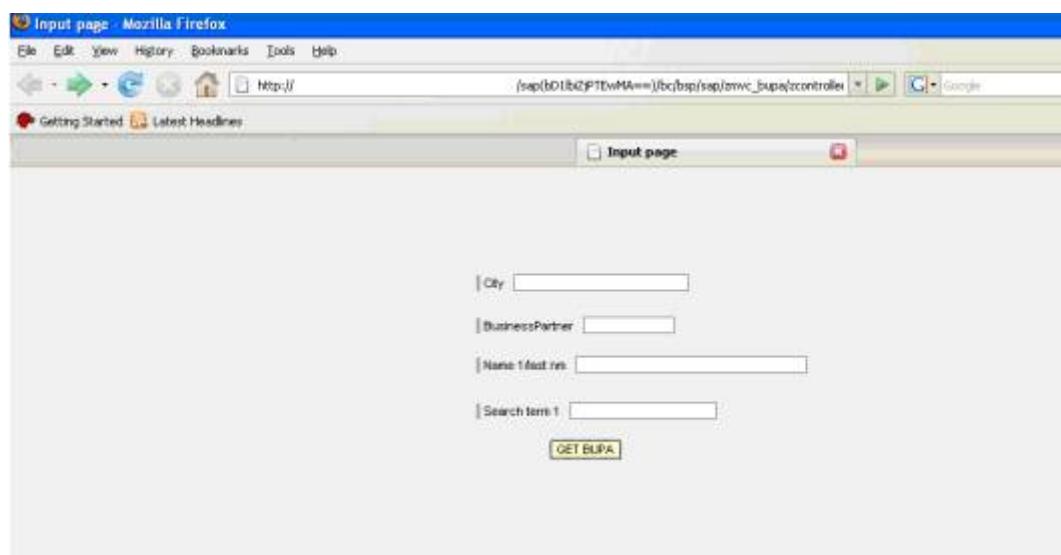
Save, check and activate the application.

Testing the application.



Input the user name and password for the authentication and click on 'ok' button.

The View is displayed in the browser window as shown below.



Provide the information to get business partner data.

SAPTe Learn & Test **COM**

City:

BusinessPartner:

Name/Last name:

Search term:

GET BUPA

Click on the GET DATA button.

Then business partner information gets displayed as follows

Output page - Mozilla Firefox

BUSINESS PARTNER INFORMATION

Business Partner	Type	Business Partner	PSSTAT
1	00000000000000000000000000000000		
22	00000000000000000000000000000000		

Page: 1 of 1

RETURN DATA

MsgType: Param Name: Systems from which message comes:
The table does not contain any entries.
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