

# **Practices for Lesson 18: Generating Your Database**

## **Chapter 18**

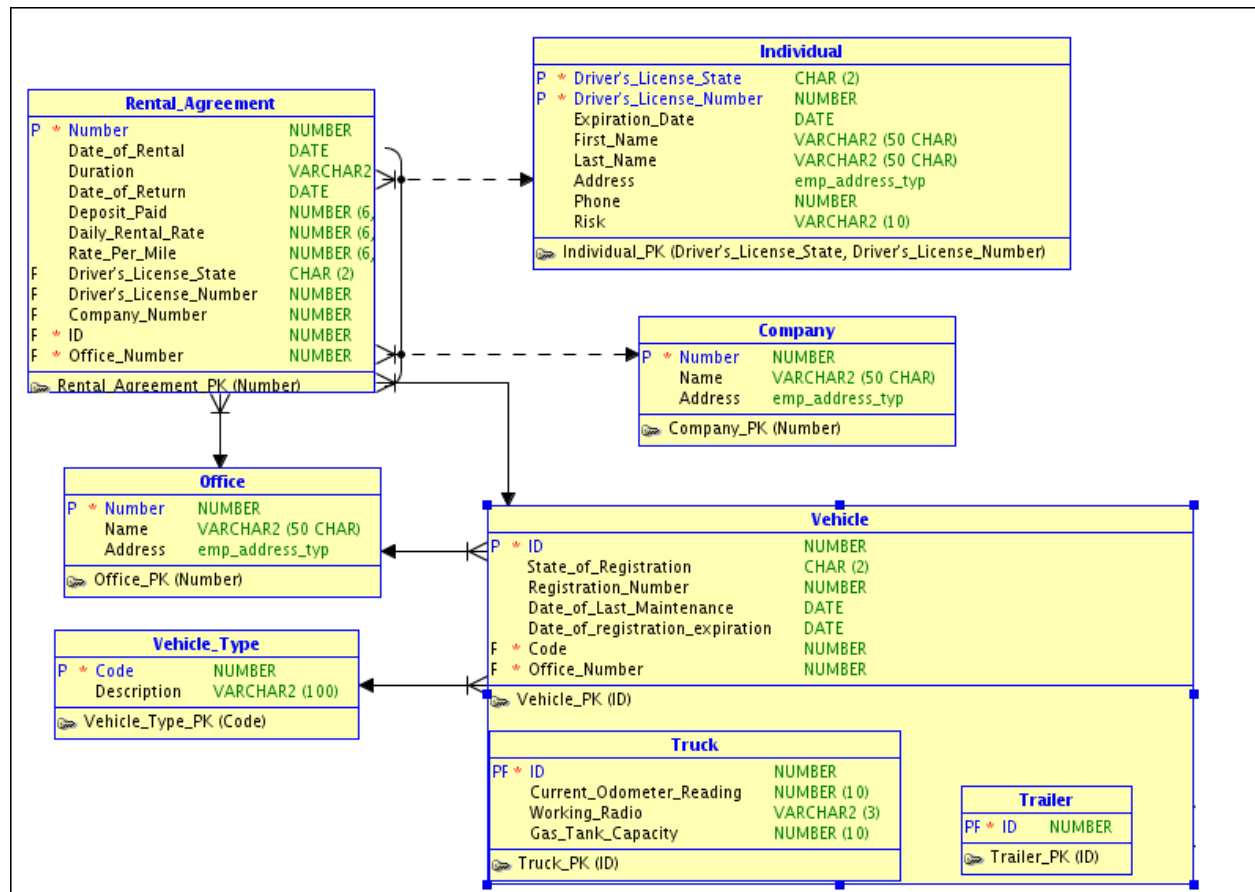
## Practice 18-1: Generate DDL

### Task

In this practice, you generate the DDL for your database by using the model from the last practice (Practice 17-1).

Keep the following in mind:


- Every table must have a prefix of v\_.
- If there are any errors, make appropriate changes to the model and regenerate the DDL.

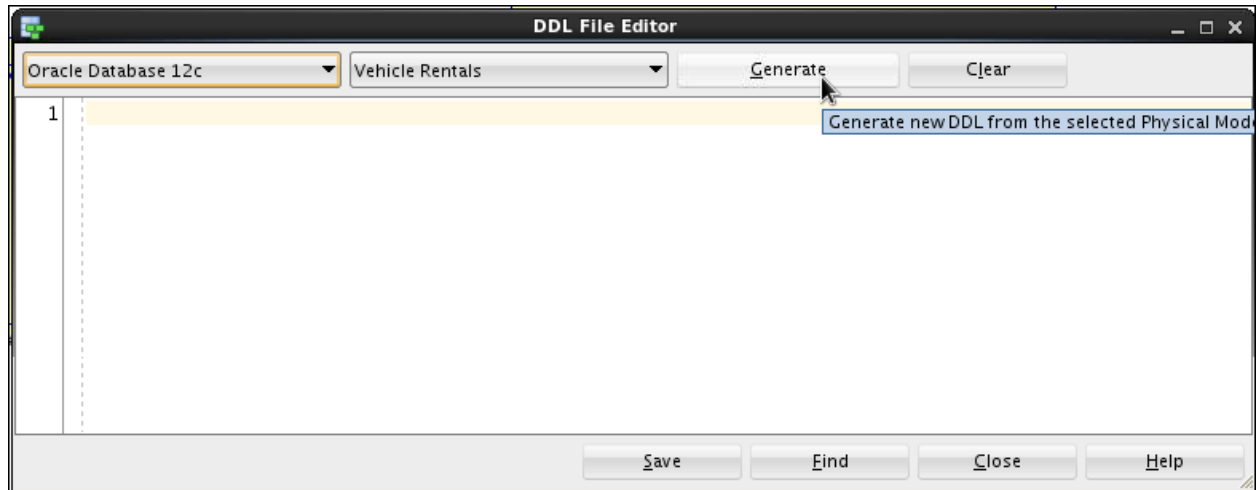


## Solution 18-1: Generate DDL

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The following is one possible solution to this practice.

