



Nile Basin Decision Support System

Database Manager Utility and System Manager Training Module

Revision History

Version	Date	Revision Description
0.1	25/5/2014	Initial draft
0.2	8/8/2014	Final draft version
0.3	31/8/2014	Update version taking into account comments received from Nile-SEC team. To complete this version, information is needed from Nile-SEC team. This is all highlighted in the document.
0.4	26/12/2014	Final version for approval

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1. Introduction

This document is part of training modules for the Nile Basin Decision Support System (DSS). These modules are developed for use in classroom training that is given to Nile Basin countries and as a self-learning training material that will be made available as part of the DSS helpdesk and knowledgebase.

1.1. Purpose

The purpose of this document is to provide a tutorial to the DSS Database Manager Utility and the 'System' Manager and their associated components. The tutorial starts with the basics and progressively increases in complexity.

1.2. Module pre-requisites

The following prerequisites are needed before taking this tutorial:

Software prerequisites: The Mike by DHI version 2014 and the DSS version 2.0 have to be installed.

User prerequisites: User is expected to be familiar with database concepts and the DSS user interface basics.

1.3. Expectations

Upon successful completion of the lessons, exercises and review questions in this document, you will be familiar with most of the Database manager utility and 'System' manager functionalities.

1.4. Conventions

The following conventions are followed in this document:



means a tip for the user



means important information

1.5. Module data

The files needed to run this tutorial are located in the `..\SystemExp\Data` folder.

1.6. Links to additional resources

In addition to the information presented in this module, below are links to additional resources that you can access to obtain further information on the following:

- Database manager utility and 'System' manager:
 - The DSS help file
- PostgreSQL:
 - <http://www.postgresql.org/>
- PostGIS
 - <http://postgis.net/>
- DSS user types
 - <http://support.microsoft.com/kb/326340>

1.7. Problem Reporting Instructions

This document will be updated regularly. Therefore, it is highly recommended to report any spotted problem to helpdesk@nilebasin.org so it can be corrected in future versions.

When reporting the problem, you are kindly requested to provide the following:

- Document title
- Document version
- Page number where the problem was spotted
- A description of the problem

2. Lessons

In this section the following lessons (with exercises) are included:

- General: This lesson introduces definitions and concepts that apply to all lessons.
- Database management using the Database manager utility: This lesson introduces you to the management of the DSS databases using the Database manager utility. This includes creating, backing up, dropping, restoring and updating databases.
- Workspace management using the Database manager utility: In the DSS, a database consists of one or more workspaces (i.e. compartments). This lesson introduces you to the management of the workspaces within a DSS database using the Database manager utility. This includes creating, exporting, importing, deleting and sharing workspaces.
- User management using the Database manager utility: to login and use the DSS, users must have a username, a password and an access level (e.g. read and write, read only, etc...). This lesson introduces you to the management of the users using the Database manager utility. This includes creating, deleting and editing properties of a user and assigning users to workspaces.
- DSS basics: This lesson describes how a user can login to the DSS and activate the 'System' manager.
- 'System' manager functionality: This lesson shows the management of workspaces and users using the 'System' manager and the overlap in functionality with the Database manager utility.

After completing the lessons and exercises in this section you will be able to use the "Database Manager Utility" for managing databases, workspaces and users as well as the "System Manager" for the management of workspaces and users from within NB DSS.

2.1. General

Introduction

This lesson describes some definitions and concepts used in Nile Basin DSS. If you are familiar with those definitions and concepts you can skip this and move to the next lesson.

Topics covered in this lesson:

- Database server
- Databases and workspaces
- Database Manager Utility
- System Manager

Lesson objectives:

After completing this lesson, you will be able to understand the following:

- Database management system and database server
- DSS databases and workspaces
- DSS Database Manager Utility
- DSS System Manager

Databases and Workspaces

Database server: is a program that contains a collection of the DSS databases and provides database services to the DSS.

Database: is a collection of workspaces with identical structure plus a master template that contains tables related to user and workspace management. All data used and produced in the DSS is saved in a central database. This ensures data integrity and consistency at any time when the datasets are accessed and allows controlled data access according to the access rights defined in the systems manager.

Workspace: is a collection of tables residing within an area of a database. All workspaces contain the exact same set of tables; but with different data in the tables. Datasets in the DSS are organized in workspaces. Usually workspaces represent distinct and specific studies. This organization of data enhances the data

access control and allows implementing standardized business processes in corporate environments.

Data Management in the DSS

Figure 1 shows a schematic of how data is managed in the DSS. The DSS data is stored in a database, which can have one or more workspace(s). The DSS databases are stored on a database server. DSS users can make connection from their PCs (where the DSS software is installed) to access the DSS databases. The database server and the DSS software can also co-exist on one PC.

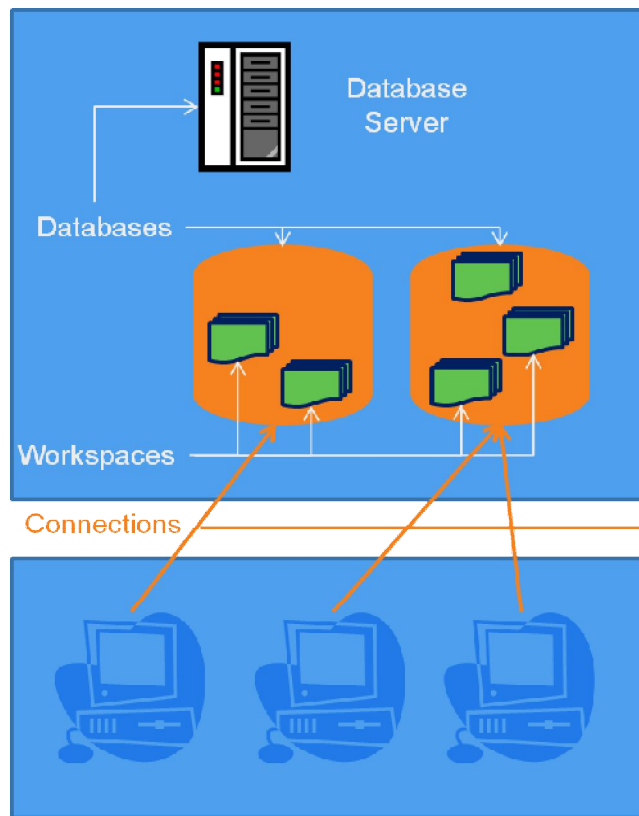


Figure 1: DSS data management

One or more user(s) can have access to one database at one time, however, they cannot work simultaneously on one workspace. The PostgreSQL¹ software (see <http://www.postgresql.org/about/> for more details) is the database server (or system) that

¹ DSS can also access databases on an Oracle Server which is a commercial product that need to be purchased to use with the DSS.

Database Manager Utility and System Manager

is used to manage data connection and operations. It is installed when the DSS is installed with its spatial data manager PostGIS (See <http://postgis.net/> for more details).

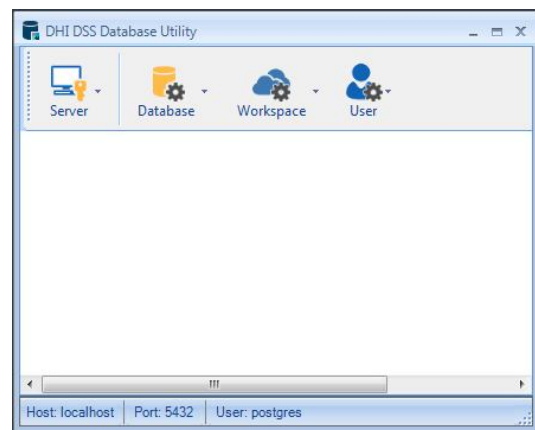
The DSS offers two mechanisms to manage databases, workspaces and users. The first is a stand-alone application called the 'Database Manager Utility'. This application is installed as part of the DSS installation. The second is the 'System' manager that is part of the DSS user interface. The functions of the two mechanisms are introduced below and presented in details in the next sections.

