

BExIS 2.4.0

Data Planning Module

User Guide

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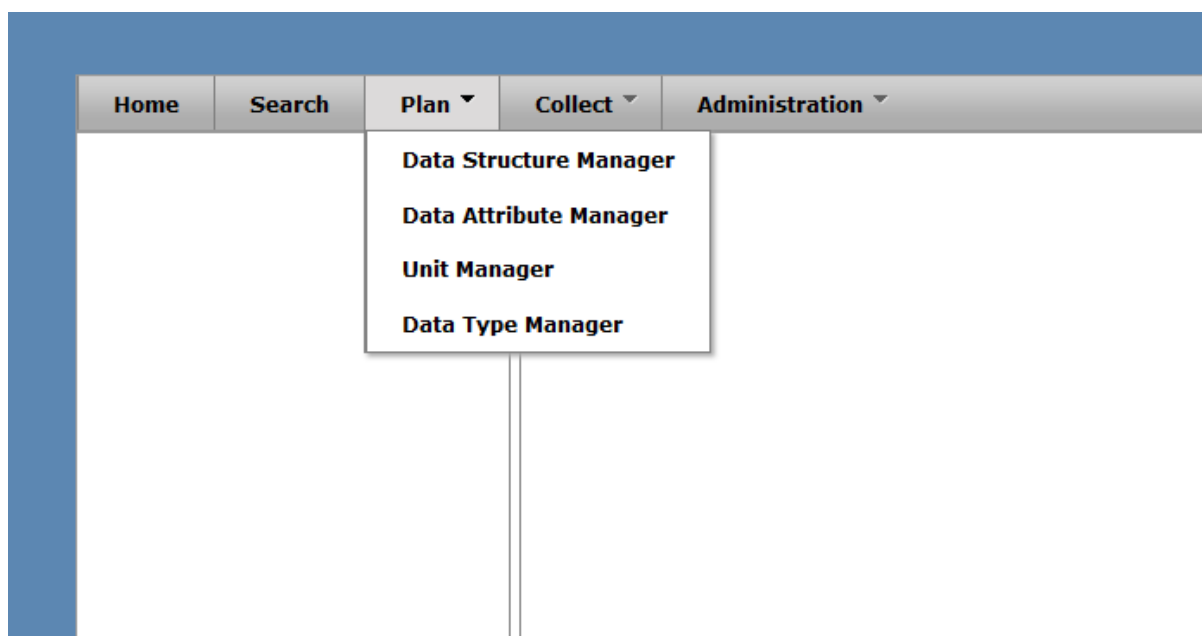
Overview

In BExIS your data is stored and managed as part of a dataset. 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. It is up to the user or the data manager of a project to define such Data Structures. This is what the Data Planning Module is for.

The module is called “Data Planning” since it is good practice to specify the Data Structure before collecting your data in the field or the laboratory. Your data can only be uploaded to the system (using the Data Collection Module) if there is a corresponding Data Structure already existing.

A Data Structure contains one or more Data Attributes. Each Data Attribute is defined by its Data Type, a Unit, and a unique name. So defining Data Types and Units would be the first step, if they are not available yet. In a typical project scenario, the responsible data(base) manager would have created the most common Data Types and Units.

The system encourages reuse of Data Attributes, as well as Data Types and Units. For example, there should be only one Data Attribute for temperature values with a Data type of ‘float’ and measured in degree Celsius (i.e. unit). All datasets containing such temperature measurements should use this data attribute in their data structure. The advantage of such reuse is not only to avoid redundancy (e.g. different names for same thing), but is foremost to enable integration of identical variables across different datasets for large synthesis tasks later on.

