

**PUBLIC** 

# How To Create an Enrichment Spot with User Interaction in Central Governance

Applicable Releases:

From EHP6 for SAP ERP 6.0 and from S/4HANA 1511

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## **Document History**

Document Version	Description
1.0	First official release of this guide (2012)
1.1	Adapted new template (2024)



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## 1 Business Scenario

SAP Master Data Governance (MDG) provides business processes to find, create, change, and mark master data for deletion. It supports the governance of master data in a central hub and the distribution to connected operational and business intelligence systems.

The processes are workflow-driven and can include several approval and revision phases, and the collaboration of all users participating in the master data maintenance.

MDG offers change request (CR)-based processing of master data with integrated workflow, staging, approval, activation, and distribution.

This guide describes how to create an enrichment spot implementation with user interaction in Master Data Governance. The implementation is called when executing a consistency check in the Single Processing UI (WebDynpro Application usmd\_entity\_value2).

The business scenario comprises the creation of a change request for a single airline and the processing of the change request. When creating a change request or processing a change request a consistency check can be executed in the Single Processing UI.

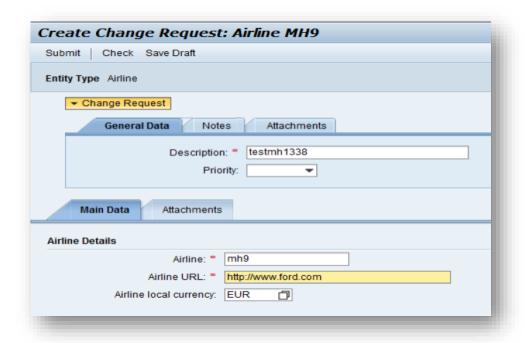
The consistency check processing shall be enhanced by a customer specific implementation (enrichment). The customer specific implementation shall be executed when a user clicks on the 'Check' button in the Single Processing UI.

#### 1.1 Scenario Create Airline

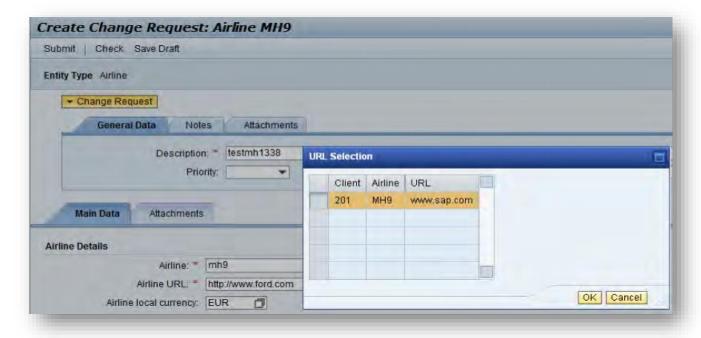
Call the Single Processing UI to create an airline.



Enter an airline and select a change request type which refers to an enrichment implementation (the definition of the change request type is described in the following chapters).



Now enter a description, name of airline, airline URL and currency. Then click on the 'Check' button to execute a consistency check. During the check processing the customer specific enrichment implementation is called which displays a popup containing an URL for an airline ID.



When you click on the 'OK' button the selected URL 'www.sap.com' in the popup is transferred to the field Airline URL on the UI.

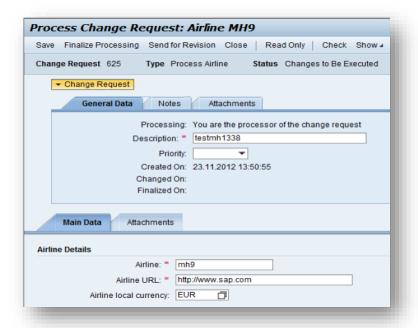


Remark: When you press the 'Cancel' button in the popup the value in field Airline URL won't be overwritten. Now press the 'Submit' button to create the change request.

