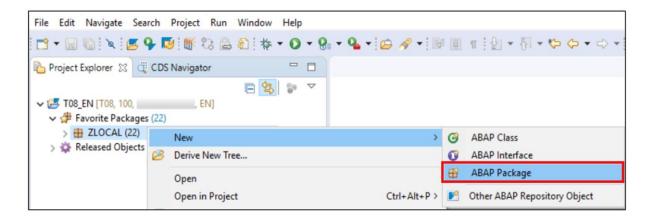
Exercise 01 Create Table Persistence and Generate Data

Step 1 Create ABAP Package

Open ABAP Development Tools (ADT) and select your ABAP Cloud Project you created in <u>Create an SAP BTP ABAP Environment Trial User</u>.

Right-click on | ZLOCAL | and select New > ABAP Package.

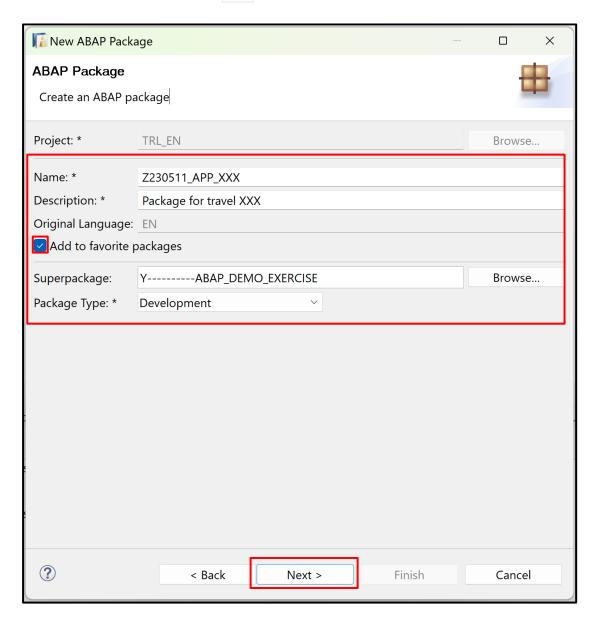


1. Create a new ABAP package:

Name: Z230511_APP_XXX
 Description: Package for travel XXX
 Superpackage: Y------ABAP_DEMO_EXERCISE

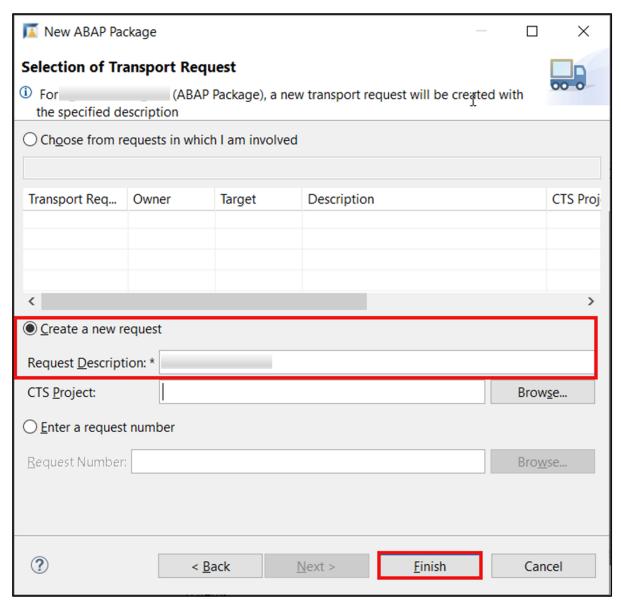
Check Add to favorite packages.

Use your number instead of xxx.



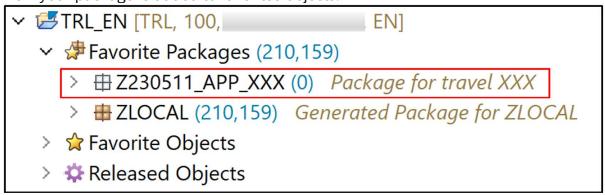
Click Next >.

2. Select Create new request and enter a request description.



Click Finish.

3. Now your package is added to favorites objects.

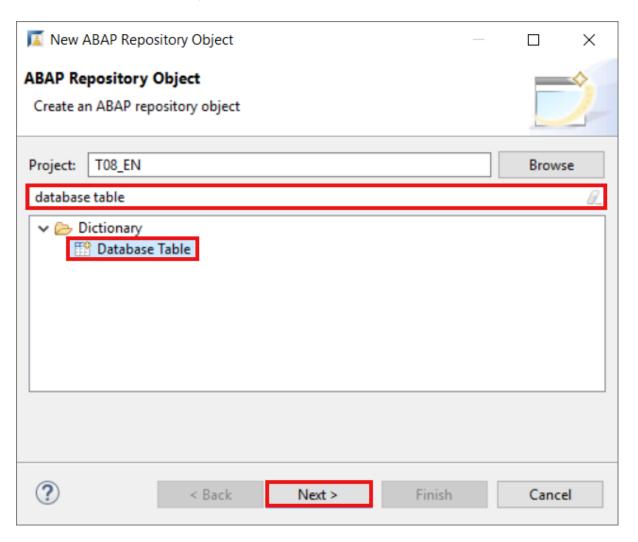


Step 2 Create database table

 Right-click on your package Z230511_APP_XXX, select New > Other ABAP Repository Object.



