



# Nile Basin Decision Support System

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## *DSS User Interface Training Module*

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## Revision History

Version	Date	Revision Description
0.1	21/11/2014	Initial draft
0.2	5/12/2014	Final version for approval
0.3	10/12/2014	Second 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 User Interface. 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: None.

### 1.3. Expectations

Upon successful completion of the lessons, exercises and review questions in this document, you will be familiar with most of the DSS User Interface 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

None.

## 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:

- DSS User Interface:
  - The DSS help file accessed by clicking on the  button.

## 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](mailto: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 briefly introduces you to the DSS software layout and components.
- User Interface menu: This lesson shows you the functions under each menu bar element (i.e. the connection, view and settings sub-menus).
- User Interface special windows: This lesson introduces you to two special windows which are the 'Properties' window and the 'Tools Explorer' window.

After completing the lessons and exercises in this section you will be familiar with the DSS User Interface functionalities.

## 2.1. General

### Introduction

This lesson briefly introduces you to the DSS software layout and components. If you are familiar with them you can skip this and move to the next lesson.

Topics covered in this lesson:

- DSS software layout.
- DSS User Interface components

Lesson objectives:

After completing this lesson, you will be familiar with DSS software layout and User Interface components.

### DSS Interface layout

The DSS Platform has a User Interface (UI) where all windows reside under a single parent window, referred to as the Shell. The Shell contains the following (See Figure 1):

- Menu bar: where menu items are accessed
- Status bar: where information such as logged user name, database name and operation status are displayed.
- Dockable child windows (See the [DSS User Interface components](#) section for details). Some of these windows can have tabs such as the 'Properties' window.
- Splitters for resizing the child windows.

### DSS User Interface components

Figures 2 and 3 show the various windows that can be configured within the DSS User Interface. These are

1. The Data Explorer (or Explorer window): where the explorers along with their objects (e.g. Time series in Time Series explorer) are organized in user defined groups and subgroups.
2. The Data view: This is an area to visualize data that is selected in the data explorer. Examples of the data that can be viewed in the data view are:

- The Map window: where the GIS data is viewed.
- The Table window: where tables or GIS attributes data are displayed
- The Spreadsheet window: where spreadsheet data is displayed

The above windows can either be arranged in one window in tabs as shown in Figure 2 or in more than one view as shown in Figure 3.

3. Tools Explorer window: The 'Tools' is a special type of explorer where the tools that are relevant to DSS object (e.g. time series) are accessed.
4. The Properties Window: where the selected DSS object data or tool properties are displayed, property values are set and selected tools are executed.

All of the above windows may be docked where the user prefers or may not be docked at all. Window docking is explained in the [arranging windows](#) exercise.