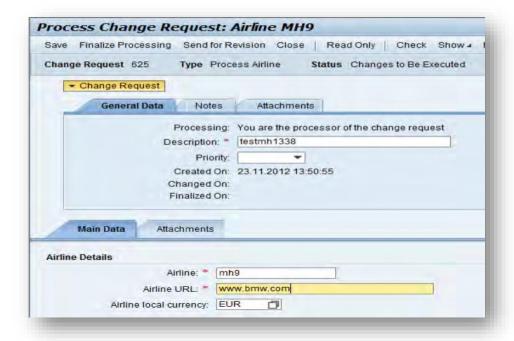


## 1.2 Scenario Process Airline

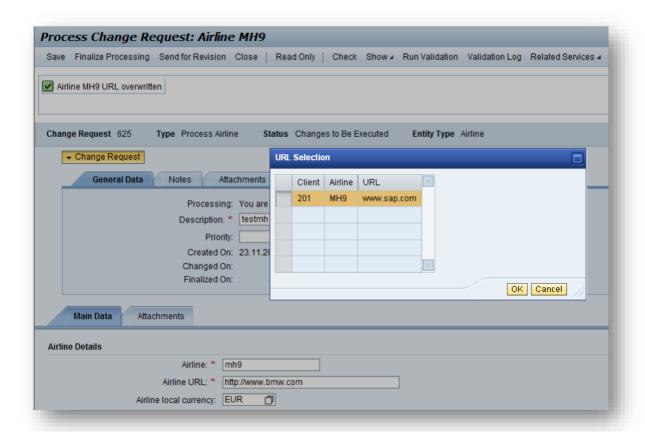
Display the previously created change request.



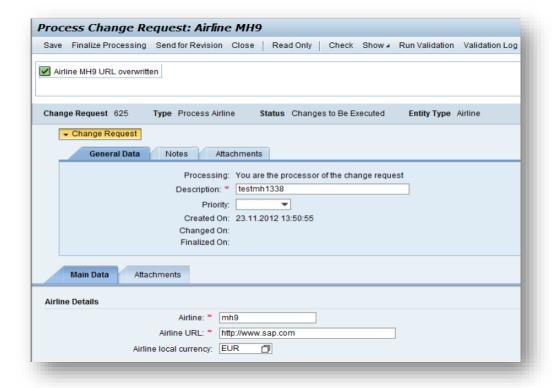
Now change the value of field Airline URL to 'www.bmw.com'.



Then click on the 'Check' button to execute a consistency check. During the check processing the customer specific enrichment implementation is called which displays a popup containing an URL for an airline ID.



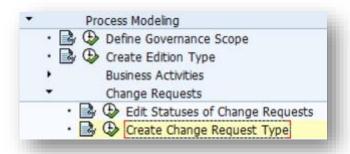
When you click on the 'OK' button the selected URL 'www.sap.com' in the popup is transferred to the field Airline URL on the UI.



Remark: When you press the 'Cancel' button in the popup the value in field Airline URL won't be overwritten.

# 2 Create change request type

Call transaction MDGIMG and create a change request type e.g. SFCMH01.

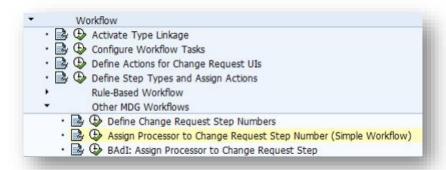


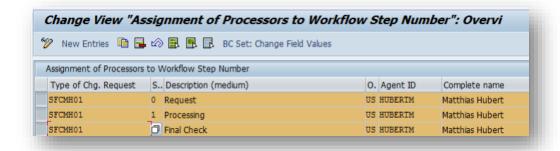


In this example the change request type refers to the workflow ws54300020.

# 3 Assign processor to workflow step number

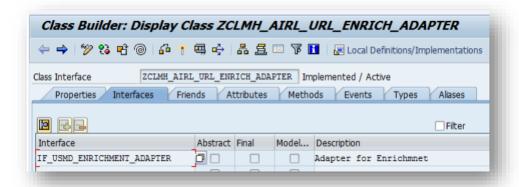
Now assign your user as a processor to each change request/workflow step combination.



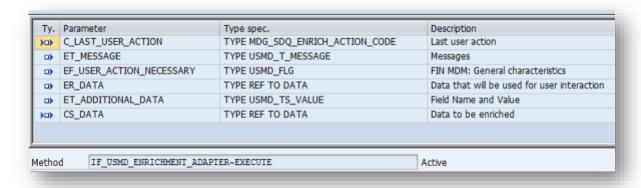


# 4 Create Enrichment Adapter Class

Go to transaction **SE24** in order to create the class which implements the interface **IF USMD ENRICHMENT ADAPTER**.



