

**ABAP RAP-**

# **RESTFUL APPLICATION PROGRAMMING**

**PART 1**

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

# T here are 3 main layers in ABAP RAP Model–

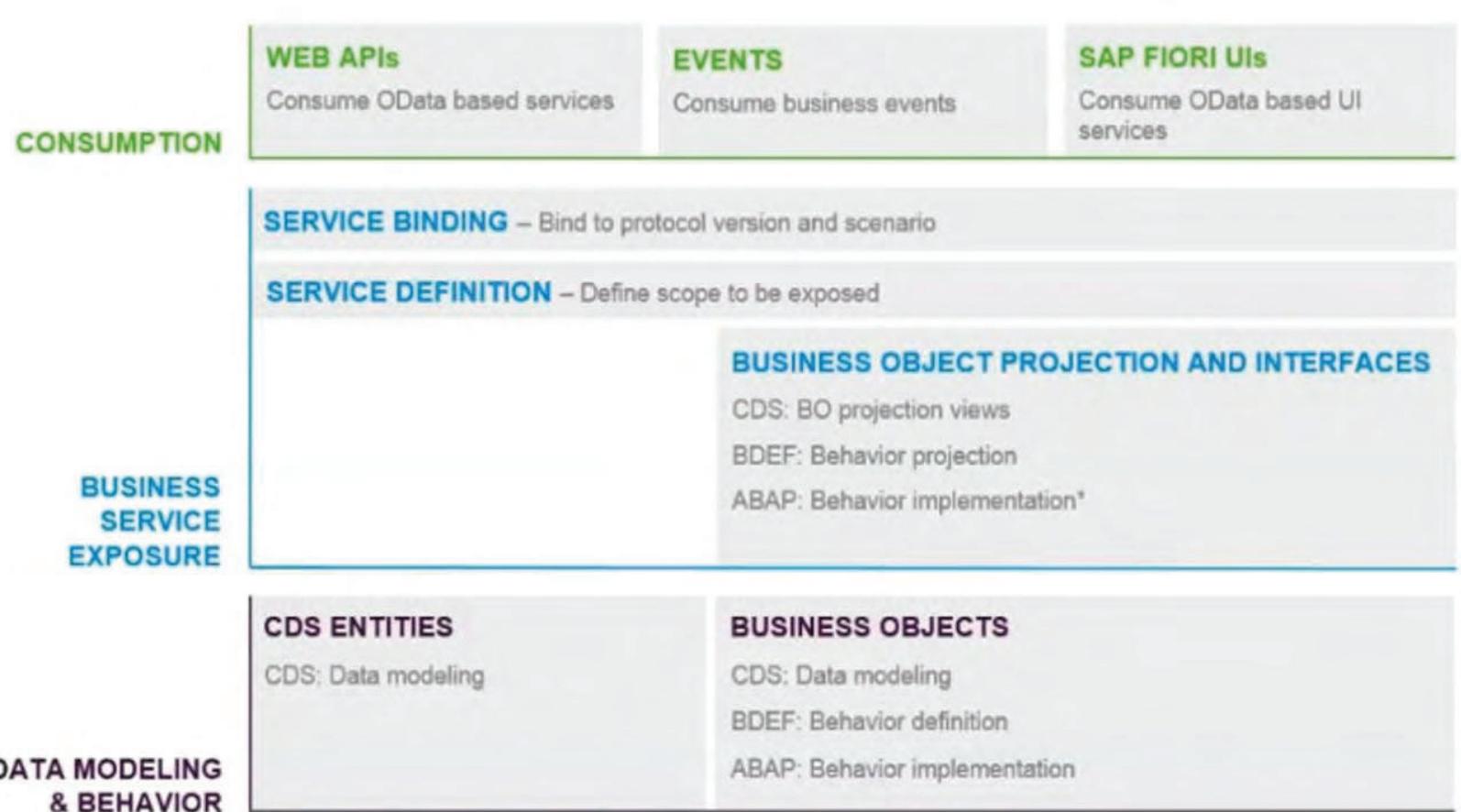
- Data Modeling & Behavior Layer
- Business Service Provisioning Layer
- Service Consumption Layer

