

BEXIS 2 User Guide

For SPP 2089



Foreword

This guide was created upon request to guide how to collect research data in the SPP 2089 project. Because the BEXIS 2 Help files are not associated with the SPP 2089 user requirements, and there are several options on every scenario available, we wanted to create a distinctive and efficient guide to use by the SPP 2089 researchers. The manual has tried to suggest the easiest way to do any action. Nevertheless, any suggestions for improving and developing this guide are more than welcome. Please send feedback to Nafiseh.navabpour@ufz.de.

Hints

Execution environment: BEXIS 2 is a web browser compatible application. Windows Chrome is the most suitable browser for it, while most of the functions are not working in IE. If you are using the Mozilla Firefox, please note that Firefox blocks the upcoming window. You should allow the pop-up windows.

Upload limitation: The limitation differs when you upload a data table to a structured data set and upload a file. The current version of BEXIS 2 accepts file upload up to 1GB. If you upload a data table to a well-structured data set, BEXIS 2 has a limit of 10000 rows.

Contents

How do I start?	5
Dashboard	5
Search	5
How do I register?	7
How do I log in?	9
I forgot my Username!	10
I forgot my password!	10
What does a Data Type mean?	12
How do I create a Data Type	12
How do I create a Unit of measurement?	13
What is a Variable Template?	19
How do I create a Variable Template?	19
What does a Data Structure mean?	23
How do I create a Data Structure?	24
How do I edit a Data Structure?	27
How do I download a Data Structure?	29
How do I work with an Excel Template?	31
What does a Dataset mean?	32
How do I create a Dataset?	33
How do I upload data to a dataset?	37
Upload Data – File format	38
Upload Data – Tabular format	39
Upload regular Excel file (.xlsx)	39
Upload BEXIS 2 Excel Template (.XLSM)	40
Upload normal Text file (.TXT, .CSV or .TSV)	41
Why is only one row uploaded?	43
How do I set Permissions?	43
How do I delete a dataset?	43
How do I find a dataset?	44
How do I download a dataset?	46
How do I access BEXIS 2 data through R?	50
Get the API key	50

Prepare the R environment	50
Data access functions.....	53
How do I add files to a File format dataset?.....	54
How do I change data uploaded to a tabular format dataset?.....	57
How do I add rows to a tabular dataset?.....	61
How do I add columns to a tabular dataset?	64
How do I copy a Data Structure?	65
How do I edit an existing Data Structure?	66
How do I create a copy of a dataset?.....	67
How do I add/remove attachments?	68
How do I edit the metadata?	69

How do I start?

Please note that the different BEXIS 2 instances work separately. If you registered in the SPP 2089 BEXIS 2 platform (<https://spp2089.ufz.de:4433>), you would only be able to log in to this platform and see a list of datasets on it.

To be able to work with BEXIS 2, you should first successfully register in a BEXIS 2 platform. See: [How do I register?](#)

To have access to the BEXIS 2 functions, you need a valid registration. Then you should log in to the BEXIS 2 platform. See: [How do I log in?](#)

If you forgot your username, see [I forgot my Username!](#)

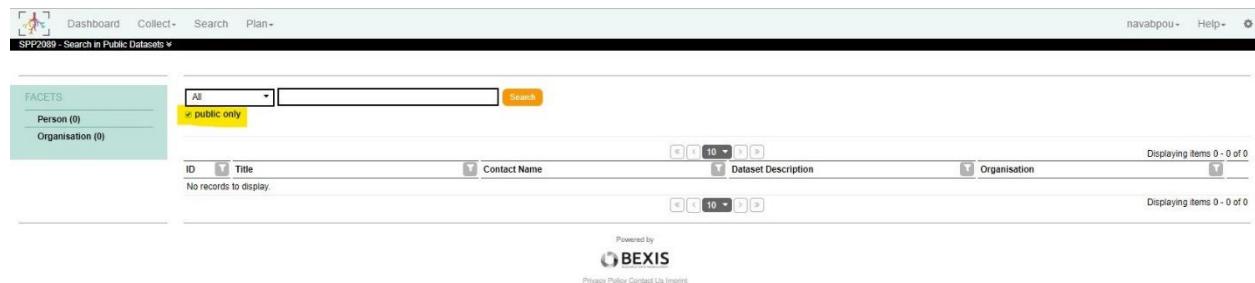
If you forgot your password, see [I forgot my password!](#)

Dashboard

All datasets that you uploaded or you have access listed in your dashboard. You can control which information you are interested to see in your panel by right-clicking on a space in the header.

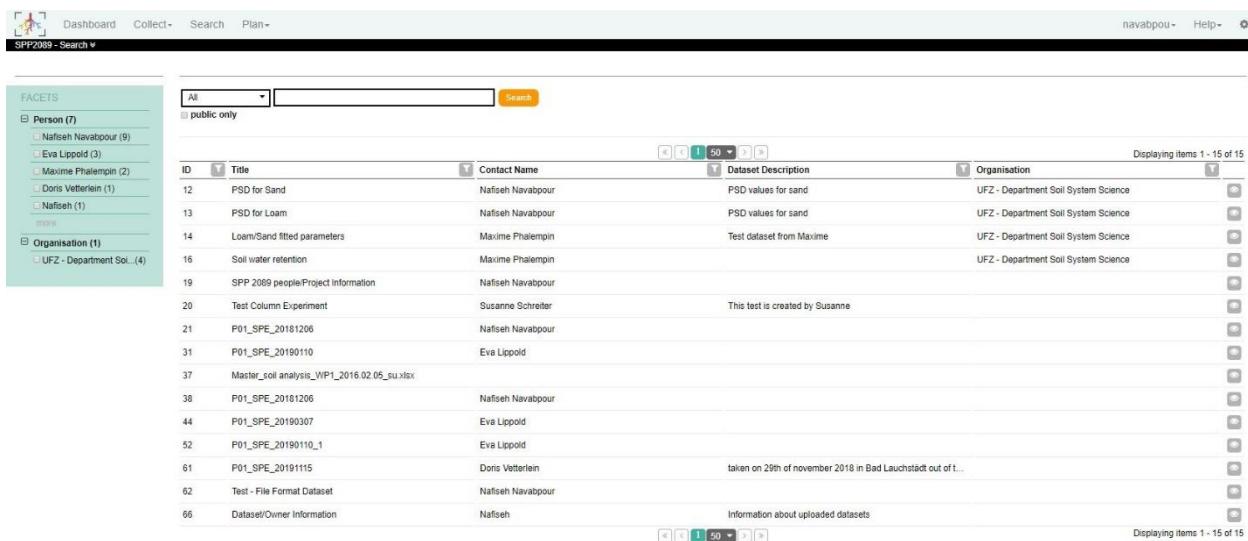
Search

To see a list of uploaded datasets, go to the **Search** page. Untick the option **public only** to see a list of all datasets.



The screenshot shows the BEXIS 2 search interface. At the top, there is a navigation bar with links for Dashboard, Collect, Search, Plan, and Help. The main search area has a dropdown menu set to 'All' and a checkbox for 'public only' which is currently unchecked. Below the search bar is a results table with columns for ID, Title, Contact Name, Dataset Description, and Organisation. Each column has a dropdown menu for filtering. The results table is empty with the message 'No records to display.' On the left, there is a sidebar titled 'FACETS' with buttons for Person (0) and Organisation (0). At the bottom, there is a footer with links for Privacy Policy, Contact Us, and Imprint, and the BEXIS logo.

In the left pane, you can find listings of people and organizations. Choosing any option limits your search to that item.



Facets

Person (7)

- Nafiseh Navabpour (9)
- Eva Lippold (3)
- Maxime Phalempin (2)
- Doris Vetterlein (1)
- Nafiseh (1)
- more

Organisation (1)

- UFZ - Department Soil System Science (4)

All Search

Displaying items 1 - 15 of 15

ID	Title	Contact Name	Dataset Description	Organisation
12	PSD for Sand	Nafiseh Navabpour	PSD values for sand	UFZ - Department Soil System Science
13	PSD for Loam	Nafiseh Navabpour	PSD values for sand	UFZ - Department Soil System Science
14	Loam/Sand fitted parameters	Maxime Phalempin	Test dataset from Maxime	UFZ - Department Soil System Science
16	Soil water retention	Maxime Phalempin		UFZ - Department Soil System Science
19	SPP 2089 people/Project Information	Nafiseh Navabpour		
20	Test Column Experiment	Susanne Schreiter	This test is created by Susanne	
21	P01_SPE_20181206	Nafiseh Navabpour		
31	P01_SPE_20190110	Eva Lippold		
37	Master_soil analysis_WP1_2016.02.05_su.xlsx			
38	P01_SPE_20181206	Nafiseh Navabpour		
44	P01_SPE_20190307	Eva Lippold		
52	P01_SPE_20190110_1	Eva Lippold		
61	P01_SPE_20191115	Doris Vetterlein	taken on 29th of november 2018 in Bad Lauchstädt out of t...	
62	Test - File Format Dataset	Nafiseh Navabpour		
66	Dataset/Owner Information	Nafiseh	Information about uploaded datasets	

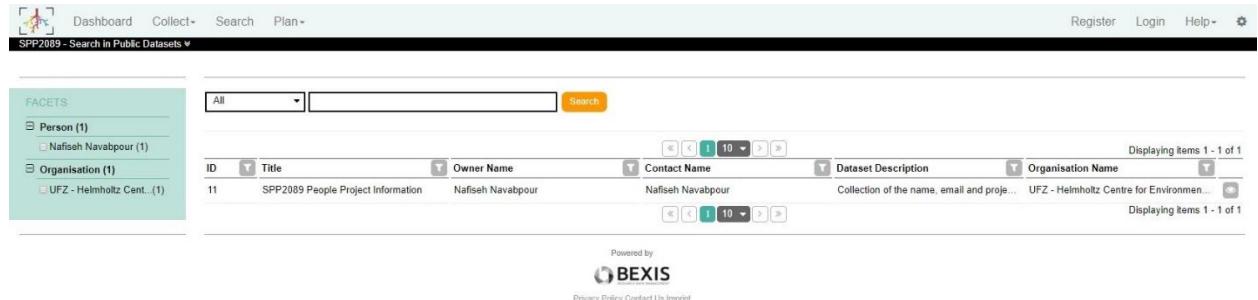
Displaying items 1 - 15 of 15

If you want to download a dataset, see [How do I download a dataset?](#)

If you want to upload data to the BEXIS 2 platform, see [How do I upload data to a dataset?](#)

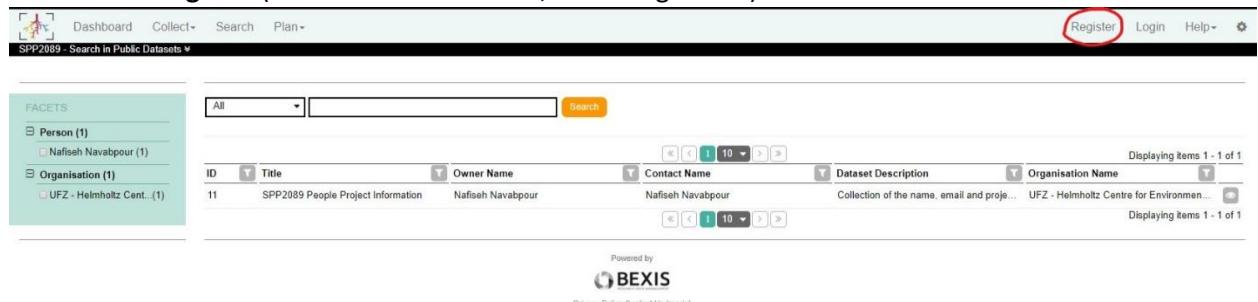
How do I register?

1. Open the BEXIS 2 platform from [here](#) (or copy and paste “<https://SPP2089.ufz.de:4433>” in your internet browser).



The screenshot shows the BEXIS 2 platform homepage. The top navigation bar includes links for Dashboard, Collect, Search, Plan, Register, Login, and Help. The main content area features a search bar with the placeholder 'All' and a 'Search' button. To the left is a 'FACETS' sidebar with sections for Person (1) and Organisation (1), both of which have a single item selected. The main table displays one dataset row with the following columns: ID, Title, Owner Name, Contact Name, Dataset Description, and Organisation Name. The dataset details are: ID 11, Title 'SPP2089 People Project Information', Owner Name 'Nafiseh Navabpour', Contact Name 'Nafiseh Navabpour', Dataset Description 'Collection of the name, email and project information of the people involved in the SPP2089 project.', and Organisation Name 'UFZ - Helmholtz Centre for Environmental Research'. The table has a page number indicator '1 of 1' and a 'Displaying items 1 - 1 of 1' message. The footer includes the BEXIS logo and links for Privacy Policy, Contact Us, and Imprint.

2. Click on the **Register** (Find it in the menu bar, on the right side).



The screenshot shows the registration page of the BEXIS 2 platform. The top navigation bar includes links for Dashboard, Collect, Search, Plan, Register (which is highlighted with a red circle), Login, and Help. The main content area has a 'FACETS' sidebar with sections for Person (1) and Organisation (1), both of which have a single item selected. The registration form consists of several input fields: 'User Name', 'Email', 'Password', and 'Confirm password'. Below the form are two checkboxes: 'I accept Terms and Conditions.' and 'I accept Privacy Policy.'. At the bottom is an orange 'Register' button. The footer includes the BEXIS logo and links for Privacy Policy, Contact Us, and Imprint.

3. Fill the registration form.

There is no specific password restriction.

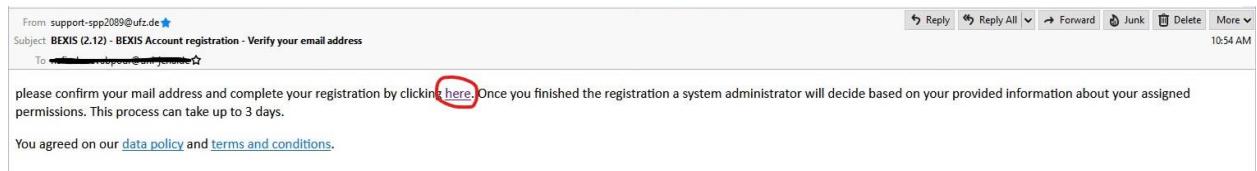
Accept the *Terms and Conditions* and the *Privacy Policy*.



The screenshot shows the registration form on the BEXIS 2 platform. The top navigation bar includes links for Dashboard, Collect, Search, Plan, Register, Login, and Help. The main content area has a 'FACETS' sidebar with sections for Person (1) and Organisation (1), both of which have a single item selected. The registration form consists of several input fields: 'User Name', 'Email', 'Password', and 'Confirm password'. Below the form are two checkboxes: 'I accept Terms and Conditions.' and 'I accept Privacy Policy.'. At the bottom is an orange 'Register' button. The footer includes the BEXIS logo and links for Privacy Policy, Contact Us, and Imprint.

4. Click on the orange button **Register**.

5. Open your email address which you entered in the registration formula.
6. Open the email received from support-spp2089@ufz.de.
(The title would be “BEXIS (2.12) - BEXIS Account registration - Verify your email address”)
7. Click on the confirmation link.



8. The BEXIS 2 will open in your default browser. You are seeing your user name on the menu bar on the right side, close the Help menu item.

Enter your information in the formula. The red star next to a field means it requires information.

Registration

Account type: Person

FirstName

LastName

Phone

Mobile

Email

Address

Role

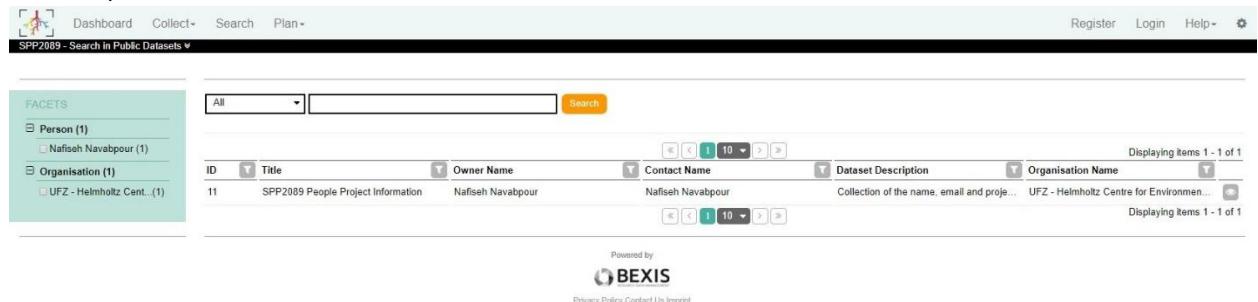
Save

9. Click on the orange button **Save**.

10. Looking forward to an email from your data manager (nafiseh.navabpour@ufz.de) to inform you about the completeness of your registration process.

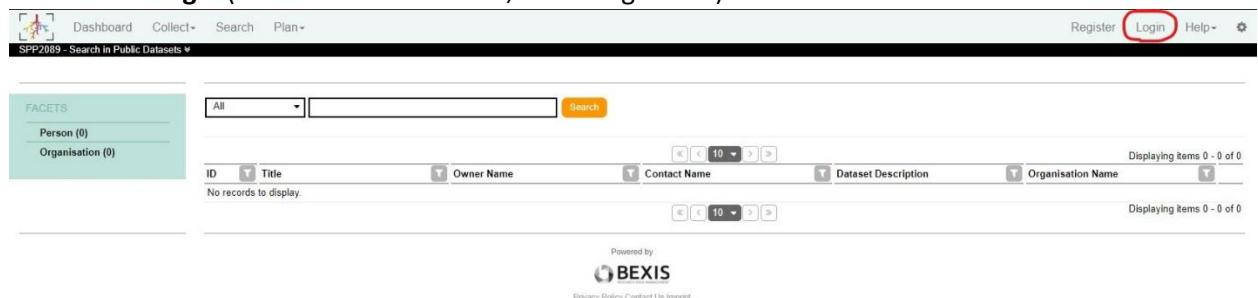
How do I log in?

1. Open the BEXIS 2 from [here](#) (or copy and paste "SPP2089.ufz.de:4433" in your internet browser).



The screenshot shows the BEXIS 2 search interface for the SPP2089 dataset. The top navigation bar includes 'Dashboard', 'Collect', 'Search', 'Plan', 'Register', 'Login', 'Help', and a gear icon. The left sidebar, titled 'FACETS', shows filters for 'Person (1)' (Nafiseh Navabpour) and 'Organisation (1)' (UFZ - Helmholtz Cent...). The main search results table displays one item: 'SPP2089 People Project Information' by 'Nafiseh Navabpour'. The table has columns for ID, Title, Owner Name, Contact Name, Dataset Description, and Organisation Name. The dataset description is 'Collection of the name, email and project information of the people involved in the SPP2089 project'. The organisation name is 'UFZ - Helmholtz Centre for Environmental Research'. The bottom of the page includes a 'Powered by BEXIS' logo and links to 'Privacy Policy', 'Contact Us', and 'Imprint'.

2. Click on the **Login** (Find it in the menu bar, on the right side).



The screenshot shows the BEXIS 2 search interface after clicking the 'Login' button. The 'Login' button is highlighted with a red circle. The rest of the interface is identical to the previous screenshot, showing the search results for the SPP2089 dataset.

3. Enter your user name and password in the right places.



The screenshot shows the BEXIS 2 login form. The top navigation bar includes 'Dashboard', 'Collect', 'Search', 'Plan', 'Register', 'Login', 'Help', and a gear icon. The 'Login' button is highlighted with a red circle. The form has fields for 'User Name' (containing 'nafiseh') and 'Password' (containing '.....'). There are buttons for 'Log in' (orange), 'Remember me' (checkbox), 'Forgot your password?', and 'Register as a new user'. A note at the top says 'Use your local account to login' and 'Einen anderen Dienst zum Anmelden verwenden.'

4. Click on the orange button **Log in**.

5. The platform refers to your dashboard. If it denies your access, please contact your data manager (Nafiseh.navabpour@ufz.de).

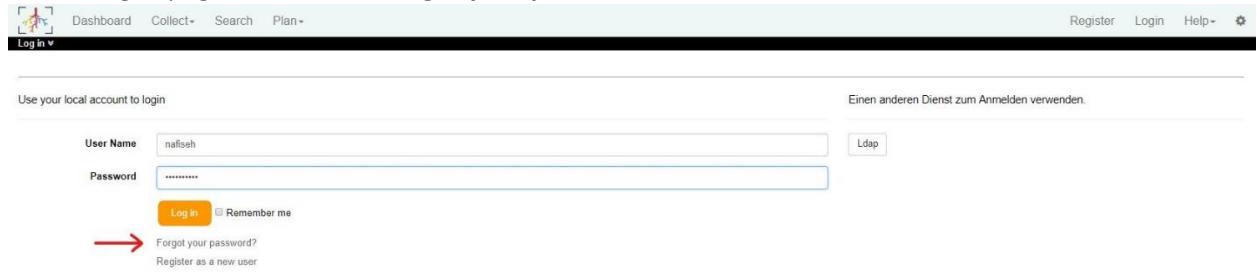
I forgot my Username!

You are not able to login to the BEXIS 2 if you have forgotten your username. Please contact your data manager (Nafiseh.navabpour@ufz.de).

I forgot my password!

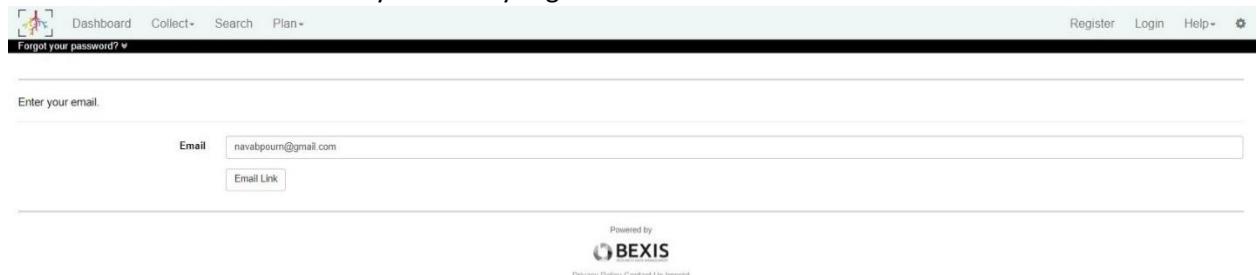
Do not worry! If you forgot your password follow the next steps.

