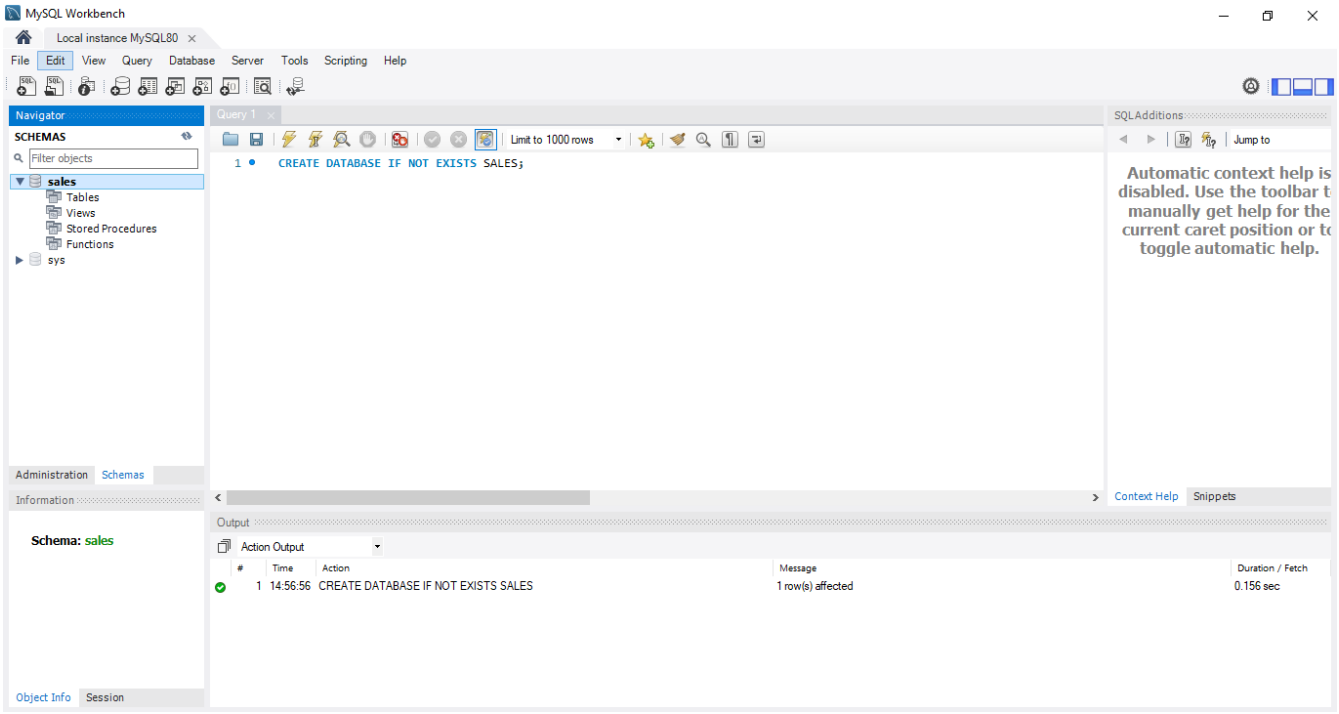
SQL COURSE EXERCISES (SECTION 5 & 6)

SECTION: 5

Exercise:

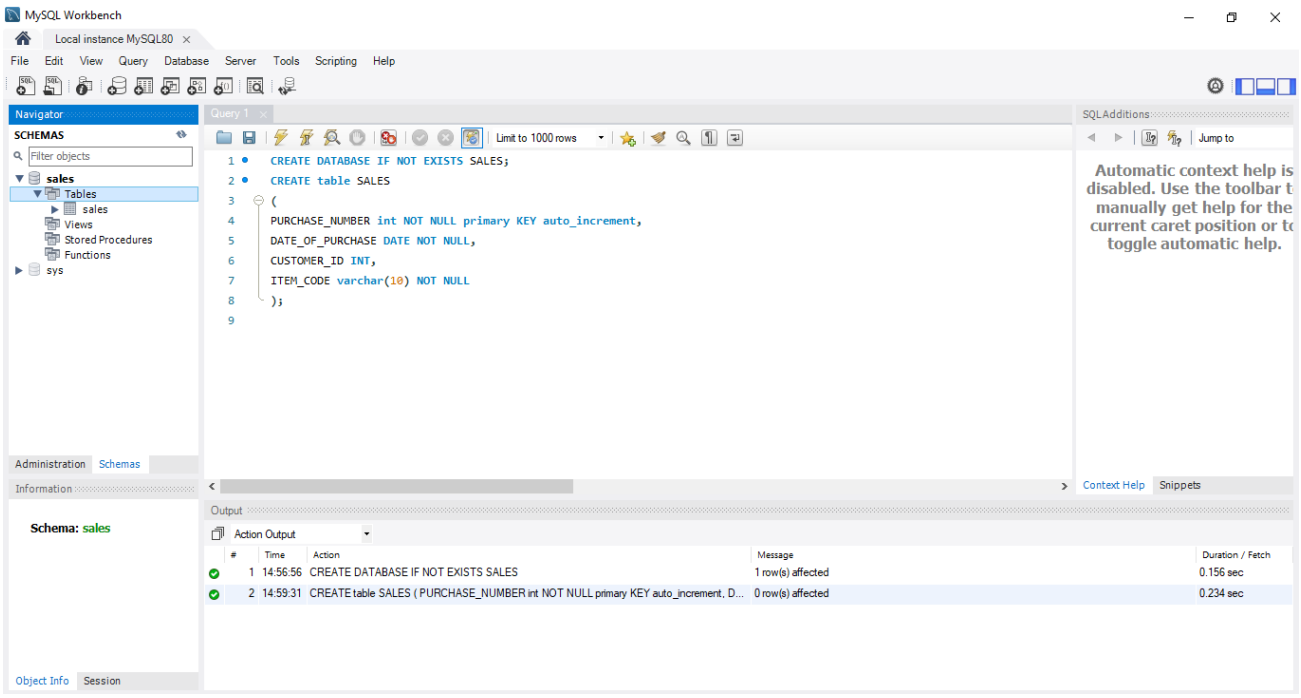
Create the “Sales” database.

Solution:



Next, in the lecture, we learned how to create a table using the following code:

```
CREATE table SALES
(
PURCHASE_NUMBER int NOT NULL primary KEY auto_increment,
DATE_OF_PURCHASE DATE NOT NULL,
CUSTOMER_ID INT,
ITEM_CODE varchar(10) NOT NULL
);
```

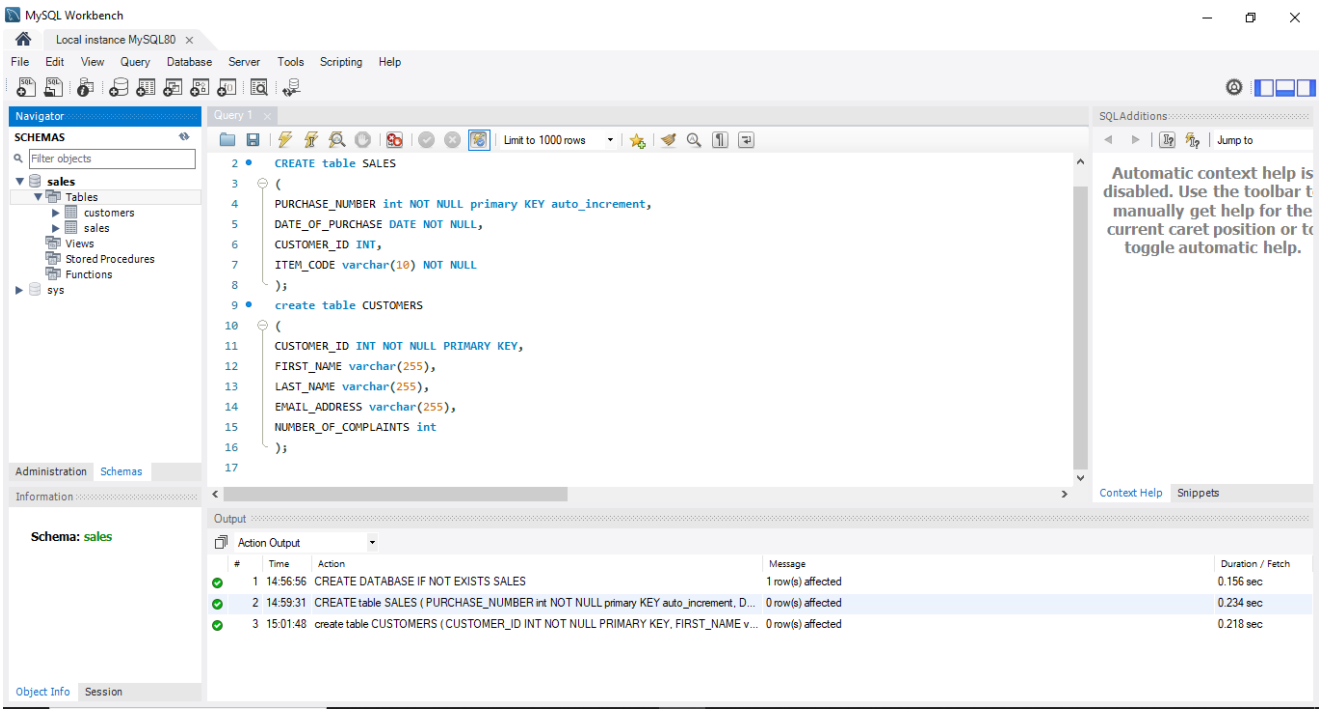


Exercise:

Followed by this learning, we were asked to do an exercise that states:

Create the "customers" table in the "sales" database. Let it contain the following 5 columns: customer_id, first_name, last_name, email_address, and number_of_complaints. Let the data types of customer_id and number_of_complaints be integer, while the data types of all other columns be VARCHAR of 255.