**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.

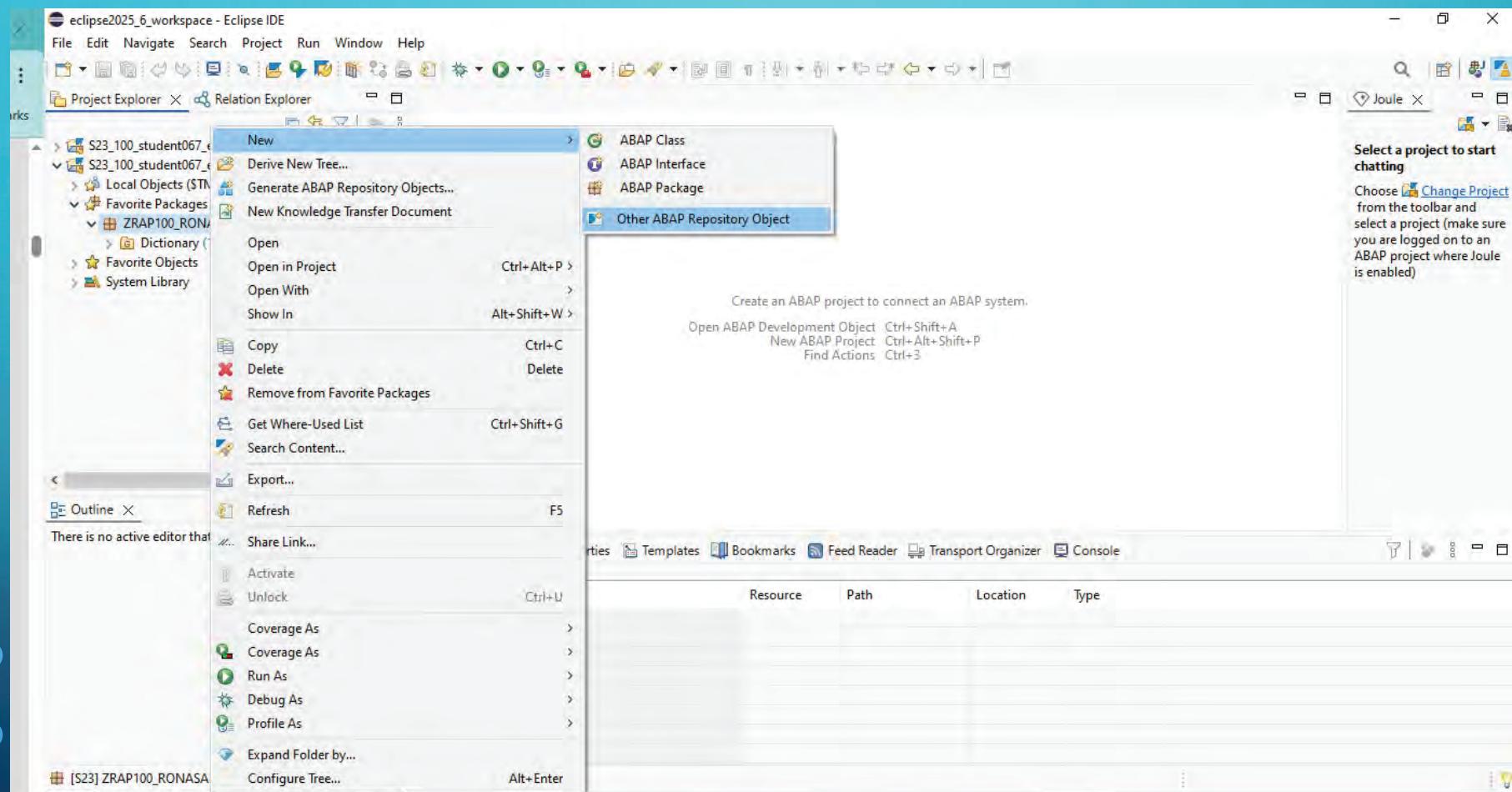
# Architecture Deep Dive

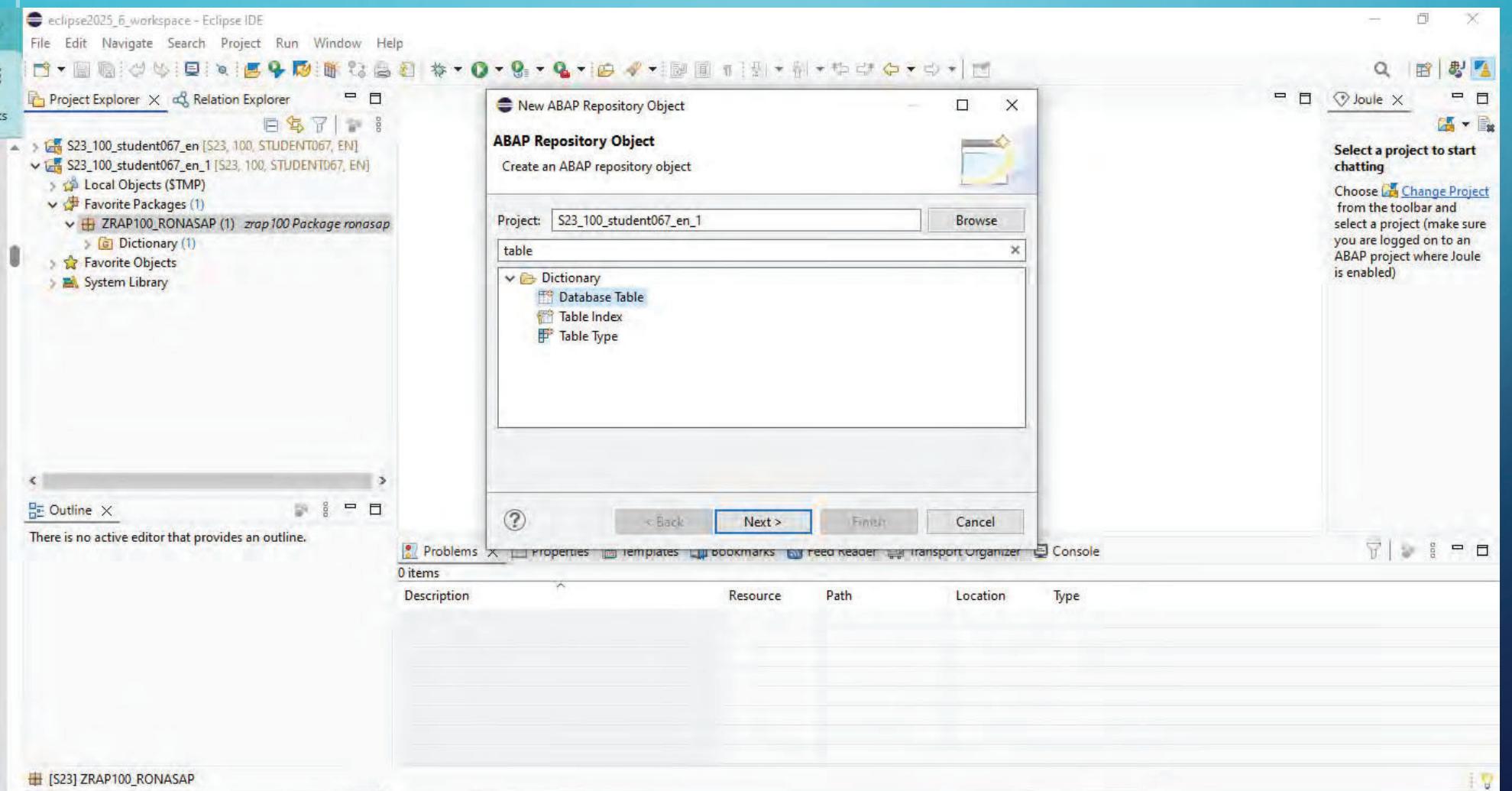


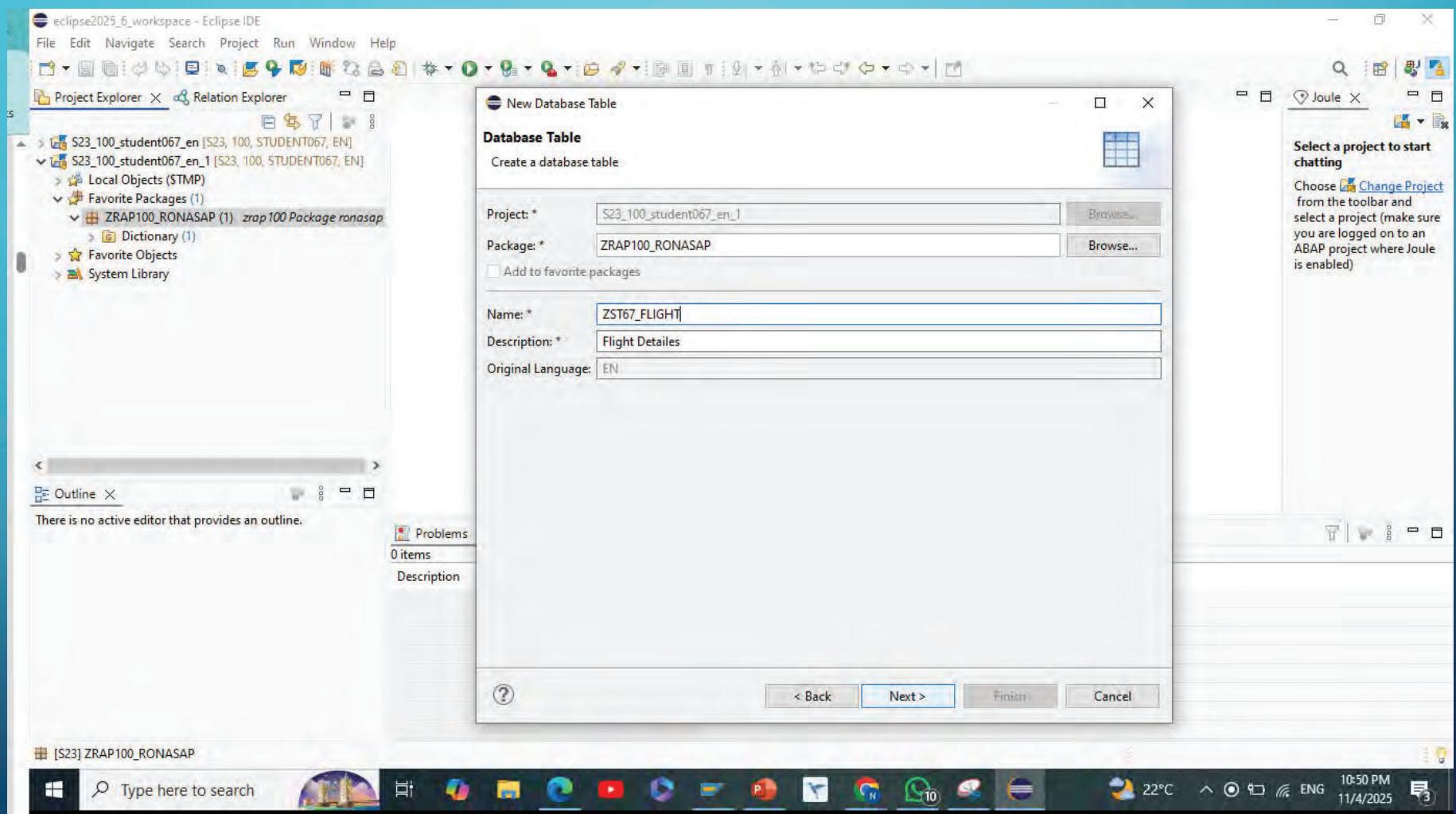
## THE STEPS INVOLVED IN THIS EXERCISE-

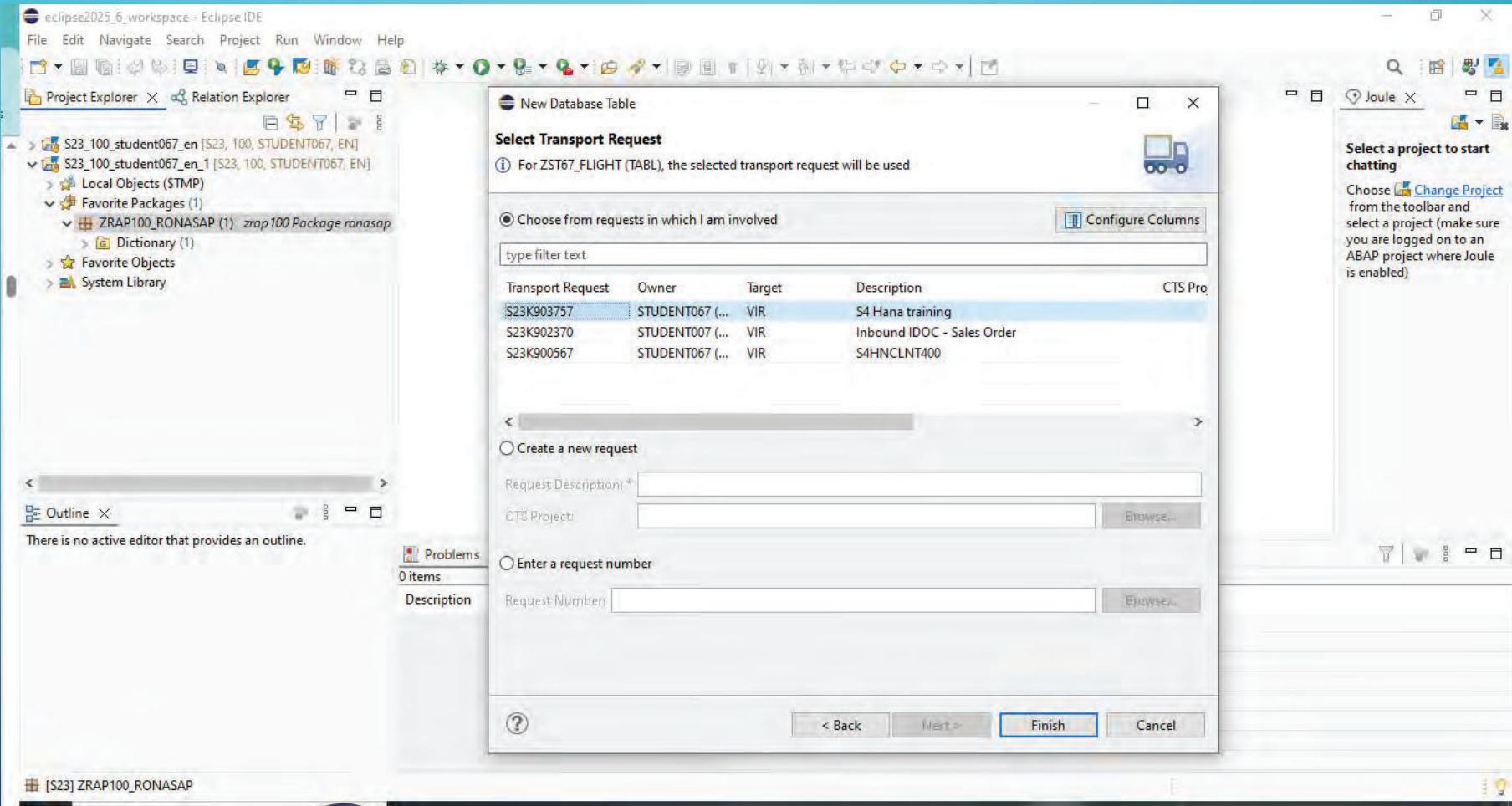
- To create a DB table
- To create a CDS View ( Interface view)
- To create a consumption view
- To create a metadata extension
- To create a behavior definition for interface view
- To create a behavior definition for consumption view
- To create a service definition
- To create a service binding

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









## BELOW SYNTAX APPEARS:

The screenshot shows the Eclipse IDE interface with the title bar "eclipse2025\_6\_workspace - Database Table ZST67\_FLIGHT [S23,100] - new, locked - S23\_100\_student067\_en\_1 [S23, 100, STUDENT067, EN] - Eclipse IDE". The menu bar includes File, Edit, Source Code, Navigate, Search, Project, Run, Window, and Help. The toolbar has various icons for file operations. The left side features the Project Explorer and Relation Explorer. The Project Explorer shows a package named "S23\_100\_student067\_en\_1" containing "Local Objects (\$TMP)", "Favorite Packages (2)" (which includes "ZRAP100\_RONASAP (2) zrap100 Package ronasap" and "Dictionary (2)"), "Favorite Objects", and "System Library". The main editor area displays ABAP code for defining a table:

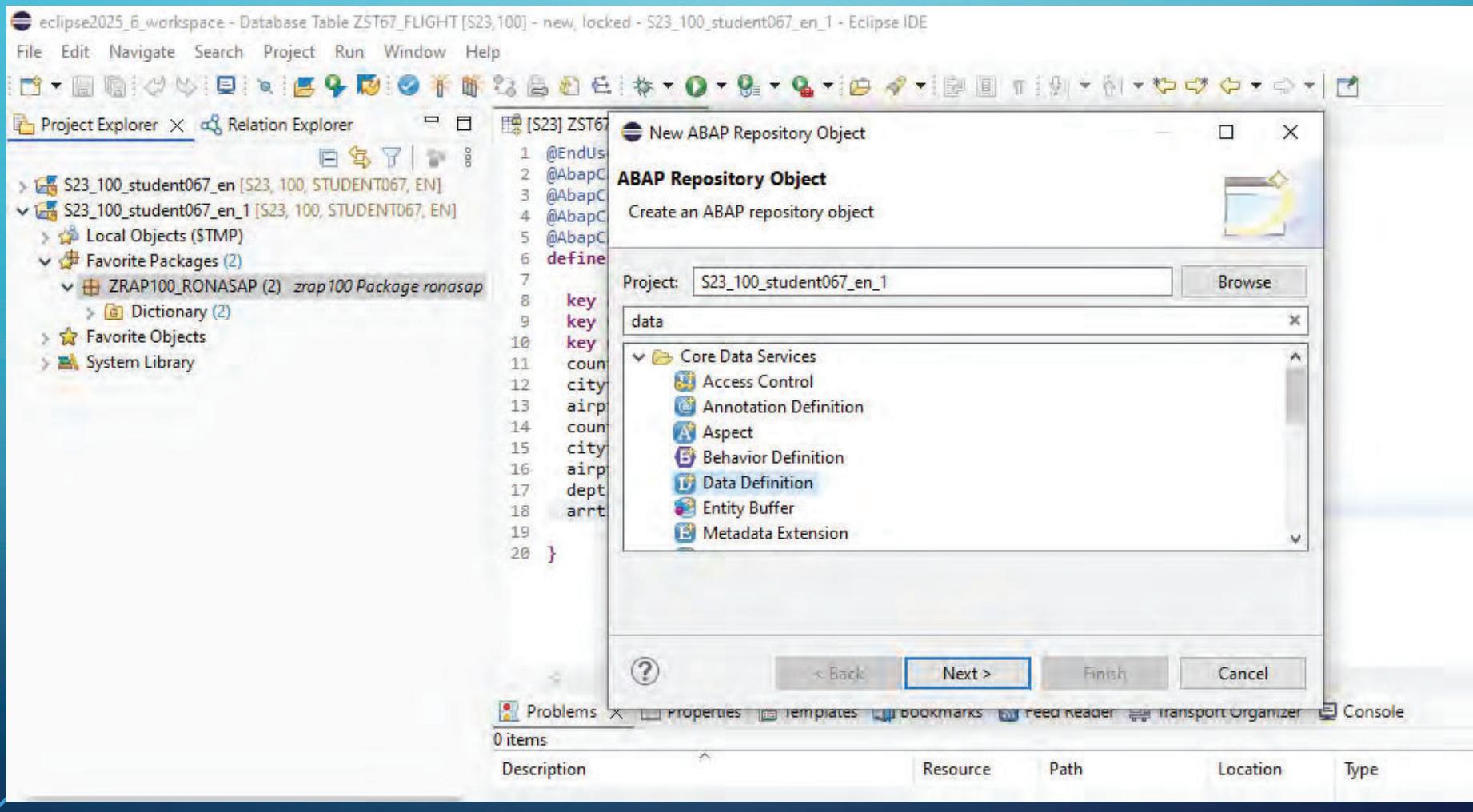
```
1 @EndUserText.label : 'Flight Detailes'
2 @AbapCatalog.enhancement.category : #NOT_EXTENSIBLE
3 @AbapCatalog.tableCategory : #TRANSPARENT
4 @AbapCatalog.deliveryClass : #A
5 @AbapCatalog.dataMaintenance : #RESTRICTED
6 define table zst67_flight {
7
8   key client : abap.clnt not null;
9
10 }
```

