



Using ErWin



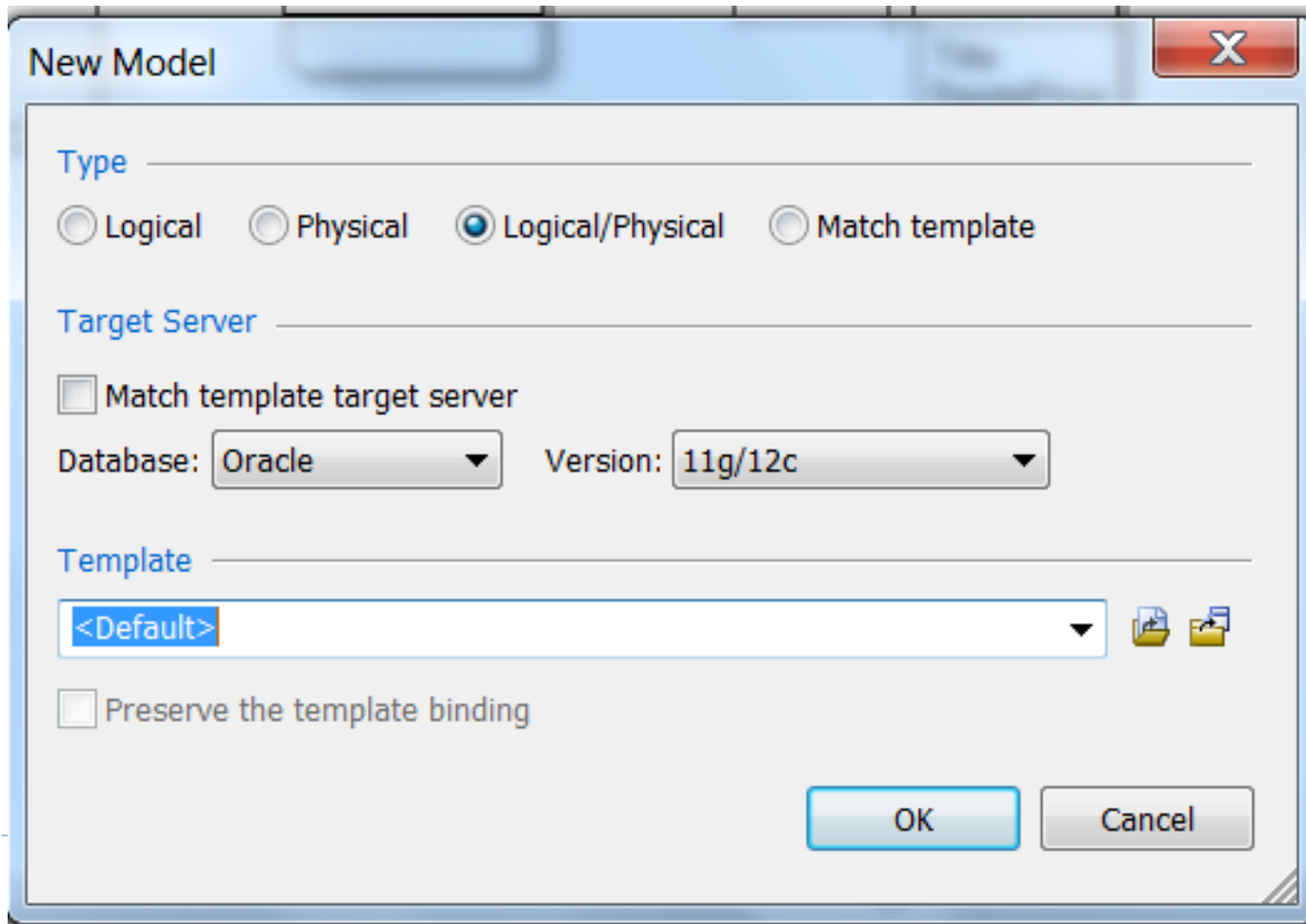
Getting Started

- ▶ To open, choose the following path:
 - ▶ Program files > CA> ERWin Data Modeler > ERWin
- ▶ Check in the lab.
- ▶ This may be slightly different.
- ▶ ERWin is installed on all machines.



Selecting a Template

- File -> New ->
- Make sure you choose Logical/Physical
- Select the database as Oracle





Notation

We use Information Engineering Notation

If your model has these icons under the Tools Menu

Click **Model ->Model Properties** and change the value to **Information Engineering** Notation for both logical and physical

Notation

Model 'Model_1' Editor

General Defaults RI Defaults History Options Definition UDP Notes

Model Information

Name	Model_1
Author	

Type: Logical / Physical Target Server And Version: Oracle 10g/11g

Notation

Logical Notation	Information Engineering
Physical Notation	Information Engineering

Modeling Features

Is Dimensional	<input type="checkbox"/>
Data Movement	<input type="checkbox"/>

Close Cancel

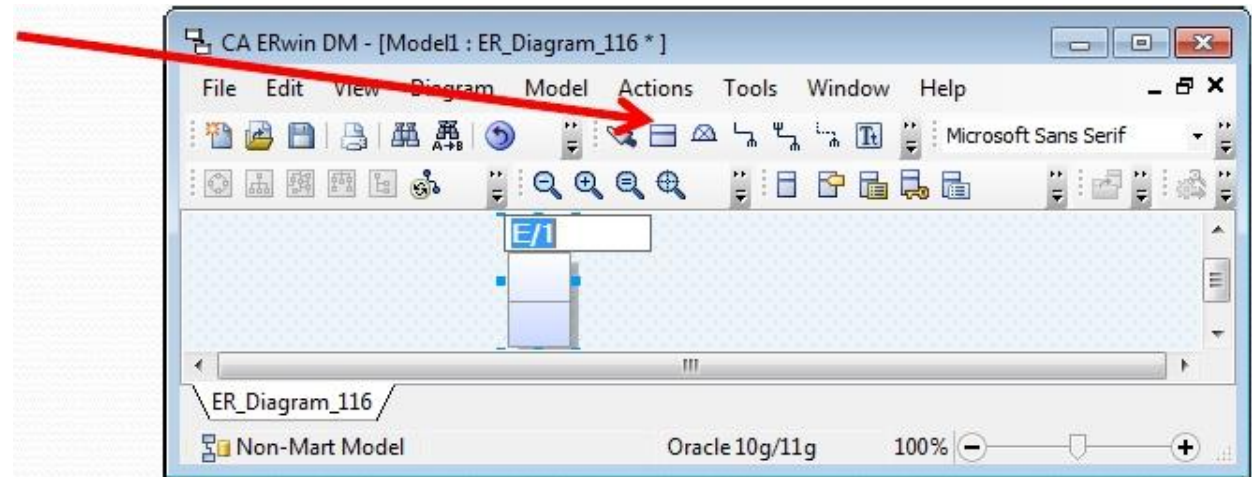
ESX-32824 - All Subtype relationships have been updated based on the mo Details...

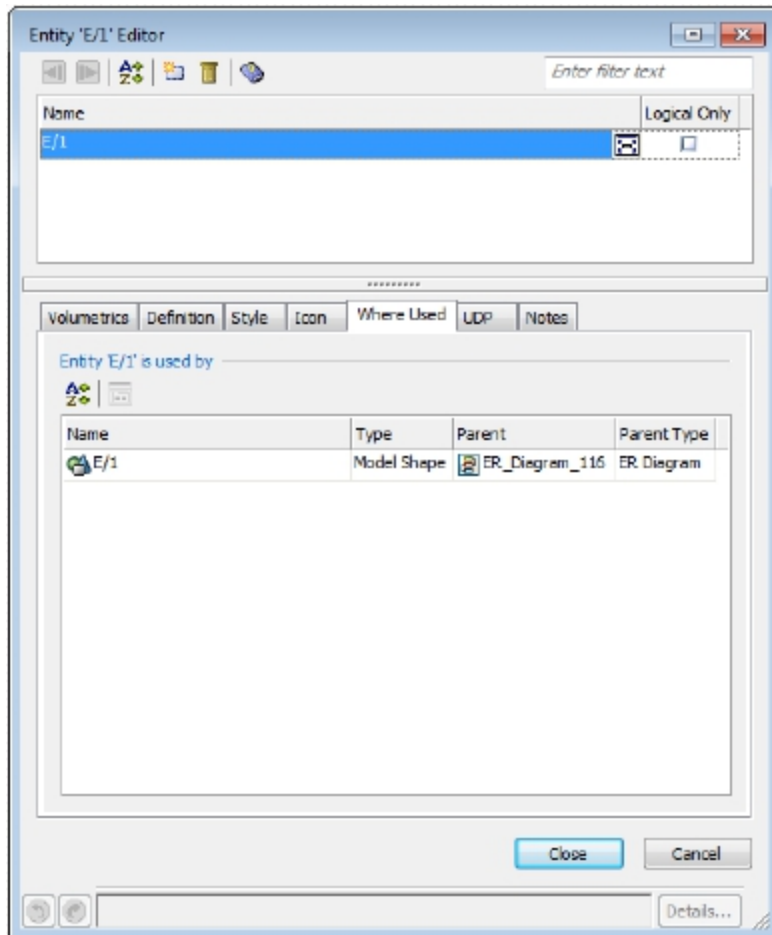
- Your icons should now show the familiar 'crows feet' notation.