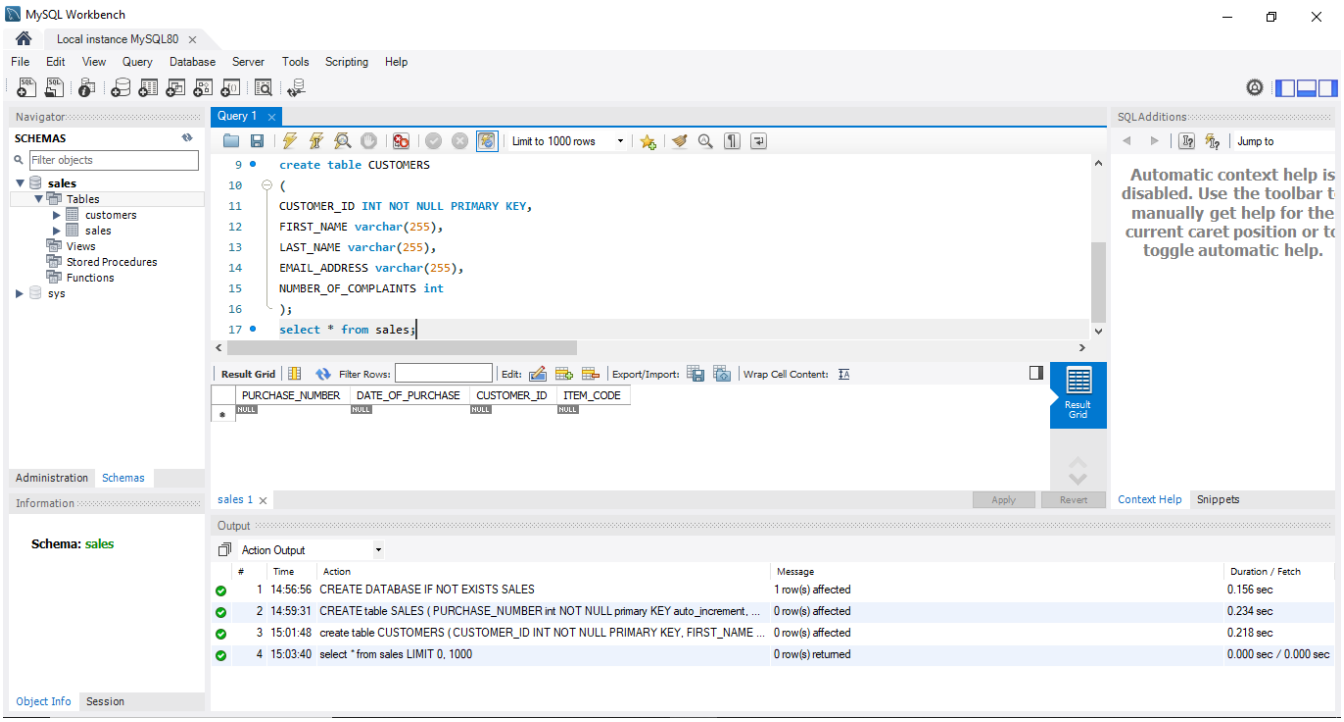
Solution:

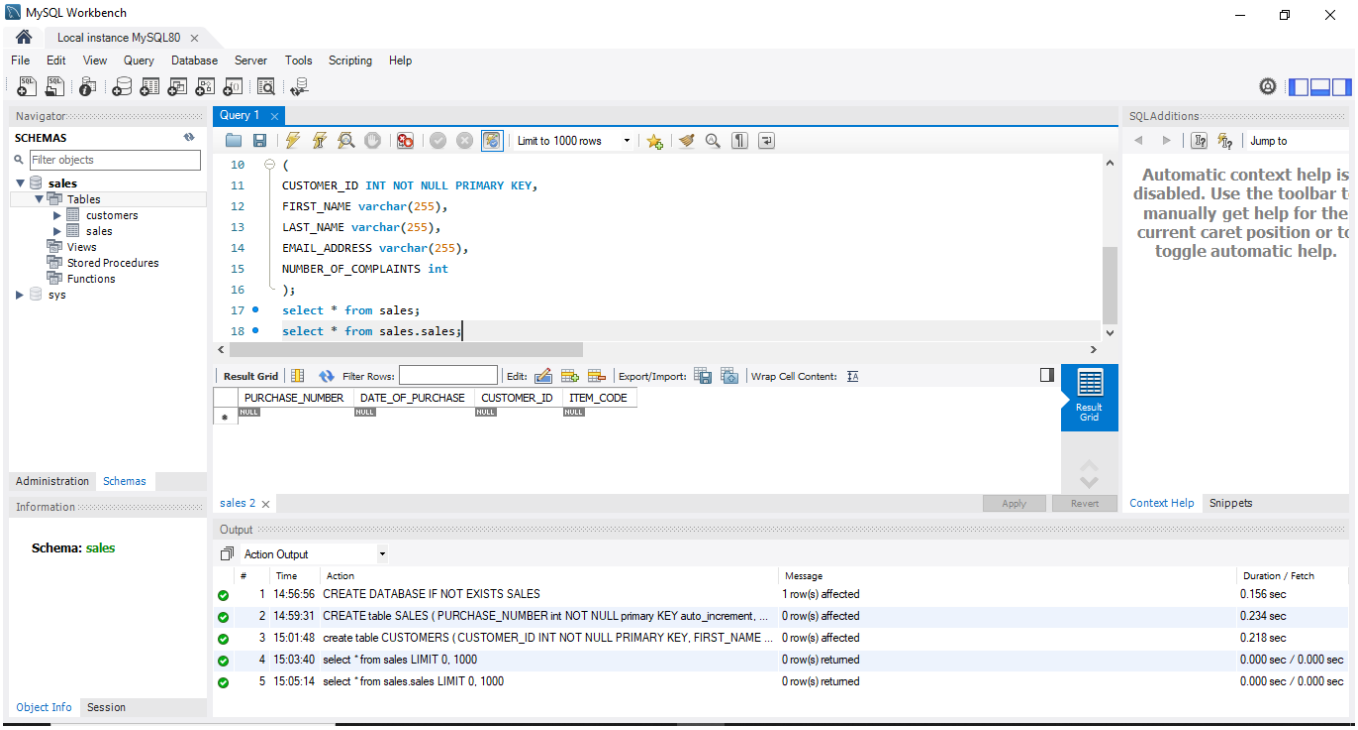


Exercise:

Use the same SELECT statement structure as the one shown in the lecture to select all records from the "sales" table. Do it twice – once specifying the name of the database explicitly in the SELECT statement, and once, without that specification.

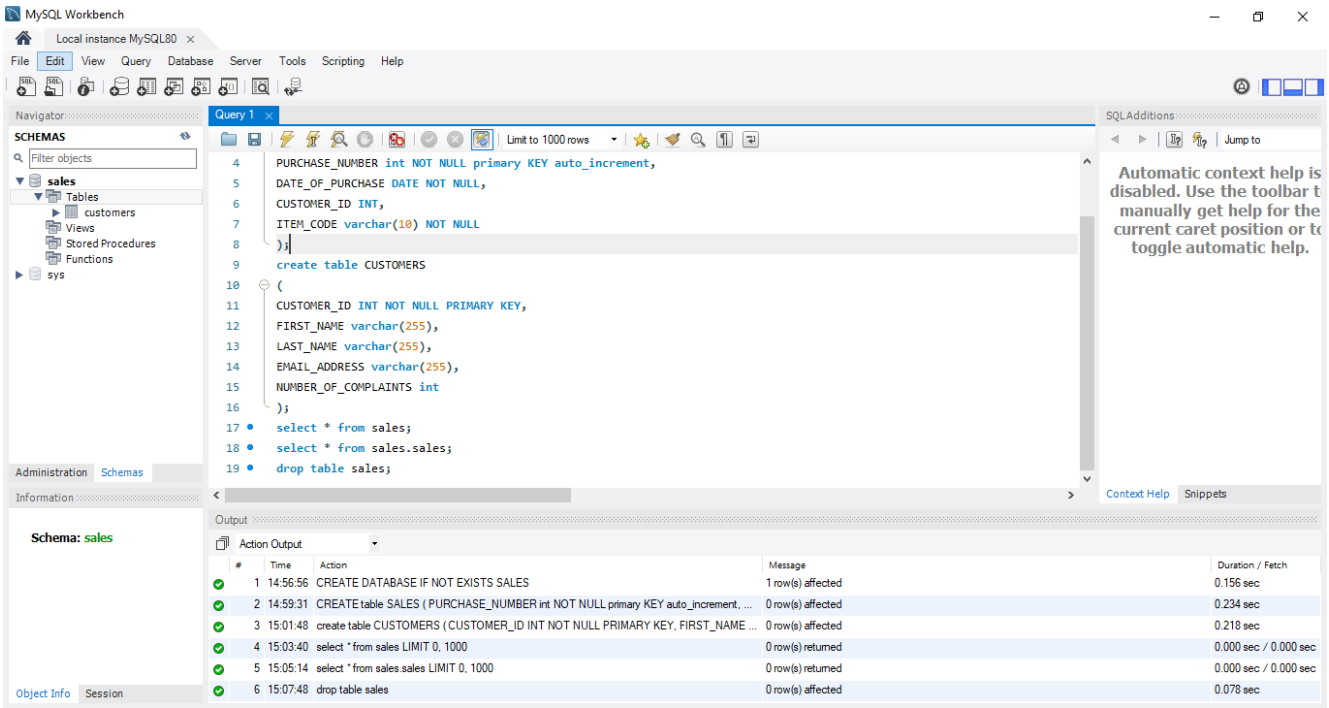
Solution:

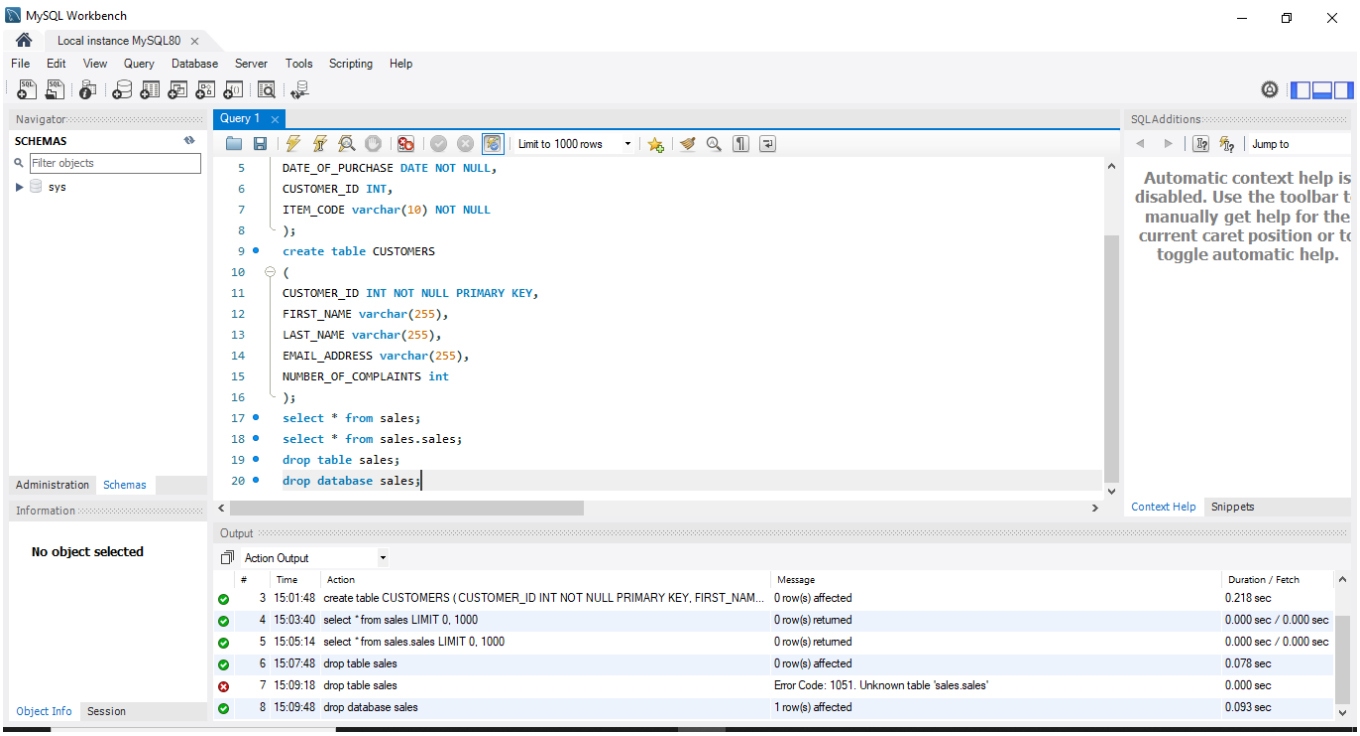




In this lesson, we also learned the DROP query.

We applied it by dropping table and the entire database as shown below:

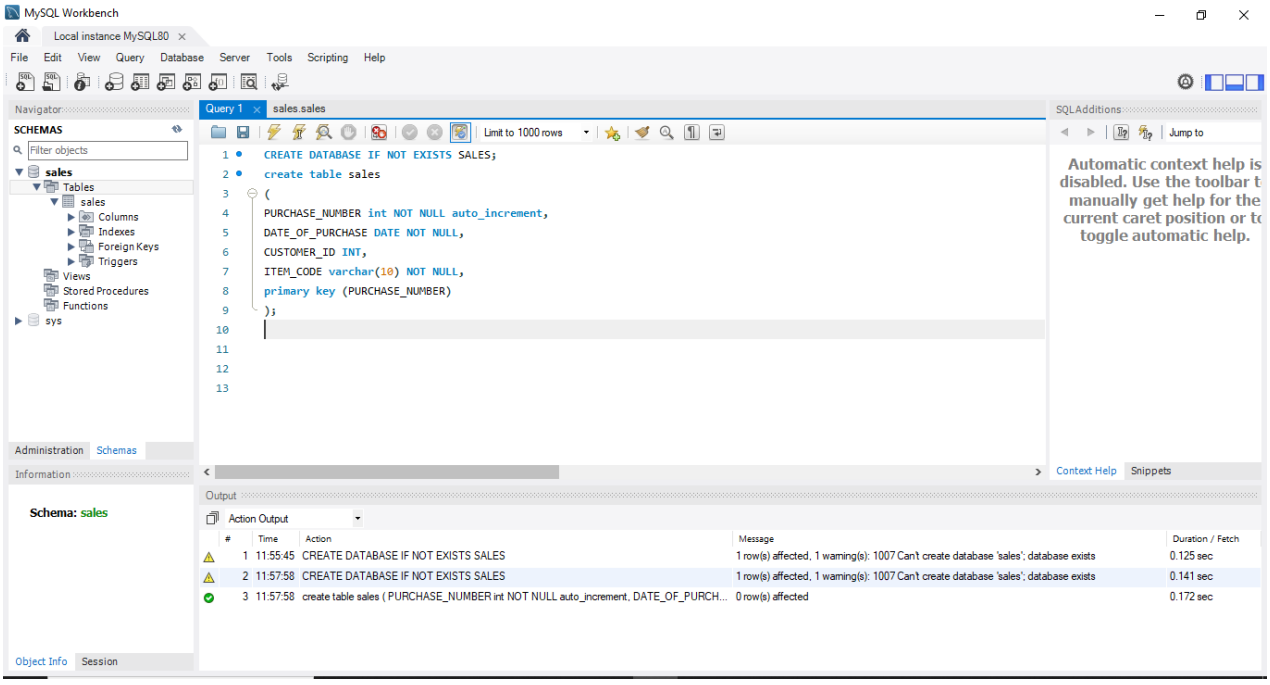


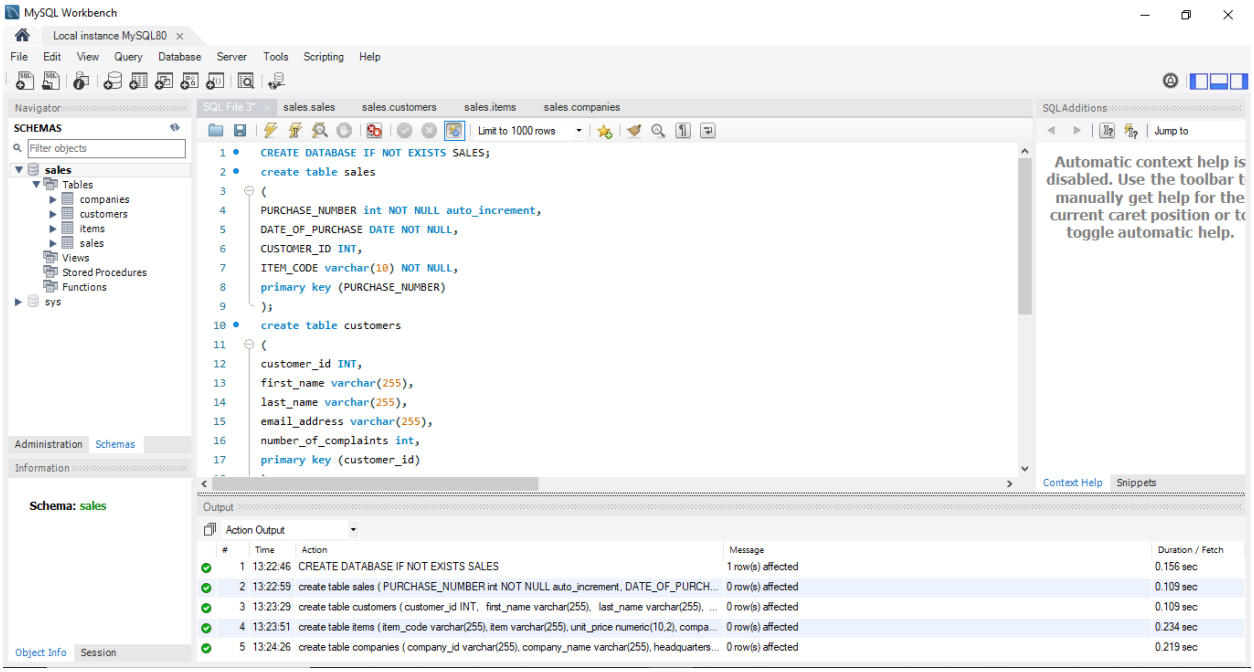


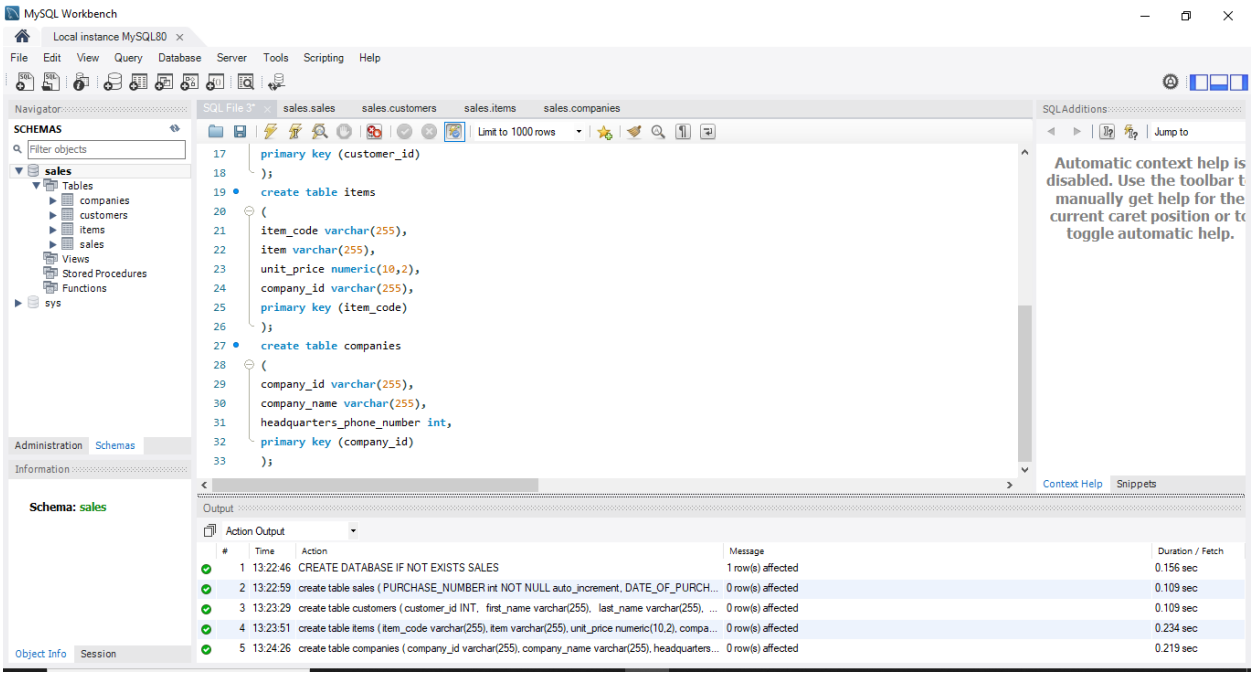
SECTION: 6

Here, we will explore how to assign constraints on tables.

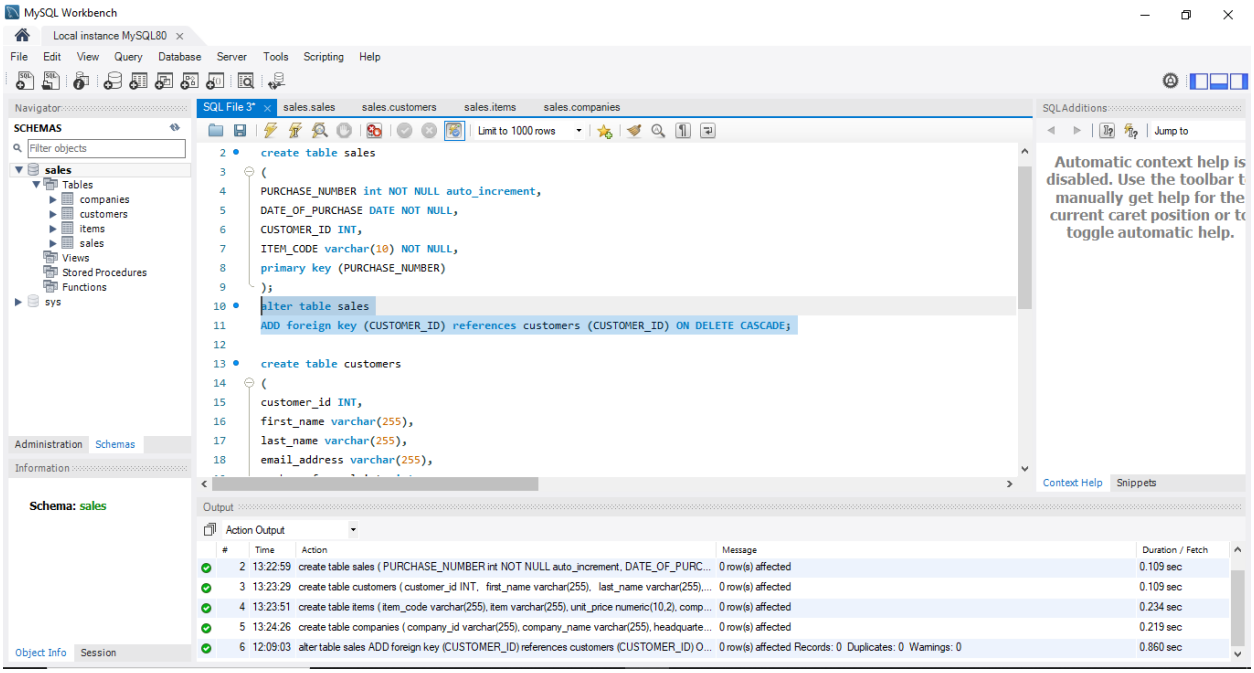
While, we had dropped the “customers” and “sales” table and the entire database. We will re-create the database and its tables using the following code:



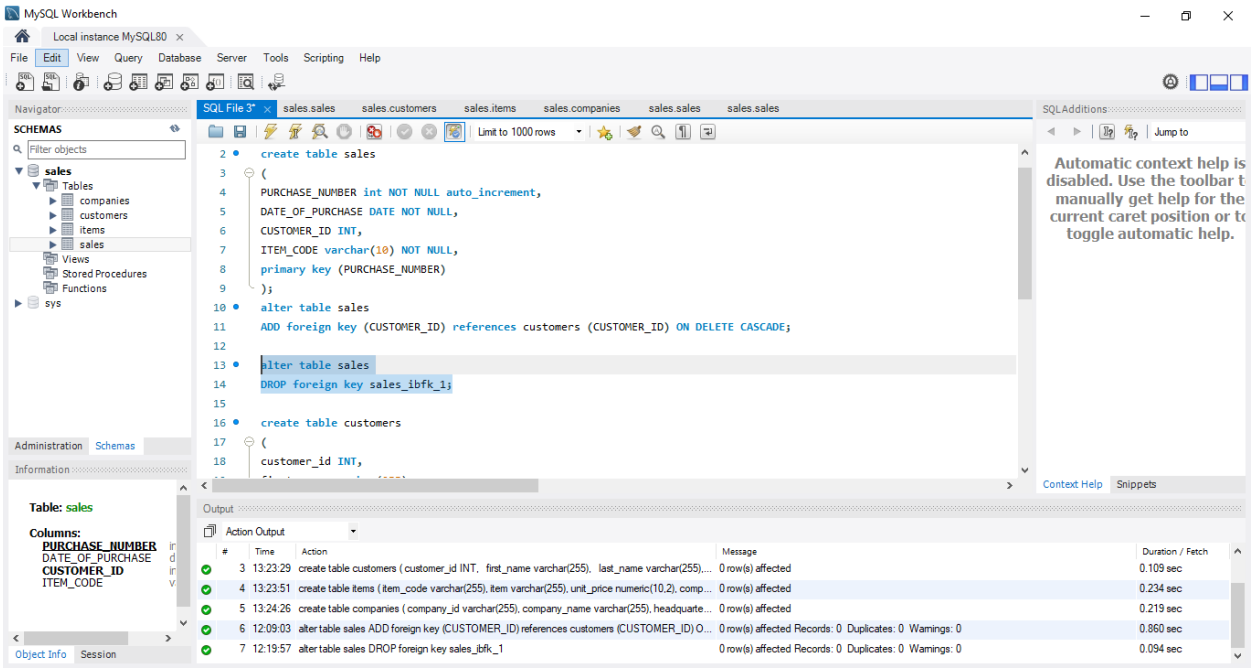




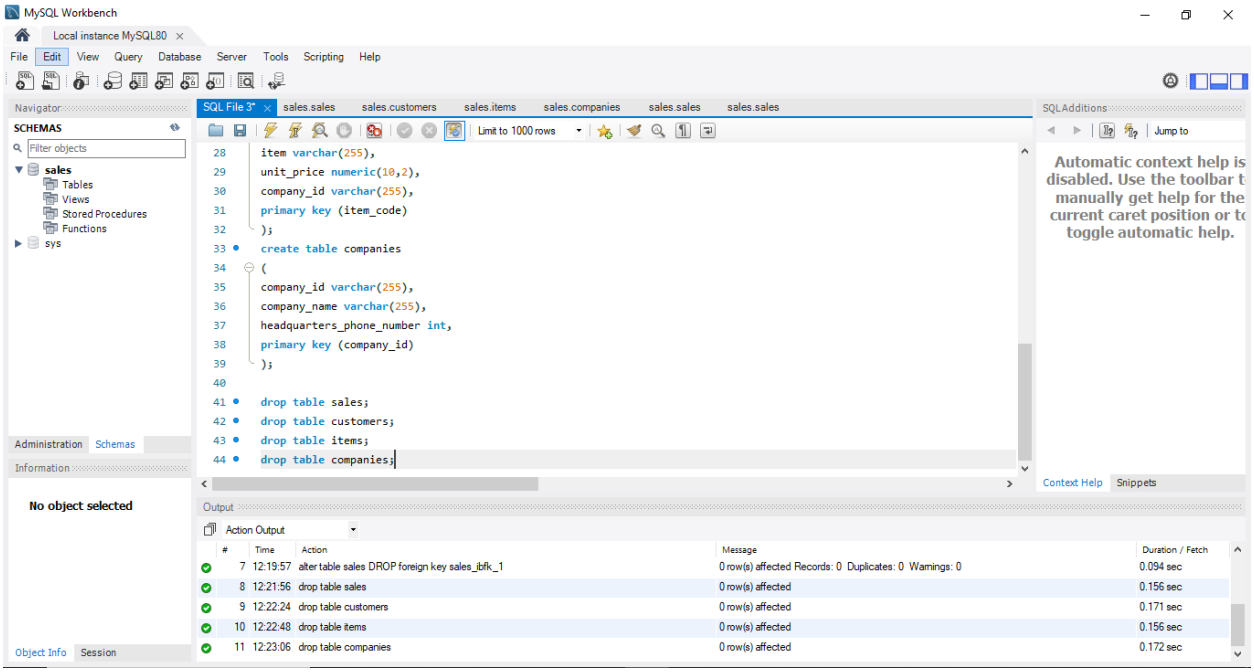
Next, we altered our sales table to add a foreign key as shown in below picture:



But, we don't need a table with foreign key. Instead, a table with primary key only will suffice for now. So we can remove the newly created constraint as below:



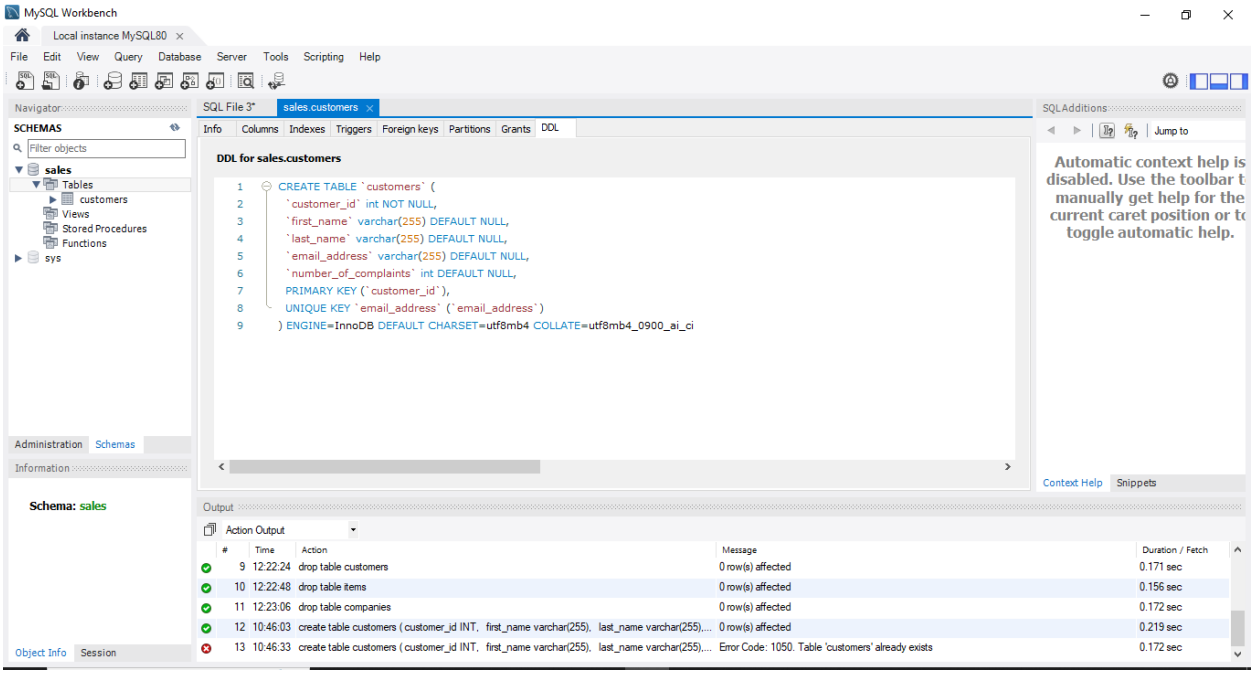
Now, we dropped all the tables from the sales database:



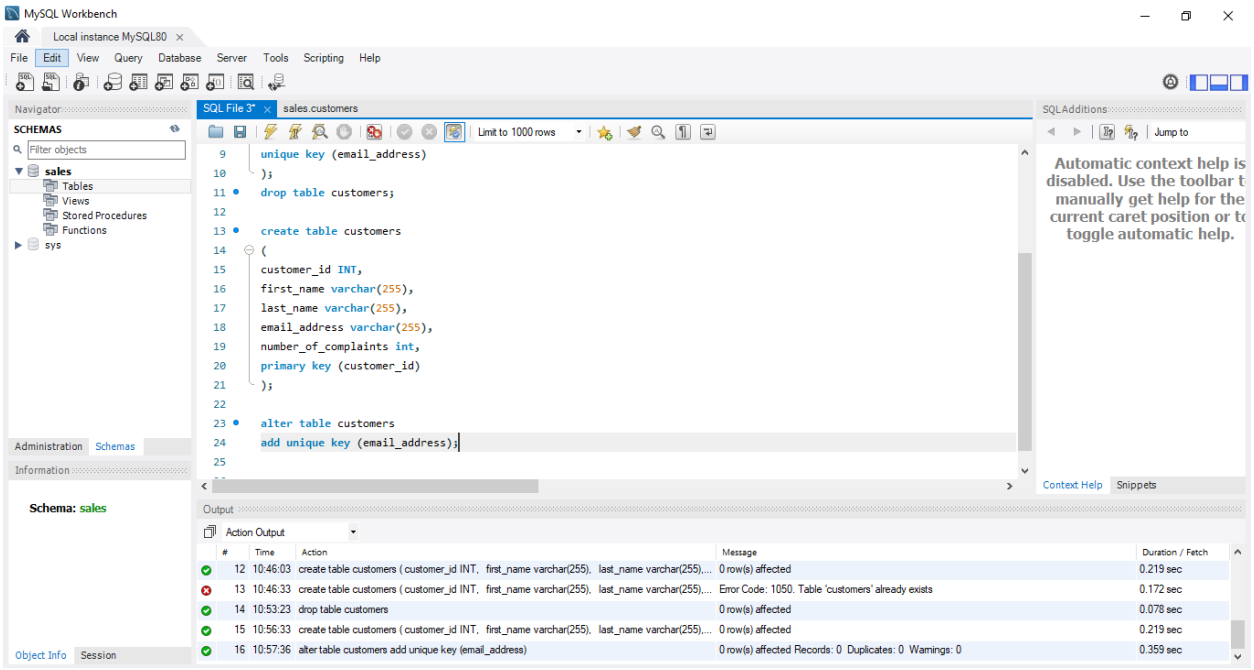
Re-creating customers table and adding a unique key constraint by writing the following code:

```
create table customers
(
customer_id INT,
first_name varchar(255),
last_name varchar(255),
email_address varchar(255),
number_of_complaints int,
primary key (customer_id),
unique key (email_address)
);
```

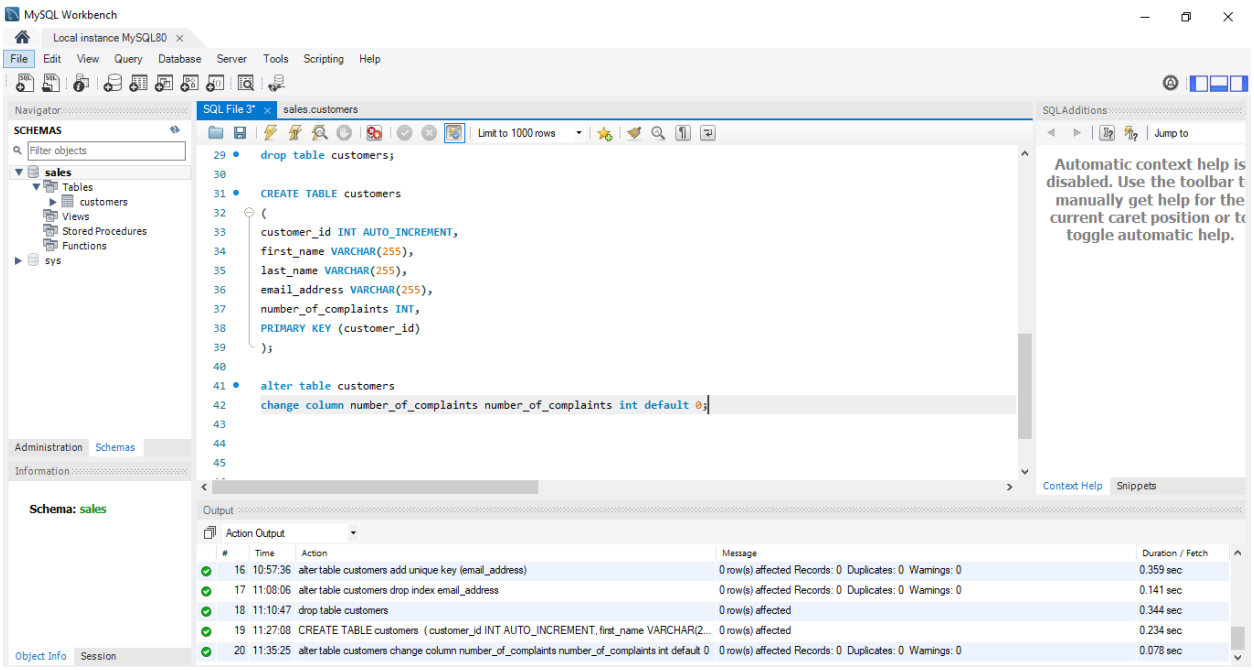
We can verify that we have applied the unique key constraint to our table by going to the DDL tab of customers table