Then implement the method **IF\_USMD\_ENRICHMENT\_ADAPTER~EXECUTE**. The method contains the following signature.



```
The method could be implemented as follows:
  DATA: lt_urls TYPE STANDARD TABLE OF zmh_airline_url,
        ls_urls type zmh_airline_url.
  FIELD-SYMBOLS: <lt_ui_data>
                                    TYPE STANDARD TABLE,
                  <ls_data>
                                    type any.
* as in address enrichment
 CLEAR: et_additional_data,et_message.
ASSIGN cs_data->* TO <ls_data>.
 if c_last_user_action = 'ENRI'.
 avoid that when 'OK' button in url popup is pressed that popup is shown a second time
    ef_user_action_necessary = abap_false.
    return.
  endif.
* read airline urls to be displayed in popup
  SELECT * FROM zmh_airline_url INTO TABLE lt_urls.
  CREATE DATA er data TYPE STANDARD TABLE OF zmh airline url.
  ASSIGN er_data->* TO <lt_ui_data>.
```

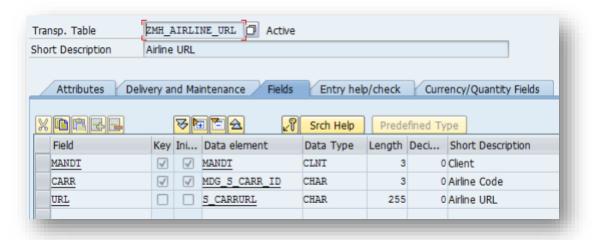
<lt\_ui\_data> = lt\_urls.

ef\_user\_action\_necessary = abap\_true.

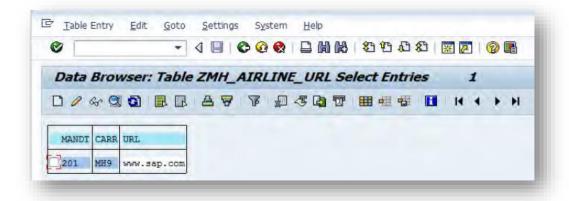
Short description of the sample implementation:

In the implementation it is first checked whether the popup is already displayed. If it is displayed the flag ef\_user\_action\_necessary is set to false to avoid that the popup is displayed again after pressing the 'OK'-button in the popup. In case the popup is not displayed airline URLs are read from database table ZMH\_AIRLINE\_URL and transferred to the exporting parameter er\_data.

Definition of database table **ZMH AIRLINE URL**:

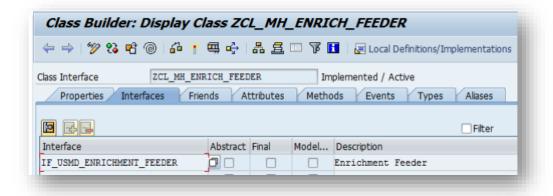


Content of database table:

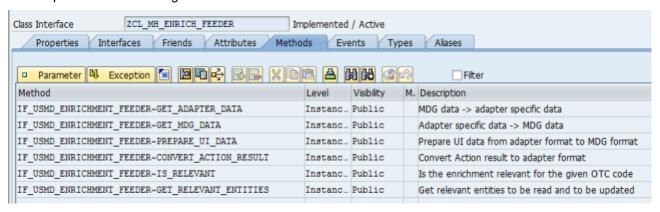


## 5 Create Enrichment Feeder Class

Go to transaction **SE24** and create a class which implements the interface **IF USMD ENRICHMENT FEEDER**.



Now implement the following methods:



Sample implementations for each of these methods are specified below:

#### Method IF USMD ENRICHMENT FEEDER~GET ADAPTER DATA

method IF\_USMD\_ENRICHMENT\_FEEDER~GET\_ADAPTER\_DATA.

```
data: ls_key_all type USMD_SX_ENTITY_DATA,
       ls_adapter_data type ZMH_AIRLINE_URL.
 FIELD-SYMBOLS: <lt_key_all_data> type sorted TABLE,
                key_all_data> type any,
                <lv_key_all_data> type any,
                 <lt_adapter_data> TYPE SORTED TABLE,
                <lv adapter data> type any.
* convert the data from MDG Format (=IT_KEY_ALL) to Adapter Format (=ER_DATA)
 CREATE DATA er_data TYPE SORTED TABLE OF ZMH_AIRLINE_URL WITH UNIQUE KEY carr.
 ASSIGN er_data->* TO <lt_adapter_data>.
 read table it_key_all into ls_key_all
      with TABLE KEY entity = 'CARR'.
 if sy-subrc = 0.
   ASSIGN ls_key_all-r_data->* TO <lt_key_all_data>.
   loop at <lt_key_all_data> ASSIGNING <ls_key_all_data>.
     ASSIGN COMPONENT 'CARR' OF STRUCTURE <ls_key_all_data> TO <lv_key_all_data>.
     ASSIGN COMPONENT 'CARR' OF STRUCTURE ls_adapter_data to <lv_adapter_data>.
     <lv_adapter_data> = <lv_key_all_data>.
     ASSIGN COMPONENT 'URL' OF STRUCTURE <ls_key_all_data> TO <lv_key_all_data>.
     ASSIGN COMPONENT 'URL' OF STRUCTURE ls_adapter_data to <lv_adapter_data>.
     <lv_adapter_data> = <lv_key_all_data>.
     ASSIGN COMPONENT 'MANDT' OF STRUCTURE ls_adapter_data to <lv_adapter_data>.
     <lv_adapter_data> = sy-mandt.
     insert ls_adapter_data into table <lt_adapter_data>.
   ENDLOOP.
 endif
endmethod.
```

```
Method IF_USMD_ENRICHMENT_FEEDER~GET_MDG_DATA
method IF USMD ENRICHMENT FEEDER~GET MDG DATA.
  data: lo_model type REF TO IF_USMD_MODEL_EXT,
        lr_data type ref to data,
        lr_strdescr TYPE REF TO cl_abap_structdescr,
        1s_component
                       TYPE abap_componentdescr.
  FIELD-SYMBOLS: <lt_data_write> type SORTED TABLE,
                 data_write> type any,
                 <lv_data_write> type any,
                 <ls_data>
                               type any,
                 <ls_data_db>
                                type zmh_airline_url,
                 <lv data>
                                type any,
                 <lv_data_db>
                              type any.
  CALL METHOD CL_USMD_FACTORY_EXT=>GET_MODEL_INSTANCE
    EXPORTING
      i_usmd_model = 'SF'
    IMPORTING
      EO_INSTANCE = lo_model.
  CALL METHOD lo_model->CREATE_DATA_REFERENCE
    FXPORTING
      I FIELDNAME = 'CARR'
      I STRUCT
                = lo_model->GC_STRUCT_KEY_ATTR
                 = 'X'
                          " Financial MDM: General Indicator
      IF TABLE
      I_TABTYPE = lo_model->GC_TABTYPE_SORTED
    IMPORTING
      ER_DATA
                 = er_data.
  assign er_data->* to <lt_data_write>.
  create data lr_data like line of <lt_data_write>.
  assign lr_data->* to <ls_data_write>.
  create data lr_data like line of it_data.
  assign lr_data->* to <ls_data>.
  read table it_data ASSIGNING <ls_data>
      index 1.
  if sy-subrc <> 0.
   return.
  endif.
  ASSIGN COMPONENT 'WRITE_DATA' OF STRUCTURE <ls_data> TO <lv_data>.
  assign <lv_data>->* to <ls_data_db>.
  ASSIGN COMPONENT 'URL' OF STRUCTURE <ls_data_db> TO <lv_data_db>.
  ASSIGN COMPONENT 'URL' OF STRUCTURE <ls_data_write> to <lv_data_write>.
  <lv_data_write> = <lv_data_db>.
  ASSIGN COMPONENT 'CARR' OF STRUCTURE <ls_data_db> TO <lv_data_db>.
  ASSIGN COMPONENT 'CARR' OF STRUCTURE <ls_data_write> to <lv_data_write>.
  <lv_data_write> = <lv_data_db>.
```

## Method IF\_USMD\_ENRICHMENT\_FEEDER~PREPARE\_UI\_DATA

method IF\_USMD\_ENRICHMENT\_FEEDER~PREPARE\_UI\_DATA.
 er\_data = ir\_data.
endmethod.

<lv\_data\_write> = 'mh9'.

<lv data write> = 'EUR'.

endmethod.

#### Method IF USMD ENRICHMENT FEEDER~CONVERT ACTION RESULT

ASSIGN COMPONENT 'CARRNAME' OF STRUCTURE <ls\_data\_write> to <lv\_data\_write>.