2. Search for database table, select it and click Next >.

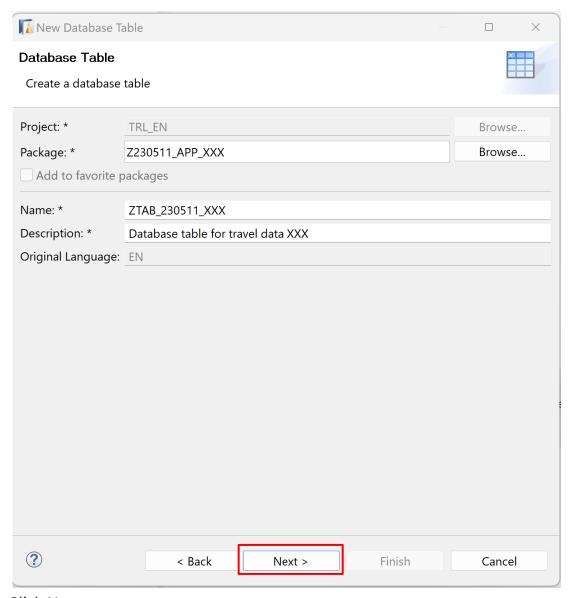


3. Create a new database table:

o Name: ztab_230511_xxx

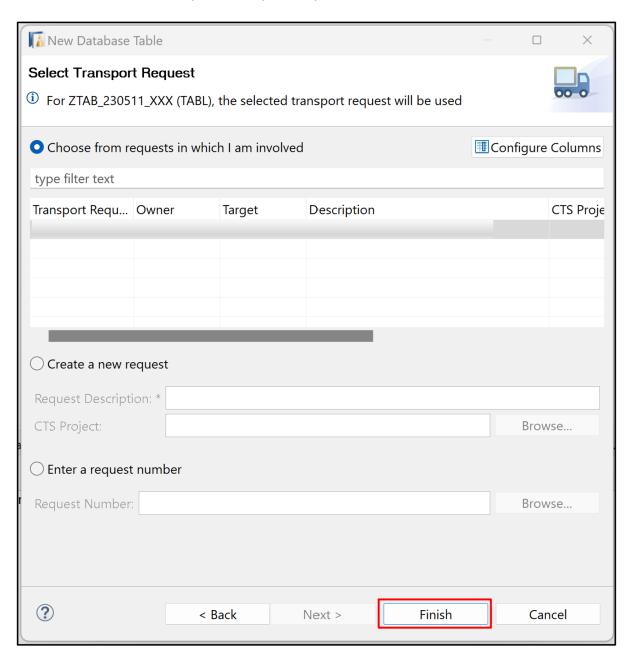
o Description: Database table for travel data XXX

Use your number instead of $\boxed{\tt xxx}$.



Click Next >.

4. Click Finish to create your transport request.



5. Replace your code with following:

Use your number instead of xxx.

```
ABAP
Copy
@EndUserText.label : 'Database table for travel data XXX'
@AbapCatalog enhancementCategory : #NOT_EXTENSIBLE
@AbapCatalog.tableCategory : #TRANSPARENT
@AbapCatalog.deliveryClass : #A
@AbapCatalog.dataMaintenance : #RESTRICTED
define table ztab_230511_xxx {
  key client : abap.clnt not null;
                 : sysuuid_x16 not null;
  key mykey
 travel id
                 : /dmo/travel_id;
  agency_id
                 : /dmo/agency_id;
  customer id
                 : /dmo/customer_id;
  begin_date
                 : /dmo/begin_date;
                 : /dmo/end_date;
  end_date
  @Semantics.amount.currencyCode : 'ztab_230511_xxx.currency_code'
  booking fee
                 : /dmo/booking_fee;
  @Semantics.amount.currencyCode : 'ztab_230511_xxx.currency_code'
  total price
                 : /dmo/total_price;
  currency_code : /dmo/currency_code;
                 : /dmo/description;
  description
  overall_status : /dmo/overall_status;
  created_by
                 : syuname;
  created at
                 : timestampl;
  last changed by : syuname;
  last_changed_at : timestampl;
```

