



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—

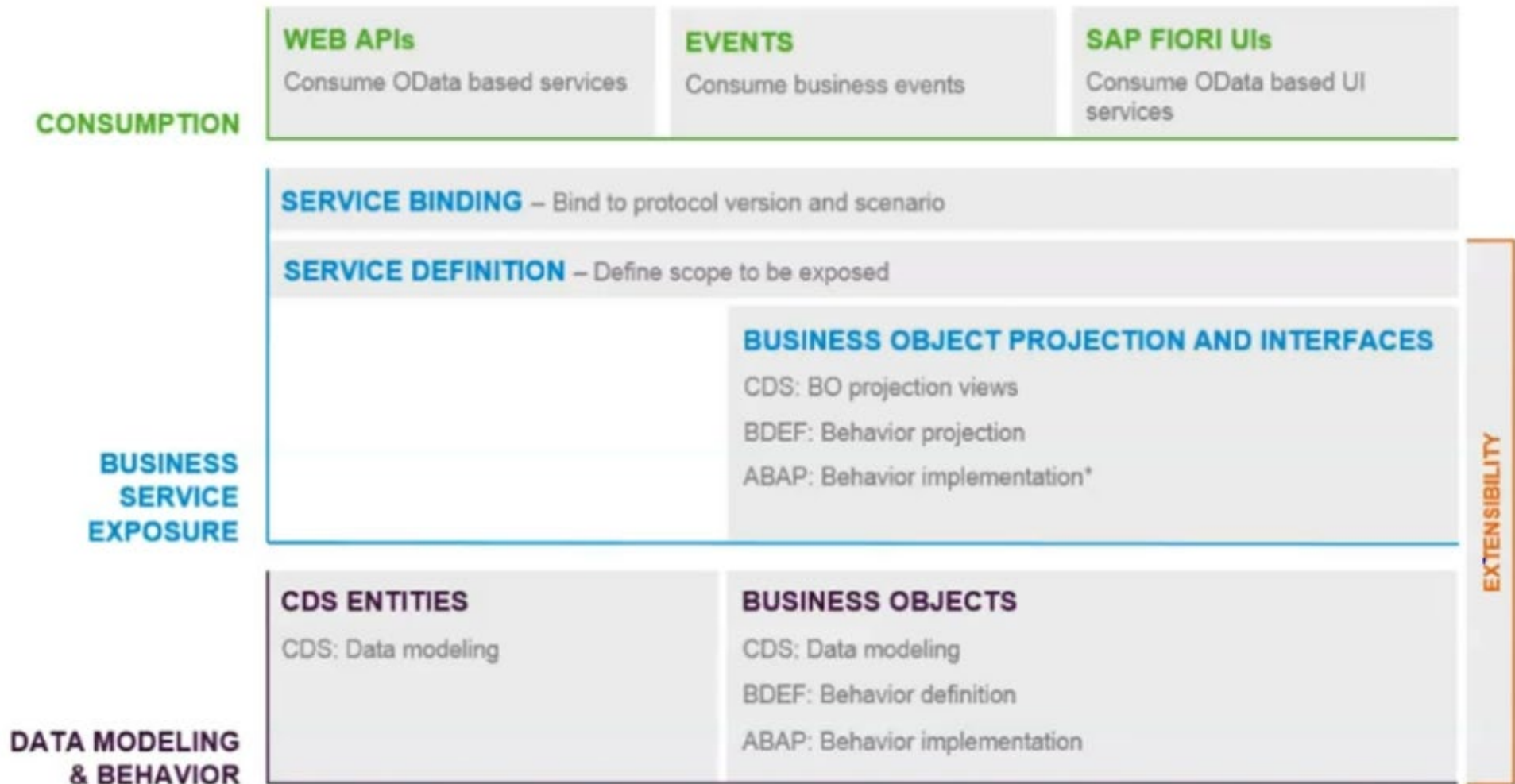
- **Data Modeling & Behavior Layer**
- **Business Service Provisioning Layer**
- **Service Consumption Layer**

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.

