Data Transfer

Version 4.2

Jack Gerrard

February 2017

Foreward

The focus of this document is the data transfer from previous version databases to the current uniCenta oPOS 4.2 schema.

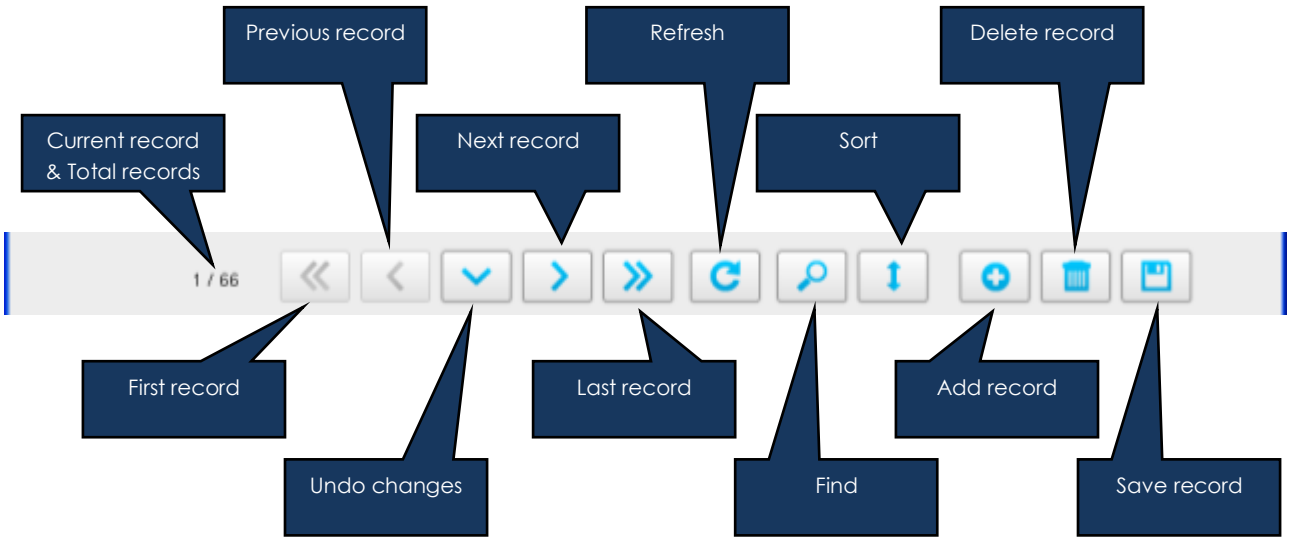
Any uniCenta oPOS Beta version should not be used in a live production environment

Date	Version	Author	Comment
June 2016	Beta1	Jack Gerrard	Draft
July 2016	Beta2	Jack Gerrard	Update
August 2016	Beta3	Jack Gerrard	Update & Final
September 2016	Beta4	Jack Gerrard	Update & Final
October 2016	4.2	Jack Gerrard	Final
February 2017	4.2	Jack Gerrard	Update & Final

Useful things

Editor Toolbar

You will see this toolbar is used throughout uniCenta oPOS so here's a quick overview of what the buttons do. The Editor Toolbar appears in all record management forms.



Tooltips

Lots of things in uniCenta oPOS use pop-up Tooltips.

All you have to do is hover your mouse pointer over a component for a second and it will give you a brief description of what it does. Tooltips are constantly being added or revised as uniCenta oPOS development progresses.

TRANSFERS

In previous versions – upto v4 – upgrading uniCenta oPOS was a matter of stepping through each new release. So, for example if you were a user of v3.70 and wanted to move to 3.91.3 you had to download and install 3.8, then 3.9, 3.91.1, 3.91.2 and finally 3.91.3

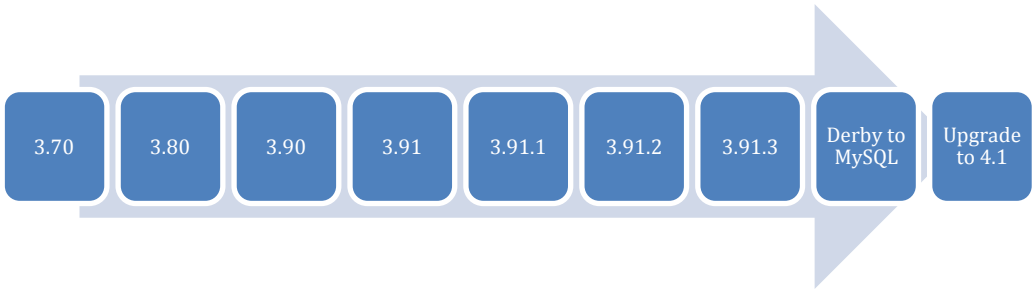
In v4 this step-through process changed and it automatically detected the older application version and upgraded it in one step (only from v3.70 and later).