Database manager utility

The Database manager utility provides a comprehensive framework to manage all of the DSS data aspects. It allows the DSS user to undertake the following:

1. Create a connection to the database server
2. Create, update, backup , restore and delete DSS databases
3. Create, import , export, remove and assign users to workspaces
4. Create, edit and remove DSS users

All of the above is done without launching the DSS interface, in a stand-alone application.

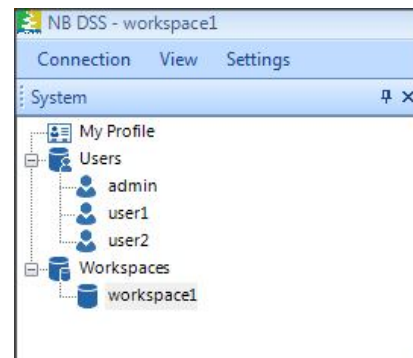


System manager

The 'System' manager is part of the DSS user interface. It only offers a subset of the functions that are provided by the Database Manager Utility, namely:

1. Create and edit users
2. Create workspaces and assign users to workspaces

These functions are accessed through the DSS user interface.



Functionality overlap between the Database manager utility and the System manager

As can be noted there is an overlap in functionality between the Database manager utility and the System manager. In brief, the Database manager utility offers the comprehensive framework to manage DSS databases, workspaces and users. It is the place where most of the management of those items will be done. Alternatively, the 'System' manager offers the DSS user the flexibility to do a subset of the functions of the Database manager utility within the DSS interface for one database, which is the one connected to through the DSS interface.

In the next sections, the functionality of the Database manager utility and the 'System' manager is presented.

Review Questions

1. Databases can be managed using the 'System' manager.
 - True
 - False
2. The 'System' manager has a subset of the functionality of the Database manager utility
 - True
 - False
3. A DSS workspace can have one or more database.
 - True
 - False
4. The DSS can work with the PostgreSQL and Oracle database servers
 - True
 - False

Answers

1. False (can be managed using the Database manager utility)
2. True.
3. False (A DSS database has one or more workspaces).
4. True

2.2. Database management using the Database manger utility

Introduction

This section introduces you to the database management functionality of the Database manager utility.

Topics covered in this lesson:

- Creating a connection to the database server
- Creating, updating, backing up, restoring and deleting (or removing) a DSS database

Lesson objectives:


By the end of this lesson, it is anticipated that you will be able to:


- Establish a connection to the DSS database server
- Undertake database management functions such as creation, update, restore and deletion of a database.


Lesson pre-requisites

None.

Launching the Database manager utility

The Database manager utility that can be launched by clicking the  button then

► All Programs menu and then the  Nile Basin DSS and finally the

 Database Manager Utility button. The interface of the Database Manager Utility is shown below. It can be noted that all the menu items are dimmed except the server menu. This is due to the fact that a server connection needs to be established first in order to use the other functionalities.

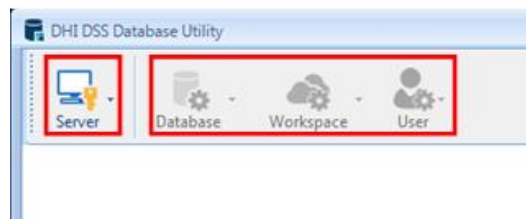


Figure 2: Database Manager Utility interface

Establishing a connection to the database server

To establish a connection to the database server, user needs to start the Database Manager Utility as described above then click on Server button followed by PostgreSQL as shown below.

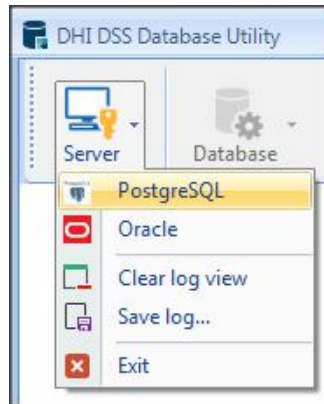


Figure 3: Server menu

The PostgreSQL connection parameters dialog box appears as shown below in Figure

4. The following information needs to be provided to establish a connection:

- 1- Database host (server) Name: This can be 'localhost' if the server is installed locally on the same computer as the DSS or the IP of the server if it installed on a network computer
- 2- Database host (server) Port: this is –by default- 5432.
- 3- The Server user credentials (i.e. user name and password) need to be entered. These are created when the PostgreSQL Software is installed.
- 4- The last entry is the location of the binary file psql.exe which is part of the PostgreSQL database tools.

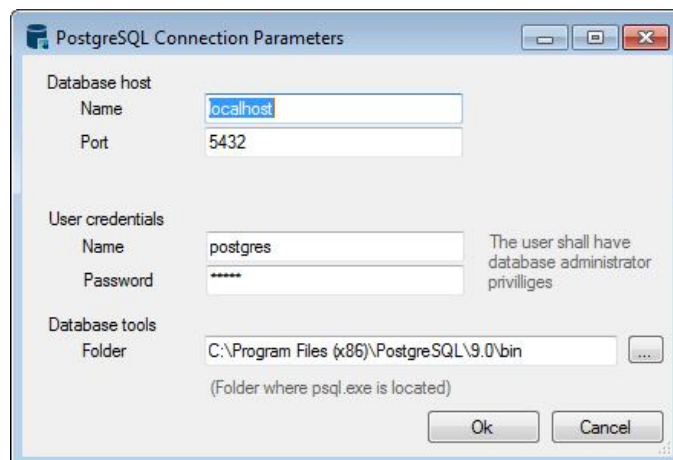
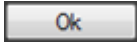


Figure 4: The PostgreSQL connection parameters dialog box

Database Manager Utility and System Manager

The dialog is usually pre-filled with defaults and in most of the times these would create a successful connection. If the last entry, Folder, is not pre-filled, you can browse to the folder where PostgreSQL is installed and point to the “bin” subfolder in it as shown in the Figure 4 above. If this fails then users are advised to contact the DSS system administrator to resolve connection problems.

Once all data is entered, the  can be clicked. If the connection is successful, your window should look like the one shown below in Figure 5. Note that the program reports that the connection test is done and on the status bar shows the server name (host), the port and the username. Inside the window, a list of existing databases with their associated workspaces is shown.

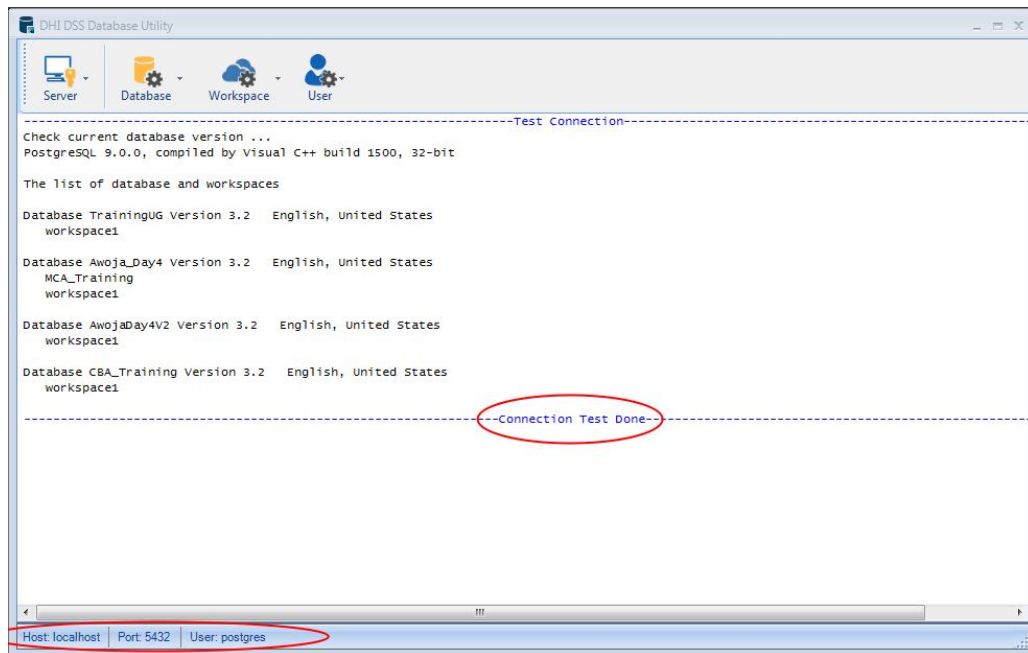


Figure 5: Successful connection window

Once the connection to the server is established, the menu items become active (i.e. not dimmed).