6. Save and activate.

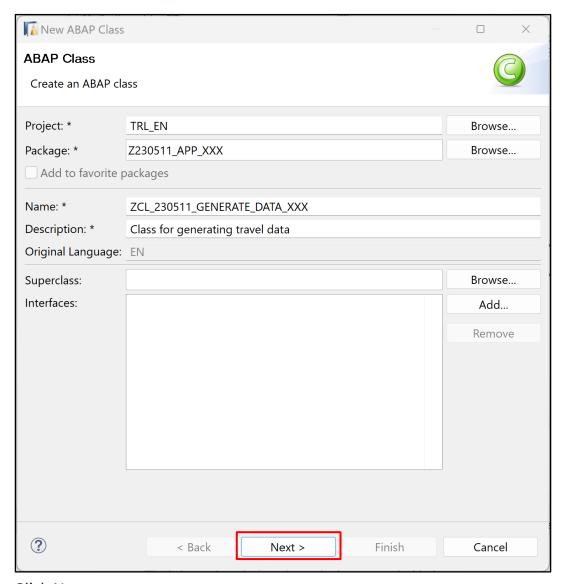
Step 3 Create ABAP class

1. Right-click on your package Z230511_APP_XXX, select New > ABAP Class.



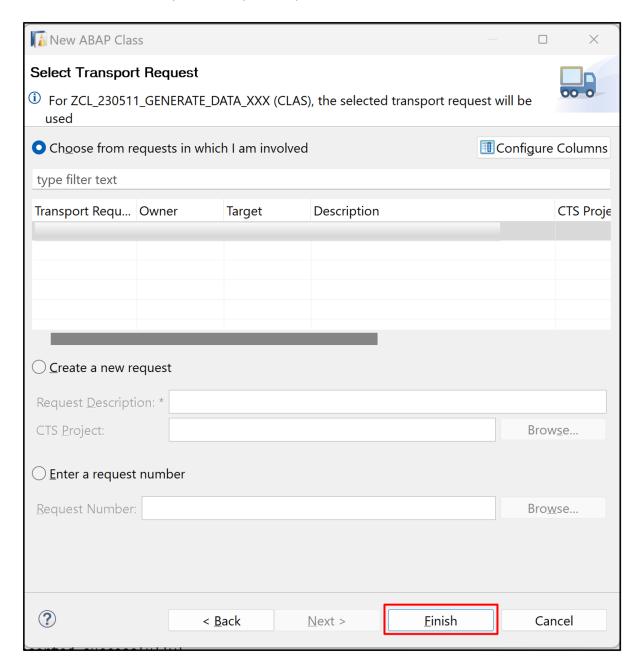
- 2. Create a new ABAP class:
 - o Name: ZCL_230511_GENERATE_DATA_XXX
 - o Description: Class for generating travel data

Use your number instead of xxx.



Click Next >.

3. Click Finish to create your transport request.



4. Replace your code with following:

Use your number instead of xxx.

```
ABAP
Copy
CLASS zcl_230511_generate_data_xxx DEFINITION
 PUBLIC
 FINAL
  CREATE PUBLIC .
 PUBLIC SECTION.
   INTERFACES if oo adt classrun.
 PROTECTED SECTION.
  PRIVATE SECTION.
ENDCLASS.
CLASS zcl_230511_generate_data_xxx IMPLEMENTATION.
 METHOD if_oo_adt_classrun~main.
   DATA itab TYPE TABLE OF ztab_230511_xxx.
  fill internal travel table (itab)
   itab = VALUE #(
      ( mykey = '02D5290E594C1EDA93815057FD946624' travel_id = '000000022' agency_id
= '070001' customer_id = '000077' begin_date = '20190624' end_date = '20190628'
booking fee = '60.00' total price = '750.00' currency code = 'USD'
        description = 'mv' overall status = 'A' created by = 'MUSTERMANN'
created_at = '20190612133945.5960060' last_changed_by = 'MUSTERFRAU'
last_changed_at = '20190702105400.3647680' )
      ( mykey = '02D5290E594C1EDA93815C50CD7AE62A' travel_id = '00000106' agency_id
= '070005' customer_id = '000005' begin_date = '20190613' end_date = '20190716'
booking fee = '17.00' total price = '650.00' currency code = 'AFN'
        description = 'Enter your comments here' overall_status = 'A' created_by =
'MUSTERMANN' created_at = '20190613111129.2391370' last_changed_by = 'MUSTERMANN'
last_changed_at = '20190711140753.1472620' )
      ( mykey = '02D5290E594C1EDA93858EED2DA2EB0B' travel_id = '00000103' agency_id
= '070010' customer id = '000011' begin date = '20190610' end date = '20190714'
booking_fee = '17.00' total_price = '800.00' currency_code = 'AFN'
        description = 'Enter your comments here' overall_status = 'X' created_by =
'MUSTERFRAU' created_at = '20190613105654.4296640' last_changed_by = 'MUSTERFRAU'
last changed at = '20190613111041.2251330' )
      ( mykey = '02D5290E594C1EDA93858EED2DA2EB24' travel id = '00000107' agency id
= '070020' customer_id = '000311' begin_date = '20200210' end_date = '20200314'
booking fee = '22.00' total price = '913.00' currency code = 'JPY'
```

```
description = 'Travel for Kioto' overall_status = 'X' created_by = sy-uname
created_at = '20200211105654.4296640' last_changed_by = 'MUSTERFRAU'
last_changed_at = '20210613111041.2251330' )

.

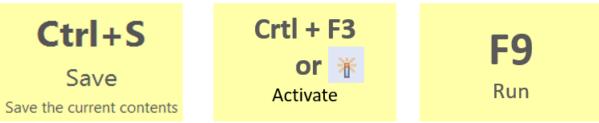
* delete existing entries in the database table
DELETE FROM ztab_230511_xxx.

* insert the new table entries
INSERT ztab_230511_xxx FROM TABLE @itab.

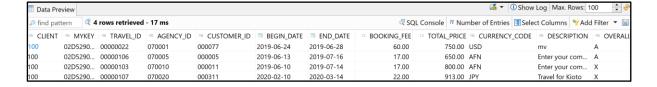
* output the result as a console message
out->write( |{ sy-dbcnt } travel entries inserted successfully!| ).

ENDMETHOD.
ENDCLASS.
```

5. Save, activate and click [F9] to run your ABAP class.



6. Check your result. Therefore open your database table **ZTAB_230511_XXX** and press **F8** to see your data. Now the dictionary tables are filled with data.

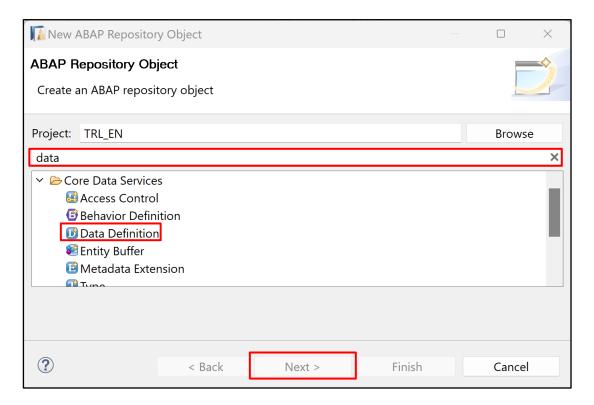


Step 4 Create CDS view

 Right-click on your package Z230511_APP_XXX, select New > Other ABAP Repository Object.