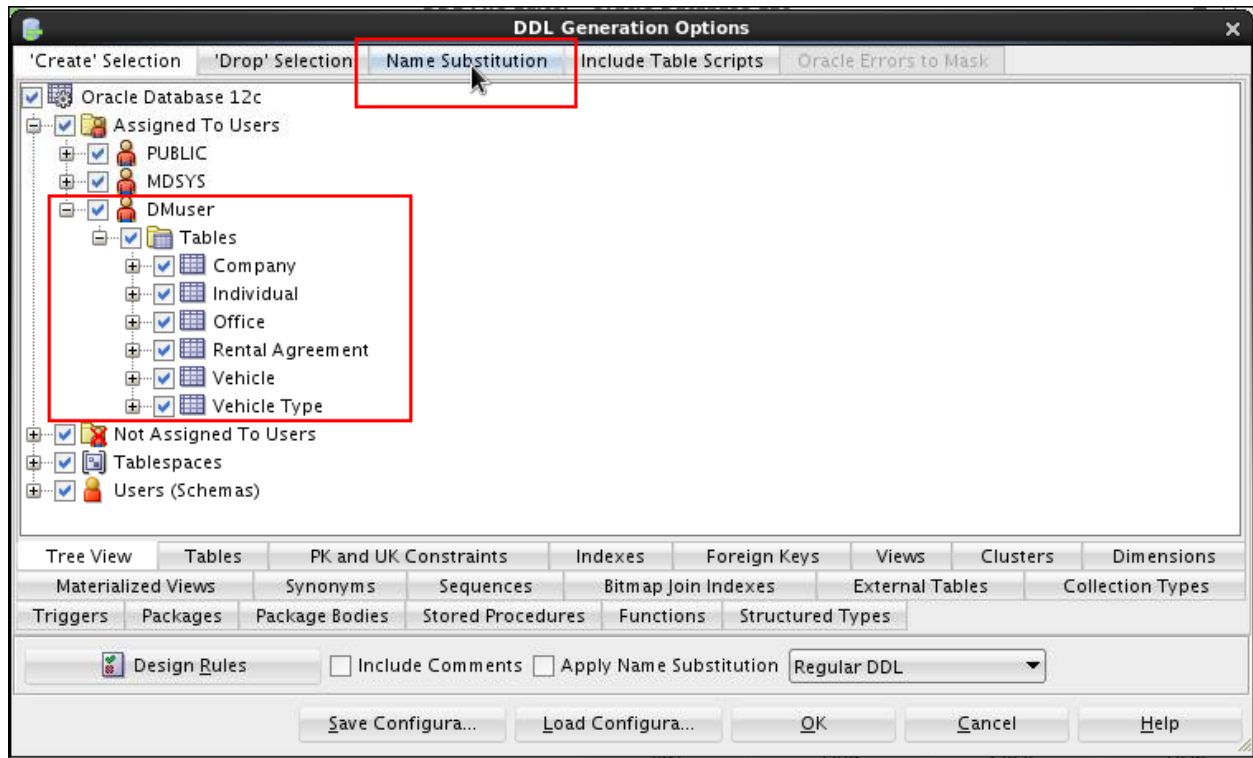
1. Open the solution to practice 17-1 (sol\_17\_01.dmd) or use your completed work from Practice 17-1.
2. Delete the Truck and the Trailer tables.
3. Click the **Generate DDL**  icon. The **DDL File Editor** dialog box is displayed.
4. Make sure that **Oracle Database 12c** is selected, and then click **Generate**.





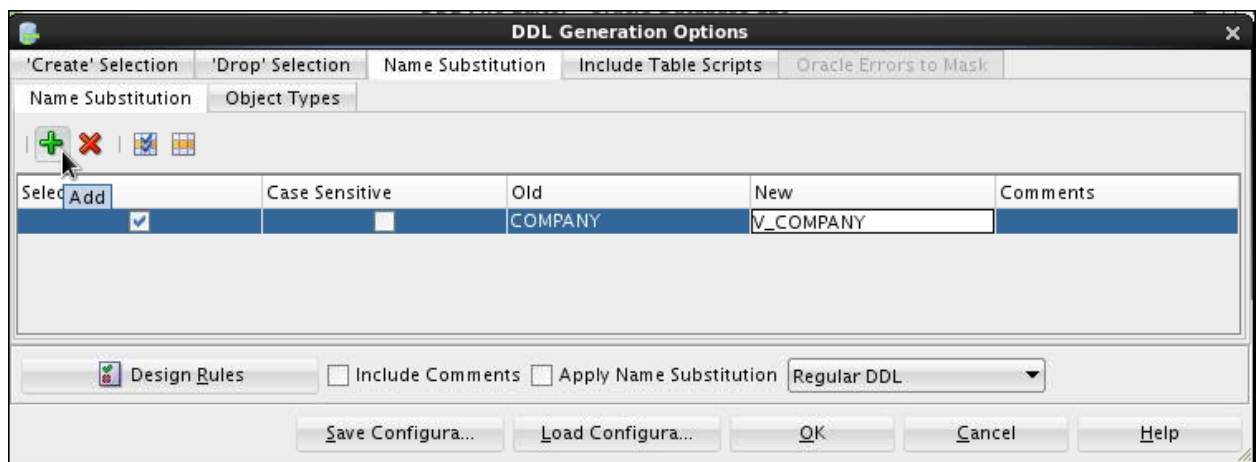
5. Expand **Assigned To Users > DMuser > Tables** to see the list of tables that will be generated. Click the **Name Substitution** tab. The **DDL Generation Options** dialog box is displayed.