1. On the log in page, click on the **Forgot your password**.



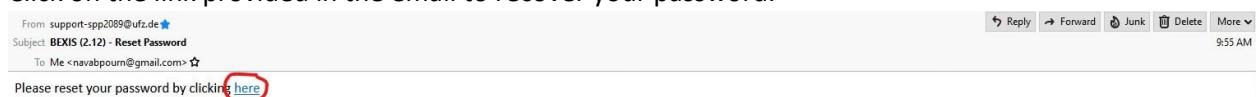
The screenshot shows the BEXIS 2 login interface. At the top, there is a navigation bar with icons for Dashboard, Collect, Search, Plan, and a 'Log in' dropdown. On the right side of the top bar are links for Register, Login, Help, and a gear icon. Below the navigation bar, there is a section titled 'Use your local account to login' and another for 'Einen anderen Dienst zum Anmelden verwenden'. The main form contains fields for 'User Name' (with 'naviseh' typed in) and 'Password'. Below these fields are 'Log in' and 'Remember me' buttons, and links for 'Forgot your password?' and 'Register as a new user'. A red arrow points to the 'Forgot your password?' link.

2. Enter the email address which you already registered.

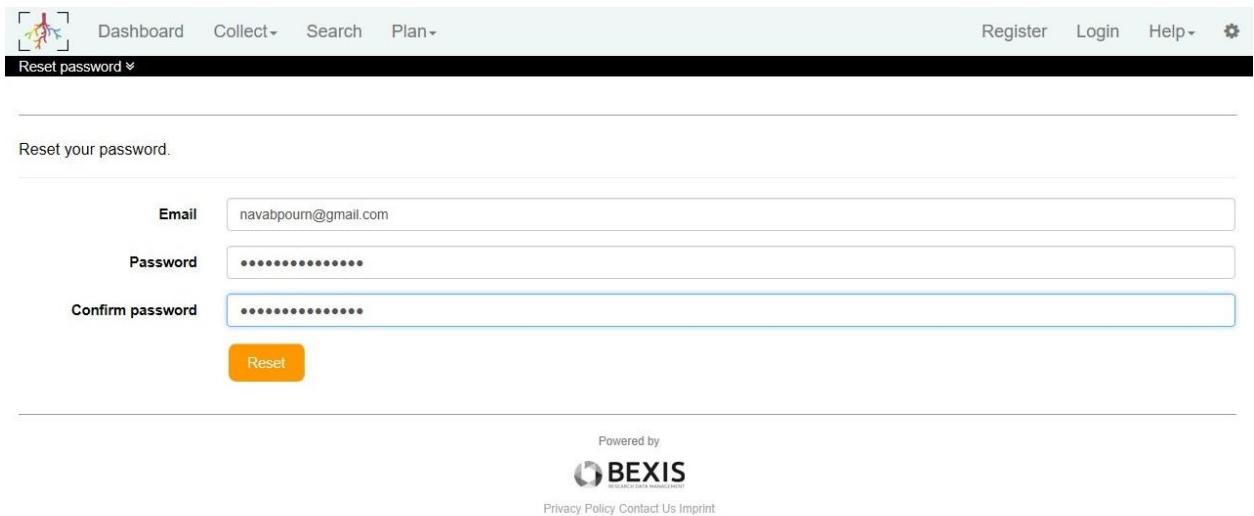


The screenshot shows the BEXIS 2 password recovery interface. At the top, there is a navigation bar with icons for Dashboard, Collect, Search, Plan, and a 'Forgot your password?' dropdown. On the right side of the top bar are links for Register, Login, Help, and a gear icon. Below the navigation bar, there is a section for entering an email address. The form has a field for 'Email' (with 'navabpour@gmail.com' typed in) and a 'Email Link' button. A red arrow points to the 'Email Link' button.

3. Click on the **Email Link** button.
4. Open your email account and find the email from *support-spp2089@ufz.de*.
The subject should contain *Reset Password*.
5. Click on the link provided in the email to recover your password.



6. Enter your email address and twice the new password on the reset password formula.



Reset your password.

Email navabpour@gmail.com

Password *****

Confirm password *****

Reset

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7. Click on the orange button **Reset**.
8. A confirmation message will appear. Click on the provided link and log in with the new password.

click here to log in'. The footer says 'Powered by BEXIS' and includes links for 'Privacy Policy', 'Contact Us', and 'Imprint'." data-bbox="174 397 942 504"/>

Reset password confirmation.

Your password has been reset. Please [click here to log in](#)

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What does a Data Type mean?

A data type is a particular kind of data item, as defined by the variables it can take. While creating a data structure, you need to know the exact type of each variable. For example, you need to specify how you want to store the length of an event. You may save it in different ways like "3-4", "10cm", "15" or "13.8". Note that the data type you choose for a variable must be consistent with all data associated with it. The following describes the most commonly used data types in data collections.

String

A string variable is a standard text. It could be any combination of characters (a-z and A-Z) and numbers (0-9). The name of species or places is the most popular variables in string format.

Number

A number in the BEXIS 2 data type system is a whole number, which is not a fraction. It can be positive, negative, or zero. For example, 21, 4, 0, and -2048 are numbers, while 0.23 and -4/3 are not. A number covers a range of values from - 65,535 to 65,535.

Integer

An integer is a number but covers a bigger range from -2,147,483,648 to 2,147,483,647.

Double

Double Types are probably the most commonly used data type for real values, except handling money. It contains 15 digits like 12.6, 0.74667, or -345.4.

Decimal

Decimal can accurately represent any number within the precision of the decimal format. It could contain 28 significant digits.

The main difference between double and decimal is that decimals have much higher precision within monetary (financial) applications that require a high degree of accuracy. But in performance, wise computing decimals are slower than double types.

DateTime

The format of "yyyy-MM-ddThh:mm:ss" determines the DateTime.

In the SPP 2089 BEXIS 2 instance, we have three alternatives: **text** for String, the **whole number** for Integer, and the **real number** for double. Two data types are created based on DateTime. The data type **date** is like DateTime, but the data type **Time** accepts the form HH:mm:ss.

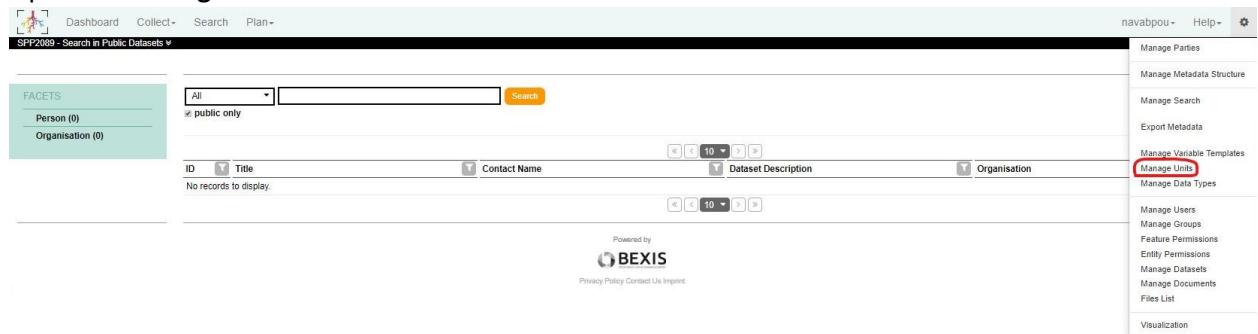
How do I create a Data Type

Creating a data type is not recommended. If you require a new data type, please contact your Data Manager (Nafiseh.navabpour@ufz.de). Consultation with the working group is required.

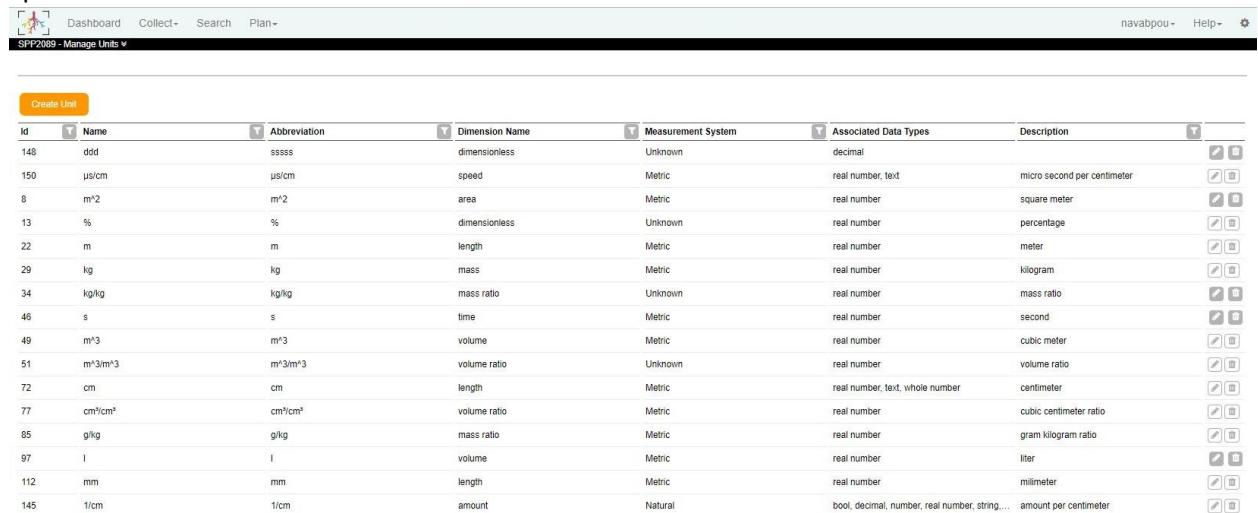
How do I create a Unit of measurement?

From two gateways is **Manage Units** available. One is under the Plan menu item, and the other is under the gear button.

1. Open the **Manage Units**.



2. Spend a bit of time to be sure that the unit does not exist in the list of units.



ID	Name	Abbreviation	Dimension Name	Measurement System	Associated Data Types	Description
148	ddd	sssss	dimensionless	Unknown	decimal	
150	μs/cm	μs/cm	speed	Metric	real number, text	micro second per centimeter
8	m²	m²	area	Metric	real number	square meter
13	%	%	dimensionless	Unknown	real number	percentage
22	m	m	length	Metric	real number	meter
29	kg	kg	mass	Metric	real number	kilogram
34	kg/kg	kg/kg	mass ratio	Unknown	real number	mass ratio
46	s	s	time	Metric	real number	second
49	m³	m³	volume	Metric	real number	cubic meter
51	m³/m³	m³/m³	volume ratio	Unknown	real number	volume ratio
72	cm	cm	length	Metric	real number, text, whole number	centimeter
77	cm³/cm³	cm³/cm³	volume ratio	Metric	real number	cubic centimeter ratio
85	g/kg	g/kg	mass ratio	Metric	real number	gram kilogram ratio
97	l	l	volume	Metric	real number	liter
112	mm	mm	length	Metric	real number	millimeter
145	1/cm	1/cm	amount	Natural	bool, decimal, number, real number, string,...	amount per centimeter

3. Click on the **Create Unit**. A modal window will open and helps you to create a new unit.

Create Unit

Name *	<input type="text"/>
Abbreviation *	<input type="text"/>
Description	<input type="text"/>
Dimension Name *	<input type="text" value="Select or Enter"/>
Dimension Specification	<input type="text" value="L(0,0)M(0,0)T(0,0)I(0,0)Θ(0,0)N(0,0)J(0,0)"/>
Measurement System	<input type="text" value="Unknown"/>

Id	Name	System Type	Description
2	decimal	Decimal	Decimal
3	date	DateTime	DateTime
4	datetime	DateTime	DateTime
7	number	Int16	An 16 bit integer number
8	bool	Boolean	A boolean value
9	text	String	For a long text
...

Save **Cancel**

4. Enter a **meaningful name** for the unit.

Create Unit

Name *	<input type="text" value="redacted"/>
Abbreviation *	<input type="text"/>
Description	<input type="text"/>
Dimension Name *	<input type="text" value="Select or Enter"/>
Dimension Specification	<input type="text" value="L(0,0)M(0,0)T(0,0)I(0,0)Θ(0,0)N(0,0)J(0,0)"/>
Measurement System	<input type="text" value="Unknown"/>

Id	Name	System Type	Description
2	decimal	Decimal	Decimal
3	date	DateTime	DateTime
4	datetime	DateTime	DateTime
7	number	Int16	An 16 bit integer number
8	bool	Boolean	A boolean value
9	text	String	For a long text
...

Save **Cancel**

5. Enter a **related abbreviation**.

Create Unit

Name *	<input type="text"/>
Abbreviation *	<input type="text"/>
Description	<input type="text"/>
Dimension Name *	<input type="text" value="Select or Enter"/>
Dimension Specification	<input type="text" value="L(0,0)M(0,0)T(0,0)I(0,0)Θ(0,0)N(0,0)J(0,0)"/>
Measurement System	<input type="text" value="Unknown"/>

Id	Name	System Type	Description
2	decimal	Decimal	Decimal
3	date	DateTime	DateTime
4	datetime	DateTime	DateTime
7	number	Int16	An 16 bit integer number
8	bool	Boolean	A boolean value
9	text	String	For a long text
...

Save **Cancel**

6. Write a **short description** in a few words.

Create Unit

Name *	<input type="text"/>
Abbreviation *	<input type="text"/>
Description	<input type="text"/>
Dimension Name *	<input type="text" value="Select or Enter"/>
Dimension Specification	<input type="text" value="L(0,0)M(0,0)T(0,0)I(0,0)Θ(0,0)N(0,0)J(0,0)"/>
Measurement System	<input type="text" value="Unknown"/>

Id	Name	System Type	Description
2	decimal	Decimal	Decimal
3	date	DateTime	DateTime
4	datetime	DateTime	DateTime
7	number	Int16	An 16 bit integer number
8	bool	Boolean	A boolean value
9	text	String	For a long text
...

Save **Cancel**

7. Select a **dimension** for the unit.

Create Unit

Name *	<input type="text"/>
Abbreviation *	<input type="text"/>
Description	<input type="text"/>
Dimension Name *	<input type="text" value="Select or Enter"/>
Dimension Specification	<input type="text" value="L(0,0)M(0,0)T(0,0)I(0,0)Θ(0,0)N(0,0)J(0,0)"/>
Measurement System	<input type="text" value="Unknown"/>

Id	Name	System Type	Description
2	decimal	Decimal	Decimal
3	date	DateTime	DateTime
4	datetime	DateTime	DateTime
7	number	Int16	An 16 bit integer number
8	bool	Boolean	A boolean value
9	text	String	For a long text
...

Save **Cancel**

8. If you are not familiar with **Dimension Specification**, please do not touch this field.

Create Unit

Name *	<input type="text"/>
Abbreviation *	<input type="text"/>
Description	<input type="text"/>
Dimension Name *	<input type="text" value="Select or Enter"/>
Dimension Specification	<input type="text" value="L(0,0)M(0,0)T(0,0)I(0,0)Θ(0,0)N(0,0)J(0,0)"/>
Measurement System	<input type="text" value="Unknown"/>

Id	Name	System Type	Description
2	decimal	Decimal	Decimal
3	date	DateTime	DateTime
4	datetime	DateTime	DateTime
7	number	Int16	An 16 bit integer number
8	bool	Boolean	A boolean value
9	text	String	For a long text
...

Save **Cancel**

9. Select a **Measurement System** for the unit of measurement.

Create Unit

Name *	<input type="text"/>
Abbreviation *	<input type="text"/>
Description	<input type="text"/>
Dimension Name *	<input type="text" value="Select or Enter"/>
Dimension Specification	<input type="text" value="L(0,0)M(0,0)T(0,0)I(0,0)Θ(0,0)N(0,0)J(0,0)"/>
Measurement System	<input type="text" value="Unknown"/>

Id	Name	System Type	Description
2	decimal	Decimal	Decimal
3	date	DateTime	DateTime
4	datetime	DateTime	DateTime
7	number	Int16	An 16 bit integer number
8	bool	Boolean	A boolean value
9	text	String	For a long text
...

Save **Cancel**

10. Select at least one Data Type from the table of data types.

Create Unit

Name *	<input type="text"/>
Abbreviation *	<input type="text"/>
Description	<input type="text"/>
Dimension Name *	<input type="text" value="Select or Enter"/>
Dimension Specification	<input type="text" value="L(0,0)M(0,0)T(0,0)I(0,0)Θ(0,0)N(0,0)J(0,0)"/>
Measurement System	<input type="text" value="Unknown"/>

Id	Name	System Type	Description
2	decimal	Decimal	Decimal
3	date	DateTime	DateTime
4	datetime	DateTime	DateTime
7	number	Int16	An 16 bit integer number
8	bool	Boolean	A boolean value
9	text	String	For a long text
...

Save **Cancel**

11. Click on the **Save** button, and the created unit should appear in the list.

Create Unit

Name *	<input type="text"/>
Abbreviation *	<input type="text"/>
Description	<input type="text"/>
Dimension Name *	<input type="text" value="Select or Enter"/>
Dimension Specification	<input type="text" value="L(0,0)M(0,0)T(0,0)I(0,0)Θ(0,0)N(0,0)J(0,0)"/>
Measurement System	<input type="text" value="Unknown"/>

Id	Name	System Type	Description
2	decimal	Decimal	Decimal
3	date	DateTime	DateTime
4	datetime	DateTime	DateTime
7	number	Int16	An 16 bit integer number
8	bool	Boolean	A boolean value
9	text	String	For a long text
...

Save **Cancel**

What is a Variable Template?

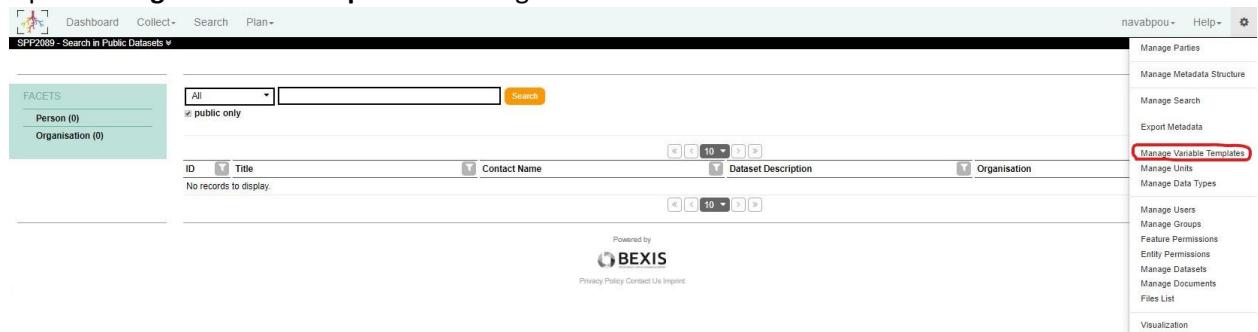
A Variable Template is a reusable Variable. It merely means you don't need to create variable each time when you need to use it in a dataset. You can use an existing variable template and change its properties based on your needs or favorites. For example, the variable template "ID_Text" exists. You can use this as an identifier, like "Species" in your dataset. You can add the "ID_Text" variable template to your data structure and change its name. This way of using variable templates is speedy and secure. Therefore, please take a look at the list of variable templates before creating a new one.

A list of Variable Templates is available in the **Manage Variable Templates** under the gear button.

How do I create a Variable Template?

Follow the steps below to create a variable template. Please note that other users can use each variable template. It would be nice if you chose a descriptive name and a short description to explain the goal of creating a variable template.

1. Open **Manage Variable Templates** via the gear button.



The screenshot shows the BEXIS 2 interface. At the top, there is a navigation bar with links for 'Dashboard', 'Collect', 'Search', 'Plan', 'Help', and a gear icon. Below the navigation bar, the main content area has a search bar with dropdowns for 'All' and 'public only', and a 'Search' button. To the left, there is a 'FACETS' sidebar with 'Person (0)' and 'Organisation (0)' options. The main content area displays a table with columns for 'ID', 'Title', 'Contact Name', 'Dataset Description', and 'Organisation'. A message at the bottom says 'No records to display'. On the right side, there is a sidebar with various management options: 'Manage Parties', 'Manage Metadata Structure', 'Manage Search', 'Export Metadata', 'Manage Variable Templates' (which is highlighted with a red box), 'Manage Units', 'Manage Data Types', 'Manage Users', 'Manage Groups', 'Feature Permissions', 'Entity Permissions', 'Manage Datasets', 'Manage Documents', 'Files List', and 'Visualization'. The 'Manage Variable Templates' option is specifically highlighted.

2. Be sure that any of Variable Templates is not suitable for your favorite variable.
3. Click on the **Create Variable Template**. A modal window will open and help you by creating a new variable template.

Create Variable Template

Name *	<input type="text"/>	Description	<input type="text"/>
Short Name	<input type="text"/>		
Unit	<input type="text"/> %		
Data Type	<input type="text"/> real number		
Constraints ▾			
Save Cancel			

4. Enter a **Name** for the variable template.

Create Variable Template

Name *	<input style="background-color: red; color: red; border: 1px solid black;" type="text"/>	Description	<input type="text"/>
Short Name	<input type="text"/>		
Unit	<input type="text"/> %		
Data Type	<input type="text"/> real number		
Constraints ▾			
Save Cancel			

5. Enter a **Short Name**.

It recommendeds to enter the same words under Name and Short Name fields.

Create Variable Template

Name *	<input type="text"/>	Description	<input type="text"/>
Short Name	<input style="background-color: red; color: red; border: 1px solid black;" type="text"/>		
Unit	<input type="text"/> %		
Data Type	<input type="text"/> real number		
Constraints ▾			
Save Cancel			

6. Write a short description in a few words.

Create Variable Template

Name *	<input type="text"/>	Description
Short Name	<input type="text"/>	
Unit	<input type="text" value="%"/>	
Data Type	<input type="text" value="real number"/>	

Constraints ↴

Save **Cancel**

7. Select a **Unit** for the variable template.

Create Variable Template

Name *	<input type="text"/>	Description
Short Name	<input type="text"/>	
Unit	<input type="text" value="%"/>	
Data Type	<input type="text" value="real number"/>	

Constraints ↴

Save **Cancel**

8. Select a **Data Type**.

Create Variable Template

Name *	<input type="text"/>	Description
Short Name	<input type="text"/>	
Unit	<input type="text" value="%"/>	
Data Type	<input type="text" value="real number"/>	

Constraints ↴

Save **Cancel**

9. Define **Constraints** if you want to set limitations.

Create Variable Template

Name *	<input type="text"/>	Description	<input type="text"/>
Short Name	<input type="text"/>		
Unit	<input type="text"/> %		
Data Type	<input type="text"/> real number		
Constraints 			
Save Cancel			

10. Click on the **Save** button and you will find the variable template in the list.

Create Variable Template

Name *	<input type="text"/>	Description	<input type="text"/>
Short Name	<input type="text"/>		
Unit	<input type="text"/> %		
Data Type	<input type="text"/> real number		
Constraints 			
Save Cancel			

What does a Data Structure mean?