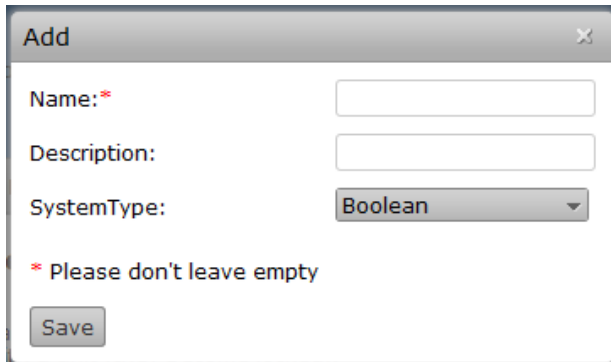


Data Type Manager

With the Data Type Manager you are able to create, modify and delete Data Types. They are required to specify Data Attributes.



Create a Data Type

- Open **Plan > Data Type Manager**
- Click on the **Add Data Type** button



- Fill the **Name** and the **Description** field
- Choose **System Type** (is Data Type used form the System to Store values of the Data Attributes using this Data Type)
- Click **Save button**
- The Data Type is stored if all information are correct and it is not a duplicate of an existing Data Type.

Edit/Delete a Data Type

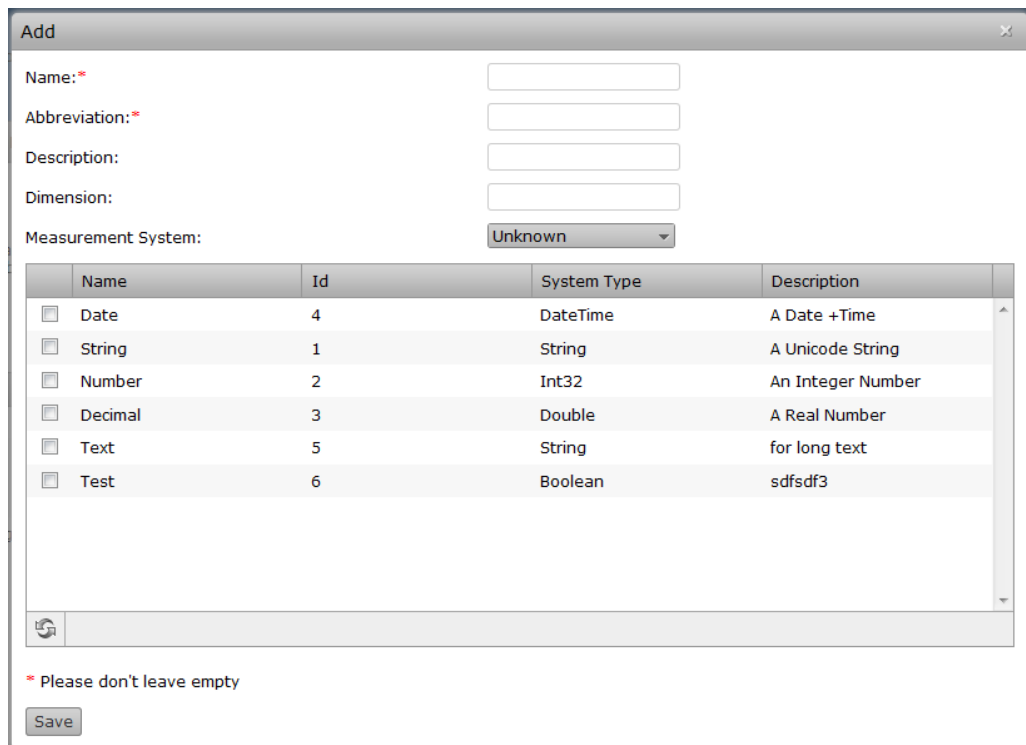
- Open **Plan > Data Type Manager**
- To delete a Data Type click the delete button  or the edit button  for editing
- For editing a Unit follow steps 3 – 6 from **Create a Data Type** part

Unit Manager

With the Unit Manager you are able to create, modify and delete Units. Units may be required to define Data Attributes.