Database management operations

The following operations can be undertaken using the Database Manager Utility:

- Create a database: This operation creates a new DSS database.
- Update a database: This operation updates a database that was created by an older version of the Database Manager Utility to the latest version.

Database Manager Utility and System Manager

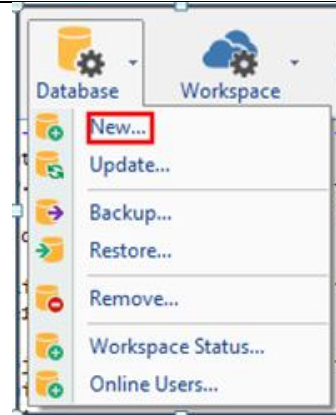
- Backup a database: This operation creates a copy of the DSS database that is saved to a file. It is always useful to have such a backup to:
 - Use in case of database damage
 - Provide to other users
 - Provide to software developers to fix bugs
- Restore a database: The operation restores a database from a backup file to the database server.
- Delete (or remove) a database: This operation deletes the database from the server.

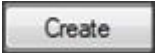
Exercises

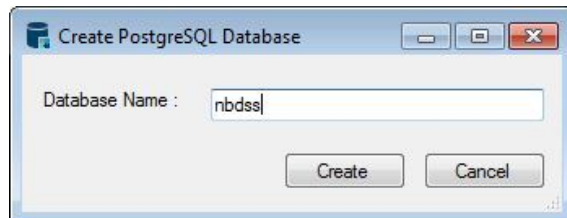
For all exercises, it is assumed that the database manager has been launched and a connection was established (for details on this see [launching the Database manager utility](#) and [establishing a connection to the database server](#) sections).

Creating a database

1- Click on the Database menu then click 'New'.



The dialog shown next appears. Type the name of the database to create (e.g. nbdss) and click  button.



and special characters are not allowed in database names.



2- After some time², the database is created and the Create PostgreSQL Database dialog closes.

The message 'New Database 'nbdss' Done' is shown at the bottom of the Database Manager Utility window

-New Database 'nbdss' Done-

² This is usually a lengthy process and could take relatively long time.


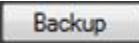


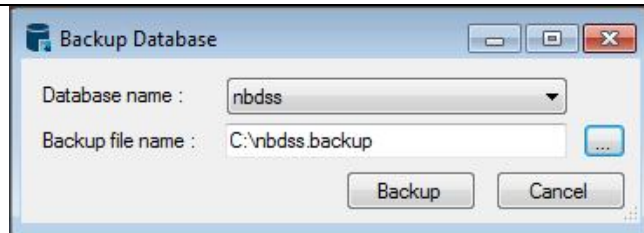
The 'create new database operation' details appear in the utility window. This can be cleared using the  **Clear log view** option or saved using the  **Save log...** option under the 'Server' menu.

Backup a database

1- Click on the Database menu then click Backup.




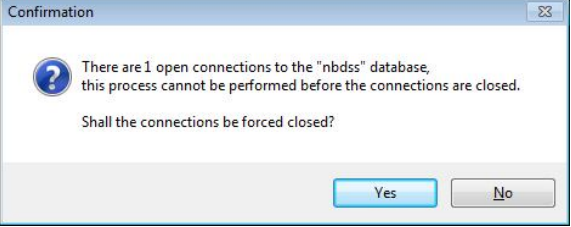
2- The dialog shown next appears. Select the name of the database to backup from the list and where to save the backup (use the browse button ) then click the  button.





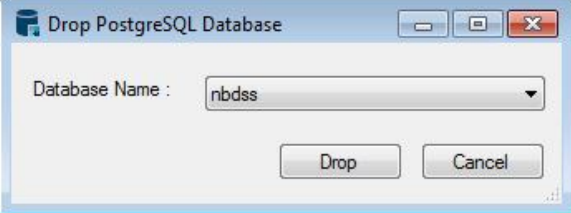
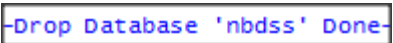
3- The message 'Backup Database 'nbdss' Done' is shown at the bottom of the Database Manager Utility when backup is finished.

Backup Database 'nbdss' Done

If the backup process is not successful (e.g. due to some space limitation on the target drive), the last line on the screen shows
"pg_restore: [custom archiver] could not read from input file: end of file"

 <p>If the database to be backed up is in use, a warning message will be shown before the backup process starts. Upon confirming to close connection by force (this can cause loss of data), the backup process starts. It is therefore good practice to close the DSS application before backing up databases.</p>	 <p>Confirmation</p> <p>There are 1 open connections to the "nbdss" database, this process cannot be performed before the connections are closed.</p> <p>Shall the connections be forced closed?</p> <p>Yes No</p>
--	--

Remove (drop) a database

<p>1- Click on the Database menu then click Remove.</p>	 <p>Database Workspace</p> <p>New... Update... Backup... Restore... Remove... Workspace Status... Online Users...</p>
<p>2- The dialog shown next appears. Select the name of the database to remove from the list and click  button.</p>	 <p>Drop PostgreSQL Database</p> <p>Database Name : nbdss</p> <p>Drop Cancel</p>
<p>3- After some time the database is dropped</p> <p>The message 'Drop Database 'nbdss' Done' is shown at the bottom of the Database Manager Utility</p>	 <p>-Drop Database 'nbdss' Done-</p>

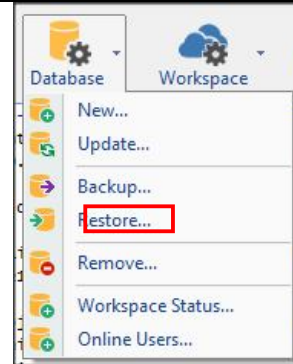




The database remove (or drop) operation is undoable. Once a database is removed, it cannot be recovered.

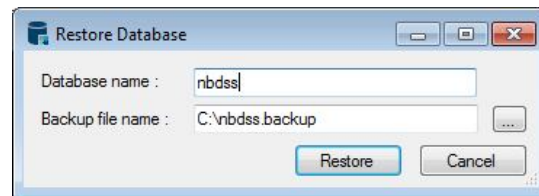
Restore a database

1- Drop the 'nbdss' database if you have already done that.

2- Click on the Database menu then click Restore.



The dialog shown next appears. Give the database a name (e.g. nbdss) – this is an arbitrary name that will be used on the server. Select the backup file by either typing it directly or browsing for it using the  button, and click  button.



3- After some time the database is restored.

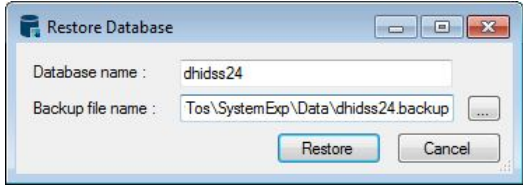

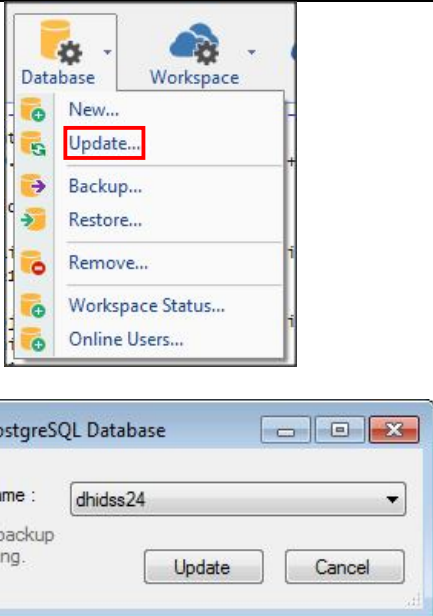
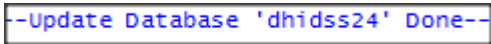
The message 'Restore Database 'nbdss' Done' is shown at the bottom of the Database Manager Utility when restore is finished.