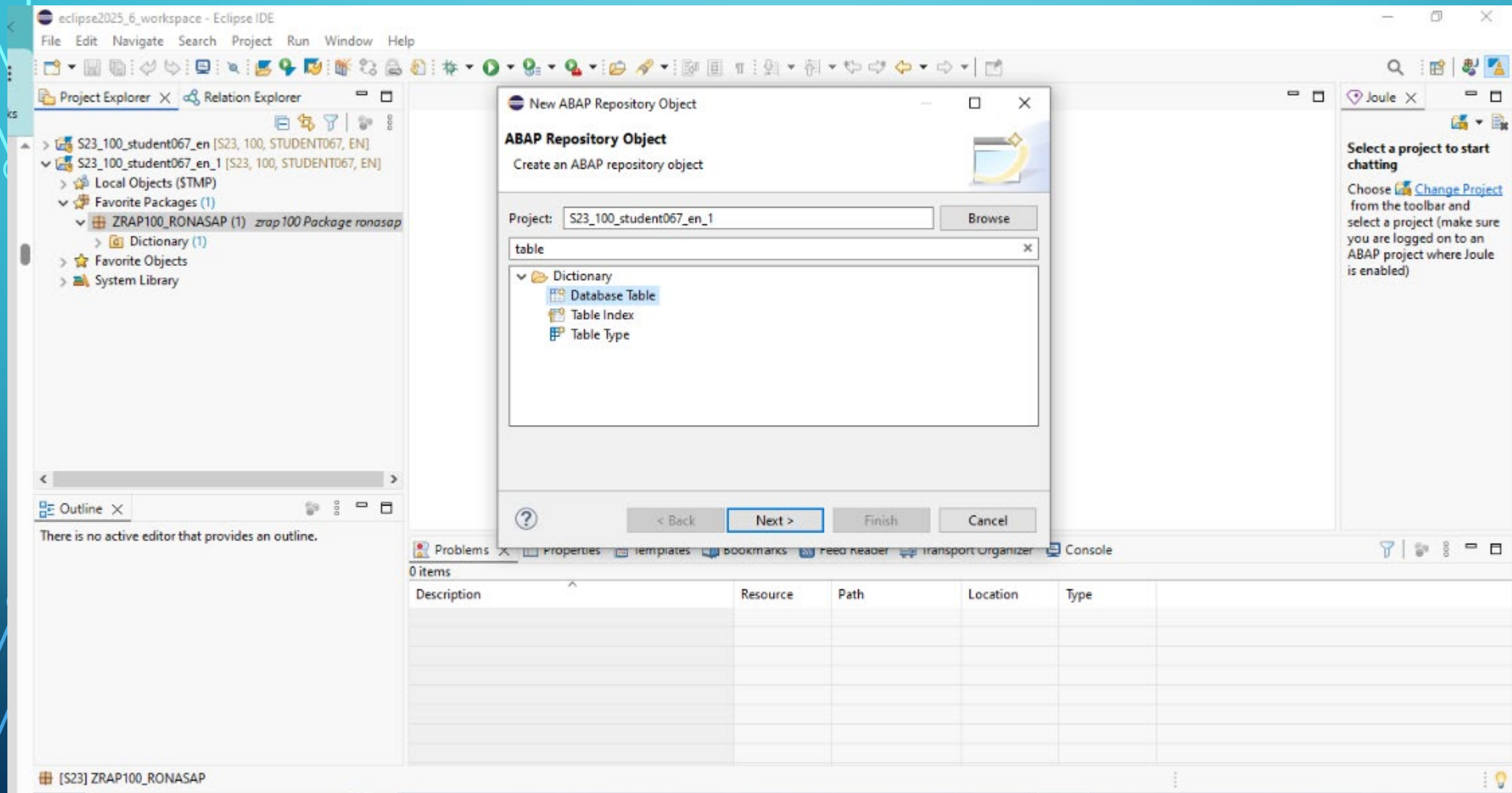
Service Consumption Layer allows to consume the OData Services and OData web APIs.