**Note:** If you do not see **Assigned Users** in the **DDL Generation Options** dialog box, exit the dialog box, and then perform the following steps:

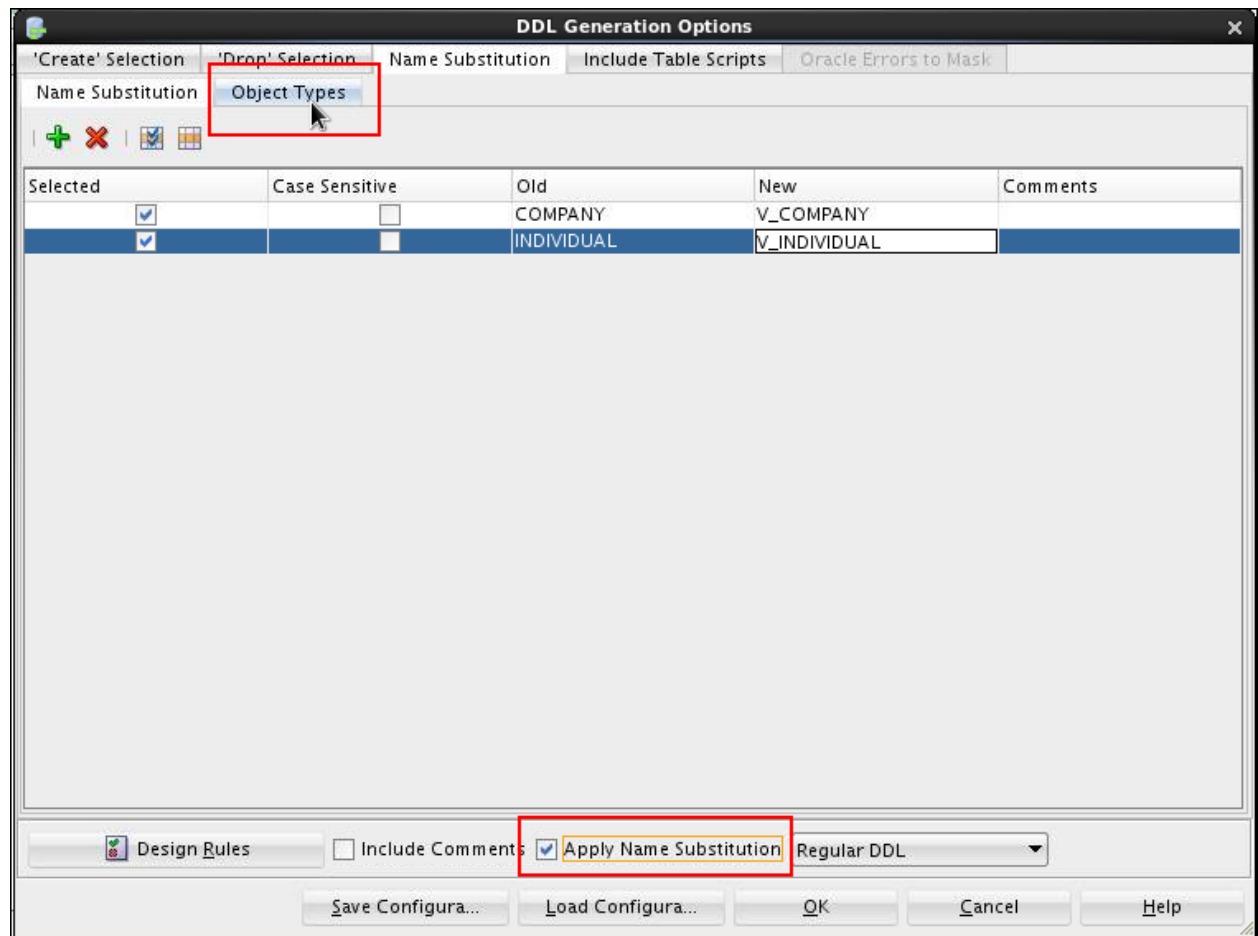
In **Object Browser**, expand **Relational Models > Vehicle Rentals > Physical Models > Oracle Database 12c**. If the **Oracle Database 12c** node does not have a “+” sign next to it, right-click it, and then select **Open** from the pop-up menu. Next, go back and re-do the steps starting with step 3.