--Restore Database 'nbdss' Done--

If the file is corrupt or there is a problem storing it on the server (e.g. Space limitation), currently, the system will not notify you but the database will fail to open in the NB DSS.

Update a database

If a DSS database has been created with an older version of the Database Utility Manager, it has to be updated in order to be opened correctly by newer versions of the DSS. The update option is used to update older database to the most recent version.

<p>1- Restore the 'dhidss24.backup' database as described in previous exercise from the ..\SystemExp\Data folder. This is an old database that was created by an old version of the utility. Give the restored database a name (e.g. dhidss24)</p>	
<p>2- Click on the Database menu then click Update.</p> <p>The dialog shown next appears. Select the database name (dhidss24) and click  button.</p>	
<p>3- The message 'Update Database 'dhidss24' Done' is shown at the bottom of the Database Manager Utility when restore is finished.</p>	

Review Questions

1. What are inputs needed to establish as connection to the server.

2. A connection to the database server needs to be established using DSS Database Manager Utility in order to use the database management functions.
 - True
 - False
3. The update database function can upgrade or downgrade DSS databases.
 - True
 - False

Answers

1. Inputs needed are:
 - Database host (server) Name.
 - Database host (server)
 - The Server user credentials (i.e. user name and password).
 - The last entry is the location of the binary file psql.exe which is part of the PostgreSQL database tools.
2. True.
3. False (it only upgrades the older DSS databases to the latest version)

2.3. Workspace management using the Database manager utility

Introduction

This section introduces you to the workspace management functionality of the Database manager utility

Topics covered in this lesson:

- Creating, importing, exporting and removing workspaces.
- Assigning users to workspaces.

Lesson objectives:

By the end of this lesson, it is anticipated that you will be familiar with

- The management operations of workspaces using the database manager utility.

Lesson pre-requisites

You have to be familiar with the Database Manager Utility basics such as launching the application and establishing a connection to the Database server to take this lesson.

Workspaces management

The use of workspaces gives you a higher degree of flexibility to have an individual workspace for each study or a project that you work on. The DSS Database Manager Utility allows you to manage workspaces by:



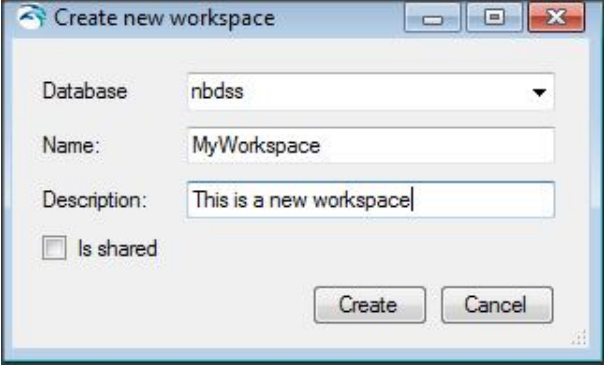

1. Creating new workspaces (workspace1 is created by default when a new database is created)
2. Moving workspaces between DSS databases. This is achieved using the export and import commands. The workspace that needs to be moved is first exported to a file (similar to backing up a database). This file is then imported into another database (similar to restoring a database).
3. Deleting workspaces when they are no more needed.
4. Assigning users to workspaces (this will be discussed and presented in the [user management section](#)).

In the exercise section, the steps to carry out the above operations will be presented.



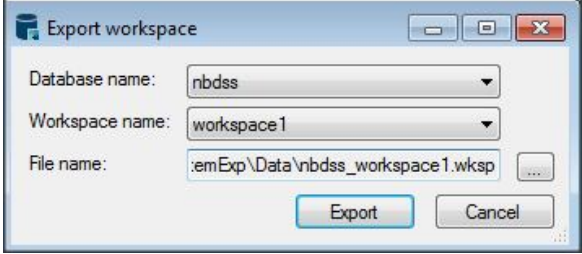
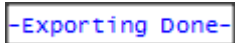

Exercises

For all exercises, it is assumed that the database manager has been launched and a connection was established (for details on this see [launching the Database manager utility](#) and [establishing a connection to the database server](#) sections). It is also assumed that a database was previously created to work with.

Creating a workspace

<p>1- Click on the  menu and then the 'New' button.</p>	
<p>2- Select the database where the new workspace will be created into, the name of the workspace and short description (as shown next). If you leave the 'Is shared' box unchecked, the workspace created will be private and only the user who created it can connect to it. If you check the 'Is Shared' box, the workspace created will be shared which means other users can connect to it after being associated to it. Click 'Create' button.</p>	
<p>3- If workspace creation is successful, the message 'Create New workspace Done' is shown at the bottom of the Database Manager Utility when the creation process is completed.</p>	

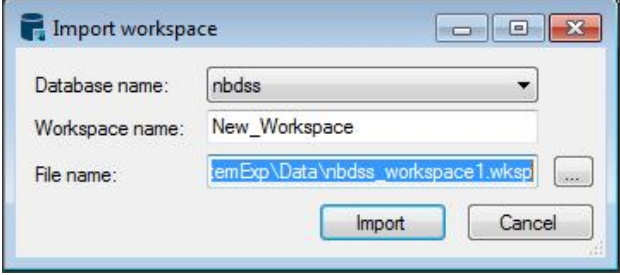


Exporting a workspace

<p>1- Click on the  menu and then the 'Export' button.</p>	
<p>2- Select the database containing the workspace to be exported, the workspace to be exported and a file name to export the workspace to (e.g. nbdss_workspace1.wksp) and click 'Export' button.</p>	
<p>If export is successful, the message "Exporting Done" is shown at the bottom of the Database Manager Utility when export is finished.</p>	
<div>  <p>To ensure that the export of a workspace is successful, make sure it is not in use during the export process (e.g. not opened in the DSS).</p> </div>	



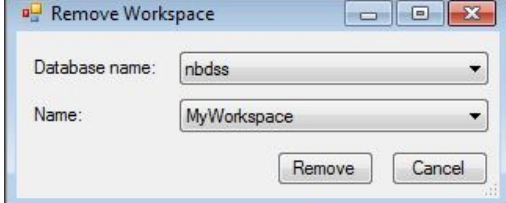
Importing a workspace

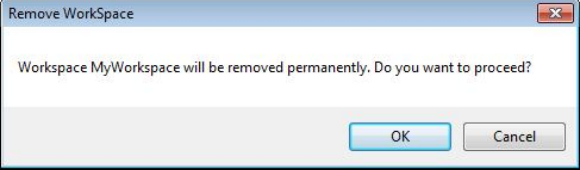
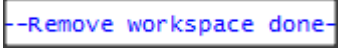

<p>1- Click on the  menu and then the 'Import' button.</p>	
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Database Manager Utility and System Manager

<p>2- Select the database to import the workspace to, the name of the workspace and the file containing the exported workspace (e.g. nbdss_workspace1.wksp) and click the 'Import' button.</p>	
<p>If export is successful, the message "Import Script Done" is shown at the bottom of the Database Manager Utility when export is finished.</p>	
<p>Reconnect to the database server (See Establishing a connection to the database server for details) to see that the new workspace was imported.</p>	

Delete a workspace

<p>1- Click on the  menu and then the 'Remove' button.</p>	
<p>2- Select the database containing the workspace to be deleted, and click the 'Remove' button.</p>	

3 – A confirmation message appears. Click 'OK' to continue.	
4- If removing the workspace is successful, the message 'Remove workspace done' is shown at the bottom of the Database Manager Utility when the process is completed.	
 <p>The workspace removal operation is undoable. Once a workspace is removed, it cannot be recovered.</p>	

Review Questions

- 1- What is a workspace? And what is the use of it?
- 2- Explain how workspaces can be moved between difference DSS databases.
- 3- Deleted workspaces cannot be recovered.
 - True
 - False

Answers

- 1- A workspace is a compartment within a database. It is used to keep together all data and models for a particular study. It facilitates database management
- 2- Moving workspaces between different DSS databases can be done as follows:
 - Use the export option to export the workspace that needs to be move from the database.
 - Use the import option to import the exported workspace into another database.
- 3- True.