2. Search for data definition, select it and click Next >.

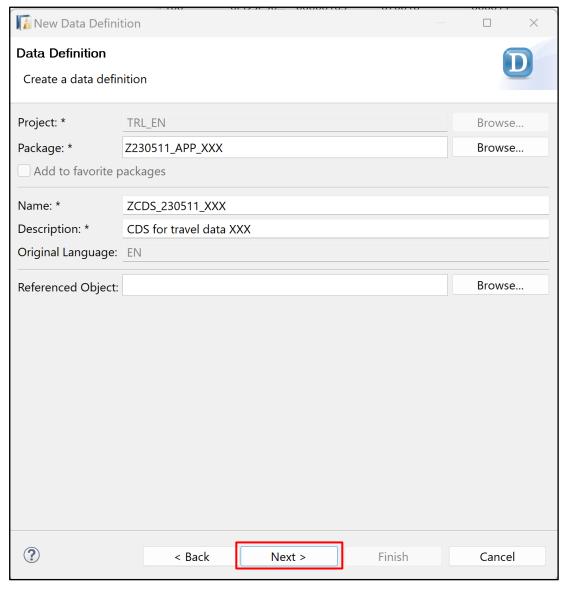


3. Create a new data definition object:

o Name: zcds_230511_xxx

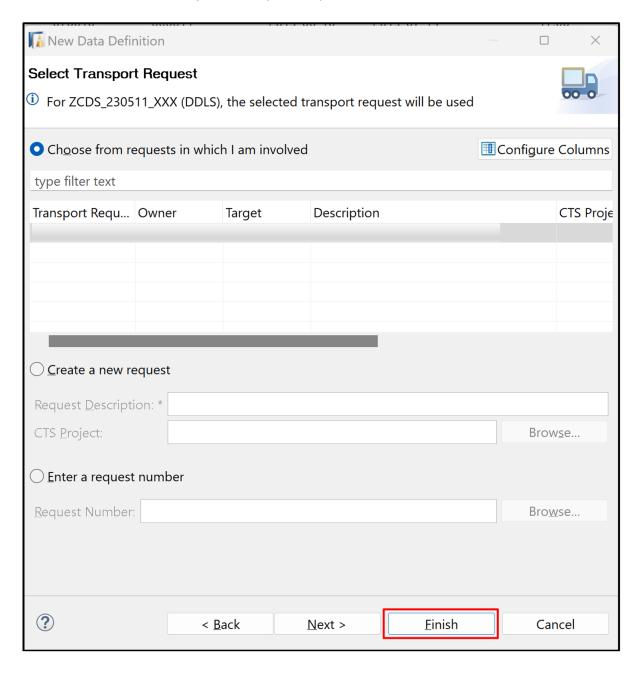
o Description: CDS for travel data XXX

Use your number instead of $\boxed{\mathtt{xxx}}$.



Click Next >.

4. Click Finish to create your transport request.



5. Replace your code with following:

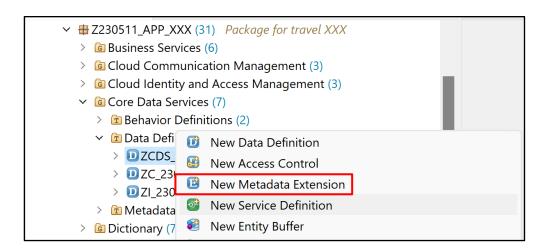
Use your number instead of xxx.

```
ABAP
Copy
@AbapCatalog.sqlViewName: 'ZV_230511_XXX'
@AbapCatalog.compiler.compareFilter: true
@AccessControl.authorizationCheck: #NOT_REQUIRED
@AbapCatalog.viewEnhancementCategory: [#NONE]
@EndUserText.label: 'CDS for travel data XXX'
@Metadata.allowExtensions: true
define view ZCDS_230511_XXX
  as select from ztab_230511_xxx
{
  key mykey,
      travel_id,
      agency_id,
      customer_id,
      begin_date,
      end_date,
      @Semantics.amount.currencyCode : 'currency_code'
      booking_fee,
      @Semantics.amount.currencyCode : 'currency_code'
      total_price,
      @Semantics.currencyCode: true
      currency_code,
      description,
      overall status,
      created_by,
      created_at,
      last_changed_by,
      last_changed_at
}
```