ASSIGN COMPONENT 'CURRCODE' OF STRUCTURE <ls\_data\_write> to <lv\_data\_write>.

method IF\_USMD\_ENRICHMENT\_FEEDER~CONVERT\_ACTION\_RESULT.
 er\_data = ir\_data.
endmethod.

insert <ls\_data\_write> into table <lt\_data\_write>.

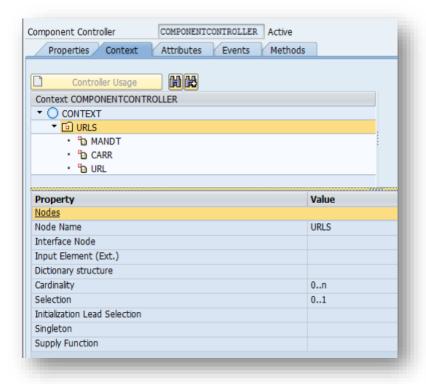
#### Method IF\_USMD\_ENRICHMENT\_FEEDER~IS\_RELEVANT

```
method IF_USMD_ENRICHMENT_FEEDER~IS_RELEVANT.
    ev_relevant = abap_true.
endmethod.
```

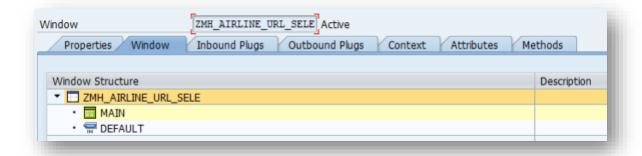
#### Method IF\_USMD\_ENRICHMENT\_FEEDER~GET\_RELEVANT\_ENTITIES

# 6 Create Popup wich displays a table of URLs

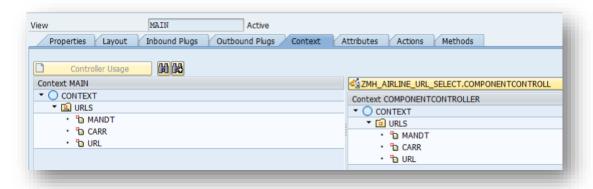
Create a WebDynpro Component e. g. **ZMH\_AIRLINE\_URL\_SELECT** which implements WebDynpro Interface **MDG\_ENRICHMENT\_INTF**. Create a context node URLS in the Component Controller of the WebDynpro Component:



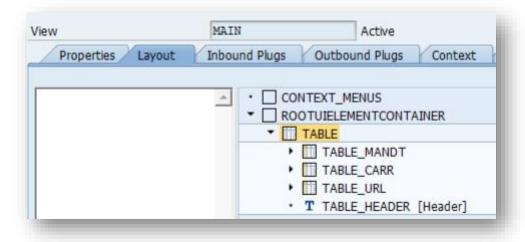
Then create a view MAIN and embed it into window ZMH AIRLINE URL SELE:



Map the node **URLS** of the Component Controller Context to the View Context:



Then use the wizard to define a table on View MAIN which displays the URLs from database table ZMH AIRLINE URL (see above).



Bind the table to the context node **URLS** (see above).

Now implement the following methods in View  ${\tt MAIN}:$   ${\tt method}$   ${\tt WDDOMODIFYVIEW}$  .