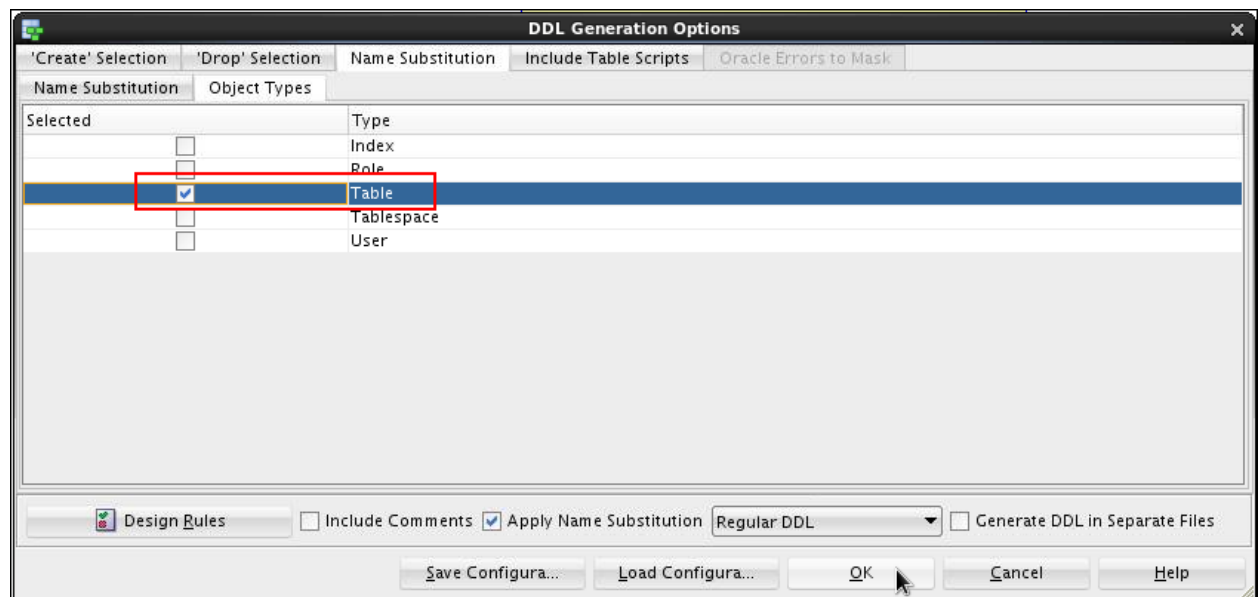
6. You want the `Company` and `Individual` tables to be generated with a `v_` prefix. Click the **Add**  icon.
7. Click the **Selected** check box and enter `COMPANY` for **Old** and `v_COMPANY` for **New**, and then click the **Add**  icon.



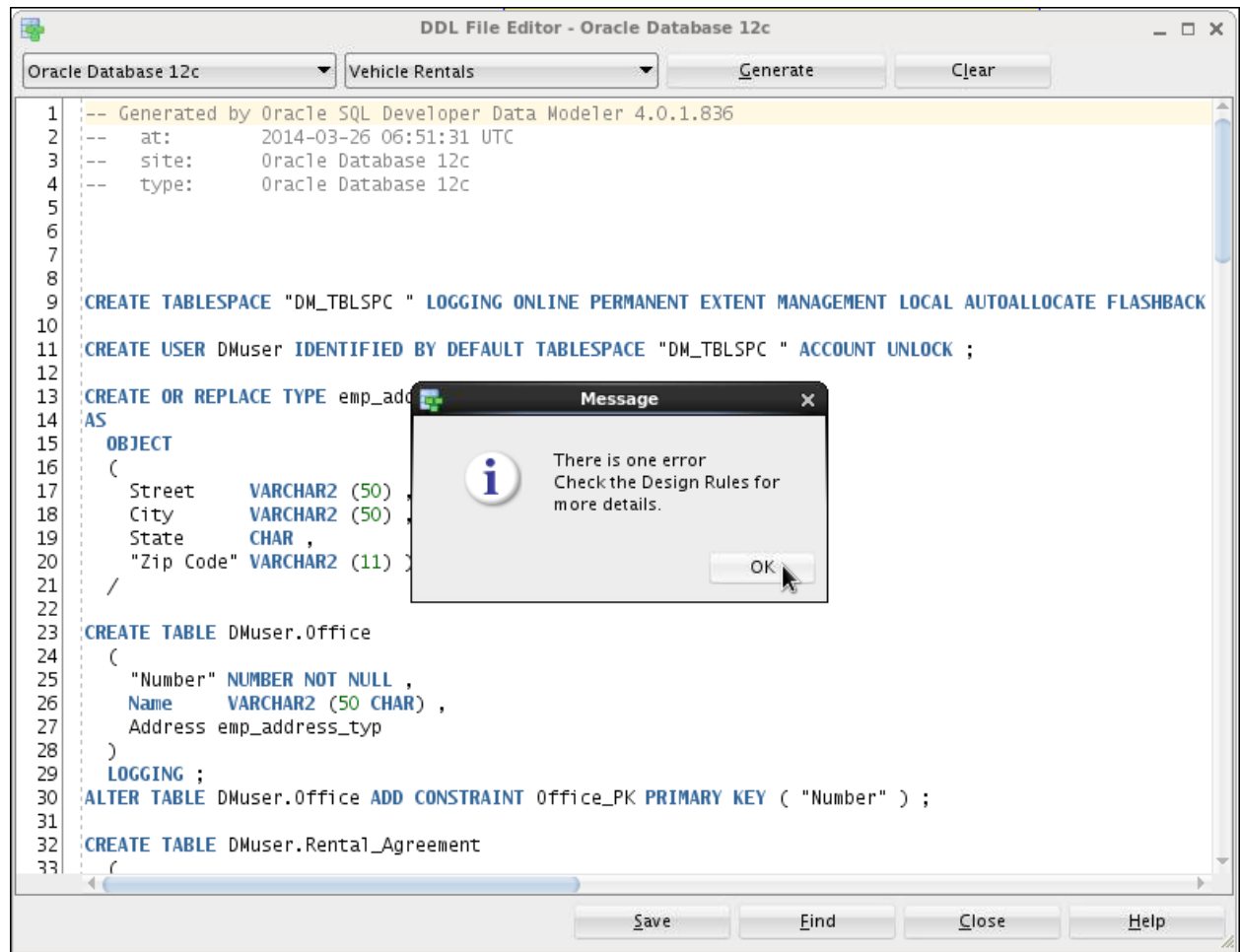
8. Click the Select check box, and enter `INDIVIDUAL` for **Old** and `V_INDIVIDUAL` for **New**. Select the **Apply Name Substitution** check box, and then click the **Object Types** tab.



