BIOMÉRIEUX

BIONUMERICS®

version 8 - PLUGINS

User Management Tools plugin

Contents

NOTES

SUPPORT BY APPLIED MATHS, A BIOMÉRIEUX COMPANY

While the best efforts have been made in preparing this manuscript, no liability is assumed by the authors with respect to the use of the information provided.

Applied Maths, a bioMérieux company, will provide support to research laboratories in developing new and highly specialized applications, as well as to diagnostic laboratories where speed, efficiency and continuity are of primary importance. Our software thanks its current status for a part to the response of many customers worldwide. Please contact us if you have any problems or questions concerning the use of BIONUMERICS®, or suggestions for improvement, refinement or extension of the software to your specific applications:

Applied Maths NV
Keistraat 120
9830 Sint-Martens-Latem
Belgium
PHONE: +32 9 2222 100
FAX: +32 9 2222 102
E-MAIL: BE-DAU-INFO@biomerieux.com
URL: https://www.bionumerics.com

Applied Maths, Inc.
11940 Jollyville Road, Suite 115N
Austin, Texas 78759
U.S.A.
PHONE: +1 512-482-9700
FAX: +1 512-482-9708
E-MAIL: US-DAU-INFO@biomerieux.com

LIMITATIONS ON USE

The BIONUMERICS® software, its plugin tools and their accompanying guides are subject to the terms and conditions outlined in the License Agreement. The support, entitlement to upgrades and the right to use the software automatically terminate if the user fails to comply with any of the statements of the License Agreement. No part of this guide may be reproduced by any means without prior written permission of the authors.

BIONUMERICS® uses following third-party software tools and libraries:

- Python 3.8 release from the Python Software Foundation, https://www.python.org/
- Xerces library for XML input and output from the Apache Software Foundation, https://xerces.apache.org/
- NCBI toolkit version 2.11.0, https://www.ncbi.nlm.nih.gov/BLAST/
- SRA Toolkit, https://ncbi.github.io/sra-tools/
- Boost c++ libraries, https://www.boost.org/
- Samtools for interacting with SAM / BAM files, https://www.htslib.org/download/
- 7-Zip (7za.exe), https://www.7-zip.org/
- Zlib library, https://zlib.net/
- Pigz for parallel gzip compression, https://zlib.net/pigz/
- Cairo 2D graphics library version 1.12.14, https://cairographics.org/
- Crypto++ library version 5.5.2, https://www.cryptopp.com/
- OpenSSL library, https://www.openssl.org/
- libSVM library for Support Vector Machines, https://www.csie.ntu.edu.tw/~cjlin/libsvm/
- SQLite version 3.7.17, https://www.sqlite.org/
- pymzML Python module version 2.4.7, https://github.com/pymzml/pymzML
- NumPy Python library version 1.19.1, https://www.numpy.org/
- BioPython Python library version 1.78, https://www.biopython.org/
- pyodbc Python module version 4.0.30, https://pypi.org/project/pyodbc/
- jinja2 Python library version 2.11.2, https://pypi.org/project/Jinja2/
- MarkupSafe Python library version 1.1.1, https://pypi.org/project/MarkupSafe/
- regex Python library version 2.5.91, https://pypi.org/project/regex/
- Chromium Embedded Framework, https://bitbucket.org/chromiumembedded/cef/wiki/Home
- SPAdes genome assembler version 3.15.3, https://bioinf.spbau.ru/spades *
- SKESA version 2.3.0, https://github.com/ncbi/SKESA/releases
- Unicycler version 0.5.0, https://github.com/rrwick/Unicycler/releases *
- Velvet for Windows, source code can be downloaded from https://www.bionumerics.com/download/open-source
- Bowtie2 version 2.2.5 (https://bowtie-bio.sourceforge.net/bowtie2/index.shtml)*
- SNAP version 2.0.0, https://www.microsoft.com/en-us/research/project/snap/
- RAxML version 8.2.11, https://github.com/stamatak/standard-RAxML/releases

- FastTree version 2.1.10, https://www.microbesonline.org/fasttree/
- CFSAN SNP pipeline version 2.2.0, https://github.com/CFSAN-Biostatistics/snp-pipeline *
- Prokka version 1.14.5, https://github.com/tseemann/prokka *
- sourmash version 4.1.0, https://github.com/dib-lab/sourmash **
- SeqSero2 for Windows, source code can be downloaded from https://www.bionumerics.com/download/open-source
- Fastp version 0.22.0, https://github.com/OpenGene/fastp

*: On Calculation Engine only **: See license conditions below

Sourmash license conditions:

Chapter 1

Starting and setting up BIONUMERICS

1.1 Introduction

The *User management tools plugin* provides an easy way to import new user information into a BIONUMERICS database from a text file, and makes it possible to exchange user information between databases using XML files. The general user management tools that are present in BIONUMERICS will not be covered in this manual. Detailed information can be found in the Reference manual, Chapter User management.