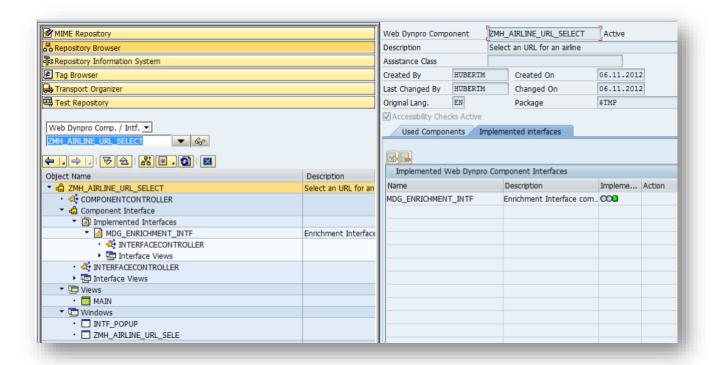
```
IF first_time = abap_true.

wd_comp_controller->go_popup->subscribe_to_button_event(
  button = if_wd_window=>co_button_ok
  button_text = 'OK'
  action_name = 'SUBMIT'
  action_view = view ).
```

```
wd_comp_controller->go_popup->subscribe_to_button_event(
      button = if_wd_window=>co_button_cancel
      button_text = 'Cancel'
action_name = 'CANCEL'
      action_view = view ).
  ENDIF.
endmethod.
method ONACTIONSUBMIT .
                              TYPE REF TO if_wd_context_node.
  DATA lo_node_urls
  DATA lo elem urls
                               TYPE REF TO if wd_context_element.
                              TYPE wd this->ELEMENT URLS.
  DATA ls urls
  DATA lo_componentcontroller TYPE REF TO ig_componentcontroller.
  DATA lr_data
                              TYPE REF TO data.
  DATA lv_action
                               TYPE char4.
                               type S_CARRURL.
  data lv_url
  FIELD-SYMBOLS: <ls_data> TYPE zmh_airline_url.
  lo_node_urls = wd_context->get_child_node( name = wd_this->WDCTX_URLS ).
* get element via lead selection
  lo_elem_urls = lo_node_urls->get_element( ).
  TRY.
      lo_elem_urls->get_static_attributes(
        IMPORTING
         static_attributes = ls_urls ).
    CATCH cx_sy_ref_is_initial.
  ENDTRY.
  IF ls_urls IS INITIAL.
    lv action = 'CNCL'.
  ELSE.
    lv_action = 'ENRI'.
  ENDIF.
  CREATE DATA lr_data TYPE zmh_airline_url.
  ASSIGN lr_data->* TO <ls_data>.
  <ls_data> = ls_urls.
  lo_componentcontroller = wd_this->get_componentcontroller_ctr( ).
  lo_componentcontroller->fire_end_ui_interaction_evt(
    er_data =
                     lr_data
    ev_action_code = lv_action
```

endmethod.

Then assign WebDynpro Interface mdg\_ENRICHMENT\_INTF to WebDynpro Component zmh AIRLINE URL SELECT.



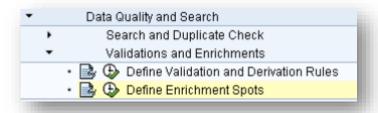
Then implement the method SHOW ENRICHMENT UI of WebDynpro Interface MDG ENRICHMENT INTF.

A sample implementation of the method **show\_enrichment\_ui** is specified here:

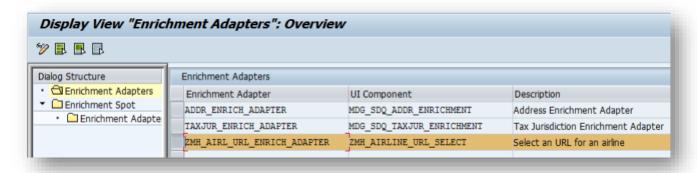
```
method SHOW ENRICHMENT UI .
  DATA lr popup
                                      TYPE REF TO if_wd_window.
  DATA lr_api_comp_controller
DATA lr_window_manager
                                      TYPE REF TO if_wd_component.
                                      TYPE REF TO if_wd_window_manager.
  DATA lo_wd_component
                                      TYPE REF TO if_wd_component.
  DATA lo_window_manager
DATA lo_node_urls
                                      TYPE REF TO if_wd_window_manager.
TYPE REF TO if_wd_context_node.
  DATA lt_urls_elem
                                      TYPE wd_this->Elements_urls.
  FIELD-SYMBOLS: <fs_data>
                                      TYPE any.
  ASSIGN ir_data->* TO <fs_data>.
  CHECK <fs_data> IS ASSIGNED.
  lt_urls_elem = <fs_data>.
  lo_node_urls = wd_context->get_child_node( name = wd_this->wdctx_urls ).
  lo_node_urls->bind_table( new_items = lt_urls_elem set_initial_elements = abap_true ).
  lr_api_comp_controller = wd_this->wd_get_api( ).
  lr_window_manager = lr_api_comp_controller->get_window_manager( ).
  lr_popup = lr_window_manager->create_window(
        modal
                             = abap true
        window_name
                             = 'ZMH_AIRLINE_URL_SELE'
                             = 'URL Selection'
        title
        close_button
                             = abap_false
        button_kind
                             = if_wd_window=>co_buttons_okcancel
        message_type
                             = if_wd_window=>co_msg_type_none
        close in any case
                             = abap true
        message_display_mode = if_wd_window=>co_msg_display_mode_none
  ).
*Set the height and width here
  lr_popup->set_window_size( width = '40%' height = '5%' ).
  wd this->GO POPUP = 1r popup.
  lr_popup->open( ).
endmethod.
```

# 7 Define Enrichment Spot

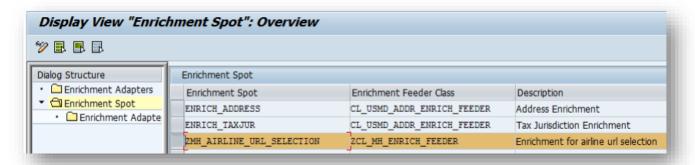
Go to transaction MDGIMG.