## DSS User Interface

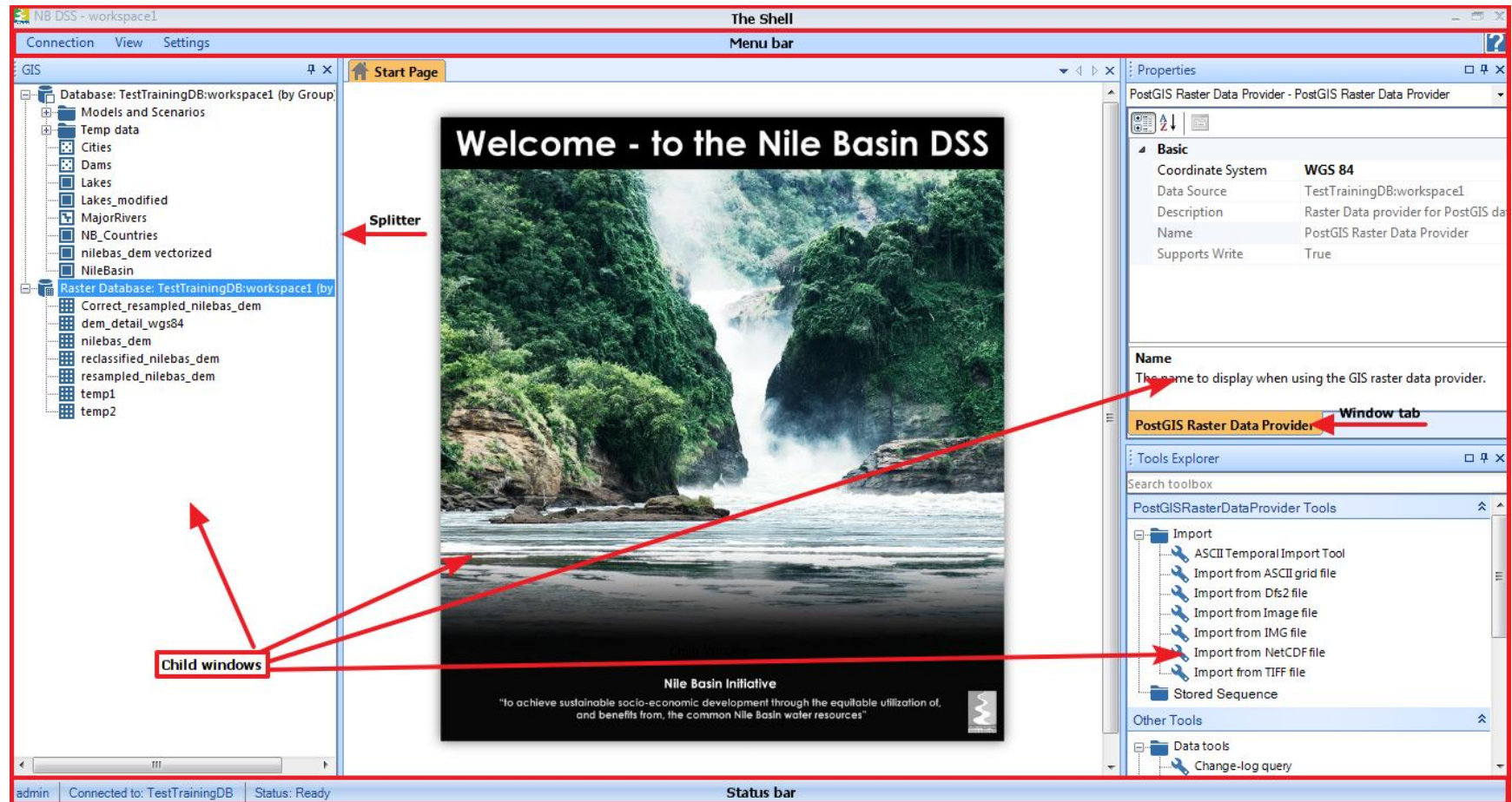


Figure 1: DSS User Interface elements

## DSS User Interface

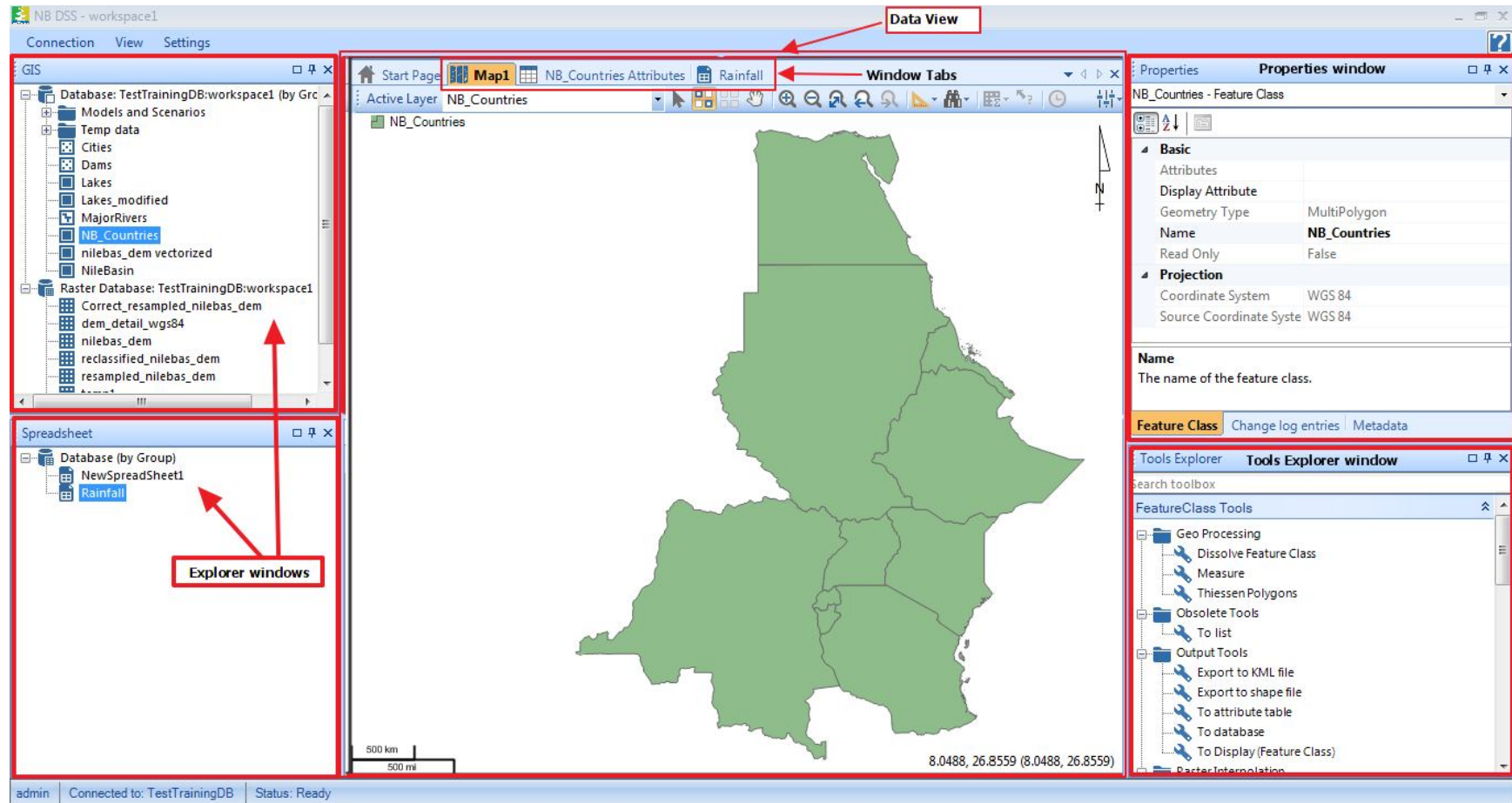


Figure 2: DSS window types (Data view windows arranged in tabs)

## DSS User Interface

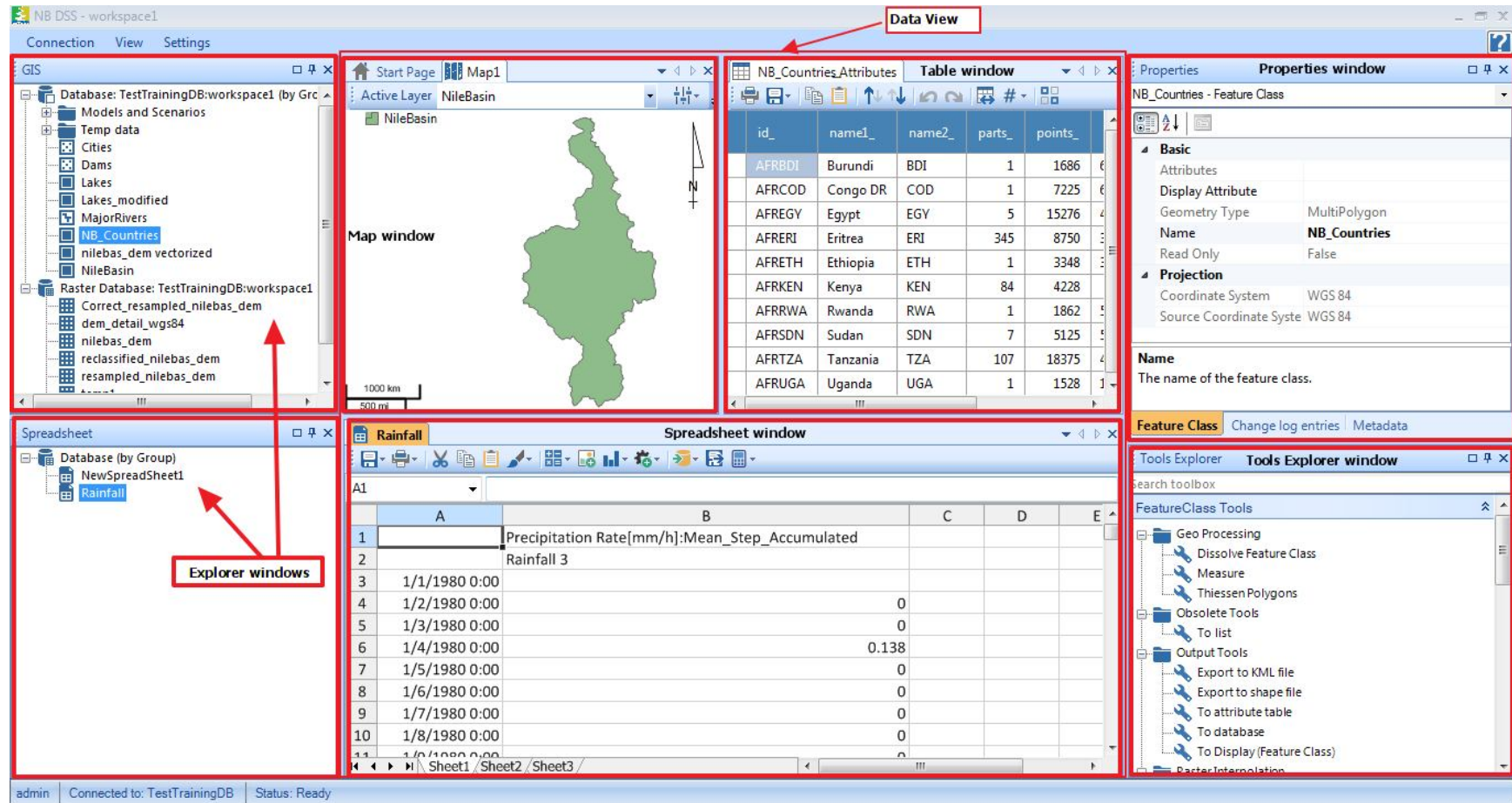
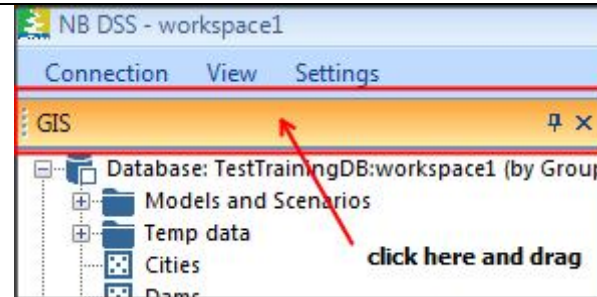


Figure 3: DSS window types (Data view windows arranged in more than one view)

## Exercises

### ***Arranging windows***

1- In the DSS, Click on the title bar of a child window and drag.



2- Once you start to drag the window, you will notice that a number of docking locations or handles appear and also a box that represents the window as shown below.