2.4. User management using the Database Manager Utility

Introduction

This section introduces you to the user management functionality of the Database manager utility

Topics covered in this lesson:

- Creating, editing and removing DSS users.
- Assigning users to workspaces.

Lesson objectives:

By the end of this lesson, it is anticipated that you will be familiar with:

- The management operations of DSS users using the database manager utility.

Lesson pre-requisites

You have to be familiar with the Database Manager Utility basics such as launching the application and establishing a connection to the Database server to take this lesson.

User levels in the DSS

The DSS offers five user access levels to work on a database or workspace, which are:

1. Database server manager: This user has access to all databases and workspaces. When using the corporate edition of the DSS, s/he manages the database server and has the password to connect to Postgres.
2. Administrator: This user is created by default when a new database is created. An administrator works as a system administrator for the database and its associated workspaces. S/He can create other users, associated them with a workspace and has read-write access. When a new database is created, an administrator with 'admin' user name and 'dssadmin' password is created by default and is assigned to workspace that is called 'Workspace1'. An administrator will be also assigned to all subsequently created workspaces.
3. Workspace lead: This user is created at the database level and then is associated as a workspace lead by an administrator. S/He has a read-write

access and can associate other created users (by the Administrator) with the workspace s/he leads but cannot add or remove users to the workspace

4. Workspace member: This user is created at the database level and then is associated as a workspace member by an administrator or a workspace lead. S/He has a read-write access but cannot create nor associate users.
5. Workspace reviewer: This user is created at the database level and then is associated as a workspace reviewer by an administrator or a workspace lead. S/He has only a read access and cannot create nor associate users.

User types in the DSS


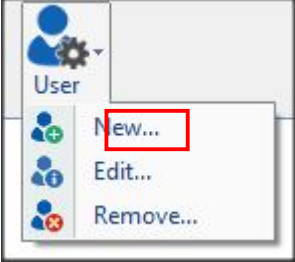
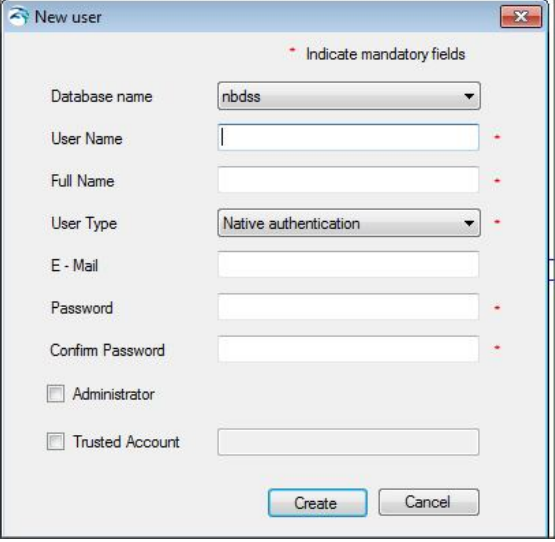
Within the DSS, there are two user types in terms of authentication, namely:

- Native authentication: which means that user name and password are handled by the DSS in terms of saving, editing, and authenticating.
- Active directory: which uses windows login and password so these are now handled by the operating system not the DSS.

Exercises

For all exercises, it is assumed that the database manager has been launched and a connection was established to the server which should have a least one database (for details on this see [launching the Database manager utility](#) and [establishing a connection to the database server](#) sections).



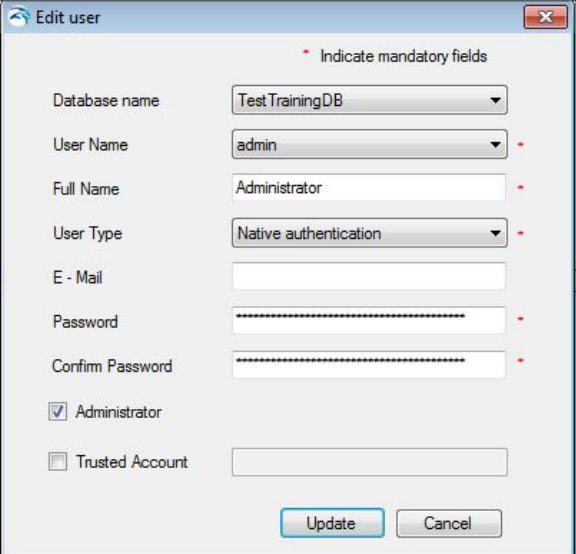
Creating a user

<p>1- Click on the  menu and then the 'New' button.</p>	
<p>2- Select the database where the new user will be created into, the following data needs to entered for each new user:</p> <ul style="list-style-type: none"> - Username: this should be a unique name that is different from any other existing user name - Full name: user's full name - User type: keep as 'Native Authentication' - Email: not mandatory and can be left empty - Password: this will be used for authentication – should be at least 8 characters - Confirm password: The system will check for matching <p>Leave the 'Administrator' and 'Trusted Account' boxes unchecked. Click 'Create' button.</p>	



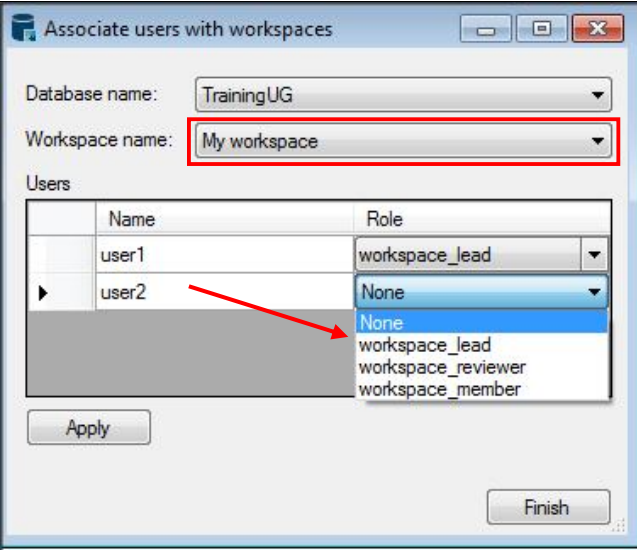

The user is created here at the database level and has not been assigned to any workspace yet, therefore this user cannot login to the database. This is explained in [Assigning users to workspaces](#) section. Please note that database names are case-sensitive. Spaces and special characters are not allowed in database names. Please note that database names are case sensitive. Spaces

Editing user properties


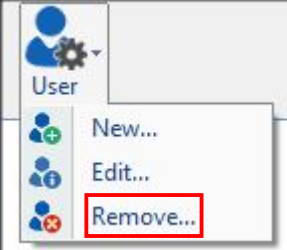
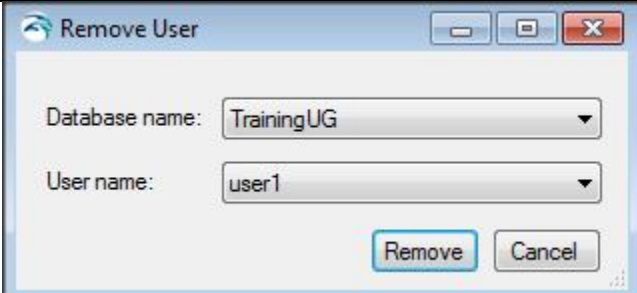
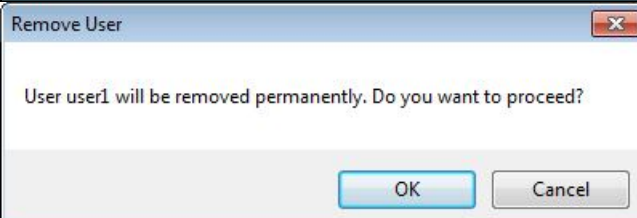
<p>1- Click on the  menu and then the 'Edit' button.</p>	
<p>2- Select the database where an existing user will be edited. Edit the user data as required (e.g. change password) and Click the 'Update' button.</p>	

Assigning users to workspaces

<p>1- As explained above. When a user is created, this is done at the database level. The user needs to be assigned to a workspace to have access. To do so, click on the  menu and then the 'Users' button.</p>	
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<p>3- Select the database where the users were created but not assigned to a workspace or a role. Select a workspace and also a role. Click 'Apply' button. To dismiss the dialog box click the 'Finish' button.</p>	
<div style="display: flex; align-items: center;">  <div style="border: 1px solid black; padding: 5px;"> <p>The 'Apply' button needs to be clicked to save the changes made to a user. The 'Finish' button only closes the dialog box and does not save the changes made.</p> </div> </div>	

Deleting a user

<p>1- Click on the  menu and then the 'Remove' button.</p>	
<p>2- Select the database where the user exists. Select the user name. Click the 'Remove' button.</p>	
<p>3- A confirmation box appears. Click OK to proceed with user removal.</p>	



The user removal operation is undoable. Once a user is removed, s/he cannot be recovered.