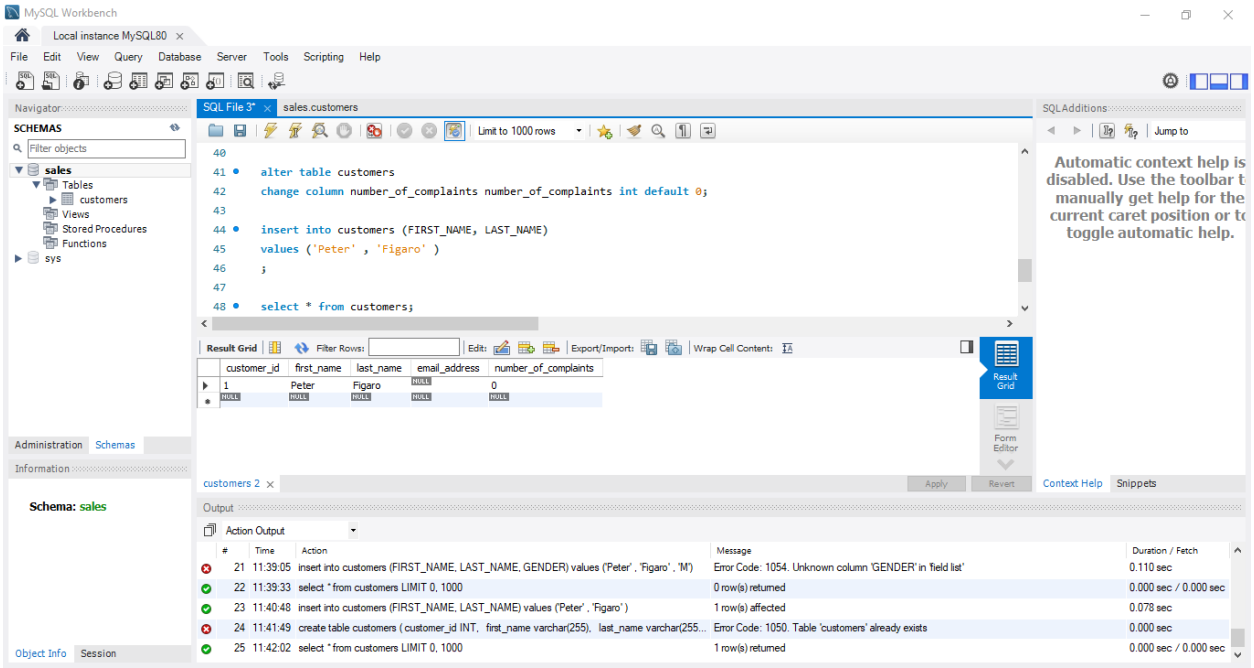
Since we got an error, we will employ the second method. For this, we will first drop our table, re-create it with only primary key, then add unique key via alter statement as shown below



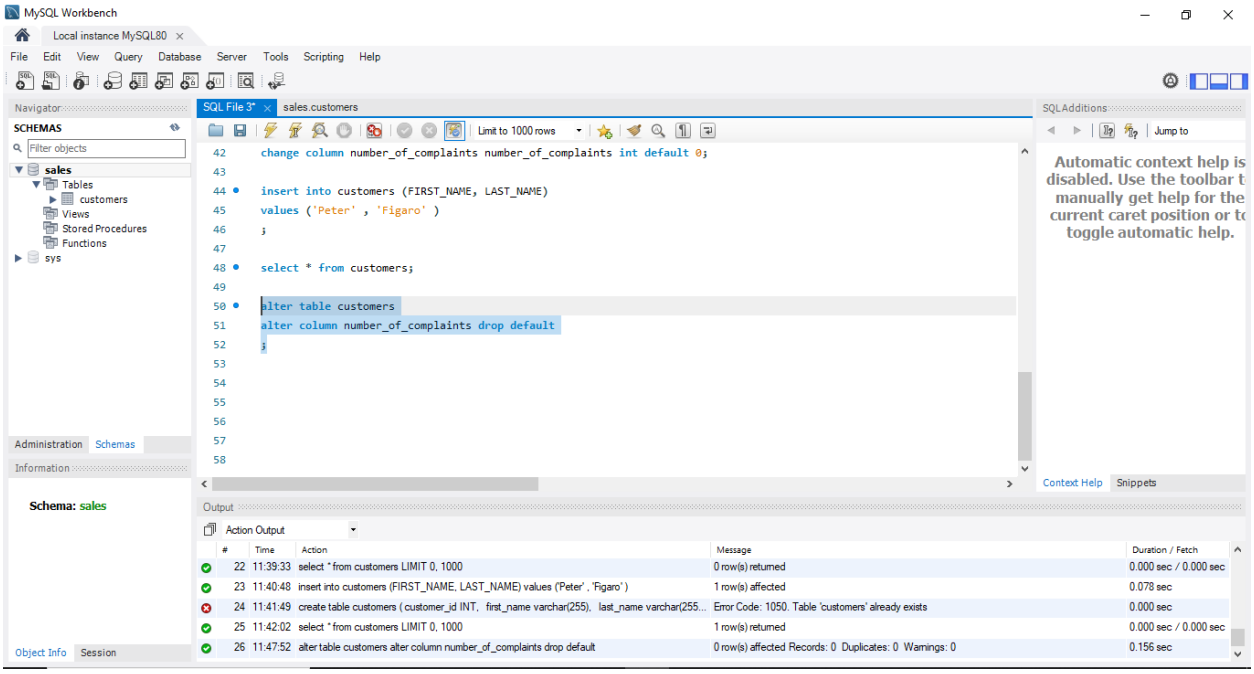
Now, creating DEFAULT constraint, so we first dropped our customers table, recreate it and added alter statement followed by CHANGE command.



We inserted our first record in our customers table and to check it we used the SELECT command:



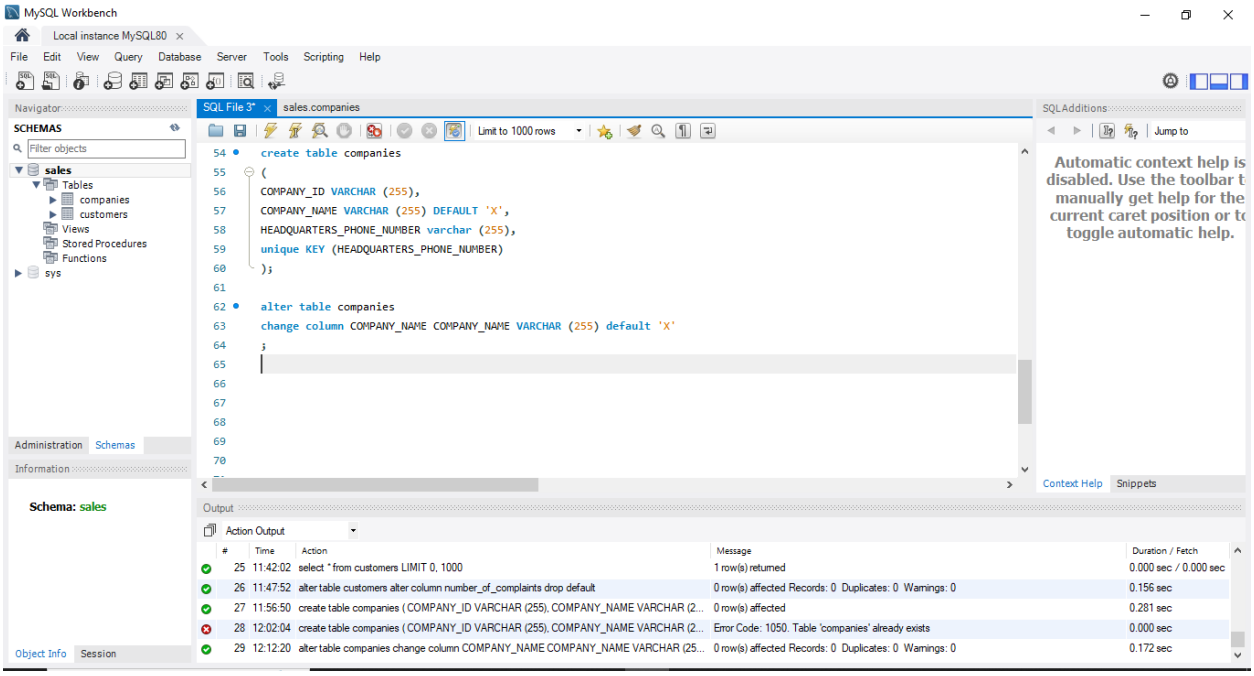
We can drop our default constraint like we did previously

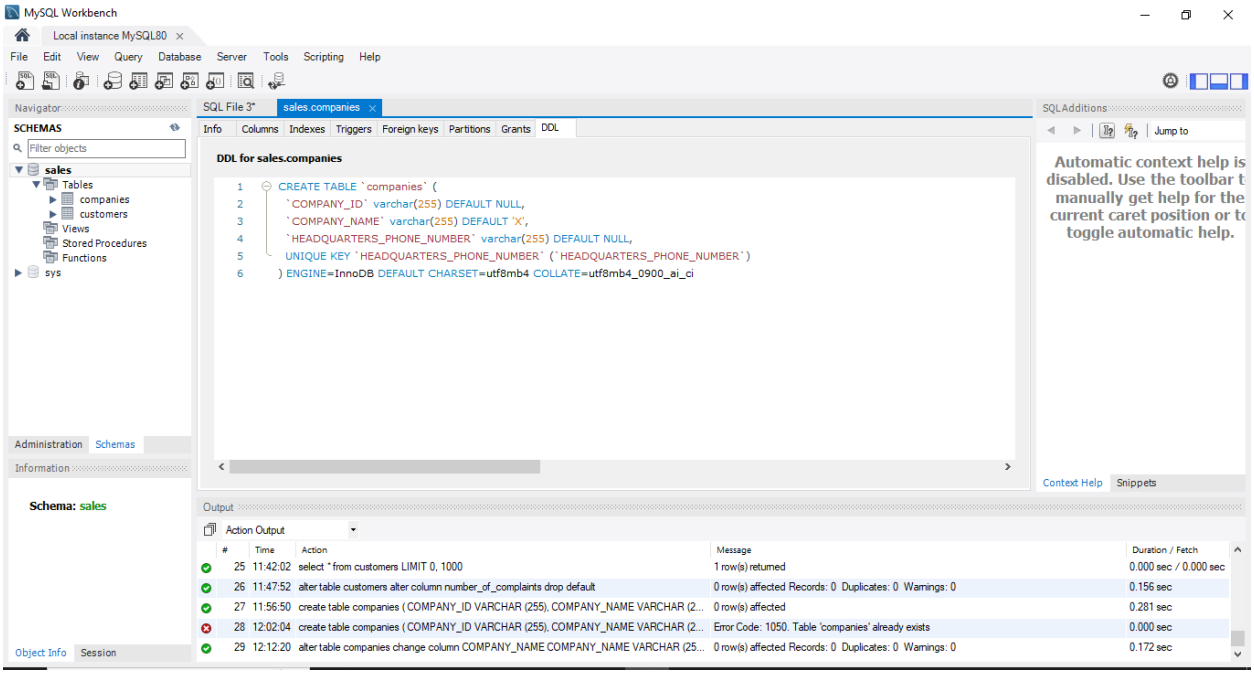


Exercise:

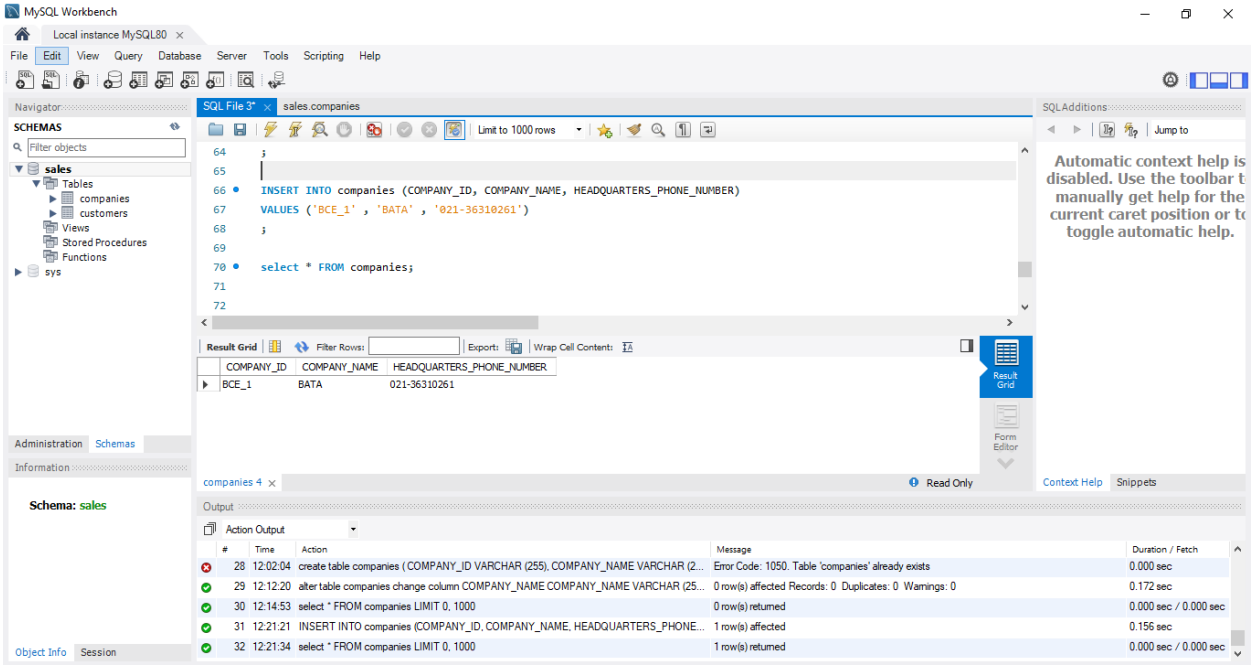
Recreate the "companies" table with columns: company_id, company_name, and headquarters_phone_number. This time setting the "headquarters phone number" to be the unique key, and default value of the company's name to be "X". After you execute the code properly, drop the "companies" table.

Solution:

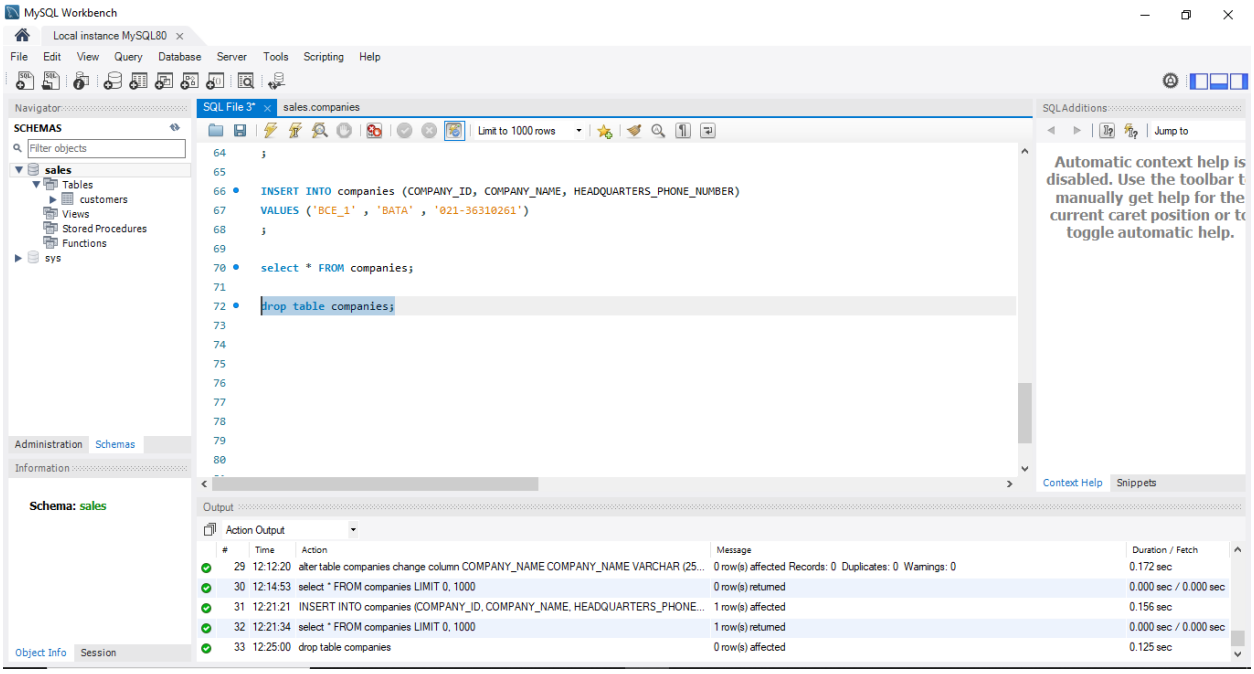




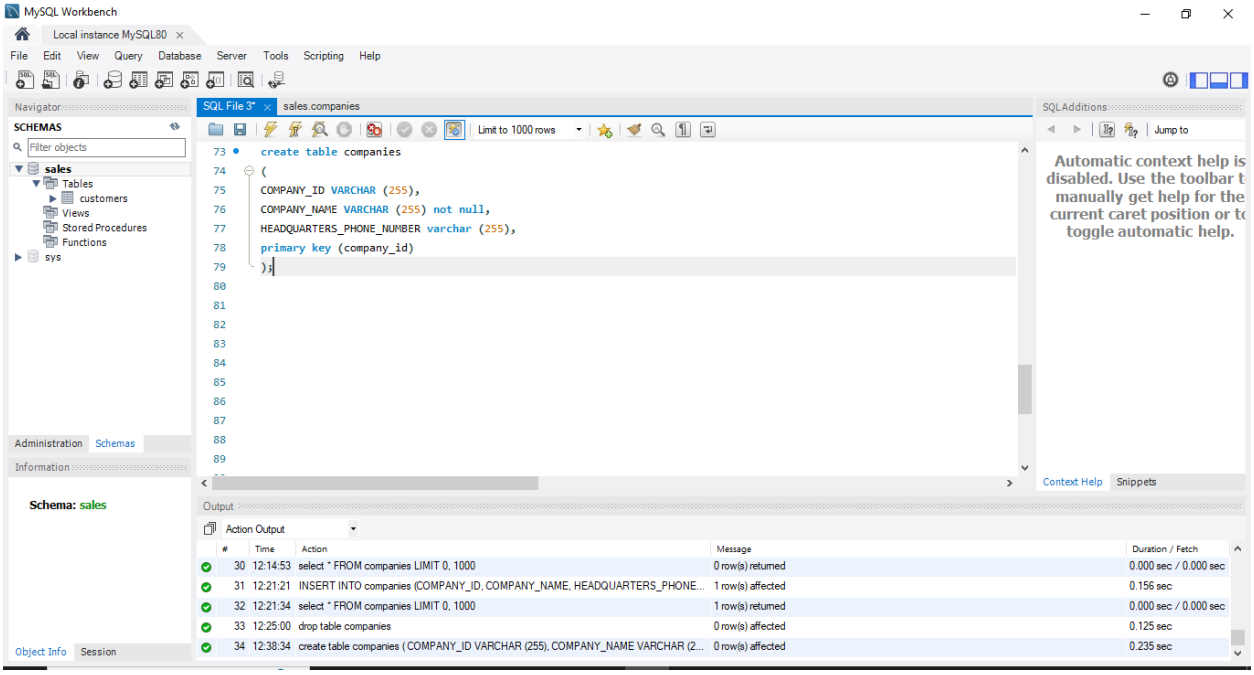
I also added a dummy record for just one row to practice my skills that I learned in the lesson.