In BEXIS 2, 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 BEXIS 2.

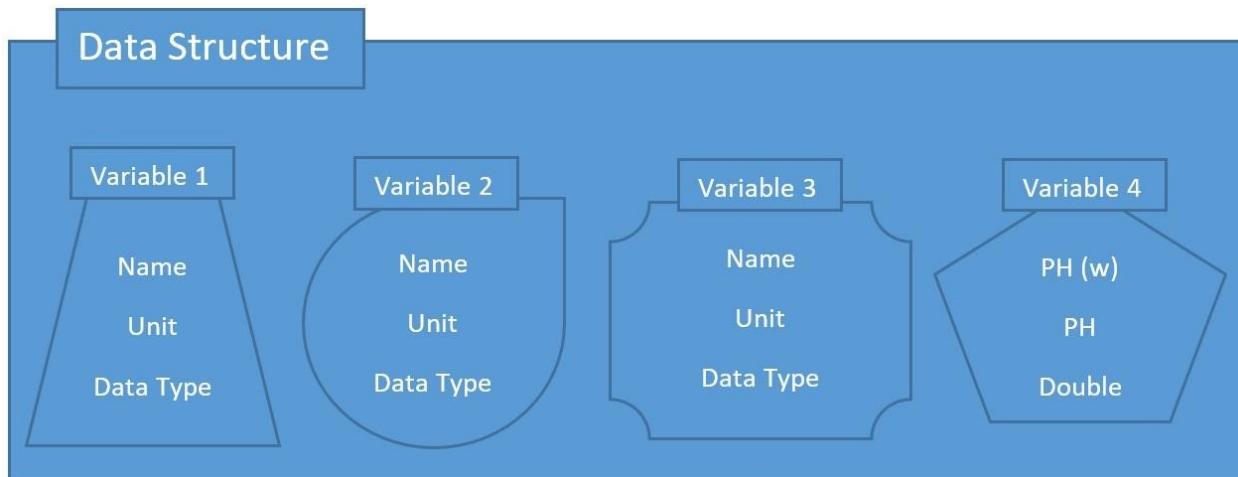
Each dataset may have an individual structure of “File” or “Tabular.” A “File” Data Structure makes you able to store your files. The search engine of BEXIS 2 provides no indexing for such datasets, but the “Tabular.” A “Tabular” Data Structure contains one or more Variables based on variable templates. Each variable has a unit of measurement, a data type, and a unique name. If the preferable unit of measure or data type does not exist, they must create at first.

One example of a **variable template** could be “Variable 4” in Figure 1. This variable could use for the measure of the acidity (PH). The unit would be “PH,” and its data type is double (real number). 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 connects to a dataset. You can create a copy of a data structure any time you want, modify, and associate it with a new dataset.

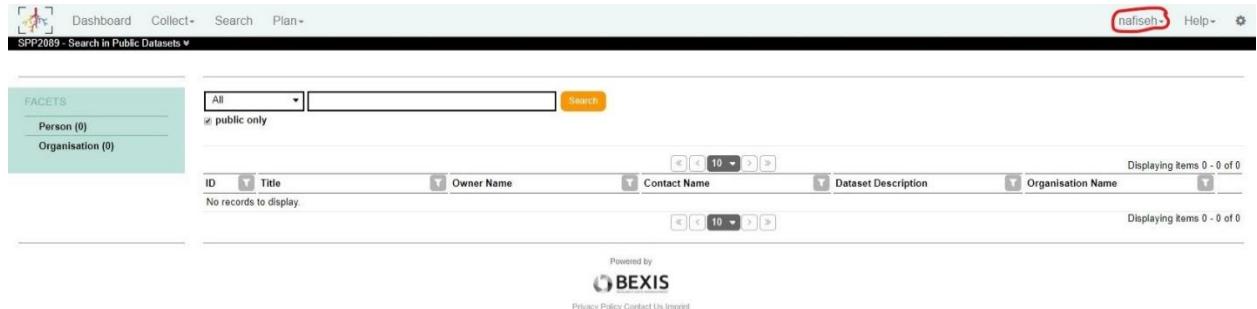
It makes sense to think about creating a Data Structure before collecting data.

Figure 1. The schema of a data structure



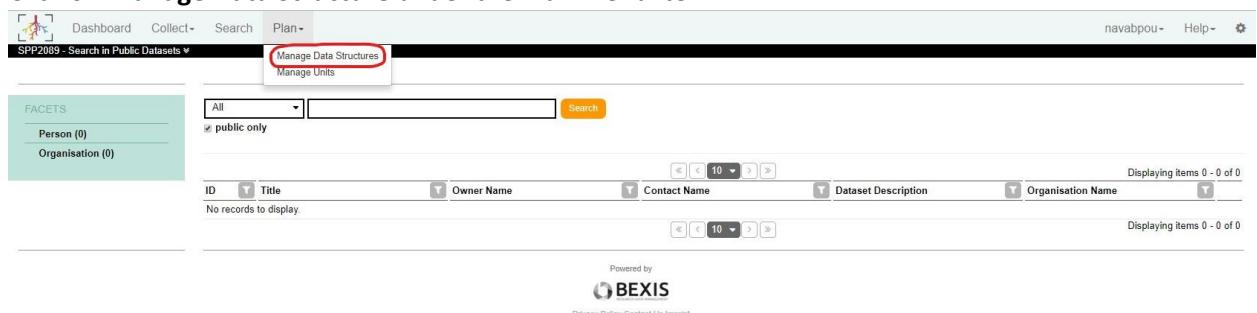
How do I create a Data Structure?

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



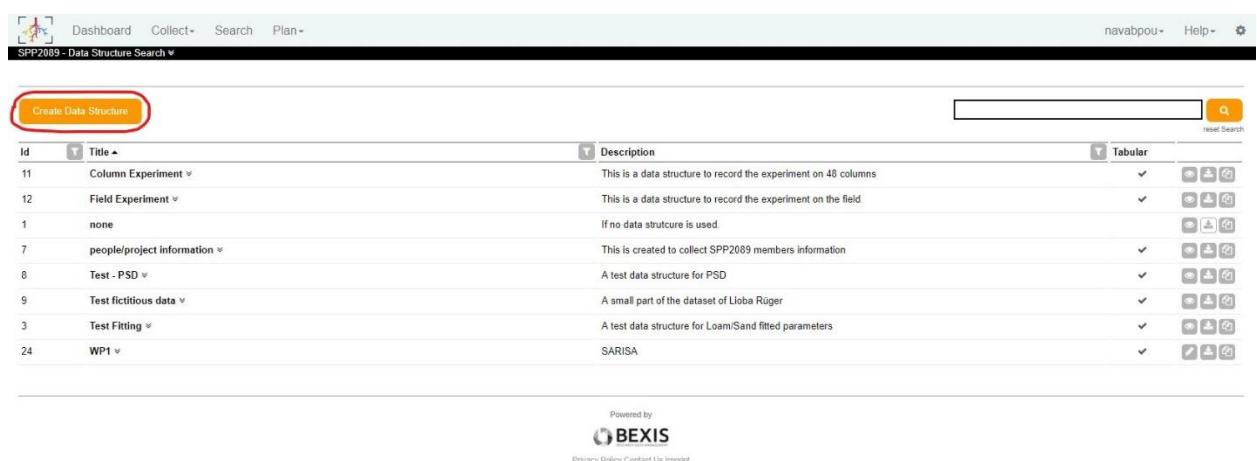
The screenshot shows the BEXIS 2 interface with a top navigation bar. The 'Help' menu item is circled in red. The main area displays a search interface with facets for 'Person (0)' and 'Organisation (0)'. A search bar shows 'All' and a 'Search' button. Below the search bar is a table with columns: ID, Title, Owner Name, Contact Name, Dataset Description, and Organisation Name. The table shows 'No records to display.' and has pagination buttons for 10 items. The footer includes the BEXIS logo and links to Privacy Policy, Contact Us, and Imprint.

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



The screenshot shows the BEXIS 2 interface with a top navigation bar. The 'Plan' menu item is circled in red, and it has a sub-menu with 'Manage Data Structures' and 'Manage Units'. The main area displays a search interface with facets for 'Person (0)' and 'Organisation (0)'. A search bar shows 'All' and a 'Search' button. Below the search bar is a table with columns: ID, Title, Owner Name, Contact Name, Dataset Description, and Organisation Name. The table shows 'No records to display.' and has pagination buttons for 10 items. The footer includes the BEXIS logo and links to Privacy Policy, Contact Us, and Imprint.

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



The screenshot shows the 'Data Structure Search' window. The 'Create Data Structure' button is circled in red. The main area displays a table of data structures with columns: Id, Title, Description, and Tabular. The table includes entries like 'Column Experiment', 'Field Experiment', and 'WP1'. Each entry has a 'Tabular' checkbox and a set of icons for edit, delete, and preview. The footer includes the BEXIS logo and links to Privacy Policy, Contact Us, and Imprint.

4. Enter a name and a descriptive description for your Data Structure in an opened modal window and click on the **Save** button.

Choose a **Data Format** compatible with your data structure. **Tabular** is a data table, and **File** is a non-structured data like images.

5. If you have created a Tabular data structure, BEXIS 2 refers you to the next page where you can build your data structure by adding variables.
- Click on the right arrow closed to 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 can change the name of a variable in your Data Structure.
 The 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.

The screenshot shows the SFP2089 Data Structure Edit interface. On the left, the 'Variable Templates' section is displayed, featuring a search bar and a table of variables with columns for Id, Name, Unit, Data Type, and various edit buttons. A 'Create Variable Template' button is at the bottom. On the right, the 'Test Experiment (26)' section is shown, containing a 'Name' field with 'Test Experiment', a 'Description' field with 'This is a Data Structure for a test experiment.', and a detailed view of a variable 'remark' with its properties (Unit: none, Data Type: string, Optional: checked). Buttons for 'Download Excel Template', 'Delete', 'Save', and 'Save as' are at the bottom.

Variable Templates

Test Experiment (26)

Variable Template

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

Sort by

Variable Template

Name

Description

Variable Template

Name Unit Data Type

Description

Variable Template

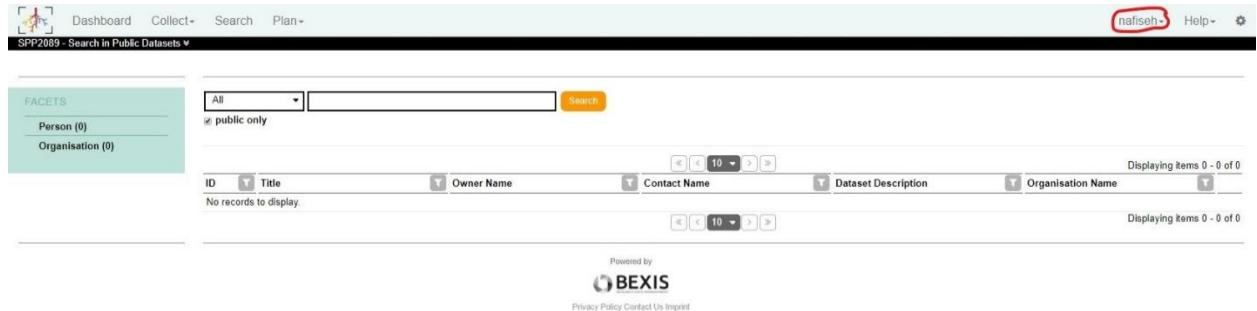
Name Unit Data Type

Download Excel Template Delete Save Save as Cancel

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

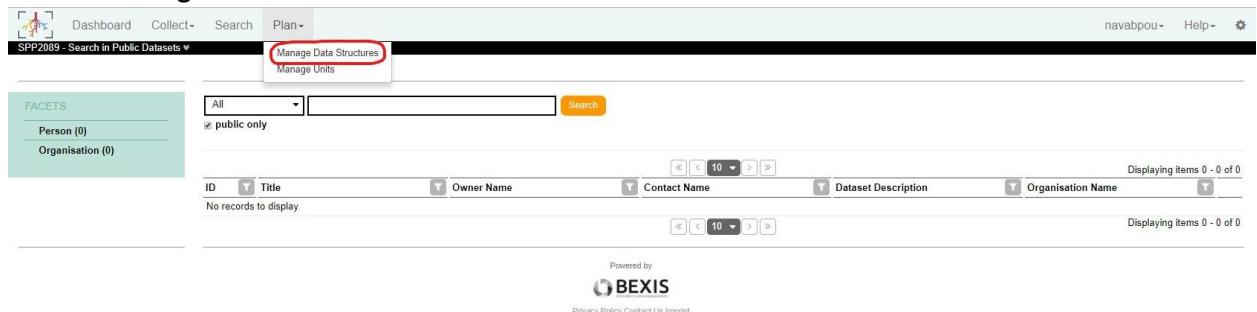
How do I edit a Data Structure?

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



The screenshot shows the BEXIS 2 interface with a top navigation bar. The 'Help' menu item is circled in red. The main area displays a search interface for 'Public Datasets'. On the left, there is a 'FACETS' sidebar with 'Person (0)' and 'Organisation (0)' options. The main search area has a dropdown menu set to 'All', a search input field, and a 'Search' button. Below the search area is a table with columns: ID, Title, Owner Name, Contact Name, Dataset Description, and Organisation Name. The table shows 'No records to display.' and includes pagination controls (10, <<, >>) and links for 'Displaying items 0-0 of 0'. At the bottom, there is a footer with the BEXIS logo and links for 'Privacy Policy', 'Contact Us', and 'Imprint'.

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

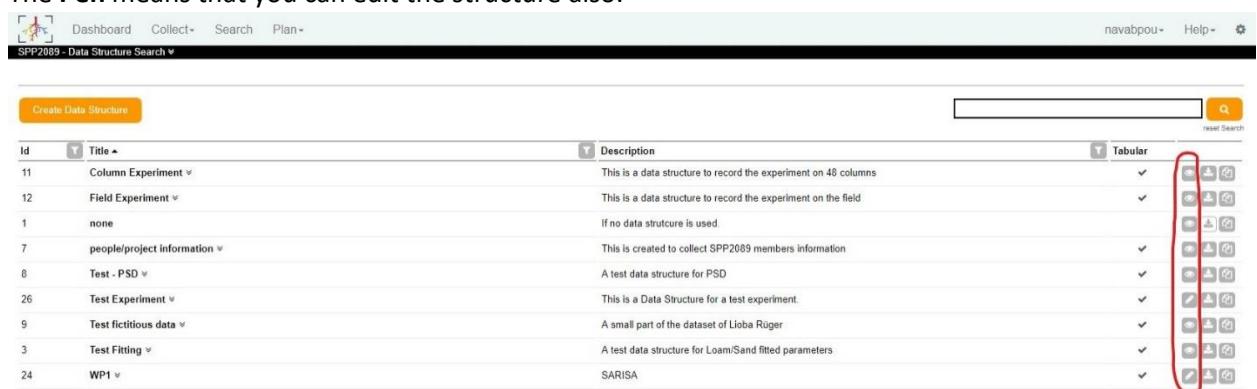


The screenshot shows the BEXIS 2 interface with a top navigation bar. The 'Plan' menu item is circled in red, and the 'Manage Data Structures' option is highlighted. The main area displays a search interface for 'Data Structure'. The 'FACETS' sidebar is identical to the previous screenshot. The main search area has a dropdown menu set to 'All', a search input field, and a 'Search' button. Below the search area is a table with columns: ID, Title, Owner Name, Contact Name, Dataset Description, and Organisation Name. The table shows 'No records to display.' and includes pagination controls (10, <<, >>) and links for 'Displaying items 0-0 of 0'. At the bottom, there is a footer with the BEXIS logo and links for 'Privacy Policy', 'Contact Us', and 'Imprint'.

3. On the following page, you can see different buttons closed to data structures.

The **Eye** means that you can edit only the name and the description of a data structure.

The **Pen** means that you can edit the structure also.

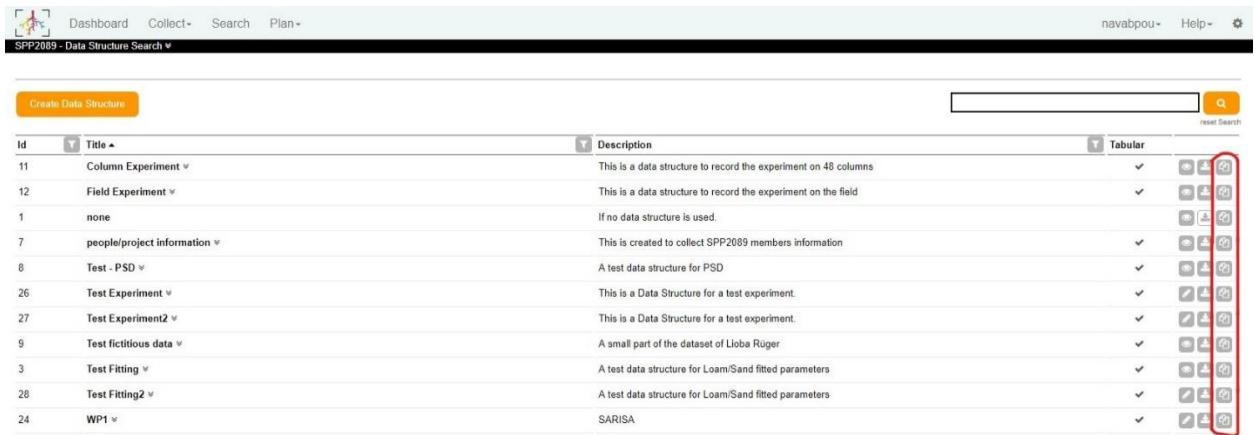


The screenshot shows the BEXIS 2 interface with a top navigation bar. The main area displays a search interface for 'Data Structure Search'. The 'Create Data Structure' button is visible. The main table lists data structures with columns: Id, Title, Description, and Tabular. The 'Tabular' column contains a series of icons for each row. A red box highlights the edit icons for the last two entries (Rows 23 and 24). The table shows the following data:

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.	
9	Test fictitious data	A small part of the dataset of Lioba Rüger	
3	Test Fitting	A test data structure for LoamSand fitted parameters	
24	WP1	SARISA	

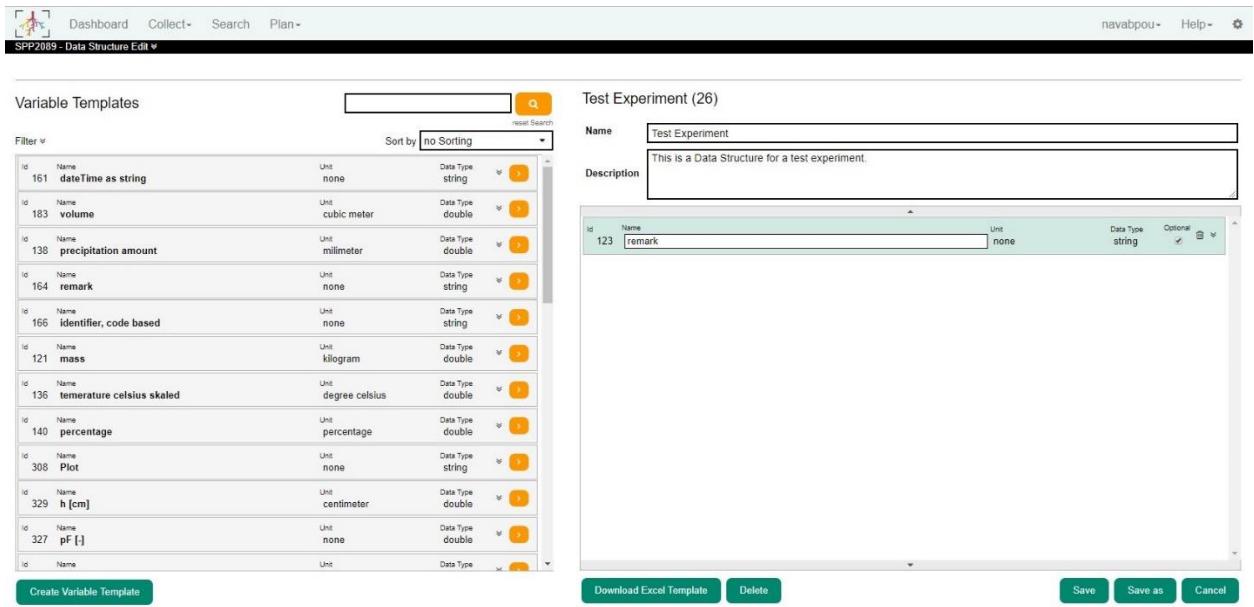
Note: A data structure is not editable when it connects to a dataset.

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.



Create Data Structure		reset Search	
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 Loba 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

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

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	<input checked="" type="checkbox"/>

Download Excel Template Save Save as Cancel

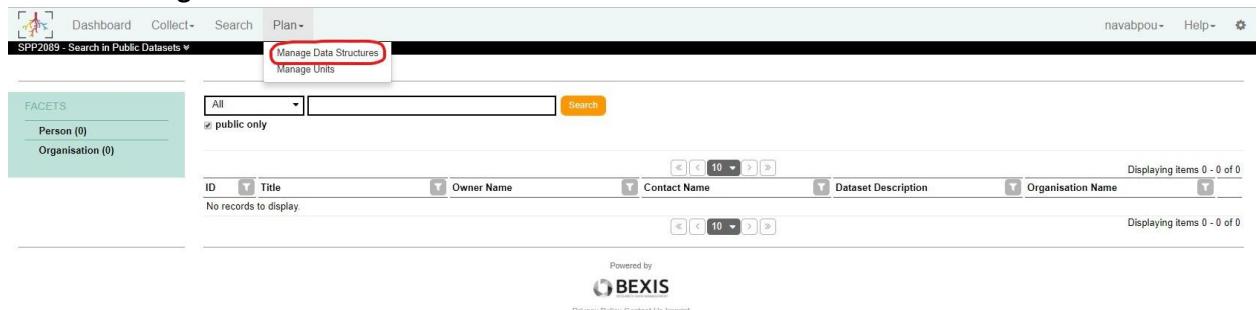
How do I download a Data Structure?