Review Questions

1. What are the different user levels in the DSS?
2. Assigning users to workspaces can be done using the 'Users' menu of the database manager utility.
 - True
 - False
3. Users are created at the workspace level and then assigned a role.
 - True
 - False

Answers

1. User levels are:
 - Administrator
 - Workspace lead
 - Workspace member
 - Workspace reviewer
2. False (the 'Workspace' menu)
3. False (at the database level and then assigned to workspace and given a role)

2.5. DSS basics

Introduction

This lesson introduces you to some DSS basics

Topics covered in this lesson:

- login to the DSS user interface
- Activating the 'System' manager

Lesson objectives:

At the end of this lesson, you will be able to

- Login to the DSS
- Activate the 'System' manager

Lesson pre-requisites

None.

Login to the DSS user interface

In order to use the DSS, you need to login to particular workspace within a database. To do so, a database needs to be created (see [Creating a database](#) section) and a connection to this database needs to be established but this time from the DSS interface. The steps to create a connection to a database within the DSS user interface are shown in the following exercise section.

System explorer items

The System explorer (Figure 6) has the following items:

- **My Profile:** this shows the profile of the logged in user. This includes his/her user name, real name and email
- **Settings:** this shows the general settings of the DSS session such as the database server name and number of allowed login attempts
- **Users:** this group shows a list of the users logged into database
- **Workspaces:** this shows the workspaces in the DSS database

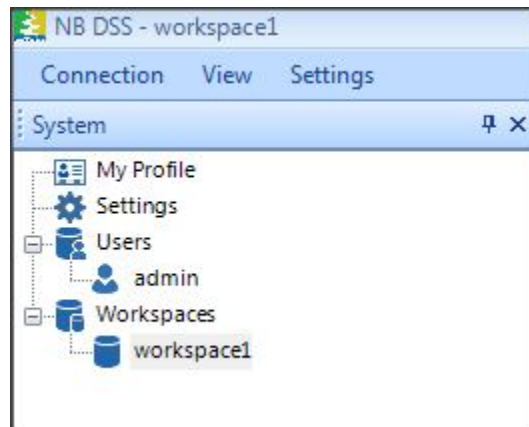

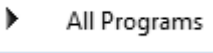
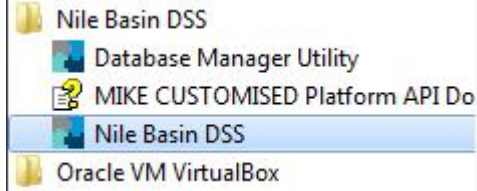
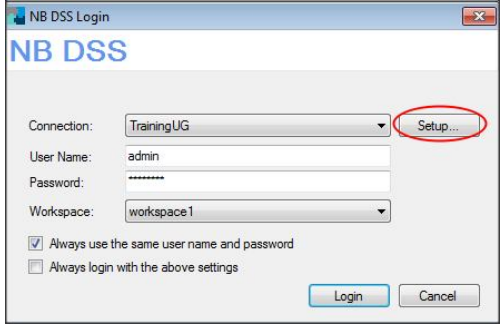
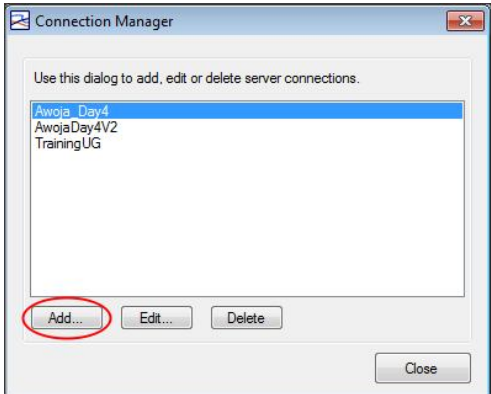
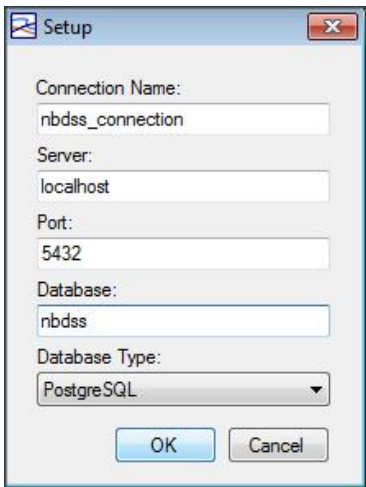


Figure 6: The System explorer

Exercises

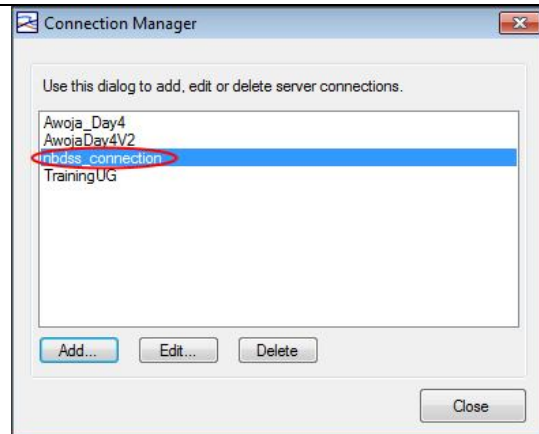
Login to the DSS

<p>1- Click the  button and start the DSS application from the  menu.</p>	
<p>2- Click 'Setup' button in the 'Login' dialog box. If this is the first time to open the DSS, all lists and boxes will be empty.</p> <p>In the 'Connection Manager' dialog, click the 'Add' button to add a new connection. The manager lists all available connections. If this is the first time to open the DSS, the list will be empty.</p> <p>Fill in the properties of the connection as follows and click 'OK':</p> <p>Connection name: Any representative name can be used here (e.g. nbdss_connection).</p> <p>Server: This is the IP to the server. Can be 'localhost' if the server is on the same PC as the DSS.</p> <p>Port: is by default 5432</p> <p>Database: Database name as created (case-sensitive). This is best done using the 'Copy-Paste' tools of the operating system.</p> <p>Database type: PostgreSQL</p>	  

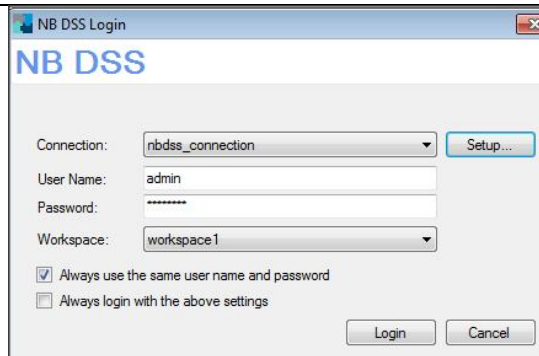


The 'nbdss' is the database created in previous exercises. If this database does not exist, you will have to create a new one now.