To add an entity

- ▶ Use the 'Entity' icon on the toolbar
- ▶ To name it, either type the name in the box, or right click and choose Entity Properties





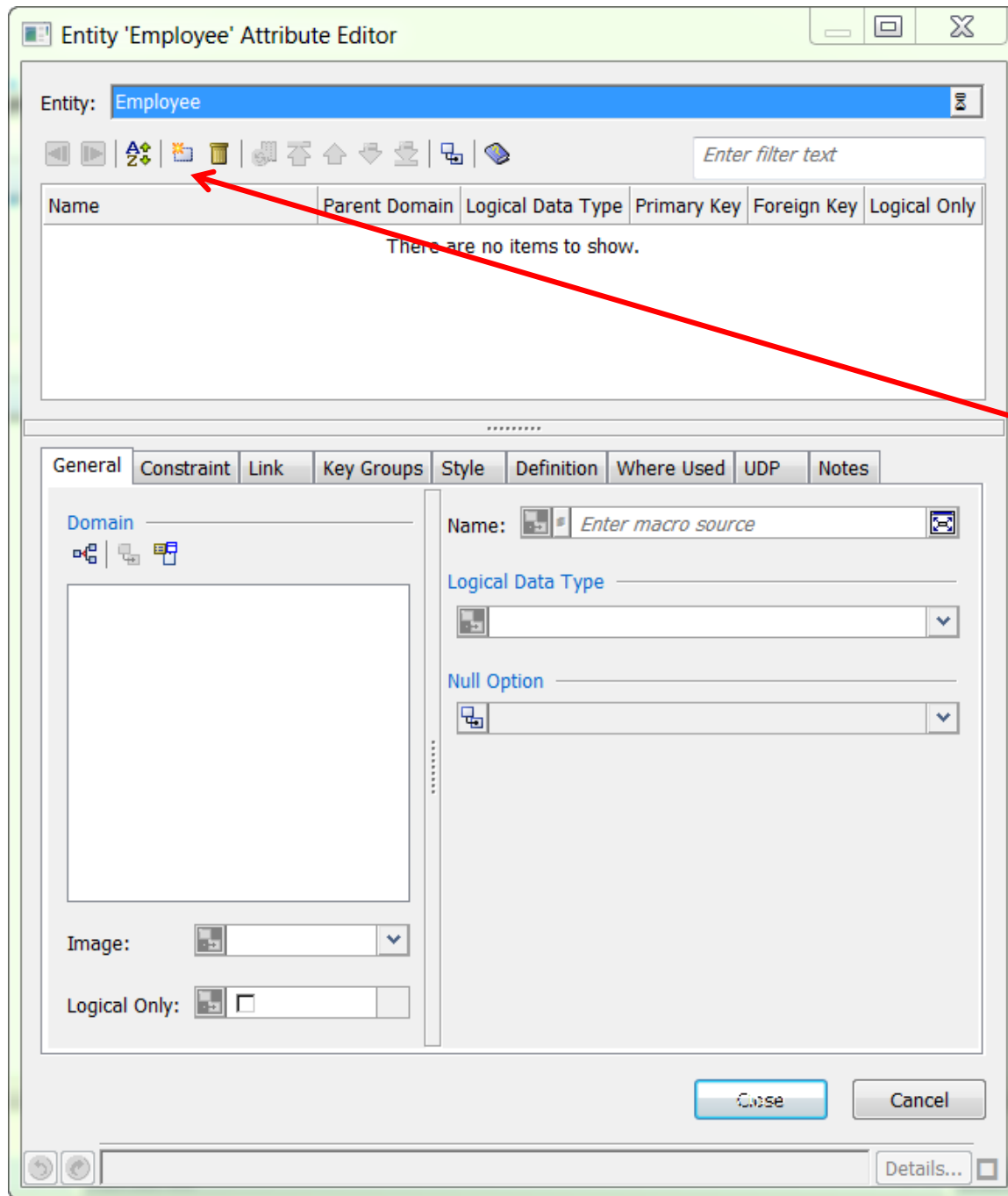
Naming Entities

Type the name into the blue box and close.

Remember that entity names should be nouns.

Ideally they should be singular (e.g. Product not Products)

There may be a need to include an adjective to differentiate e.g. Customer Order



To add attributes

Rightclick on the entity you wish to add attributes for

Select Attribute Properties

Click the new attribute icon

Entity 'Employee' Attribute 'EmployeeNumber' Editor

Entity: Employee

Enter filter text

Name	Parent Domain	Logical Data Type	Primary Key	Foreign Key	Logical Only
EmployeeNumber	Number	INTEGER	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

General Constraint Link Key Groups Style Definition Where Used UDP Notes

Domain

- <default>
- Blob
- Datetime
- ☒ Number
- String

Name: EmployeeNumber

Logical Data Type: INTEGER

Null Option: Not Null

Image: Default N...

Logical Only: ☐

Close Cancel Details...

Adding Attributes

Enter the name of the attribute

Tick 'Primary key'

If this is appropriate

Choose the data type from the bottom screen

Department

DepartmentName

Employee

EmployeeNumber

EmployeeName

Supervisor

SupervisorNumber

SupervisorName

Project

ProjectNumber

ProjectName

Exercise

Add the Employee, Department, Supervisor and Project entities from the example in the lecture yesterday



Adding Relationships

Use the '**non-identifying relationship**' icon.

Click on the master entity (1 side), move to the detail entity (many side) and release.

Double-click the resulting relationship.

Here you can enter details about the cardinality.

Relationship 'is assigned to' Editor

Enter filter text

Name	Parent	Child	Logical Only
is assigned to	Employee	Department	<input type="checkbox"/>

General Definition Role Name RI Actions Style UDP Notes

'is assigned to' Type Properties

Type	Non-Identifying
Null Option	Nulls Allowed

'is assigned to' Relationship Properties

Parent-to-Child Phrase	
Child-To-Parent Phrase	

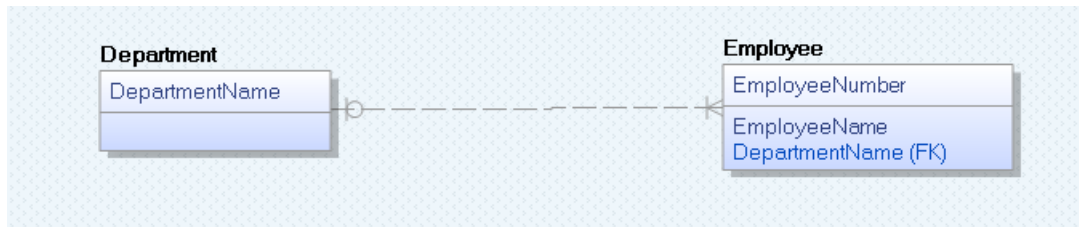
'is assigned to' Cardinality Properties

Cardinality	One or More (P)
Cardinality Value	

Close Cancel Details...

Adding Relationships

One department is assigned one or more employees



Saving your model

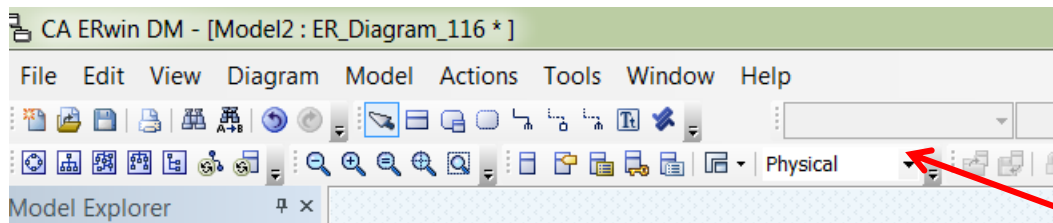
- ▶ You can save your model as a .erwin file
- ▶ File -> Save as and make sure you save it down to your network space



A dark blue vertical bar is located on the left side of the slide, partially overlapping the title box.

Generating SQL/Reverse Engineering from SQL

A light blue vertical bar is located on the left side of the slide, below the title box.



Generate SQL

Change the model to physical

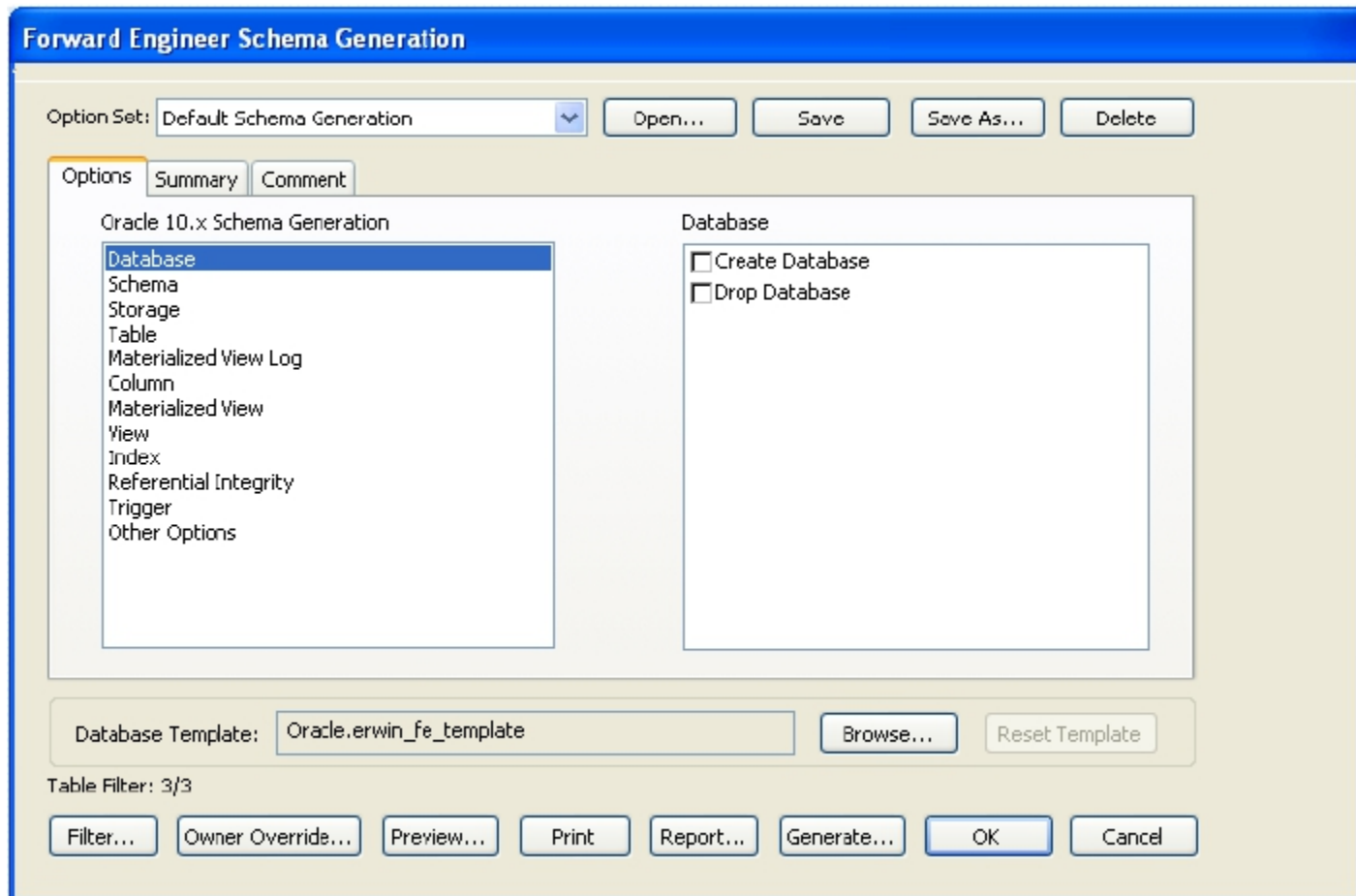
In the Physical model, pick **'Forward Engineer'** from the **'Actions'** menu item on the top toolbar.

