



ABAP RAP- RESTFUL APPLICATION PROGRAMMING PART 2

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

DEFINE A NEXT CDS – CONSUMPTION VIEW

The screenshot displays the SAP Eclipse IDE interface. The top menu bar includes File, Edit, Navigate, Search, Project, Run, Window, and Help. The Project Explorer on the left shows the project structure, with 'S23_100_student067_en_1' selected. The Relation Explorer in the center shows the 'ZST67_C_DB_FLIGHT' table. The 'New Data Definition' dialog box is open, titled 'Data Definition' with a 'D' icon. It contains the following fields:

- Project:** S23_100_student067_en_1 (with a 'Browse...' button)
- Package:** ZRAP100_RONASAP (with a 'Browse...' button)
- ☐ Add to favorite packages
- Name:** ZST67_C_DB_FLIGHT
- Description:** Consumption Flight Details
- Original Language:** EN
- Referenced Object:** (empty field with a 'Browse...' button)

At the bottom of the dialog, there are buttons for '< Back', 'Next >', 'Finish', and 'Cancel'. The 'Next >' button is highlighted. The background shows the SAP code editor with the following code:

```
1 @AbapC
2 @AbapC
3 @Access
4 @EndUs
5 @Metad
6 define
7 as s
8 {
9 key
10 key
11
12
13
14
15
16
17
18
19 }
20
```



Project Explorer

- S23_100_student067_en [S23, 100, STUDENT067, EN]
- S23_100_student067_en_1 [S23, 100, STUDENT067, EN]
 - Local Objects (\$TMP)
 - Favorite Packages (4)
 - ZRAP100_RONASAP (4) *zrap100 Package ronasap*
 - Core Data Services (1)
 - Dictionary (3)
 - Favorite Objects
 - System Library

[S23] ZST67

```
1 @AbapC
2 @AbapC
3 @Acces
4 @EndUs
5 @Metad
6 define
7 as s
8 {
9   key
10  key
11
12
13
14
15
16
17
18
19 }
20
```

Problems

1 error, 1 warning

Description

> Errors (1)

> Warning

Outline

- zst67_i_db_flight
 - select
 - from
 - elements

New Data Definition

Templates

Select one of the available templates.

☒ 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.viewEnhancementCategory: [#NONE]
@AccessControl.authorizationCheck: #NOT_REQUIRED
@EndUserText.label: '${ddl_source_description}'
@Metadata.ignorePropagatedAnnotations: true
@ObjectModel.usageType:{
  serviceQuality: #X,
  sizeCategory: #S,
  dataClass: #MIXED
}
define view entity ${ddl_source_name} as select from ${data_source_name}
{
  ${data_source_elements}${cursor}
}
```

< Back Next > Finish Cancel

THE BELOW SYNTAX APPEARS :

eclipse2025_6_workspace - Data Definition ZST67_C_DB_FLIGHT [S23,100] - inactive, locked - S23_100_student067_en_1 - Eclipse IDE

File Edit Source Code Navigate Search Project Run Window Help

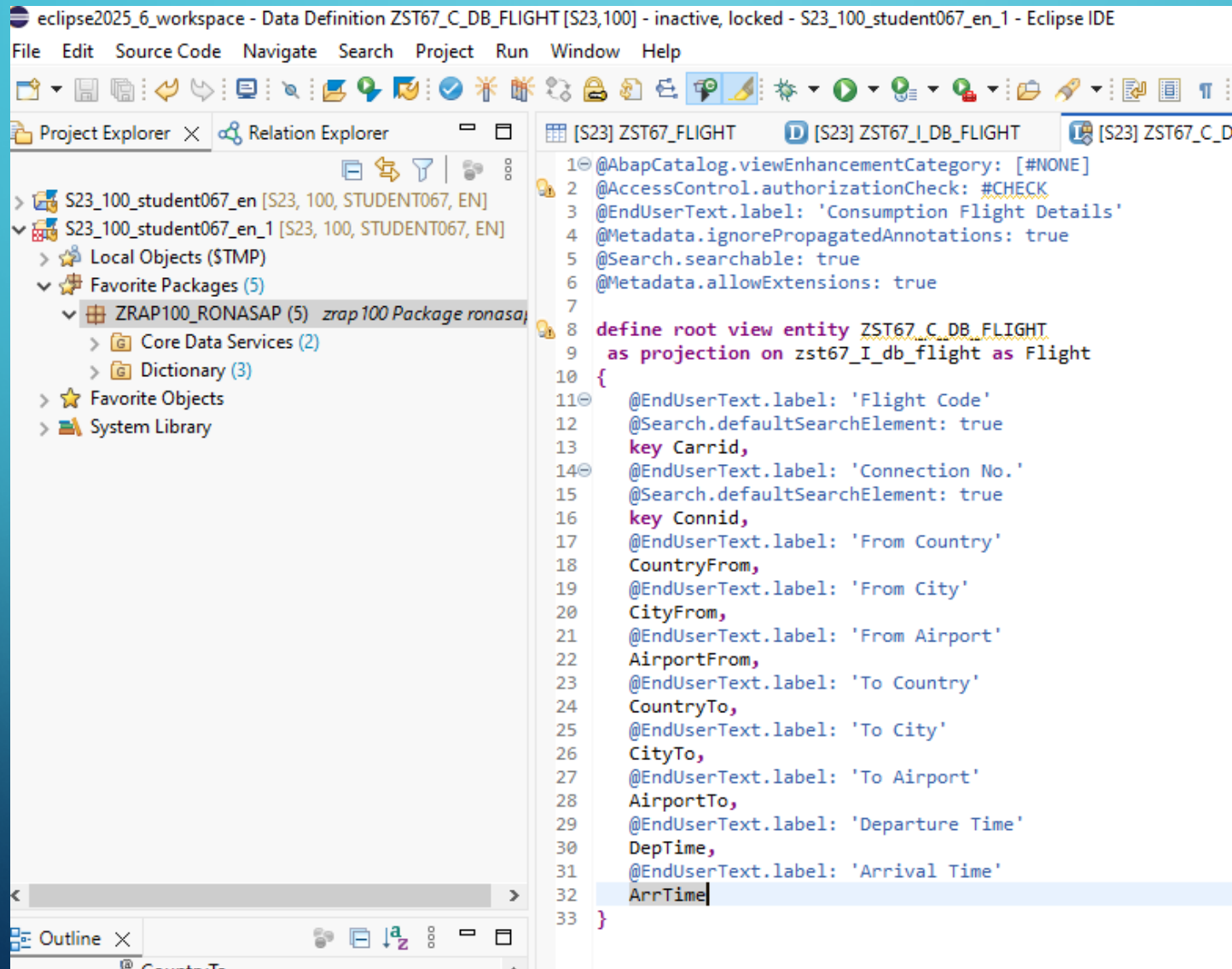
Project Explorer Relation Explorer

- > S23_100_student067_en [S23, 100, STUDENT067, EN]
- ▼ S23_100_student067_en_1 [S23, 100, STUDENT067, EN]
 - > Local Objects (\$TMP)
 - ▼ Favorite Packages (5)
 - ▼ ZRAP100_RONASAP (5) *zrap100 Package ronasap*
 - > Core Data Services (2)
 - > Dictionary (3)
 - > Favorite Objects
 - > System Library

[S23] ZST67_FLIGHT [S23] ZST67_I_DB_FLIGHT *[S23] ZST67_C_DB_FLIGHT

