ABAP RAP- RESTFUL APPLICATION PROGRAMMING PART 1

SUMMARY & COMPILATION OF MY LEARNING WITH A NUMBER OF ONLINE COURSES & TUTORIALS INCLUDING DEVELOPED BY ME SAMPLES

There are 3 main layers in ABAP RAP Model–

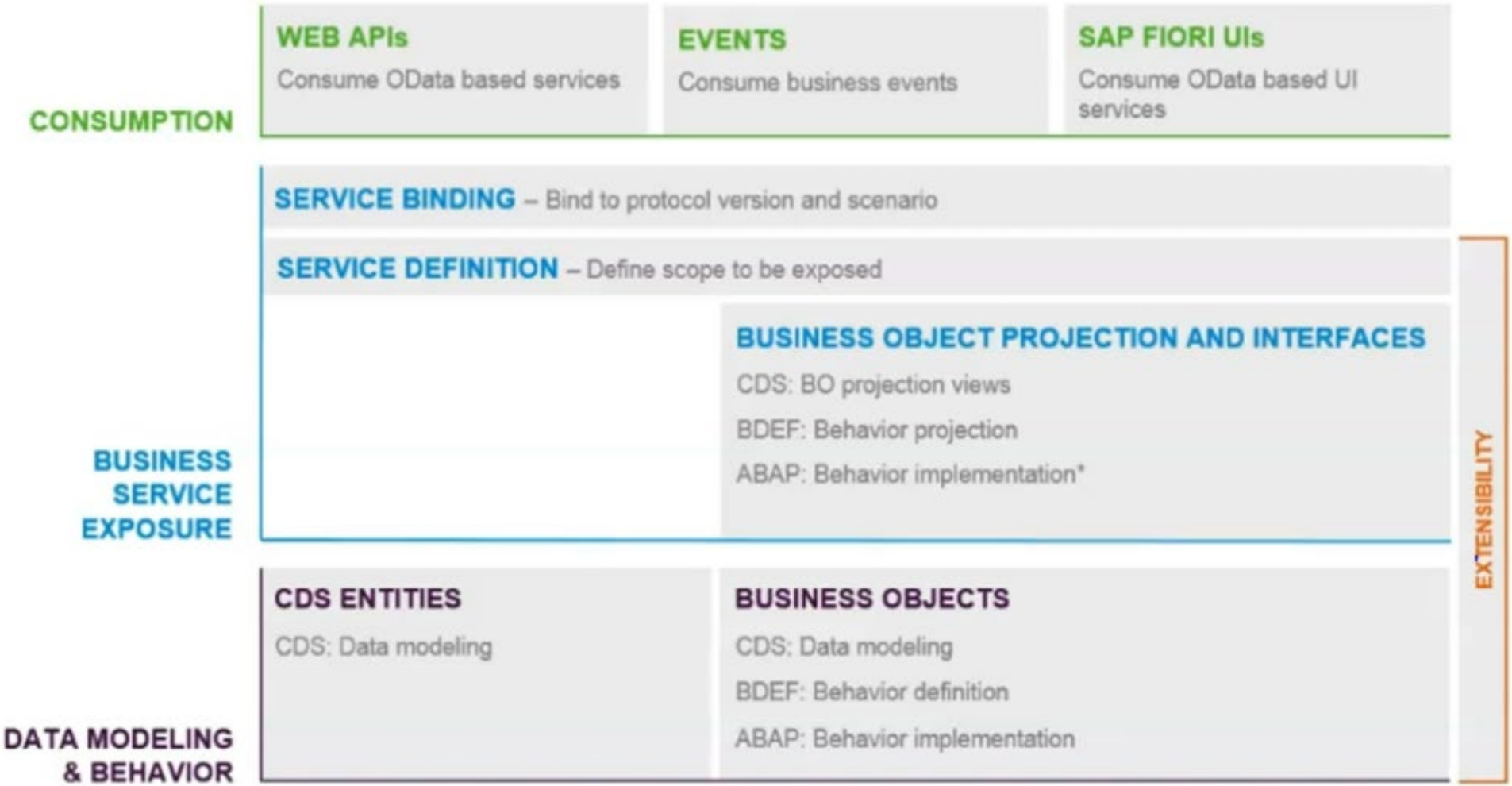
- Data Modeling & Behavior Layer
- Business Service Provisioning Layer
- Service Consumption Layer

Data Modeling and Behavior Layer contains business objects which are defined by the CDS(Core Data Services) and transactional behavior.

Business Service Provisioning Layer defines the projection views of the behavior to focus on specific aspect of the data model which is exposed as business services through OData protocol.

Service Consumption Layer allows to consume the OData Services and OData web APIs.