The *User management tools plugin* is supported in all BIONUMERICS configurations.

1.2 Startup program

Make sure the latest version of BIONUMERICS is installed (https://www.bionumerics.com/download/software). The installation manual can be downloaded from https://www.bionumerics.com/download/manuals.

When BIONUMERICS is launched from the Windows start panel or when the BIONUMERICS shortcut () on your computer's desktop is double-clicked, the **Startup program** is run. This program shows the *BIONUMERICS Startup* window (see Figure 1.1).

A new BIONUMERICS database is created from the Startup program by pressing the  button.

An existing database is opened in BIONUMERICS with  or by simply double-clicking on a database name in the list.

1.3 Installing the User Management Tools plugin

The *Plugins and Scripts* dialog box can be called from the *Main* window by selecting ***File*** > ***Install / remove plugins...*** () (see Figure 1.2).

When a particular plugin is selected from the list of plugins, a short description appears in the right panel.

A selected plugin can be installed with the <***Install***> button. The software will ask for confirmation before installation. Some plugins are only supported in specific BIONUMERICS configurations. If

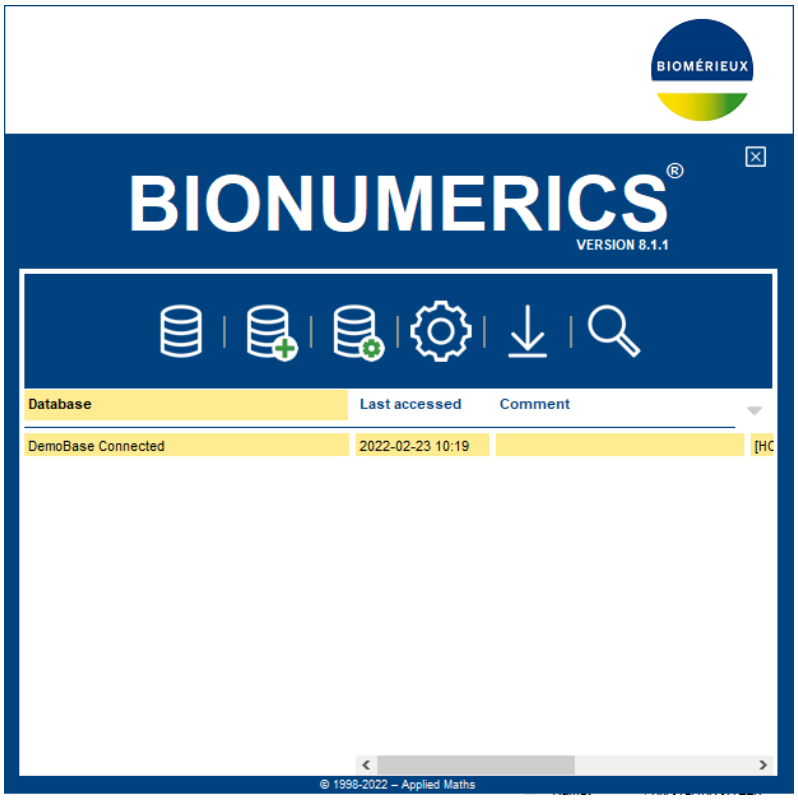

Figure 1.1: The *BIONUMERICS Startup* window.