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



The screenshot shows the BEXIS 2 interface with a top navigation bar. The 'Help' menu item is circled in red. Below the navigation bar, there is a search bar and a facets sidebar on the left. The main content area shows a table with columns: ID, Title, Owner Name, Contact Name, Dataset Description, and Organisation Name. The table is empty with the message 'No records to display.' Below the table, there are two sections: 'Displaying items 0 - 0 of 0' and 'Displaying items 0 - 0 of 0'.

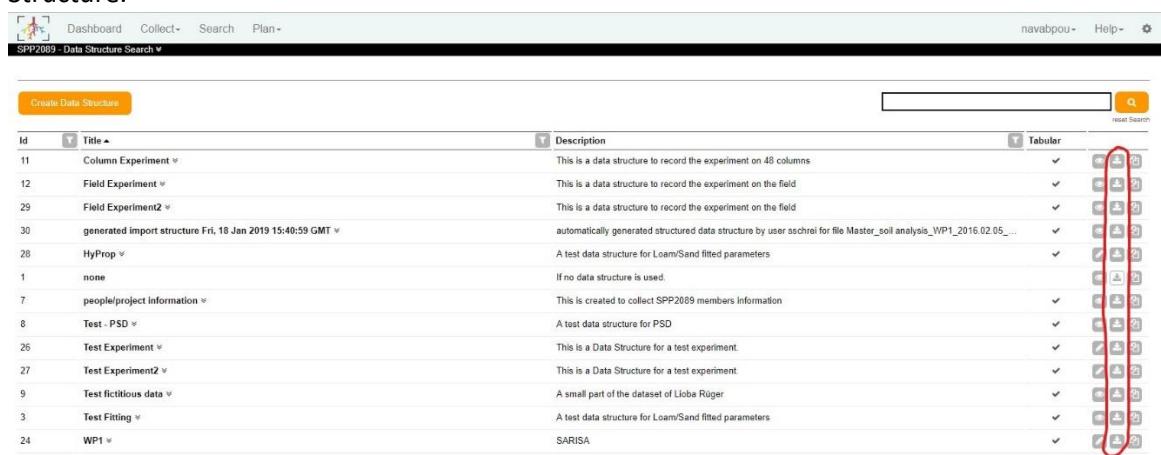
2. Click on **Manage Data Structure** under the **Plan** menu item.



The screenshot shows the BEXIS 2 interface with a top navigation bar. The 'Plan' menu item is circled in red, and it has a dropdown menu with 'Manage Data Structures' and 'Manage Units' options. Below the navigation bar, there is a search bar and a facets sidebar on the left. The main content area shows a table with columns: ID, Title, Owner Name, Contact Name, Dataset Description, and Organisation Name. The table is empty with the message 'No records to display.' Below the table, there are two sections: 'Displaying items 0 - 0 of 0' and 'Displaying items 0 - 0 of 0'.

3. You can download a Data Structure in two ways.

- a. On the page Data Structure management, click on the **Download** button next to a Data Structure.



The screenshot shows the 'Data Structure Search' page. At the top, there is a 'Create Data Structure' button and a search bar. The main content area is a table with columns: Id, Title, Description, and Tabular. The table lists various data structures with their descriptions and download buttons. A red circle highlights the download button for the 'WP1' data structure.

Id	Title	Description	Tabular
11	Column Experiment	This is a data structure to record the experiment on 48 columns	<input checked="" type="checkbox"/>
12	Field Experiment	This is a data structure to record the experiment on the field	<input checked="" type="checkbox"/>
29	Field Experiment2	This is a data structure to record the experiment on the field	<input checked="" type="checkbox"/>
30	generated import structure Fri, 18 Jan 2019 15:40:59 GMT	automatically generated structured data structure by user aschrei for file Master_soil analysis_WP1_2016.02.05...	<input checked="" type="checkbox"/>
28	HyProp	A test data structure for Loam/Sand fitted parameters	<input checked="" type="checkbox"/>
1	none	If no data structure is used.	<input checked="" type="checkbox"/>
7	people/project information	This is created to collect SPP2089 members information	<input checked="" type="checkbox"/>
8	Test - PSD	A test data structure for PSD	<input checked="" type="checkbox"/>
26	Test Experiment	This is a Data Structure for a test experiment.	<input checked="" type="checkbox"/>
27	Test Experiment2	This is a Data Structure for a test experiment.	<input checked="" type="checkbox"/>
9	Test fictitious data	A small part of the dataset of Lieba Röger	<input checked="" type="checkbox"/>
3	Test Fitting	A test data structure for Loam/Sand fitted parameters	<input checked="" type="checkbox"/>
24	WP1	SARISA	<input checked="" type="checkbox"/>

- b. In the Edit Data Structure page, click the **Download Excel Template** button. BEXIS 2 creates an Excel Template from the current Data Structure.

The screenshot shows the BEXIS 2 Data Structure Edit interface. On the left, there is a list of 'Variable Templates' with columns for ID, Name, Unit, and Data Type. On the right, there is a configuration for a 'Field Experiment (12)' with fields for Name, Description, and a detailed table of variables (ID, Name, Unit, Data Type, Optional, etc.). Buttons for 'Download Excel Template', 'Delete', 'Save', 'Save as', and 'Cancel' are at the bottom.

Variable Template	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 scaled	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	pF []	none	double
id	Name	Unit	Data Type

Field Experiment (12)					
Name	Field Experiment				
Description	This is a data structure to record the experiment on the field				
Id	Name	Unit	Data Type	Optional	
58	ID	none	integer	✓	
59	Column Number	none	string	Optional	✓
60	substrate	none	string	Optional	✓
61	genotype	none	string	Optional	✓
62	replicates	none	string	Optional	✓
68	Treatment	none	string	Optional	✓
64	DEPTH	none	string	Optional	✓
65	C-total (g/kg)	gram kilogram ratio	double	Optional	✓
66	N-total (g/kg)	gram kilogram ratio	double	Optional	✓

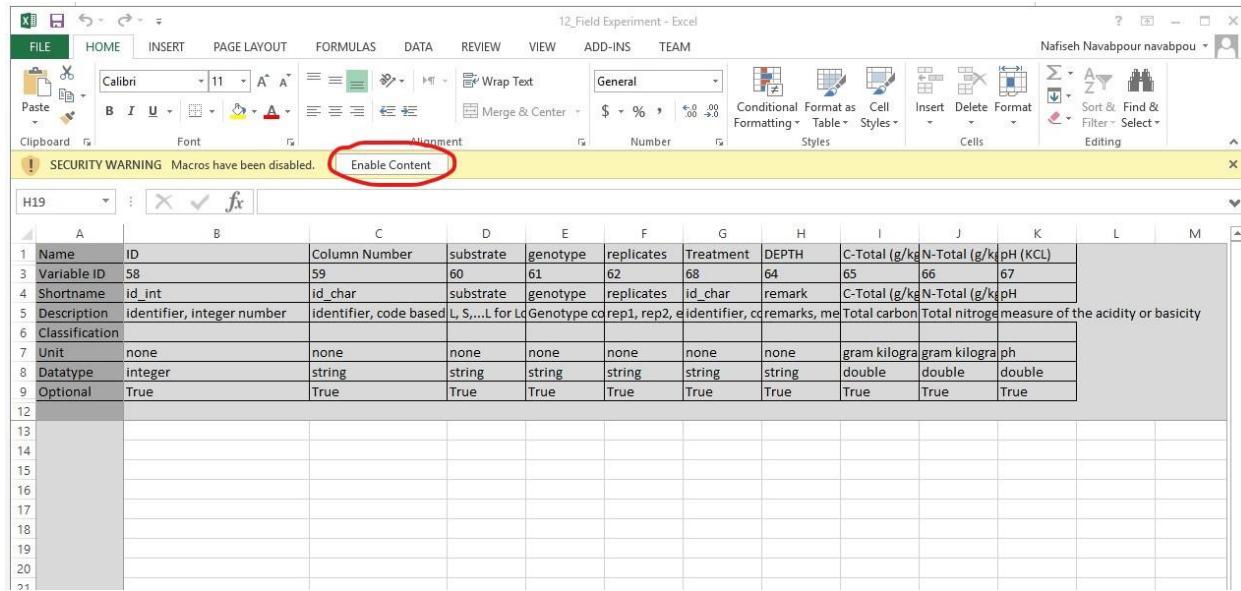
Buttons: Download Excel Template, Delete, Save, Save as, Cancel

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

How do I work with an Excel Template?

BEXIS 2 provides an Excel file based on a Data structure that contains information about data attributes. It uses macros to examine the quality of the data values based on the data type.

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, generally located in the *Trust Center*.



SECURITY WARNING Macros have been disabled. **Enable Content**

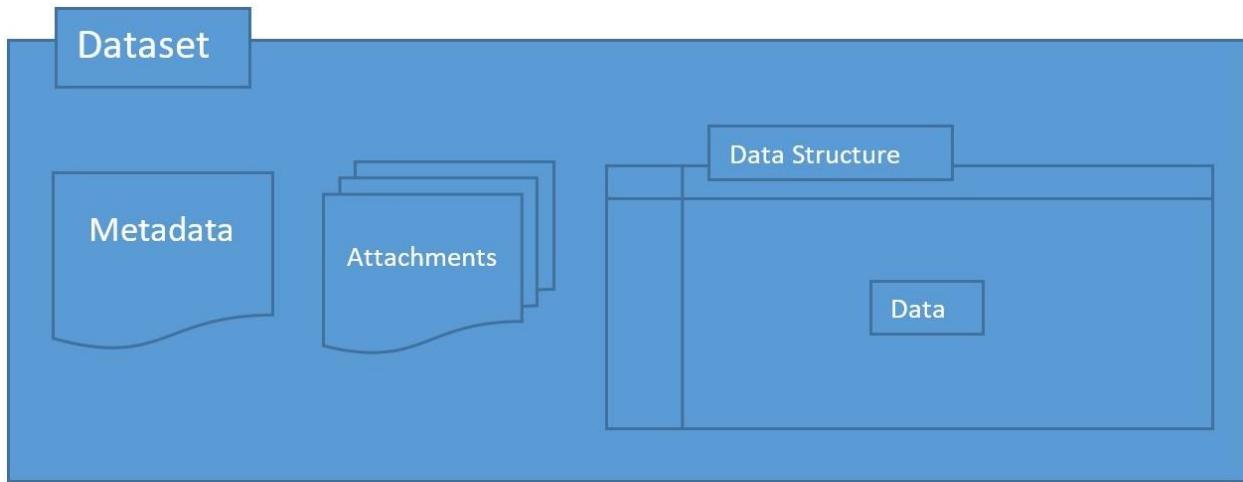
	A	B	C	D	E	F	G	H	I	J	K	L	M
1	Name	ID	Column Number	substrate	genotype	replicates	Treatment	DEPTH	C-Total (g/kg)	N-Total (g/kg)	pH (KCL)		
2	Variable ID	58	59	60	61	62	68	64	65	66	67		
4	Shortname	id_int	id_char	substrate	genotype	replicates	id_char	remark	C-Total (g/kg)	N-Total (g/kg)	pH		
5	Description	identifier, integer number	identifier, code based	L, S,...L for L	Genotype co	rep1, rep2, e	identifier, co	remarks, me	Total carbon	Total nitrogen	measure of the acidity or basicity		
6	Classification												
7	Unit	none	none	none	none	none	none	none	gram kilogra	gram kilogra	ph		
8	Datatype	integer	string	string	string	string	string	string	double	double	double		
9	Optional	True	True	True	True	True	True	True	True	True	True		
12													
13													
14													
15													
16													
17													
18													
19													
20													
21													

What does a Dataset mean?

A dataset may be anything from a single record up to a collection of millions of records and multiple variables.

Each dataset may have an individual structure given by the number of variables and their properties.

In BEXIS 2, data is stored and managed as part of a dataset.



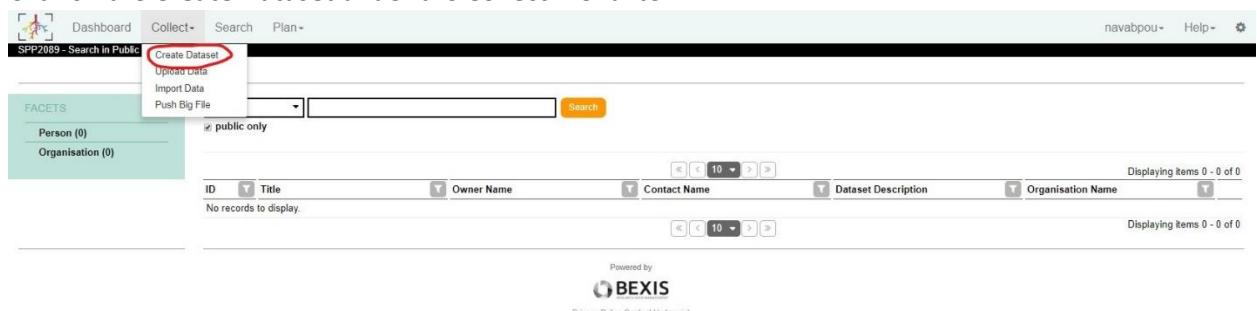
How do I create a Dataset?

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



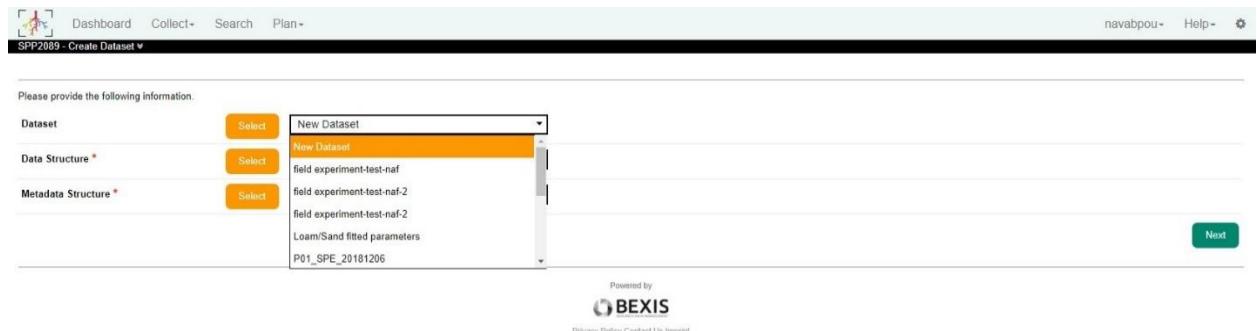
The screenshot shows the BEXIS 2 interface with a top navigation bar including 'Dashboard', 'Collect', 'Search', and 'Plan'. The 'Help' menu item is circled in red. Below the navigation is a search bar with dropdowns for 'All' and 'public only', and a 'Search' button. A table header row shows columns for 'ID', 'Title', 'Owner Name', 'Contact Name', 'Dataset Description', and 'Organisation Name'. Below the table, it says 'No records to display.' and 'Displaying items 0 - 0 of 0'.

2. Click on the **Create Dataset** under the **Collect** menu item.



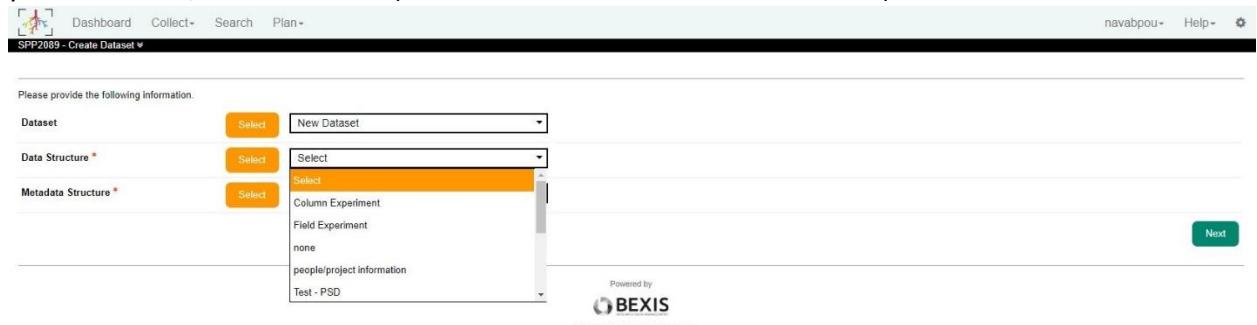
The screenshot shows the 'Create Dataset' page. The 'Collect' menu item is circled in red. The page includes a search bar with dropdowns for 'All' and 'public only', and a 'Search' button. A table header row shows columns for 'ID', 'Title', 'Owner Name', 'Contact Name', 'Dataset Description', and 'Organisation Name'. Below the table, it says 'No records to display.' and 'Displaying items 0 - 0 of 0'.

3. In the following page, select a **new Dataset** if you want to create a new dataset or select an **existing dataset** in the field of the **dataset**, if you are going to use the metadata of a current dataset.



The screenshot shows the 'Create Dataset' page. The 'Dataset' dropdown is set to 'New Dataset'. The 'Data Structure' and 'Metadata Structure' dropdowns also have 'Select' buttons. A dropdown menu for 'Dataset' shows options: 'New Dataset' (highlighted in orange), 'field experiment-test-naf', 'field experiment-test-naf-2', 'field experiment-test-naf-3', 'Loam/Sand fitted parameters', and 'P01_SPE_20181206'. A 'Next' button is visible on the right.

4. Select an existing **Data Structure** for your data table. If you do not yet create a data structure for your data table, first create one (check the introduction of Data Structure).

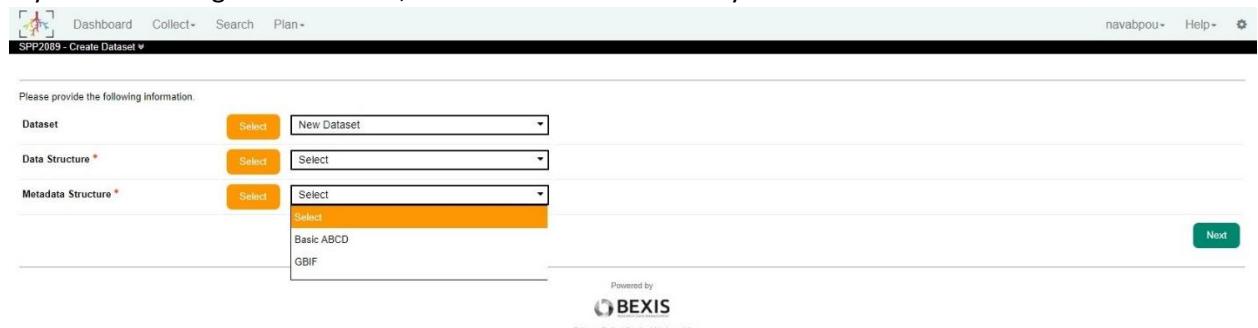


The screenshot shows the 'Create Dataset' page. The 'Dataset' dropdown is set to 'New Dataset'. The 'Data Structure' dropdown is set to 'Select' and shows 'Column Experiment' (highlighted in orange) as the selected option. The 'Metadata Structure' dropdown also has 'Select' buttons. A dropdown menu for 'Data Structure' shows options: 'Select', 'Column Experiment', 'Field Experiment', 'none', 'people/project information', and 'Test - PSD'. A 'Next' button is visible on the right.

5. Select a **Metadata Structure**.

In case you select a copy of another dataset, the metadata structure is pre-selected.

If you are creating a new dataset, the **SPP 2089 Metadata** is your choice.



Please provide the following information.

Dataset	Selected	New Dataset
Data Structure *	Selected	Select
Metadata Structure *	Selected	Select

Basic ABCD
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Next

Click on the **Next** button, and BEXIS 2 refers you to the Metadata Formula.

6. Fill at least the following fields in the ABCD metadata formula and click on the **Save** button.

- General > Title
- General > Short description
- General > Data Owner
- Contact Person > Name

* Title	<input type="text"/>
* Short description	<input type="text"/>
Sppproject number	Select, please <input type="button" value="▼"/>
* Data owner	<input type="text"/>
Last modification	<input type="text"/> <input type="button" value="calendar"/>
Remark	<input type="text"/>
* Name	<input type="text"/>
Email	<input type="text"/>
Institution	<input type="text"/>
Dataset status	Select, please <input type="button" value="▼"/>
Remark	<input type="text"/>
Missing value	<input type="text"/>
Data origin	Select, please <input type="button" value="▼"/>
Sampling date	Select, please <input type="button" value="▼"/>
Remark	<input type="text"/>
Method	<input type="text"/>
Instrument	<input type="text"/>
Remark	<input type="text"/>

Please note that

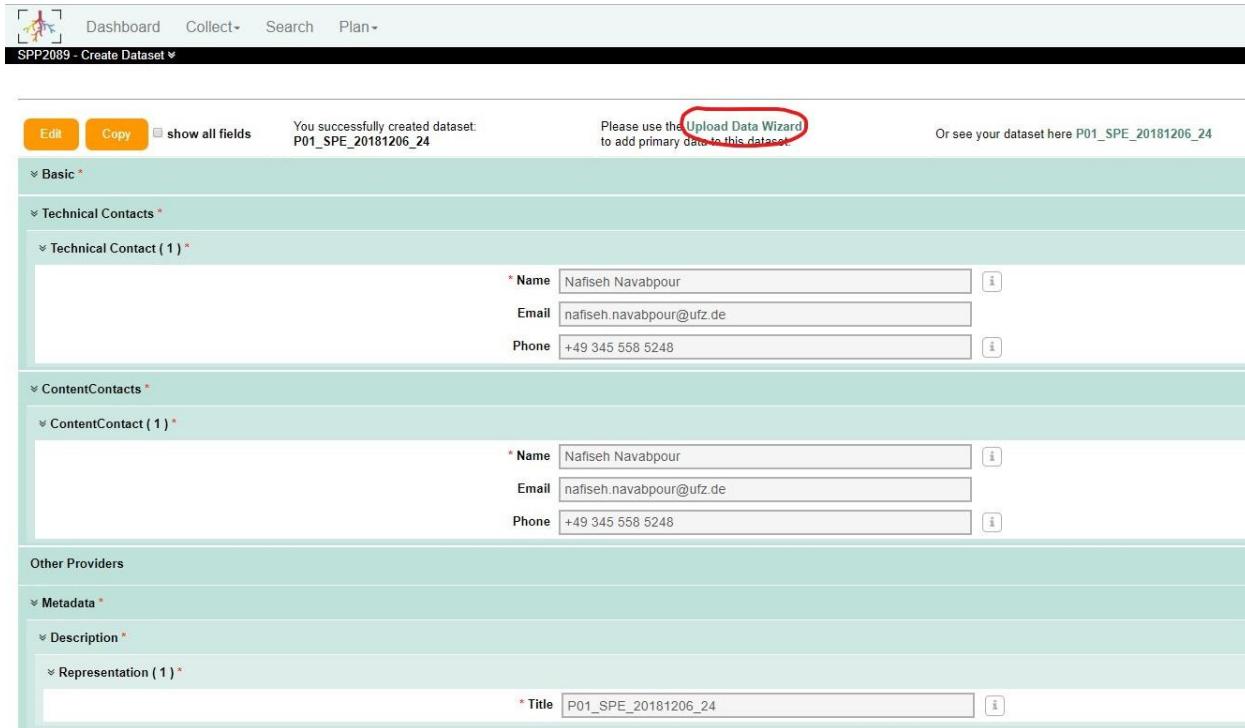
- Please change the title when copying a dataset.
- Do not enter a duplicate title.