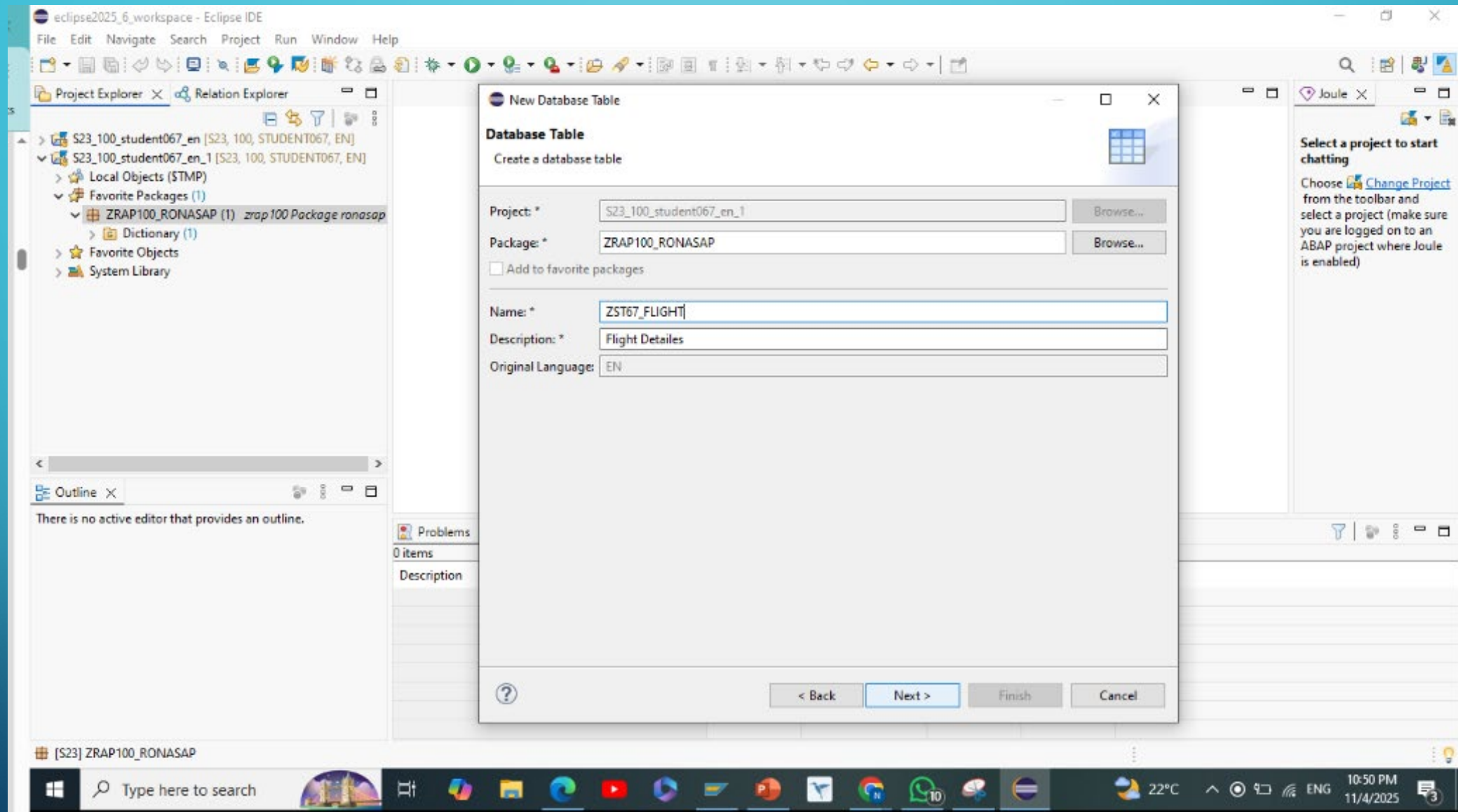
Architecture Deep Dive

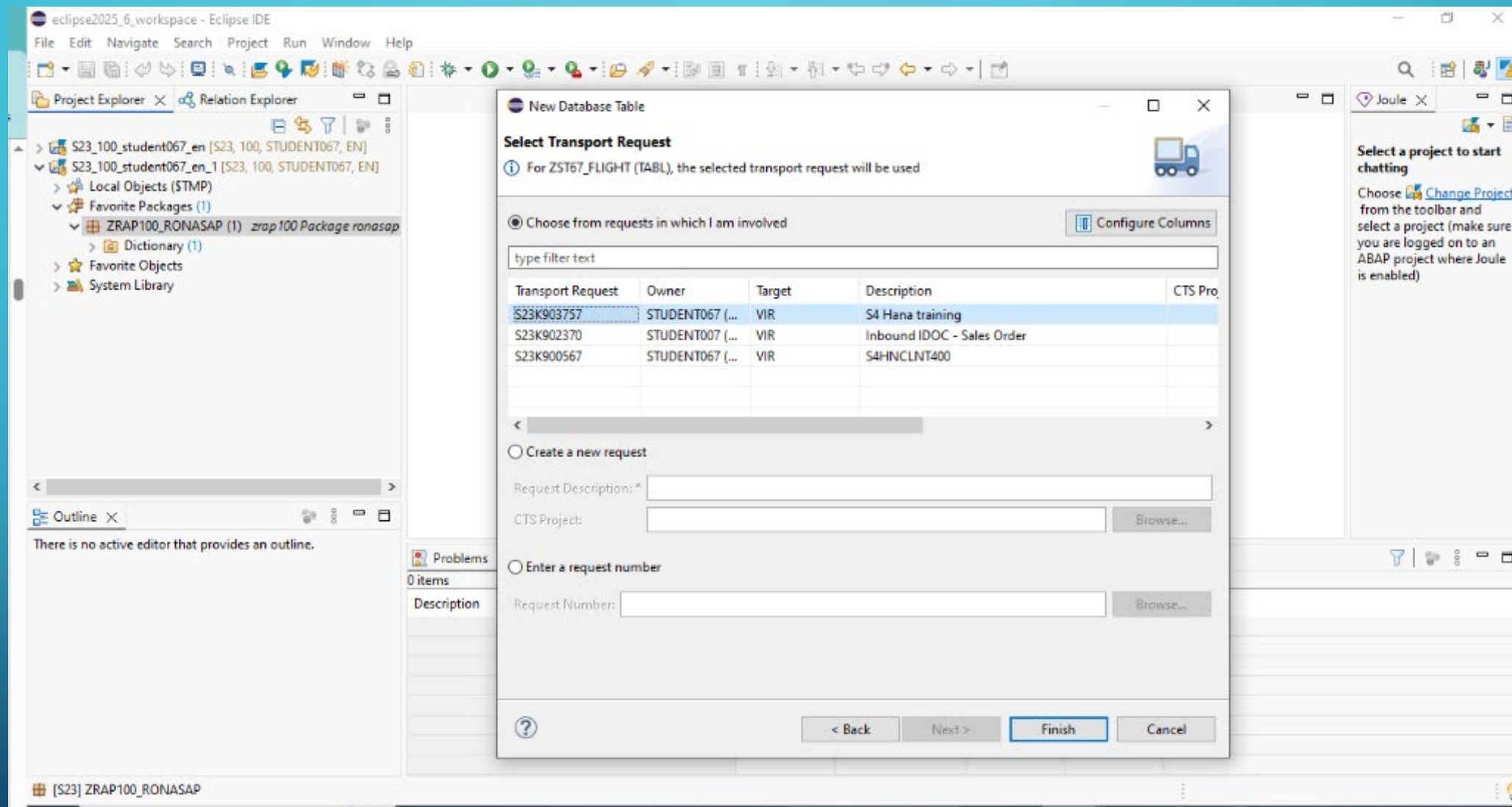


THE STEPS INVOLVED IN THIS EXERCISE-

- 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







BELOW SYNTAX APPEARS:

eclipse2025_6_workspace - Database Table ZST67_FLIGHT [S23,100] - new, locked - S23_100_student067_en_1 [S23, 100, STUDENT067, EN] - Eclipse IDE