In both cases this only applied to MySQL databases. Support for Apache Derby database was dropped in v4 so shifting from Apache Derby to a MySQL database server was quite a challenge and time intensive. Few, if any, free or reasonably priced database tools to accomplish a transfer just didn't/don't exist.

uniCenta oPOS 4.2 has changed all that as it now has the built-in functionality to transfer data from Apache Derby Embedded, MySQL (PostgreSQL will be available in late Q4 2016) databases to the latest uniCenta oPOS versions.

Importantly, the new functionality does not make any changes whatsoever to your existing database; it just reads it. It "imports" the existing data into the latest database schema rather than making changes to the existing source schema. So, your original database is preserved, unaffected and your important data is now resident in the new and latest uniCenta oPOS v4.2 database schema.

OLD WAY



NEW WAY

PREPARATION

It is a good idea to set a few options in the System>Configuration first. They provide some useful information during the Database Transfer.

Steps:

1. Create a new MySQL database (schema) – **unitest** is used as an example throughout this guide - and any User Permissions if required
   Refer to the MySQL manuals or use a tool like MySQL Workbench how to do this, and make a note of the schema Name. You need this in the next step along with the MySQL Username and Password
2. Change uniCenta oPOS Configuration settings. Go to the pop-out menu (left-side)
   a. On the General tab: Select Screen>Windows
   b. On the same tab: Un-Check the Hide Footer Status Bar
   c. On the Database Setup tab: Test the connection to the MySQL schema (**unitest**) you created in Step-1
3. Save & Exit
4. Restart uniCenta oPOS. As this is a new database a pop-up dialogue is displayed asking to create a new database. Answer OK
5. Log in as Administrator – the Database Transfer option can only be run by the Administrator
6. Inspect the Footer Status Bar. Make sure the status info' shows:
   jdbc:mysql://yourmysqlserver/**unitest** (or Name you created in Step 1)
7. Select and run the Tools>Database Transfer
8. After the transfer is complete the newly transferred data is immediately visible in uniCenta oPOS and ready for use
   Note: If the source database is very large – see the Footer Status Bar>Memory Bar – it may consume a high percentage of available (JVM) memory during the transfer process. If it is beyond 50% it is recommended you restart uniCenta oPOS else performance may be affected.
9. After restarting uniCenta oPOS it is advisable to check that everything is OK and all the data transferred successfully

IMPORTANT:
The following source database tables are not transferred during the Database Transfer process:

1. CSVImport – as this is transient data it is omitted
2. Resources – changes to scripts like i.e.: Printer.Tickets will need to be redone
3. Roles – new Permissions have been added
4. Any user modified, non-standard table or table column – these will likely cause error messages and prevent the transfer from completing

If the database you are transferring from is larger than 50MB or contains images it is strongly recommended you change a MySQL server setting.

If you receive an error message - similar to the snippet below - or the transfer process appears to 'freeze' for a long period the transfer has very likely to have failed and you will need to restart from Step #1 after following the **How to fix** section below.

```
com.mysql.jdbc.PacketTooBigException:

Packet for query is too large (5098311 > 4194304). You can change thi
s value on the server by setting the max_allowed_packet' variable.
```