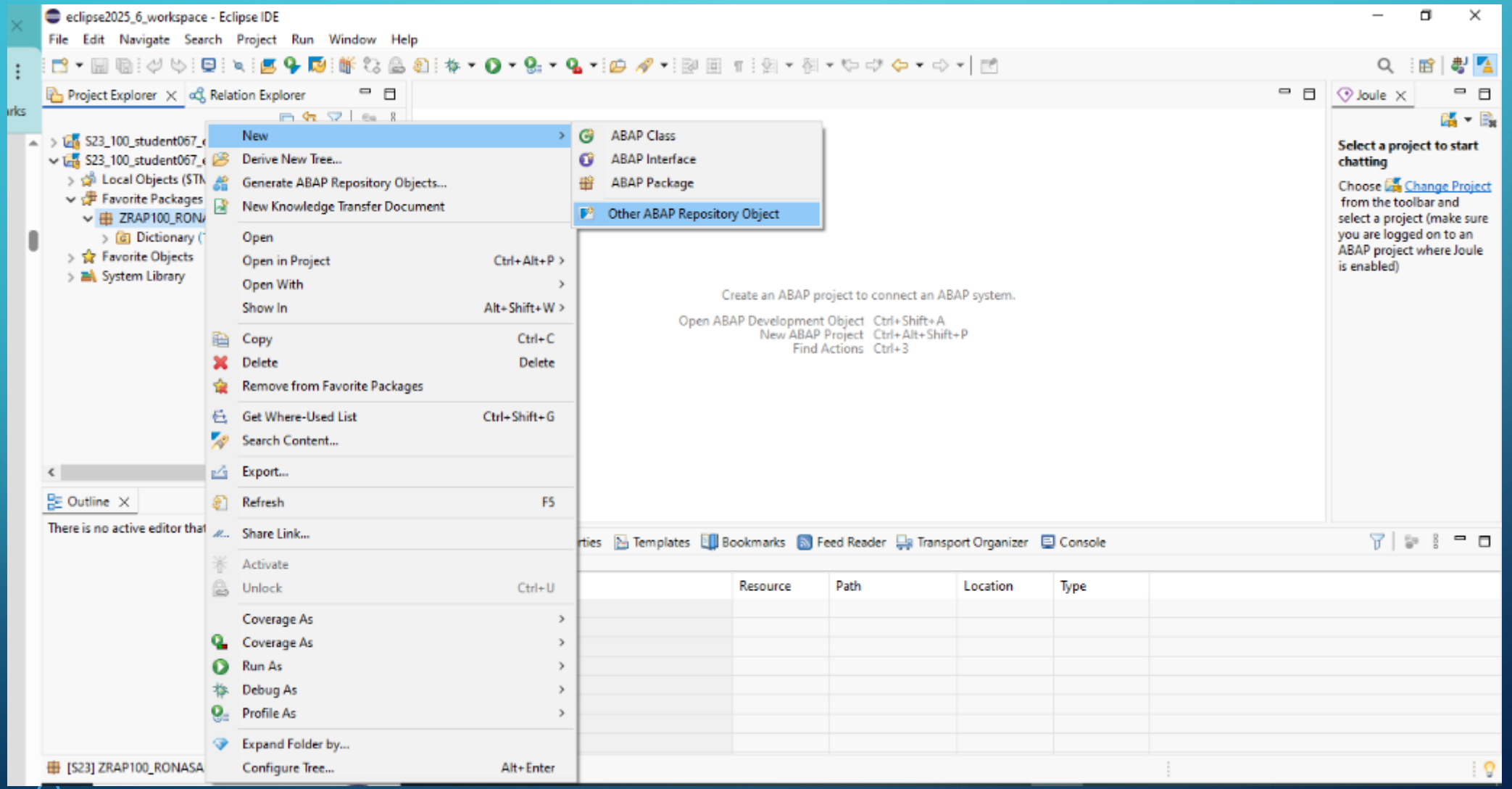
Architecture Deep Dive

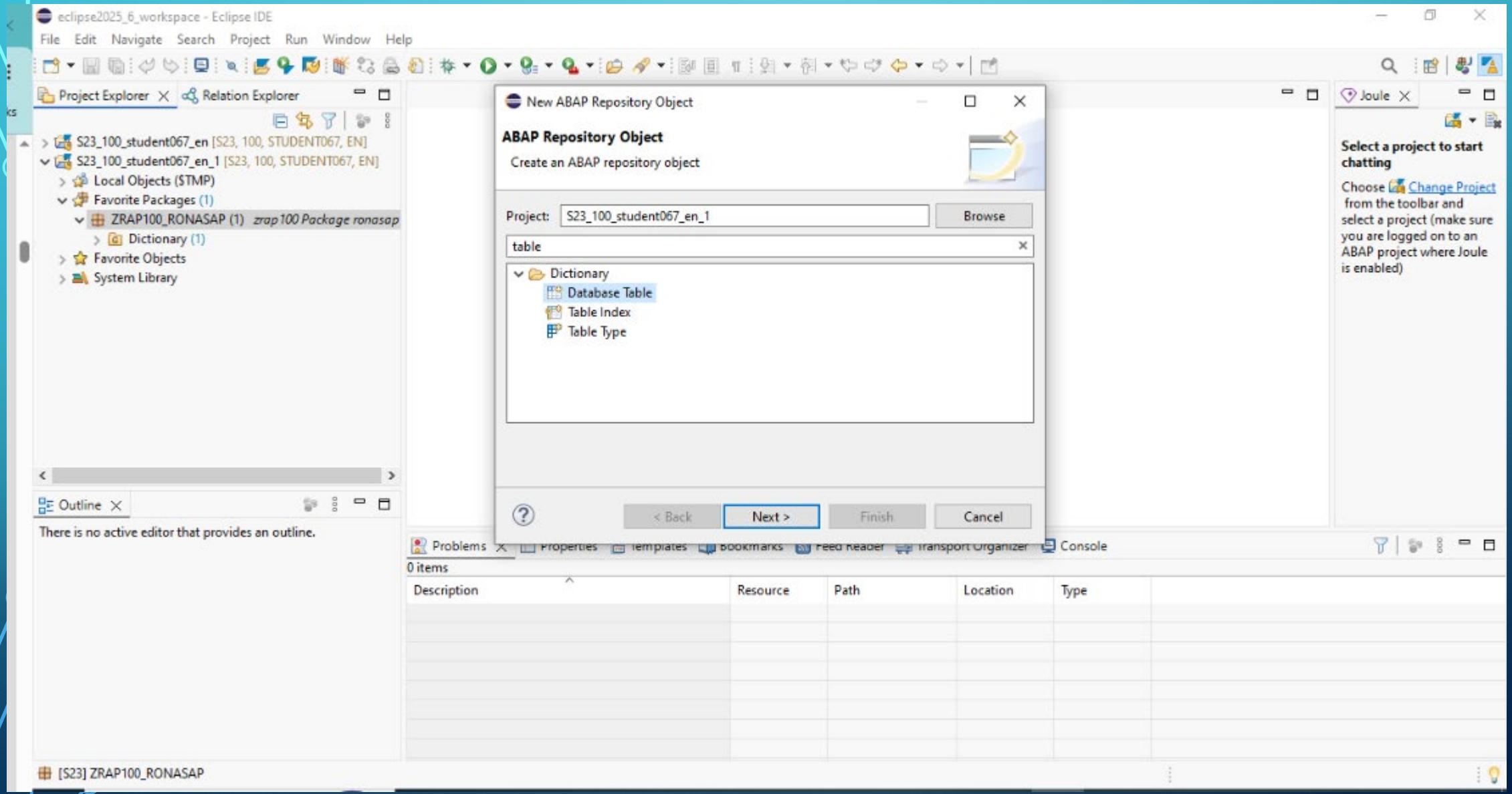


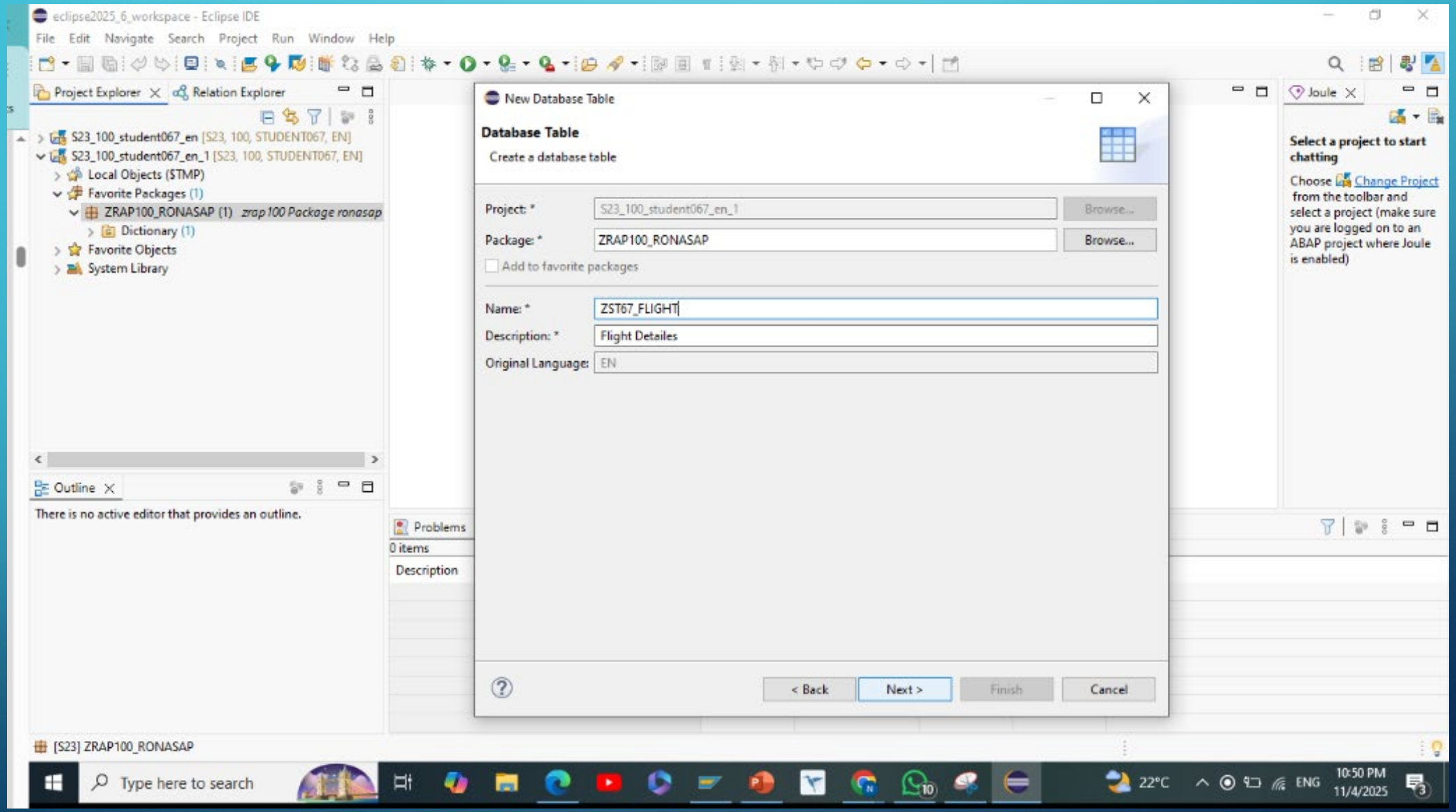
THE STEPS INVOLVED IN THIS EXERCISE-

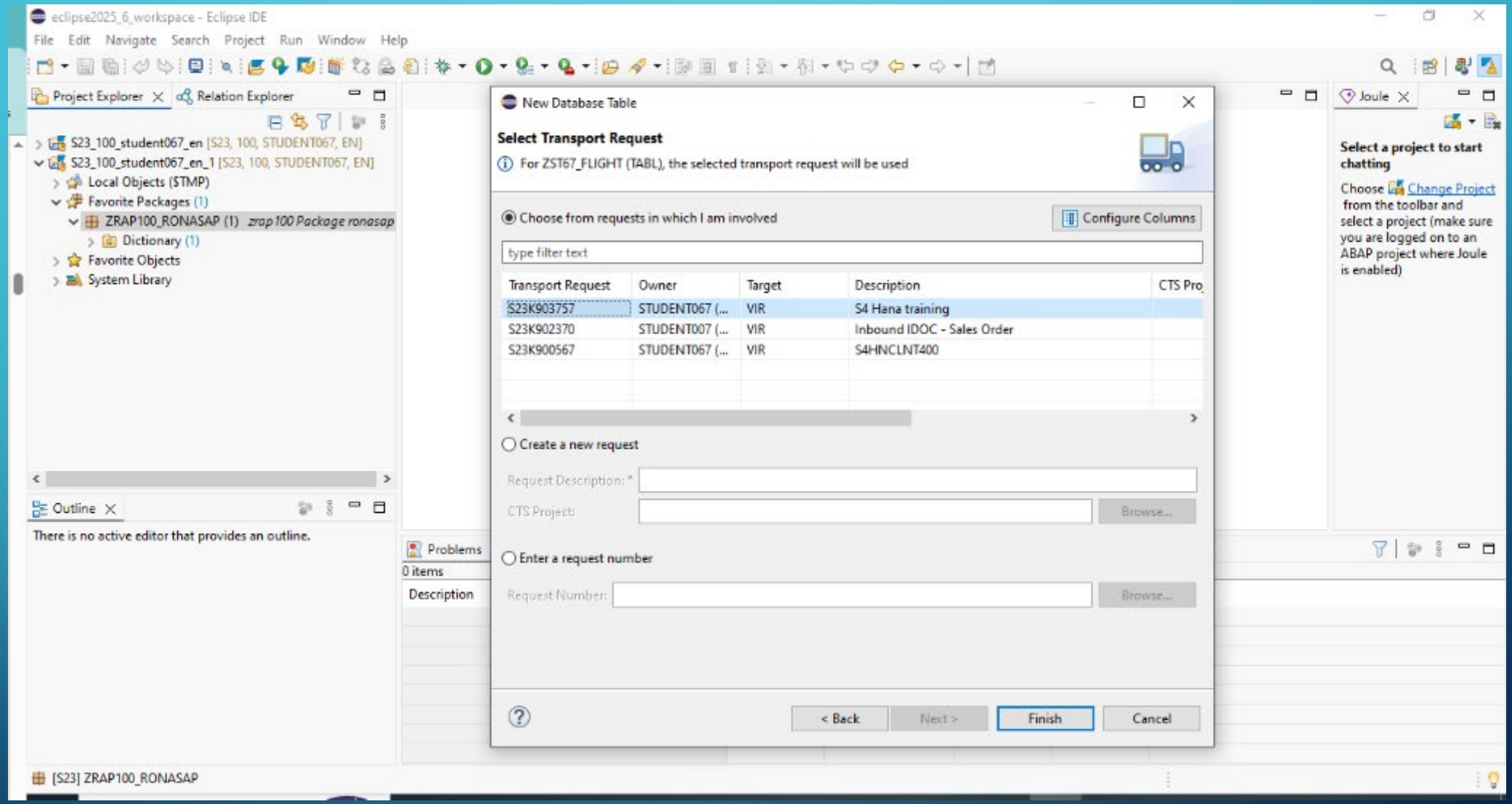
- To create a DB table
- To create a CDS View (Interface view)
- To create a consumption view
- To create a metadata extension
- To create a behavior definition for interface view
- To create a behavior definition for consumption view
- To create a service definition
- To create a service binding

1.CREATE A DB TABLE(FLIGHT MODEL) IN ECLIPSE WITH INSTALLED ADT TOOLS.