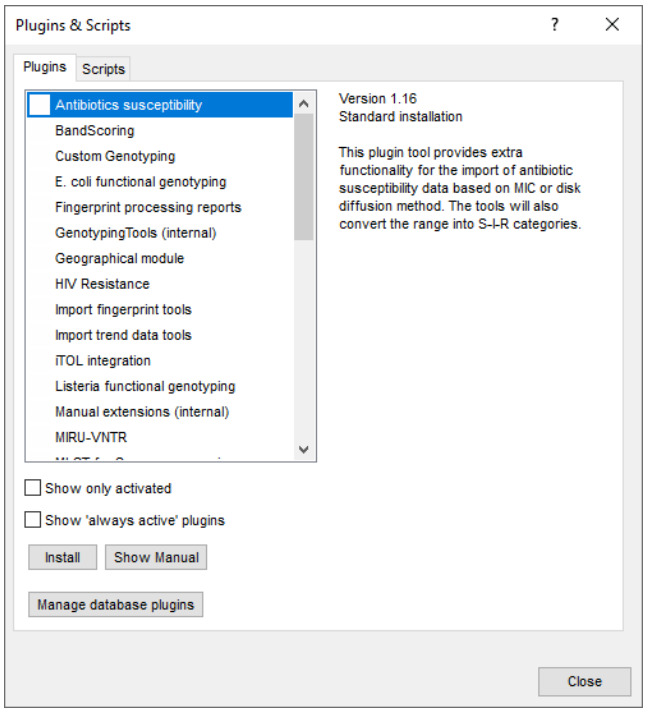

Figure 1.2: The *Plugins and Scripts* dialog box.

the plugin is not supported by your BIONUMERICS configuration, it cannot be installed and an error message will be generated.

Once a plugin is installed, it is marked with a green V-sign. It can be removed again with the

<***Uninstall***> button.

If the selected plugin is documented, pressing <***Show Manual***> will open its manual in the *Help* window.

3.1 To install the *User management tools plugin* in your database select the *User management tools plugin* from the list of plugins.

3.2 Press the <***Install***> button, confirm the installation of the plugin and close the *Plugins and Scripts* dialog box.

3.3 Close and reopen the database to activate the features of the *User management tools plugin*.

Chapter 2

User Management Tools

2.1 The User management window

1.1 Select ***Database*** > ***User management...*** to call the *User management* window (see Figure 2.1).

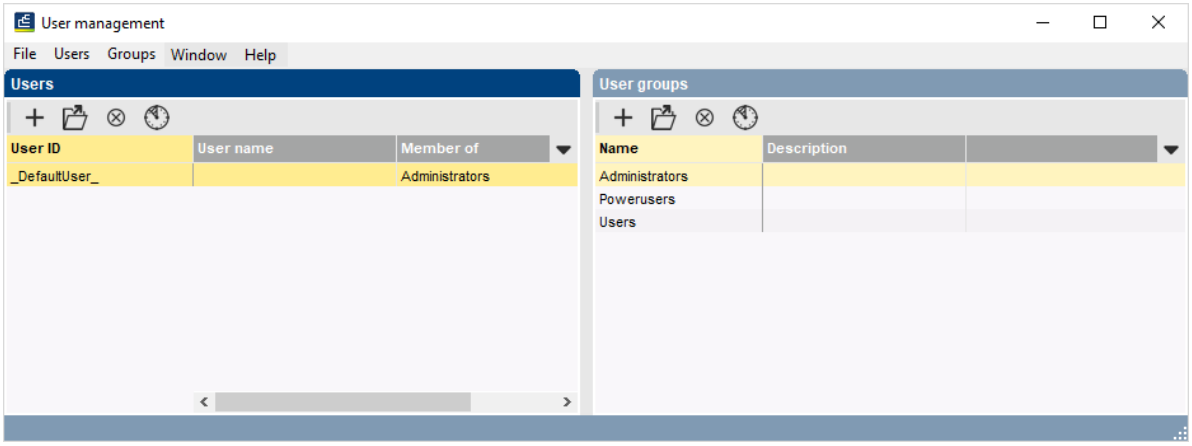

Figure 2.1: The *User management* window.

The *Users* panel lists the users assigned to the database. The ***User ID*** uniquely identifies each user in the database. User descriptions (***User name*** column) are optional. Each database user can be assigned to one or more user groups (***Member of*** column). The user groups are listed in the *User groups* panel.

The *User management tools plugin* installs menu items in the menu of the *User management* window under ***File*** (see Figure 2.2).