6. Save and activate.

Step 5 Create Metadata Service Definition

1. Navigate through your package z230511_xxx, Right-click on your CDS zcds_230511_xxx, select New Metadata Extension.

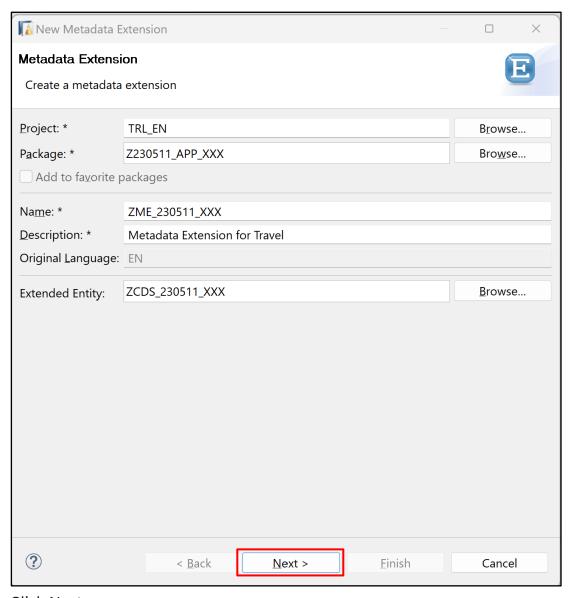


2. Create a new metadata extension object:

o Name: zme_230511_xxx

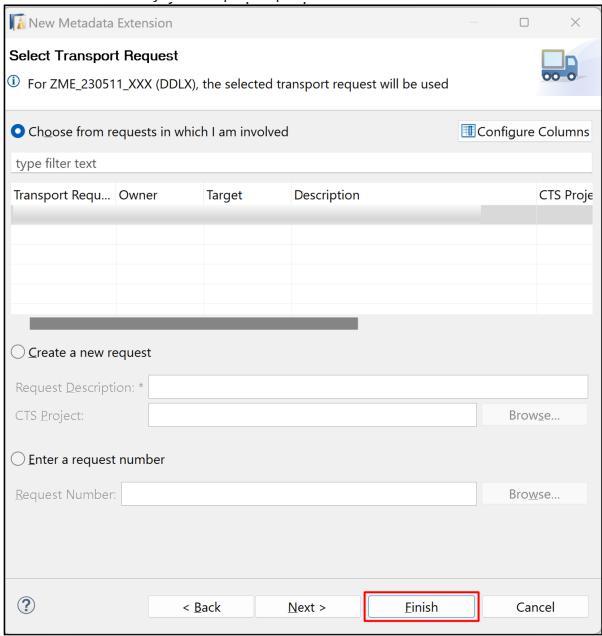
o **Description:** Metadata Extension for travel data XXX

Use your number instead of xxx.



Click Next >.

3. Click Finish to create your transport request.



4. Replace your code with following:

Use your number instead of xxx.

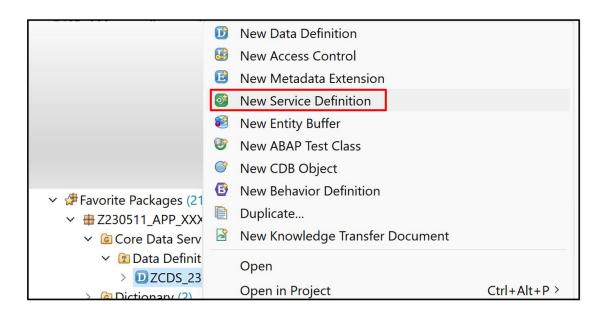
```
ABAP
Copy
@Metadata.layer: #CUSTOMER
@UI: {
  headerInfo: {
    typeName: 'Travel XXX',
    typeNamePlural: 'Travels XXX'
  }
@Search.searchable: true
annotate view ZCDS_230511_XXX
 with
  @UI: { lineItem: [ { position: 10 ,
                       label: 'Unique Key' } ],
         hidden: true }
  mykey;
  @UI.lineItem: [ { position: 20 ,
                    label: 'Travel ID' } ]
  @UI.selectionField: [{position: 10 }]
  travel id;
  @UI.lineItem: [ { position: 30 ,
                    label: 'Agency ID' } ]
  agency_id;
  @UI.lineItem: [ { position: 40 ,
                    label: 'Customer ID' } ]
  customer id;
  @UI.lineItem: [ { position: 50 ,
                    label: 'Begin date' } ]
  begin_date;
  @UI.lineItem: [ { position: 60 ,
                    label: 'End date' } ]
  end date;
  @UI.lineItem: [ { position: 70 ,
                    label: 'Booking fee' } ]
  booking_fee;
  @UI.lineItem: [ { position: 80 ,
                    label: 'Total price' } ]
  total price;
  @UI.lineItem: [ { position: 90 ,
                    label: 'Currency' } ]
  currency_code;
  @UI.lineItem: [ { position: 100 ,
                    label: 'Description' } ]
  @Search: { defaultSearchElement: true,
             fuzzinessThreshold: 0.8,
             ranking: #HIGH }
  description;
  @UI.lineItem: [ { position: 110 ,
```

```
label: 'Status' } ]
@UI.selectionField: [{position: 20 }]
overall_status;
@UI.lineItem: [ { position: 120 ,
                  label: 'Created by' } ]
created_by;
@UI.lineItem: [ { position: 130 ,
                  label: 'Created at' } ]
created_at;
@UI: { lineItem: [ { position: 140 ,
                     label: 'Last changed by' } ],
       hidden: true }
last_changed_by;
@UI: { lineItem: [ { position: 150 ,
                     label: 'Last changed by' } ],
       hidden: true }
last_changed_at;
```