- A field marked with a **red star** is mandatory.
- You can ignore the warning message if some mandatory fields are empty and create your data set. Your metadata is not valid in this case, and your dataset will show red on your dashboard.
- You can later **edit** a metadata formula.
- Please ignore the red stars in the name of field groups.
- To open an infobox, mark the small square on the right. Then you see more fields underneath.

How do I upload data to a dataset?

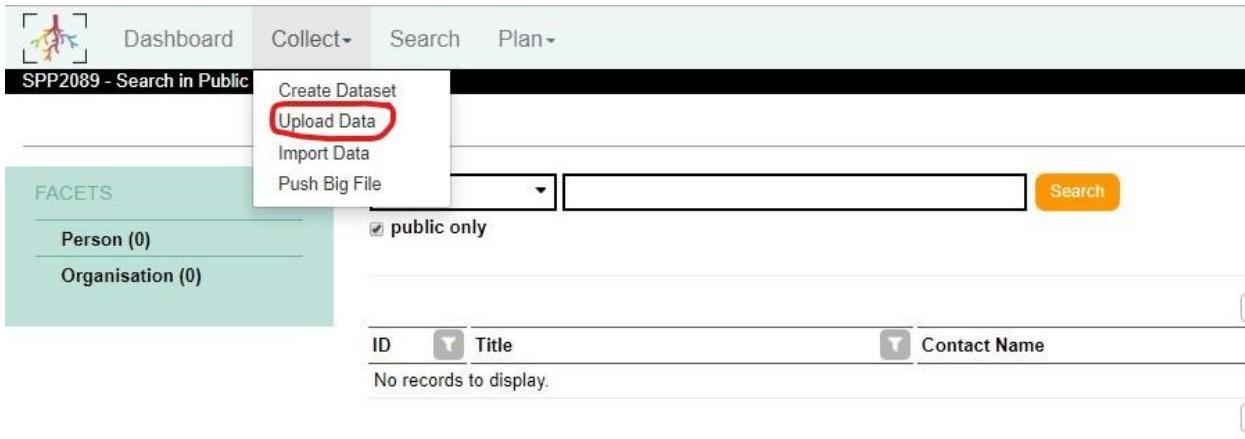
Primary Data in BEXIS 2 can only upload to an existing dataset.

Once you create a dataset, BEXIS 2 provides a link that points you to the upload process. It calls **Upload Data Wizard**.



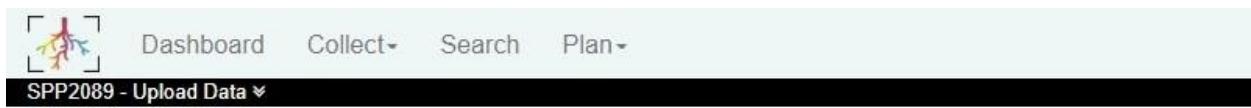
The screenshot shows the 'Create Dataset' page. At the top, there are buttons for 'Edit', 'Copy', and 'show all fields'. A message says 'You successfully created dataset: P01_SPE_20181206_24'. To the right, a note says 'Please use the [Upload Data Wizard](#) to add primary data to this dataset.' (The 'Upload Data Wizard' link is circled in red). Below this, there are sections for 'Basic', 'Technical Contacts', 'Content Contacts', and 'Other Providers'. Each section contains a 'Technical Contact (1)' and a 'ContentContact (1)', both with fields for Name, Email, and Phone. Under 'Other Providers', there is a 'Representation (1)' section with a 'Title' field containing 'P01_SPE_20181206_24'.

Another way to upload data is clicking on **Upload Data** under the **Collect** menu item.



The screenshot shows the 'Search in Public' page. The 'Collect' menu is open, showing 'Create Dataset', 'Upload Data' (which is circled in red), 'Import Data', and 'Push Big File'. Below the menu, there is a 'public only' checkbox. At the bottom, there is a table with columns 'ID', 'Title', and 'Contact Name', and a message 'No records to display.'

Regarding the type of your data structure, you should choose whether your dataset is a data table or a non-structure file. If you upload data via the Upload Data Wizard, the system jumps up from this step.



The screenshot shows the BEXIS 2 dashboard with a navigation bar at the top. The 'Dashboard' button is highlighted. Below the navigation bar, a black bar displays the text 'SPP2089 - Upload Data' with a dropdown arrow. The main content area is titled 'Add Data or Update Dataset'.

Add Data or Update Dataset

In order to add to or update data of an existing dataset in the system, please select whether the dataset is structured or unstructured.

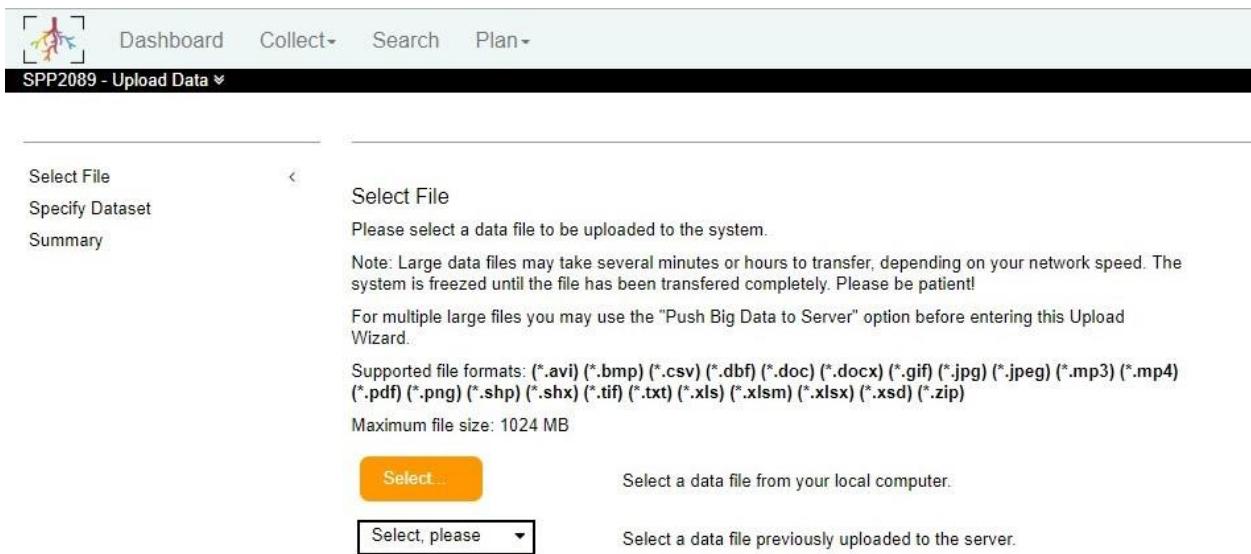
Tabular **File**

Upload Data – File format

If you save your data as a **File**, the search engine could not find the data.

BEXIS 2 accepts only defined file formats under 1GB.

1. Select your file and click on the **Next** button.



The screenshot shows the 'Select File' step of the 'Upload Data Wizard'. On the left, a sidebar lists 'Select File', 'Specify Dataset', and 'Summary'. The main area is titled 'Select File' with the instruction 'Please select a data file to be uploaded to the system.' It includes a note about large files and a note about using the 'Push Big Data to Server' option. It lists supported file formats and specifies a maximum file size of 1024 MB. There are two buttons: 'Select...' and 'Select, please' with a dropdown arrow. The 'Select...' button is associated with the text 'Select a data file from your local computer.' and the 'Select, please' button is associated with 'Select a data file previously uploaded to the server.'

2. Select an existing Dataset and click on the **Next** button. Note that the dataset is pre-selected through Upload Data Wizard.



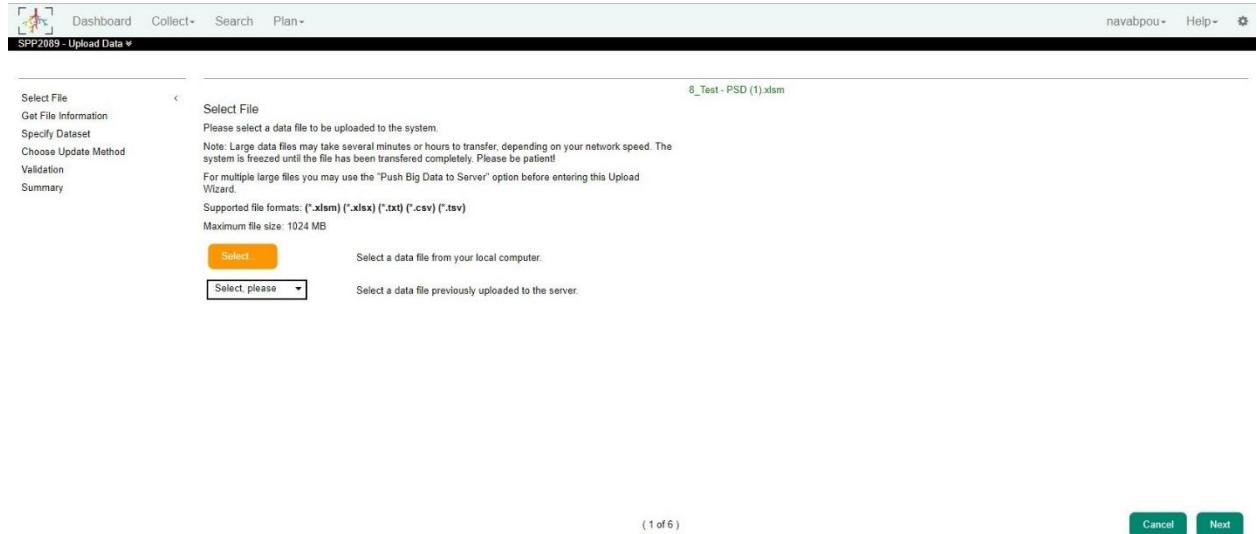
The screenshot shows the BEXIS 2 dashboard with a navigation bar at the top. The main content area is titled 'SPP2089 - Upload Data'. On the left, there is a sidebar with links: 'Select File', 'Specify Dataset', and 'Summary'. The main panel is titled 'Specify Dataset' and contains the following text: 'Your data is stored and managed as part of a dataset. A dataset may contain one or more of your data files. But all data files within one dataset must be of the same data structure, i.e. in structured datasets the number of variables and their properties must be identical in each file.' Below this is a dropdown menu labeled 'Select' with the sub-instruction 'Select an existing dataset to attach your file with.'

3. On the next page, the system will show you a summary of your upload, and the upload process will finish.
4. Click the **Finish** button. BEXIS 2 refers to the **Dataset View**.

Upload Data – Tabular format

Tabular data is structured data. If your data should be available on the search engine, save your data in tabular form. BEXIS 2 accepts the file formats XLSM, XLSX, TXT, CSV, and TSV in this process.

1. Select your data file from your computer. Click the Next button and go to the next page.



The screenshot shows the 'Get File Information' page for a file named '8_Test - PSD (1).xism'. The left sidebar has links: 'Select File', 'Get File Information', 'Specify Dataset', 'Choose Update Method', 'Validation', and 'Summary'. The main panel has a 'Select File' section with instructions: 'Please select a data file to be uploaded to the system.', 'Note: Large data files may take several minutes or hours to transfer, depending on your network speed. The system is freezed until the file has been transferred completely. Please be patient!', and 'For multiple large files you may use the "Push Big Data to Server" option before entering this Upload Wizard.' It also specifies 'Supported file formats: (*.xism) (*.xlsx) (*.txt) (*.csv) (*.tsv)' and 'Maximum file size: 1024 MB'. Below are two buttons: 'Select' (orange) and 'Select, please' (grey). The status bar at the bottom shows '(1 of 6)' and buttons for 'Cancel' and 'Next'.

2. This page calls **Get File Information**, and it differs depending on the file format.

Upload regular Excel file (.xlsx)

If you have selected a regular Excel file in .xlsx format, the system will point you to a page where you can see your data table. You can change the Excel worksheet if you need it.

On this page, you must specify where your column headers (variable names), and where your data are.

Get File Information

Header Data Expand Selection Reset Data Change Worksheet

1	ID	Column Number	substrate	genotype	replicates	Treatment	DEPTH	C-Total (g/kg)	N-Tot	cm	g/kg	g/kg
2												
3												
4	FP02	L	WT	REP2	FP02_L_WT_REP2	5-10						
5	FP03	L	WT	REP3	FP03_L_WT_REP3	5-10						
6	FP04	L	WT	REP4	FP04_L_WT_REP4	5-10						
7	FP05	L	WT	REP5	FP05_L_WT_REP5	5-10						
8	FP06	L	WT	REP6	FP06_L_WT_REP6	5-10						
9	FP07	L	RTH3	REP1	FP07_L_RTH3_REP1	5-10						
10	FP08	L	RTH3	REP2	FP08_L_RTH3_REP2	5-10						
11	FP09	L	RTH3	REP3	FP09_L_RTH3_REP3	5-10						
12	FP10	L	RTH3	REP4	FP10_L_RTH3_REP4	5-10						
13	FP11	L	RTH3	REP5	FP11_L_RTH3_REP5	5-10						
14	FP12	L	RTH3	REP6	FP12_L_RTH3_REP6	5-10						
15	FP13	S	WT	REP1	FP13_S_WT_REP1	5-10						
16	FP14	S	WT	REP2	FP14_S_WT_REP2	5-10						

Prev (2 of 6) Next

- First, select all variables with the left click on the mouse. Then click on the **Header** button.
- Select all data in the same way and click the **Data** button.
- The **Expand Selection** button allows you to expand your selection. If the data table contains many rows, select only the first row of data and click the Expand Selection. The system selects all data to the end.
- Click the **Reset** button if you need to reset your selection.

Get File Information

Header Data Expand Selection Reset Data Change Worksheet

1	ID	Column Number	substrate	genotype	replicates	Treatment	DEPTH	C-Total (g/kg)	N-Tot	cm	g/kg	g/kg	p1	p2	p3	p4	p5	p6	p7	p8	p9	p10	p11	p12	p13	p14	p15
2																											
3	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	
4	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	
5	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	
6	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	
7	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	
8	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	
9	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	
10	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	
11	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	
12	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	
13	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	
14	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	
15	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	FP02	

Prev (2 of 6) Next

If you are sure that the header and data are selected, click the **Next** button and go to the next step.

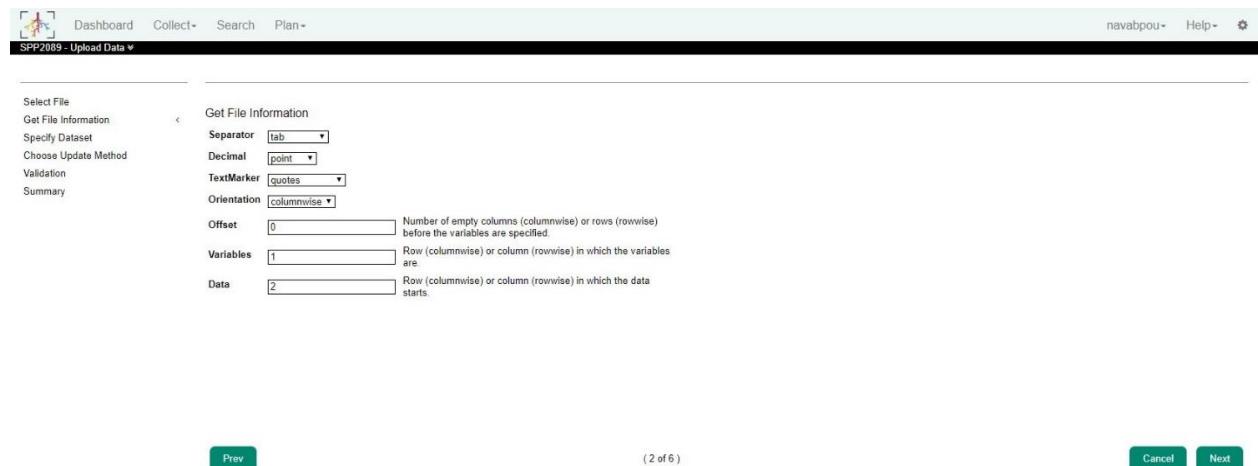
Upload BEXIS 2 Excel Template (.XLSM)

If you are working with the **Excel template** (How do I work with an Excel Template?), the procedure will **skip** this step.

Upload normal Text file (.TXT, .CSV or .TSV)

If your data is in a TXT, CSV, or TSV format, the system will ask for the following information.

- **Separator:** Is your data separated by a tab, comma, semicolon, or space?
- **Decimal:** Have your real data been specified as 3.02 with a dot (point) or 3,02 with a comma?
- **TextMarker:** Did you use quotes or double quotes as text marker?
- **Orientation:** At this point, you must specify whether your data is columnwise or rowwise.
 - Data is columnwise when data related to a variable is written to a column.
 - Data is rowwise when data related to a variable is written to a row.
- **Offset:** How many empty columns (in columnwise) or rows (in rowwise) before the variables are specified.
- **Variables:** Row (in columnwise) or column (in rowwise) in which the variables are located.
- **Data:** Row (in columnwise) or column (in rowwise) in which the data starts.



The screenshot shows the 'Upload Data' process in SPP 2089. The current step is 'Get File Information'. The form contains the following settings:

- Separator: tab
- Decimal: point
- TextMarker: quotes
- Orientation: columnwise
- Offset: 0
- Variables: 1
- Data: 2

At the bottom, there are buttons for 'Prev', '(2 of 6)', 'Next', 'Cancel', and 'Help'.

Click on the **Next** button and go to the next page.

3. Specify the dataset, if it is not specified by default. Click on the **Next** button and go to the next page.

4. In this step, BEXIS 2 checks if your data table is compatible with the data structure. Click on the **Validate** button. In the case of mismatches, red messages will display on the right side, and the process will terminate there. If data in the data structure can fit well, a green message will display and you can go to the next page.

5. On the last page, the upload process will finish, and you will see a summary of your upload data.
 6. Click the **Finish** button. BEXIS 2 refers to the **Dataset View**.
- Note:** You will see your data in the **Primary Data** tab. Please don't worry if you see the red message, "No data is uploaded to this dataset." Your upload must maintain in the background. Just contact your data manager (nafiseh.navabpour@ufz.de).

Why is only one row uploaded?

If you use an Excel template, the macro functions in Excel are needed to perform the validation of the entered data. If the macros are not activated, the Excel table specifies only the first row as data. Enabling the macros after entering the data does not help.

Open the BEXIS 2 Excel Template again. First, activate the macros, copy the data, and save it.

How do I set Permissions?

You may want to give specific permission to a user. For example, a user must be able to download or update your dataset.

1. Open the **Dataset Permissions** tab.
2. Find the user by username or id.
3. Permit with a checkmark.
 - a. **Read** means the user can download data.
 - b. **Write** means the user can update the dataset.
 - c. Ignore the *Delete* and *Grant* options.

Note: The group **SPP2089** contains all colleagues from SPP 2089. If you want to set permissions for all, it is sufficient to only set permissions for the group SPP2089.

How do I delete a dataset?

You are not able to delete a dataset by yourself in the BEXIS 2. Please send the id and the name of a dataset that you want to delete to the BEXIS 2 platform manager (nafiseh.navabpour@ufz.de). The dataset will remove very soon.

How do I find a dataset?

If you know the Id or the name of a dataset, you can find it in the list of all datasets. Otherwise, BEXIS 2 search engine provides results on the metadata. You can look for a dataset by a search for its Meta information, e.g., the name of the owner or keywords.

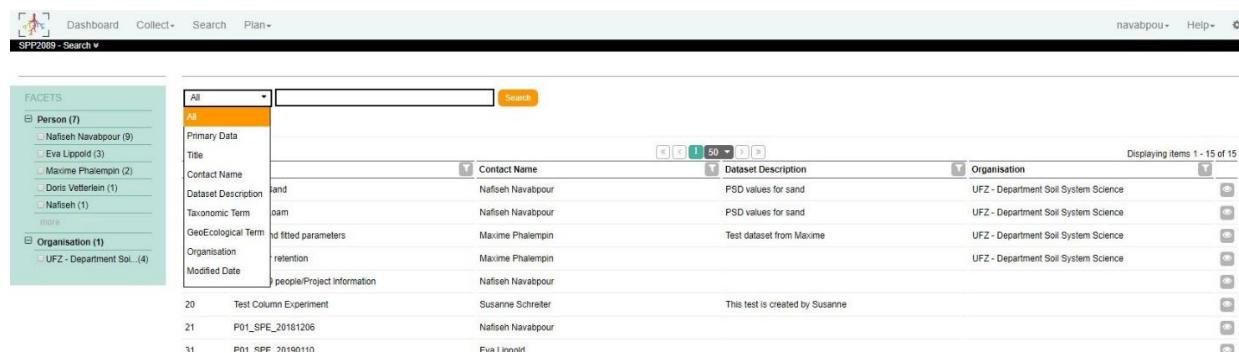
Note: don't forget to uncheck the *public only* option.

Enter at least three characters in the search bar shows you the search keywords existing in the database. Then click on the **Search** button and see the result in the search result table.



The screenshot shows the BEXIS 2 search interface. The top navigation bar includes 'Dashboard', 'Collect', 'Search', 'Plan', and user information 'navabpou'. The search bar has a dropdown set to 'All' and a checked 'public only' option. Below the search bar is a table header with columns: ID, Title, Contact Name, Dataset Description, and Organisation. The table body is empty, showing 'No records to display.' and 'Displaying items 0 - 0 of 0'.

Restrict your search by selecting a category, e.g., title, from the drop-down list in front of the search bar to restrict your search.