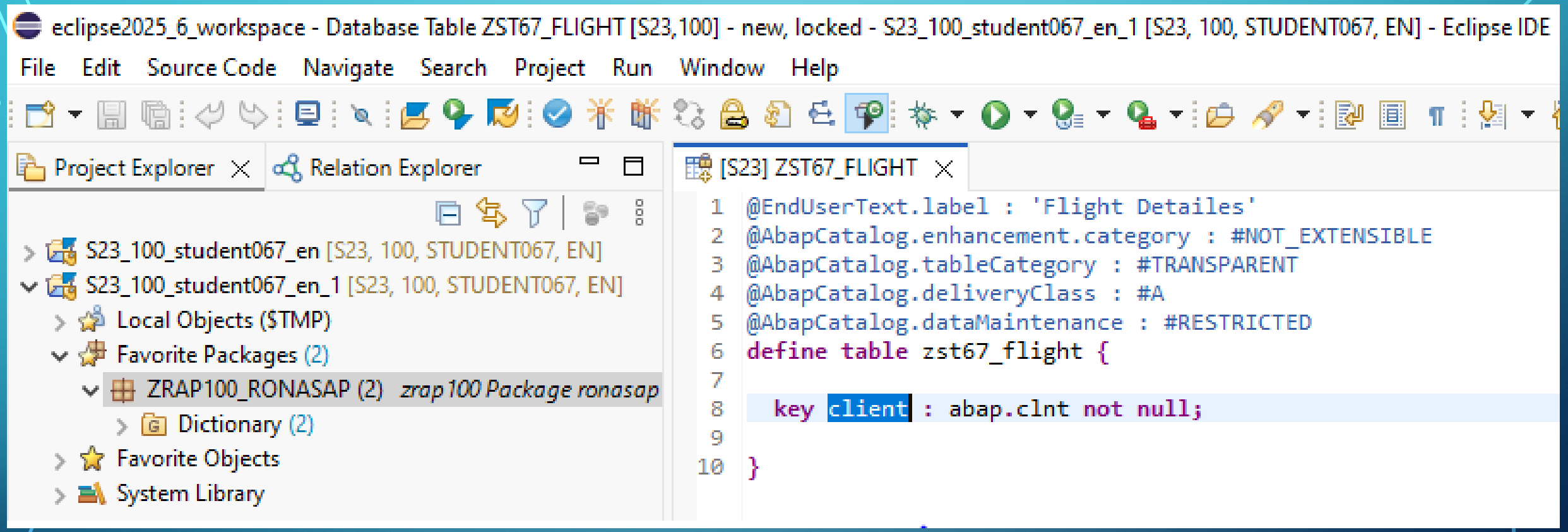



eclipse2025_6_workspace - Eclipse IDE
File Edit Navigate Search Project Run Window Help
Project Explorer
Relation Explorer
S23_100_student067_en [S23, 100, STUDENT067, EN]
S23_100_student067_en_1 [S23, 100, STUDENT067, EN]
Local Objects ($TMP)
Favorite Packages (1)
ZRAP100_RONASAP (1) zrap100 Package ronasap
Dictionary (1)
Favorite Objects
System Library
Outline
There is no active editor that provides an outline.
New ABAP Repository Object
ABAP Repository Object
Create an ABAP repository object
Project: S23_100_student067_en_1
Browse
table
Dictionary
Database Table
Table Index
Table Type
< Back
Next >
Finish
Cancel
Joule
Select a project to start chatting
Choose Change Project from the toolbar and select a project (make sure you are logged on to an ABAP project where Joule is enabled)
Problems
Console
0 items
Description
Resource
Path
Location
Type
[S23] ZRAP100_RONASAP

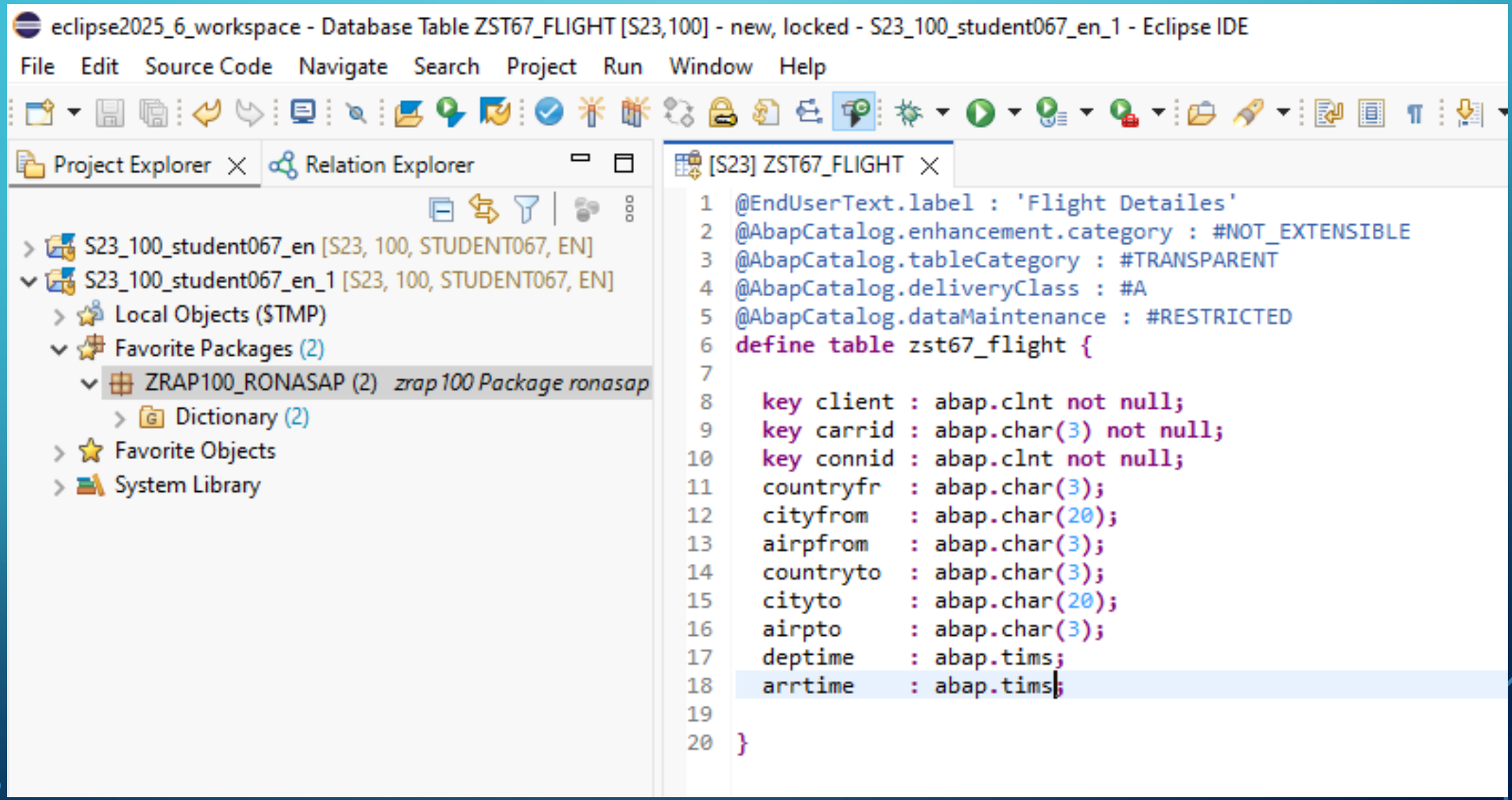

eclipse2025_6_workspace - Eclipse IDE
File Edit Navigate Search Project Run Window Help
Project Explorer
Relation Explorer
S23_100_student067_en [S23, 100, STUDENT067, EN]
S23_100_student067_en_1 [S23, 100, STUDENT067, EN]
Local Objects ($TMP)
Favorite Packages (1)
ZRAP100_RONASAP (1) zrap100 Package ronasap
Dictionary (1)
Favorite Objects
System Library
Outline
There is no active editor that provides an outline.
Problems
0 items
Description
New Database Table
Database Table
Create a database table
Project: * S23_100_student067_en_1
Package: * ZRAP100_RONASAP
Add to favorite packages
Name: * ZST67_FLIGHT
Description: * Flight Detailes
Original Language: EN
< Back
Next >
Finish
Cancel
Joule
Select a project to start chatting
Choose Change Project from the toolbar and select a project (make sure you are logged on to an ABAP project where Joule is enabled)
[S23] ZRAP100_RONASAP
Type here to search
22°C
ENG
10:50 PM
11/4/2025