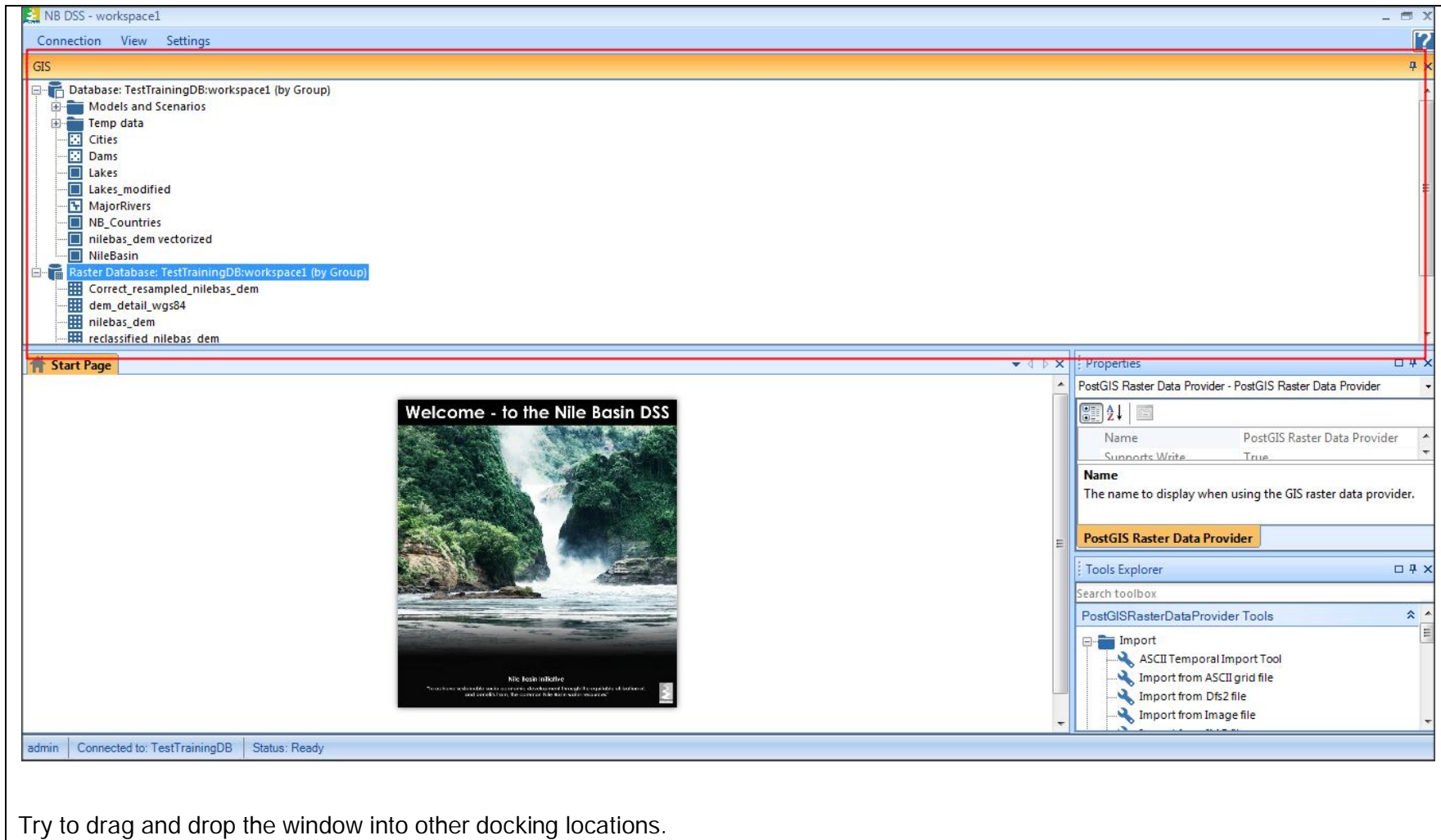


## DSS User Interface

The screenshot displays the NB DSS workspace interface. The central area shows a 'Welcome - to the Nile Basin DSS' splash screen with a waterfall image and the Nile Basin Initiative logo. The left sidebar contains a tree view of the workspace structure, including 'Database: TestTrainingDB:workspace1 (by Group)' and 'Raster Database: TestTrainingDB:workspace1 (by Group)'. The right sidebar shows the 'Properties' panel for the 'PostGIS Raster Data Provider' and the 'Tools Explorer' panel. Red annotations highlight the docking process: a box labeled 'A box representing the dragged window' points to a small window icon in the top docking area; a box labeled 'Docking locations/handles' points to the small window icons in the left and bottom docking areas; and a box labeled 'PostGIS Raster Data Provider' points to the window icon in the right docking area. Red arrows indicate the movement of the window from the top docking area to the right docking area.

3- Drag the box that represents the window and drop into, for example, the docking location at the top. This moves the window to the top of the view as shown below and docks it there.

## DSS User Interface

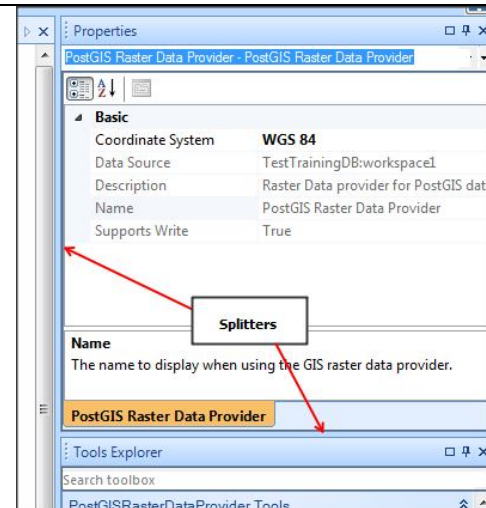




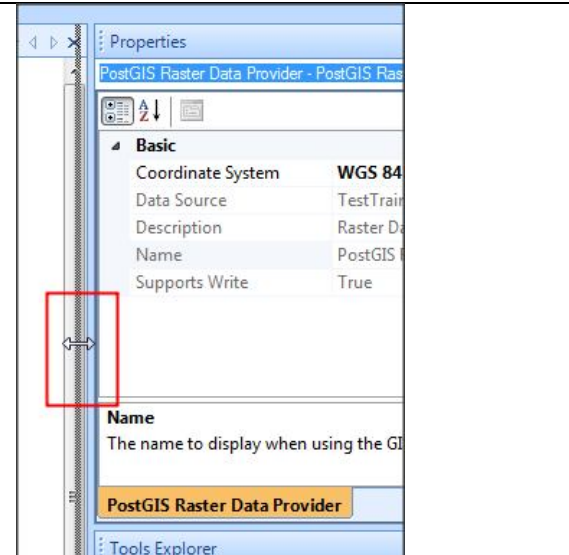
might appear. They function in the same way described above.

### Resizing windows

1- In the DSS move the mouse to the location of a splitter between two windows. Once the mouse cursor changes to a double arrow (| ⇄ |), drag the splitter. Note the change of the style of the splitter when dragged.



2- As you drag the splitter, the window size will change.  
Once the new size of the window is OK, drop the splitter.





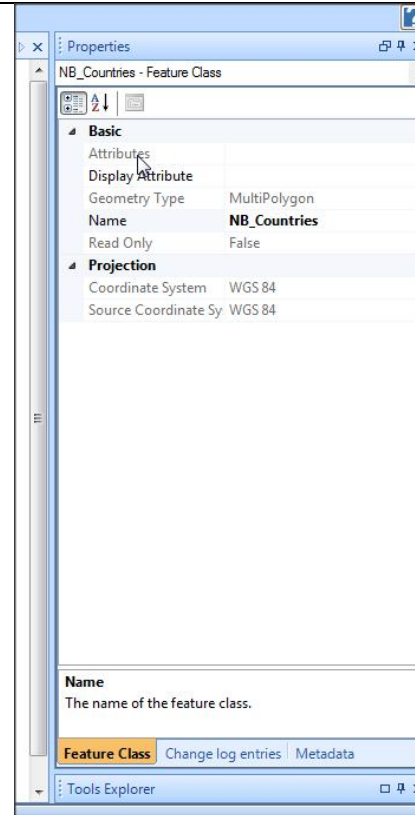
### ***Maximizing, minimizing and closing windows***


1- In the DSS the various windows have a number of buttons in its title bar. These buttons can vary based on the window type. As an example, the 'Properties' window has 3 buttons as shown.


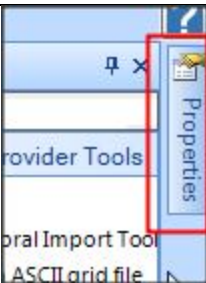




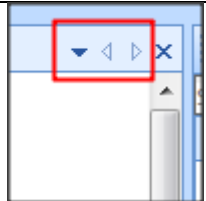

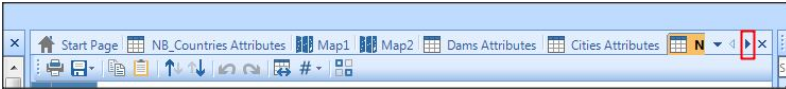




2- Clicking on the  button will maximize the windows (to its maximum possible extent) and the button changes to . Clicking again on this button restores the previous size of the window.



The  button is only viewable when windows are arranged in the same region.

