

Using BEXIS2 in SPP2089

-Data Structure-



Contents

What does a Data Structure mean?.....	2
How do I create a Data Structure?.....	3
How do I edit a Data Structure?.....	6
How do I download a Data Structure?.....	8
How do I work with an Excel Template?.....	10

Author: Nafiseh Navabpour

What does a Data Structure mean?

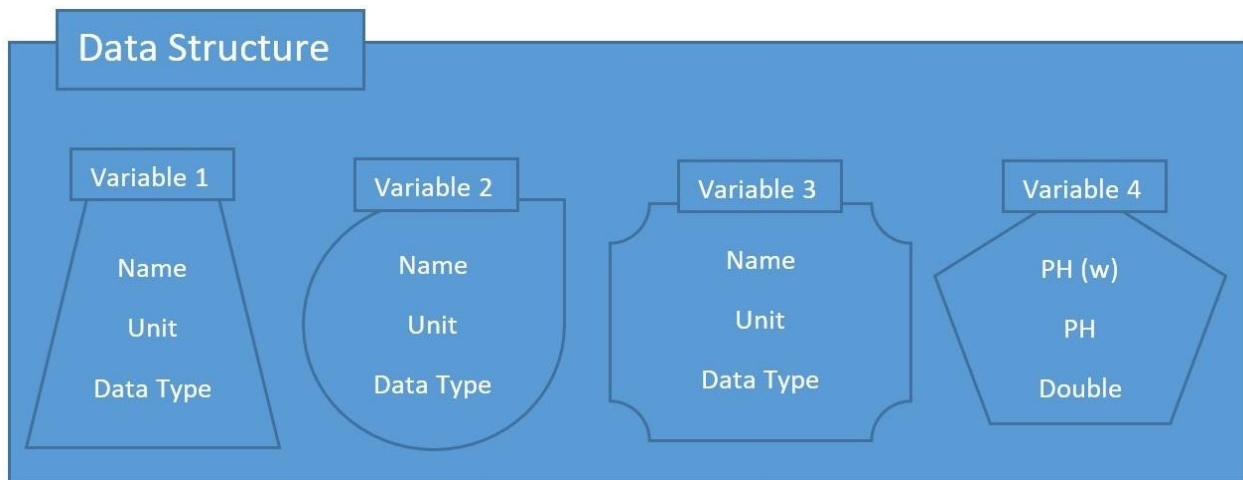
In BEXIS2 data is stored and managed as part of a dataset. A dataset may be anything, e.g. a word document, a zip file, images or a collection of millions of records and multiple variables. The maximum file size per upload is 1G. To store large datasets such as CT images, we have agreed to store only information about the images and their storage in BEXIS2.

Each dataset may have an individual structure of “File” or “Tabular”. A “File” Data Structure makes you able to store your files. The search engine of BEXIS2 provides no indexing for such datasets, but for the “Tabular”. A “Tabular” Data Structure contains one or more Variables based on variable templates. Each Variable is defined by its Unit, a Data Type, and a unique name. So defining Data Types and Units would be the first step which would be done, if they are not available yet.

One example of a **variable template** could be “Variable 4” which is used for the measure of the acidity. PH is the **unit** of variable which is measured as a double number. Double is the **data type** of the variable template. The **variable name** is up to the user. It is “PH (w)” in this example.

You can edit a Data Structure later. Note that a Data Structure freezes once it is connected to a Dataset. In this case, you must create, edit and associate a copy of the Data Structure with a new dataset.

It make sense to think about creating a Data Structure before collecting data.