Choose SCHEMA from the options presented.

Work through the options presented in the following screens and make sure your selections match those presented.

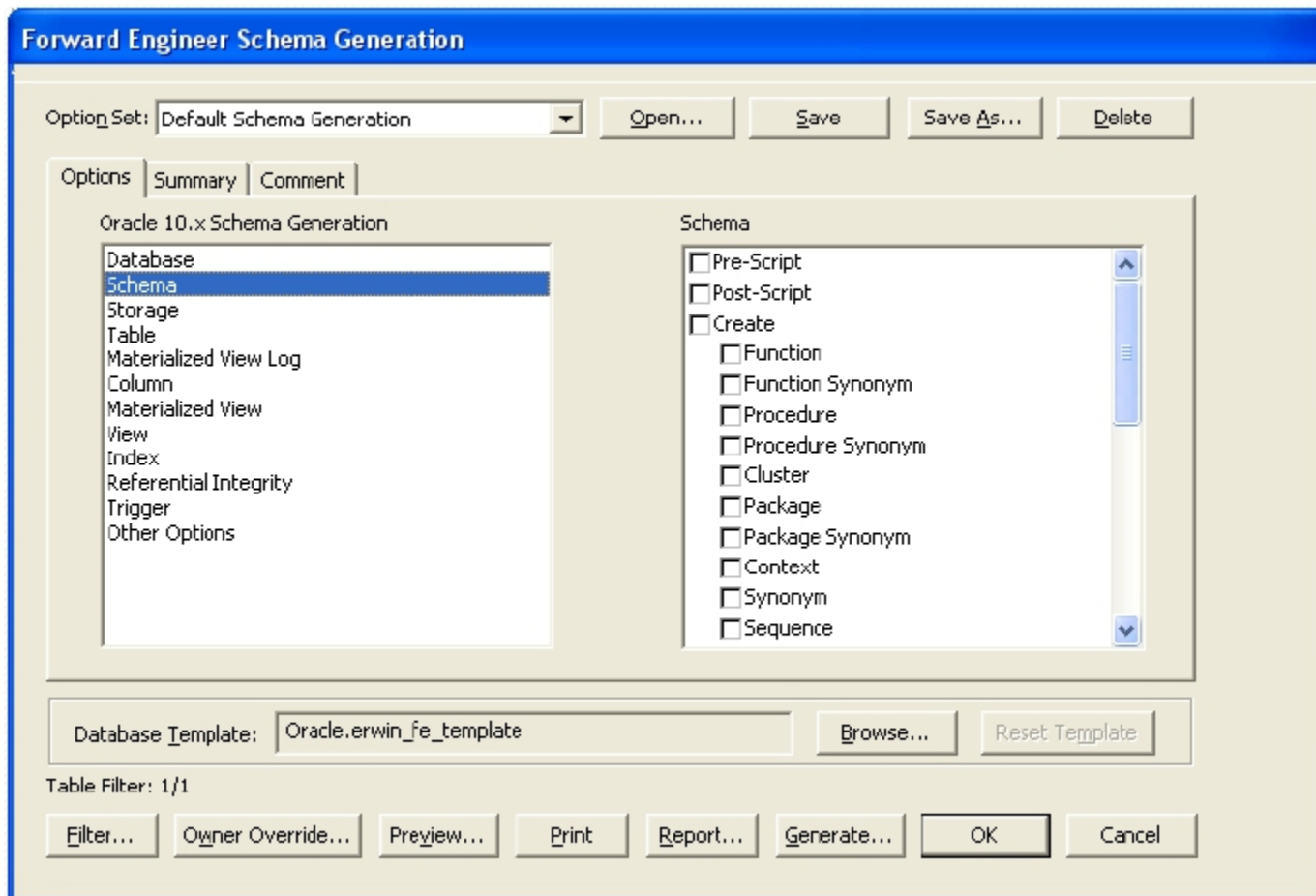
Database option – clear all

You don't want to create a new database.



Schema options – clear all

You don't want to interfere with your schema. You only want to create the tables and relationships between them.



Storage Option – clear all

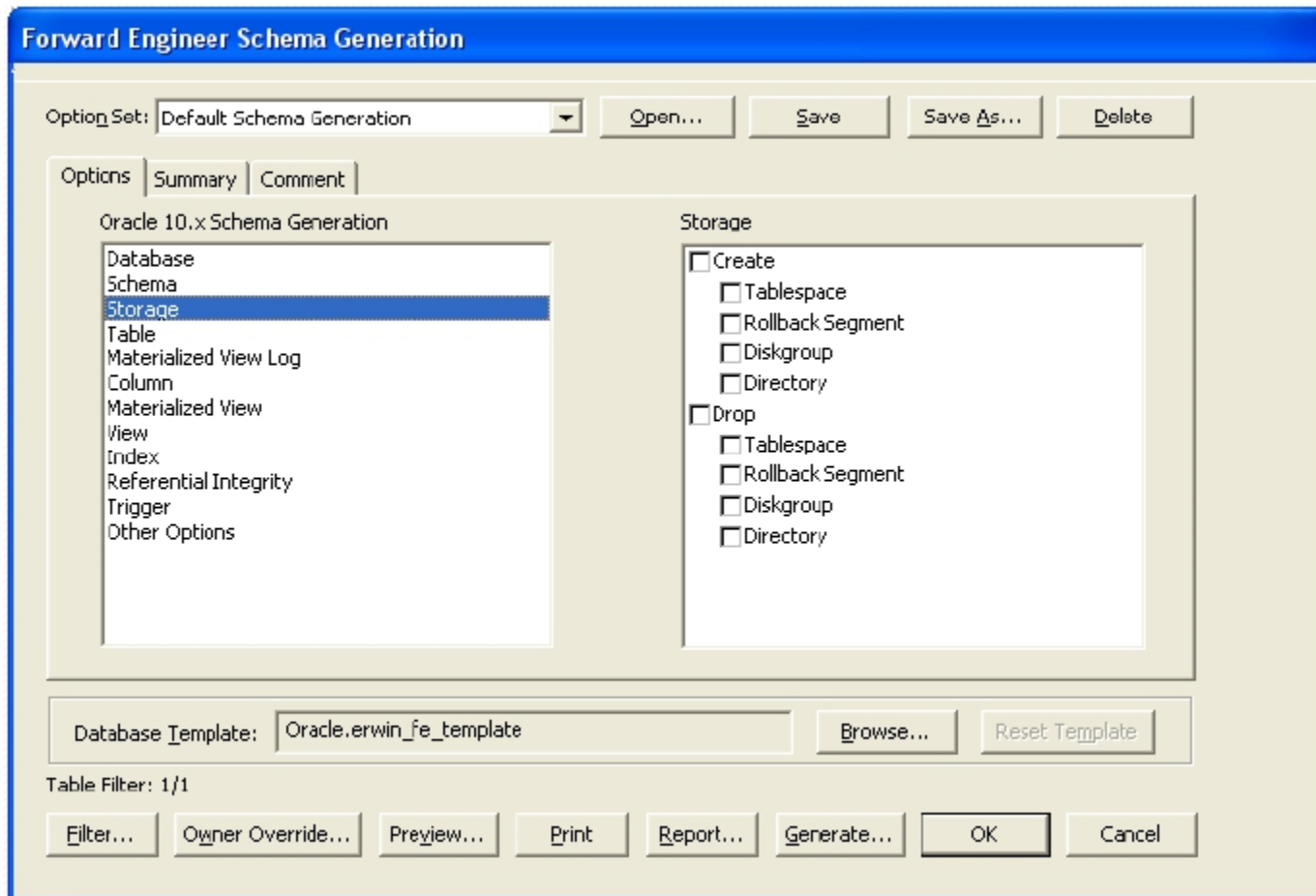
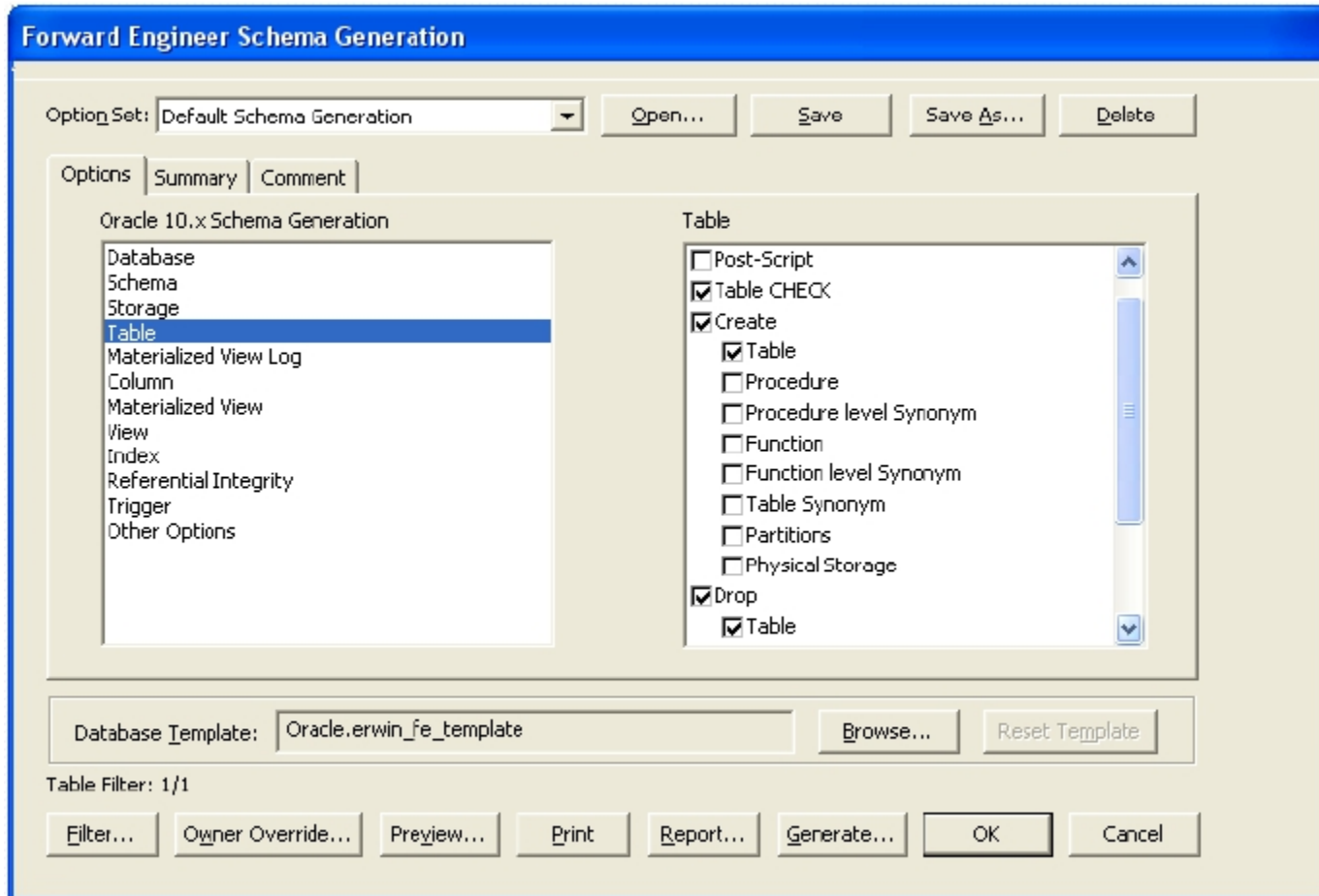
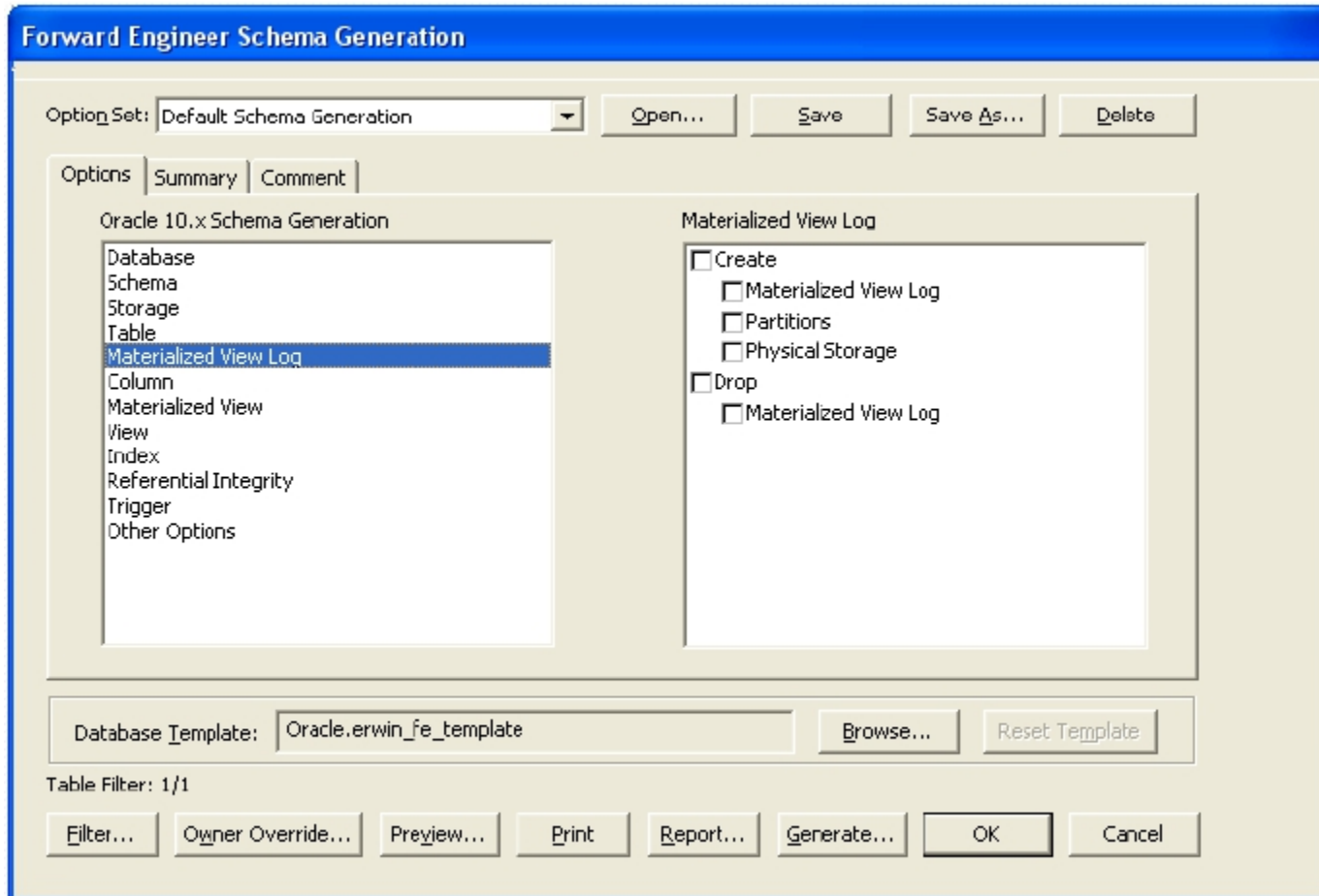


