

Exercise 10F –Create Projection View

SAP Partner Workshop



10 min

Description

In this exercise, you'll learn how:

- Create Projection View.

Prerequisites

- You have completed the steps mentioned until Exercise 10E.

Target group

- Developers
- People interested in learning about development in ABAP env in SAP Cloud Platform with focus on RAP model.

Goal

The goal of this exercise is to create a Projection View with UI annotations.

Right-click on your package ZTRAVEL_APP_XXX, select **New > Other ABAP Repository Object**.

The screenshot shows the Eclipse IDE interface with the CDS Navigator on the left. The main editor displays a table of travel data. A context menu is open over the package ZTRAVEL_APP_CVP9, with the option 'Other ABAP Repository Object' selected.

CDS Navigator:

- CC2_715_sapdisplay_en [CC2_715_SAPDISPLAY, EN]
- CCQ_012_cvp_en [CCQ_012_CVP, EN]
- CCW_715_sapi032875_en [CCW_715_SAPI032875, EN]
- ER9_001_cvp_en [ER9_001_CVP, EN]
- GA5_EN [GA5_100, CB00000000653, EN]
- TRL_EN [TRL_100, CB00000000437, EN]
- Favorite Packages (2,417)
 - ZLOCAL (2,417) Generated Package for ZLOCAL
 - ZTRAVEL_APP_CVP (19) Travel App in SCP ABAP PA
 - ZTRAVEL_APP_CVP9 (2) Package for
- Released Objects (361)

Table Data:

CLIENT	TRAVEL_ID	AGENCY_ID	CUSTOMER_ID	BEGIN_DATE	END_DATE	BOOKING_FEE	TOTAL_PRICE	CURRENCY_CODE	DESCRIPTION	OVERALL_STATUS	CREATED_BY
100	00000001	070001	000077	2019-06-24	2019-06-28	60.00	1780.00	USD	Trip to Thailand Po...	A	CVP
100	00000002	070005	000005	2019-06-13	2019-07-16	55.00	1150.00	USD	Trip to TechED in Ba...	A	CVP
100	00000003	070010	000011	2019-06-10	2019-07-14	61.00	1800.00	USD	Trip to Sapphire in ...	X	CVP
100	00000004	070010	000011	2019-06-10	2019-07-14	120.00	2800.00	USD	Trip to DSAG Berlin	X	CVP
100	00000005	070010	000011	2019-06-10	2019-07-14	155.00	3500.00	USD	Trip to ASUG Orlando	A	CVP

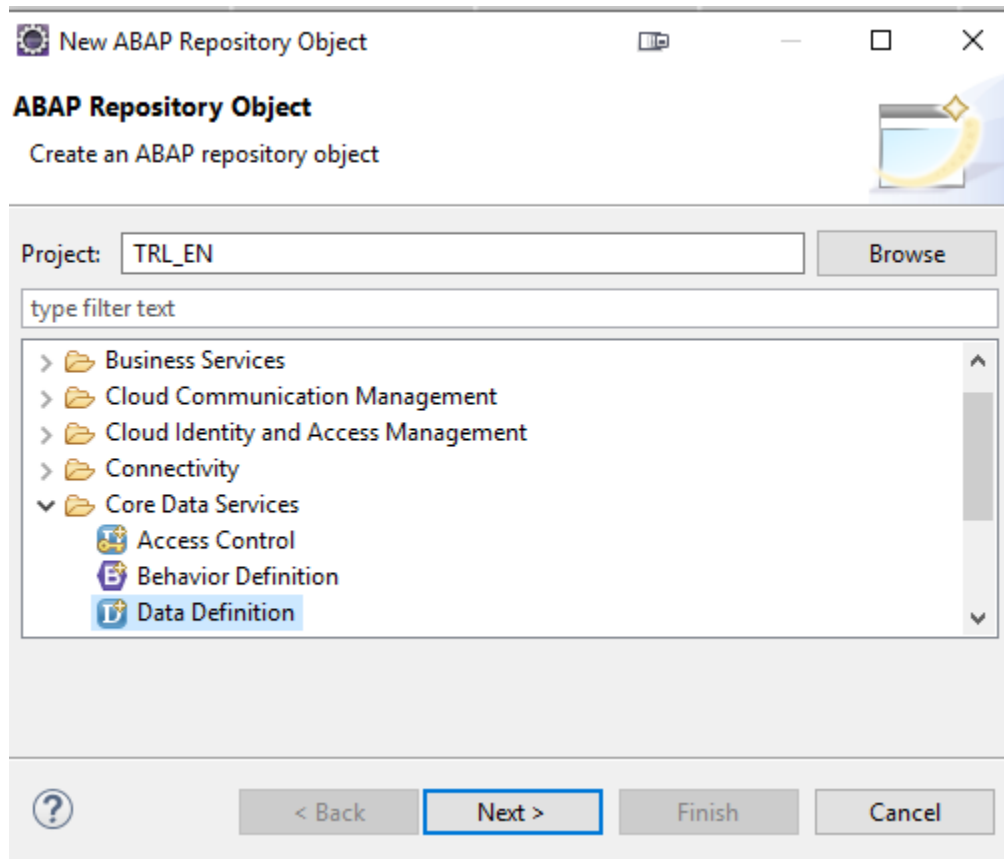
Context Menu:

- New
 - Derive New Tree...
 - Open
 - Open in Project (Ctrl+Alt+P)
 - Open ABAP Development Object...
 - Show in ABAP Repository Tree
 - Copy (Ctrl+C)
 - Delete (Delete)
 - Remove from Favorite Packages
 - Get Where-used List (Ctrl+Shift+G)
 - Export...
 - Refresh (F5)
 - Share Link...
 - Activate
 - Unlock (Ctrl+U)
 - Coverage As
 - Coverage As
 - Run As
 - Debug As
 - Profile As
 - Expand Folder by...
 - Configure Tree... (Alt+Enter)
- ABAP Class
- ABAP Interface
- ABAP Package
- Other ABAP Repository Object

Console:

```
Congratulations. Travel data inserted successfully! Enjoy your Trip
```

Search on Core Data Services and Select Data Definition.



Click Next and Name and Description as follows.

- Name: ZC_TRAVEL_M_XXX
- Description: Projection view for travel

Click on Next and Finish.

Replace the code generated with the following code.

```
@EndUserText.label: 'Travel projection view - Processor'
```

```
@AccessControl.authorizationCheck: #NOT_REQUIRED
```

```
@UI: {
```

```
  headerInfo: { typeName: 'Travel', typeNamePlural: 'Travels', title: { type: #STANDARD, value: 'TravelID' } } }
```

```
@Search.searchable: true
```

```
define root view entity ZC_TRAVEL_M_XXX as projection on ZI_TRAVEL_M_XXX {
```

```
  @UI.facet: [ { id:      'Travel',
                  purpose:  #STANDARD,
                  type:     #IDENTIFICATION_REFERENCE,
                  label:    'Travel',
```

position: 10 }]

@UI: {

lineItem: [{ position: 10, importance: #HIGH }],

identification: [{ position: 10, label: 'Travel ID [1,...,999999999]' }] }

@Search.defaultSearchElement: true

key travel_id as TravelID,

@UI: {

lineItem: [{ position: 20, importance: #HIGH }],

identification: [{ position: 20 }],

selectionField: [{ position: 20 }] }

@Consumption.valueHelpDefinition: [{ entity : {name: '/DMO/I_Agency', element: 'AgencyID' } }]

@ObjectModel.text.element: ['AgencyName'] ----meaning?

@Search.defaultSearchElement: true

agency_id as AgencyID, _Agency.Name as AgencyName,

@UI: {

 lineItem: [{ position: 30, importance: #HIGH }],

 identification: [{ position: 30 }],

 selectionField: [{ position: 30 }] }

@Consumption.valueHelpDefinition: [{ entity : {name: '/DMO/I_Customer', element: 'CustomerID' } }]

@ObjectModel.text.element: ['CustomerName']

@Search.defaultSearchElement: true

customer_id as CustomerID,

@UI.hidden: true

_Customer.LastName as CustomerName,

@UI: {

 lineItem: [{ position: 40, importance: #MEDIUM }],

 identification: [{ position: 40 }] }

begin_date as BeginDate,

@UI: {

lineltem: [{ position: 41, importance: #MEDIUM }],

identification: [{ position: 41 }] }

end_date as EndDate,

@UI: {

lineltem: [{ position: 50, importance: #MEDIUM }],

identification: [{ position: 50, label: 'Total Price' }] }

@Semantics.amount.currencyCode: 'CurrencyCode'

total_price as TotalPrice,

@Consumption.valueHelpDefinition: [{entity: {name: 'I_Currency', element: 'Currency' }}]

currency_code as CurrencyCode,

@UI: {

```
lineItem:    [ { position: 60, importance: #HIGH },
                { type: #FOR_ACTION, dataAction: 'acceptTravel', label: 'Accept Travel' } ],
identification: [ { position: 60, label: 'Status [O(Open)|A(Accepted)|X(Canceled)]' } ] }
overall_status    as TravelStatus,

@UI.identification: [ { position: 70, label: 'Remarks' } ]

description as Description,

@UI.hidden: true

last_changed_at    as LastChangedAt

}
```


Replace XXX with the actual name in the code copied.