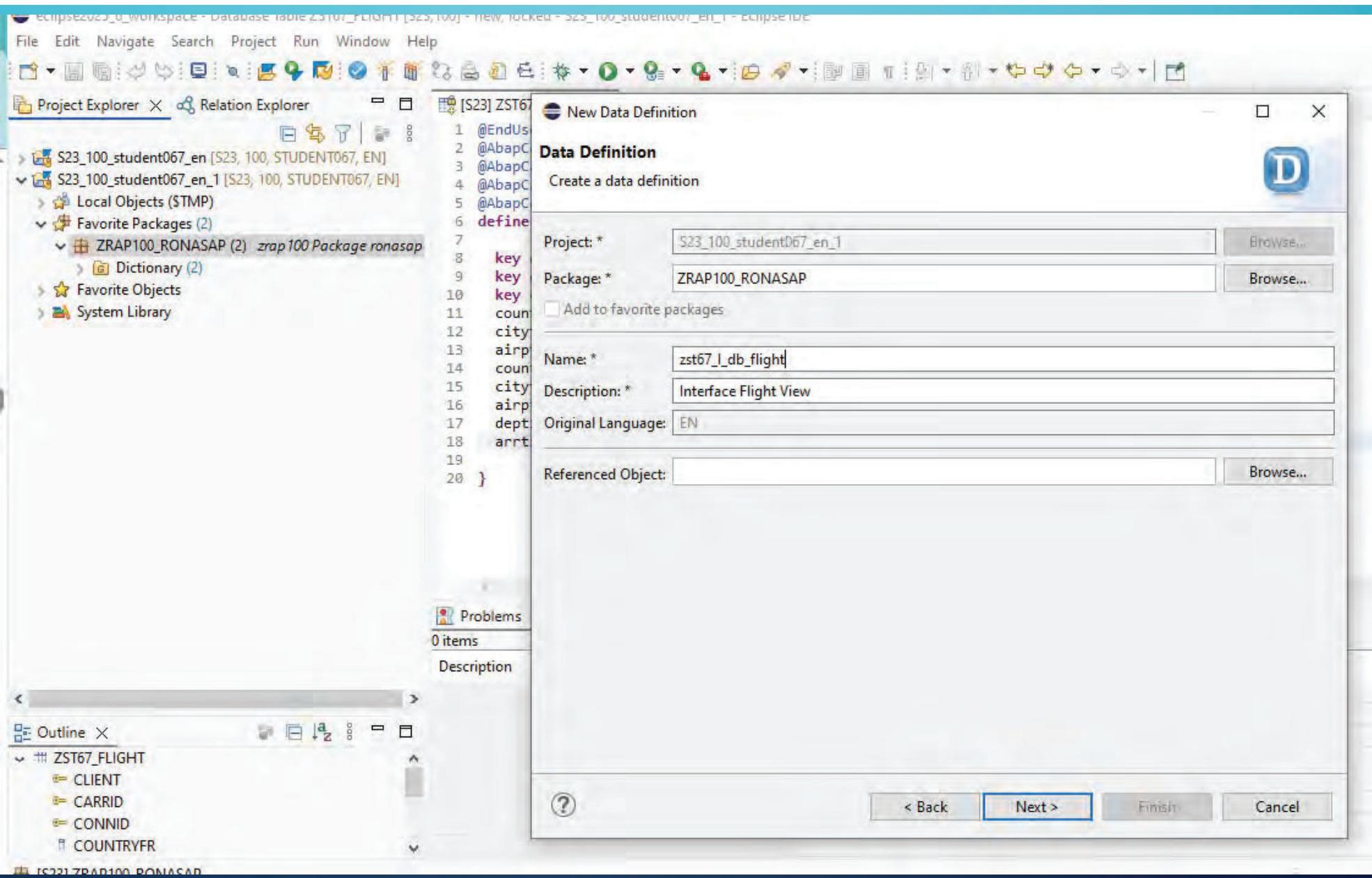
# CREATE A FLIGHT MODEL TABLE WITH FEW FIELDS- SAVE AND ACTIVATE.

The screenshot shows the Eclipse IDE interface for ABAP development. The title bar reads "eclipse2025\_6\_workspace - Database Table ZST67\_FLIGHT [S23,100] - new, locked - S23\_100\_student067\_en\_1 - Eclipse IDE". The menu bar includes File, Edit, Source Code, Navigate, Search, Project, Run, Window, and Help. The toolbar contains various icons for file operations like Open, Save, Print, and a magnifying glass for search. The Project Explorer view shows two projects: "S23\_100\_student067\_en [S23, 100, STUDENT067, EN]" and "S23\_100\_student067\_en\_1 [S23, 100, STUDENT067, EN]". The "S23\_100\_student067\_en\_1" project is expanded, showing Local Objects (\$TMP), Favorite Packages (2), Favorite Objects, and System Library. One of the favorite packages is "ZRAP100\_RONASAP (2) zrap100 Package ronasap", which is also expanded to show a Dictionary (2). The main editor area displays the ABAP code for defining the table ZST67\_FLIGHT:

```
1 @EndUserText.label : 'Flight Detailes'
2 @AbapCatalog.enhancement.category : #NOT_EXTENSIBLE
3 @AbapCatalog.tableCategory : #TRANSPARENT
4 @AbapCatalog.deliveryClass : #A
5 @AbapCatalog.dataMaintenance : #RESTRICTED
6 define table zst67_flight {
7
8   key client : abap.clnt not null;
9   key carrid : abap.char(3) not null;
10  key connid : abap.clnt not null;
11  countryfr : abap.char(3);
12  cityfrom : abap.char(20);
13  airpfrom : abap.char(3);
14  countryto : abap.char(3);
15  cityto : abap.char(20);
16  airpto : abap.char(3);
17  deptime : abap.tims;
18  arrtime : abap.tims;
19
20 }
```

# CREATE A CDS VIEW – INTERFACE VIEW.





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 X Relation Explorer [S23] ZST67

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

New Data Definition

Select Transport Request

For ZST67\_L\_DB\_FLIGHT (DDLS), the selected transport request will be used

Choose from requests in which I am involved

Create a new request

Enter a request number

Configure Columns

Transport Request	Owner	Target	Description	CTS Pro.
S23K903757	STUDENT067 (...)	VIR	S4 Hana training	
S23K902370	STUDENT007 (...)	VIR	Inbound IDOC - Sales Order	
S23K900567	STUDENT067 (...)	VIR	S4HNCLNT400	

Problems  
0 items

Description

Outline X

ZST67\_FLIGHT  
CLIENT  
CARRID  
CONNID  
COUNTRYER

?