File Edit Source Code Navigate Search Project Run Window Help

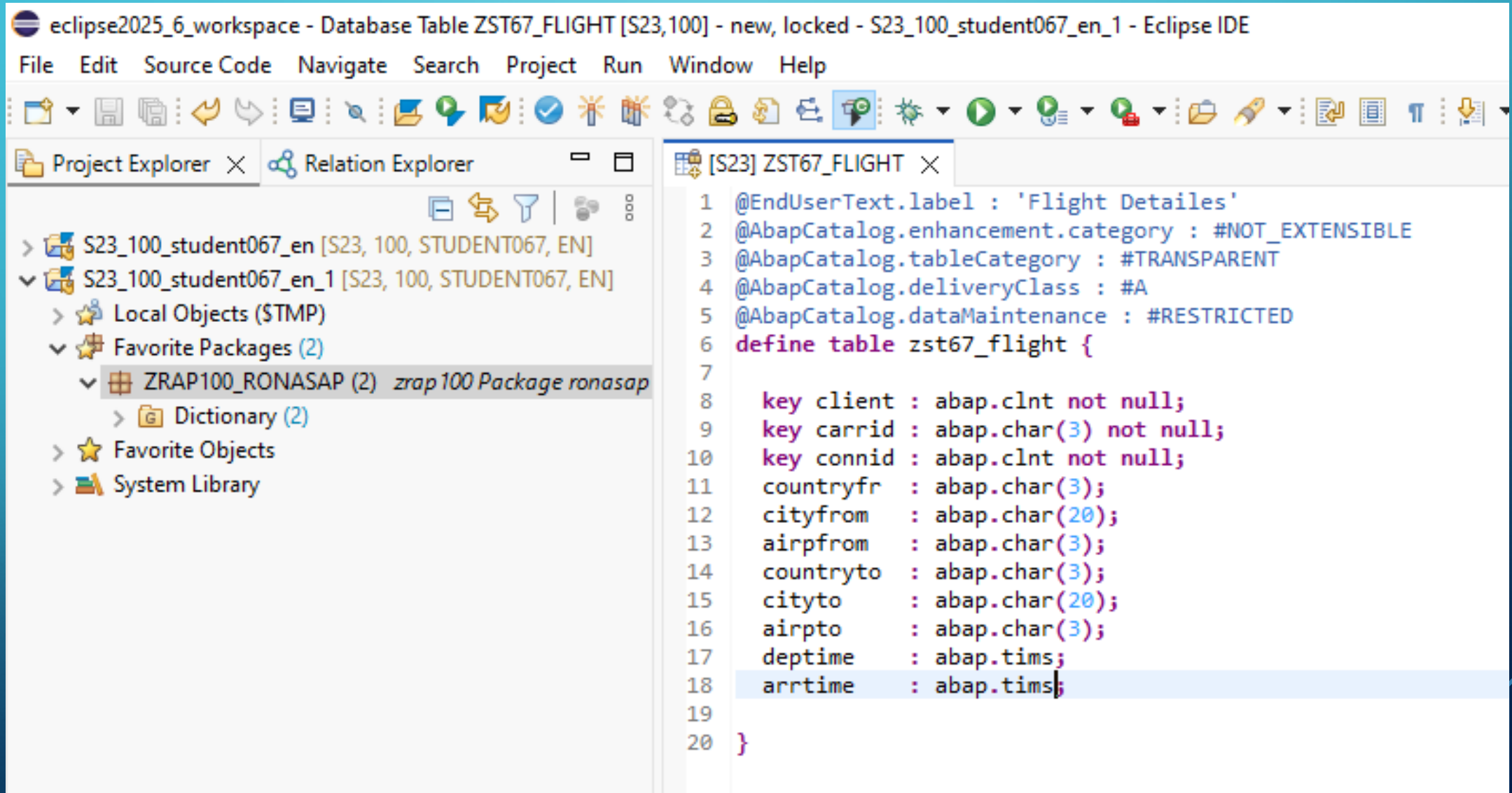
Project Explorer Relation Explorer

- > 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

[S23] ZST67_FLIGHT

```
1 @EndUserText.label : 'Flight Details'
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.



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_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) zrap 100 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 }
```