<p>3- Clicking on the  button will minimize the window as shown. Hovering the mouse over the minimized window will expand it but as a floating window over the others.</p>	
<p>4- Clicking on the  button will close the window</p>	
<p>5- There is an additional button in the data view (see next window) that allows you to quickly select a window that is displayed within the data view or scroll the tabs left and right when the space is not enough to show all tabs.</p> <p>To select a window, click on the  button. A list of windows displayed in a data view appears. Select the window that you are after.</p> <p>To scroll the tabs left and right when the space is not enough to show all tabs, add a number of windows as shown next until the right arrow changes from  to . Click now on right arrow to scroll the tabs and show the remaining windows. Note how the shape of the arrows</p>	  

change as you move scroll.	
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### **Review Questions**

1. What is the DSS 'Shell'?
2. Give three examples of the DSS User Interface window types.

## Answers

1. The 'Shell' is the User Interface parent window where all child windows reside.
2. Examples are:
  - The Explorer windows.
  - The Map window.
  - The Table window.

## 2.2. User Interface menu

### Introduction

This section introduces you to DSS menu bar elements.

Topics covered in this lesson:

- The 'Connection' sub-menu.
- The 'View' sub-menu.
- The 'Settings' sub-menu.

Lesson objectives:

By the end of this lesson, it is anticipated that you will be familiar with the DSS User Interface menu elements.

### Lesson pre-requisites

None.

### Menu bar elements

The Menu bar in the DSS is located below the Title bar. Its position is fixed and cannot be moved as other windows (See Figure 4).

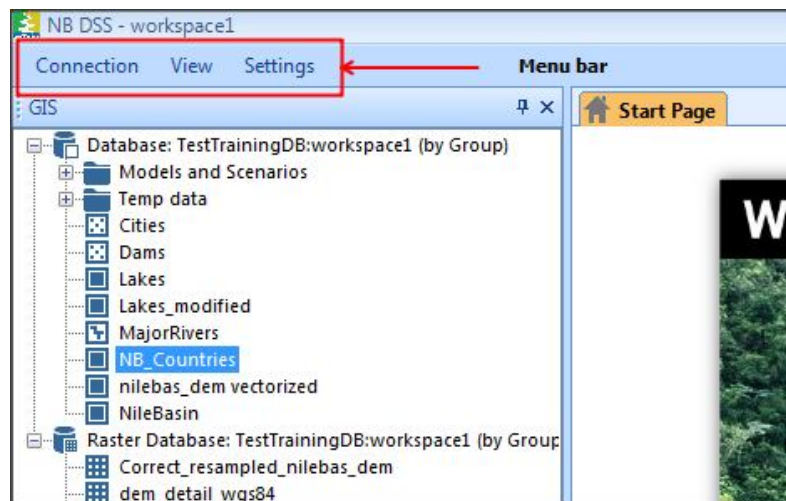


Figure 4: the Menu bar

It has the following three sub-menus:

- The 'Connection' sub-menu.

- The 'View' sub-menu.
- The 'Settings' sub-menu.

The functionalities of each sub-menu are described in the sections below

### The 'Connection' sub-menu

This menu has two items login and exit (See Figure 5). The 'login' option allows you to login to a different database or workspace and/or as a different user. The 'exit' option closes the DSS.



Figure 5: The 'Connection' sub-menu

### The 'View' sub-menu

This menu has three menu items (See Figure 6). The 'Start Page' option displays the DSS start page in case it is closed. The 'Properties' option displays the properties window. The 'Explorers' option allows you to activate and deactivate explorers. It also allows you to set the DSS windows layout to the default view (See Figure 7).

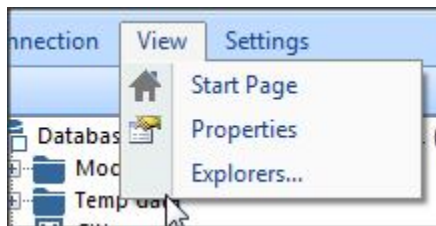


Figure 6: The 'View' sub-menu

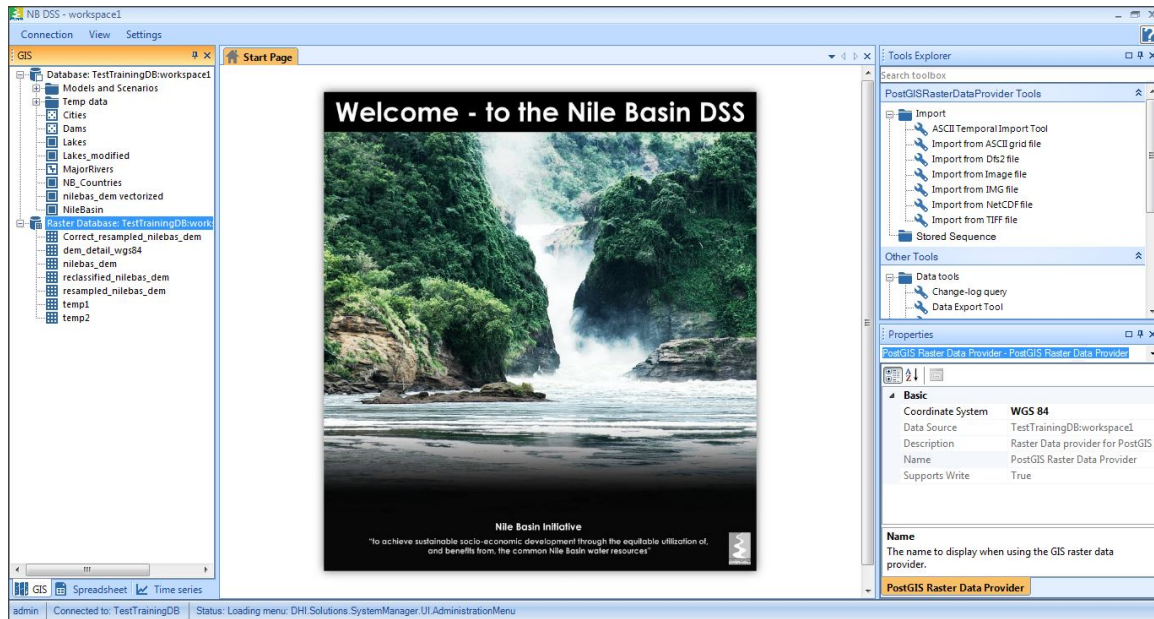


Figure 7: The DSS default view

### The 'Settings' sub-menu

This menu has four menu items (See Figure 8). The 'Change Password' option allows you to change the password of the logged-in user. The 'User Options' option allows you to manage a number of Misc. options such as External tools, Message level and DSS visual style. The 'External tools' option is used to add or edit the properties of the tools created for the logged in user using the 'External Tools' option under Settings Menu as described next. The 'Message level' changes the level of messages displayed by the system when errors occur. The 'Tool Output Configuration' option allows you to . The 'External Tools' option allows you to run external tools (e.g. notepad) from the DSS menu<sup>1</sup>.

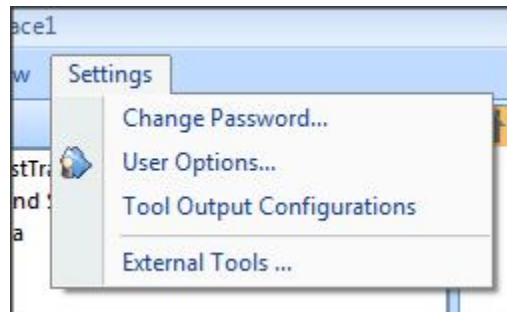


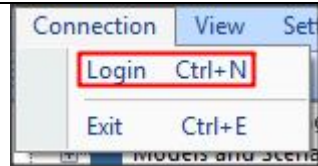
Figure 8: The 'View' sub-menu

<sup>1</sup> This is further explained in the Exercises section

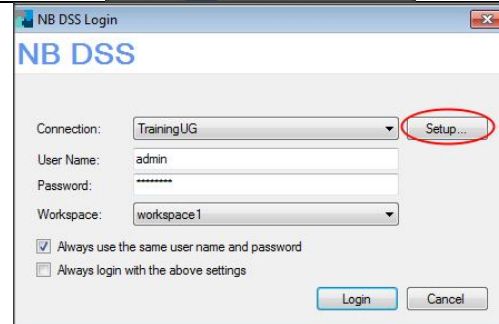
## Exercises

**Login to the DSS**

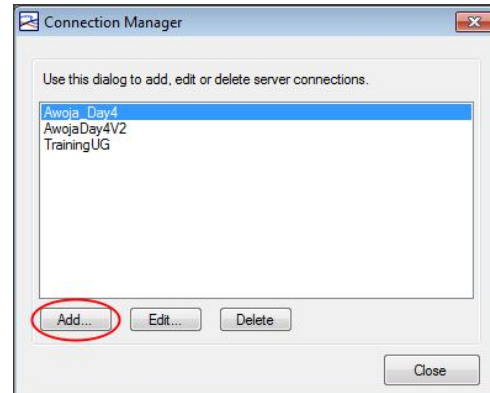
1- On the 'Connection' menu, click login.



