

CREATION OF THE DATABASE BASED ON IDEF1X MODEL

Goal: Create database based on IDEF1X model.

Steps:

1. Open the model created as the result of the first part of this work, saved in the “delivery.erwin” file.

2. Select physical model. Now instead of “entity” we will use the “table” definition, as well as instead “attribute” we will used “field”.

3. Change table field parameters

As the example we will consider parameters change of the field “price_per_item” in the table “Supplied_products”:

- 1) Right click on “Supplied_products” table and select “Columns...”;

- 2) Select “price_per_item” field and select data type “Currency” on the “Access” tab (figure 28);

- 3) Click “Ok”.

Change data type of the field “price” of the table “Market_prices” into “Currency” in the same way.

4. Check the target DBMS

Select “Database” menu, then select “Choose Database”. Appeared window might be used to check and change settings related to the DBMS used to create database based on the designed model (figure 29).

5. Create database using DBMS Access

Before create database based on the data model we need to create the empty database with no objects. The sequence of steps is following:

- 1) Create folder where database files will be placed (e.g. D:\ER_LAB);

- 2) Run DBMS Access;

- 3) Create new database, input its name “delivery.mdb”, and select location (figure 30);

- 4) As the result new database with no objects will be created (figure 31);

- 5) Close database window and close DBMS Access.