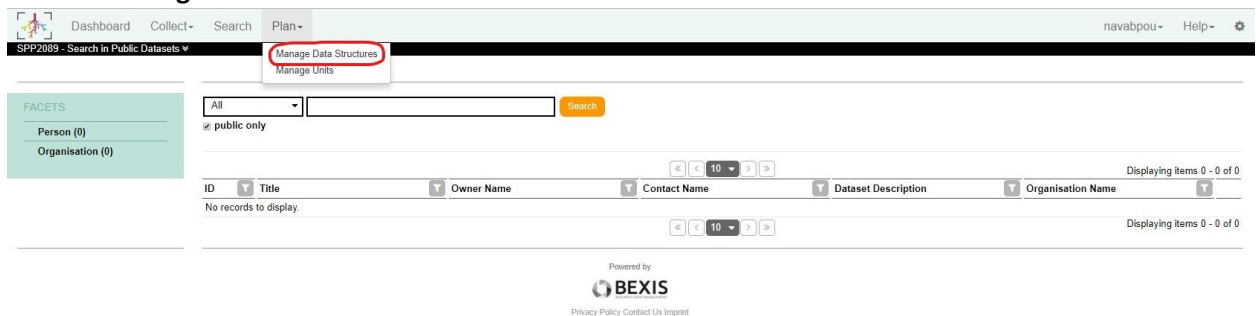


How do I create a Data Structure?

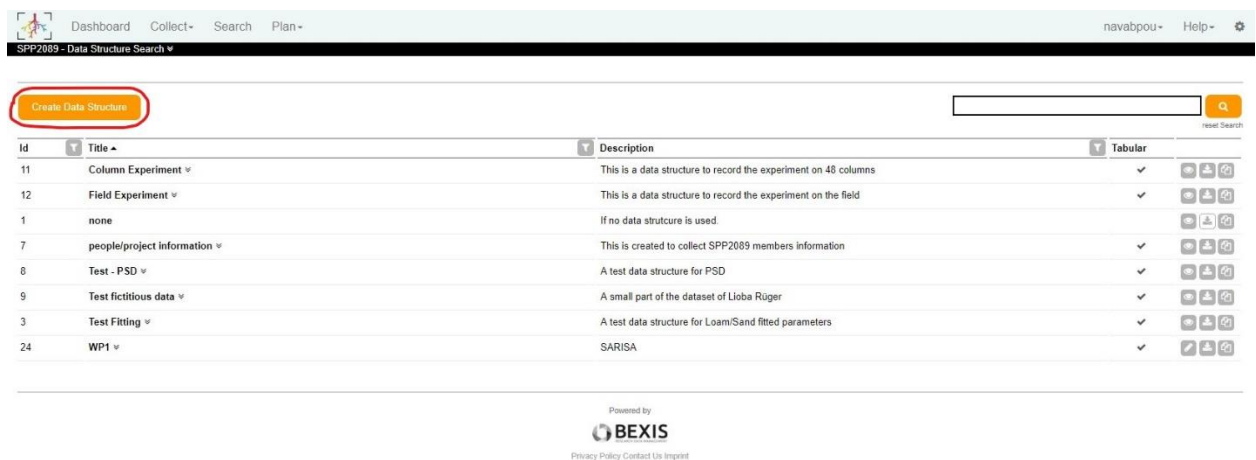
1. Be sure that you are logged in. Check if your username is written close the *Help* menu item.



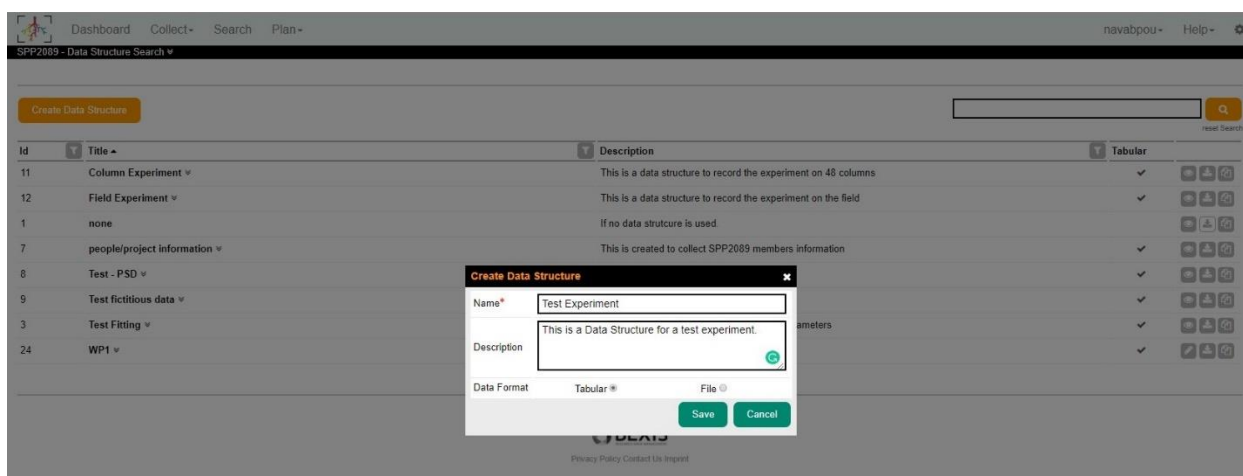
2. Click on **Manage Data Structure** under the **Plan** menu item.