```
1 @AbapCatalog.viewEnhancementCategory: [#NONE]
2 @AccessControl.authorizationCheck: #NOT_REQUIRED
3 @EndUserText.label: 'Consumption Flight Details'
4 @Metadata.ignorePropagatedAnnotations: true
5 @ObjectModel.usageType:{
6     serviceQuality: #X,
7     sizeCategory: #S,
8     dataClass: #MIXED
9 }
10 define view entity ZST67_C_DB_FLIGHT as select from data_source_name
11 {
12
13 }
```


THIS IS THE CONSUMPTION VIEW WHICH IS A PROJECTION ON THE INTERFACE VIEW. HERE WE ADDING ANNOTATIONS SUCH AS SEARCHABLE AND ENDUSER TEXT FOR EACH OF THE FIELDS. IN ADDITION SET ALLOW META DATA EXTENSION AS TRUE AS IN NEXT WE ARE GOING TO DEFINE A META DATA EXTENSION FOR OUR FIORI UI.



```
eclipse2025_6_workspace - Data Definition ZST67_C_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 (5)
    ZRAP100_RONASAP (5) zrap100 Package ronasa
      Core Data Services (2)
      Dictionary (3)
  Favorite Objects
  System Library

1 @AbapCatalog.viewEnhancementCategory: [#NONE]
2 @AccessControl.authorizationCheck: #CHECK
3 @EndUserText.label: 'Consumption Flight Details'
4 @Metadata.ignorePropagatedAnnotations: true
5 @Search.searchable: true
6 @Metadata.allowExtensions: true
7
8 define root view entity ZST67_C_DB_FLIGHT
9   as projection on zst67_i_db_flight as Flight
10  {
11    @EndUserText.label: 'Flight Code'
12    @Search.defaultSearchElement: true
13    key Carrid,
14    @EndUserText.label: 'Connection No.'
15    @Search.defaultSearchElement: true
16    key Connid,
17    @EndUserText.label: 'From Country'
18    CountryFrom,
19    @EndUserText.label: 'From City'
20    CityFrom,
21    @EndUserText.label: 'From Airport'
22    AirportFrom,
23    @EndUserText.label: 'To Country'
24    CountryTo,
25    @EndUserText.label: 'To City'
26    CityTo,
27    @EndUserText.label: 'To Airport'
28    AirportTo,
29    @EndUserText.label: 'Departure Time'
30    DepTime,
31    @EndUserText.label: 'Arrival Time'
32    ArrTime
33  }
```

DEFINE A METADATA EXTENSION :

The screenshot shows the Eclipse IDE interface with the 'New ABAP Repository Object' dialog box open. The dialog is titled 'New ABAP Repository Object' and contains the text 'ABAP Repository Object' and 'Create an ABAP repository object'. The 'Project' field is set to 'S23_100_student067_en_1'. The 'metadata' field is set to 'metadata'. The 'Core Data Services' folder is expanded, and the 'Metadata Extension' option is selected. The background shows the 'define as proxy' code in the editor.

Project Explorer:

- S23_100_student067_en [S23, 100, STUDENT067, EN]
- S23_100_student067_en_1 [S23, 100, STUDENT067, EN]
 - Local Objects (\$TMP)
 - Favorite Packages (5)
 - ZRAP100_RONASAP (5) *zrap 100 Package ronasa*
 - Core Data Services (2)
 - Dictionary (3)
 - Favorite Objects
 - System Library

Code Editor:

```
1 @AbapCa
2 @Access
3 @EndUse
4 @Metada
5 @Search
6 @Metada
7
8 define
9 as pro
10 {
11 @End
12 @Sea
13 key
14 @End
15 @Sea
16 key
17 @End
18 Coun
19 @End
20 City
21 @End
22 Airp
23 @End
24 Coun
25 @End
26 City
27 @End
28 AirportTo,
```

New ABAP Repository Object Dialog:

ABAP Repository Object

Create an ABAP repository object

Project: S23_100_student067_en_1 [Browse]

metadata [X]

Core Data Services

- Metadata Extension

< Back Next > Finish Cancel



- S23_100_student067_en [S23, 100, STUDENT067, EN]
- S23_100_student067_en_1 [S23, 100, STUDENT067, EN]
- > Local Objects (\$TMP)
- ✓ Favorite Packages (5)
 - ✓ ZRAP100_RONASAP (5) *zrap100 Package ronasa*
 - > Core Data Services (2)
 - > Dictionary (3)
- > Favorite Objects
- > System Library

- @ CountryTo
- @ CityTo
- @ AirportTo
- @ DepTime
- @ ArrTime

New Metadata Extension

Metadata Extension

Create a metadata extension



Project: *

Package: *

☐ Add to favorite packages

Name: *

Description: *

Original Language:

Extended Entity:

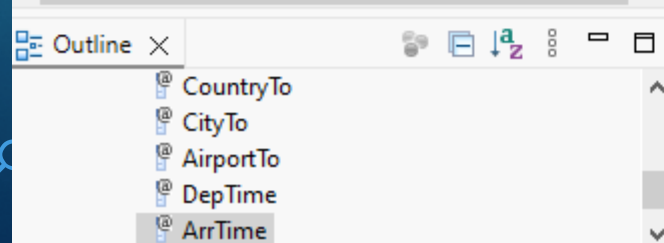
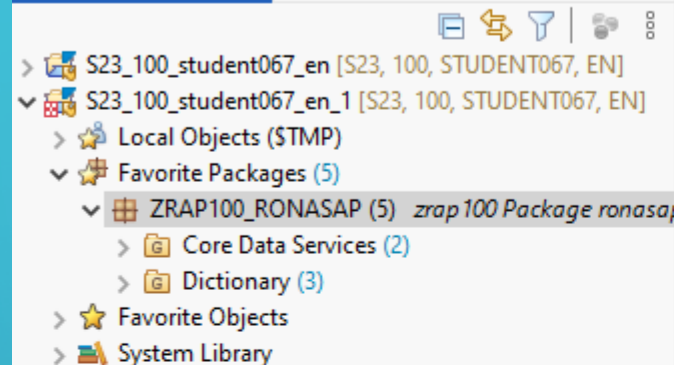


< Back

Next >

Finish

Cancel



New Metadata Extension

Templates

Select one of the available templates.

☒ Use the selected template

Name	Description	
▼ Annotate Entity (creation)		
E annotateEntity	Annotate Entity	
E annotateEntityWithParameters	Annotate Entity with Parameters	
▼ Annotate View (creation)		
E annotateView	Annotate View	
E annotateViewWithParameters	Annotate View with Parameters	

```
@Metadata.layer: ${layer}
annotate view ${view_name}
with
{
    ${element_name};
    ${cursor}
}
```



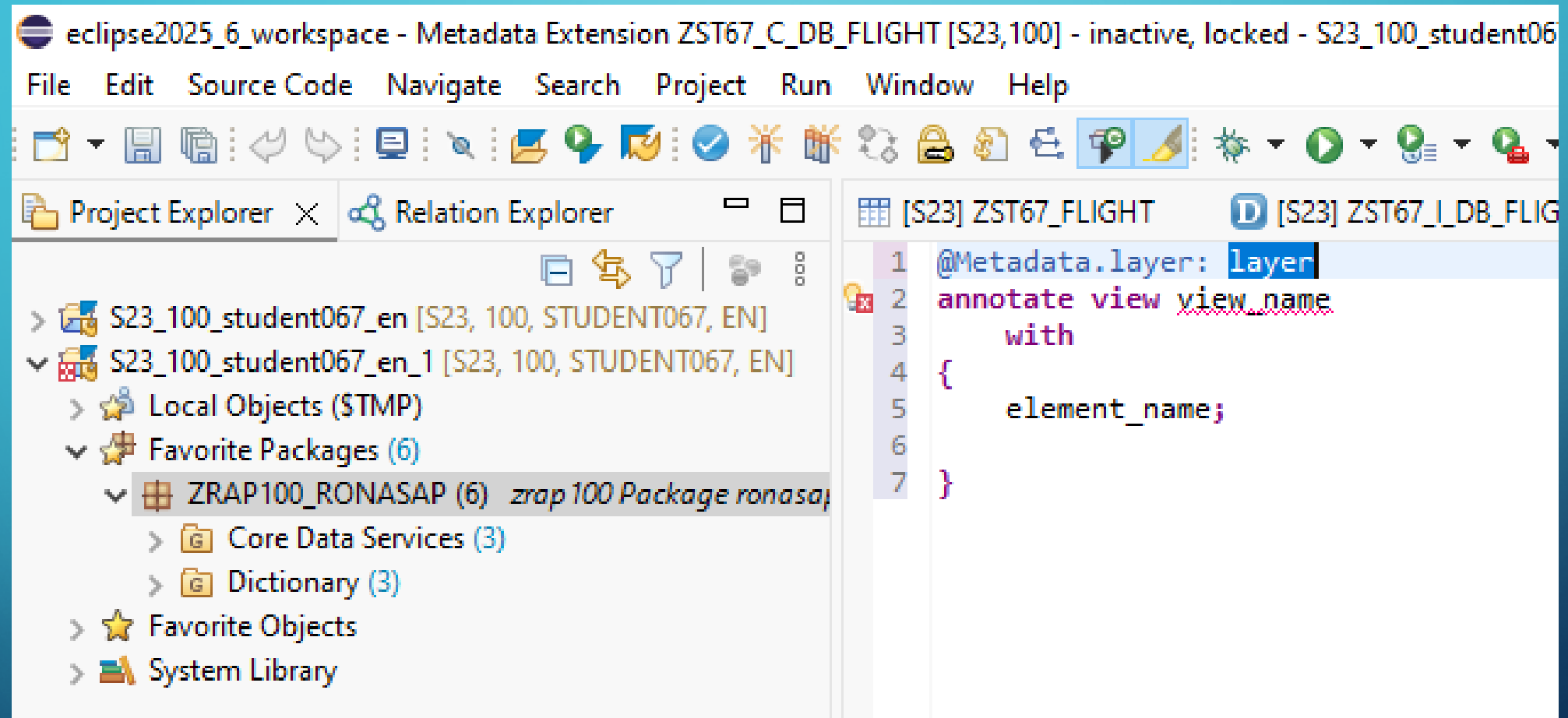
< Back

Next >

Finish

Cancel

BELOW SYNTAX APPEARS:



ADD BELOW ANNOTATIONS- IN OUR FIORI UI, WE WANT SEARCH. LIST AD DETAILS PAGE WITH CREATE, EDIT, DELETE OPERATIONS. HERE MOSTLY WE PROVIDE THE POSITIONS TO EACH OF THE FIELDS IN THE LIST AND DETAILS SCREEN.