Table options - customise

This is where you need to do some work. So that you can reuse this SQL you want to delete any tables with the same names and create them again.

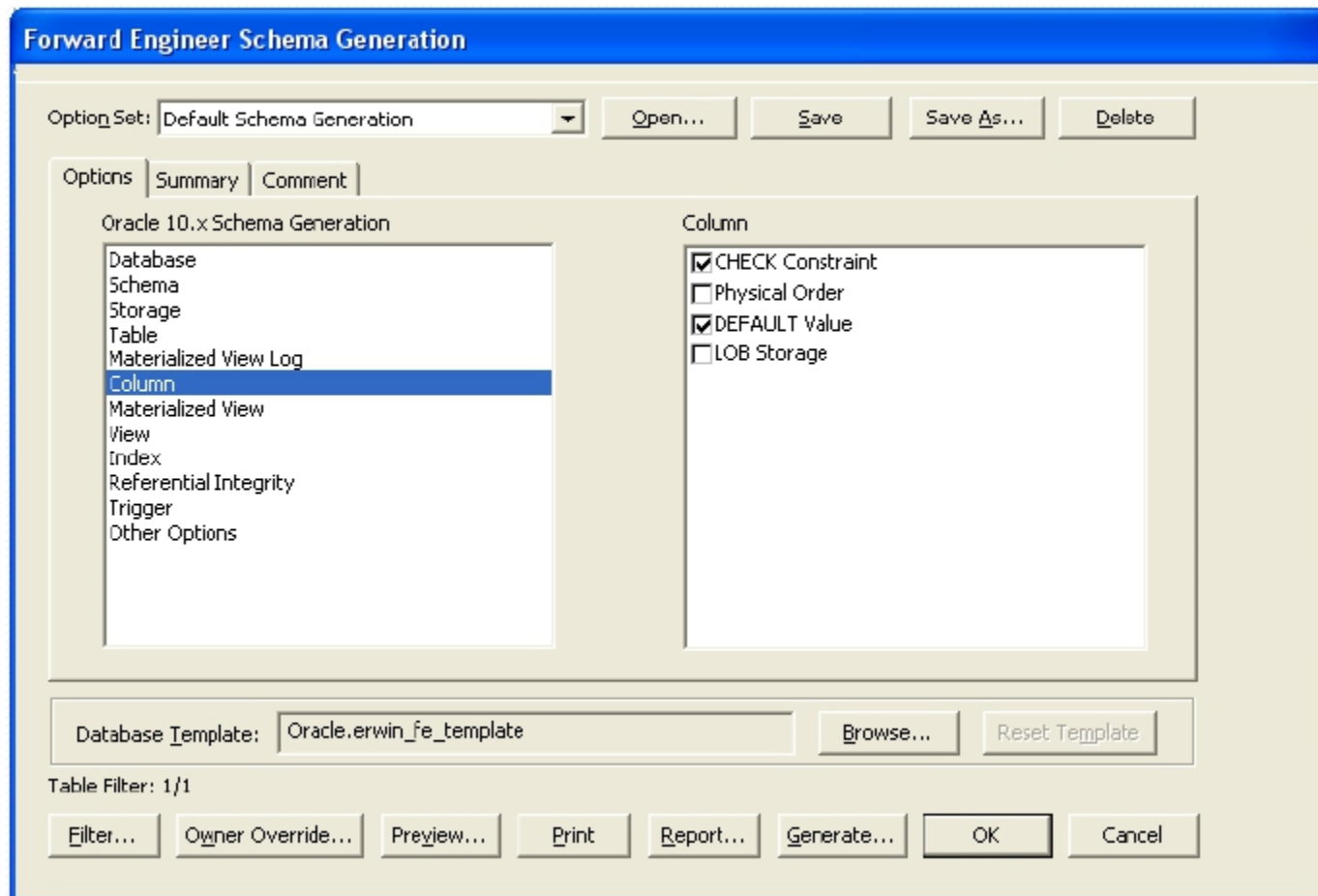


Materialised View Log – clear

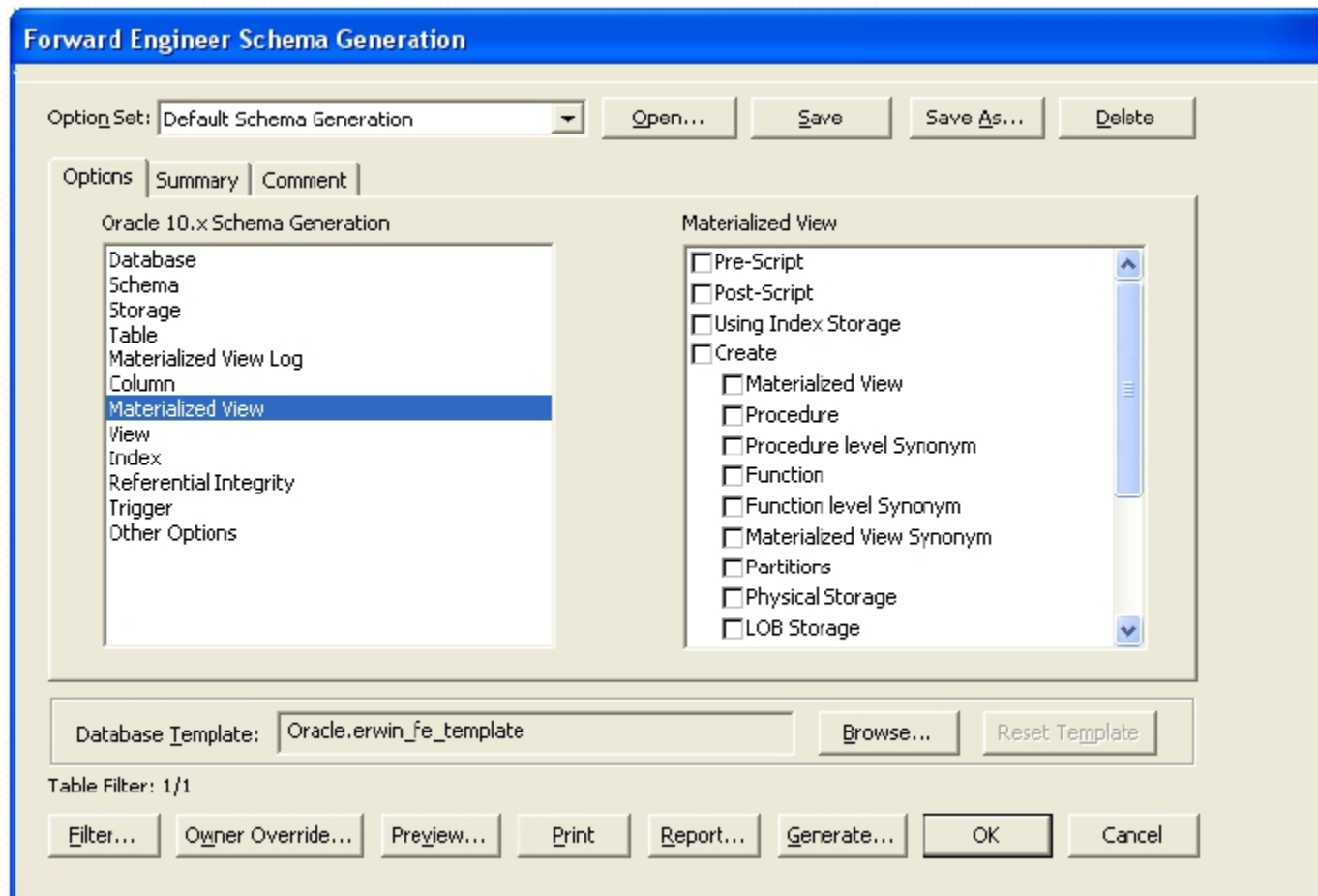


Column options – customise

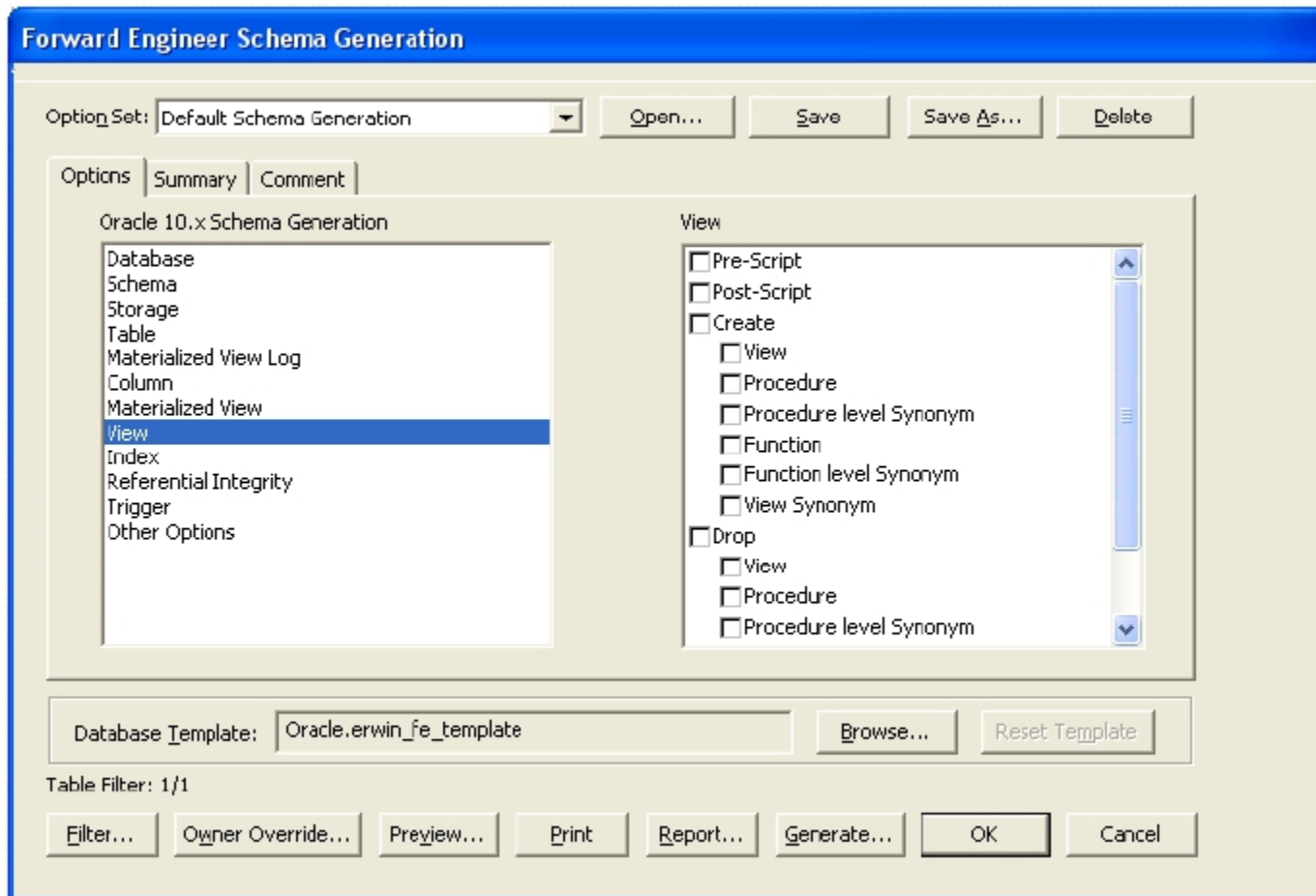
Make sure you include the generation of any constraints or defaults you created.



