



## MariaDB Upgrade

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# Introduction

The MySQL Upgrade Kit Installer (MUKI) upgrades the SFX installation from 64 bit MySQL 5.1.x to MariaDB 10.0.23. Note that this is for Linux installations only. Refer to *Requirements for SFX 4 Installation* for further details on the system requirements. Customers with Solaris installations continue to use MySQL.

Customers having replication configured on MySQL have to do additional steps as described in [Preparing for the Upgrade](#) and Post-Upgrade Activities.

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## Notes:

- The MySQL Upgrade Kit Installer should be run as the `sfxglb41` user.
  - The MySQL root password is needed for the upgrade, and the SFX installation has to be up to date with SP 4.8.2 or later.
  - Upgrading is not required for hosted customers – the upgrade has been performed by the Ex Libris Cloud team.
  - There is a short downtime of the SFX services during the upgrade. Downtime occurs during the restart phase of the upgrade (when stopping MySQL and then immediately starting MariaDB)
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## Preparing for the Upgrade

Implement the following procedure before the upgrade.

### To prepare for the upgrade:

- 1 Make sure there is a full up-to-date backup of the SFX installation. More information about backups can be found in the *Ex Libris Backup Package*.
- 2 Check that the SFX environment is up and running by sending an OpenURL to one of the SFX instances or by clicking the **Test SFX** button for one of the objects/object portfolios in the **SFXAdmin > KBManager**.
- 3 Create a MySQL password configuration file:
  - a Type:

```
su - sfxglb41
vi $SFX_HOME/tmp/mysql_opt
chmod 600 $SFX_HOME/tmp/mysql_opt
```

- b** Paste the follow into the file and replace the xxxxxxxx with the correct (not-encrypted) MySQL root password:

```
[client]
user="root"
password="xxxxxxx"
socket=/exlibris/sfx_ver/sfx4_1/tmp/socket/mysql.sock
```

---

**Notes:**

- The file should be deleted after the upgrade is completed – see step 1 of the **Post-Upgrade Activities** instructions below.
- You can check the MySQL root password is correct by doing the following:

Type:

```
su - sfxglb41
mysql -uroot -pxxxxxxx
```

- 
- 4** Get the MySQL Upgrade Kit Installer.

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**Note:** This step is not needed if SP 4.8.3 has been applied on the SFX server.

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```
mkdir -p /exlibris/sfx_ver/sfx4_1/tmp/MariaDB
cd /exlibris/sfx_ver/sfx4_1/tmp/MariaDB
wget ftp://sfxuser:~!r4x4qus@ftp.exlibrisgroup.com/sfx/revisions_v4/4.8.3/
muki.sh
```

- 5** Run the following command in order to fix any problems with the MySQL tables:

```
/exlibris/sfx_ver/sfx4_1/app/mysql/bin/mysqlcheck -uroot -pxxxxxxx --auto-
repair mysql
```

## Customers Configuring MySQL Replication

Maria DB 10.0.23 is a MySQL replacement comparable to MySQL 5.5 with features taken from 5.6. The replication setup was changed from MySQL 5.1 to MySQL 5.5 making some `my.cnf` options obsolete, while keeping them defined using MySQL commands. Implement master/slave replication according to the MariaDB 10.0.23 instructions.

The MySQL 5.5 document lists the obsolete options for replication at <https://dev.mysql.com/doc/refman/5.5/en/replication-options-slave.html#replication-optvars-slaves-obsolete>.

Remove or comment out obsolete options s from the `my.cnf` configuration file prior to the upgrade. After the upgrade, translate the removed options with the CHANGE MASTER TO command according to the documentation in the link above.

# Performing the Upgrade

Implement the following to perform the upgrade.

## To perform the upgrade:

- 1 Verify you logged in as sfxglb41 user. Type:

```
bash muki.sh
```

The script downloads the MariaDB package, backs up the MySQL internal schema, and performs the upgrade. This process may take some time.

- 2 To check the log during the upgrade, type the following:

```
tail -f $SFX_HOME/tmp/mysql_upgrade.log
```

## Post-Upgrade Activities

Implement the following after the upgrade:

- 1 Type the following:

```
rm -f $SFX_HOME/tmp/mysql_opt
```

- 2 Verify that the environment is up and running.
- 3 Make a new **complete backup** of the SFX installation. Backups taken before the upgrade cannot be used with MariaDB. (More information about backups can be found in the *Ex Libris Backup Package*.)
- 4 Contact SFX support and inform them that the MariaDB upgrade has been performed. SFX support updates Sales Force with this information.
- 5 If you are configuring replication, redo the replication configuration according to MariaDB 10 (<https://mariadb.com/kb/en/mariadb/setting-up-replication/>).

## Appendix – Troubleshooting

Any failure on steps prior to the actual switch to MariaDB does not require rollback – you are able to restart MySQL, and SFX runs normally.

After the MySQL schema backup step, the SFX Upgrade Kit displays the following message:  
No rollback beyond this point.

A failure after this step (with the exception of the Authors table re-index), requires running a rollback script in order to roll back the MUKI changes and start MySQL.

---

**Note:** It is preferable to fix the problem reported by the Upgrade Kit and complete the upgrade rather than performing a roll back to MySQL. (If you have any questions, contact SFX Support.)

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The rollback script is deployed to: `$SFX_HOME/tmp`

To start the rollback script, run the command:

```
su - sfxglb41
```

```
$SFX_HOME/tmp/restore51.csh
```

The script attempts to restore the backup from the latest MUKI session available on the server.

After starting the previous (5.1) MySQL server, the Sphinx indexing utility runs to recreate the Sphinx index for Authors. Check for error messages during this process.

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**Note:** If the rollback script fails to restore MySQL properly, it is necessary to restore from a full backup, which is required before starting the upgrade process.

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If the upgrade process fails after the message `No rollback beyond this point`, it may be possible to re-run the upgrade manually using the instructions below. Contact SFX support before starting this.

Type the following:

```
cd /exlibris/sfx_ver/sfx4_1/tmp/MariaDB
mysql_upgrade --defaults-file=/exlibris/sfx_ver/sfx4_1/tmp/mysql_opt
mysql -usfxglb41 -p<pass> sfxglb41 -e "update CONTROL set control_value = 0
where control_group = 'other_flags' and control_section = 'run_information'
and control_name = 'sw_use_sphinx_index'"
perl -MDBLayer::Authors -e 'eval DBLayer::Authors->new()->index_authors()'
```

## Appendix – FAQ

- What are the disk space requirements for the MySQL upgrade?

The upgrade process requires a backup. In addition to that, the MariaDB only takes up 1GB of disk space, so there is no special disk space requirements.

- Will we have two sets of tables, one MySQL and one MariaDB?

Only MariaDB is used by the end of the process. MySQL is no longer used. The old MYSQL tables are converted to MariaDB tables.

- If the old MYSQL tables are converted to MariaDB tables, how is the down-time kept to just changeover time like the upgrade instructions say?

After MariaDB is installed, MySQL is still up and running. MySQL is then stopped and MariaDB is started on same data directory. MariaDB can work without the upgrade, so it

starts serving the clients. The upgrade is then run as a background job – it is not part of the downtime.