< 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 X Relation Explorer [S23] ZST67

S23\_100\_student067\_en [S23, 100, STUDENT067, EN]  
S23\_100\_student067\_en\_1 [S23, 100, STUDENT067, EN]

Local Objects (STMP)  
Favorite Packages (2)  
ZRAP100\_RONASAP (2) zrap100 Package ronasap  
Dictionary (2)

Favorite Objects  
System Library

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)	

```
@EndUserText.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}  
}
```

Problems  
0 items  
Description

Outline X  
ZST67\_FLIGHT  
CLIENT  
CARRID  
CONNID  
COUNTRYFR

?

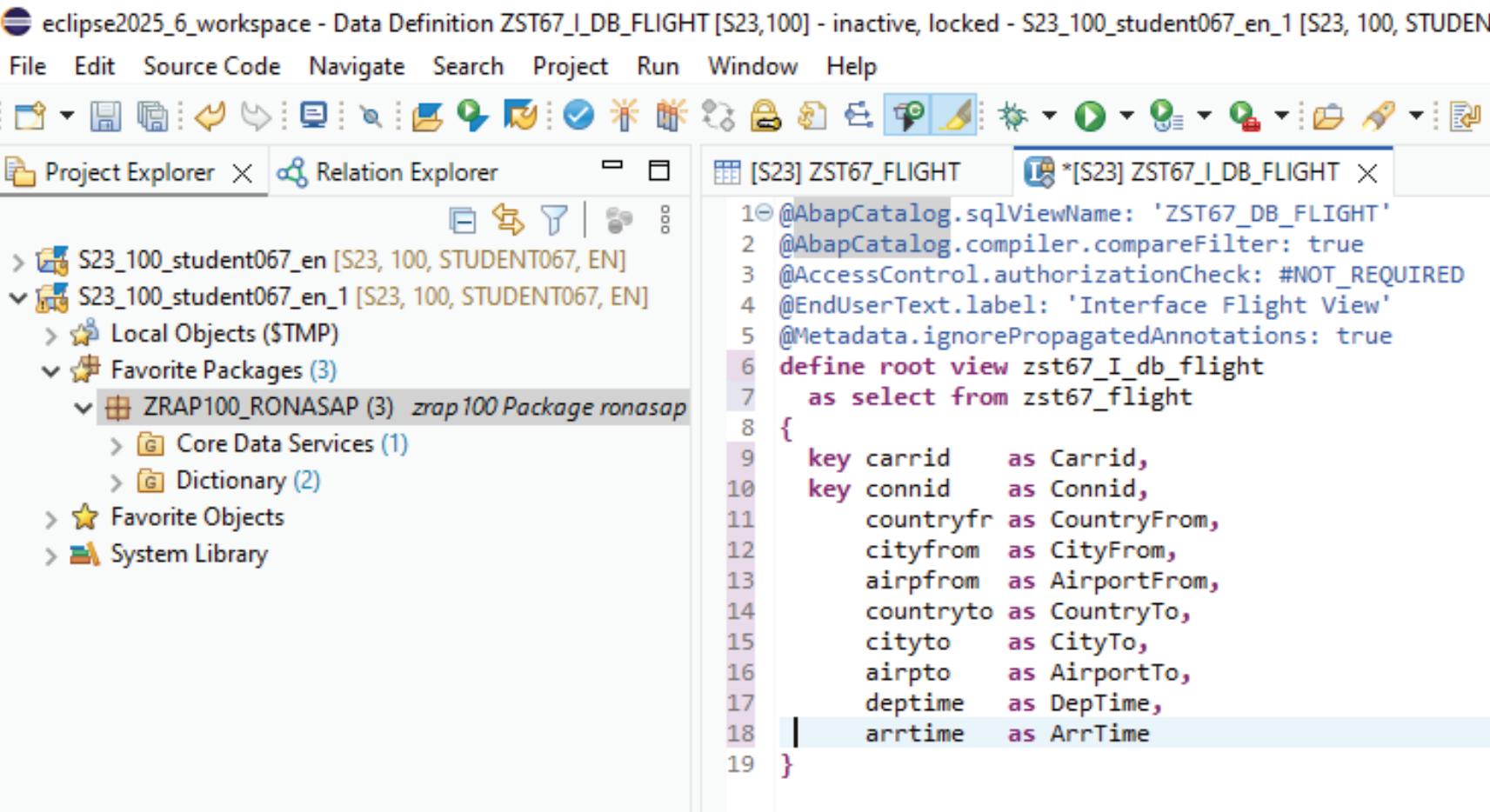
< Back Next > Finish Cancel

## THE BELOW SYNTAX APPEARS:

The screenshot shows the Eclipse IDE interface with the title "eclipse2025\_6\_workspace - Data Definition ZST67\_I\_DB\_FLIGHT [S23,100] - inactive, locked - S23\_100\_student067\_en\_1 - Eclipse IDE". The menu bar includes File, Edit, Source Code, Navigate, Search, Project, Run, Window, and Help. The toolbar has various icons for file operations like Open, Save, Copy, Paste, and Find. The left side features the Project Explorer and Relation Explorer. The Project Explorer shows a package named "S23\_100\_student067\_en\_1" containing "Local Objects (STMP)", "Favorite Packages (3)" (including "ZRAP100\_RONASAP"), "Favorite Objects", and "System Library". The right side displays the code editor with the following ABAP syntax:

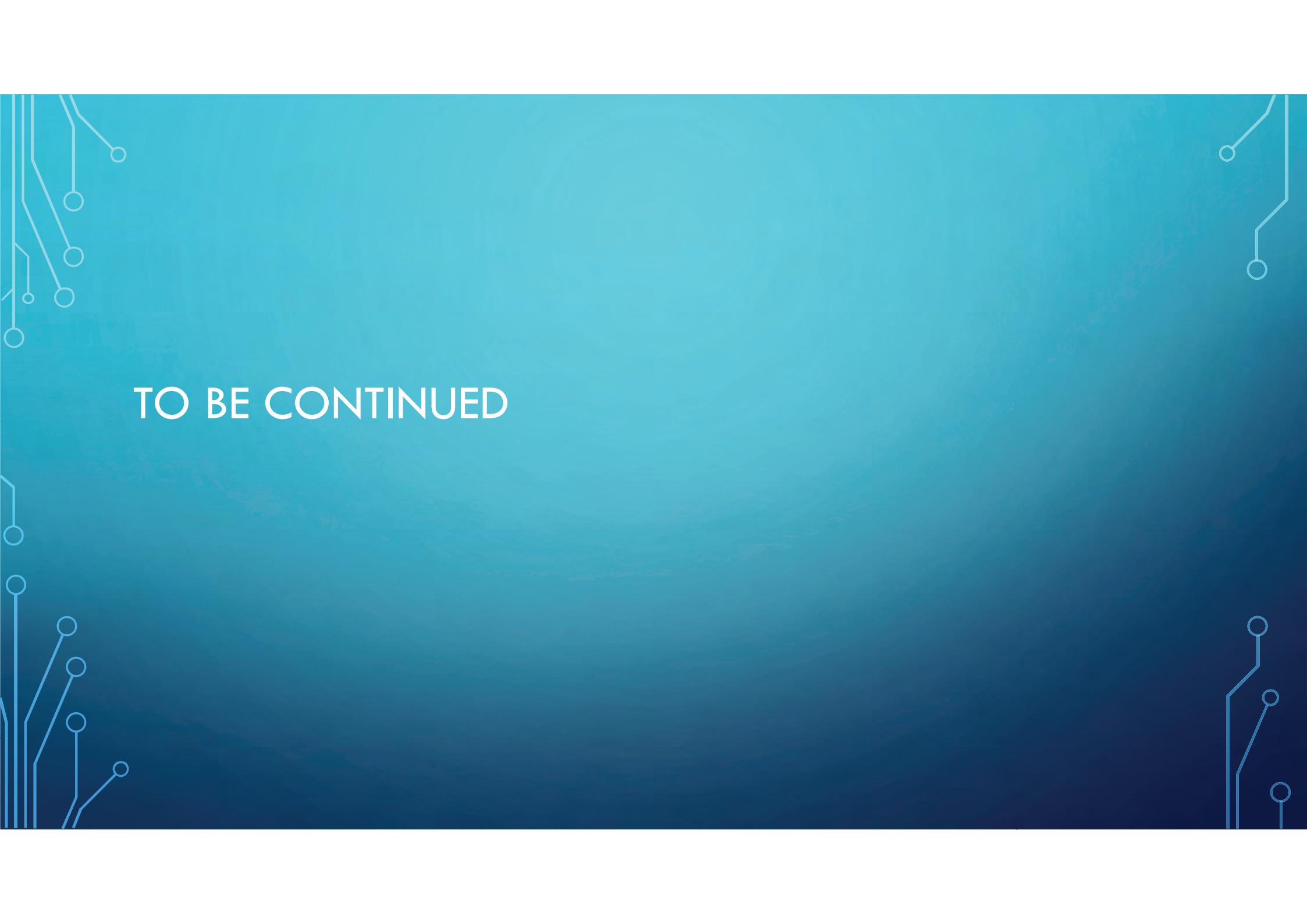
```
1 @AbapCatalog.sqlViewName: ''
2 @AbapCatalog.compiler.compareFilter: true .
3 @AbapCatalog.preserveKey: true
4 @AccessControl.authorizationCheck: #NOT_REQUIRED
5 @EndUserText.label: 'Interface Flight View'
6 @Metadata.ignorePropagatedAnnotations: true
7 define view zst67_I_db_flight as select from data_source_name
8 {
9
10 }
```

**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.**



The screenshot shows the SAP ABAP Eclipse IDE interface. The Project Explorer view on the left displays two projects: 'S23\_100\_student067\_en' and 'S23\_100\_student067\_en\_1'. The 'S23\_100\_student067\_en\_1' project is expanded, showing 'Local Objects (\$TMP)', 'Favorite Packages (3)', 'Favorite Objects', and 'System Library'. One package, 'ZRAP100\_RONASAP', is selected. The code editor on the right contains an SQL view definition:

```
1 @AbapCatalog.sqlViewName: 'ZST67_DB_FLIGHT'
2 @AbapCatalog.compiler.compareFilter: true
3 @AccessControl.authorizationCheck: #NOT_REQUIRED
4 @EndUserText.label: 'Interface Flight View'
5 @Metadata.ignorePropagatedAnnotations: true
6 define root view zst67_I_db_flight
7   as select from zst67_flight
8 {
9   key carrid      as Carrid,
10  key connid     as Connid,
11  countryfr    as CountryFrom,
12  cityfrom      as CityFrom,
13  airpfrom     as AirportFrom,
14  countryto    as CountryTo,
15  cityto        as CityTo,
16  airpto       as AirportTo,
17  deptime      as DepTime,
18  arrtime      as ArrTime
19 }
```



TO BE CONTINUED