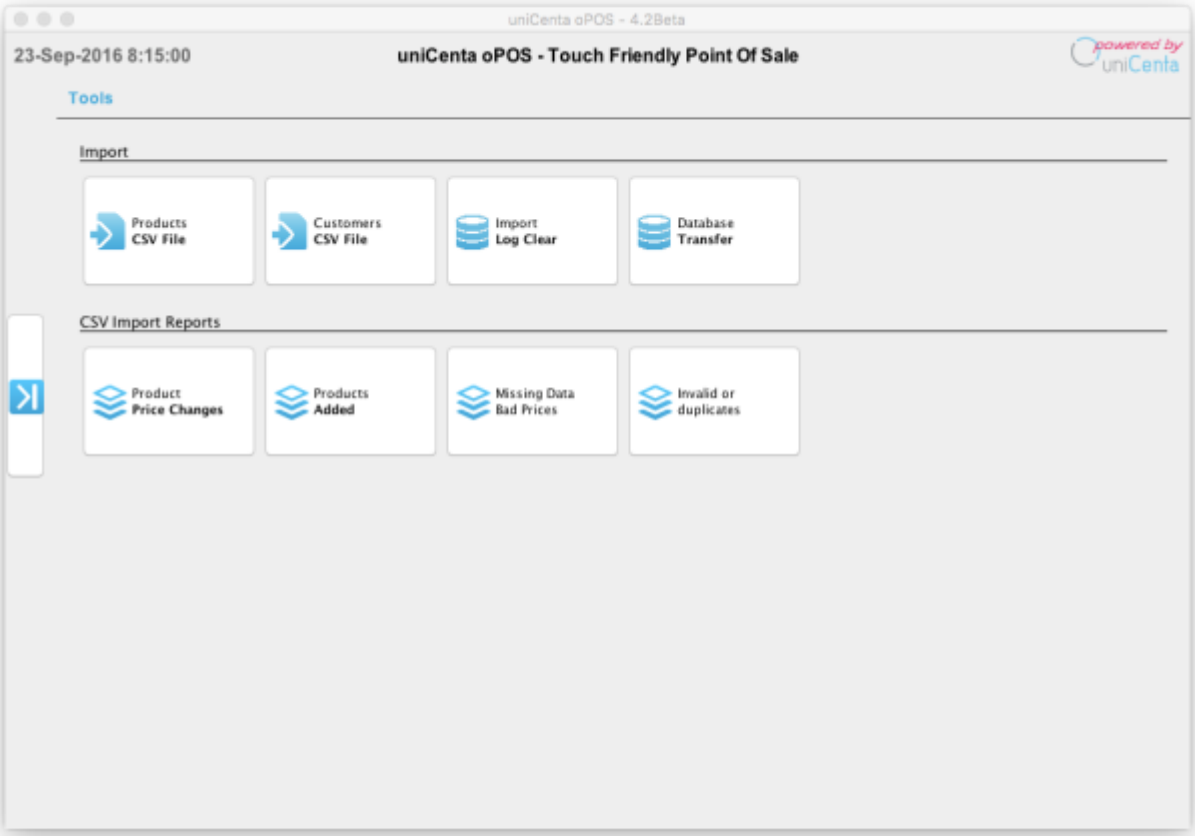
How to fix:
Follow the uniCenta oPOS Database Transfer Guide and create a new schema using a DB Admin tool – like Workbench – and immediately run this command against the new schema;

```
SET GLOBAL max_allowed_packet=50*1024*1024
```

The 50 value is just an example and you may have to experiment to get the right value as it depends on the content of the database to transfer from.