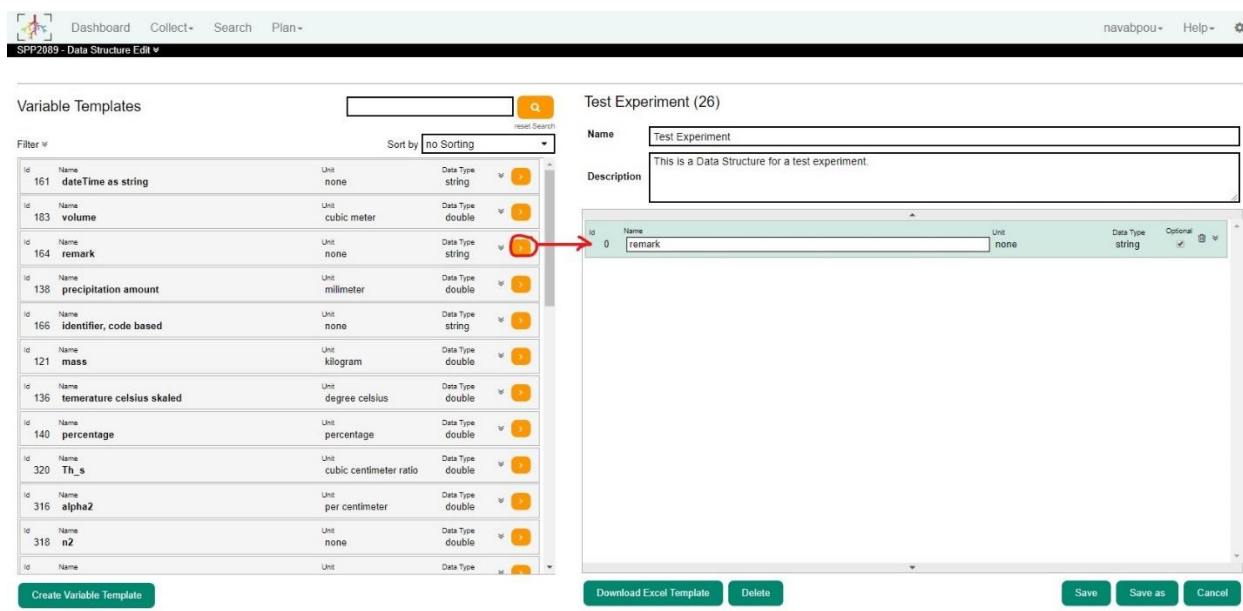
3. Click on the **Create Data Structure** button in the following window.



4. Enter a name and a descriptive description for your Data Structure in opened modal window and click on the **Save** button.
Choose a **Data Format** compatible with your data structure. **Tabular** is for a data table and **File** is for non-structured data.



- If you have created a Tabular data structure, system refers you to the next page where you are able to build your data structure by adding variables. Click on the right arrow close a variable template and add it to your data structure. Searching, sorting and filtering are available when you are looking for a variable template.



You are able to change the name of a variable in your Data Structure. Optional variable means that the data table must not contain any data for this variable. Click on the trash icon to delete the variable from your structure. Click on the down arrows to have access to edit the description of a variable.