New ABAP Repository Object

ABAP Repository Object

Create an ABAP repository object

Project: S23_100_student067_en_1 Browse

data

- ▼ Core Data Services
 - Access Control
 - Annotation Definition
 - Aspect
 - Behavior Definition
 - Data Definition
 - Entity Buffer
 - Metadata Extension

< Back Next > Finish Cancel

Problems x Properties Templates Bookmarks Feed Reader Transport Organizer Console

0 items

Description	Resource	Path	Location	Type
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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

```

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

[S23] ZRAP100_RONASAP

New Data Definition

Data Definition

Create a data definition



Project: *

Package: *

☐ Add to favorite packages

Name: *

Description: *

Original Language:

Referenced Object:



< Back

Next >

Finish

Cancel



Project Explorer

- S23_100_student067_en [S23, 100, STUDENT067, EN]
- S23_100_student067_en_1 [S23, 100, STUDENT067, EN]
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 - ZRAP100_RONASAP (2) *zrap100 Package ronasap*
 - Dictionary (2)
 - Favorite Objects
 - System Library

```
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
 - COUNTRYER

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



Project Explorer

- 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) *zrap 100 Package ronasap*
 - Dictionary (2)
 - Favorite Objects
 - System Library

[S23] ZST67_FLIGHT

```
1 @EndUser
2 @AbapCatalog.sqlViewName: 'ZST67_FLIGHT'
3 @AbapCatalog.compiler.compareFilter: true
4 @AbapCatalog.preserveKey: true
5 @AccessControl.authorizationCheck: #NOT_REQUIRED
6 @EndUserText.label: 'ZST67_FLIGHT'
7 define view ZST67_FLIGHT as select from ZST67_FLIGHT
8 {
9   key CARRID
10  key COUNTRYFR
11  key CONNID
12  key CLIENT
13  key CARRID
14  key COUNTRYFR
15  key CONNID
16  key CLIENT
17  key CARRID
18  key COUNTRYFR
19  key CONNID
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}
}
```



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Next >

Finish

Cancel

THE BELOW SYNTAX APPEARS:

eclipse2025_6_workspace - Data Definition ZST67_I_DB_FLIGHT [S23,100] - inactive, locked - S23_100_student067_en_1 - Eclipse IDE