The screenshot shows the BEXIS 2 search interface with a search term 'All' entered in the search bar. The facets on the left are expanded, showing 'Person (7)' and 'Organisation (1)'. The search results table has columns: ID, Title, Contact Name, Dataset Description, and Organisation. The results are filtered by 'All' in the facets. The table shows 15 items, with the first few rows being: 20 Test Column Experiment, 21 P01_SPE_20181206, and 22 P01_SPE_20190110. The table header includes a dropdown for 'All' and a '50' button for sorting.

The search result contains all datasets, which include your term in the metadata, e.g., *address*, or the primary data, e.g., *variable names*.

To restrict the result, you have different options:

- Click on the facets on the left pane
- Specify a filter by clicking on the filter icon available in each column
- Change the result order via sorting a column by clicking on a name in the header

To view more details of a dataset, click the **View Details** button available in each row.

BEXIS 2 User Guide for SPP 2089 - Last update: 03/13/2020

SPP2089 - Search 

navabpour Help 

Facets

- Person (7)**
 - Nafiseh Navabpour (9)
 - Eva Lippold (3)
 - Maxime Phalempin (2)
 - Doris Vetterlein (1)
 - Nafiseh (1)
 - more
- Organisation (1)**
 - UFZ - Department Soil System Science (4)

public only

Displaying items 1 - 15 of 15

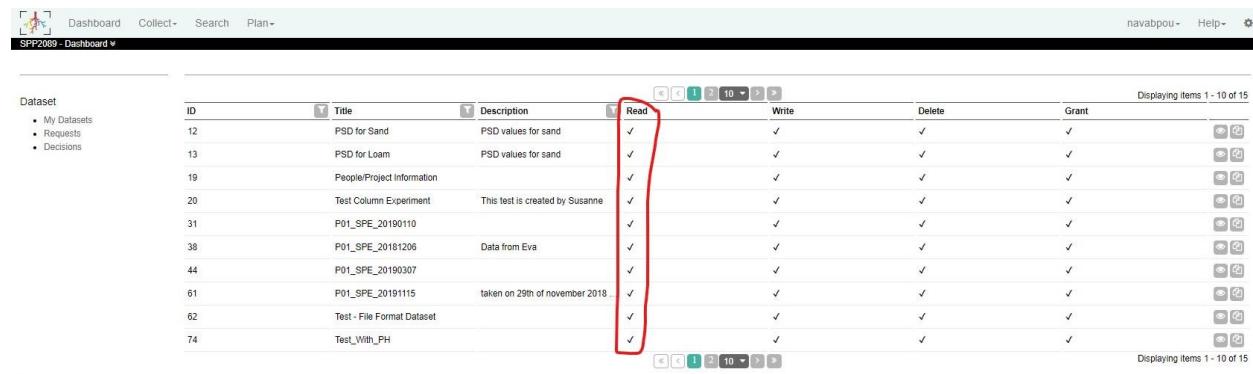
ID	Title	Contact Name	Dataset Description	Organisation
12	PSD for Sand	Nafiseh Navabpour	PSD values for sand	UFZ - Department Soil System Science
13	PSD for Loam	Nafiseh Navabpour	PSD values for sand	UFZ - Department Soil System Science
14	Loam/Sand fitted parameters	Maxime Phalempin	Test dataset from Maxime	UFZ - Department Soil System Science
16	Soil water retention	Maxime Phalempin		UFZ - Department Soil System Science
19	SPP 2089 people/Project Information	Nafiseh Navabpour		
20	Test Column Experiment	Susanne Schreiter	This test is created by Susanne	
21	P01_SPE_20181206	Nafiseh Navabpour		
31	P01_SPE_20190110	Eva Lippold		
37	Master_soil analysis_WP1_2016.02.05_su.xlsx			
38	P01_SPE_20181206	Nafiseh Navabpour		
44	P01_SPE_20190307	Eva Lippold		
52	P01_SPE_20190110_1	Eva Lippold		
61	P01_SPE_20191115	Doris Vetterlein	taken on 29th of november 2018 in Bad Lauchstädt out of t...	
62	Test - File Format Dataset	Nafiseh Navabpour		
66	Dataset/Owner Information	Nafiseh	Information about uploaded datasets	

Displaying items 1 - 15 of 15



How do I download a dataset?

To **download** a dataset, you need to have the **Read** permission. The read permission you can find in your **dashboard** close the ID and the name of the dataset.

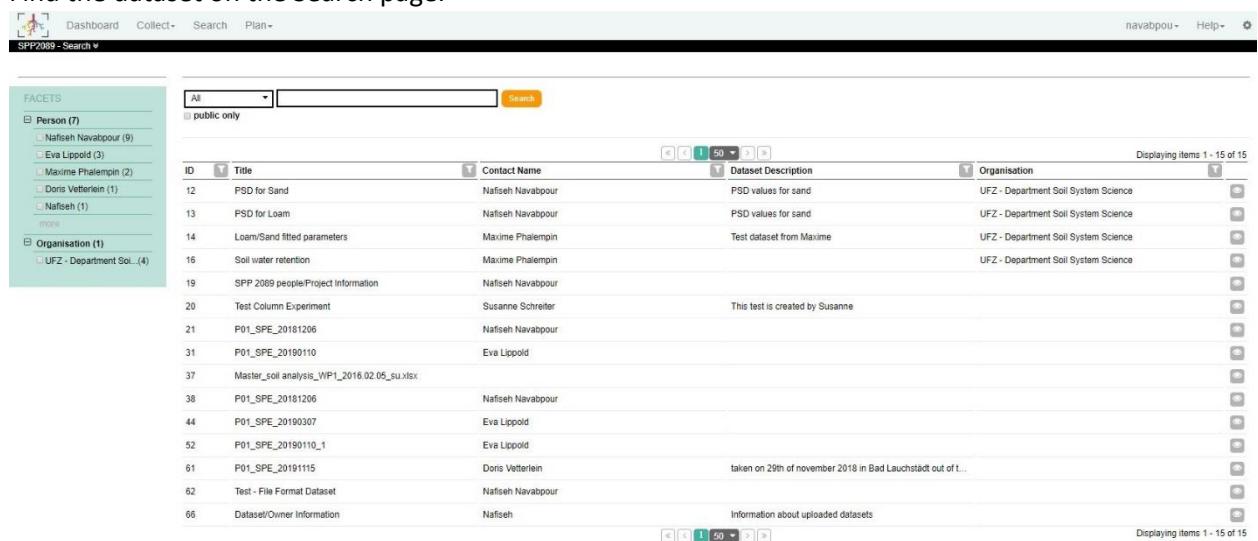


The screenshot shows a table of datasets with columns: ID, Title, Description, Read, Write, Delete, and Grant. The 'Read' column for dataset ID 19 is highlighted with a red box. The dataset details are as follows:

ID	Title	Description	Read	Write	Delete	Grant
12	PSD for Sand	PSD values for sand	✓	✓	✓	✓
13	PSD for Loam	PSD values for sand	✓	✓	✓	✓
19	People/Project information		✓	✓	✓	✓
20	Test Column Experiment	This test is created by Susanne	✓	✓	✓	✓
31	P01_SPE_20190110		✓	✓	✓	✓
38	P01_SPE_20181206	Data from Eva	✓	✓	✓	✓
44	P01_SPE_20190307		✓	✓	✓	✓
61	P01_SPE_20191115	taken on 29th of november 2018	✓	✓	✓	✓
62	Test - File Format Dataset		✓	✓	✓	✓
74	Test_With_PH		✓	✓	✓	✓

If you can find a dataset in your dashboard, go to step 5.

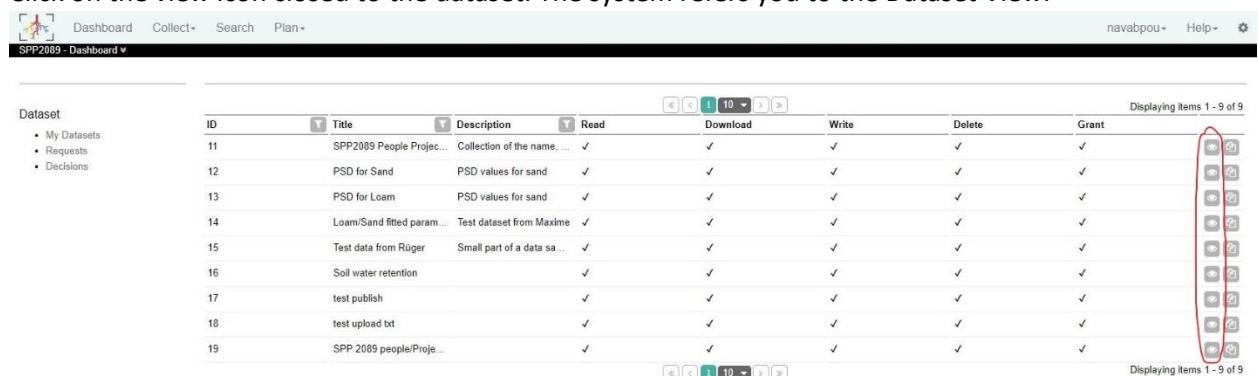
1. Find the dataset on the Search page.



The screenshot shows a table of datasets with columns: ID, Title, Contact Name, Dataset Description, and Organisation. The 'Read' column for dataset ID 19 is highlighted with a red box. The dataset details are as follows:

ID	Title	Contact Name	Dataset Description	Organisation
12	PSD for Sand	Nafiseh Navabpour	PSD values for sand	UFZ - Department Soil System Science
13	PSD for Loam	Nafiseh Navabpour	PSD values for sand	UFZ - Department Soil System Science
14	Loam/Sand fitted parameters	Maxime Phaletpin	Test dataset from Maxime	UFZ - Department Soil System Science
16	Soil water retention	Maxime Phaletpin		UFZ - Department Soil System Science
19	SPP 2089 people/Project information	Nafiseh Navabpour		
20	Test Column Experiment	Susanne Schreiter	This test is created by Susanne	
21	P01_SPE_20181206	Nafiseh Navabpour		
31	P01_SPE_20190110	Eva Lippold		
37	Master_soil analysis_WP1_2016.02.05_su.xlsx			
38	P01_SPE_20181206	Nafiseh Navabpour		
44	P01_SPE_20190307	Eva Lippold		
52	P01_SPE_20191110_1	Eva Lippold		
61	P01_SPE_20191115	Doris Vetterlein	taken on 29th of november 2018 in Bad Lauchstädt out of...	
62	Test - File Format Dataset	Nafiseh Navabpour		
66	Dataset/Owner Information	Nafiseh	Information about uploaded datasets	

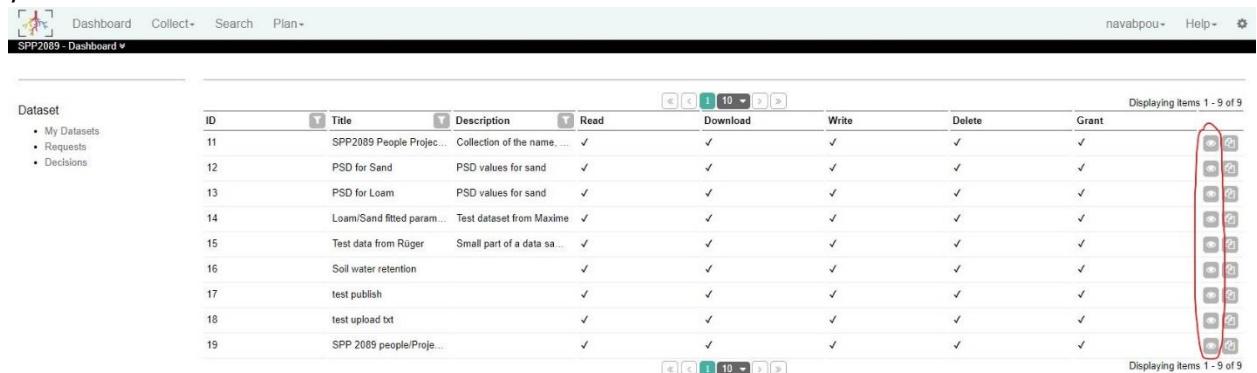
2. Click on the view icon closed to the dataset. The system refers you to the Dataset View.



The screenshot shows a table of datasets with columns: ID, Title, Description, Read, Download, Write, Delete, and Grant. The 'Read' column for dataset ID 19 is highlighted with a red box. The dataset details are as follows:

ID	Title	Description	Read	Download	Write	Delete	Grant
11	SPP2089 People Projec...	Collection of the name, ...	✓	✓	✓	✓	✓
12	PSD for Sand	PSD values for sand	✓	✓	✓	✓	✓
13	PSD for Loam	PSD values for sand	✓	✓	✓	✓	✓
14	Loam/Sand fitted param...	Test dataset from Maxime	✓	✓	✓	✓	✓
15	Test data from Rüger	Small part of a data sa...	✓	✓	✓	✓	✓
16	Soil water retention		✓	✓	✓	✓	✓
17	test publish		✓	✓	✓	✓	✓
18	test upload txt		✓	✓	✓	✓	✓
19	SPP 2089 people/Projec...		✓	✓	✓	✓	✓

3. From the metadata, find who is responsible for the dataset. If the responsible person is not specified, contact the data manager (Nafiseh.navabpour@ufz.de).
4. After that, the dataset responsible permits you to see the dataset, and you will find it on your dashboard.
5. Find the dataset in your dashboard. Click on the view icon closed to the dataset. The system refers you to the Dataset View.



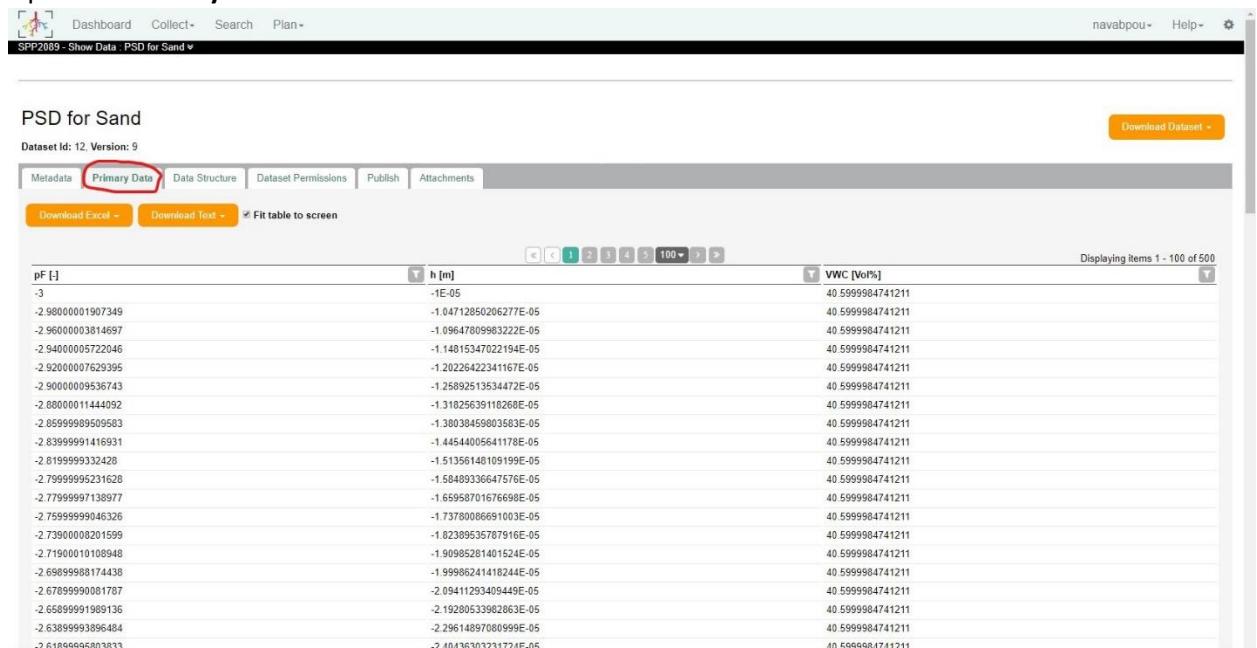
Dataset

- My Datasets
- Requests
- Decisions

ID	Title	Description	Read	Download	Write	Delete	Grant
11	SPP2089 People Projec...	Collection of the name, ...	✓	✓	✓	✓	✓
12	PSD for Sand	PSD values for sand	✓	✓	✓	✓	✓
13	PSD for Loam	PSD values for sand	✓	✓	✓	✓	✓
14	Loam/Sand fitted param...	Test dataset from Maxime	✓	✓	✓	✓	✓
15	Test data from Ruper	Small part of a data sa...	✓	✓	✓	✓	✓
16	Soil water retention		✓	✓	✓	✓	✓
17	test publish		✓	✓	✓	✓	✓
18	test upload txt		✓	✓	✓	✓	✓
19	SPP 2089 people/Projec...		✓	✓	✓	✓	✓

Displaying Items 1 - 9 of 9

6. Open the Primary Data tab.



PSD for Sand

Dataset Id: 12, Version: 9

pF [-]	h [m]	VWC [Vol%]
-3	-1E-05	40.599984741211
-2.98000001907349	-0.04712850206277E-05	40.599984741211
-2.96000003814697	-0.09647809983222E-05	40.599984741211
-2.94000005722046	-0.14015347022194E-05	40.599984741211
-2.92000007629395	-0.20226422341167E-05	40.599984741211
-2.90000009536743	-0.25892513534472E-05	40.599984741211
-2.88000001144092	-0.31025639116268E-05	40.599984741211
-2.85999898509583	-0.3803455803563E-05	40.599984741211
-2.8399991416931	-0.44544005641178E-05	40.599984741211
-2.819999932428	-0.51356148109199E-05	40.599984741211
-2.7999995231628	-0.58480336647576E-05	40.599984741211
-2.77999997138977	-0.65958701676698E-05	40.599984741211
-2.75999999046326	-0.73780066691003E-05	40.599984741211
-2.73900008201599	-0.82309535767916E-05	40.599984741211
-2.71900010108948	-0.90985281401524E-05	40.599984741211
-2.69899980174438	-0.9998624148244E-05	40.599984741211
-2.67899990081787	-0.094129349449E-05	40.599984741211
-2.6589991989136	-0.19280533962863E-05	40.599984741211
-2.6389993896484	-0.29614897080999E-05	40.599984741211
-2.61866664683311	-0.46666666666666E-05	40.599984741211

Displaying Items 1 - 100 of 500

7. Download options are under orange buttons.

a. **Download Excel**

Click this button if you want to download an excel format of a dataset with or without header information.

A freeze header in a Template contains a lot of information about variables, including units and data types, while Excel only contains variable names in the header.

See [How do I work with an Excel Template?](#)

b. **Download Text**

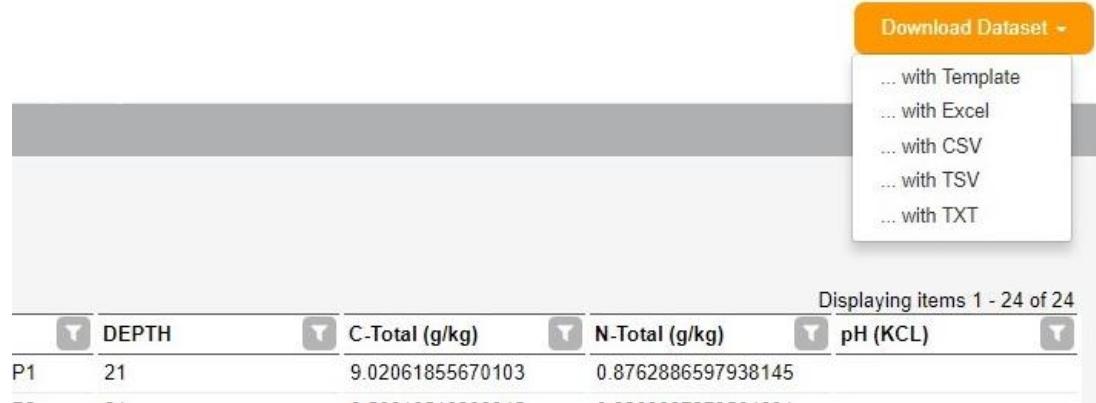
Click this button if you want to download a text format of a dataset. BEXIS 2 offers CSV, TSV, and TXT formats. The CSV format is comma-separated, but TSV and TXT format are tab-separated.

c. **Download data with units**

If you want to download data that contains additional information about unit of measurement, you should select the option “Download data with units.”

d. Download dataset

Click this button if you want to download data and more information about the dataset in one compressed folder.

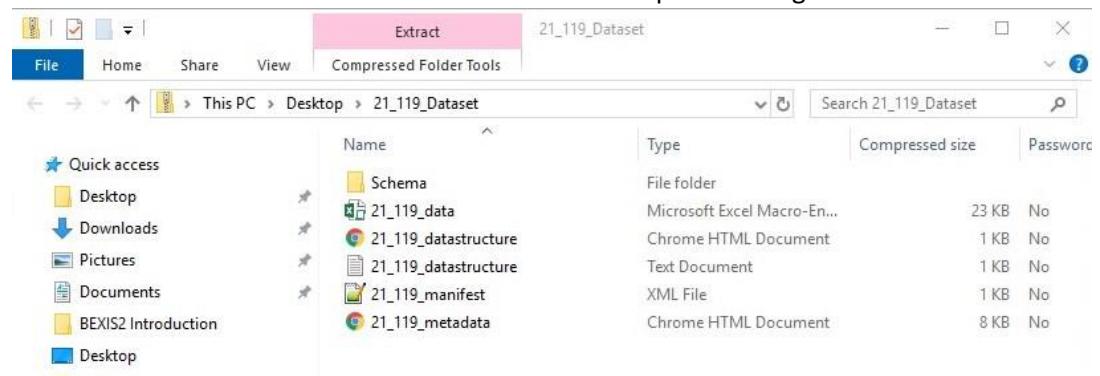


The screenshot shows a software interface with a table of data and a 'Download Dataset' menu. The table has columns: DEPTH, C-Total (g/kg), N-Total (g/kg), and pH (KCL). The data rows are P1 (DEPTH 21, C-Total 9.02061855670103, N-Total 0.8762886597938145) and P2 (DEPTH 21, C-Total 8.6616618768345, N-Total 0.8762886597938145). The 'Download Dataset' menu is open, showing options: ... with Template, ... with Excel, ... with CSV, ... with TSV, and ... with TXT.

	DEPTH	C-Total (g/kg)	N-Total (g/kg)	pH (KCL)
P1	21	9.02061855670103	0.8762886597938145	
P2	21	8.6616618768345	0.8762886597938145	

Displaying items 1 - 24 of 24

You will find your data in your preferred format, two different formats of the metadata structure, two various forms of the data structure, and one or more files contain information about the dataset. You do not need this option for regular use.