5. Save and activate.

Step 6 Create Service Definition

6. Navigate through your package z230511_xxx, Right-click on your CDS zcds_230511_xxx, select New Service Definition.

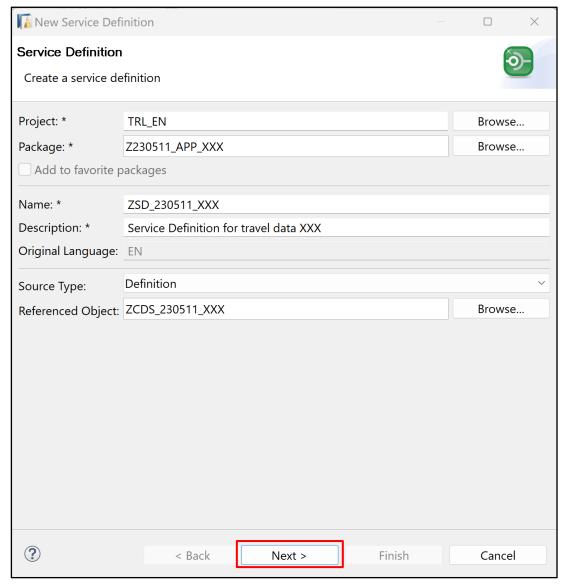


7. Create a new service definition object:

o Name: ZSD_230511_XXX

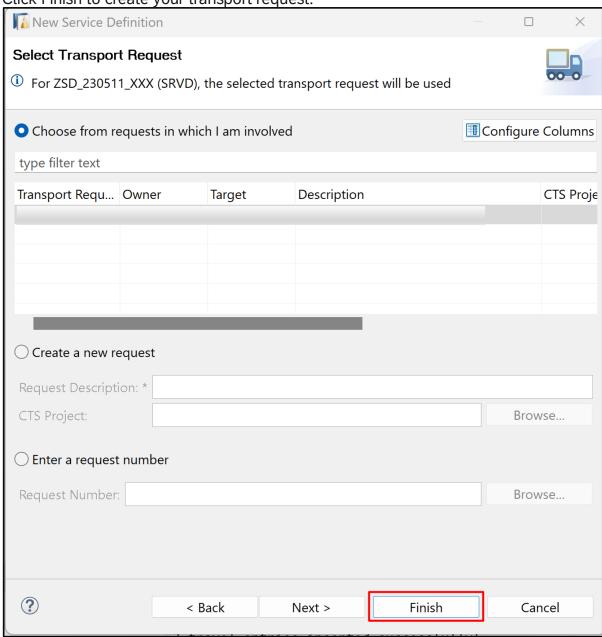
o **Description:** Service Definition for travel data XXX

Use your number instead of xxx.



Click Next >.

8. Click Finish to create your transport request.



9. Replace your code with following:

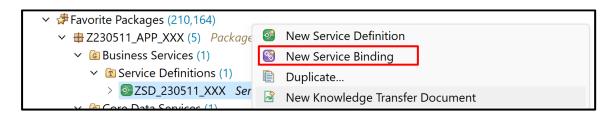
Use your number instead of xxx.

```
Copy
@EndUserText.label: 'Service Definition for travel data XXX'
define service ZSD_230511_XXX
{
    Expose ZCDS_230511_XXX as Travel;
}
```

10. Save and activate.

Step 6 Create Service Binding

1. Navigate through your package z230511_xxx, Right-click on your Service Definition zsp_230511_xxx, select New Service Binding.



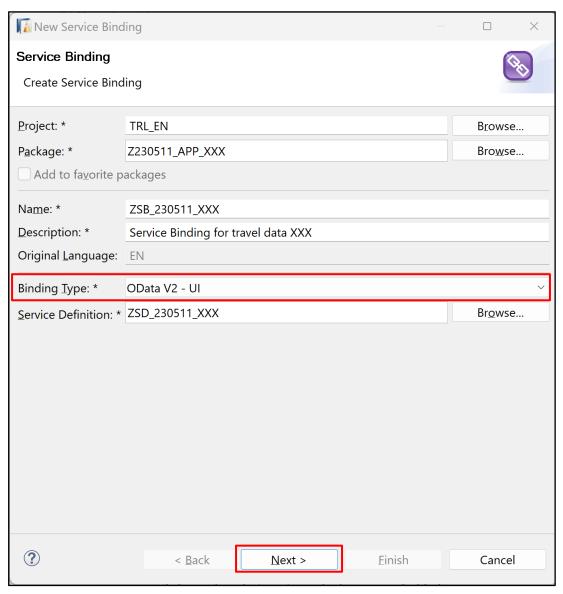
2. Create a new service binding:

o Name: ZSB_230511_XXX

o **Description:** Service Binding for travel data XXX

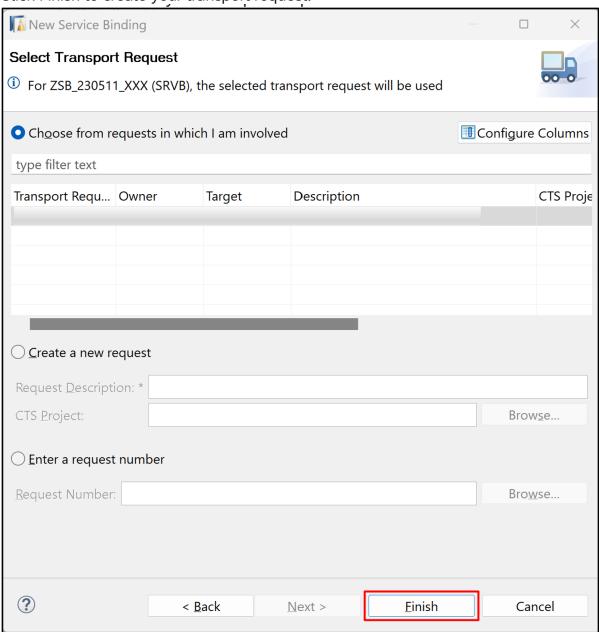
o Binding Type: OData V2 - UI

Use your number instead of xxx.

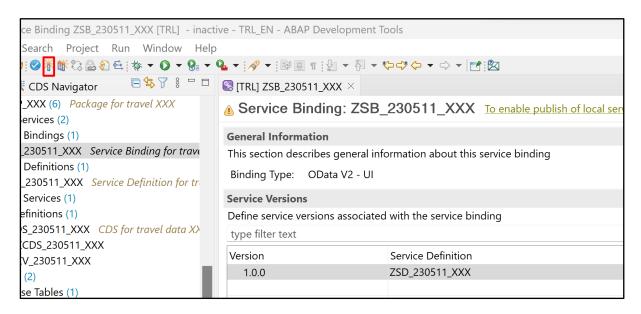


Click Next >.