2- You can either select one of the existing connections or click 'Setup' button in the 'Login' dialog box. In this case we will create a new connection.



In the 'Connection Manager' dialog, click the 'Add' button to add a new connection. The manager lists all available connections.



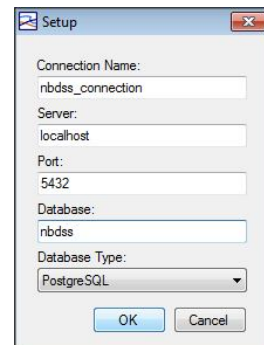
Fill in the properties of the connection as follows and click 'OK':

**Connection name:** Any representative name can be used here (e.g. nbdss\_connection).


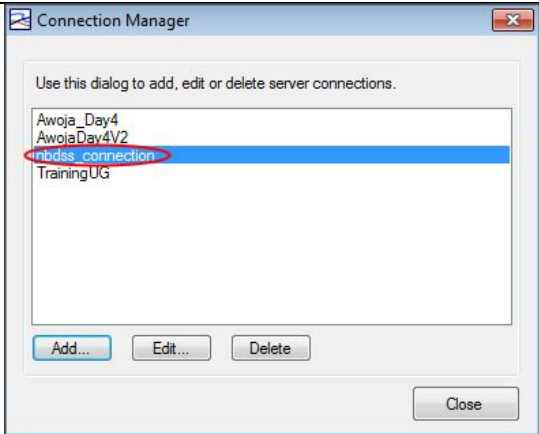
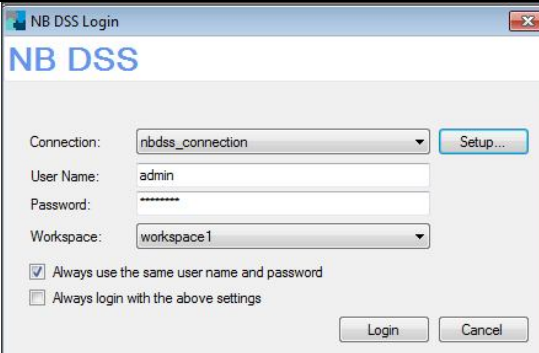
**Server:** This is the IP to the server. Can be 'localhost' if the server is on the same PC as the DSS.

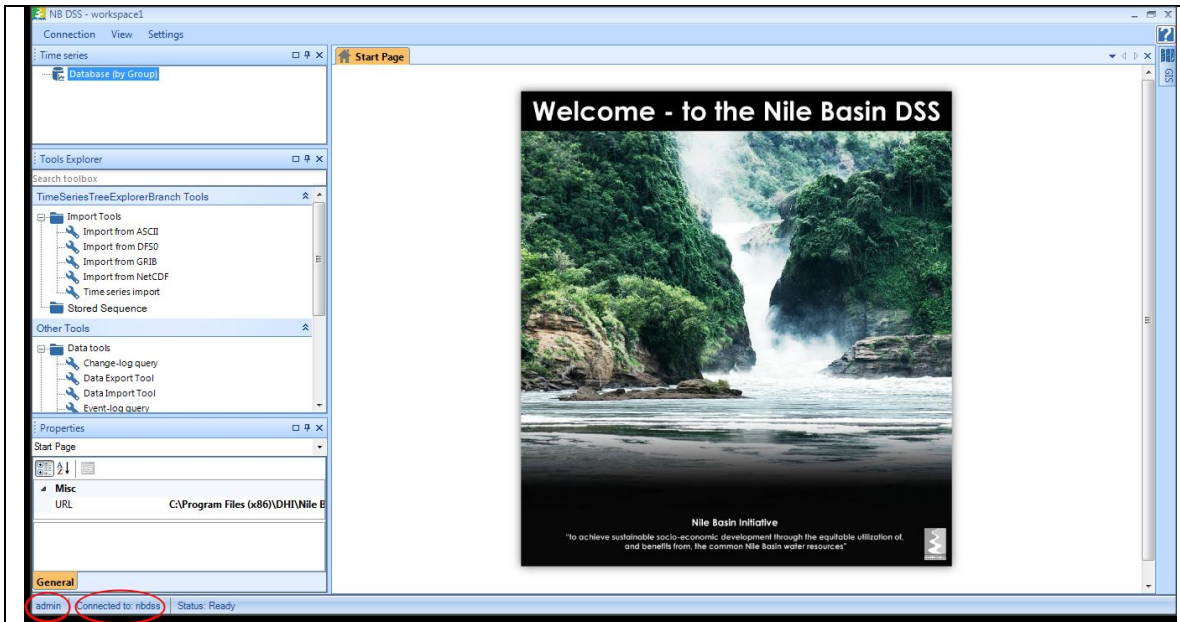
**Port:** is by default 5432

**Database:** Database name as created (case-sensitive). This is best done using the 'Copy-Paste' tools of the operating



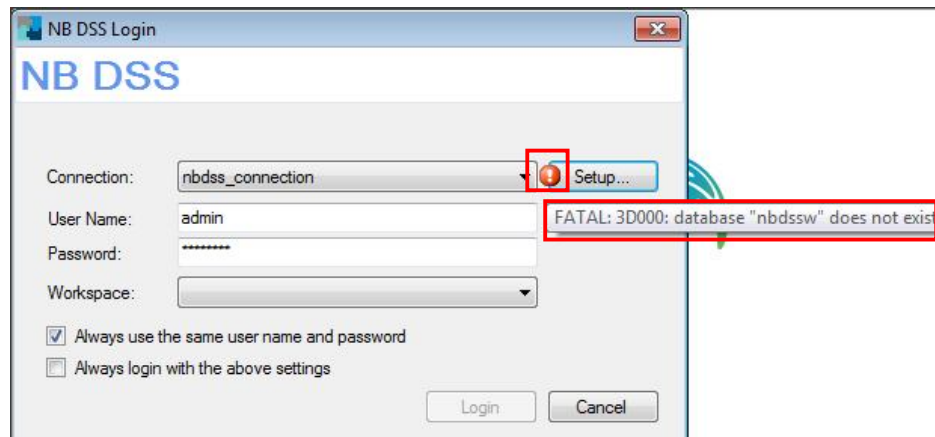


<p>system.</p> <p><b>Database type:</b> PostgreSQL</p>	
<p> The 'nbdss' is the database you need to create before running this exercise. If this database does not exist, you will have to create a new one now (See Database Manager Utility and System Manager training module for details).</p>	
<p>3- Select the newly created connection and click the 'Close' button. This closes the dialog – not the database.</p>	 <p>The Connection Manager dialog box is shown. It contains a list of connections: Awoja_Day4, AwojaDay4V2, nbdss_connection (highlighted with a red circle), and TrainingUG. At the bottom, there are buttons for Add..., Edit..., Delete, and a Close button.</p>
<p>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 or use your own user name and password if you have them.</p>	 <p>The NB DSS Login dialog box is shown. It has fields for Connection (nbdss_connection), User Name (admin), Password (masked with asterisks), and Workspace (workspace1). There are checkboxes for 'Always use the same user name and password' (checked) and 'Always login with the above settings' (unchecked). Buttons for Setup..., Login, and Cancel are at the bottom.</p>
<p>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 will be appended to the Shell title</p>	