9. Make sure that the **Table** check box is selected, and then click **OK**.

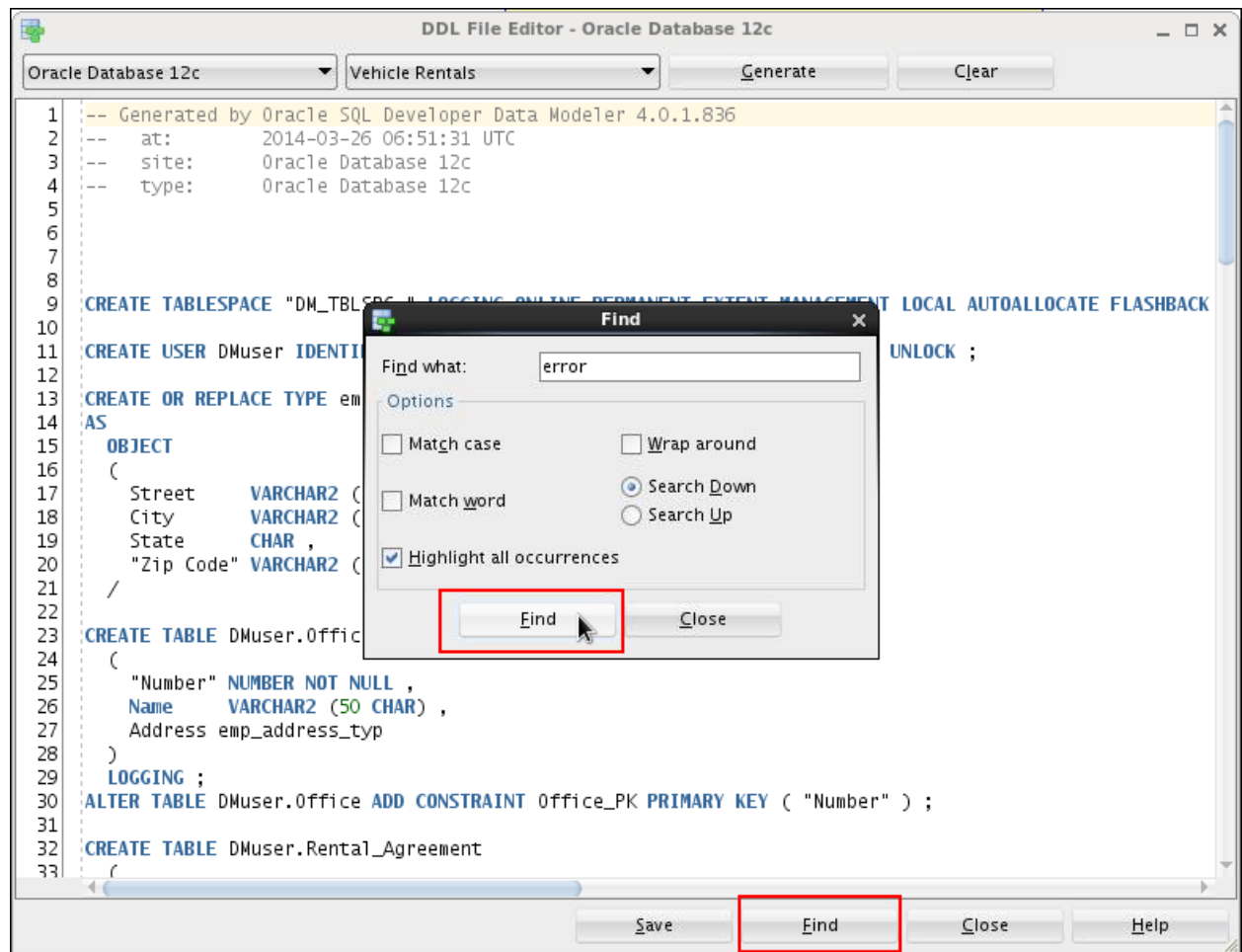


10. The DDL is generated. A **Message** dialog box is displayed indicating one error. Click **OK**.

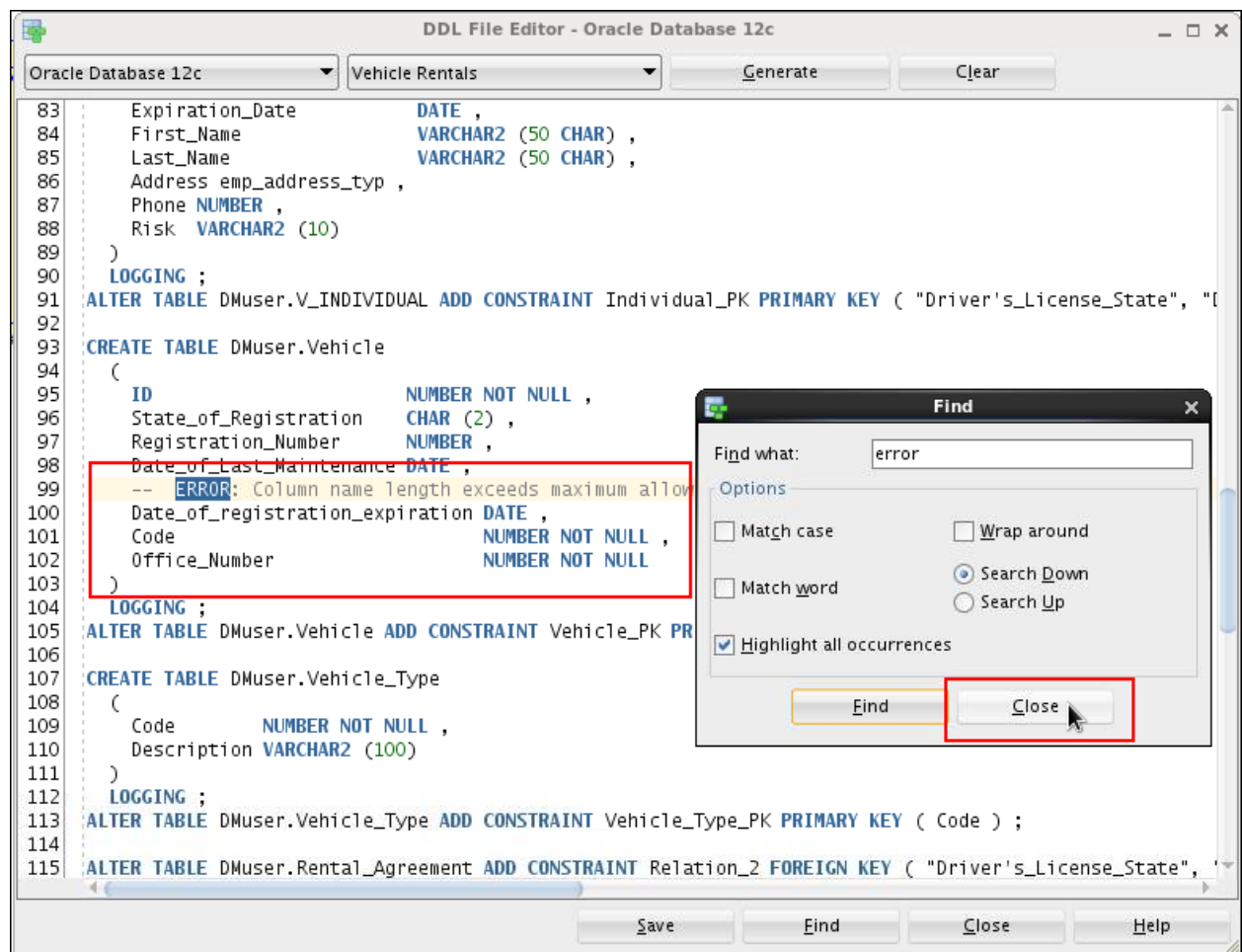


11. You can search for the error. Click the **Find** button.

12. Enter error in the **Find what** text box, and then click **Find**.



13. The error is displayed. It is due to a column length being too long. Click **Close** in the **Find** dialog box.



14. Click **Close** again.

15. Go back to your relational model and change the name of the column for Date of registration expiration in the Vehicle table to Reg Exp Date.

Vehicle	
P * ID	NUMBER
State_of_Registration	CHAR (2)
Registration_Number	NUMBER
Date_of_Last_Maintenance	DATE
Date_of_registration_expiration	DATE
F * Code	NUMBER
F * Office_Number	NUMBER
Vehicle_PK (ID)	
Relation_5 (Code)	
Relation_8 (Office_Number)	



**Table Properties - Vehicle**

Columns

Details Overview Security

Columns:

Name	Data type
1 ID	id_6
2 State_of_Registra...	CHAR (2)
3 Registration_Num...	id_6
4 Date_of_Last_Mai...	Date
5 Reg Exp Date	Date
6 Code	id_6
7 Office_Number	id_6