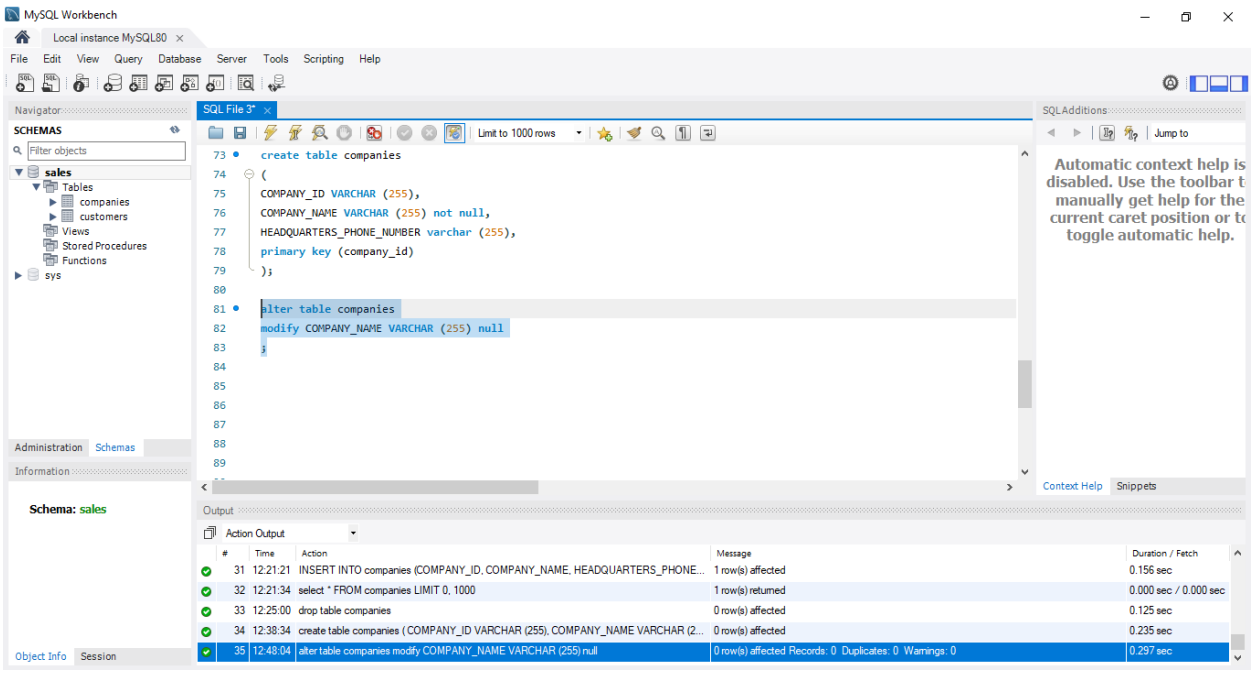
As mentioned in the exercise, I dropped the companies table:



Now, our last constraint: NOT NULL.



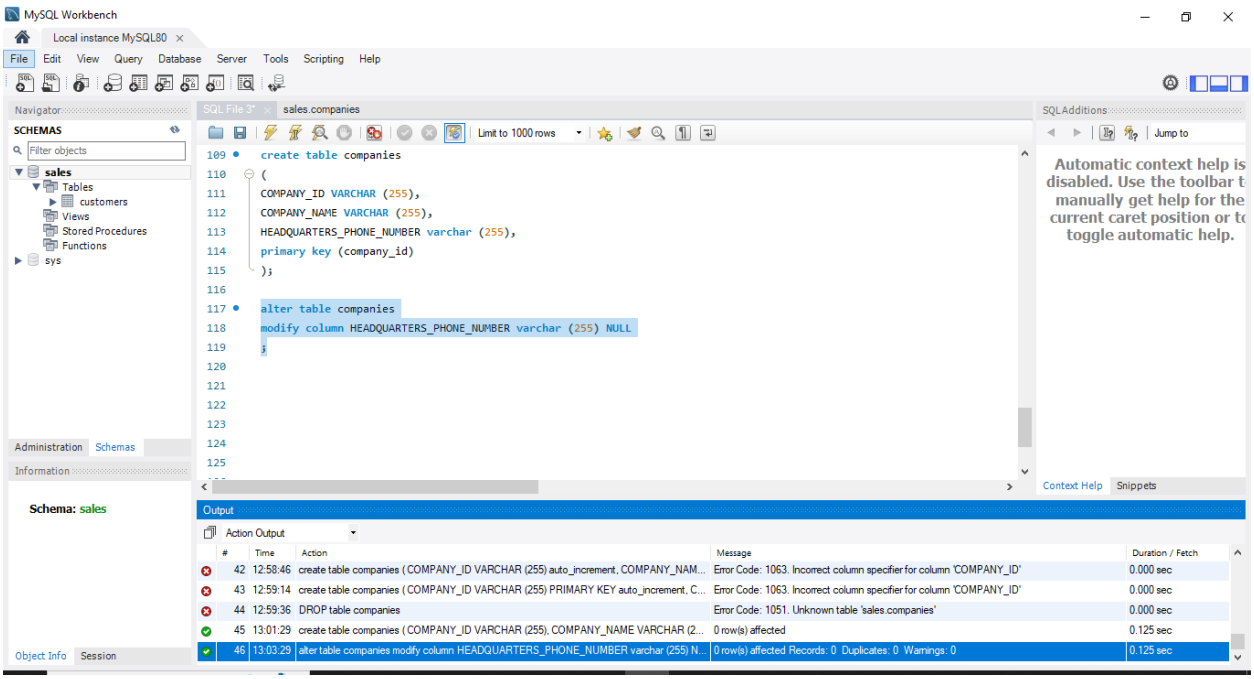
For dropping this constraint, we will use modify statement:

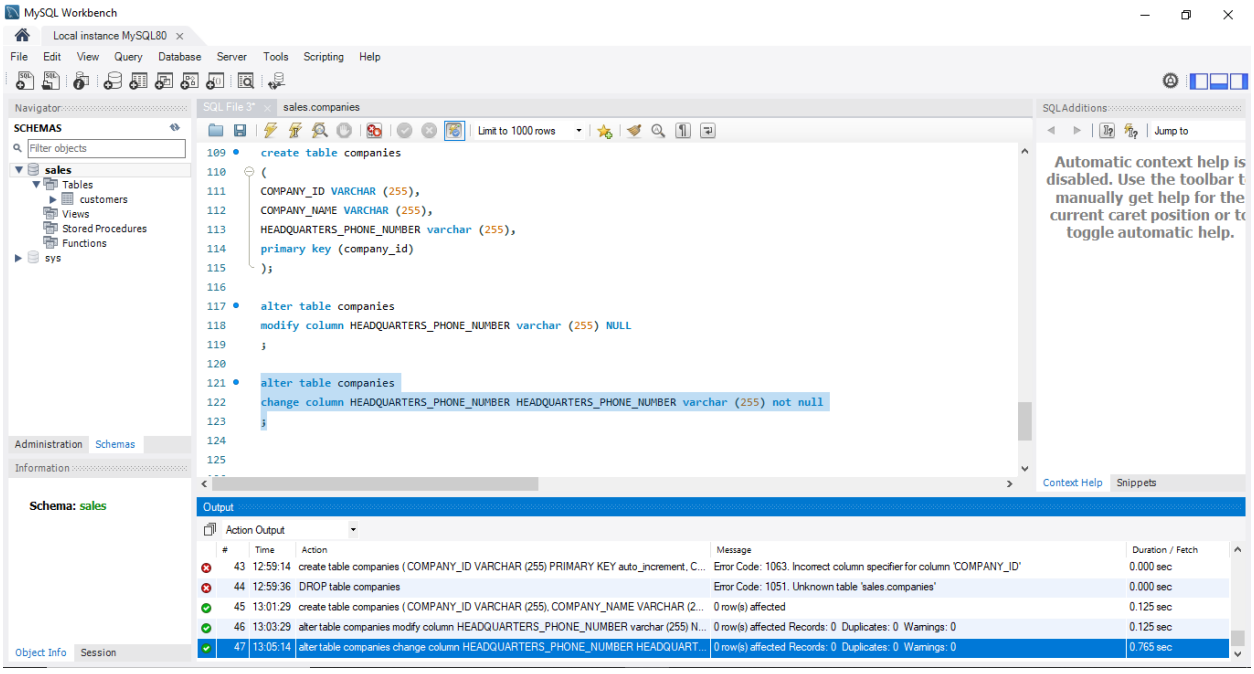


Exercise:

Using ALTER TABLE, first add the NULL constraint to the headquarters_phone_number field in the "companies" table, and then drop that same constraint.

Solution:




MySQL Workbench
Local instance MySQL80
File Edit View Query Database Server Tools Scripting Help
Navigator
SCHEMAS
Filter objects
sales
Tables
customers
Views
Stored Procedures
Functions
sys
Administration Schemas
Information
Schema: sales
Object Info Session
SQL File 3* sales.companies
Limit to 1000 rows
109 create table companies
110 (
111 COMPANY_ID VARCHAR (255),
112 COMPANY_NAME VARCHAR (255),
113 HEADQUARTERS_PHONE_NUMBER varchar (255),
114 primary key (company_id)
115);
116
117 alter table companies
118 modify column HEADQUARTERS_PHONE_NUMBER varchar (255) NULL
119 ;
120
121 alter table companies
122 change column HEADQUARTERS_PHONE_NUMBER HEADQUARTERS_PHONE_NUMBER varchar (255) not null
123 ;
124
125
SQLAdditions
Jump to
Automatic context help is disabled. Use the toolbar t manually get help for the current caret position or t toggle automatic help.
Context Help Snippets
Output
Action Output
Time Action Message Duration / Fetch
43 12:59:14 create table companies (COMPANY_ID VARCHAR (255) PRIMARY KEY auto_increment, C... Error Code: 1063. Incorrect column specifier for column 'COMPANY_ID' 0.000 sec
44 12:59:36 DROP table companies Error Code: 1051. Unknown table 'sales.companies' 0.000 sec
45 13:01:29 create table companies (COMPANY_ID VARCHAR (255), COMPANY_NAME VARCHAR (2... 0 row(s) affected 0.125 sec
46 13:03:29 alter table companies modify column HEADQUARTERS_PHONE_NUMBER varchar (255) N... 0 row(s) affected Records: 0 Duplicates: 0 Warnings: 0 0.125 sec
47 13:05:14 alter table companies change column HEADQUARTERS_PHONE_NUMBER HEADQUART... 0 row(s) affected Records: 0 Duplicates: 0 Warnings: 0 0.765 sec