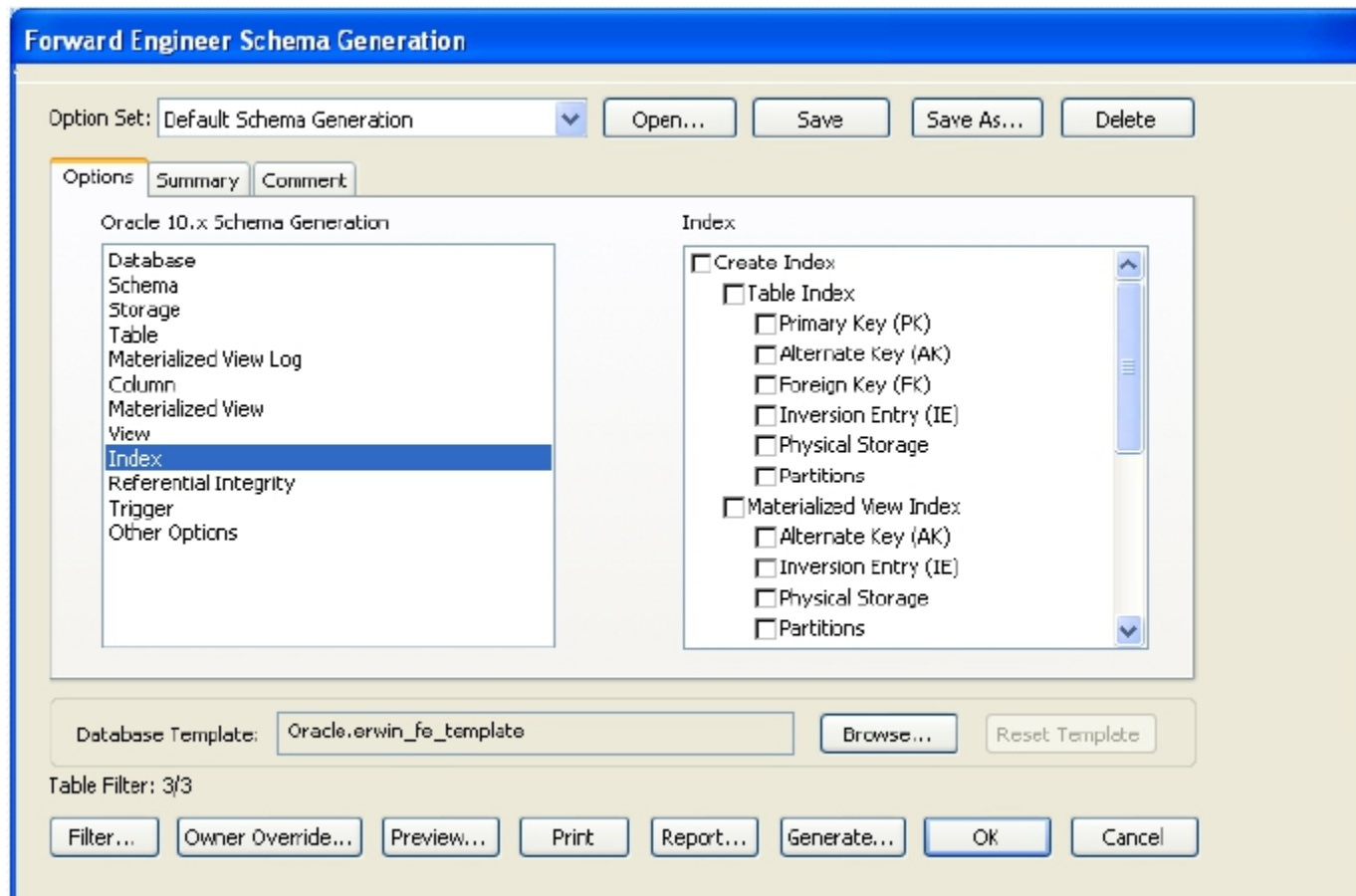
Materialised View – clear all



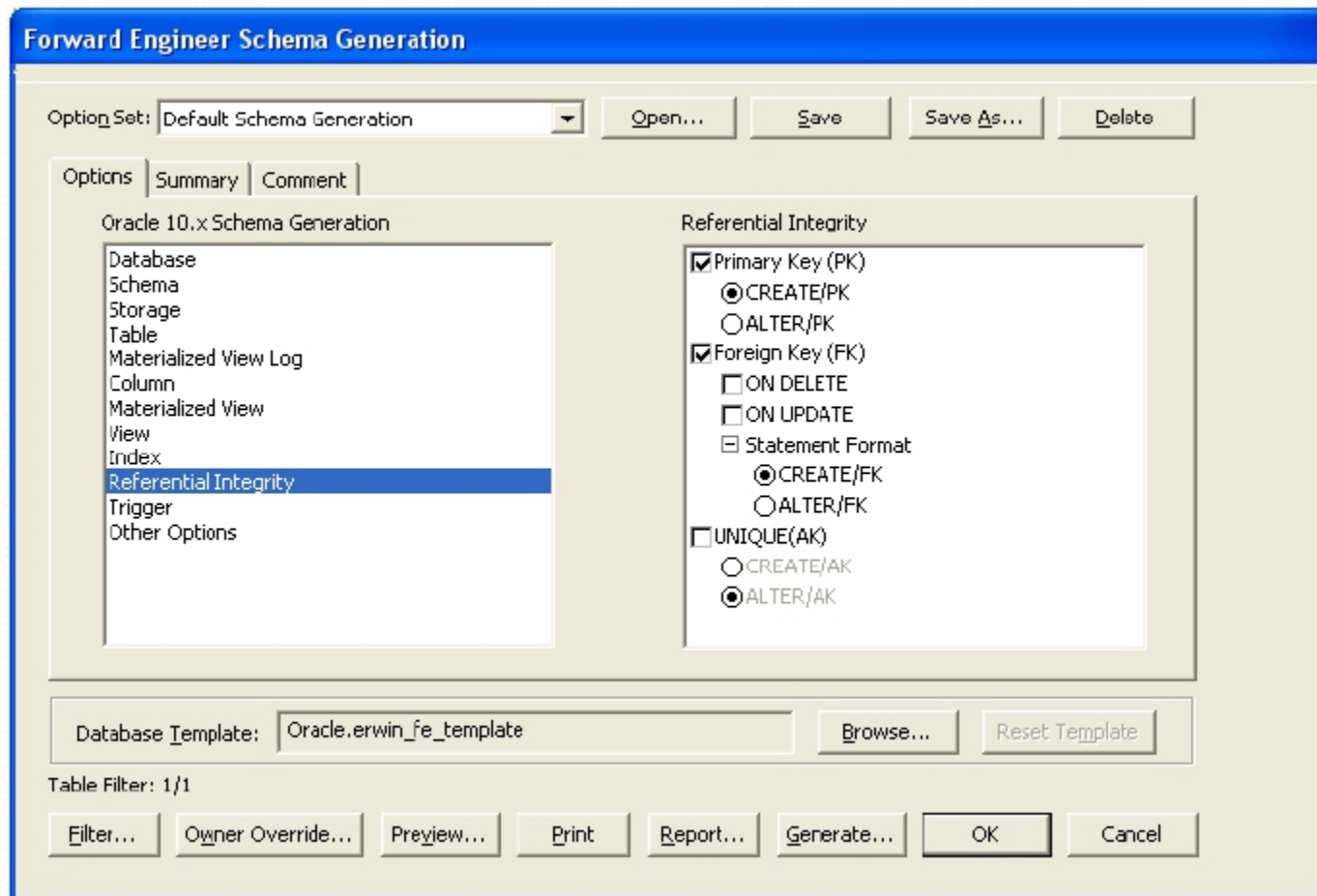
View – clear all



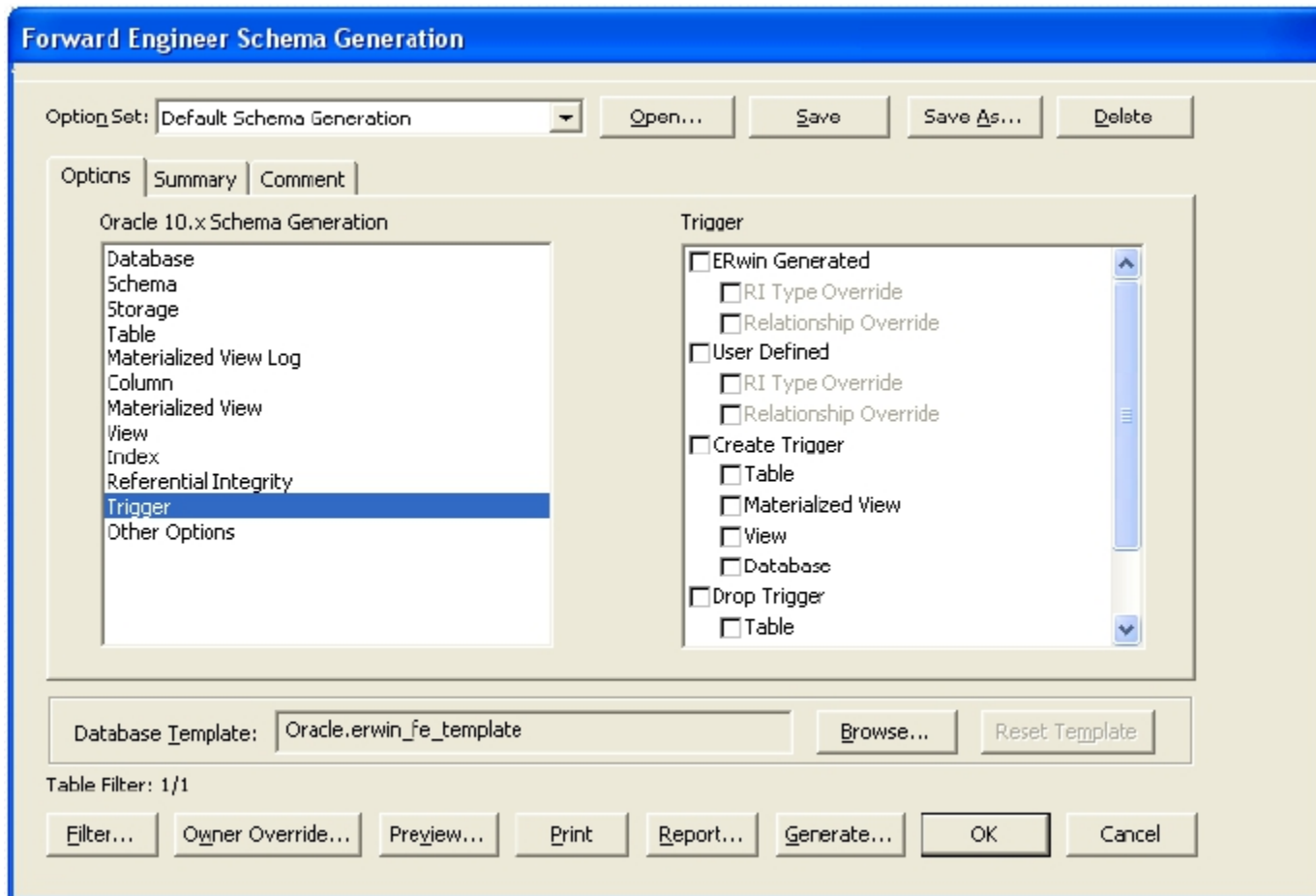
Index options – clear all