3. Click Finish to create your transport request.



4. Activate the Service Binding:



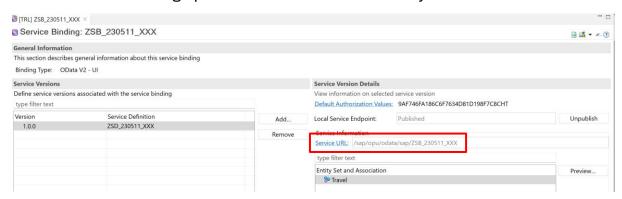
5. Publish the service.



No modify, close or refresh the service binding during the Publish operation.

6. Call the service.

At the end of Publishing operation the service will be ready.



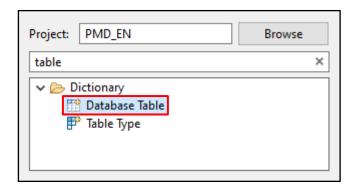
Exercise 02 Generate a RAP Business Service With the Wizard

Step 1 Create database table

1. Choose your package, then choose New > Other Repository Object from the context menu.



2. Choose Database Table then Next.



- 3. Enter the following, then choose Next.
 - o Name: ZRAP_230511_XXX
 - o Description: Travel Data Generated

Use your number instead of xxx.

- 4. Choose the transport request, then choose Finish.
- 5. The table appears in a new editor.

6. Delete the code key client: abap.clnt; and add the following:

Use your number instead of xxx.

```
ABAP
Copy
key client
                    : abap.clnt not null;
key travel_uuid
                    : sysuuid_x16 not null;
travel_id
                     : /dmo/travel_id not null;
agency_id
                    : /dmo/agency_id;
customer_id
                     : /dmo/customer_id;
begin_date
                    : /dmo/begin_date;
end_date
                     : /dmo/end_date;
@Semantics.amount.currencyCode : 'zrap_230511_XXX.currency_code'
booking_fee
                     : /dmo/booking_fee;
@Semantics.amount.currencyCode : 'zrap_230511_XXX.currency_code'
total_price
                     : /dmo/total_price;
currency_code
                    : /dmo/currency_code;
description
                    : /dmo/description;
overall_status
                    : /dmo/overall_status;
local_created_by
                    : abp_creation_user;
```

local_last_changed_by : abp_locinst_lastchange_user; local_last_changed_at : abp_locinst_lastchange_tstmpl;

last_changed_at : abp_lastchange_tstmpl;

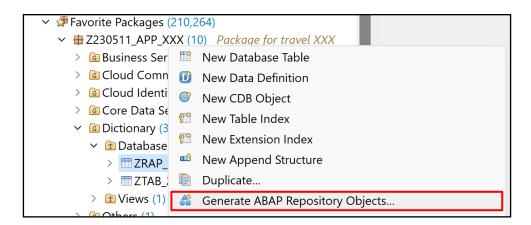
local_created_at

7. Format, save, and activate your table (Shift+F1, Ctrl+S, Ctrl+F3).

: abp_creation_tstmpl;

Step 2 Generate objects from table

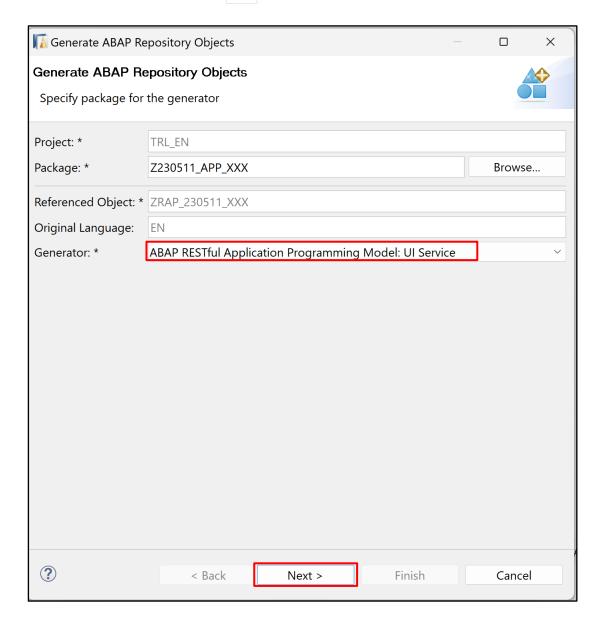
1. Select your table and choose Generate ABAP Repository objects... from the context menu.



2. Enter the following and choose Next.

o Use case: ABAP RESTful Application Programming Model: UI Service

Use your number instead of xxx.

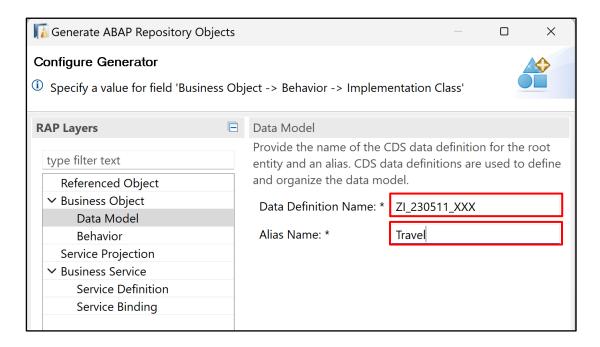


3. Enter the following:

o Data definition name: ZI_230511_XXX

o Alias name: Travel

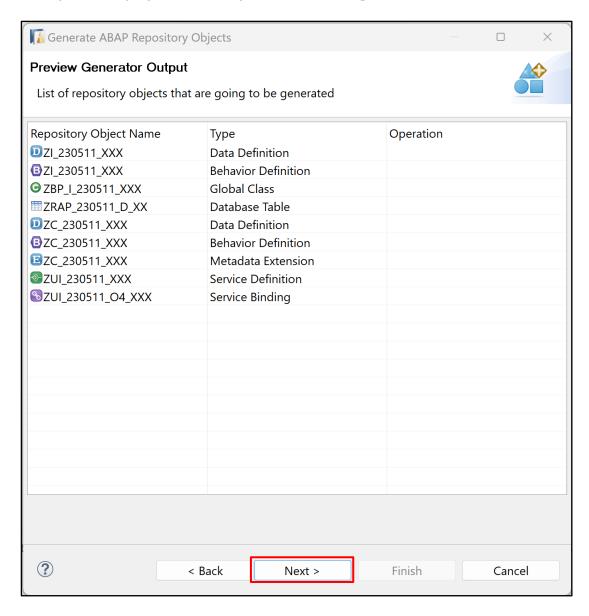
Use your number instead of xxx.