Start uniCenta oPOS and run the Database Transfer tool against the new schema.

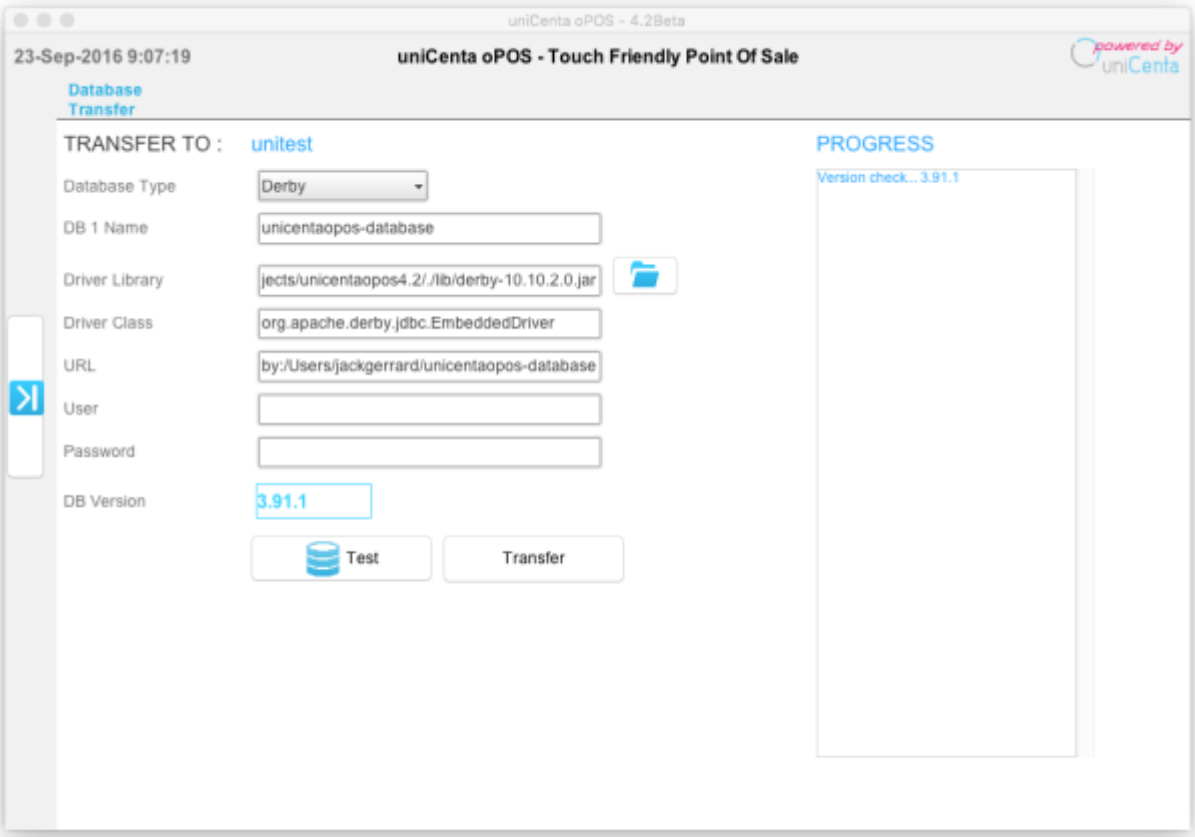
You can, of course, set this as a MySQL default in your my.cnf (Linux and Mac) or my.ini (Windows). Please refer to the MySQL documentation how to do this.
If your MySQL database is located with a web hosting company you may need to discuss with them how to set the configuration.