Referential Integrity - customise



Trigger – clear all



Other options - customise

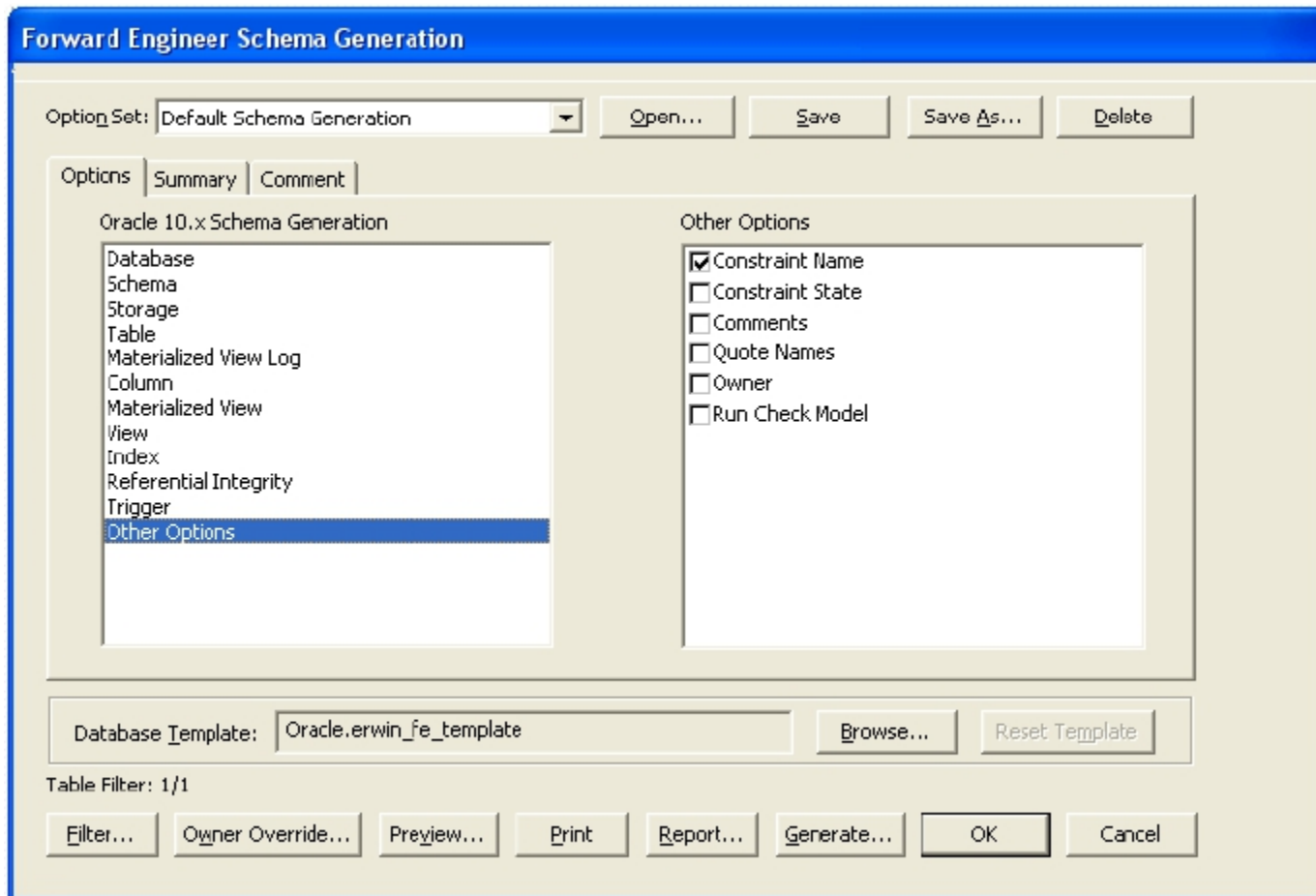
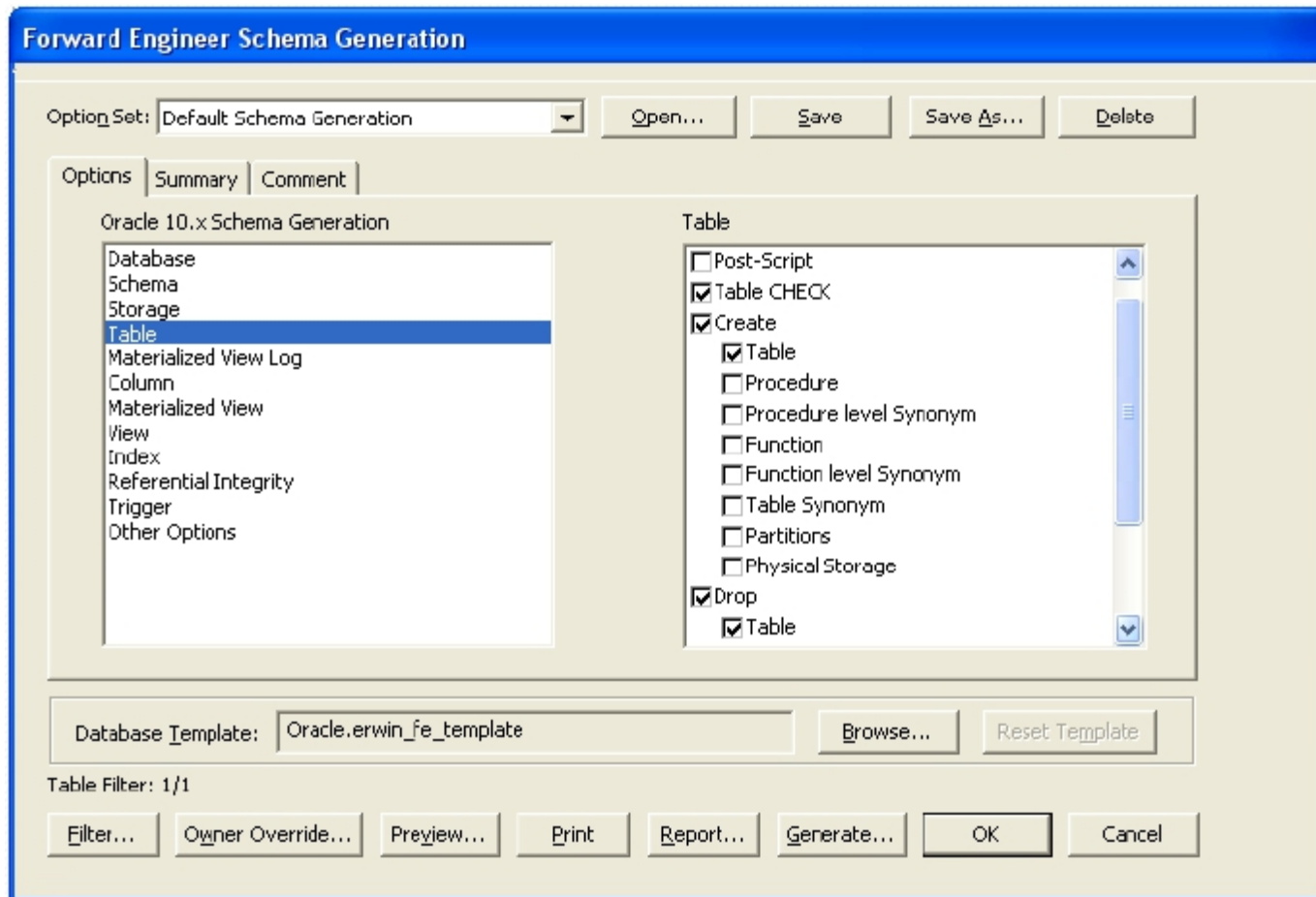