An example:

```
@EndUserText.label: 'Travel projection view - Processor'
@AccessControl.authorizationCheck: #NOT_REQUIRED

@UI: {
  headerInfo: { typeName: 'Travel', typeNamePlural: 'Travels', title: { type: #STANDARD, value: 'TravelID' } } }

@Search.searchable: true

define root view entity ZC_TRAVEL_M_CVP9 as projection on ZI_TRAVEL_M_CVP9 {
  @UI.facet: [ { id:
                purpose:
                type:
                label:
                position:
                'Travel',
                #STANDARD,
                #IDENTIFICATION_REFERENCE,
                'Travel',
                10 } ]

  @UI: {
    lineItem:      [ { position: 10, importance: #HIGH } ],
    identification: [ { position: 10, label: 'Travel ID [1,...,99999999]' } ] }
  @Search.defaultSearchElement: true
  key travel_id      as TravelID,

  @UI: {
    lineItem:      [ { position: 20, importance: #HIGH } ],
    identification: [ { position: 20 } ],
    selectionField: [ { position: 20 } ] }
  @Consumption.valueHelpDefinition: [{ entity : {name: '/DMO/I_Agency', element: 'AgencyID' } }]

  @ObjectModel.text.element: [ 'AgencyName' ]
  @Search.defaultSearchElement: true
  agency_id      as AgencyID, _Agency.Name      as AgencyName,

  @UI: {
    lineItem:      [ { position: 30, importance: #HIGH } ],
    identification: [ { position: 30 } ],
    selectionField: [ { position: 30 } ] }
```

```

@Consumption.valueHelpDefinition: [{ entity : {name: '/DMO/I_Customer', element: 'CustomerID' } }]

@ObjectModel.text.element: ['CustomerName']
@Search.defaultSearchElement: true
customer_id      as CustomerID,

@UI.hidden: true
_Customer.LastName as CustomerName,

@UI: {
    lineItem:      [ { position: 40, importance: #MEDIUM } ],
    identification: [ { position: 40 } ] }
begin_date      as BeginDate,

@UI: {
    lineItem:      [ { position: 41, importance: #MEDIUM } ],
    identification: [ { position: 41 } ] }
end_date        as EndDate,

@UI: {
    lineItem:      [ { position: 50, importance: #MEDIUM } ],
    identification: [ { position: 50, label: 'Total Price' } ] }
@Semantics.amount.currencyCode: 'CurrencyCode'
total_price     as TotalPrice,

@Consumption.valueHelpDefinition: [{entity: {name: 'I_Currency', element: 'Currency' }}]
currency_code   as CurrencyCode,

@UI: {
    lineItem:      [ { position: 60, importance: #HIGH },
                    { type: #FOR_ACTION, dataAction: 'acceptTravel', label: 'Accept Travel' } ],
    identification: [ { position: 60, label: 'Status [O(Open)|A(Accepted)|X(Canceled)]' } ] }
overall_status  as TravelStatus,

@UI.identification: [ { position: 70, label: 'Remarks' } ]
description     as Description,

@UI.hidden: true
last_changed_at as LastChangedAt

```

}

Save (Ctrl – S) and Activate (Ctrl-F3).

To verify the data, right click on the code editor, Open with -> Data Preview.

Raw Data													Show Log
Filter pattern													SQL Console
5 rows retrieved - 47 ms													Number of Entries
Select Columns													
TravelID	AgencyID	AgencyName	CustomerID	CustomerName	BeginDate	EndDate	TotalPrice	CurrencyCode	TravelStatus	Description	LastChangedAt		
00000001	070001	Sunshine Travel	000077	Neubasler	2019-06-24	2019-06-28	1780.00	USD	A	Trip to Thailand ...	20190702105400.3647...		
00000002	070005	Your Choice	000005	Buchholm	2019-06-13	2019-07-16	1150.00	USD	A	Trip to TechED in ...	20190711140753.1472...		
00000003	070010	Travel from Walldorf	000011	Buchholm	2019-06-10	2019-07-14	1800.00	USD	X	Trip to Sapphire i...	20190613111041.2251...		
00000004	070010	Travel from Walldorf	000011	Buchholm	2019-06-10	2019-07-14	2800.00	USD	X	Trip to DSAG Berlin	20190613111041.2251...		
00000005	070010	Travel from Walldorf	000011	Buchholm	2019-06-10	2019-07-14	3500.00	USD	A	Trip to ASUG Orla...	20190613111041.2251...		

eclipse-workspace - Data Definition ZI_TRAVEL_M_CVP9 [TRL] - active - TRL_EN - Eclipse IDE