DATABASE TRANSFER



The Database Transfer option is accessed from the pop-out main menu under **Utilities>Tools>Database Transfer**

TRANSFER



TRANSFER TO :

Uses the current session's database '**unitest**' As specified in PREPARATION : Step 1

PROGRESS

Activity list of each process

Database Type

Choose the database type to transfer from. Options available are Apache Derby, MySQL, PostgreSQL

DB1 Name

This is the source database name to transfer from. Automatically filled when selecting Database Type using the original uniCenta oPOS installation defaults. Accept default or change if necessary.

Driver Library

Automatically filled when selecting Database Type. No need to change unless absolutely necessary.

Driver Class

Automatically filled when selecting DatabaseType. No need to change unless absolutely necessary.

URL

The source database location to transfer from. The database name is automatically appended if the DB 1 Name field is changed.

Example: jdbc:derby:/Users/jackgerrard/unicentaopos-database

User

Username to access the source database. Generally Apache Derby Embedded databases are set without the need for a Username. MySQL and PostgreSQL usually need a Username.

Password

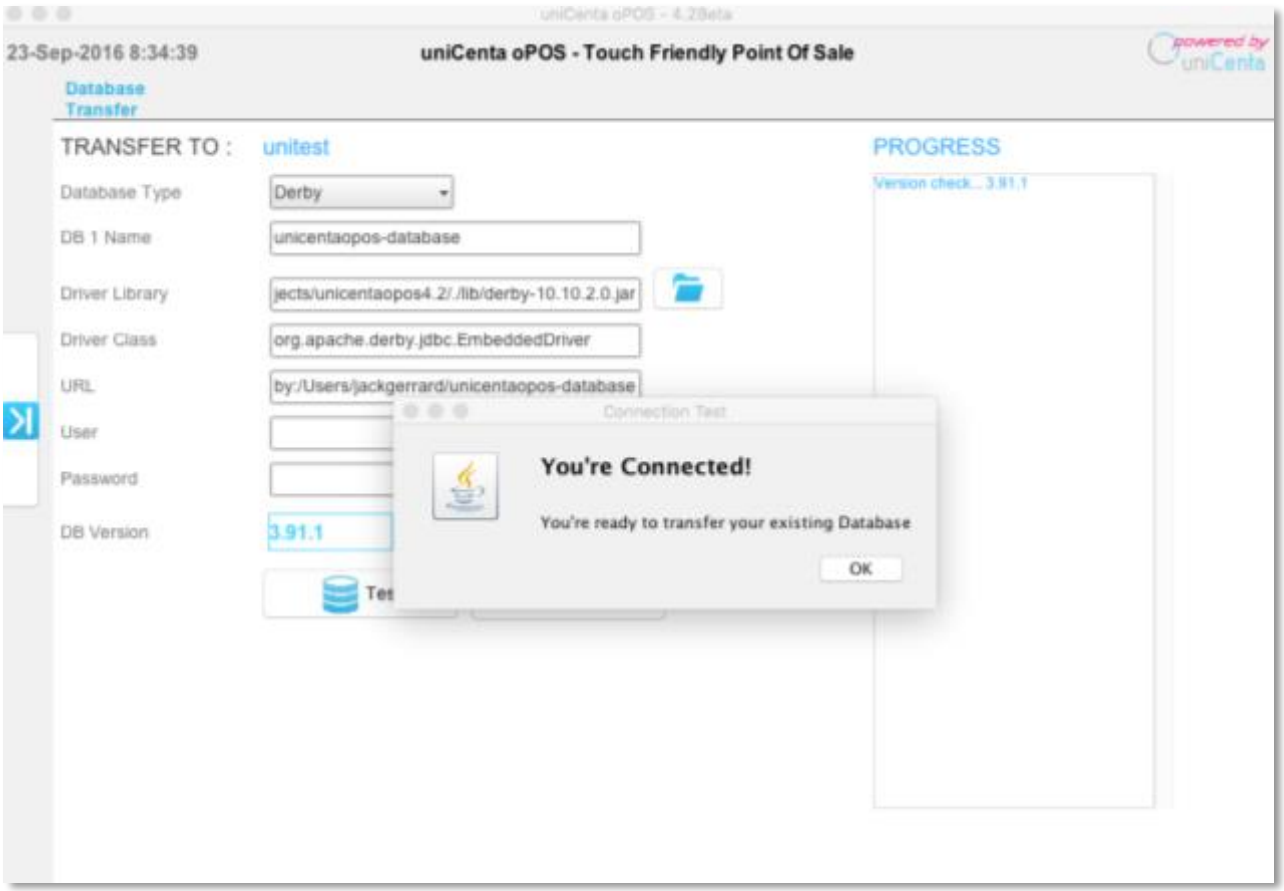
Password to access database. Generally Apache Derby Embedded databases are set without the need for a password. MySQL and PostgreSQL usually require a Password.

DB Version

The detected version of the source database is displayed.

Test

This button tests the connection to the source database specified in the above settings