eclipse2025_6_workspace - Eclipse IDE
File Edit Navigate Search Project Run Window Help
Project Explorer
Relation Explorer
S23_100_student067_en [S23, 100, STUDENT067, EN]
S23_100_student067_en_1 [S23, 100, STUDENT067, EN]
Local Objects ($TMP)
Favorite Packages (1)
ZRAP100_RONASAP (1) zrap100 Package ronasap
Dictionary (1)
Favorite Objects
System Library
Outline
There is no active editor that provides an outline.
Problems
0 items
Description
[S23] ZRAP100_RONASAP
New Database Table
Select Transport Request
For ZST67_FLIGHT (TABL), the selected transport request will be used
Choose from requests in which I am involved
Configure Columns
type filter text
Transport Request
Owner
Target
Description
CTS Pro
S23K903757
STUDENT067 (...
VIR
S4 Hana training
S23K902370
STUDENT007 (...
VIR
Inbound IDOC - Sales Order
S23K900567
STUDENT067 (...
VIR
S4HNCLNT400
Create a new request
Request Description: *
CTS Project:
Browse...
Enter a request number
Request Number:
Browse...
< Back
Next >
Finish
Cancel
Joule
Select a project to start chatting
Choose Change Project from the toolbar and select a project (make sure you are logged on to an ABAP project where Joule is enabled)

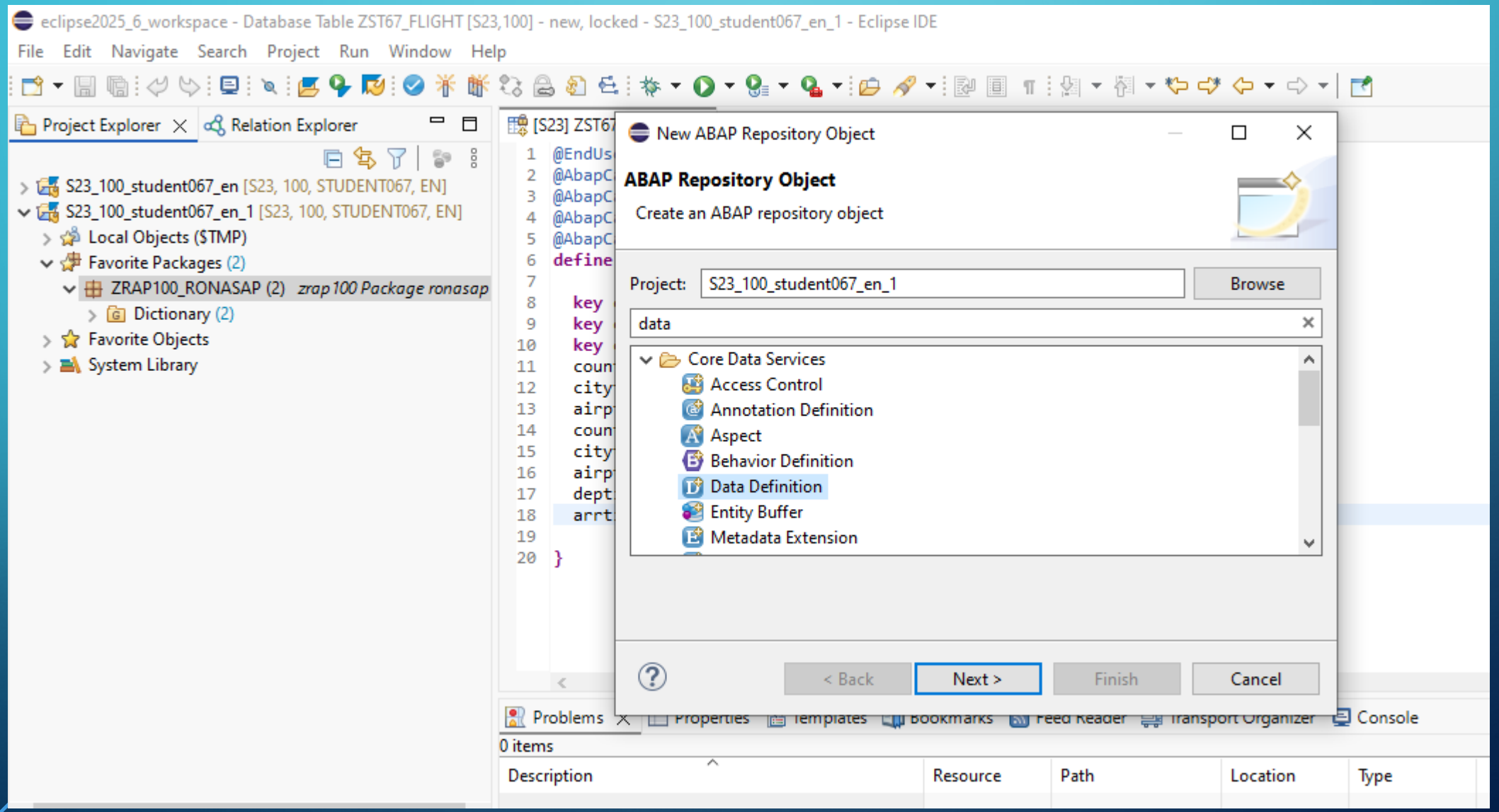
BELOW SYNTAX APPEARS:

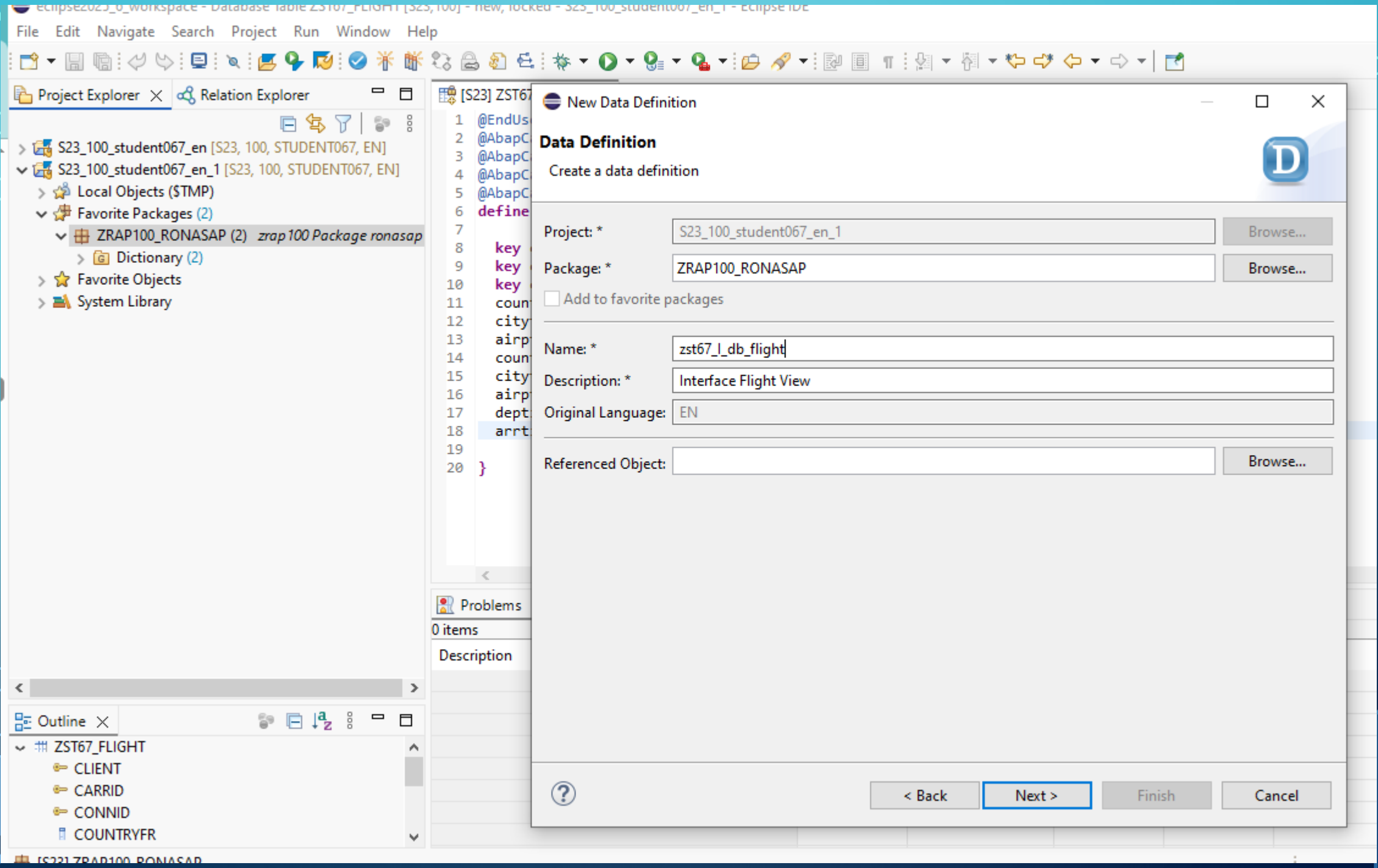


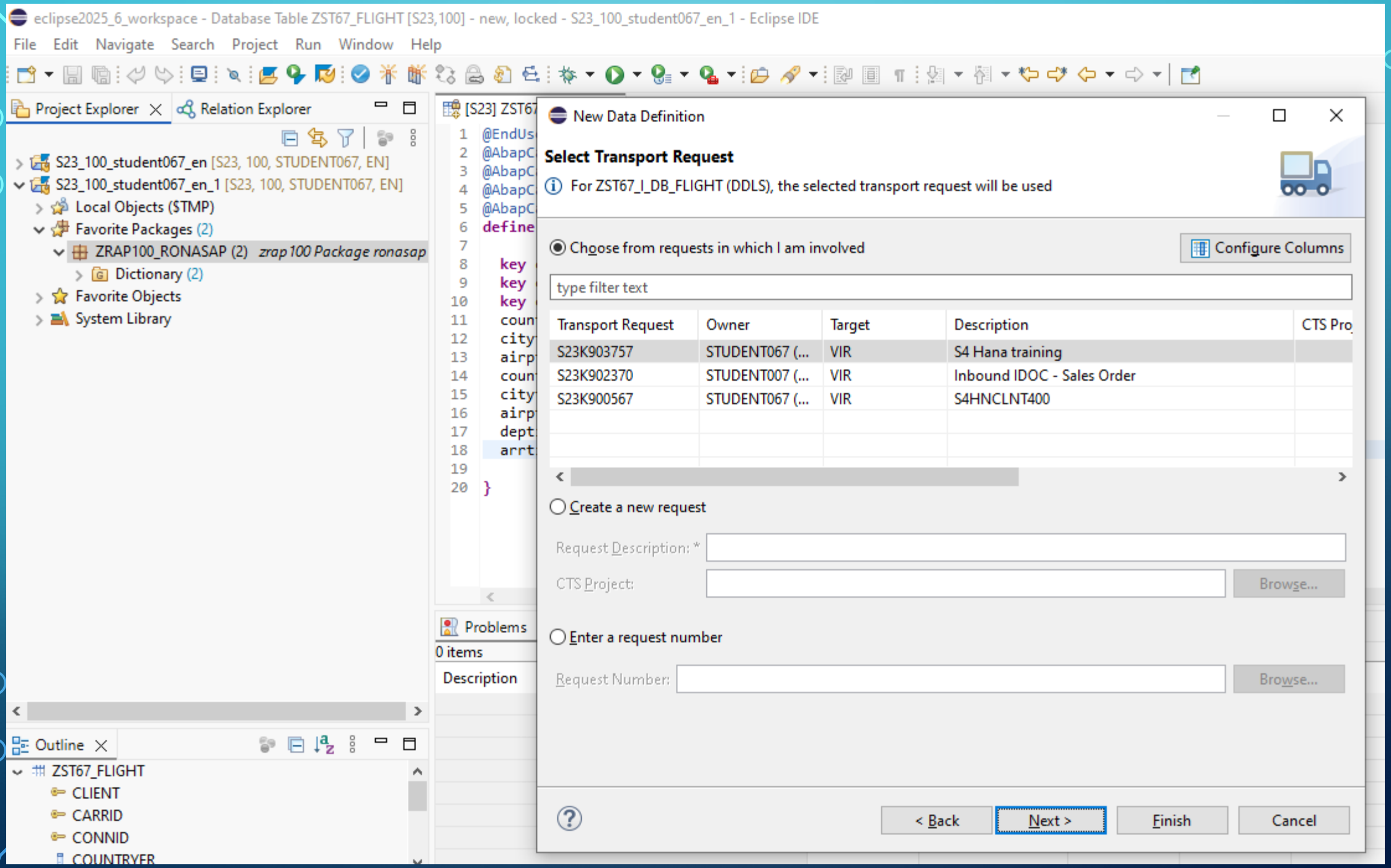
CREATE A FLIGHT MODEL TABLE WITH FEW FIELDS- SAVE AND ACTIVATE.