Create a Unit

- Open **Plan > Unit Manager**
- Click on the **Add Unit** button



The 'Add' dialog box contains the following fields and a table:

- Name:*
- Abbreviation:*
- Description:
- Dimension:
- Measurement System: Unknown



	Name	Id	System Type	Description
<input type="checkbox"/>	Date	4	DateTime	A Date +Time
<input type="checkbox"/>	String	1	String	A Unicode String
<input type="checkbox"/>	Number	2	Int32	An Integer Number
<input type="checkbox"/>	Decimal	3	Double	A Real Number
<input type="checkbox"/>	Text	5	String	for long text
<input type="checkbox"/>	Test	6	Boolean	sdfsdf3

* Please don't leave empty

Save

- Fill the **Name, Abbreviation, Description, Dimension** fields
- Choose **Measurement System** and **Associated Data Types** (optional)
- Click **Save button**
- The Unit is stored if all information are correct and it is not a duplicate of an existing Unit

Edit/Delete a Unit

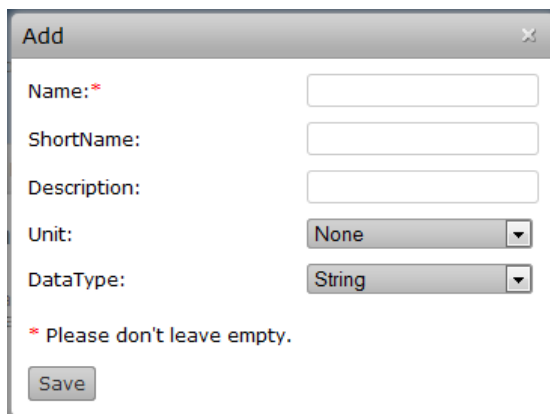
- Open **Plan > Unit Manager**
- To delete a Unit click the delete button  or the edit button  for editing
- For editing a Unit follow steps 3 – 6 from **Create a Unit** part

Data Attribute Manager

With the Data Attribute Manager you are able to create, modify and delete Data Attributes. Data Attributes are required to create Data Structures. In BExIS Data Attributes are generic variables defined by a specific Data Type and Unit. For example, if you would like to create a Data Structure for a Dataset containing occurrences of 10 different species, each in a separate column, you would need only one Data Attribute (e.g. Name: Count; Data Type: Integer, Unit:none). When creating the Data Structure you would use this Data Attribute multiple times to specify the different Variables. Variables are unique instances of Data Attributes. Once a Data Attribute is linked to a Variable in a Data Structure (i.e. is “in use”) it cannot be edited anymore.

Create a Data Attribute

- Open **Plan > Data Attribute**
- Click on the **Add Data Attribute** button





The screenshot shows a dialog box titled "Add" with a close button (X) in the top right corner. It contains the following fields and controls:

- Name:** * (required) with an empty text input field.
- ShortName:** with an empty text input field.
- Description:** with an empty text input field.
- Unit:** with a dropdown menu currently set to "None".
- Data Type:** with a dropdown menu currently set to "String".

Below the fields, there is a red asterisk followed by the text: "* Please don't leave empty." At the bottom left of the dialog is a "Save" button.

- Fill the **Name**, **Short Name** and the **Description** field
- Choose a **Unit** and a **Data Type**
- Click **Save button**
- Data Type is stored if all information are correct and it is not an duplicate

Edit/Delete a Data Type

- Open **Plan Data Attribute**
- To delete a Data Attribute click the delete button  or the edit button  for editing
- For editing a Unit follow steps 3 – 6 from **Create a Data Attribute** part

Data Structure Manager

The Data Structure Manager is a tool to create, modify and delete Data Structures. In BExIS Data Structures can be of two types: Structured and Unstructured (undefined). Structured Data is all data where the internal structure of the data is known to the system, i.e. it can be modelled in variables. In general, all tabular data stored in Excel, CSV or similar files can be considered structured data.

In contrast, unstructured data is data where there is no structure or where the structure is not known to the system. In these cases the data structure is just an empty container with a name and a description only. Although it may seem confusing to have an unstructured Data Structure, it is good practice to create different unstructured data structures for different data resources (e.g. image, video, audio files, plain text, etc.). Unstructured data structures may also be used to reference external data resources or databases.