```
eclipse2025_6_workspace - Metadata Extension ZST67_C_DB_FLIGHT [S23,100] - active - S23_100_student067_en_1 - Eclipse IDE
File Edit Source Code Navigate Search Project Run Window Help

Pr... × Re...

[S23] ZST67_FLIGHT [S23] *ZST67_I_DB_FLIGHT [S23] ZST67_C_DB_FLIGHT [S23] ZST67_C_DB_FLIGHT ×

1 @Metadata.layer: #CORE
2 @UI: { headerInfo: {typeName: 'Flight', typeNamePlural: 'Flights',
3 title: { type: #STANDARD ,label: 'Flight',value: 'Carrid' }}}
4 annotate view ZST67_C_DB_FLIGHT with
5 {
6 @UI.facet: [ { id: 'Flight',purpose: #STANDARD,type: #IDENTIFICATION_REFERENCE,label: 'Flight' ,position:10} ]
7 @UI:{ lineItem: [ { position:10 } ] , identification: [ { position: 10, label: 'Flight Code' } ] }
8 Carrid;
9 @UI:{ lineItem: [ { position:20 } ] , identification: [ { position: 20}],selectionField: [ { position:20 } ] }
10 Connid;
11 @UI:{ lineItem: [ { position: 30 } ] , identification:[ { position :30 } ] }
12 CountryFrom;
13 @UI:{ lineItem: [ { position: 40 } ] , identification:[ { position :40 } ] }
14 CityFrom;
15 @UI:{ lineItem: [ { position: 50 } ] , identification:[ { position :50 } ] }
16 AirportFrom;
17 @UI:{ lineItem: [ { position: 60 } ] , identification:[ { position :60 } ] }
18 CountryTo;
19 @UI:{ lineItem: [ { position: 70 } ] , identification:[ { position :70 } ] }
20 CityTo;
21 @UI:{ lineItem: [ { position: 80 } ] , identification:[ { position :80 } ] }
22 AirportTo;
23 @UI:{ lineItem: [ { position: 90 } ] , identification:[ { position :90 } ] }
24 DepTime;
25 @UI:{ lineItem: [ { position: 100 } ] , identification:[ { position :100 } ] }
26 ArrTime;
27 }
```

DEFINE BEHAVIOR DEFINITION TO OUR INTERFACE VIEW

The screenshot displays the SAP Eclipse IDE interface. On the left, the 'Project Explorer' shows the project structure for 'eclipse2025_6_workspace - Data Definition ZST67_I_DB_FL...'. The 'Data Definitions (2)' folder is expanded, showing 'ZST67_C_DB_FLIGHT' and 'ZST67_I_DB_FLIGHT'. The 'ZST67_I_DB_FLIGHT' object is selected, and its context menu is open, with 'New Behavior Definition' highlighted. The 'Outline' view at the bottom left shows the structure of the 'zst67_i_db_flight' object, including 'select', 'from', and 'elements'.

The main editor area displays the 'Interface Flight View' code. The code includes the following elements:

```
InterfaceName: 'ZST67_DB_FLIGHT'
Header.compareFilter: true
AuthorizationCheck: #NOT_REQUIRED
PropagatedAnnotations: true
zst67_i_db_flight
zst67_flight
```

The 'Properties' view on the right shows the 'Select a project to start chatting' dialog, which prompts the user to choose a project from the toolbar and select a project (make sure you are logged on to an ABAP project where Joule is enabled).



- > S23_100_student067_en [S23, 100, STUDENT067, EN]
- ▼ S23_100_student067_en_1 [S23, 100, STUDENT067, EN]
 - > Local Objects (STMP)
 - ▼ Favorite Packages (6)
 - ▼ ZRAP100_RONASAP (6) *zrap 100 Package ronasap*
 - ▼ Core Data Services (3)
 - Behavior Definitions (0)
 - ▼ Data Definitions (2)
 - > ZST67_C_DB_FLIGHT *Consumption Flight D*
 - > ZST67_I_DB_FLIGHT *Interface Flight View*
 - > Metadata Extensions (1)
 - > Dictionary (3)
 - > Favorite Objects
 - > System Library

Behavior Definition

Create Behavior Definition



Project: *

Package: *

☐ Add to favorite packages

Name:

Description: *

Original Language:

Root Entity: *

Implementation Type: *



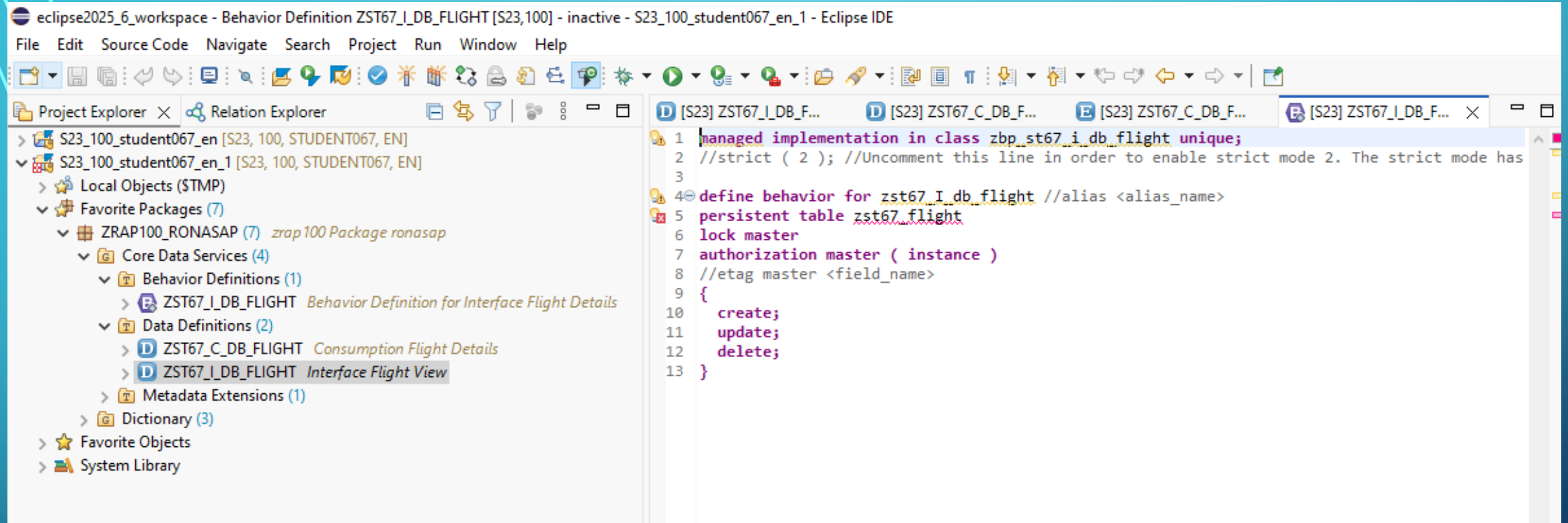
< Back

Next >

Finish

Cancel

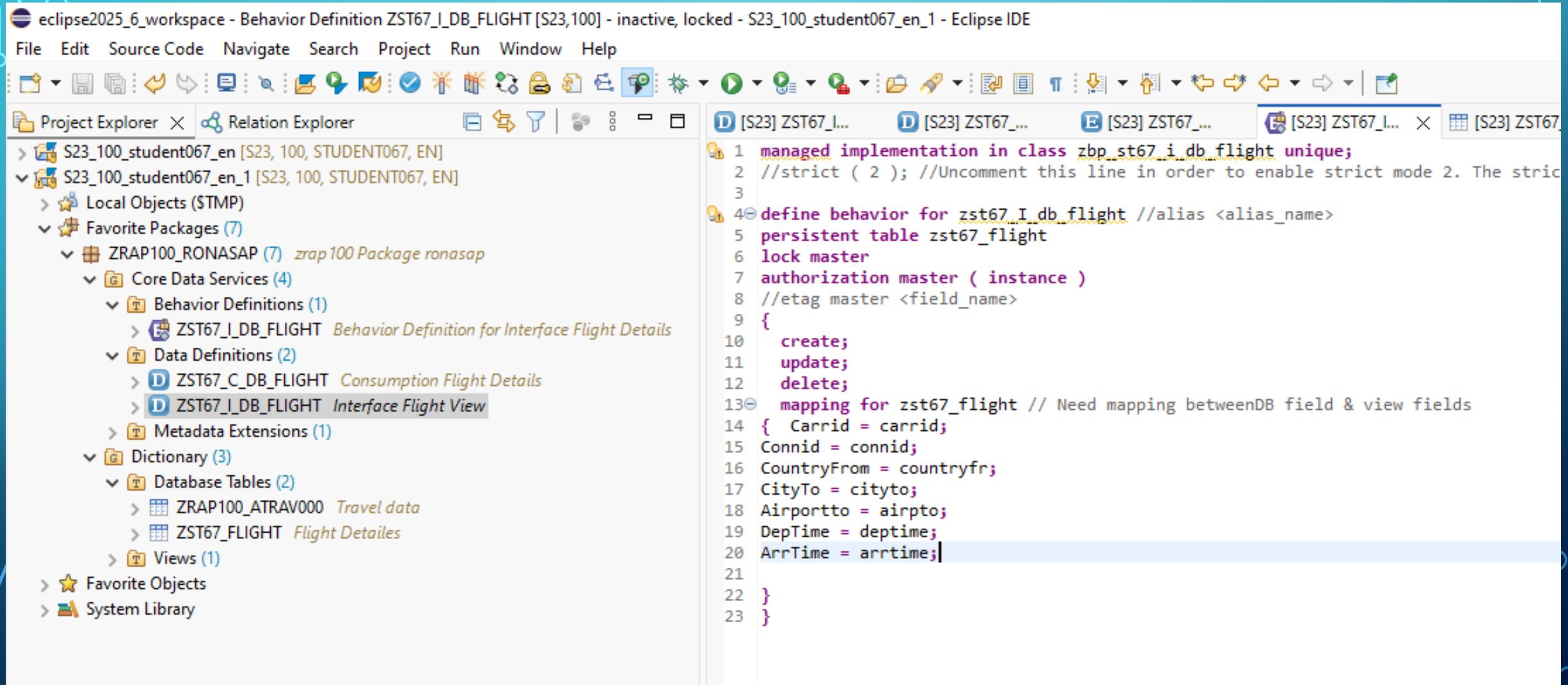