Using BEXIS2 in SPP2089 - Data Structure User Guide

Dashboard Collect Search Plan navabpou Help

SPP2089 - Data Structure Edit

Variable Templates

Filter Sort by no Sorting

ID	Name	Unit	Data Type	
161	dateTime as string	none	string	<input type="checkbox"/>
183	volume	cubic meter	double	<input type="checkbox"/>
164	remark	none	string	<input type="checkbox"/>
138	precipitation amount	millimeter	double	<input type="checkbox"/>
166	identifier, code based	none	string	<input type="checkbox"/>
121	mass	kilogram	double	<input type="checkbox"/>
136	temperature celsius scaled	degree celsius	double	<input type="checkbox"/>
140	percentage	percentage	double	<input type="checkbox"/>
320	Th_s	cubic centimeter ratio	double	<input type="checkbox"/>
316	alpha2	per centimeter	double	<input type="checkbox"/>
318	n2	none	double	<input type="checkbox"/>
	Name	Unit	Data Type	<input type="checkbox"/>

Test Experiment (26)

Name

Description

ID Name Unit Data Type Optional ☒

Description

Variable Template

ID	Name	Unit	Data Type
164	remark	none	string

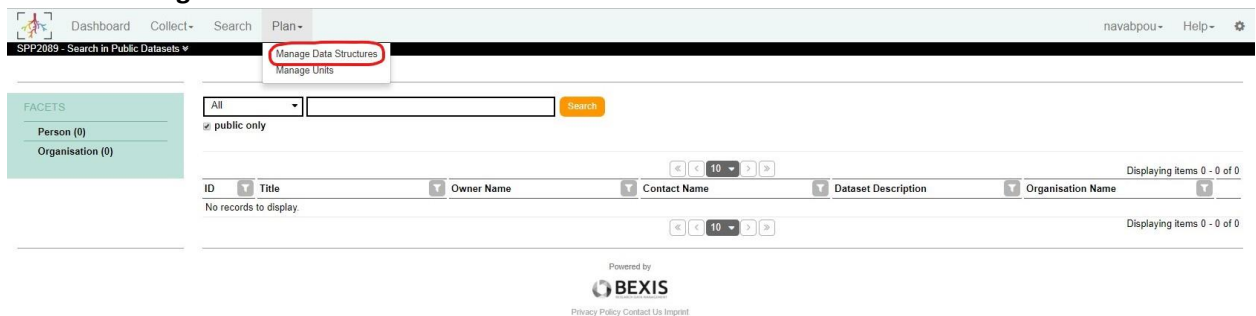
- Click on the **Save** button to save the data structure.

How do I edit a Data Structure?

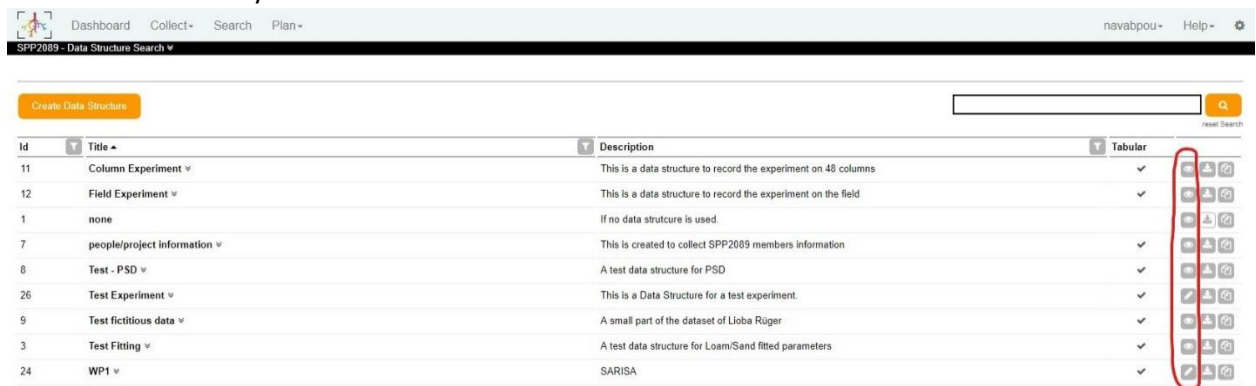
1. Be sure that you are logged in. Check if your username is written close the *Help* menu item.