File Edit Source Code Navigate Search Project Run Window Help

Project Explorer CDS Navigator

- CC2_715_sapdisplay_en [CC2, 715, _SAPDISPLAY, EN]
- CCQ_012_cvp_en [CCQ, 012, CVP, EN]
- CCW_715_sapi032875_en [CCW, 715, _SAPI032875, EN]
- ER9_001_cvp_en [ER9, 001, CVP, EN]
- GA5_EN [GA5, 100, CB00000000653, EN]
- TRL_EN [TRL, 100, CB00000000437, EN]
- Favorite Packages (2,419)
 - ZLOCAL (2,419) Generated Package for ZLOCAL
 - ZTRAVEL_APP_CVP (15) Travel App in SCP ABAP PA
 - ZTRAVEL_APP_CVP9 (4) Package for travel Fiori APP
- Released Objects (561)

```
1 @AbapCatalog.sqlViewName: 'ZVI_TRAVEL_M_CVP9'
2 @AbapCatalog.compiler.compareFilter: true
3 @AbapCatalog.preserveKey: true
4 @AccessControl.authorizationCheck: #CHECK
5 @EndUserText.label: 'Travel data - CVP9'
6 define root view ZI_TRAVEL_M_CVP9
7
8   as select from ztravel_cvp9 as Travel
9
10  /* Associations */
11  association [0..1] to /DMO/I_Agency as _Agency on $projection.agency_id = _Agency.AgencyID
12  association [0..1] to /DMO/I_Customer as _Customer on $projection.customer_id = _Customer.CustomerID
13  association [0..1] to I_Currency as _Currency on $projection.currency_code = _Currency.Currency
14  {
15    key travel_id,
16    agency_id,
17    customer_id,
18    begin_date,
19    end_date,
20    @Semantics.amount.currencyCode: 'currency_code'
21    booking_fee,
22    @Semantics.amount.currencyCode: 'currency_code'
23    total_price,
24    @Semantics.currencyCode: true
25    currency_code,
26    overall_status,
27    description,
28
29    /*-- Admin data --*/
30    @Semantics.user.createdBy: true
31    created_by,
32    @Semantics.systemDateTime.createdAt: true
33    created_at,
34    @Semantics.user.lastChangedBy: true
35    last_changed_by,
36    @Semantics.systemDateTime.lastChangedAt: true
37    last_changed_at,
38
39    /* Public associations */
40    _Agency,
41    _Customer,
42    _Currency
43  }
```

Outline

- ZI_TRAVEL_M_CVP9
 - select
 - from
 - Travel (ztravel_cvp9)
 - associations
 - elements
 - travel_id
 - agency_id
 - customer_id
 - begin_date
 - end_date
 - booking_fee
 - total_price
 - currency_code
 - overall_status
 - description
 - created_by
 - created_at
 - last_changed_by
 - last_changed_at
 - _Agency
 - Customer

ABAP Console

Read-Only Smart Insert 32:47

Remove from Context Ctrl+Alt+Shift+Down

12:43 PM 11/4/2019

Undo Ctrl+Z

Revert File

Save Ctrl+S

Open ABAP Type Hierarchy F4

Quick Type Hierarchy Ctrl+T

Navigate To F3

Navigate To Target Alt+Shift+T

Show SQL CREATE Statement

Open in Project Ctrl+Alt+P

Open With

Show In Alt+Shift+W

Quick Outline Ctrl+O

Cut Ctrl+X

Copy Ctrl+C

Paste Ctrl+V

Get Where-used List Ctrl+Shift+G

Rename... Alt+Shift+R

Change Package Assignment

Quick Fix Ctrl+I

Source Code Alt+Shift+S

Activate Ctrl+F3

Toggle between Active and Inactive Version

Unlock Ctrl+U

Share Link for Selection...

Coverage As

Coverage As

Run As

Debug As

Profile As

Team

Compare With Ctrl+Alt+C

Replace With

Validate

Preferences...

Data Preview

Activation Graph

Dictionary Log

Active Annotations

Annotation Propagation

Dependency Analyzer

Graphical Editor

Raw Data										
Filter pattern		5 rows retrieved - 19 ms							SQL Console	
travel_id	agency_id	customer_id	begin_date	end_date	booking_fee	total_price	currency_code	overall_status	description	
00000001	070001	000077	2019-06-24	2019-06-28	60.00	1780.00	USD	A	Trip to Thailand ...	
00000002	070005	000005	2019-06-13	2019-07-16	55.00	1150.00	USD	A	Trip to TechED in...	
00000003	070010	000011	2019-06-10	2019-07-14	61.00	1800.00	USD	X	Trip to Sapphire i...	
00000004	070010	000011	2019-06-10	2019-07-14	120.00	2800.00	USD	X	Trip to DSAG Berlin	
00000005	070010	000011	2019-06-10	2019-07-14	155.00	3500.00	USD	A	Trip to ASUG Orl...	