THE BELOW SYNTAX APPEARS:



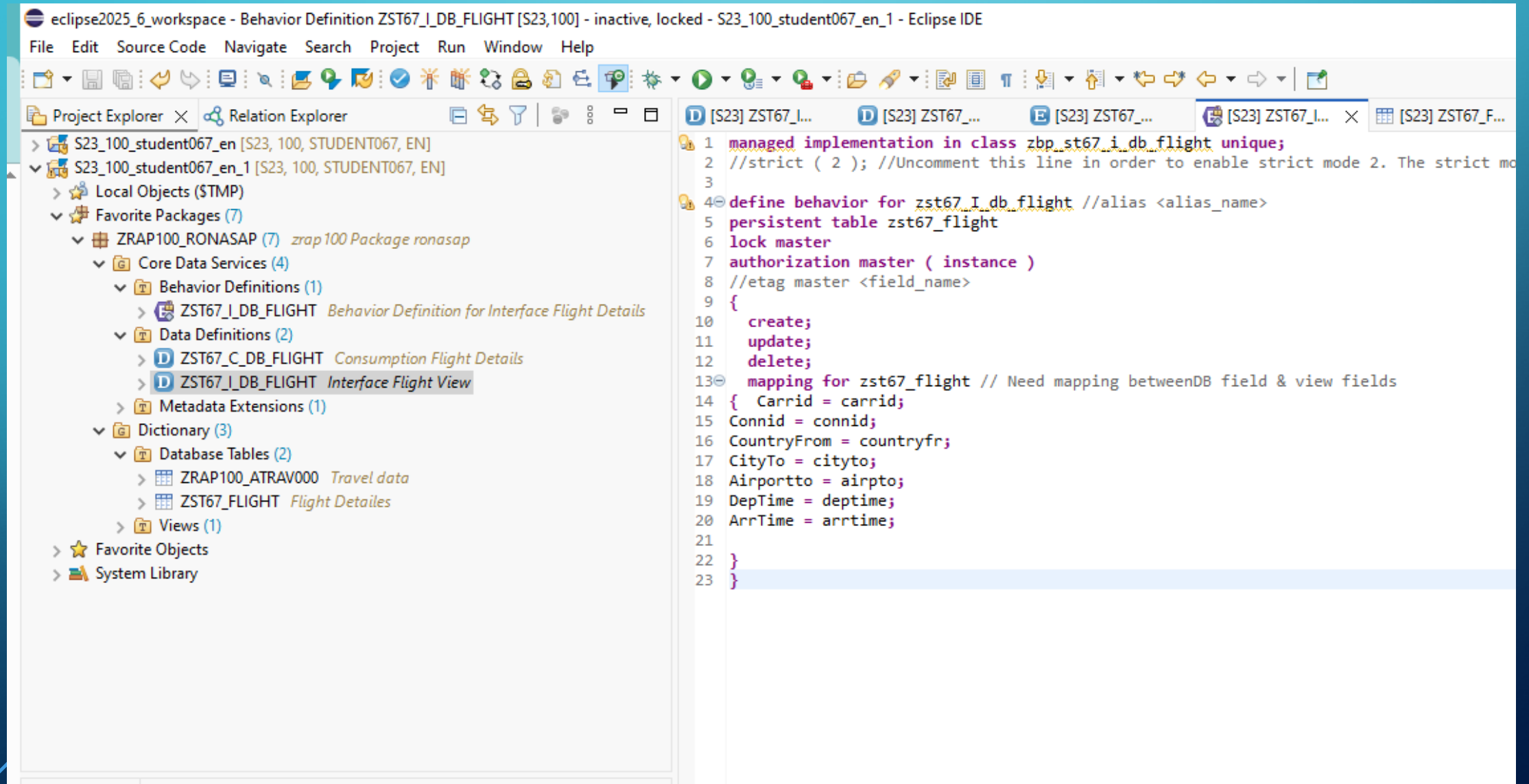
The screenshot displays the Eclipse IDE interface. The top menu bar includes File, Edit, Source Code, Navigate, Search, Project, Run, Window, and Help. Below the menu is a toolbar with various icons for file operations and development tools. The left sidebar contains the Project Explorer and Relation Explorer. The Project Explorer shows a project named 'S23_100_student067_en' with a sub-project 'S23_100_student067_en_1'. Under 'S23_100_student067_en_1', there are 'Local Objects (\$TMP)' and 'Favorite Packages (7)'. The 'Favorite Packages' section includes 'ZRAP100_RONASAP (7)' and 'Core Data Services (4)'. Under 'Core Data Services', there are 'Behavior Definitions (1)' and 'Data Definitions (2)'. The 'Behavior Definitions' section shows 'ZST67_I_DB_FLIGHT' with the description 'Behavior Definition for Interface Flight Details'. The 'Data Definitions' section shows 'ZST67_C_DB_FLIGHT' with the description 'Consumption Flight Details' and 'ZST67_I_DB_FLIGHT' with the description 'Interface Flight View'. The right pane shows the code editor for 'ZST67_I_DB_FLIGHT'. The code is as follows:

```
1 managed implementation in class zbp_st67_i_db_flight unique;  
2 //strict ( 2 ); //Uncomment this line in order to enable strict mode 2. The strict mode has  
3  
4 define behavior for zst67_i_db_flight //alias <alias_name>  
5 persistent table zst67_flight  
6 lock master  
7 authorization master ( instance )  
8 //etag master <field_name>  
9 {  
10     create;  
11     update;  
12     delete;  
13 }
```

NOW WE HAVE TO ADD FEW THINGS TO IT- THE CREATE, UPDATE AND DELETE BEHAVIORS ARE SUPPORTED AND WE NEED TO PROVIDE THE MAPPING OF THE FIELDS BETWEEN THE DB TABLE AND THE INTERFACE VIEW FIELDS AS WE HAVE DEFINED ALIAS NAMES IN THE INTERFACE VIEW.



ONE MORE THING IS- THE SYSTEM SUGGESTED A CLASS NAME WHICH IS NOT YET CREATED BUT IF WE ARE ADDING OTHER ACTIONS, VALIDATIONS OR DETERMINATIONS THEN WE CAN CREATE THIS CLASS AND IMPLEMENT THOSE BUT AS WE ARE DEALING WITH ONLY CRUD OPERATIONS THEN ITS NOT MANDATORY TO CREATE THE CLASS. WE JUST LEAVE IT AS IT IS AT THE MOMENT.



CREATE A BEHAVIOR DEFINITION FOR THE CONSUMPTION VIEW AS WELL:

The screenshot displays the SAP Eclipse IDE interface. On the left, the 'Project Explorer' shows a project named 'S23_100_student067_en'. Under 'Favorite Packages', the 'ZRAP100_RONASAP' package is expanded, showing 'Core Data Services' and 'Behavior Definitions'. The 'ZST67_I_DB_FLIGHT' object is selected under 'Behavior Definitions'. The 'Outline' view at the bottom left shows the 'ZST67_I_DB_FLIGHT' object. The 'New Behavior Definition' menu is open, showing options like 'New Data Definition', 'New Access Control', 'New Metadata Extension', 'New Service Definition', 'New ABAP Test Class', 'New Customer Data Browser Object', 'New Behavior Definition', 'Duplicate...', 'Generate ABAP Repository Objects...', and 'New Knowledge Transfer Document'. The 'New Behavior Definition' option is highlighted. The 'ZST67_I_DB_FLIGHT' object is also visible in the 'Project Explorer' under 'Data Definitions'.

eclipse2025_6_workspace - Behavior Definition ZST67_I_DB_FLIGHT

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 (\$TMP)
 - ▼ Favorite Packages (7)
 - ▼ ZRAP100_RONASAP (7) *zrap100 Package ronasap*
 - ▼ Core Data Services (4)
 - ▼ Behavior Definitions (1)
 - > ZST67_I_DB_FLIGHT *Behavior Definition for Consumption Flight Details*
 - ▼ Data Definitions (2)
 - > ZST67_C_DB_FLIGHT *Consumption Flight Details*
 - > ZST67_I_DB_FLIGHT *Interface Flight View*
 - > Metadata Extensions (1)
 - ▼ Dictionary (3)
 - ▼ Database Tables (2)
 - > ZRAP100_ATRAV000 *Travel data*
 - > ZST67_FLIGHT *Flight Details*
 - > Views (1)
 - > Favorite Objects
 - > System Library

Outline X

zst67_i_db_flight

New Behavior Definition

Create Behavior Definition



Project: *

Package: *

☐ Add to favorite packages


Name:

Description: *

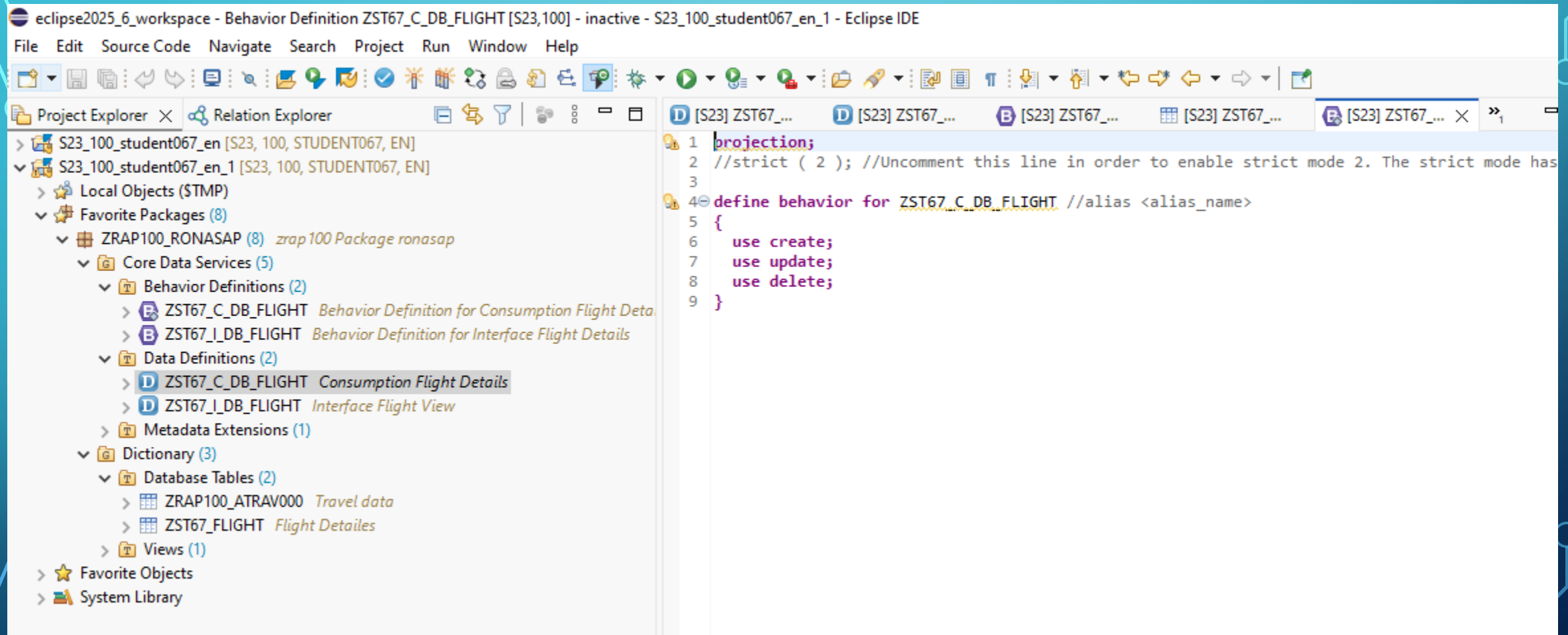
Original Language:

Root Entity: *

Implementation Type: *



THE BELOW SYNTAX APPEARS:



eclipse2025_6_workspace - Behavior Definition ZST67_C_DB_FLIGHT [S23,100] - inactive - S23_100_student067_en_1 - Eclipse IDE

File Edit Source Code 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 (\$TMP)
 - Favorite Packages (8)
 - ZRAP100_RONASAP (8) *zrap 100 Package ronasap*
 - Core Data Services (5)
 - Behavior Definitions (2)
 - ZST67_C_DB_FLIGHT *Behavior Definition for Consumption Flight Data*
 - ZST67_I_DB_FLIGHT *Behavior Definition for Interface Flight Details*
 - Data Definitions (2)
 - ZST67_C_DB_FLIGHT *Consumption Flight Details*
 - ZST67_I_DB_FLIGHT *Interface Flight View*
 - Metadata Extensions (1)
 - Dictionary (3)
 - Database Tables (2)
 - ZRAP100_ATRAV000 *Travel data*
 - ZST67_FLIGHT *Flight Details*
 - Views (1)
 - Favorite Objects
 - System Library