Column Properties

Name: Reg Exp Date

Datatype: ☐ Domain ☒ Logical ☐ Distinct

☐ Structured ☐ Collection

Type: Date Preferred ☐

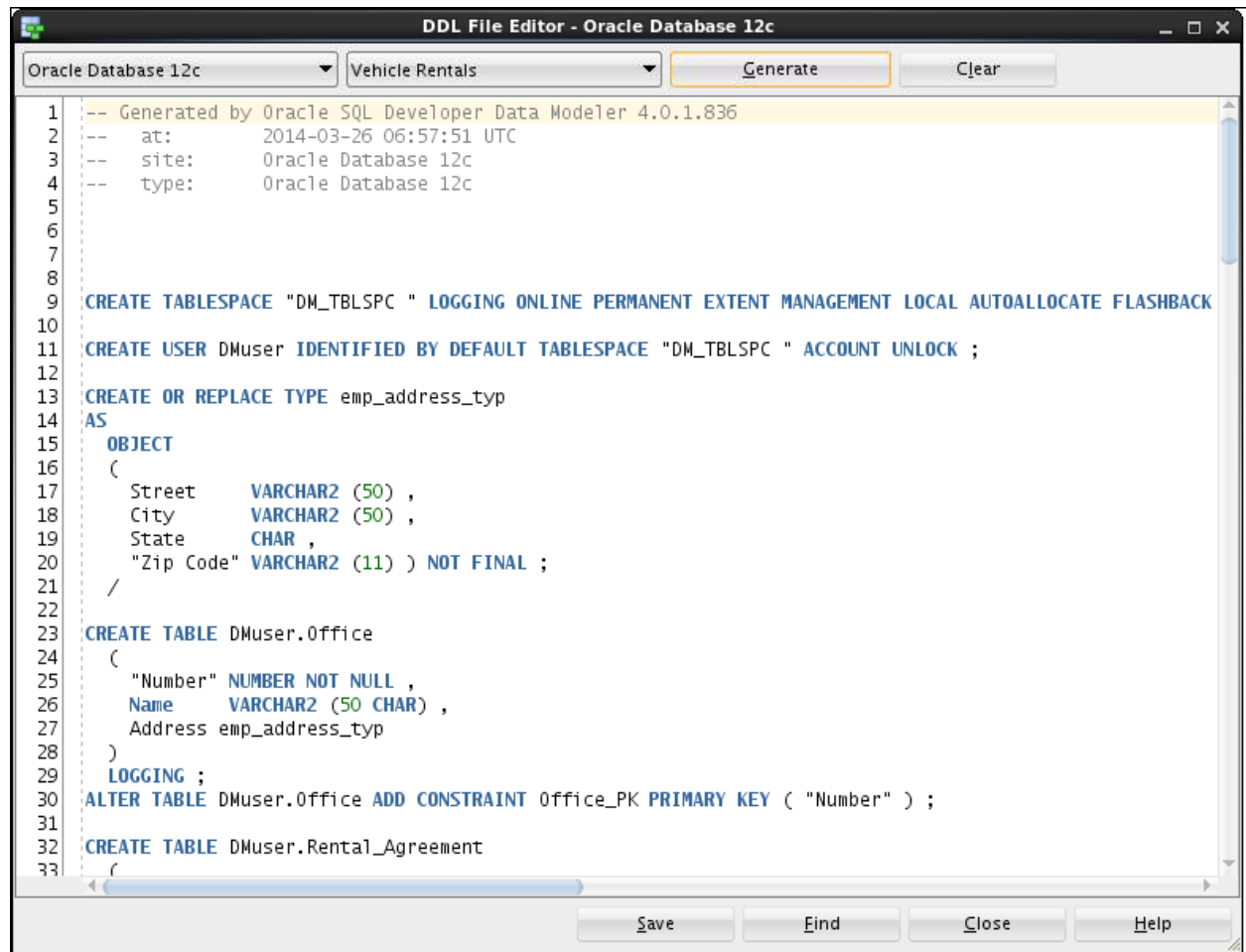
☐ PK ☐ FK ☐ Mandatory ☐ Deprecated

Comments Comments in RDBMS Notes

OK Apply Naming Rules Cancel Help

Vehicle		
P *	ID	NUMBER
	State_of_Registration	CHAR (2)
	Registration_Number	NUMBER
	<del>Date_of_Last_Maintenance</del>	<del>DATE</del>
	Reg Exp Date	DATE
F *	Code	NUMBER
F *	Office_Number	NUMBER
Vehicle_PK (ID)		
Relation_5 (Code)		
Relation_8 (Office_Number)		