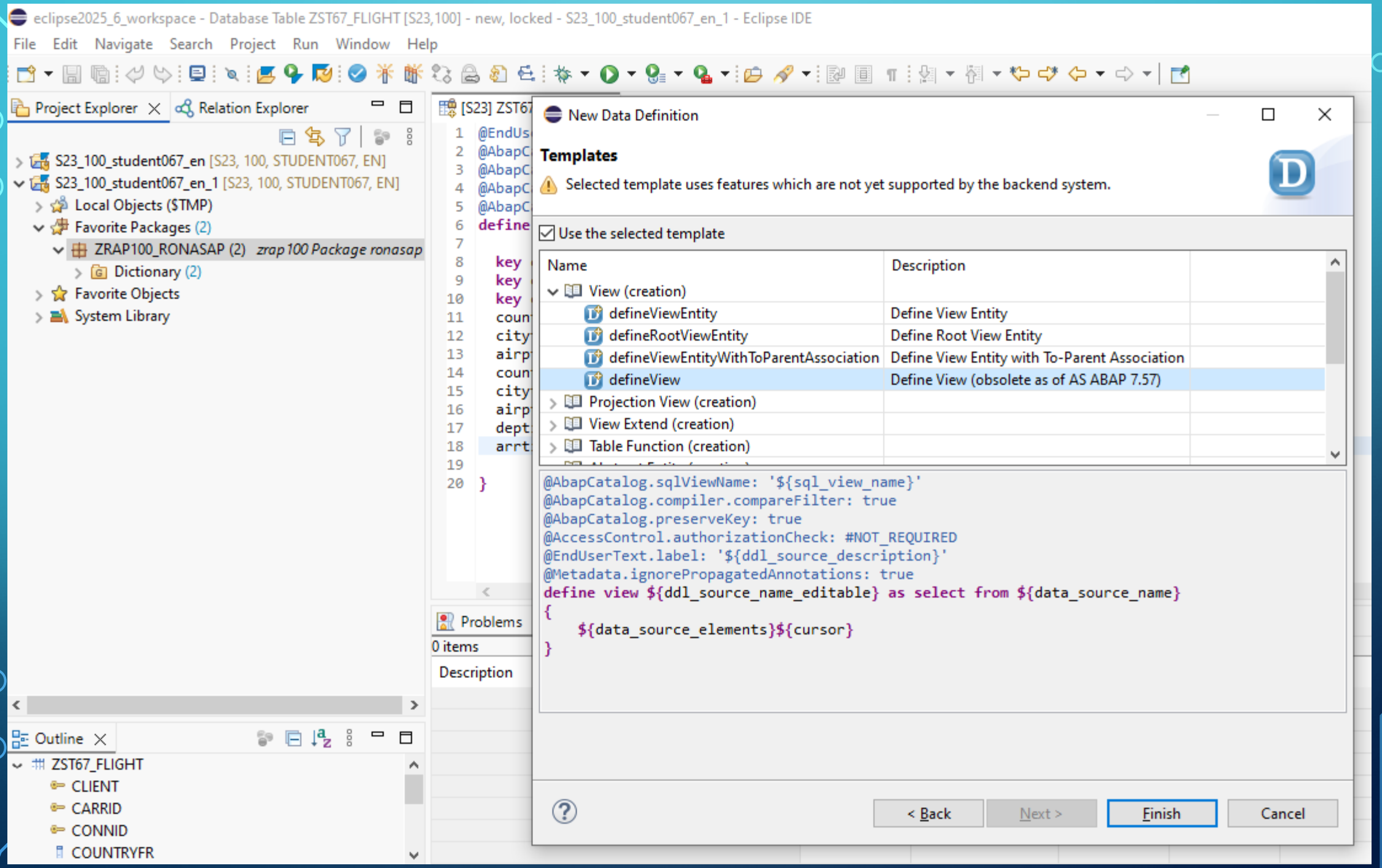


CREATE A CDS VIEW – INTERFACE VIEW.




File Edit Navigate Search Project Run Window Help
Project Explorer
Relation Explorer
S23_100_student067_en [S23, 100, STUDENT067, EN]
S23_100_student067_en_1 [S23, 100, STUDENT067, EN]
Local Objects ($TMP)
Favorite Packages (2)
ZRAP100_RONASAP (2) zrap100 Package ronasap
Dictionary (2)
Favorite Objects
System Library
Outline
ZST67_FLIGHT
CLIENT
CARRID
CONNID
COUNTRYFR
Problems
0 items
Description
New Data Definition
Data Definition
Create a data definition
Project: * S23_100_student067_en_1
Package: * ZRAP100_RONASAP
Add to favorite packages
Name: * zst67_I_db_flight
Description: * Interface Flight View
Original Language: EN
Referenced Object:
Browse...
< Back
Next >
Finish
Cancel


eclipse2025_6_workspace - Database Table ZST67_FLIGHT [S23,100] - new, locked - S23_100_student067_en_1 - Eclipse IDE
File Edit Navigate Search Project Run Window Help
Project Explorer
Relation Explorer
S23_100_student067_en [S23, 100, STUDENT067, EN]
S23_100_student067_en_1 [S23, 100, STUDENT067, EN]
Local Objects ($TMP)
Favorite Packages (2)
ZRAP100_RONASAP (2) zrap100 Package ronasap
Dictionary (2)
Favorite Objects
System Library
Outline
ZST67_FLIGHT
CLIENT
CARRID
CONNID
COUNTRYFR
Problems
0 items
Description
New Data Definition
Select Transport Request
For ZST67_I_DB_FLIGHT (DDLS), the selected transport request will be used
Choose from requests in which I am involved
Configure Columns
type filter text
Transport Request
Owner
Target
Description
CTS Pro
S23K903757
STUDENT067 (...
VIR
S4 Hana training
S23K902370
STUDENT007 (...
VIR
Inbound IDOC - Sales Order
S23K900567
STUDENT067 (...
VIR
S4HNCLNT400
Create a new request
Request Description: *
CTS Project:
Browse...
Enter a request number
Request Number:
Browse...
< Back
Next >
Finish
Cancel