2. Click on **Manage Data Structure** under the **Plan** menu item.



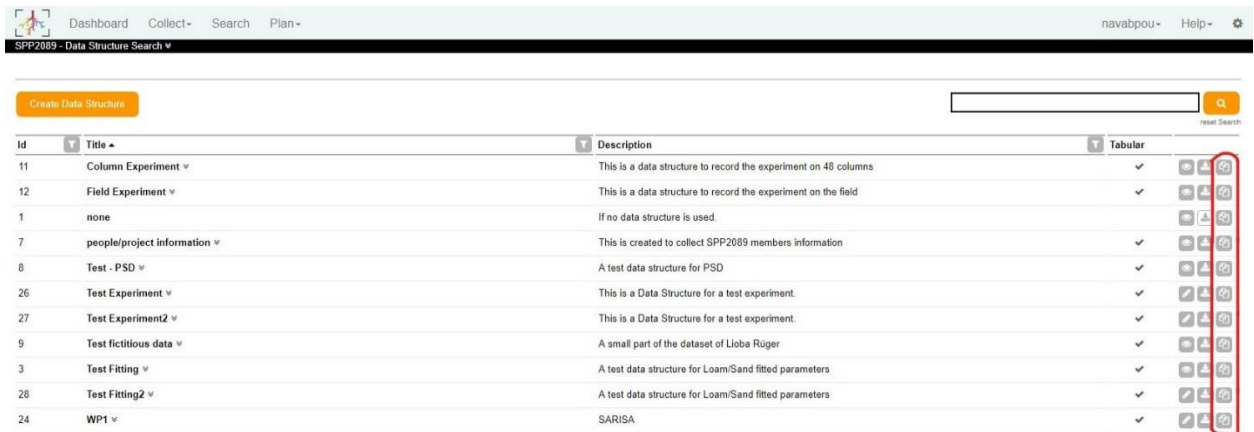
3. In the following page you can see different buttons close data structures.
The **Eye** means that you are able to edit only the name and the description of a data structure.
The **Pen** means that you are able to edit the structure in addition.



Note: A data structure is not editable means that it is connected to a dataset.

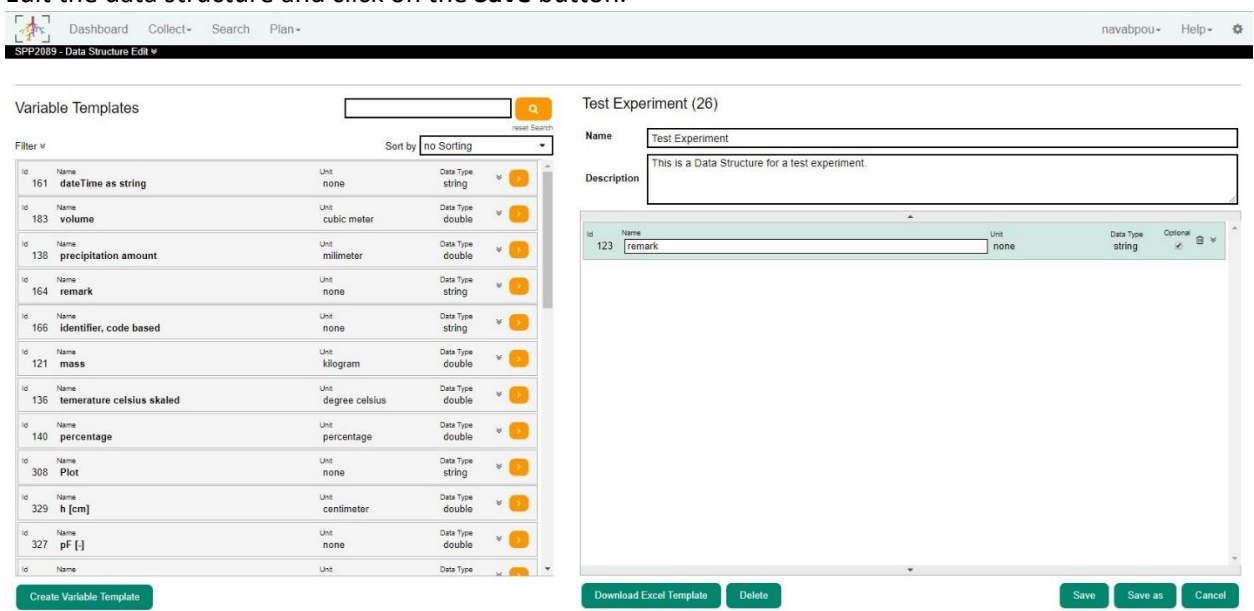
Clicking the **Copy Data Structure** button next to a data structure creates a copy of the data structure. You should just change the name to be unique.