16. Regenerate the DDL. This time there are no errors.

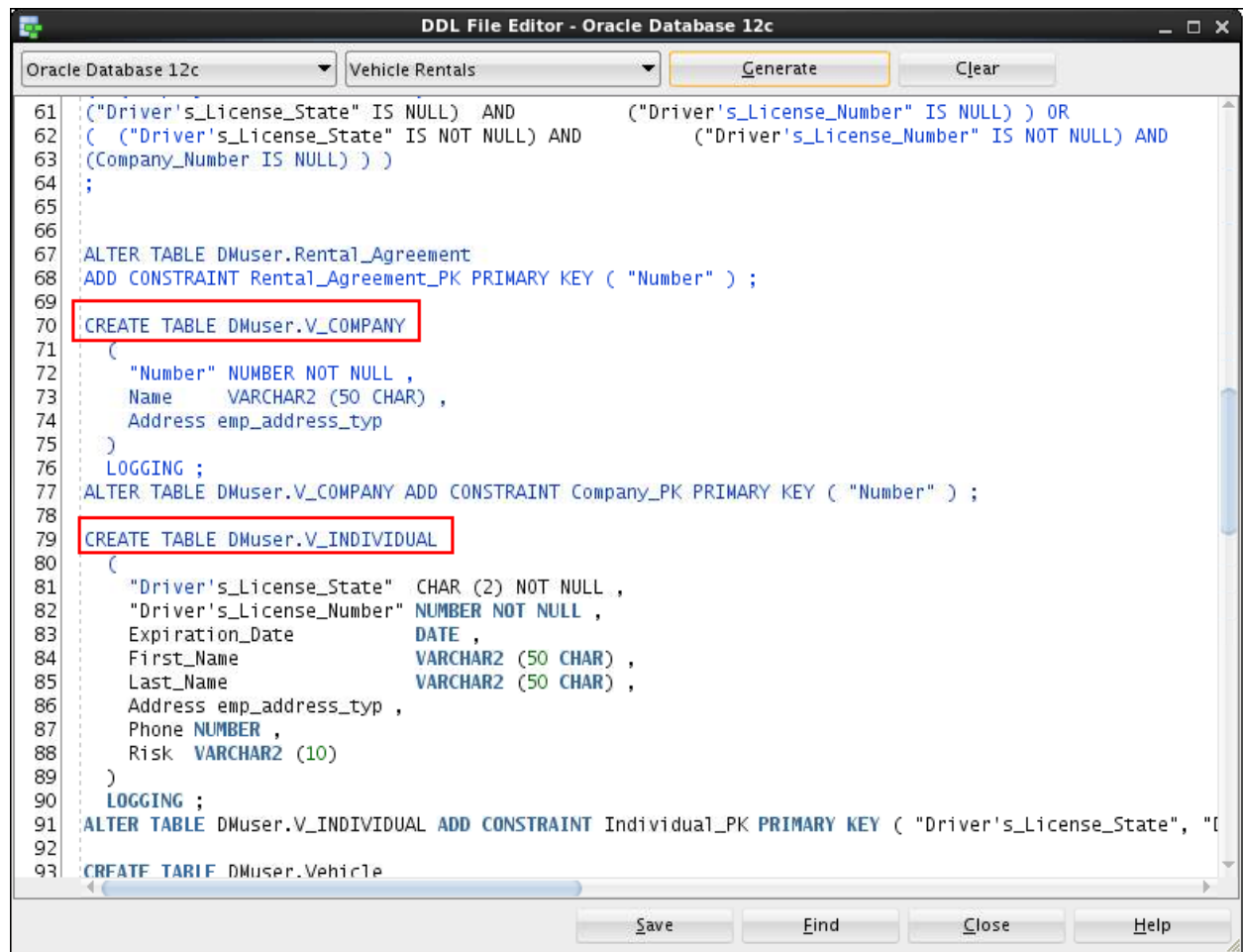


The screenshot shows the 'DDL File Editor - Oracle Database 12c' window. The 'Database' dropdown is set to 'Oracle Database 12c' and the 'Schema' dropdown is set to 'Vehicle Rentals'. The 'Generate' button is highlighted. The main text area contains the following SQL DDL:

```
1  -- Generated by Oracle SQL Developer Data Modeler 4.0.1.836
2  -- at:      2014-03-26 06:57:51 UTC
3  -- site:    Oracle Database 12c
4  -- type:    Oracle Database 12c
5
6
7
8
9  CREATE TABLESPACE "DM_TBLSPC " LOGGING ONLINE PERMANENT EXTENT MANAGEMENT LOCAL AUTOALLOCATE FLASHBACK
10
11 CREATE USER DMUser IDENTIFIED BY DEFAULT TABLESPACE "DM_TBLSPC " ACCOUNT UNLOCK ;
12
13 CREATE OR REPLACE TYPE emp_address_typ
14 AS
15 OBJECT
16 (
17     Street    VARCHAR2 (50) ,
18     City      VARCHAR2 (50) ,
19     State     CHAR ,
20     "Zip Code" VARCHAR2 (11) ) NOT FINAL ;
21 /
22
23 CREATE TABLE DMUser.Office
24 (
25     "Number" NUMBER NOT NULL ,
26     Name     VARCHAR2 (50 CHAR) ,
27     Address  emp_address_typ
28 )
29 LOGGING ;
30 ALTER TABLE DMUser.Office ADD CONSTRAINT Office_PK PRIMARY KEY ( "Number" ) ;
31
32 CREATE TABLE DMUser.Rental_Agreement
33 (
```

The bottom of the window has buttons for 'Save', 'Find', 'Close', and 'Help'.

17. Verify that the Company and Individual tables have the V\_ prefix.



The screenshot shows the 'DDL File Editor - Oracle Database 12c' window. The title bar includes the Oracle logo and window controls. Below the title bar, there are two dropdown menus: 'Oracle Database 12c' and 'Vehicle Rentals'. To the right of these are 'Generate' and 'Clear' buttons. The main text area contains SQL code with line numbers 61 through 93. The code includes a conditional statement, an ALTER TABLE command for 'Rental\_Agreement', and two CREATE TABLE commands for 'V\_COMPANY' and 'V\_INDIVIDUAL'. The 'V\_COMPANY' table has columns 'Number', 'Name', and 'Address'. The 'V\_INDIVIDUAL' table has columns 'Driver's\_License\_State', 'Driver's\_License\_Number', 'Expiration\_Date', 'First\_Name', 'Last\_Name', 'Address', 'Phone', and 'Risk'. Both tables have logging enabled and a primary key constraint. The 'V\_INDIVIDUAL' table's primary key is defined on 'Driver's\_License\_State' and 'Driver's\_License\_Number'. At the bottom of the window, there are 'Save', 'Find', 'Close', and 'Help' buttons.

```
61 ("Driver's_License_State" IS NULL) AND ("Driver's_License_Number" IS NULL) ) OR
62 ( ("Driver's_License_State" IS NOT NULL) AND ("Driver's_License_Number" IS NOT NULL) AND
63 (Company_Number IS NULL) ) )
64 ;
65
66
67 ALTER TABLE DMuser.Rental_Agreement
68 ADD CONSTRAINT Rental_Agreement_PK PRIMARY KEY ( "Number" ) ;
69
70 CREATE TABLE DMuser.V_COMPANY
71 (
72     "Number" NUMBER NOT NULL ,
73     Name VARCHAR2 (50 CHAR) ,
74     Address emp_address_typ
75 )
76 LOGGING ;
77 ALTER TABLE DMuser.V_COMPANY ADD CONSTRAINT Company_PK PRIMARY KEY ( "Number" ) ;
78
79 CREATE TABLE DMuser.V_INDIVIDUAL
80 (
81     "Driver's_License_State" CHAR (2) NOT NULL ,
82     "Driver's_License_Number" NUMBER NOT NULL ,
83     Expiration_Date DATE ,
84     First_Name VARCHAR2 (50 CHAR) ,
85     Last_Name VARCHAR2 (50 CHAR) ,
86     Address emp_address_typ ,
87     Phone NUMBER ,
88     Risk VARCHAR2 (10)
89 )
90 LOGGING ;
91 ALTER TABLE DMuser.V_INDIVIDUAL ADD CONSTRAINT Individual_PK PRIMARY KEY ( "Driver's_License_State", "Driver's_License_Number" ) ;
92
93 CREATE TABLE DMuser.Vehicle
```