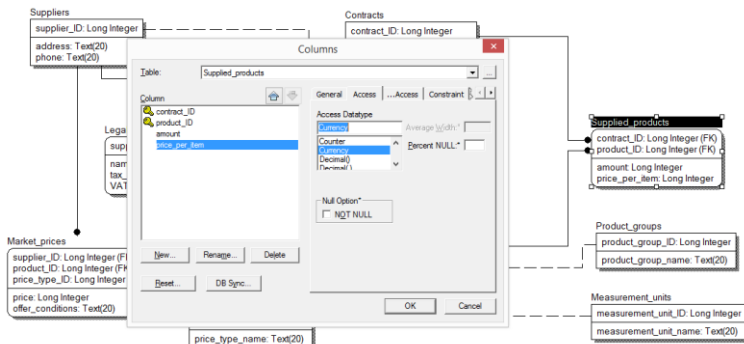


Figure 28

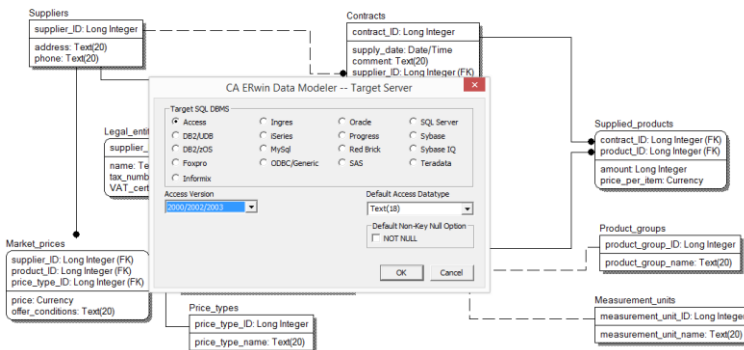


Figure 29



Figure 30

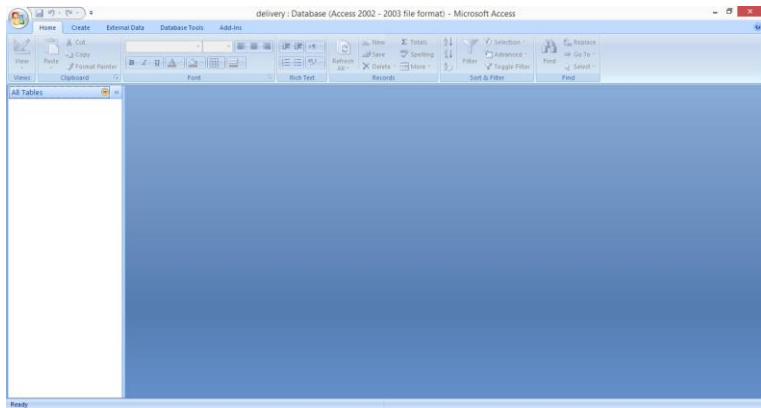


Figure 31

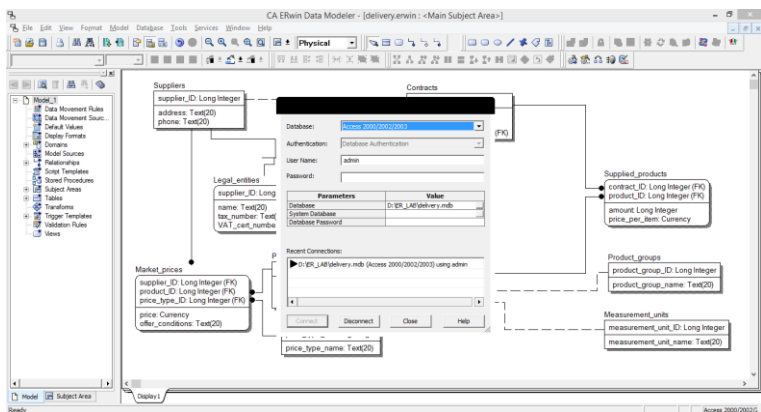


Figure 32

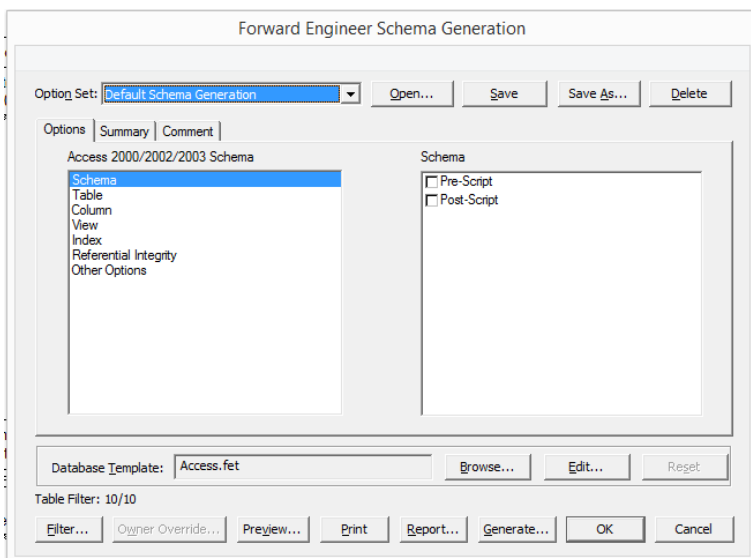


Figure 33

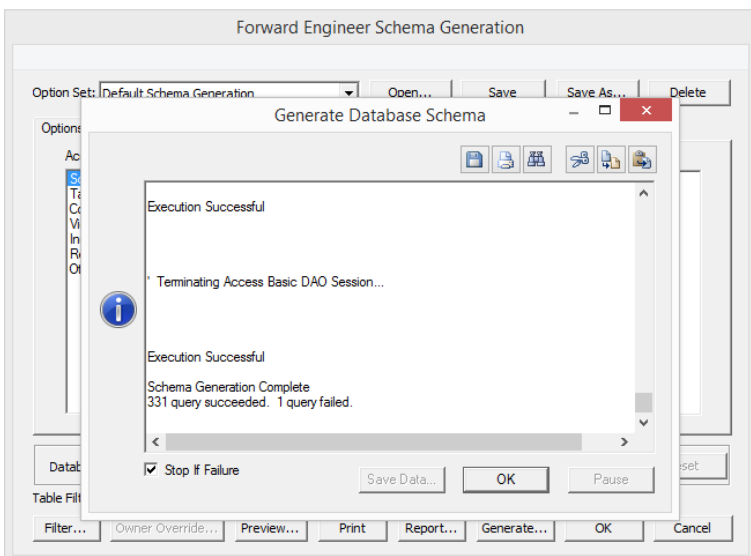


Figure 34

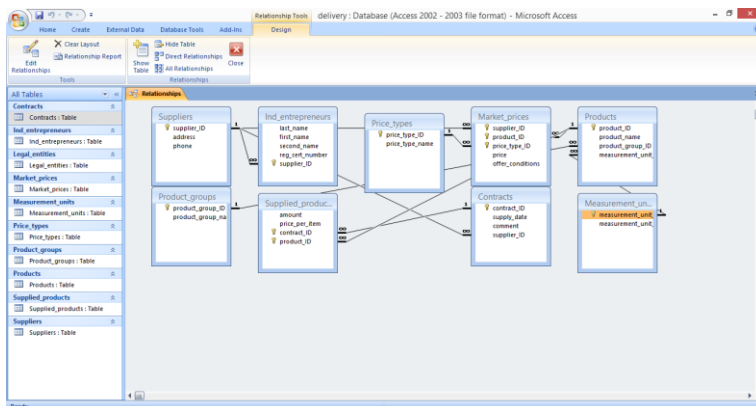


Figure 35

6. Connect model to the created database.

The sequence of steps is following:

- 1) Open ERWin;
- 2) Select “Database” in menu, then select “Database Connection”;
- 3) In the appeared window “Access Connection” type “admin” in the field “User Name”, then type “D:\ER_LAB\delivery.mdb” in the field “Database” (figure 32);
- 4) Click “Connect”.

7. Create database based on the designed model.

The sequence of steps is following:

- 1) Select “Tools” in menu, then select “Forward Engineer/Schema Generation...”;
- 2) As the result, the window “Access Schema Generation” will be appeared (figure 33);
- 3) Click “Generate”;
- 4) After process is end, click “Ok” in the “Generate Database Schema” window (figure 34), and then click “Ok” in the “Access Schema Generation” window.

8. Check database creation result.