1.2 Choose ***File*** > ***Exit*** to close the *User management* window.

2.2 Importing user information from a text file

User information stored in a text file can be added to the database with the command ***File*** > ***Import users from text file***. To import user information from a text file into the BIONUMERICS database, the text file must have the following format:

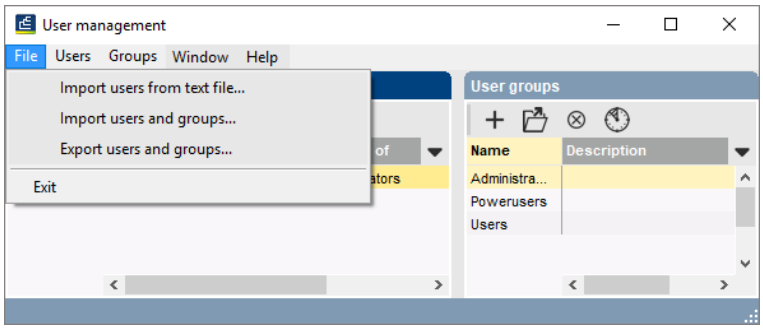

Figure 2.2: The *User Management Tools plugin* menu items.

`UserID<tab>UserName<tab>UsergroupName`

- **UserID**: This column should hold the unique IDs. After import, this information is displayed in the ***User ID*** column of the *User management* window.
- **UserName**: User information present in this column will be displayed in the ***User name*** column of the *User management* window after import. Providing user information in the ***UserName*** column is optional. Leave blank if no user name information should be imported in the database.
- **UsergroupName**: This column should list the user group names. Before importing the information in the database, make sure all user groups present in the text file are defined in the database (see *User groups* panel in Figure 2.1). After import, the user group name information is displayed in the ***Member of*** column of the *User management* window.

2.1 Select ***Database*** > ***User management...*** in the *Main* window to call the *User management* window.

2.2 Choose ***File*** > ***Import users from text file*** in the *User management* window.

Since this action will modify the structure of the database in an unrecoverable way, it is recommended to take a backup of the database before taking this action. The software warns for this.

2.3 Press <***OK***> to continue with the import and navigate to the path where the tab-delimited text file is stored and select the file.

In a final step, the software asks if all existing non-active users should be removed from the database (see Figure 2.3).

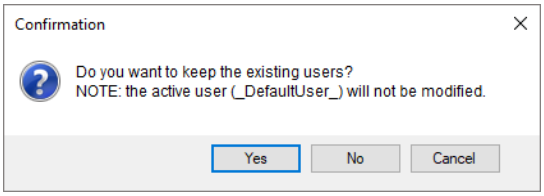

Figure 2.3: Confirmation dialog box.

2.4 Press <***No***> if you only want the active user and the users in the text file to be stored in the database. Press <***Yes***> to keep all existing users.

The user information is imported in the BIONUMERICS database and the database is restarted to actualize the changes.

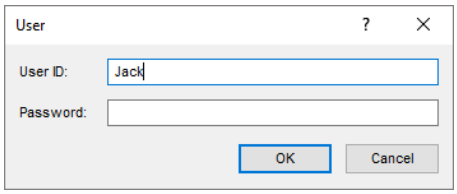

Figure 2.4: Database prompts for User ID and password.

A dialog box pops up, prompting for the ***UserID*** and ***Password*** (see Figure 2.4).

By default, the name of the Windows user is displayed in the ***UserID*** text box. Users added to the database using the plugin action ***File*** > ***Import users from text file*** are not assigned a password. The ***Password*** field can be left blank for these users.

2.5 To continue press the <***OK***> button.

If the option ***Require passwords*** or ***Require strong passwords*** is checked in the *Security tab* of the *Database settings* dialog box, users having no password, are asked to specify a (strong) password when logging onto the database (see Figure 2.5).

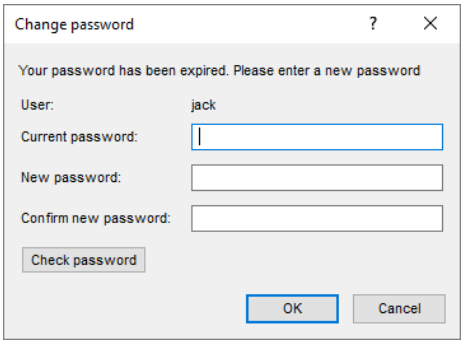

Figure 2.5: The *Change password dialog box*.

2.6 Leave the ***Current password*** field blank, type the ***New password*** and re-enter the new password for confirmation (***Confirm new password***). Press the <***Check password***> button to check if the password meets the password criteria. Press <***OK***>.

The ***UserID*** is displayed in the status bar of the *Main* window.