The screenshot shows a file explorer window with a compressed dataset folder named '21_119_Dataset'. The folder contains the following files:

Name	Type	Compressed size	Password
Schema	File folder		
21_119_data	Microsoft Excel Macro-En...	23 KB	No
21_119_datastructure	Chrome HTML Document	1 KB	No
21_119_datastructure	Text Document	1 KB	No
21_119_manifest	XML File	1 KB	No
21_119_metadata	Chrome HTML Document	8 KB	No

How do I access BEXIS 2 data through R?

BEXIS 2 APIs is a platform that provides fast and reliable data APIs to access data with no need to download a dataset. This possibility allows you to read online data. Reading online data makes you sure that data is fresh, and you have not lost the last updates.

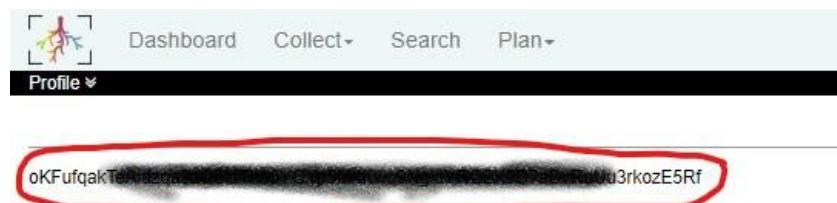
To be able to use BEXIS 2 APIs, you need to find your API key and prepare the R environment.

Get the API key

The API key is a Token that you can find it by choosing the **Token** option under your profile username in the menu.



The token is a long and characterized code that you need it when you want to set up options in the R program.



Prepare the R environment

To be able to exchange data between R statistics and SPP 2089 BEXIS 2 platform, installing and loading following packages is required.

```
install.packages ("usethis")
library (usethis)
install.packages ("devtools")
library (devtools)
```

```
install.packages ("httr")
library (httr)
install.packages ("jsonlite")
library (jsonlite)
install.packages ("XML")
library (XML)
```

If you want to reach data uploaded in BEXIS 2 through R, a specific package calls “rBExIS” is needed. Installing this package is possible only if you download the package on your computer. The folder “rBExIS” you will find in the page Data Management in the SPP 2089 intranet. It also exists on GitHub.

1. Download rBExIS package

- You will find the “rBExIS” package through the SPP 2089 intranet in *Download* and *Data Management* pages. Download and copy it to the R Working Directory.



The screenshot shows the BEXIS2 - Data Management System intranet page. The left sidebar has a navigation menu with 'SPP 2089 Intranet' selected. The main content area displays the BEXIS logo and a brief description of the software. Below the description are download links for the user guide and the R package. The right sidebar contains contact information for Nafiseh Navabpour and a news section.

BEXIS2 - Data Management System

BEXIS RESEARCH DATA MANAGEMENT

BEXIS2 is a Data Management Platform, designed for collaborative projects. The main focuses of this software is on active data (i.e. project life-time). It is not able to store only the tabular data, but also the non-tabular data such as images. BEXIS2 focuses also on data integration and re-use the structures. It means the data structures, variable templates and units of variables could be shared between users to re-use. BEXIS2 is compatible with different languages. Isolated modules could be implemented, install or uninstall in this software.

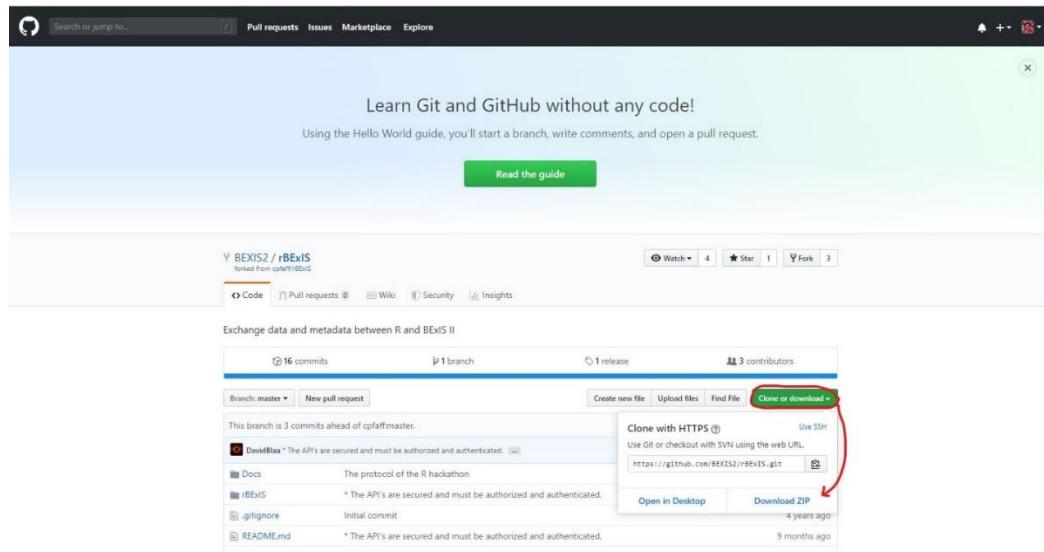
[BEXIS 2 User Guide for SPP 2089 \(6.1 MB\)](#)
[rBExIS - R package for BEXIS 2 \(20 KB\)](#)

Contact
For questions concerning the data management:

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Helmholtz-Zentrum für Umweltforschung
Theodor-Lieser-Straße 4
06120 Halle (Saale)
nafiseh.navabpour@ufz.de

News
23.08.2019
Dear Colleagues, I have updated the BEXIS 2 instructions with a tutorial on accessing uploaded data via R. In the R-statistics course in September we need this guide.

- Download the “rBExIS” package from *GitHub*



1. Open the link <https://github.com/BEXIS2/rBExIS>
 2. Click on the “Clone or Download” button
 3. Click on the “Download ZIP” option
 4. Save the ZIP file in your computer and then un-ZIP it
 5. Copy the sub-folder “rBExIS” (the folder contains DESCRIPTION) in your R Working Directory.
-
2. Install the „rBExIS“ package
 - a) Install from your computer (Recommended)
`Devtools::install ("PATH_TO_THE _rBExIS")`
 - b) Install directly from the GitHub (The new version of the R Studio does not support this function)
`install_github ("BEXIS2/rBExIS", subdir = "rBExIS")`
 3. Load “rBExIS” package

```
library (rBExIS)

load_all ("rBExIS")

check ("rBExIS")

require (rBExIS)
```
 4. Set options for the rBExIS package
`bexis.options()`
`bexis.options("token" = "YOUR_TOKEN")`
`bexis.options("base_url" = "https://spp2089.ufz.de:4433")`

Data access functions

The “rBExIS” package provides two main features to access data through R without download the dataset.

1. Have a list of all dataset Ids

bexis.get.datasets ()

2. Retrieve data from a dataset specified by the dataset Id

bexis.get.dataset_by (id = xy)

Note: replace xy with the dataset Id.

How do I add files to a File format dataset?

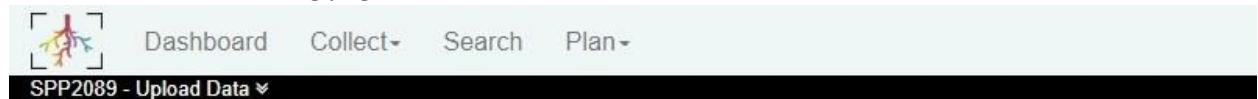
A file format dataset is an unstructured dataset like images or any other files that you want to push them to the BEXIS 2 with no care of their content.

1. Select **Upload Data** under **Collect** menu item.



The screenshot shows the BEXIS 2 interface. At the top, there is a navigation bar with 'Dashboard', 'Collect', 'Search', and 'Plan' buttons. The 'Collect' button is currently selected. A dropdown menu for 'Collect' is open, showing 'Create Dataset', 'Upload Data' (which is highlighted with a red box), 'Import Data', and 'Push Big File'. Below the menu, there is a search bar with the placeholder 'public only' and a 'Search' button. On the left, there is a sidebar titled 'FACETS' with sections for 'Person (0)' and 'Organisation (0)'. The main content area shows a table with columns 'ID', 'Title', and 'Contact Name'. A message at the bottom says 'No records to display.'

2. Select **File** in the following page.



The screenshot shows the 'Upload Data' page. At the top, there is a navigation bar with 'Dashboard', 'Collect', 'Search', and 'Plan' buttons. The 'Collect' button is currently selected. Below the navigation bar, the text 'SPP2089 - Upload Data' is displayed. The main content area is titled 'Add Data or Update Dataset'. It contains a note: 'In order to add to or update data of an existing dataset in the system, please select whether the dataset is structured or unstructured.' Below the note, there are two buttons: 'Tabular' and 'File'. The 'File' button is highlighted with a green background and white text.

3. Click on the **Select** and choose a file from your computer or the drop down list. Then click on the **Next** and go to the next step.

Please note that you can only select one file to upload to an unstructured dataset each time.

Select File

Specify Dataset

Summary

Select File

Please select a data file to be uploaded to the system.

Note: Large data files may take several minutes or hours to transfer, depending on your network speed. The system is freezed until the file has been transferred completely. Please be patient!

For multiple large files you may use the "Push Big Data to Server" option before entering this Upload Wizard

Supported file formats: (*.avi) (*.bmp) (*.csv) (*.dbf) (*.doc) (*.docx) (*.gif) (*.jpg) (*.jpeg) (*.mp3) (*.mp4) (*.pdf) (*.png) (*.shp) (*.shx) (*.tif) (*.txt) (*.xls) (*.xlsm) (*.xlsx) (*.xsd) (*.zip)

Maximum file size: 1024 MB

Select...

Select a data file from your local computer.

Select, please ▾

Select a data file previously uploaded to the server.

4. Select a dataset from the drop-down list that you want to add the selected file to it. Then click on the **Next** button.

Select File

Get File Information

Specify Dataset

Choose Update Method

Validation

Summary

You have selected Dataset: P01_SPE_20181206_24

Your data is stored and managed as part of a dataset.

A dataset may contain one or more of your data files. But all data files within one dataset must be of the same data structure, i.e. in structured datasets the number of variables and their properties must be identical in each file.

(53) P01_SPE_20181206_24

Select an existing dataset to attach your file with.

Prev

(3 of 6)

Next

5. Your update process will complete on the following page. Click on the **Finish** button to go to the dataset view.

For a list of uploaded files, see the **Primary Data** tab.

Raw Data

Dataset Id: 64, Version: 5

Metadata Primary Data Data Structure Dataset Permissions Publish Attachments

Download

Filename	Type	Extention	File size
64_2_maize1.jpg	image/jpeg	.jpg	17.335 kB
64_2_maize2.jpg	image/jpeg	.jpg	117.017 kB
64_2_maize3.jpg	image/jpeg	.jpg	61.881 kB

Note: If you want to delete a file from an unstructured dataset, please contact me at nafiseh.navabpour@ufz.de.

How do I change data uploaded to a tabular format dataset?

Assume that you have uploaded data to an existing dataset, and you want to change data in some cells. It may be the cause of finding errors, and so on.

For example, the table below exists.

ID	First Name	Last Name	Email
1	Eva	Lippold	eva.lippold@ufz.de
2	Maxim	Phalempin	maxime.phalempin@ufz.de
3	Naf	Navabpour	nafiseh.navabpour@ufz.de

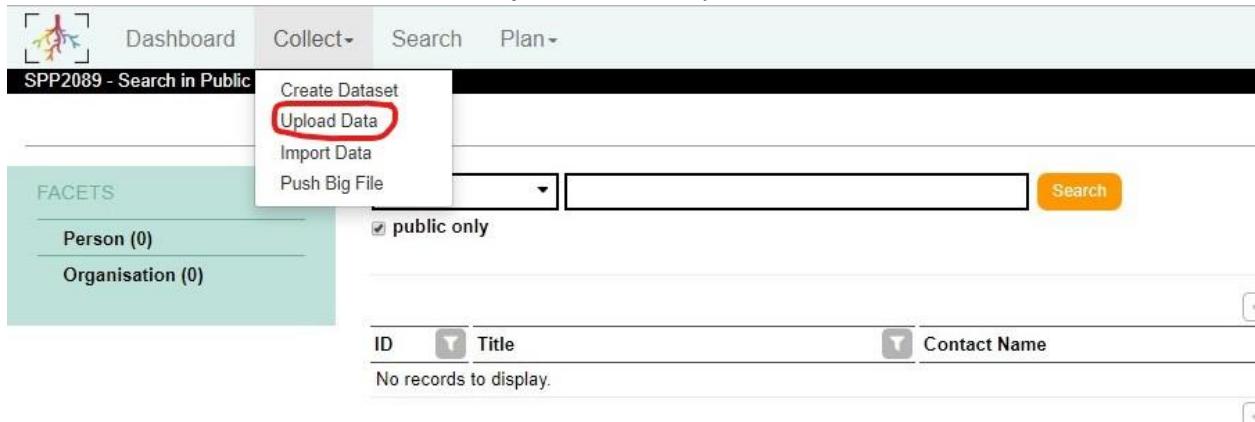
You see that the first name in the third line is incorrect. It should change like this:

ID	First Name	Last Name	Email
1	Eva	Lippold	eva.lippold@ufz.de
2	Maxim	Phalempin	maxime.phalempin@ufz.de
3	Nafiseh	Navabpour	nafiseh.navabpour@ufz.de

Go through the following steps to edit a dataset.

1. Open the data table from your computer.
You can still work with a data table in your computer or have recently downloaded a dataset from the BEXIS 2. No matter what format has your file.
2. Make changes to the data table and save it.
It is essential to keep a data tuple (one or a combination of some variables) as an identifier. The identifier should be unique throughout the dataset. The identifier in our example could be ID, Email, or the tuple of (ID, Email).
3. Now you need to perform the normal upload process in BEXIS 2, except that you must select an update method and specify the identifier.

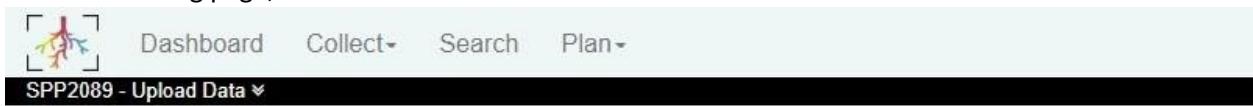
Under the menu item **Collect**, select the **Upload Data** entry.



The screenshot shows the BEXIS 2 interface with the following details:

- Header:** Dashboard, Collect, Search, Plan.
- Submenu 'Collect':** Create Dataset, **Upload Data** (highlighted with a red box), Import Data, Push Big File.
- Search Bar:** SPP2089 - Search in Public, Search button.
- Facets:** FACETS, Person (0), Organisation (0).
- Table View:** ID, Title, Contact Name. A message says "No records to display."

4. On the following page, select **Tabular** as the dataset format.



The screenshot shows the BEXIS 2 interface with a top navigation bar featuring 'Dashboard', 'Collect', 'Search', and 'Plan'. Below the navigation is a black header bar with the text 'SPP2089 - Upload Data'. The main content area is titled 'Add Data or Update Dataset'. At the top of this section are two buttons: 'Tabular' (highlighted in green) and 'File'. The 'Tabular' button is currently selected.

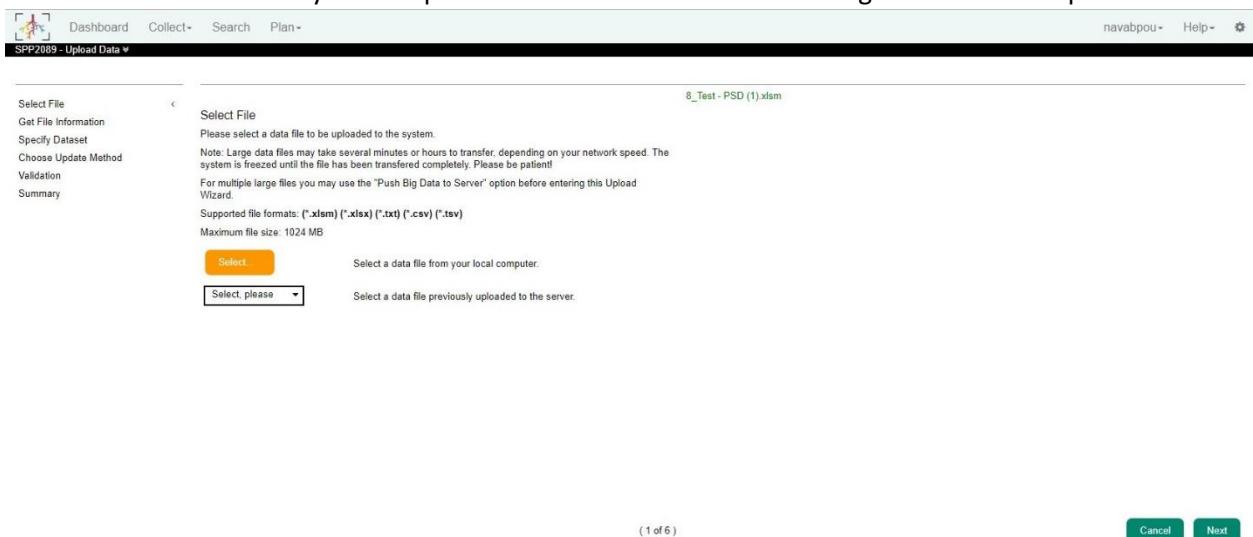
Add Data or Update Dataset

In order to add to or update data of an existing dataset in the system, please select whether the dataset is structured or unstructured.

Tabular

File

5. Select an edited file from your computer. Then click the **Next** button to go to the next step.



The screenshot shows the 'Select File' step of the upload wizard. On the left, a sidebar lists 'Select File', 'Get File Information', 'Specify Dataset', 'Choose Update Method', 'Validation', and 'Summary'. The main area is titled 'Select File' with the sub-instruction 'Please select a data file to be uploaded to the system'. It includes a note about large files and a note about using the 'Push Big Data to Server' option. Below this is a 'Supported file formats' list: (*.xslm) (*.xlsx) (*.txt) (*.csv) (*.tsv) and a 'Maximum file size: 1024 MB'. There are two buttons: 'Select...' (highlighted in orange) and 'Select, please'. At the bottom right are 'Cancel' and 'Next' buttons. The status bar at the top right shows 'navabpou' and 'Help'.

6. Specify the dataset in which you want to change data. Then click on the **Next** button.



The screenshot shows the 'Specify Dataset' step of the upload wizard. On the left, a sidebar lists 'Select File', 'Get File Information', 'Specify Dataset', 'Choose Update Method', 'Validation', and 'Summary'. The main area is titled 'Specify Dataset' with a note about datasets being stored and managed as part of a dataset. It includes a note about datasets containing multiple files with identical structures. Below this is a dropdown menu showing '(53) P01_SPE_20181206_24' (highlighted in red). To the right is the instruction 'Select an existing dataset to attach your file with'. At the bottom right are 'Cancel' and 'Next' buttons. The status bar at the top right shows 'navabpou' and 'Help'.

7. In the following page, select **Update** as the update method.

8. Mark variables that you want to specify as identifiers.

Select File

Get File Information

Specify Dataset

Choose Update Method

Validation

Summary

Choose Update Method

Update

Append

Update the rows from the files to the dataset. Therefore define a unique primary key.

ID

First Name

Last Name

Email

9. Click on the **Check** button, and BEXIS 2 will indicate if your identifier is unique.

Select File

Get File Information

Specify Dataset

Choose Update Method

Validation

Summary

Choose Update Method

Update

Append

Update the rows from the files to the dataset. Therefore define a unique primary key.

ID

First Name

Last Name

Email

Primarykeys:

- ID
- Email
- Unique!!!

Check None All

10. Click on the **Next** button.

Please note that the system blocks your progress in this step if your identifier is not unique.

11. Click the **Validate** button on the following page.

Select File

Get File Information

Specify Dataset

Choose Update Method

Validation

Summary

Validation

With this step the selected data file is validated against the selected data structure. Both, the structure of the data (e.g. variable properties) and whether the data values fit to the specified structure (e.g. data type, value range) is evaluated.

Validate

Validate selected data file against a given data structure.

12. Click on the **Next** button if your upload is validated.
13. The following page is the last page of the update procedure contains dataset information.
Click on the **Finish** button to go to the dataset view.

Note: If your dataset does not contain a unique primary key in any row, BEXIS 2 adds the row to the dataset.

How do I add rows to a tabular dataset?

Assume that you have uploaded data to an existing dataset, and you want to add more rows to it.

For example, the table below exists.

ID	First Name	Last Name	Email
1	Eva	Lippold	eva.lippold@student.uni-halle.de
2	Maxim	Phalempin	maximephalempin@gmail.com
3	Nafiseh	Navabpour	nafiseh.navabpour@ufz.de

You want to add a new person to the list as follows:

ID	First Name	Last Name	Email
1	Eva	Lippold	eva.lippold@ufz.de
2	Maxim	Phalempin	maxime.phalempin@ufz.de
3	Nafiseh	Navabpour	nafiseh.navabpour@ufz.de
4	Doris	Vetterlein	doris.vetterlein@ufz.de

Complete the following steps to add rows to a dataset.

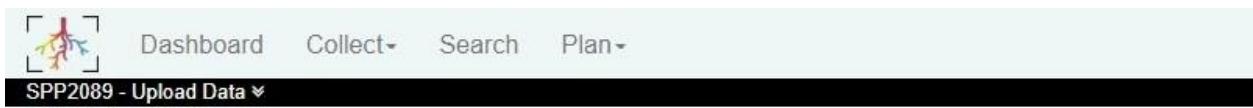
1. Open the data table from your computer.
You can still work with a data table in your computer or have recently downloaded a dataset from the BEXIS 2. No matter what format has your file.
2. Add new rows to the data table and save it.
3. Now you need to perform the normal upload process in BEXIS 2, except that you must choose an update method.

Under the menu item **Collect**, select the **Upload Data** entry.



The screenshot shows the BEXIS 2 interface. At the top, there is a navigation bar with 'Dashboard', 'Collect', 'Search', and 'Plan' buttons. Below this, a sub-menu for 'Collect' is open, showing options: 'Create Dataset', 'Upload Data' (which is highlighted with a red box), 'Import Data', and 'Push Big File'. To the right of the sub-menu, there is a search bar with the placeholder 'public only' and a 'Search' button. On the left, there is a sidebar titled 'FACETS' with sections for 'Person (0)' and 'Organisation (0)'. At the bottom, there is a table with columns 'ID', 'Title', and 'Contact Name', and a message 'No records to display.'