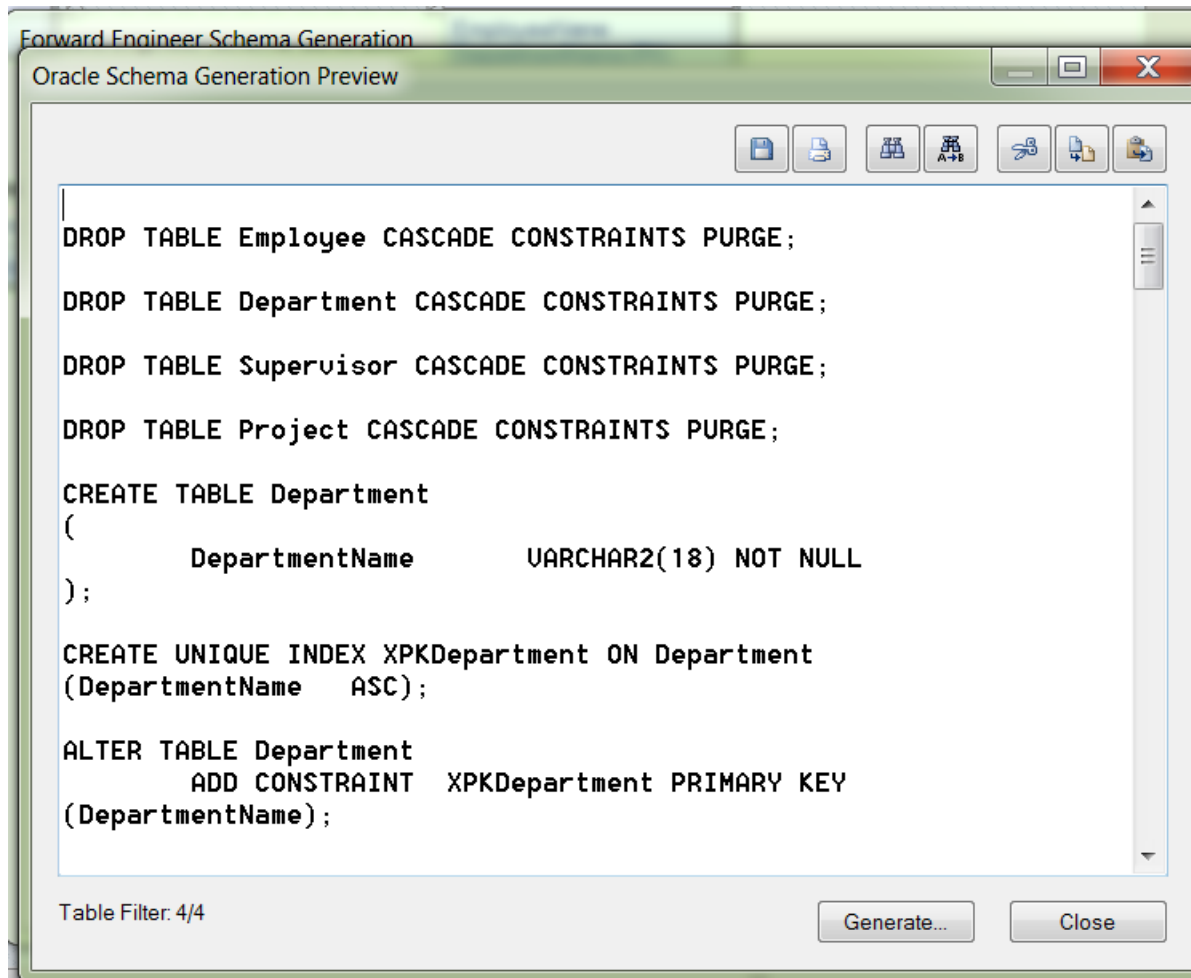


Table options - customise



Preview

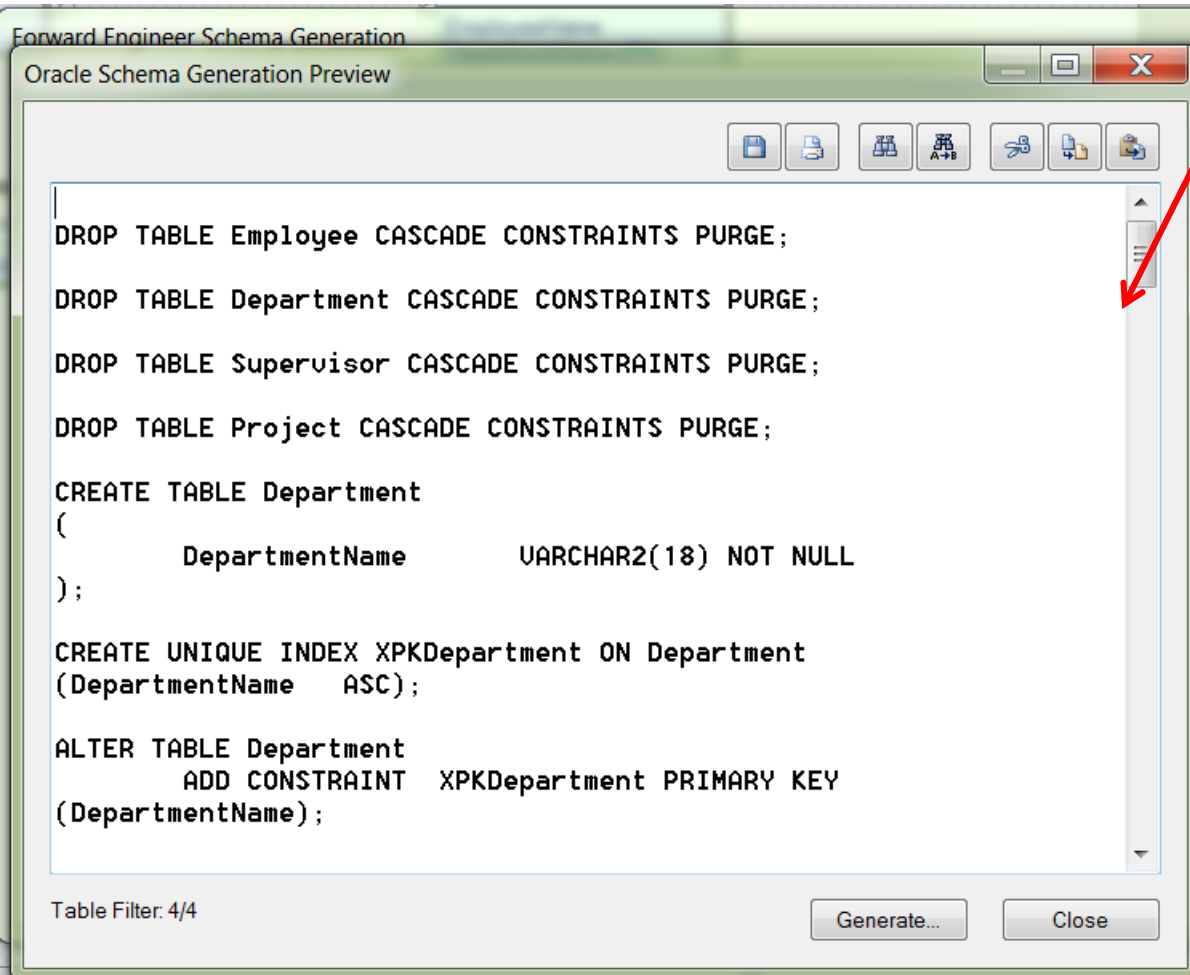
Select preview from the options at the bottom of the 'Forward Engineer' screen