The sequence of steps is following:

- 1) Run DBMS Access;
- 2) Open database “delivery.mdb” and check presence of tables and their conformance to the tables created while modeling;
- 3) Open data scheme and check presence of relationships between database tables (figure 35);
- 4) Check alternate keys of the table “Ind_entrepreneurs”. It requires the following steps:

- Right click on “Ind_entrepreneurs” table and select “Design View”;
 - Select “Design” in the main menu, and then select “Indexes”. Appeared window shows the list of indexes of this table (figure 36). As it is shown, there are two alternate keys despite of the PK. These alternate keys are also unique.
 - Close the window of table indexes;
 - Close the window of the database structure;
- 5) Close the database window and DBMS.

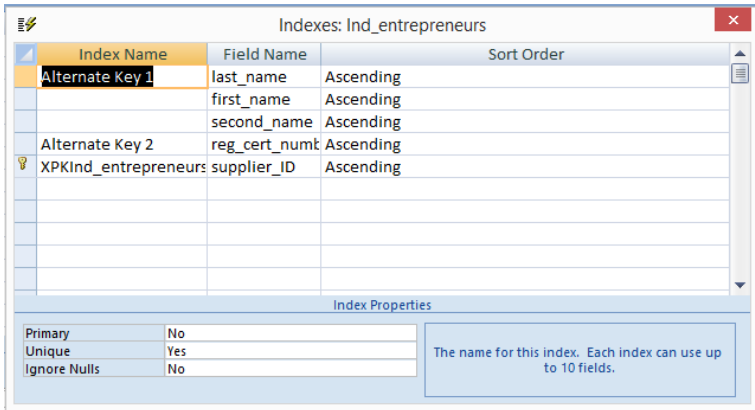


Figure 36

9. Save created model and finish work.

10. Report requirements:

- 1) Briefly describe the main stages of performed work;
 - 2) Depict created database (e.g. data scheme) in order to illustrate it correctness;
 - 3) Describe problems you have faced with and analyze their reasons.
- Describe how these problems were solved.