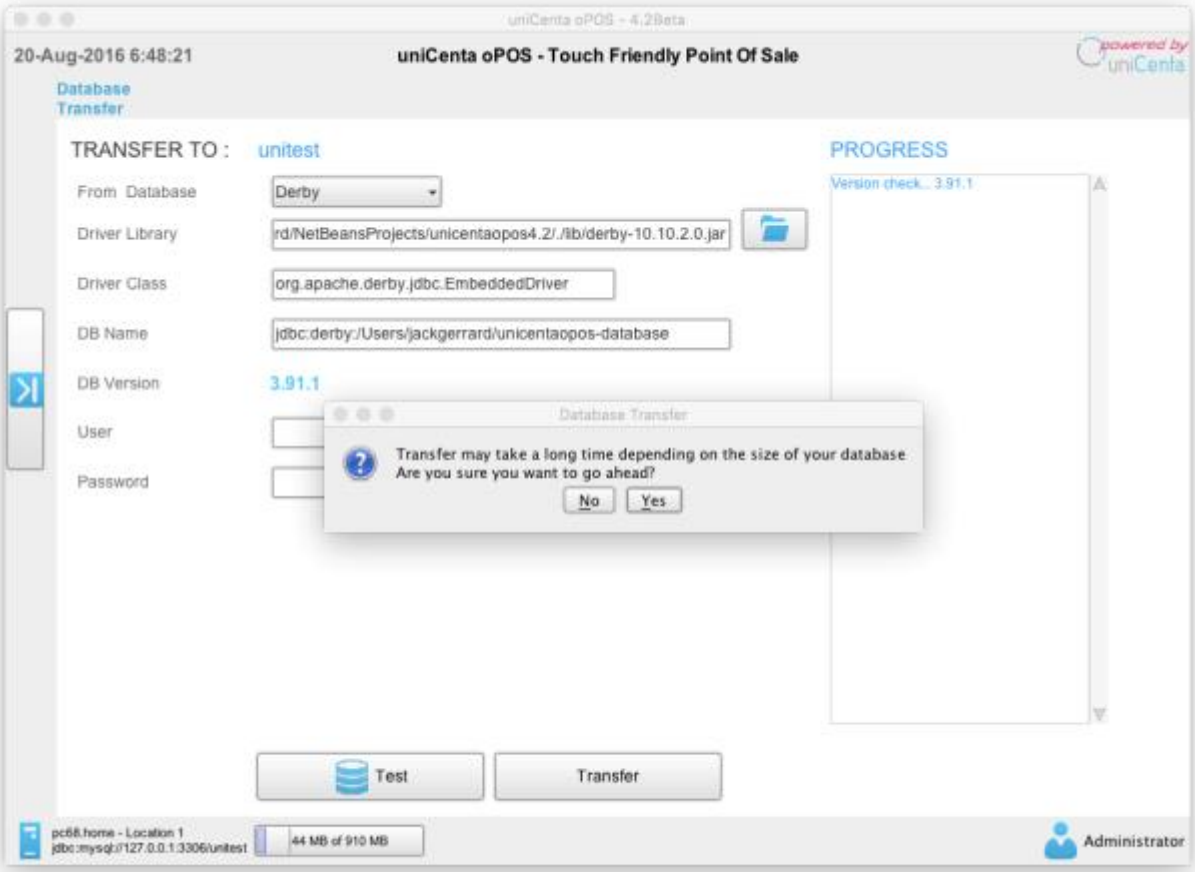


Notice that the Transfer button is not enabled yet. You need to use the Test button to prove the connection to your chosen source database. You cannot go to the next step unless you do this first.

Apache Derby Embedded users: Apache Derby Embedded databases only allow one user at a time. Ensure your chosen database is not in use elsewhere – such as another running instance of uniCenta oPOS – else you will receive an error message when testing the connection.

Transfer Database

Kicks off the transfer process. The button is not enabled initially and only lights up after the Test button is used and a successful connection to the source database has been established.



You have the choice to continue with the database transfer or not. If you do continue, a progress bar appears beneath the PROGRESS List to keep you updated during the processing.

The PROGRESS List

Dynamically updated list of process events as they happen

The Progress Bar

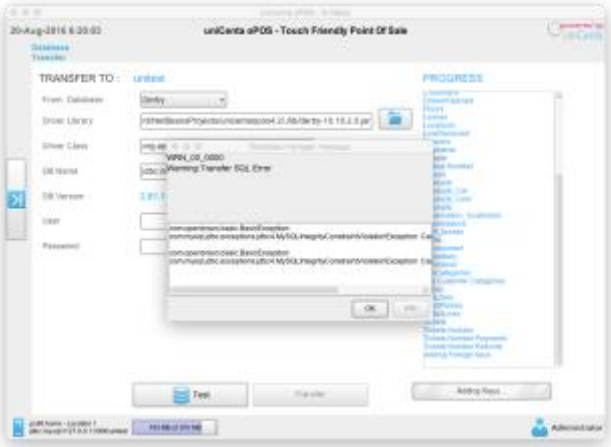
Shows four main processing steps:

1. Starting - Getting things ready…
2. Running - Transferring your data…
3. Foreign Keys - As it says...adding foreign keys & etc…
4. Finished - Steps 1 – 3 completed successfully

DATA TRANSFER PROCESS

INDEX DATA PROCESS

ERROR MESSAGE – Duplicate keys



A series of dialogues are show in addition to the PROGRESS List. You will need to OK the Database Transferred and Index to continue.
You will receive an error message(s) if the transfer process detects duplicate data in your source database when adding Foreign Keys. It is safe to continue should this message appear though only one of the duplicate transferred records will be included.

PERFORMANCE

Here is a sample performance report from a Database Transfer process:

Aug 20, 2016 2:17:34 PM com.openbravo.data.loader.StaticSentence openExec
INFO: Executing static SQL: /** Script created by Jack, uniCenta 07/08/2016 08:00:00** Called by Transfer for v4.2 after MySQL-create-transfer.sql
…
…
Aug 20, 2016 2:34:58 PM com.openbravo.data.loader.StaticSentence openExec
INFO: Executing static SQL: SELECT ID, NAME, APPPASSWORD, CARD, ROLE, IMAGE FROM people WHERE VISIBLE = TRUE ORDER BY NAME

Elapsed Time: ~18 minutes
Machine: Apple MacBook Air 1.4GHz 2GB RAM OS X El Capitan

Count snapshot of some tables:

TABLES	RECORDS
categories	68
closedcash	1036
draweropened	28277
lineremoved	2620
payments	45602
products	1129
products_com	1099
receipts	45601
taxlines	48191
tickets	45601
ticketlines	70547