BioNumerics Tutorial:

# Creating a new database

## 1 Aim

The basis of BioNumerics is a relational *database* consisting of comparable *entries* (i.e. individual organisms or samples under study). In this tutorial you will learn how to set up a new BioNumerics database using the default settings. After the creation of the new database, data can be imported and analyzed.

## 2 The New database wizard

1. Double-click on the BioNumerics icon ( ) on the desktop to launch the *BioNumerics Startup* window (see Figure 1).
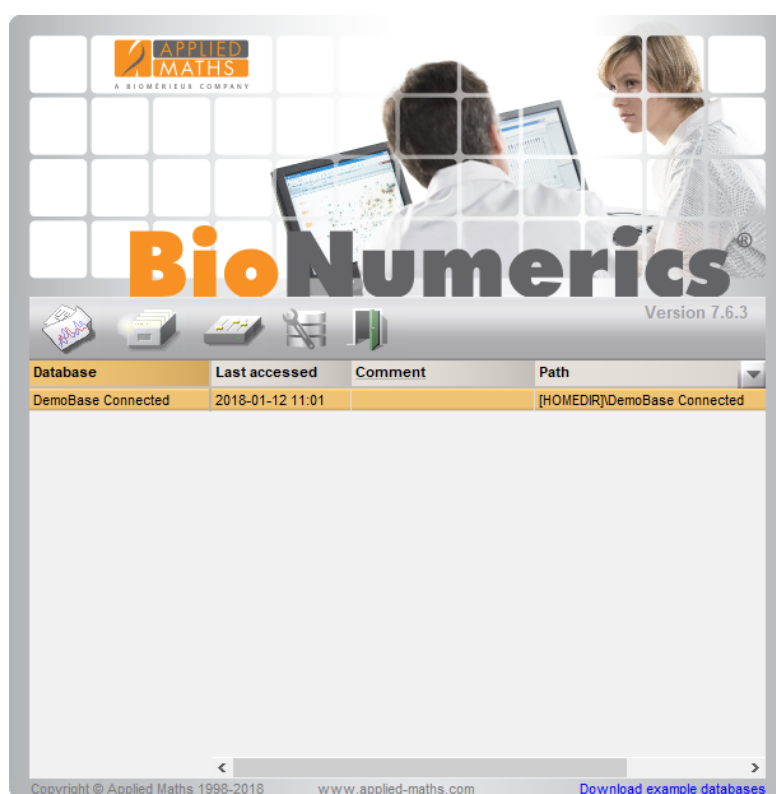


**Figure 1:** The *BioNumerics Startup* window.

2. In the *BioNumerics Startup* window, press the button to enter the *New database* wizard.

3. Enter a database name, e.g. "Workshop database".

4. Click <***Next***>.

The *Create new* option creates a new relational database on the local computer. Note that BioNumerics can only create new databases in SQLite, MS SQL Server Express (if installed with an earlier version of the software) or MS Access.
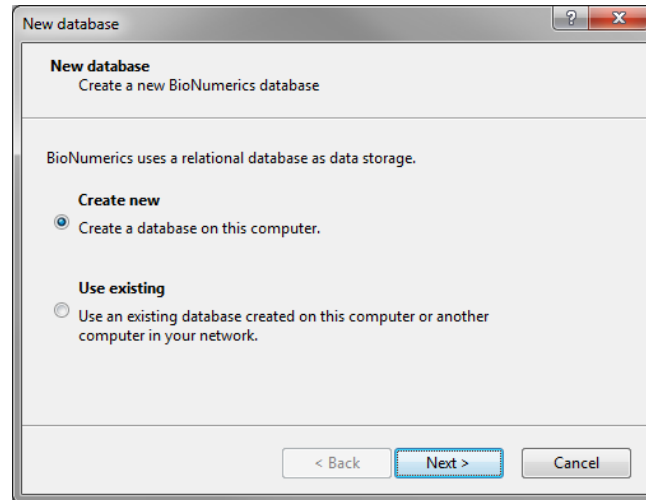


**Figure 2:** The *New database* wizard page.

    5. Leave the default option *Create new* enabled to create a new database and press *<Next>*.

The next dialog asks which database engine should be used for storing data (see Figure 3):

- *Use default SQLite*: The default SQLite option is a file-based database system with a theoretical storage limit of 32 TB.

- *MS SQL Server Express® based*: Uses the MS SQL Server Express BioNumerics instance, which has a storage limit of 10 GB. This option is only available if the MS SQL Server Express database engine was installed previously with an earlier (7.0 - 7.5) BioNumerics version.

- *Use MS Access® based*: Uses the Microsoft Jet Engine (shipped with all Windows operating systems), which has a storage limit of 2 GB. This option is not compatible with 64-bit versions of BioNumerics.
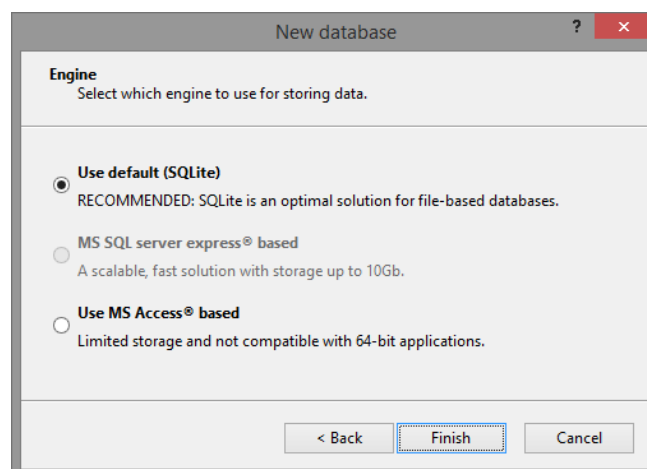


**Figure 3:** The *Database engine* wizard page.

    6. Leave the default option *Use default (SQLite)* selected and press *<Finish>*.

The *Plugins* dialog box pops up which allows you to install additional functionality. This dialog can be called at any time from the *Main* window with **File** > **Install / remove plugins...** ().

      7. Press <***Proceed***> to start BioNumerics.

The *Main* window opens with an empty database.

## 3   Conclusion

Creating a new database is the starting point for the analysis of your data. Data you wish to compare can be imported and analyzed as described in the tutorials on our website.