```
1 projection;  
2 //strict ( 2 ); //Uncomment this line in order to enable strict mode 2. The strict mode has  
3  
4 define behavior for ZST67_C_DB_FLIGHT //alias <alias_name>  
5 {  
6     use create;  
7     use update;  
8     use delete;  
9 }
```

PROVIDE THE ALIAS NAME AND USE ETAG.

eclipse2025_6_workspace - Behavior Definition ZST67_C_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 (8)
 - ▼ ZRAP100_RONASAP (8) *zrap 100 Package ronasap*
 - ▼ Core Data Services (5)
 - ▼ Behavior Definitions (2)
 - > ZST67_C_DB_FLIGHT *Behavior Definition for Consumption Flight Data*
 - > ZST67_I_DB_FLIGHT *Behavior Definition for Interface Flight Details*
 - ▼ Data Definitions (2)
 - > ZST67_C_DB_FLIGHT *Consumption Flight Details*
 - > ZST67_I_DB_FLIGHT *Interface Flight View*
 - > Metadata Extensions (1)
 - ▼ Dictionary (3)
 - ▼ Database Tables (2)
 - > ZRAP100_ATRAV000 *Travel data*
 - > ZST67_FLIGHT *Flight Details*
 - > Views (1)
 - > Favorite Objects
 - > System Library

```
1 projection;  
2 //strict ( 2 ); //Uncomment this line in order to enable  
3  
4 define behavior for ZST67_C_DB_FLIGHT alias Flight  
5 use etag  
6 {  
7     use create;  
8     use update;  
9     use delete;  
10 }
```

The background is a blue gradient. In the corners, there are white line-art illustrations of circuit boards or neural network connections. These include straight lines, right-angle turns, and small circles at the end of the lines, resembling solder points or nodes.

CONTINUATION IN PART 3