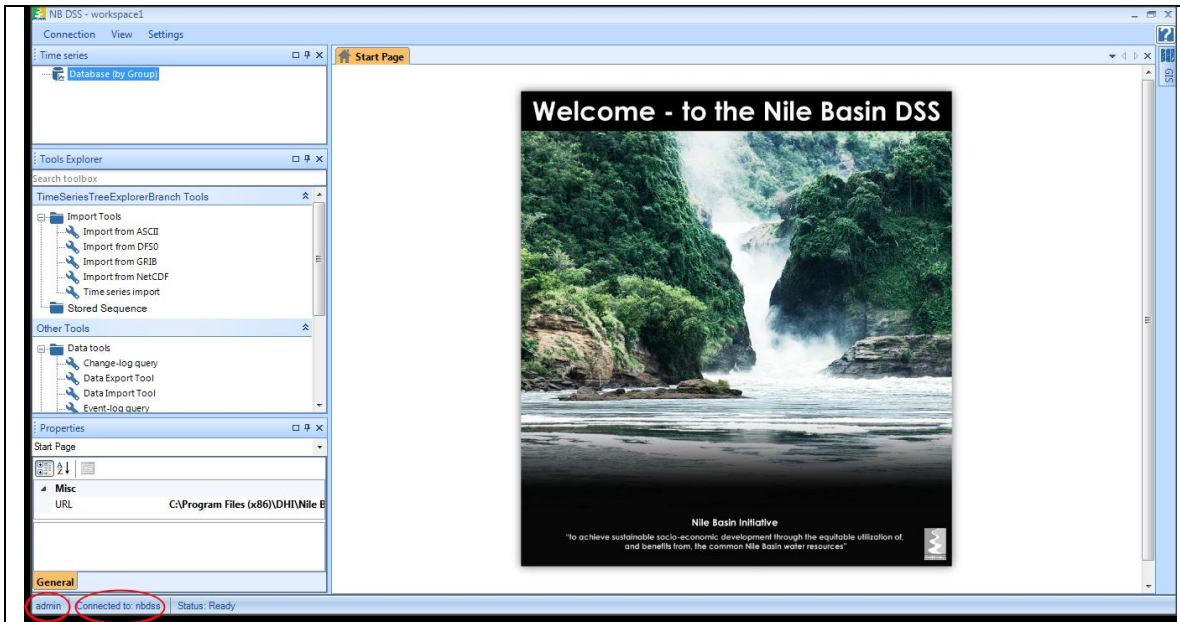
3- Select the newly created connection and click the 'Close' button. This closes the dialog – not the database.



4- The NB DSS Login dialog is displayed again with the selected connection. Login to the database using 'admin' as user name and 'dssadmin' as password without quotations.

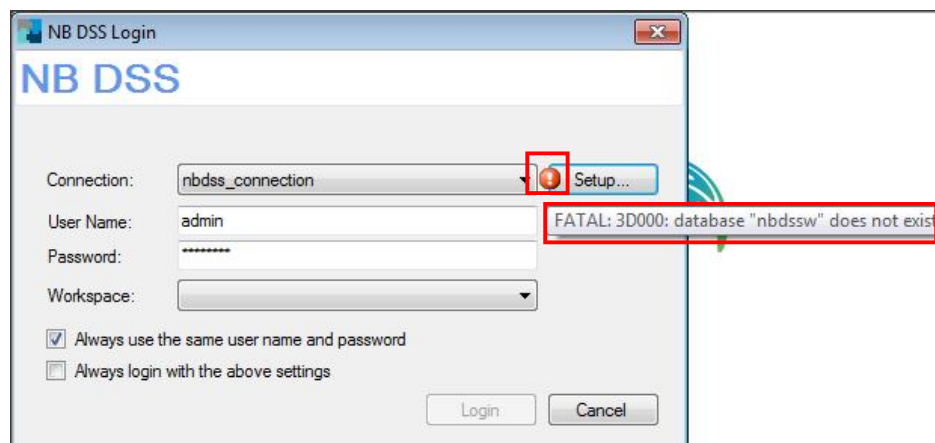


5- If the connection is successful, the DSS interface will appear showing at the bottom left corner the user name 'admin' and the connected database 'nbdss'. The workspace name appears next to the window title.



If for any reason the connection properties were not entered correctly or a connection is not needed any more, the 'Connection Manager' dialog allows the user to 'edit' or delete existing connections.

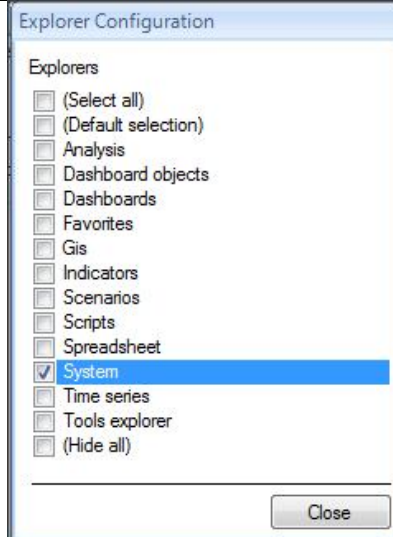
6- If any of the connection properties is wrong, a red exclamation mark appears next to the setup button (see next figure). Clicking on this mark shows what is wrong. For example, in this case, the database name was entered as 'nbdssw' rather than 'nbdss'. The error message shows that the database name does not exist.



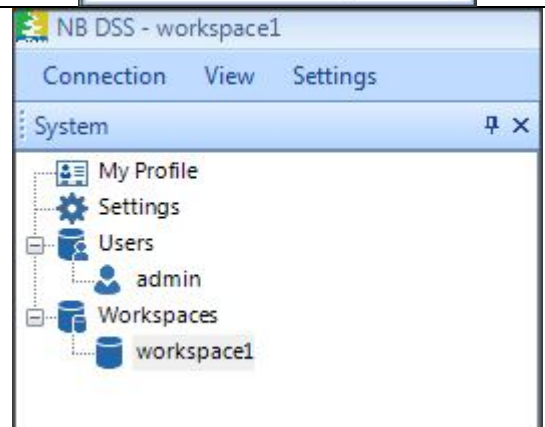
Try changing other properties and see what the error message is. Remember that database names are case sensitive.

Activating the System Explorer

1- In the DSS, click on **View** Menu, the Explorer Configuration box appears. Tick the box next to 'System' explorer.



2- 'System' explorer should appear within the DSS window as shown next.



Review Questions

1. What are the inputs required to login to the DSS?
2. If connection properties are wrong, how does the system inform you?

Answers

1. Inputs are:
 - Connection name
 - Server name or IP
 - Port number
 - Database name
 - Database type.
2. It displays a **Red exclamation mark (!)** next to the Setup button.

2.6. System manager functionality

Introduction

This lesson introduces you to managing workspaces and users within the DSS user interface using the 'System' manager.

Topics covered in this lesson:

- Creating and changing user properties
- Creating new workspaces and assigning users to them.

Lesson objectives:

By the end of this lesson, it is anticipated that you will be able to

- Manage workspaces and users within the DSS user interface.

Lesson pre-requisites

You have to be familiar with the basics explained in the [DSS basics section](#), and the [workspace management](#) and [user management](#) sections to take this lesson.

Management of workspaces and users within the 'System' manager

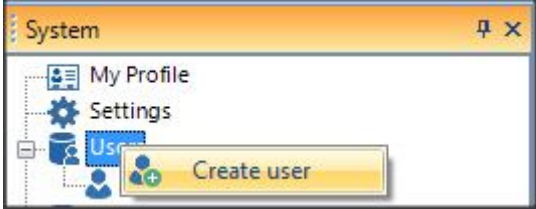

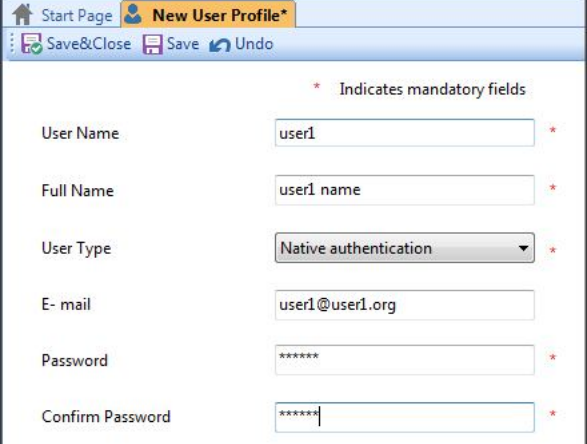
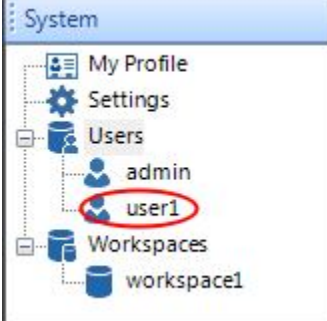
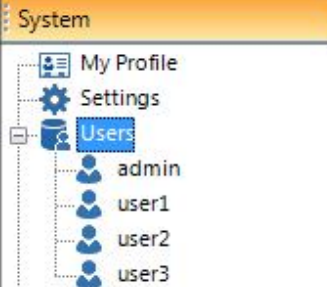
The 'System' manager offers a subset of the functions that are provided by the Database manager utility, namely:

1. Creating and editing users
2. Creating new workspaces and assigning users to them


The creation of new users and workspaces can only be undertaken by administrators whilst assigning users to workspaces can be done by administrators or workspace leads.