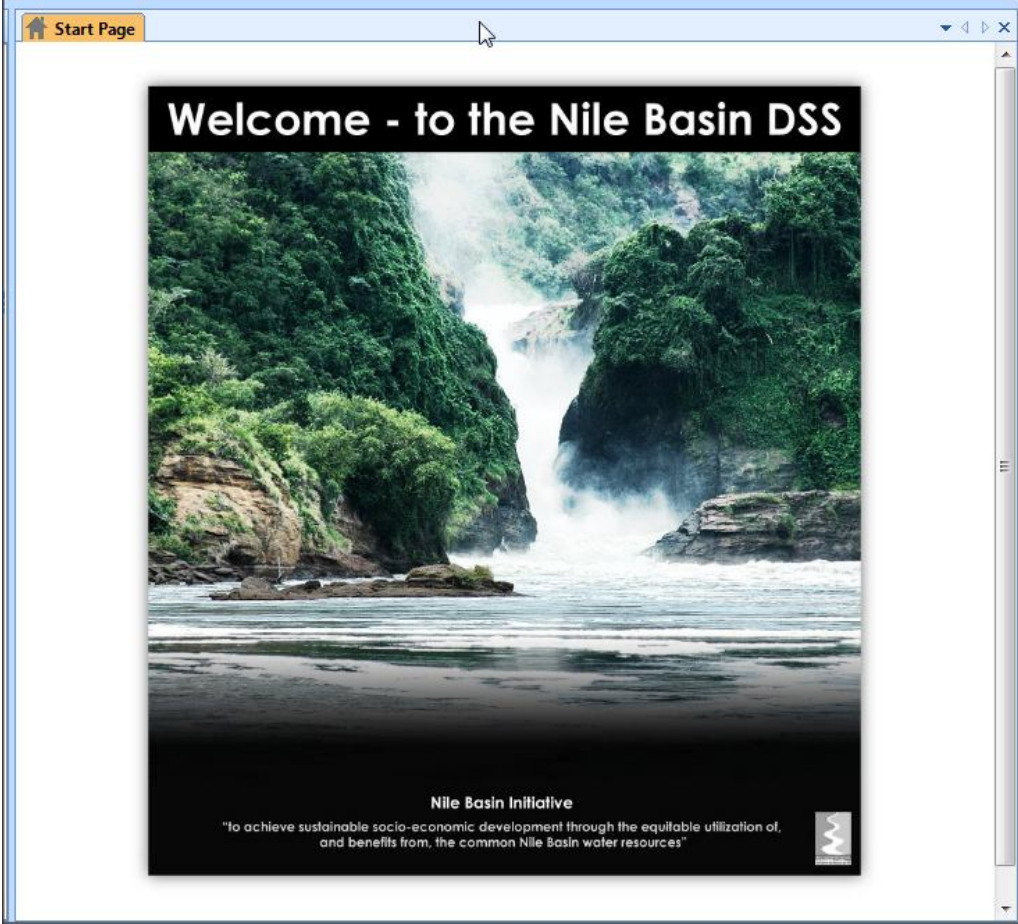
If for any reason the connection properties were not entered correctly or a connection is not needed any more, the 'Connection Manager' dialog allows the user to 'edit' or delete existing connections.

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. The error message explains which property is set to a wrong value.



Try changing other properties and see what the error message is.

### Close and display the start page

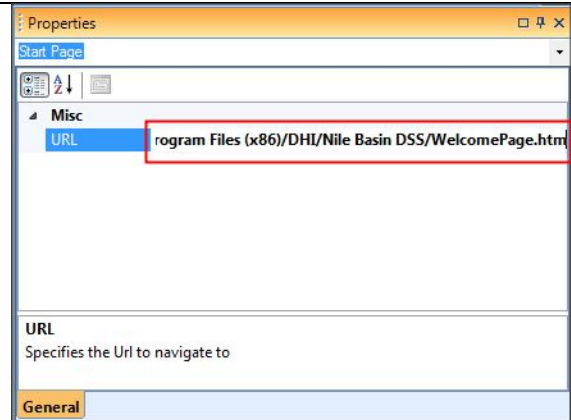
<p>1- By default when the DSS starts, it displays the start page. To close it, click on the  button.</p>	
<p>2- To display the start page, on the 'View' menu, click 'Start Page'.</p>	
<p>3- The start page is shown again.</p>	
	
<div data-bbox="240 1667 310 1808" data-label="Image"> </div> <div data-bbox="355 1688 1349 1797" data-label="Text"> <p>The 'Properties' window can be closed and displayed in the same way explained above but using the 'Properties' option under the 'View' menu. Depending on where you drop the dragged windows, additional arrows</p> </div>	

4- You can change the view within the Start page by modifying the URL in the 'Misc' properties within the 'Properties' Windows. This URL can be, for example, the path to a file or an internet web page. Change the URL to [www.nilebasin.org](http://www.nilebasin.org)<sup>2</sup>.

What do you notice?

Change back the URL to 'C:/Program Files (x86)/DHI/Nile Basin DSS/WelcomePage.htm'

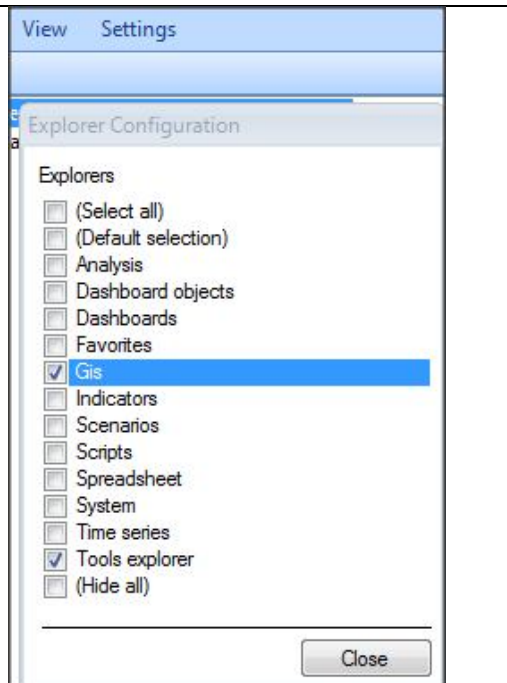
What do you notice?



### Activating an explorer

1- In the DSS, the explorer windows are activated using the **View** menu.

For example, to activate the 'Gis' explorer, click on **View** menu, click "Explorers..." and the Explorer Configuration box appears. Tick the box next to 'Gis' explorer.



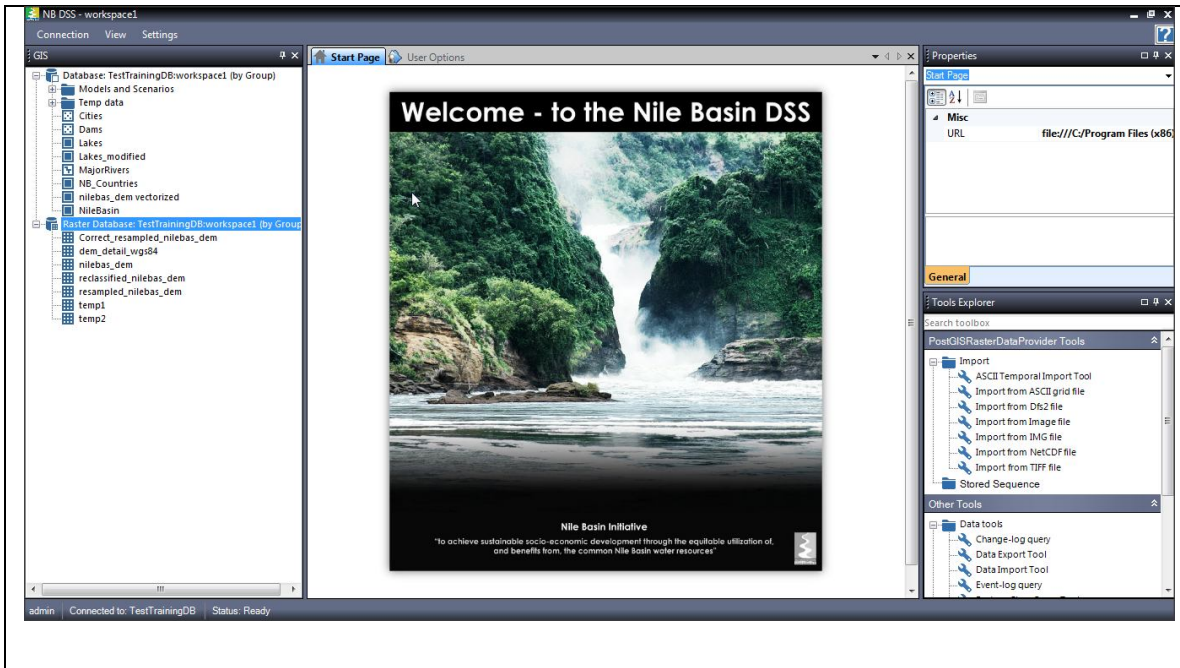
<sup>2</sup> Make sure you are connected to the internet either wise this will not work