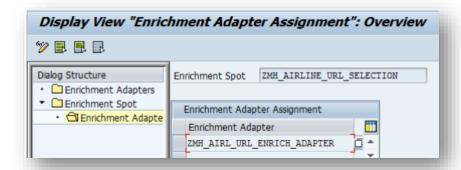
Now enter the Enrichment Adapter class and the WebDynpro Component specified above.



Then define the enrichment spot which refers to the enrichment feeder class specified above.

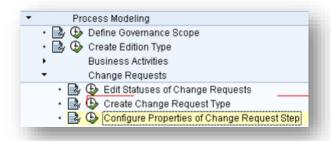


Then assign the enrichment adapter class (see above) to the enrichment spot.

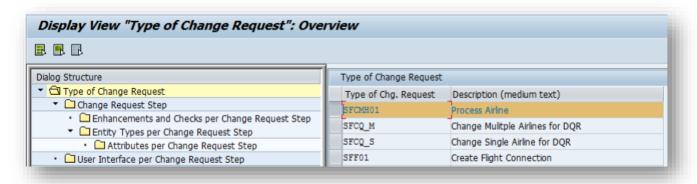


# 8 Configure Properties of Change Request Step

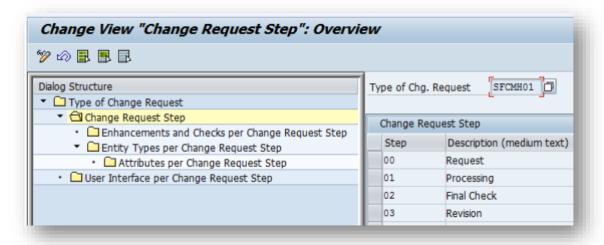
Go to transaction MDGIMG.



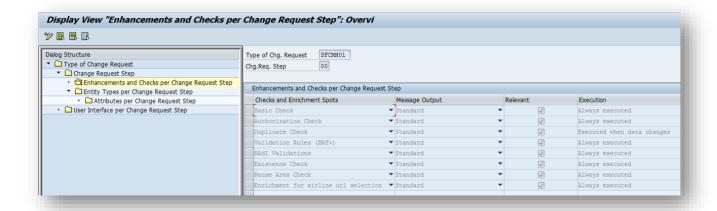
Then select the type of change request which was defined in one of the preceding steps (see above).



Then display the steps of the change request type.



Now maintain the enrichment spot for each of the steps. Select 'Relevant=true' and 'Execution=Always executed' to make sure the enrichment is executed. In the following screenshots step '00' is shown:



Now all required settings are available, and you can execute the business scenarios specified at the beginning of this document. <a href="https://www.sap.com">www.sap.com</a>.

## 9 Additional Information

# 9.1 Further Reading

#### 9.1.1 Information on SAP MDG on SAP S/4HANA

- Exchange knowledge: <u>SAP Community</u> | <u>Q&A</u> | <u>Blog</u>
- Try SAP Master Data Governance on S/4HANA for free: Trial Version
- Try SAP Master Data Governance on S/4HANA on the SAP Cloud Appliance Library: <u>S/4HANA 2022</u> FPS1
- Learn more: Latest Release | Help Portal | How-to Information | Key Presentations

### 9.1.2 SAP Roadmap Explorer

• Please see the roadmap for SAP Master Data Governance

#### 9.1.3 Related Information

Learn more: Floorplan Manager for Web Dynpro ABAP | How to Adapt FPM | FPM Blog | How-to Information | Service Mapping Tool | SAP S/4HANA Cookbook CVI

## 9.2 SAP Notes

In addition to the detailed explanations written in this document, please see the following SAP Notes for further important information.

Note	Description
<u>1619534</u>	How to Create, Enhance and Adapt FPM Applications