Exercises

Creating a user

<p>1- Expand the Users node and notice that only one user 'admin' is present. Right click the Users node and select 'Create user'.</p>	
<div data-bbox="240 579 305 693"></div> <div data-bbox="337 621 932 659">Only an administrator can create other users.</div>	
<p>2- Fill in the information for the new user as shown. Keep the 'User Type' as 'Native authentication' (For details see User types in the DSS). Click  button.</p>	
<p>3- A new user called 'user1' is now added to the 'Users' group.</p>	
<p>4- Repeat step 2-3 to create user2 and user3.</p>	

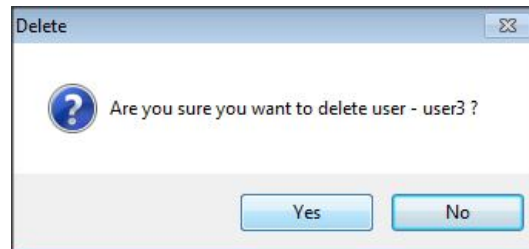
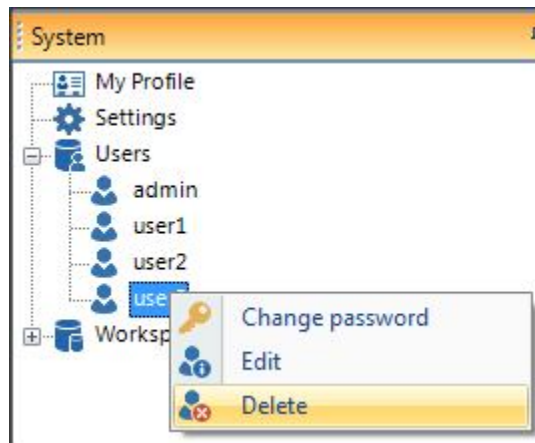


Users can also be created using the  menu of the Database Manager Utility.

Delete a user


1- Expand the Users node, right click on user 3 and select Delete

Confirm deletion of user by clicking Yes in the confirmation dialog.

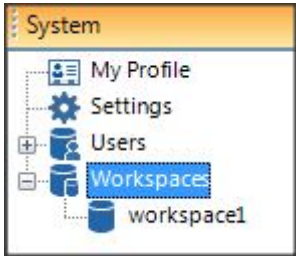
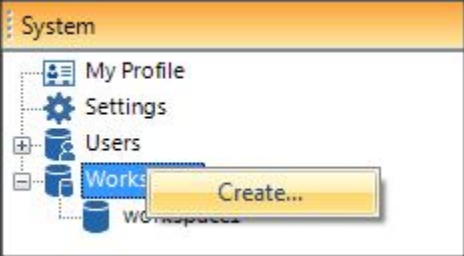
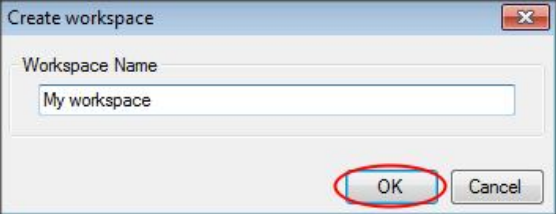
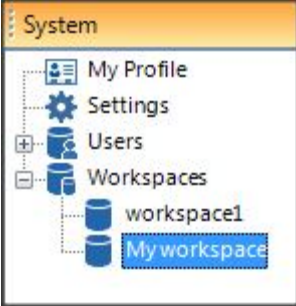


Only an administrator can delete other users.



Users can also be deleted using the  menu of the Database manager utility.

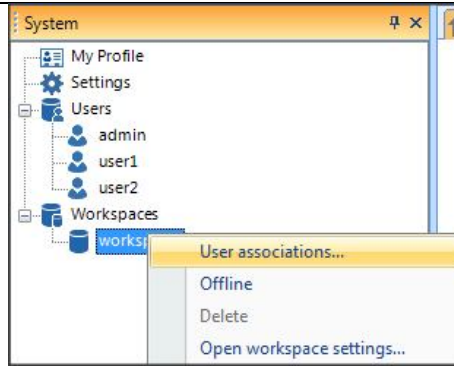
Create a workspace


<p>1- Expand the Workspaces node and notice only 'workspace1' is present. This is created by default when a database is created.</p>	
<p>2- Right click the Workspace node and select Create</p>	
<p>Type in the name of the new workspace (e.g. 'My workspace') and click the 'OK' button.</p>	
<p>A new workspace appears under Workspaces node.</p>	
<div data-bbox="237 1383 310 1503" data-label="Image"> </div> <div data-bbox="352 1428 1002 1467" data-label="Text"> <p>Only an administrator can create new workspaces.</p> </div>	

Assigning users to workspaces

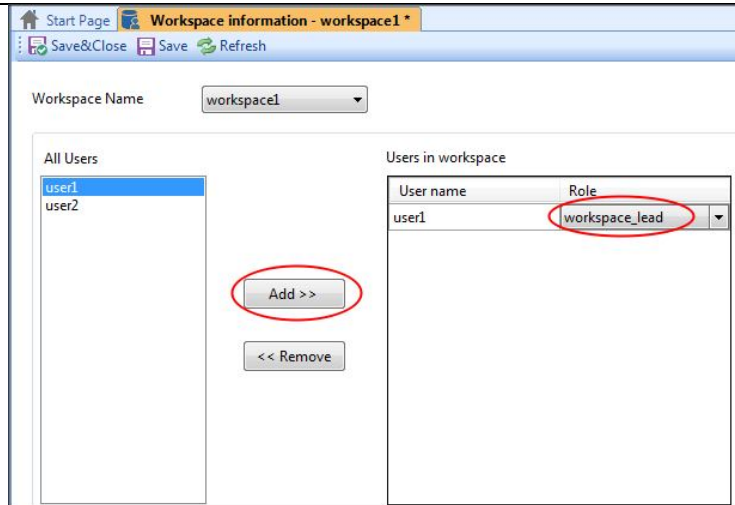
When users are created they have no permissions to access or login to workspaces until they are associated to one or more workspaces either as workspace lead, workspace member or workspace reviewer.

1- Expand the Workspaces node, right click on workspace1 and select 'User associations' to associate already created users to workspace1.




2- Select user1, click the 'Add' button and change the role to 'workspace_lead'. Click the  button.

Try to restart the DSS and login as user1 to workspace1 and assign user2 to workspace1 as a 'workspace_member'



Only admin users or workspace leads can assign users to workspaces.



Users can also be assigned to workspaces using the  menu of the Database Manager Utility.

3- Try to logout and then login as a User2.

How Do you rights change? (Hint: can you change user roles?)

Review Questions

1. The 'System' manager offers same functionality as the Database manager utility

Database Manager Utility and System Manager

- True
 - False
2. Any DSS user can create other users and workspaces.
- True
 - False

Answers

1. False (subset functionality)
2. False (Only administrator can create users and workspaces)

3. References

- Nile Basin Decision Support System help file (DSS Ver. 2.0)
- Nile Basin Decision Support training material (developed in 2013 and 2014)
- DHI training material for the Nile Basin Decision Support (developed in 2012)