4. On the following page, select **Tabular**.



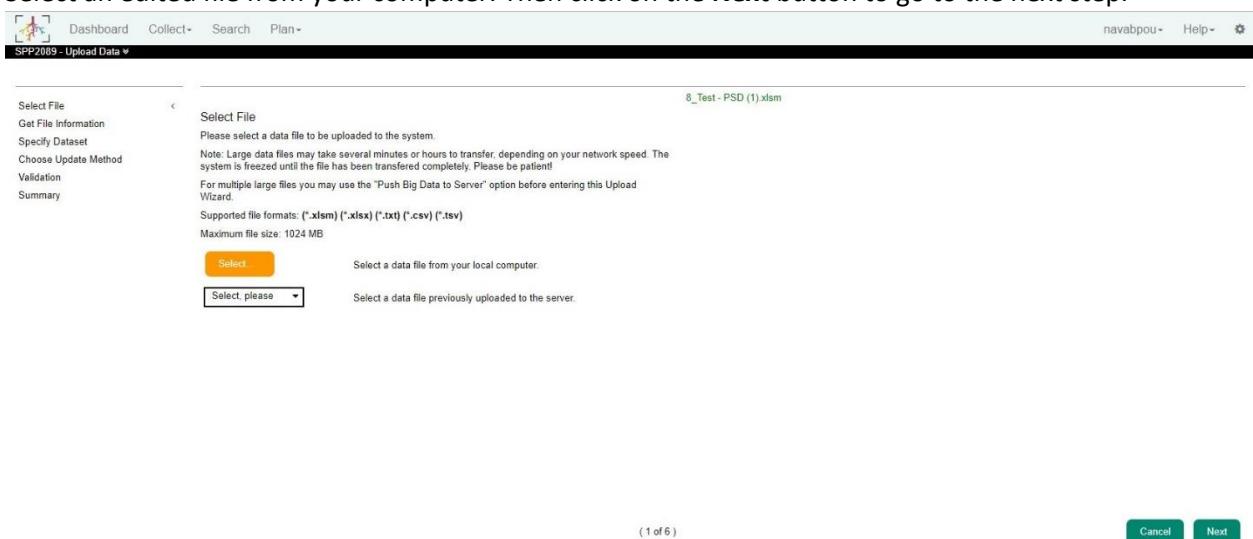
Add Data or Update Dataset

In order to add to or update data of an existing dataset in the system, please select whether the dataset is structured or unstructured.

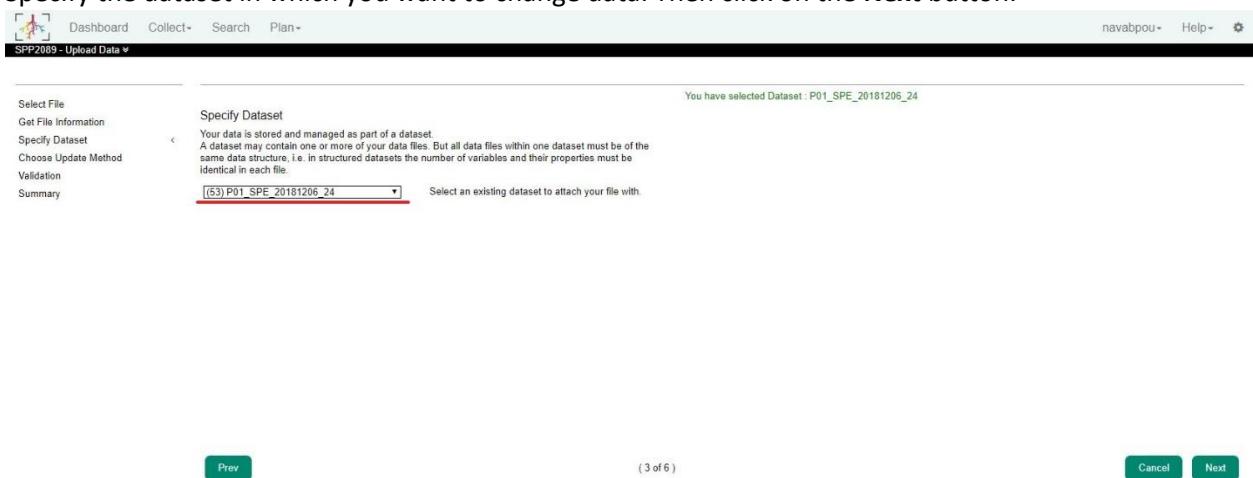
Tabular

File

5. Select an edited file from your computer. Then click on the **Next** button to go to the next step.



6. Specify the dataset in which you want to change data. Then click on the **Next** button.



7. Select **Append** as the update method and Click on the **Next**.

Select File

Get File Information

Specify Dataset

Choose Update Method

Validation

Summary

Choose Update Method

Update

Append

Add the rows from the files to the dataset only.

8. Click the **Validate** button on the following page.

Select File

Get File Information

Specify Dataset

Choose Update Method

Validation

Summary

Validation

With this step the selected data file is validated against the selected data structure. Both, the structure of the data (e.g. variable properties) and whether the data values fit to the specified structure (e.g. data type, value range) is evaluated.

Validate

Validate selected data file against a given data structure.

Prev

(5 of 6)

Next

Cancel

Finish

9. Click on the **Next** button if your upload is validated.
10. The following page is the last page of the update procedure contains dataset information.
11. Click on the **Finish** button to go to the dataset view.

How do I add columns to a tabular dataset?

Assume that you have uploaded data to an existing dataset, and you want to add columns to it.

For example, the table below exists.

Table 1

ID	First Name	Last Name	Email
1	Eva	Lippold	eva.lippold@ufz.de
2	Maxim	Phalempin	maxime.phalempin@ufz.de
3	Nafiseh	Navabpour	nafiseh.navabpour@ufz.de
4	Doris	Vetterlein	doris.vetterlein@ufz.de

You want to add more information to each person, e.g., *Gender*.

Table 2

ID	First Name	Last Name	Email	Gender
1	Eva	Lippold	eva.lippold@ufz.de	F
2	Maxim	Phalempin	maxime.phalempin@ufz.de	M
3	Nafiseh	Navabpour	nafiseh.navabpour@ufz.de	F
4	Doris	Vetterlein	doris.vetterlein@ufz.de	F

In BEXIS 2 a table is stored and managed as part of a tabular dataset based on its data structure. So two tables above do not have the same data structure (*Table 1* has four and *Table 2* has five variables). Then you must upload the second table as a new dataset with a new data structure.

BEXIS 2 provides two operational features:

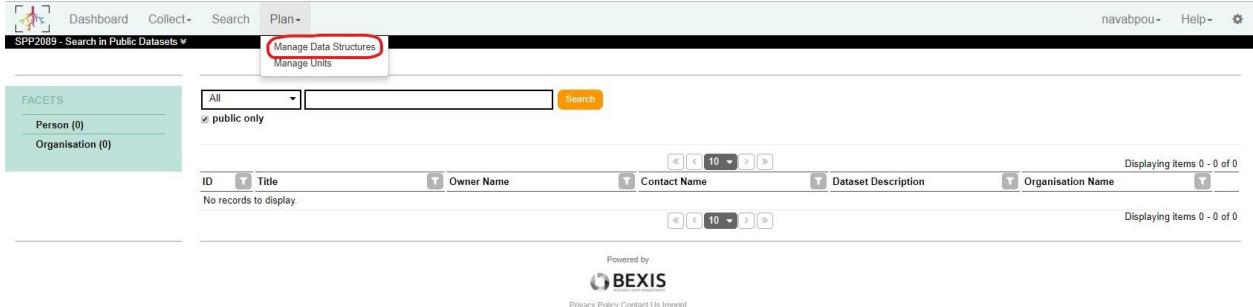
- **Copy Data Structure** creates a new data structure with the same variables.
- **Copy Dataset** creates a new dataset with the same metadata.

These two functions reduce some required actions. You must only complete the following steps.

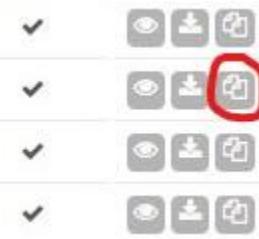
- I. Make a copy of the old data structure
- II. Add new variables (in our case, Gender)
- III. Create a copy of the old dataset
 - a. Link the new data structure to the new dataset
 - b. Enter a new name for the new dataset
- IV. Upload data

How do I copy a Data Structure?

1. Choose a data structure in the **Manage Data Structures** under the menu item **Plan**.



2. Click the **Copy** button next to the data structure.



3. Change the name of the new data structure to a non-existent name and save it.

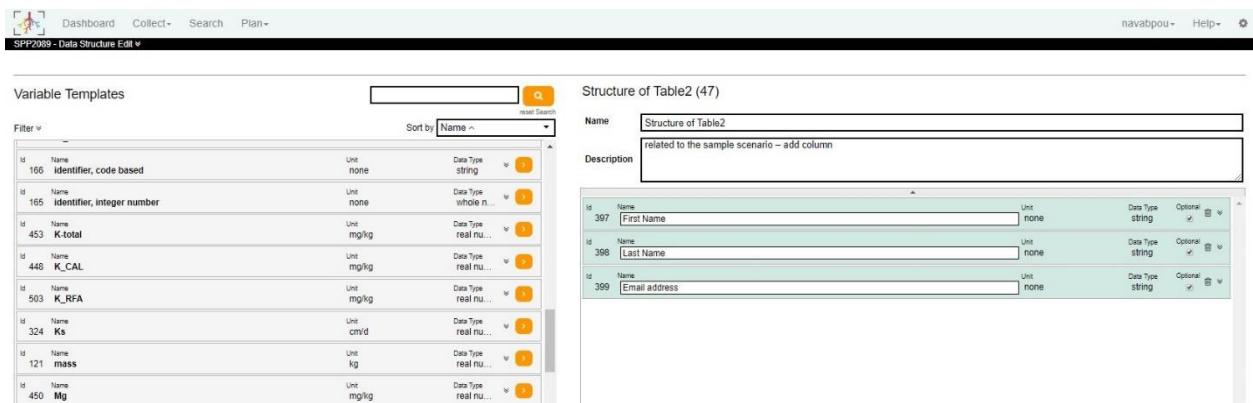
How do I edit an existing Data Structure?

You can edit a data structure before you link it to a dataset.

1. Open the **Data Structure Edit** by clicking the **Edit** button.



2. Add variables that you want to add to the data structure by clicking the orange right arrow next to the variable.

A screenshot of the 'Data Structure Edit' screen. On the left, there is a table titled 'Variable Templates' with columns for 'Name', 'Unit', 'Data Type', and 'Options'. On the right, there is a table titled 'Structure of Table2 (47)' with columns for 'Name', 'Unit', 'Data Type', and 'Options'. The variable 'First Name' is selected in the right table.

3. Change the name of the variable in your favorite name and save your changes by clicking **Save**.

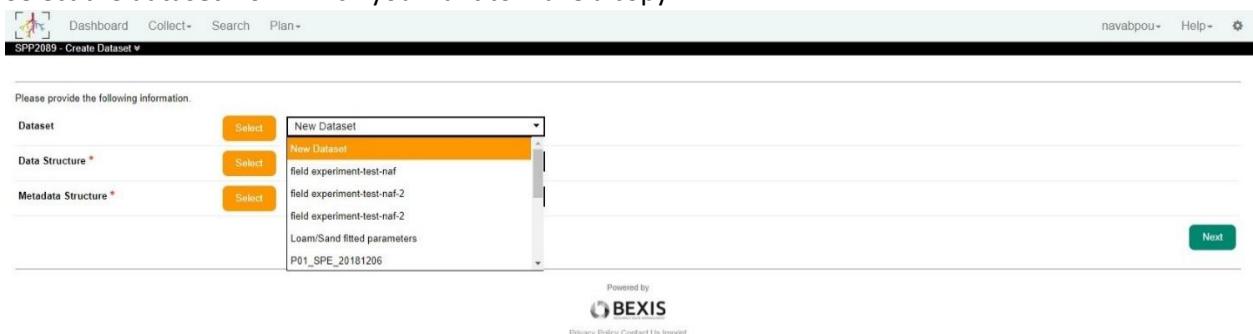
How do I create a copy of a dataset?

1. Open the procedure **Create dataset** under the menu item **Collect**.



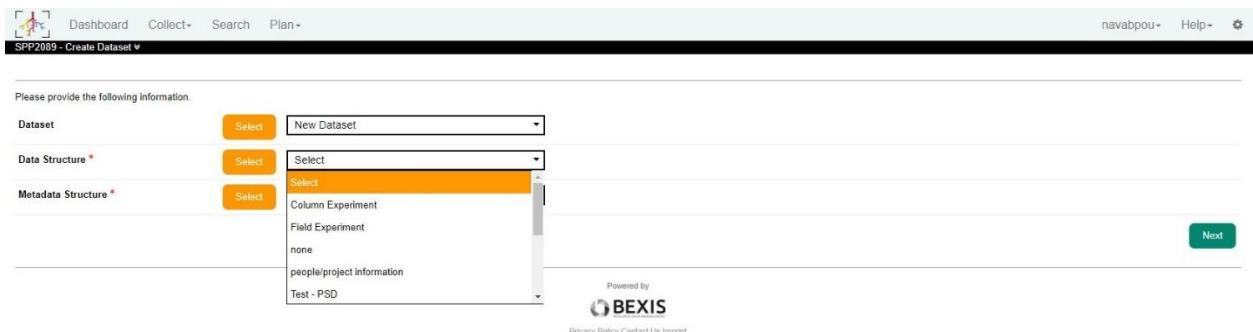
The screenshot shows the BEXIS 2 interface with the 'Create Dataset' button highlighted in red. The interface includes a navigation bar with 'Dashboard', 'Collect', 'Search', and 'Plan' items. Below the navigation is a search bar with 'SPP2089 - Search in Public' and a 'Create Dataset' button. A 'FACETS' sidebar on the left shows 'Person (0)' and 'Organisation (0)'. The main area displays search results for 'Title', 'Owner Name', 'Contact Name', 'Dataset Description', and 'Organisation Name'. The footer includes the BEXIS logo and links to 'Privacy Policy', 'Contact Us', and 'Imprint'.

2. Select the **dataset** from which you want to make a copy.



The screenshot shows the 'Create Dataset' step. The 'Dataset' dropdown is open, showing 'New Dataset' as the selected option. Other options include 'New Dataset', 'field experiment-test-naf', 'field experiment-test-naf-2', 'field experiment-test-naf-2', 'Loam/Sand fitted parameters', and 'P01_SPE_20181206'. A 'Next' button is visible on the right.

3. Link the dataset to a favorite Data Structure.



The screenshot shows the 'Create Dataset' step. The 'Data Structure' dropdown is open, showing 'Select' as the selected option. Other options include 'Select', 'Column Experiment', 'Field Experiment', 'none', 'people/project information', and 'Test - PSD'. A 'Next' button is visible on the right.

4. Change the title of the dataset to be unique.



The screenshot shows the 'Create Dataset' step. The 'Title' input field is empty, with a placeholder 'Title' and a small icon. The 'Description' and 'Representation' sections are also visible.

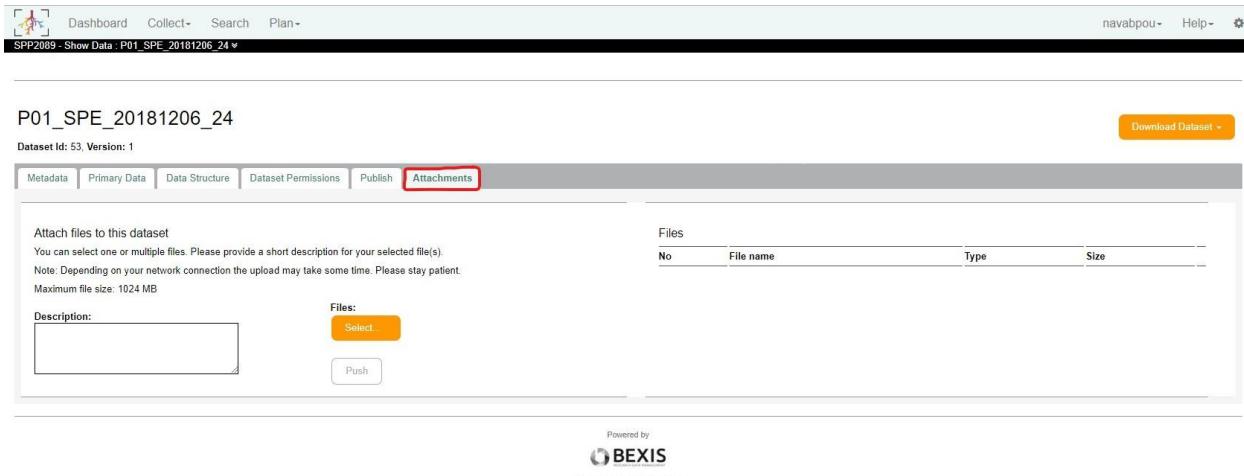
5. Click the **Save** button.

Note: If you want to delete the old dataset, please send me the ID and the name of that dataset (nafiseh.navabpour@ufz.de).

How do I add/remove attachments?

If you need to attach files to your dataset, go through the following steps. A file could be additional images, word, pdf or text files, etc.

1. Select the **Attachment** tab on the dataset view.



P01_SPE_20181206_24

Dataset Id: 53, Version: 1

Attachments

Attach files to this dataset

You can select one or multiple files. Please provide a short description for your selected file(s).
Note: Depending on your network connection the upload may take some time. Please stay patient.
Maximum file size: 1024 MB

Description:

Files:

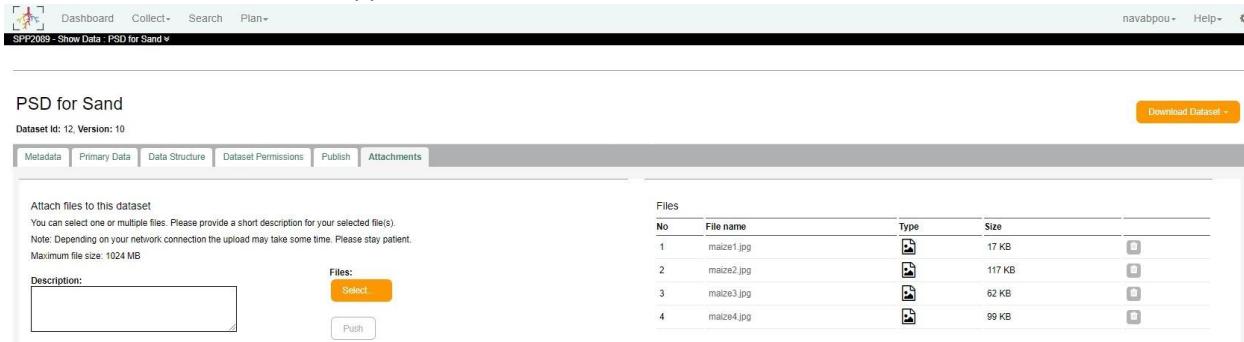
Select...

Push

No	File name	Type	Size
1	maize1.jpg		17 KB
2	maize2.jpg		117 KB
3	maize3.jpg		62 KB
4	maize4.jpg		99 KB

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2. Click on the **Select** and choose one or multiple files from your computer. Each file should be smaller than 1GB.
3. Click the **Push**, and files will appear in a list.



PSD for Sand

Dataset Id: 12, Version: 10

Attachments

Attach files to this dataset

You can select one or multiple files. Please provide a short description for your selected file(s).
Note: Depending on your network connection the upload may take some time. Please stay patient.
Maximum file size: 1024 MB

Description:

Files:

Select...

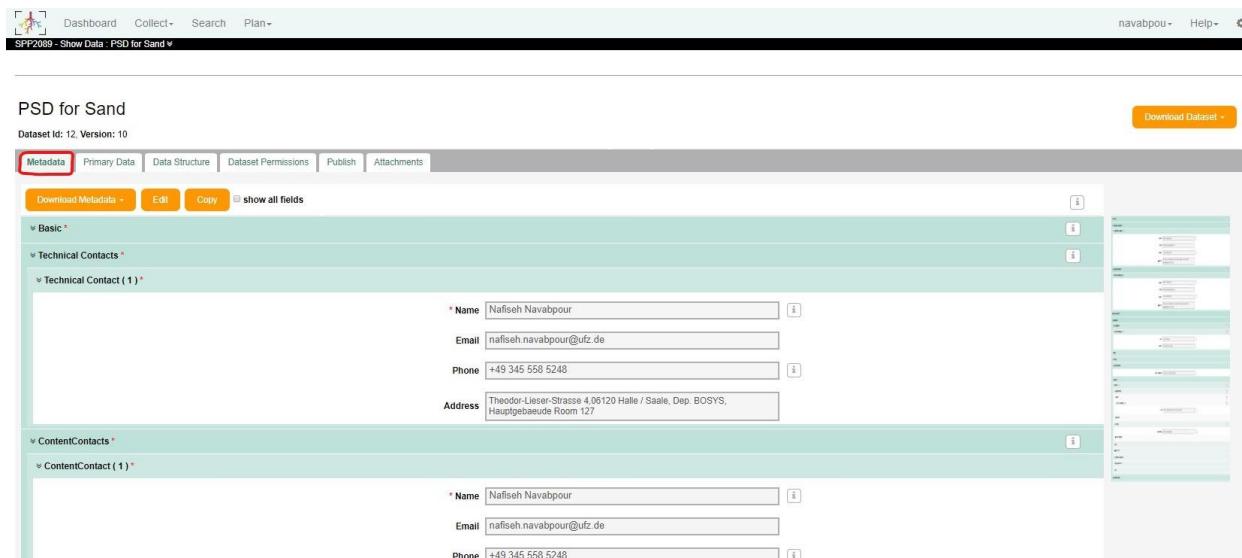
Push

No	File name	Type	Size
1	maize1.jpg		17 KB
2	maize2.jpg		117 KB
3	maize3.jpg		62 KB
4	maize4.jpg		99 KB

To **delete** a file, use the trash icon next to the file.

How do I edit the metadata?

The metadata provides information about your dataset. The metadata formula will open as default when you open a dataset view.



PSD for Sand

Dataset Id: 12, Version: 10

navabpour - Help - 

SPP2089 - Show Data - PSD for Sand v

Metadata Primary Data Data Structure Dataset Permissions Publish Attachments

Download Metadata Edit Copy show all fields

Basic

Technical Contacts

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Click on the **Edit** button to be able to edit the metadata.

Don't forget to **save** your changes.