2.7 Select ***Database*** > ***User management...*** to call the *User management* window.

All imported users are listed in the *Users* panel.

2.8 Choose ***File*** > ***Exit*** to close the *User management* window.

2.3 Copying user information to other databases

2.3.1 Introduction

Using the plugin commands ***File*** > ***Import users and groups*** and ***File*** > ***Export users and groups***, user data can be transferred from one database to another in a user-friendly way. User data includes user IDs, user names, user group names and user group privileges. Passwords are not transferred along.

2.3.2 Exporting user information to an XML file

Using the plugin command ***File*** > ***Export users and groups***, user data that is present in the database is exported from the database and stored in an XML file.

3.1 Select ***Database*** > ***User management...*** in the *Main* window to call the *User management* window.

3.2 Choose ***File*** > ***Export users and groups*** in the *User management* window to export all user data present in the database to an XML file, saved in the database folder.

A confirmation message pops up (see Figure 2.6).

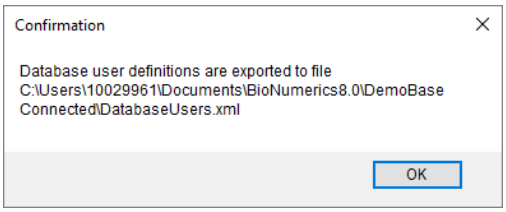

Figure 2.6: Confirmation dialog box.

3.3 Close the confirmation message.

3.4 Choose ***File*** > ***Exit*** to close the *User management* window.

2.3.3 Importing user information from an XML file

Using the plugin command ***File*** > ***Import users and groups***, user data exported from a database can be imported into another database.

3.5 Select ***Database*** > ***User management...*** in the *Main* window to call the *User management* window.

3.6 Choose ***File*** > ***Import users and groups*** in the *User management* window.

Since this action will modify the structure of the database and user privileges in an unrecoverable way, it is recommended to take a back-up of the database before taking this action. The software warns for this.

3.7 Press <***OK***> to continue with the import and navigate to the path where the XML file is stored and select the file.

All user information (user IDs, user names, user group names and user group privileges) detected in the XML file is imported in the database. The BIONUMERICS database is restarted to actualize the changes.

A dialog box pops up, prompting for the ***UserID*** and ***Password*** (see Figure 2.7).

By default, the name of the Windows user is displayed in the ***UserID*** text box. Users added to the database using the plugin action ***File*** > ***Import users and groups*** are not assigned a password. The ***Password*** field can be left blank for these users.

3.8 To continue press the <***OK***> button.

If the option ***Require passwords*** or ***Require strong passwords*** is checked in the *Security tab* of the *Database settings* dialog box, users having no password are asked to specify a (strong) password when logging onto the database (see Figure 2.8).

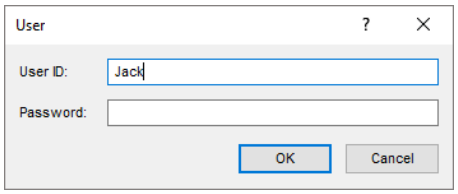

Figure 2.7: Database prompts for User ID and password.

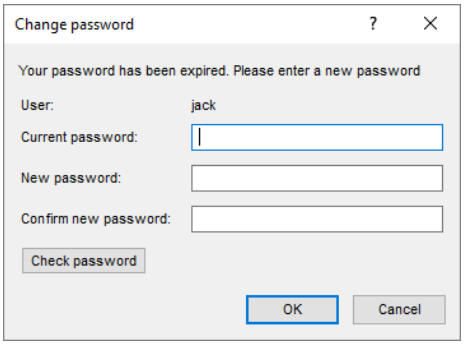

Figure 2.8: The *Change password dialog box*.

3.9 Leave the ***Current password*** field blank, type the ***New password*** and re-enter the new password for confirmation (***Confirm new password***). Press the <***Check password***> button to check if the password meets the password criteria. Press<***OK***>.

The ***UserID*** is displayed in the status bar of the *Main* window.

3.10 Select ***Database*** > ***User management...*** to call the *User management* window.

All imported user data is displayed in the *User management* window.

3.11 Choose ***File*** > ***Exit*** to close the *User management* window.

bioMérieux S.A. • 69280 Marcy l'Étoile • France • Tel.: + 33 (0)4 78 87 20 00 • Fax: +33 (0)4 78 87 20 90
www.biomerieux.com