4. Enter the following information for each artifact, then choose Next Use your number instead of \overline{xxx} .

Node	Artifact	Value
Behavior	ABAP implementation class	ZBP_I_230511_XXX
Behavior	Draft Table Name:	ZRAP_230511_D_XXX
Service Projection	CDS projection view entity	ZC_230511_XXX
Service Definition	CDS service definition	ZUI_230511_XXX
Service Binding	CDS service binding	ZUI_230511_04_XXX
Service Binding	Binding type:	OData V4 - UI

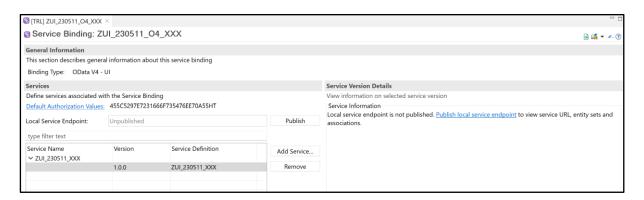
5. The system displays a list of objects that will be generated. Choose Next



6. Choose the transport request, then choose Finish.

Step 3 Activate and publish your business service

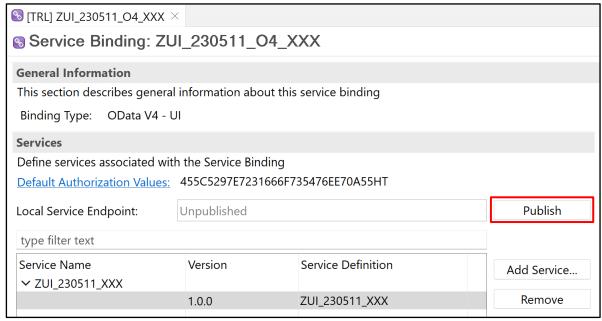
1. The service binding appears automatically in a new editor.



2. Activate the service binding.



3. Publish the service binding.



No modify, close or refresh the service binding during the Publish operation.

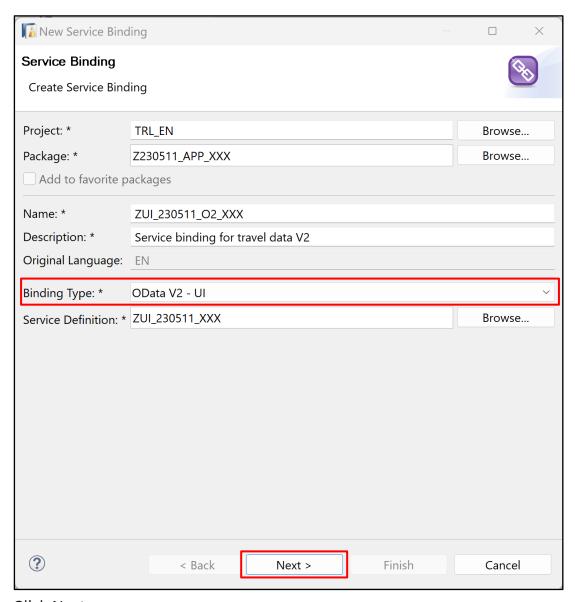
4. Create a new service binding (OData V2):

o Name: zui_230511_02_xxx

o **Description:** Service binding for travel data V2

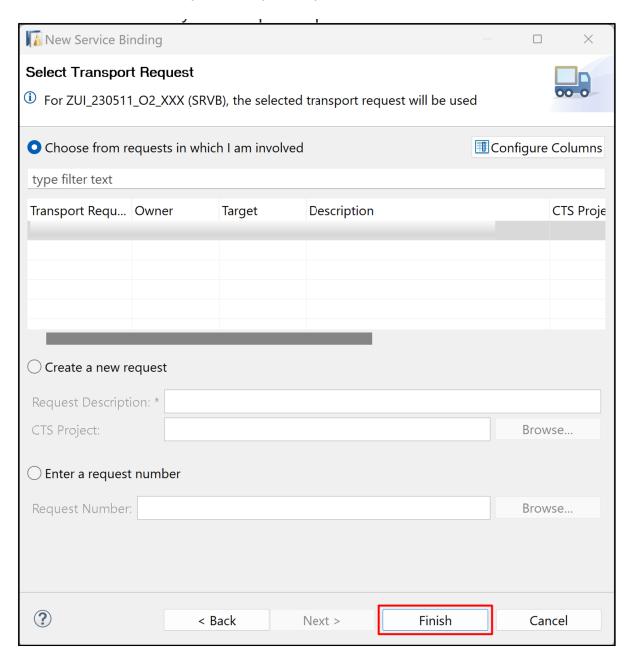
o Binding Type: OData V2 - UI

Use your number instead of xxx.



Click Next >

5. Click Finish to create your transport request.



6. Activate the service binding.



7. Publish the service binding.



No modify, close or refresh the service binding during the Publish operation.

8. Call the service.

At the end of Publishing operation the service will be ready.