eclipse2025_6_workspace - Database Table ZST67_FLIGHT [S23,100] - new, locked - S23_100_student067_en_1 - Eclipse IDE
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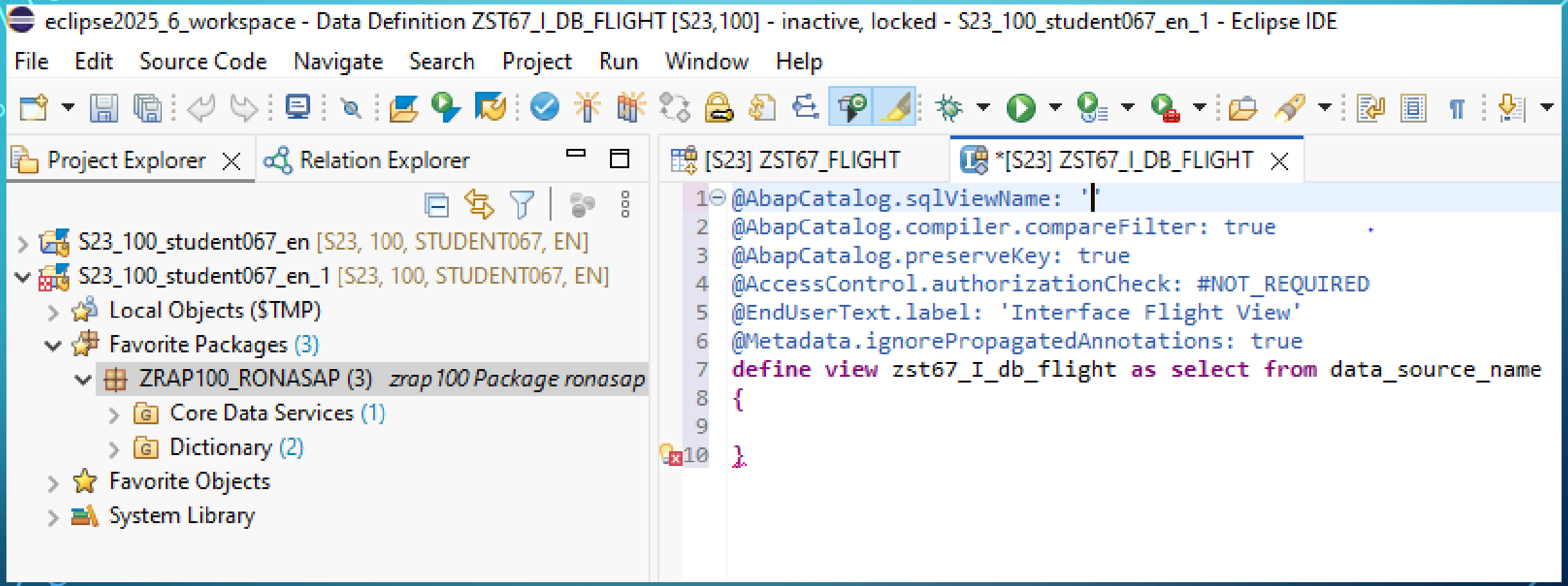
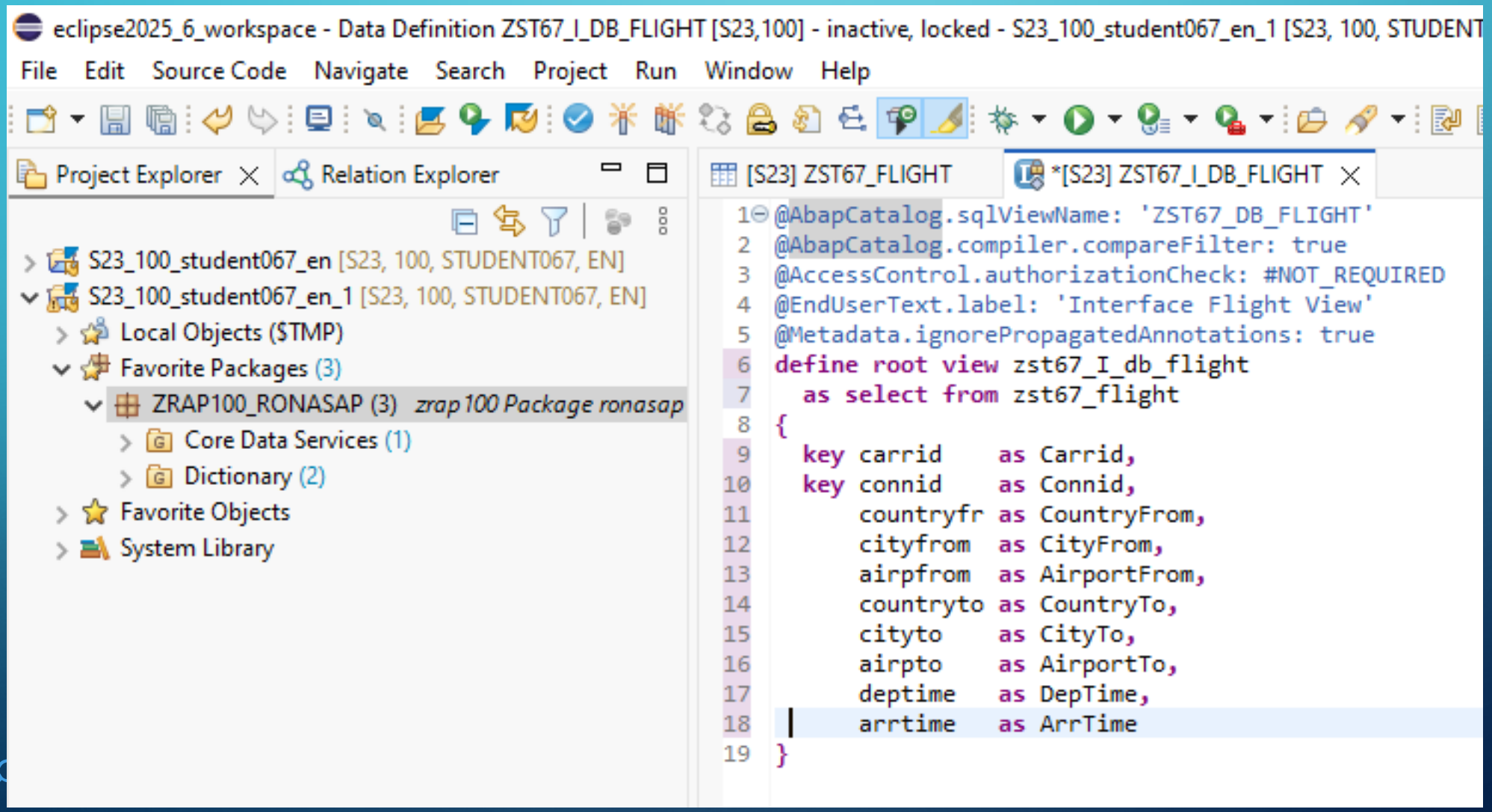
Project Explorer
Relation Explorer
S23_100_student067_en [S23, 100, STUDENT067, EN]
S23_100_student067_en_1 [S23, 100, STUDENT067, EN]
Local Objects ($TMP)
Favorite Packages (2)
ZRAP100_RONASAP (2) zrap100 Package ronasap
Dictionary (2)
Favorite Objects
System Library
[S23] ZST67
1 @EndUs
2 @AbapC
3 @AbapC
4 @AbapC
5 @AbapC
6 define
7
8 key
9 key
10 key
11 coun
12 city
13 airp
14 coun
15 city
16 airp
17 dept
18 arrt
19
20 }
Problems
0 items
Description
Outline
ZST67_FLIGHT
CLIENT
CARRID
CONNID
COUNTRYFR
New Data Definition
Templates
Selected template uses features which are not yet supported by the backend system.
Use the selected template
Name
Description
View (creation)
defineViewEntity
Define View Entity
defineRootViewEntity
Define Root View Entity
defineViewEntityWithToParentAssociation
Define View Entity with To-Parent Association
defineView
Define View (obsolete as of AS ABAP 7.57)
Projection View (creation)
View Extend (creation)
Table Function (creation)
@AbapCatalog.sqlViewName: '${sql_view_name}'
@AbapCatalog.compiler.compareFilter: true
@AbapCatalog.preserveKey: true
@AccessControl.authorizationCheck: #NOT_REQUIRED
@EndUserText.label: '${ddl_source_description}'
@Metadata.ignorePropagatedAnnotations: true
define view ${ddl_source_name_editable} as select from ${data_source_name}
{
${data_source_elements}${cursor}
}
< Back
Next >
Finish
Cancel

THE BELOW SYNTAX APPEARS:



PROVIDE THE SOURCE WHICH IS THE DB TABLE AND ADD ALL THE FIELDS OF THE TABLE IN THE VIEW AND DEFINE SUITABLE ALIAS NAME FOR EACH FIELD. ADD ‘ROOT-> AS THIS IS THE ROOT VIEW.



CONTINUATION IN PART 2