Using BEXIS2 in SPP2089 - Data Structure User Guide



Id	Title	Description	Tabular
11	Column Experiment	This is a data structure to record the experiment on 48 columns	✓
12	Field Experiment	This is a data structure to record the experiment on the field	✓
1	none	If no data structure is used.	
7	people/project information	This is created to collect SPP2089 members information	✓
8	Test - PSD	A test data structure for PSD	✓
26	Test Experiment	This is a Data Structure for a test experiment.	✓
27	Test Experiment2	This is a Data Structure for a test experiment.	✓
9	Test fictitious data	A small part of the dataset of Lioba Rüger	✓
3	Test Fitting	A test data structure for Loam/Sand fitted parameters	✓
28	Test Fitting2	A test data structure for Loam/Sand fitted parameters	✓
24	WP1	SARISA	✓

4. Edit the data structure and click on the **Save** button.



Variable Templates

Filter	Sort by	no Sorting	
161	dateTime as string	none	Data Type: string
183	volume	cubic meter	Data Type: double
138	precipitation amount	millimeter	Data Type: double
164	remark	none	Data Type: string
166	identifier, code based	none	Data Type: string
121	mass	kilogram	Data Type: double
136	temperature celsius scaled	degree celsius	Data Type: double
140	percentage	percentage	Data Type: double
308	Plot	none	Data Type: string
329	h [cm]	centimeter	Data Type: double
327	pF [.]	none	Data Type: double

Create Variable Template

Test Experiment (26)

Name: Test Experiment

Description: This is a Data Structure for a test experiment.

Id	Name	Unit	Data Type	Optional
123	remark	none	string	✓

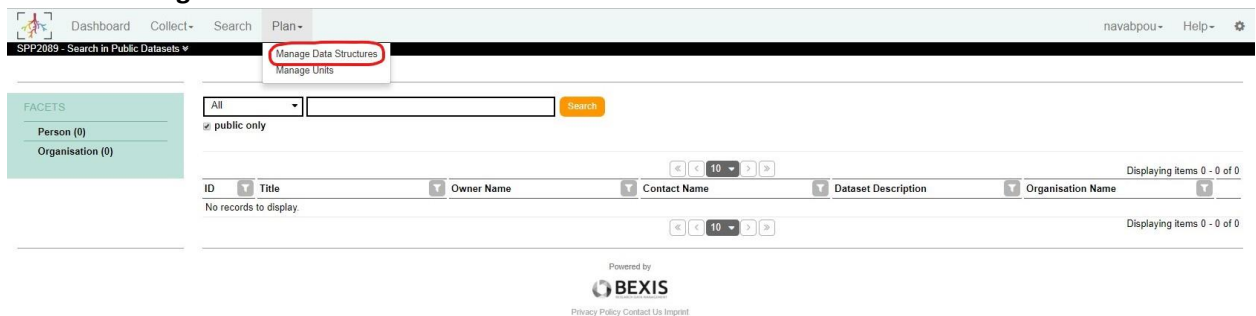
Download Excel Template Delete Save Save as Cancel

How do I download a Data Structure?