Create a Data Structure

- Open **Plan > Data Structure Manager**
- Choose **Create Structured** or **Create Unstructured**

New Data Structure

Info:		Description:
Name	<input type="text" value="New Data Structure"/>	<input type="text"/>
Number of Variables:	0	
Data Structure ID:	0	
<input type="button" value="Save"/>		

- Type the Name of your Data Structure in the **Name** field and a Description in the **Description** field
- Click the **Save** button

Add a Variable to a Data Structure

- Open **Plan > Data Structure Manager**
- Select a Data Structure from the **tree** on the Left side

Demo Data Structure

Name:

Demo Data Structure

Description:

Number of Variables: **No Variables**

Data Structure ID: 19

Save

Download

Add Variables

Datasets

Delete

Functions	
Name	
Optional	
VariableID	
ShortName	
Description	
Unit	
Data Type	
	

- Click the **Add Variable** button

Add_Variable

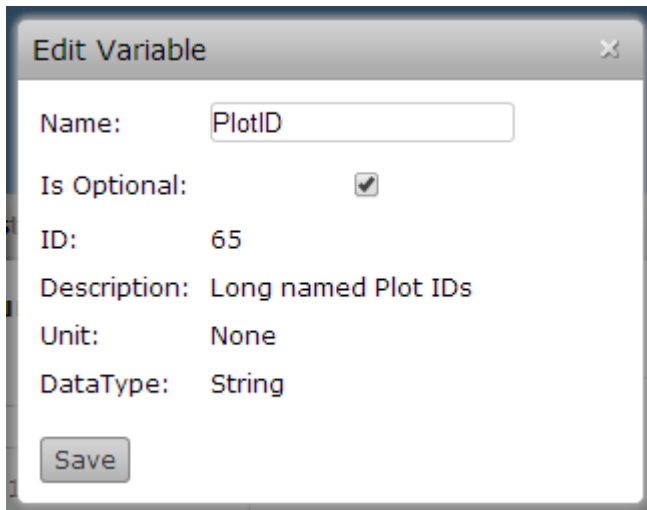
Save

	Name	Id	Short Name	Description	Classification	Unit	Data Type
<input type="checkbox"/>	PlotID	20	PlotID	Long named Plot IDs		Gram	String
<input type="checkbox"/>	Ecke	21	Ecke	corner of the EP which is in center, if -1, then around original plot center			String
<input type="checkbox"/>	roughness average	22	rough_avg	surface/ground ratio			Decimal
<input type="checkbox"/>	roughness standard derivation	23	rough_sd	surface/ground ratio standard derivation			Decimal
<input type="checkbox"/>	ground hits	24	groundHits	fraction of echos hitting ground			Decimal
<input type="checkbox"/>	Identifier	25	ID	internal numbering of the data sets			Number
<input type="checkbox"/>	Family	26	Family	taxonomic rank family			String
<input type="checkbox"/>	Species	27	Species	taxonimc rank species			String
<input type="checkbox"/>	individuals total	28	ind_total	total number of sampled specimens			Number
<input type="checkbox"/>	test_001	81	ghfgfhf	fgfh		None	eej
<input type="checkbox"/>	EP PlotID	29	EP_PlotID	Name for experimental plots		None	String
<input type="checkbox"/>	Plec_sp	30	Plec_sp	Activity of Plecotus sp. Including both species Plecotus auritus and Plecotus austriacus			Number

- Mark all **Attributes** you want to add an click the **Save** Button (to add one Attribute multiple times just repeat step 3 and 4)

Edit/Remove a Variable

- Open **Plan > Data Structure Manager**
- Select a Data Structure from the **tree** on the Left side
- To delete a Variable click the delete button **X** or the edit button **✎** for editing (the Variable is deletable/editable if the Data Structure is not used by an Dataset)



- If you use one Attribute multiple times you should change the name of the Variable and click Save

Delete a Data Structure

- Open **Plan > Data Structure Manager**
- Select a Data Structure from the **tree** on the Left side
- Click the **Delete** button (the Data Structure is deletable if the Data Structure is not used by an Dataset)