2- 'GIS' explorer should appear within the DSS window.	
<div data-bbox="256 380 318 495" data-label="Image"> </div> <div data-bbox="367 401 1192 478" data-label="Text"> <p>Explorer windows can be deactivated in the same way explained above but by un-ticking the box next to it.</p> </div>	

### Changing the DSS visual style

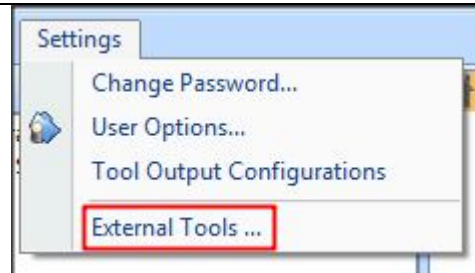
1- On the 'Settings', click on the 'User Options' option.	
2- The default visual style is 'Office2007Blue'.	
3- Change the visual style to 'MediaPlayerBlue' and then click the save button.	
4- The DSS visual style changes as shown below	

## DSS User Interface

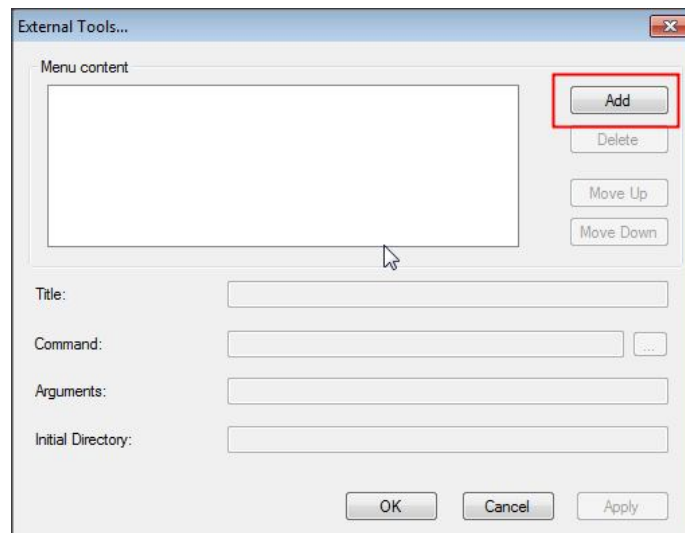


### ***Adding an external tool command***

1- On the 'Settings', click on the 'External tool' option.



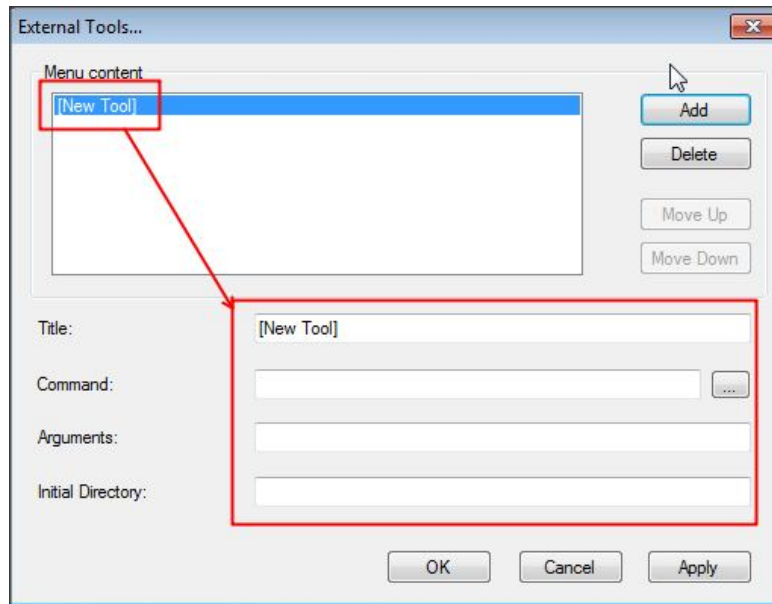
2- The 'External tool' Dialog appears as shown below. Click on the Add button to add a command to an external tool.



3- Once the Add button is clicked a new tool item appears and its properties become



editable as shown below.



Fill the inputs as follows:

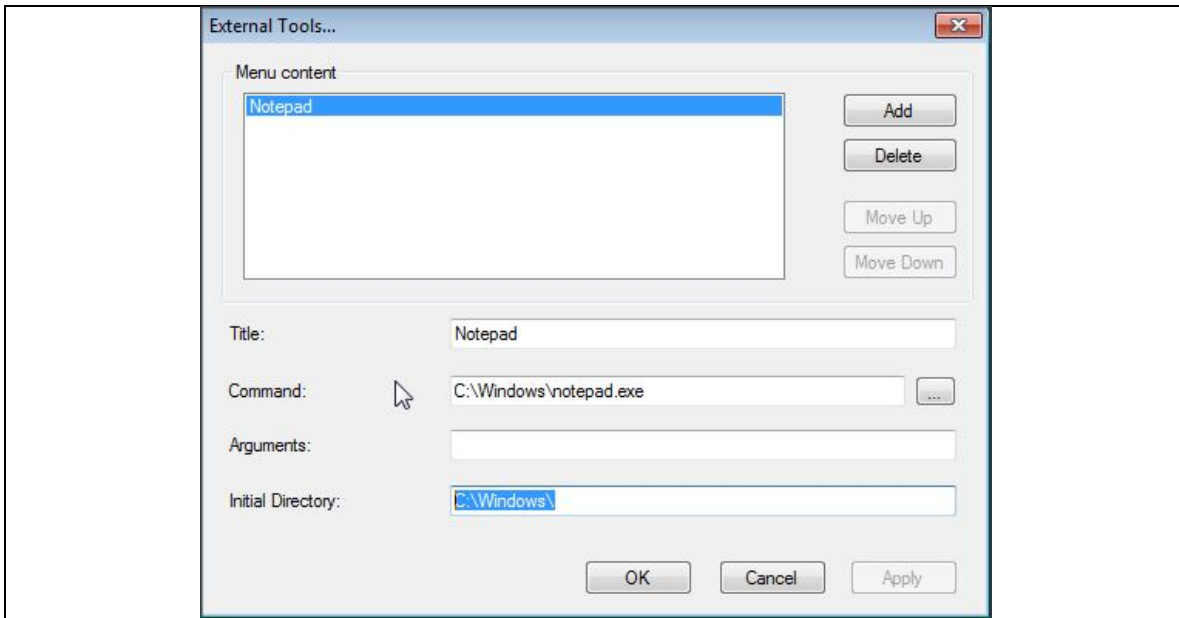
Title: sub-menu item caption that appears under the 'Settings' menu. Input '**Notepad**'

Command: location of the tool. Input '**C:\Windows\notepad.exe**'

Argument: additional arguments that are added to the command line when the external tool is executed (e.g. File name). Leave this empty for this exercise

Initial Directory: A directory that the external tool uses when it shows an 'open' 'save' or 'save as' dialog boxes. Input '**C:\Windows\**'

4- The dialog should look like below after setting the inputs for 'Notepad'

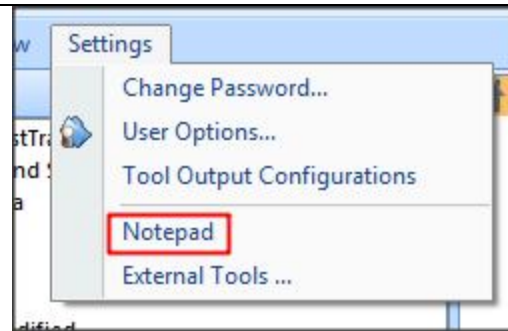


Click OK to save the inputs.

5- Click on the Settings menu. A new item is now added to the menu and it is called 'Notepad'.

Click on the 'Notepad' menu item. What do you notice?

The properties of this tool can be edited using 'User Options...' External Tools collection property.





## Review Questions

- 1- List the main DSS menu items.
- 2- User password can be changed from the 'Connections' sub-menu.
  - True
  - False
- 3- DSS visual style can be changed from the 'View' sub-menu.
  - True
  - False

## Answers

1- The main DSS menu items are:

- The 'Connection' sub-menu.
- The 'View' sub-menu.
- The 'Settings' sub-menu.