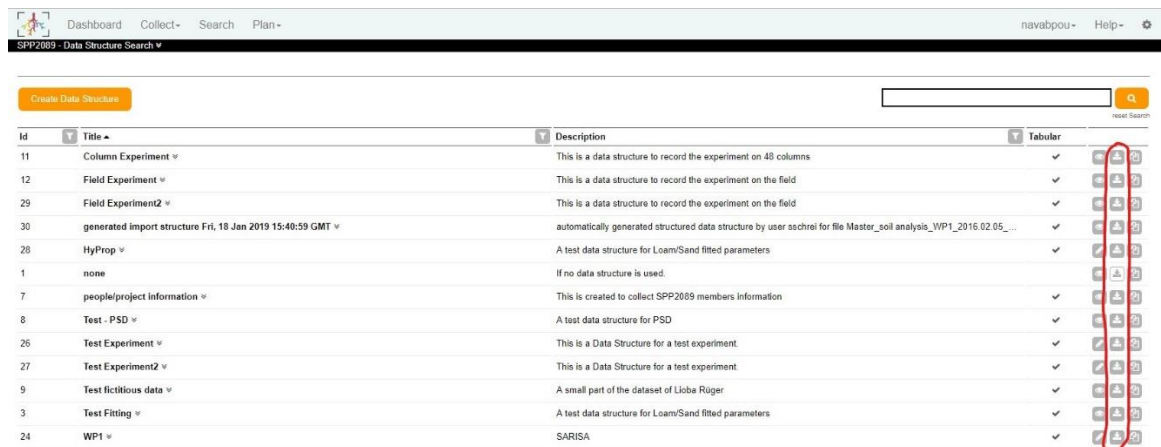
1. Be sure that you are logged in. Check if your username is written close the *Help* menu item.



2. Click on **Manage Data Structure** under the **Plan** menu item.



3. You are able to download a Data Structure in two ways.
 - a. In the Data Structure management page, click on the **Download** button next to a Data Structure.



- b. In the Edit Data Structure page, click the **Download Excel Template** button. BEXIS2 creates an Excel Template from the current Data Structure.

Using BEXIS2 in SPP2089 - Data Structure User Guide

The screenshot displays the BEXIS2 Data Structure Edit interface. The top navigation bar includes links for Dashboard, Collect, Search, and Plan, along with user information (navahpou) and a Help icon. The main content area is divided into two panels.

Variable Templates Panel:

This panel shows a list of variable templates with columns for ID, Name, Unit, and Data Type. A search bar and a 'Sort by' dropdown (set to 'no Sorting') are at the top. A 'Create Variable Template' button is at the bottom.

ID	Name	Unit	Data Type
161	dateTime as string	none	string
183	volume	cubic meter	double
138	precipitation amount	millimeter	double
121	mass	kilogram	double
136	temperature celsius skewed	degree celsius	double
164	remark	none	string
166	Identifier, code based	none	string
140	percentage	percentage	double
308	Plot	none	string
329	h [cm]	centimeter	double
327	pH []	none	double

Field Experiment (12) Panel:

This panel shows the configuration for a specific field experiment. It includes a 'Name' field (Field Experiment) and a 'Description' field (This is a data structure to record the experiment on the field). Below these fields is a table of variables for the experiment.

ID	Name	Unit	Data Type	Optional
58	ID	none	integer	<input checked="" type="checkbox"/>
59	Column Number	none	string	<input checked="" type="checkbox"/>
60	substrate	none	string	<input checked="" type="checkbox"/>
61	genotype	none	string	<input checked="" type="checkbox"/>
62	replicates	none	string	<input checked="" type="checkbox"/>
68	Treatment	none	string	<input checked="" type="checkbox"/>
64	DEPTH	none	string	<input checked="" type="checkbox"/>
65	C-Total (g/kg)	gram kilogram ratio	double	<input checked="" type="checkbox"/>
66	N-Total (g/kg)	gram kilogram ratio	double	<input checked="" type="checkbox"/>

Buttons at the bottom include 'Download Excel Template' (highlighted with a red box), 'Delete', 'Save', 'Save as', and 'Cancel'.

Save the Excel Template to your preferred location on your computer.

How do I work with an Excel Template?

Excel Template is an excel file created by the BEXIS2 based on a Data structure. The header contains information about variables, their units, data types and more. The Excel Template can examine the quality of the data based on the Data Type and Optional definition.

To work with an Excel Template, You must first enable macros. Macros automate frequently-used tasks, in our case quality control of the data table. Enabling or disabling macros varies depending on the version of Microsoft you are using. Macro security settings are generally located in the *Trust Center*.