File Edit Source Code Navigate Search Project Run Window Help

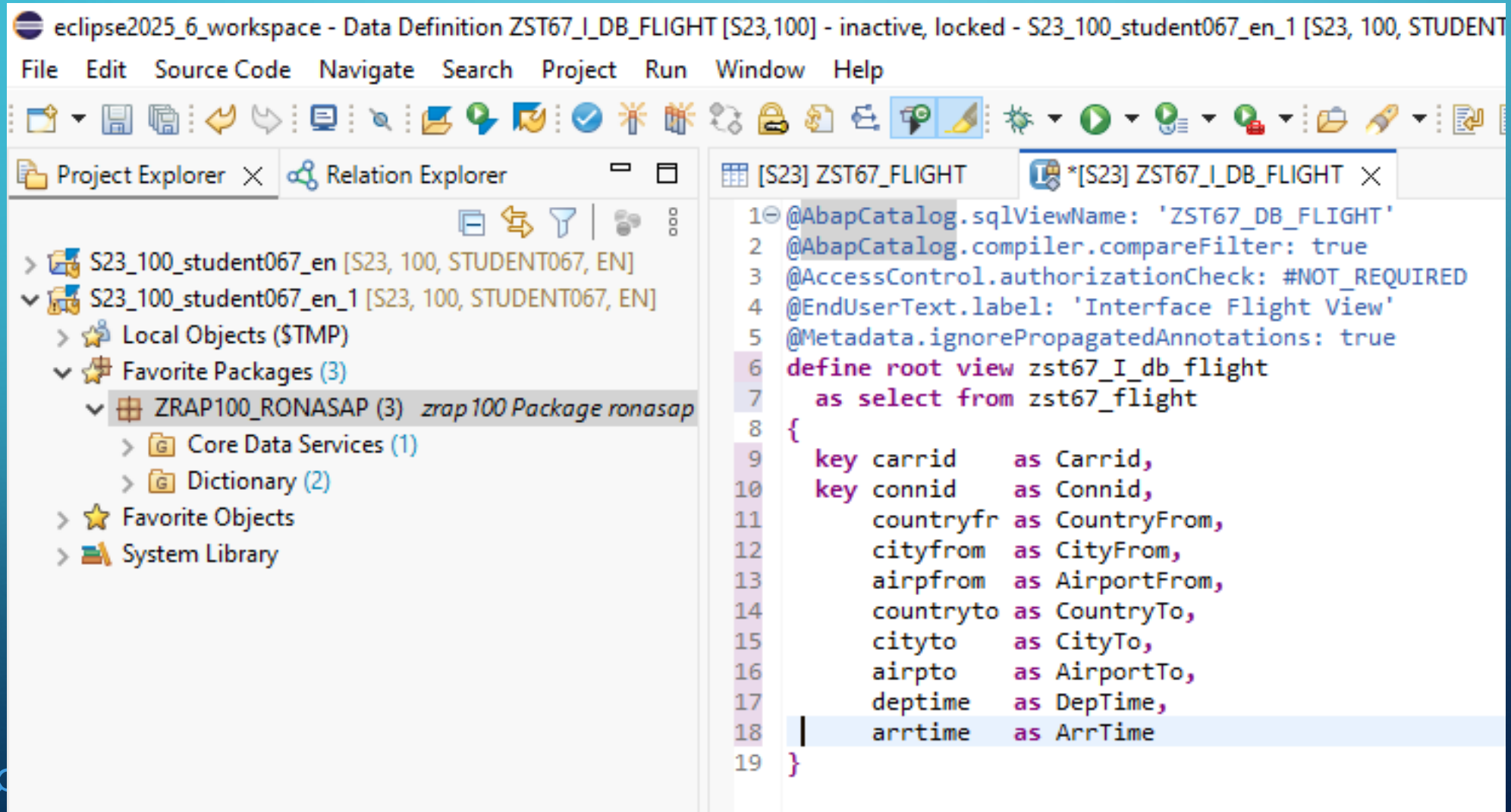
Project Explorer Relation Explorer

- > S23_100_student067_en [S23, 100, STUDENT067, EN]
- ▼ S23_100_student067_en_1 [S23, 100, STUDENT067, EN]
 - > Local Objects (\$TMP)
 - ▼ Favorite Packages (3)
 - ▼ ZRAP100_RONASAP (3) *zrap100 Package ronasap*
 - > Core Data Services (1)
 - > Dictionary (2)
 - > Favorite Objects
 - > System Library

[S23] ZST67_FLIGHT * [S23] ZST67_I_DB_FLIGHT

```
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 Eclipse IDE interface. The title bar indicates the workspace is 'eclipse2025_6_workspace' and the current object is 'Data Definition ZST67_I_DB_FLIGHT [S23,100] - inactive, locked - S23_100_student067_en_1 [S23, 100, STUDENT067, EN]'. The menu bar includes File, Edit, Source Code, Navigate, Search, Project, Run, Window, and Help. The toolbar contains various icons for file operations and development tools. The Project Explorer on the left shows the project structure, with 'S23_100_student067_en_1' expanded to show 'Local Objects (\$TMP)', 'Favorite Packages (3)', and 'ZRAP100_RONASAP (3)'. The Relation Explorer on the right shows the 'ZST67_I_DB_FLIGHT' view definition. The source code editor displays the following ABAP code:

```
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    | arftime     as ArrTime
19 }
```


The background is a blue gradient. In the corners, there are white line art designs resembling circuit boards or neural networks, with lines and small circles connecting them.

CONTINUATION IN PART 2