2- False.

3- False.

## 2.3. User Interface special windows

### Introduction

This lesson introduces you to two special windows which are the 'Properties' window and the 'Tools Explorer' window.

Topics covered in this lesson:

- The 'Properties' window including its main, change log and Metadata components.
- The 'Tools' window.

Lesson objective:

After completing this lesson, you will be able to:

- Understand the properties window functions and components
- Use the 'Tools' explorer

### Lesson pre-requisites

None.

### The 'Properties' window

When a DSS entity or tool is selected, its corresponding properties are displayed in the 'Properties' window (If properties are activated). All or some of the properties can be edited, and changes will be applied instantaneously with no explicit save operation required. For a data entity, the 'Properties' window not only holds the properties on the entity but also its change log and metadata. An example of the properties for feature class is shown in Figure 9.

### The 'Tools Explorer' window

Tools are DSS components that can be used, for example, to analyze and process DSS data entities (such as time series or map layers). Tools are presented in a context sensitive manner in the Tools Explorer. For example, time series relevant tools are made available only when a time series is selected in the Time series explorer or in the legend on a time series chart. Similarly, GIS tools are only

presented when map layers are selected in GIS Explorer or in the legend on a map. These context sensitive tools are listed within the 'Tools Explorer' as shown in Figure 10. The 'Tools Explorer' can be activated and deactivated as explained in the exercise that shows [activating an explorer](#) so it is similar to other explorers but it only holds DSS tools. It also has a search box to facilitate finding a tool.

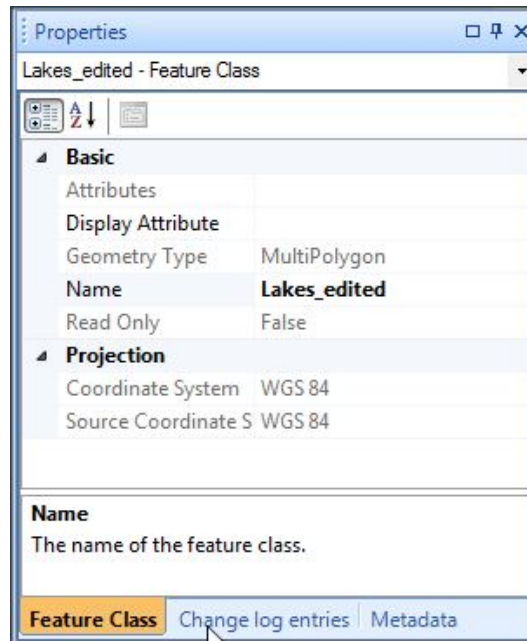


Figure 9: Properties window example

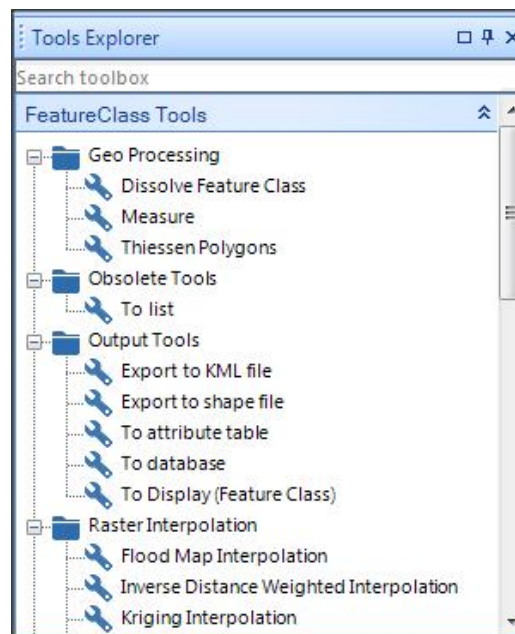


Figure 10: Tools Explorer window

## Relation between the 'Properties' and the 'Tools Explorer' windows

The 'Properties' and the 'Tools Explorer' windows are interlinked. When a tool is selected in the 'Tools Explorer', the tool settings will appear in the 'Properties' window. The settings of the tool can be edited and changes will be applied instantaneously with no explicit save operation required. Figure 11 shows an example of a simple tool that measures the length of line (GIS feature). You can see that the name of the tool is displayed in the 'Properties' window and below that come the tool settings which in this case the unit of the length.

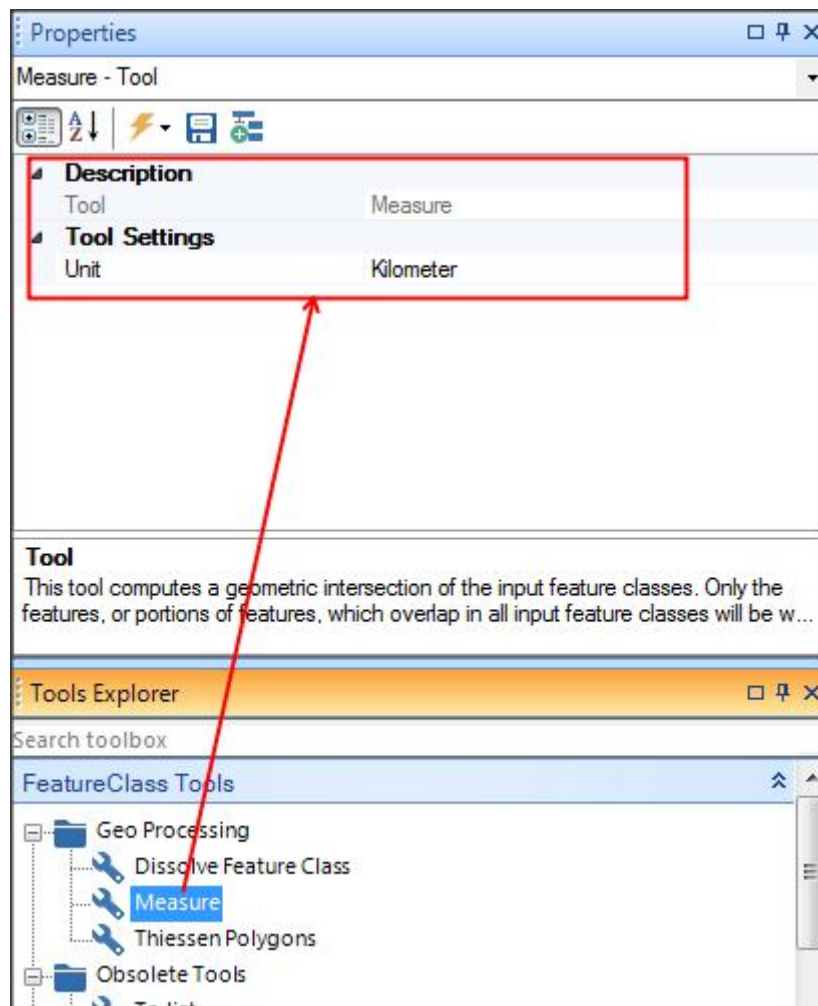


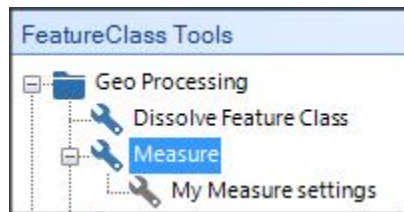


Figure 11: Tool settings in the 'Properties' window

In addition to the above, tools are run within the 'Properties' window using the  button. When clicking this button, a list of available output options will be listed (can be

only one option for some tools). Each output tool represents one possible way to visualize or save the result of the tool execution. You need to select the desired output option to execute the tool.

After configuring and running a tool, its settings can be saved for later use. This is done by clicking on the  button in the 'Properties' window. After saving, the saved tool settings will appear as a new node under the tool node (See Figure 12). The saved tool only preserves the settings, not the input items, hence a saved tool can be executed on any supported input items. To run a saved tool, simply select it in the toolbox. More exercises on the use of tools can be found in, for example, the Time series and GIS training manuals.



**Figure 12: Saved tool settings**

### Review Questions

1. Explain how tools are listed in the 'Tools Explorer'.
2. The 'Properties' window holds the data of a DSS entity.
  - True
  - False

## Answers

1. Tools are listed in a context sensitive manner in the Tools Explorer. For example, time series relevant tools are made available only when a time series is selected in the Time series explorer. Similarly, GIS tools are only presented when map layers are selected in GIS Explorer.
2. False.

### **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)