To save your 'CREATE's

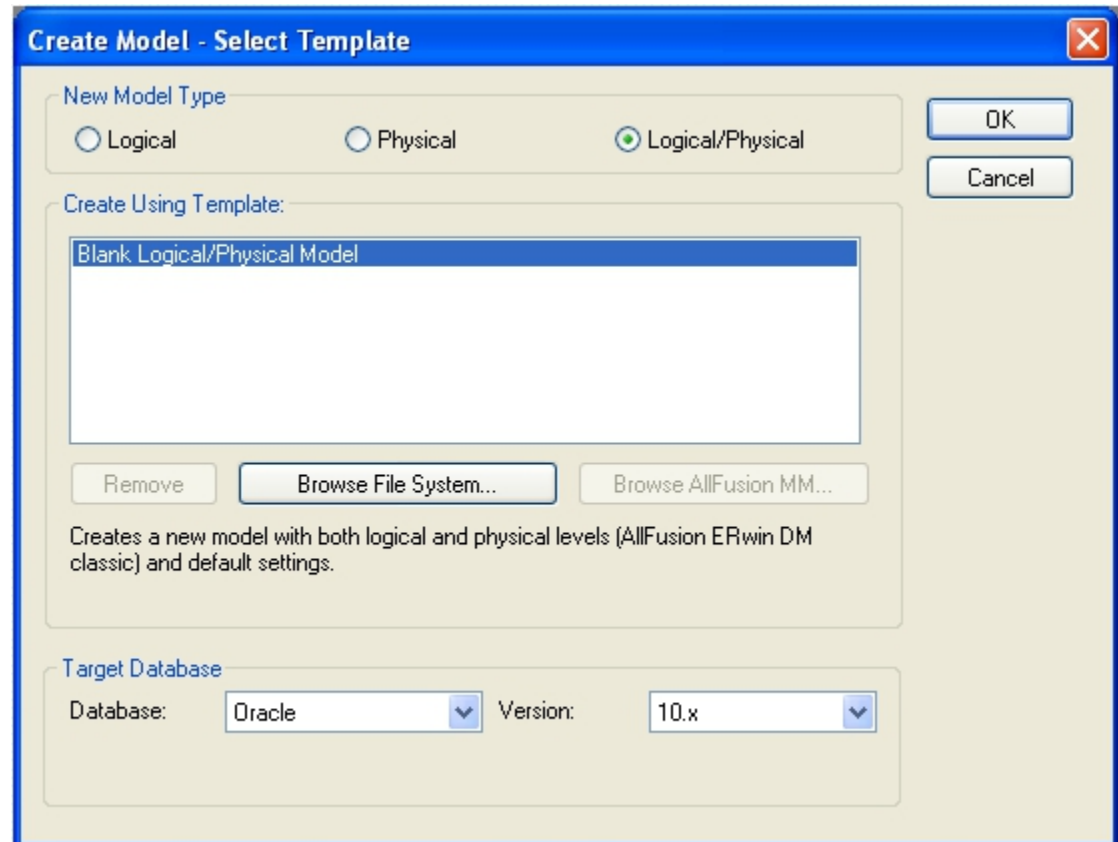
Pick a name for your code
and store it with suffix
of .sql.

You can now open this file
in your database developer
window and it will create
the tables for you.



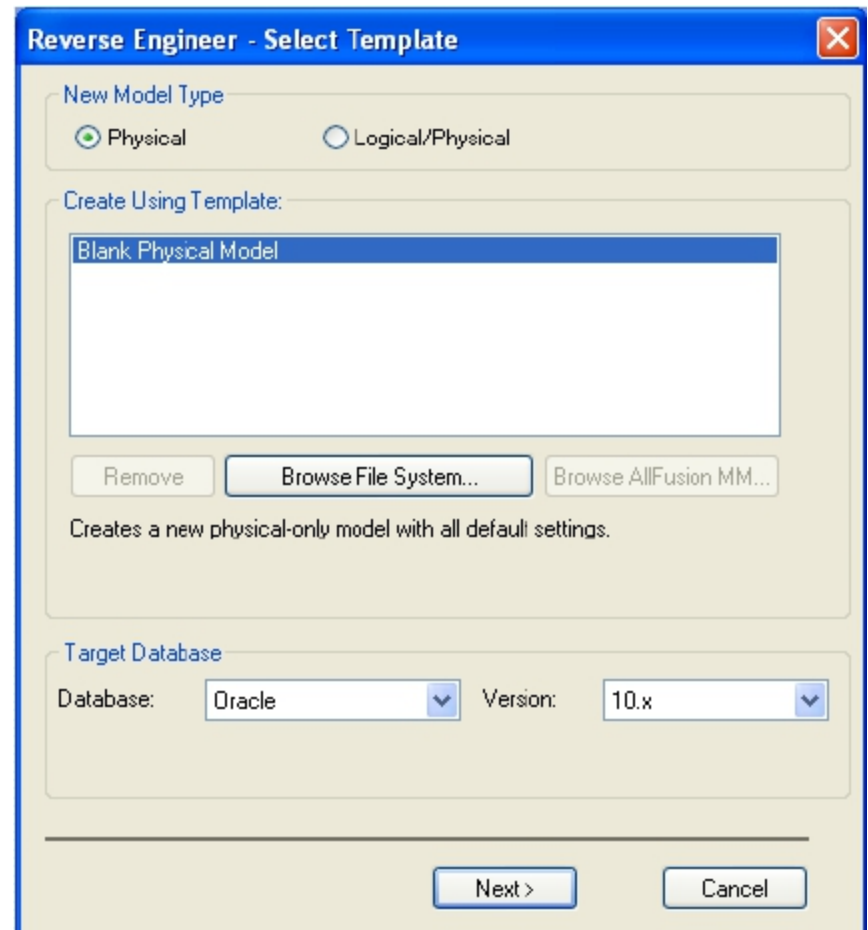
Reverse Engineering

- Open up ERWin as before.
- Set up a new **physical / logical** model



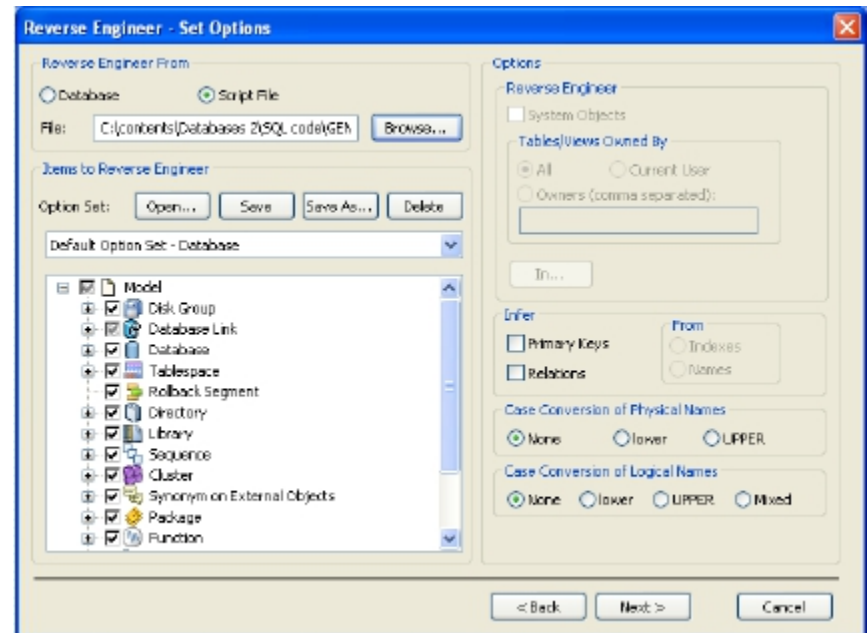
Starting the process

- Choose the Actions menu.
- Pick reverseengineer.
- Click Next>

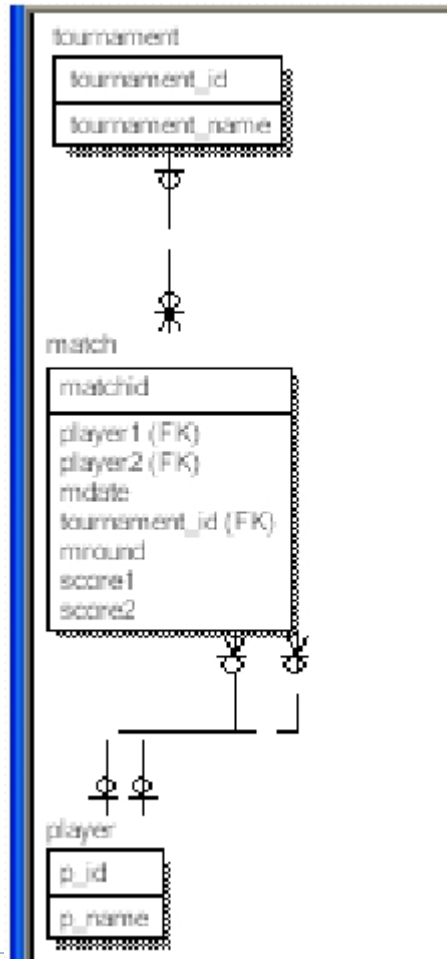


Reverse engineer from script.

- Click the radio button For script file.
- Browse for your script.
- Click next until you get a model.



RESULT



- You may need to rearrange the tables or change the notation or formatting, but all the other information is in your model.