

BEXIS 2.11.0 Release Notes 27.11.2017

This is the long awaited release where we addressed some of the grand challenges of BEXIS 2, such as the modularization and performance. Most of these things happen “under the hood”, so end-users may not even notice the differences, except of a better performance and a few additional features. However, there is quite a list of additional features and changes to support system administrators, data managers and developers of BEXIS 2 instances. One specific goal for this release was to prepare BEXIS 2 so that projects running a BEXIS 1 instances are now able to migrate to the new system without any cutbacks.

Here are some highlights of this release, more features and changes are in the sections below:

End-User Features

We added a new data import feature that extracts the data structure from Excel files allowing users to ingest data into BEXIS 2 much easier. This feature, originally developed by our partner project CRC Aquadiva, has now become part of the core BEXIS 2 system.

BEXIS 2 now includes a notification framework. In a first implementation, confirmation emails are sent upon user registration and password reset to verify an email account.

In addition to the data publication workflow from BEXIS to GFBio.org, a first version of a similar workflow now supports data publication with Pensoft’s data journals (e.g. the Biodiversity Data Journal). The workflow towards GFBio.org has been adapted as well to reflect changes in the GFBio API and to create specific data packages for GFBio repositories.

System admin / data manager features

With this release, BEXIS 2 is now fully modularized, allowing system administrators to un-/install and de-/activate modules in a running instance of BEXIS 2. All existing modules have been refactored to fit the new modularization framework.

A completely new module has been added to manage information about organizations, institutes, projects, people and their relationships within a BEXIS instance. Managing such information in a central place reduces redundancy and facilitates re-use of information throughout the system. This so-called Party Package can be freely customized at instance initiation time.

Creating and managing mappings between metadata structures (i.e. schemas) and elements of the new party package are now available within the Metadata Structure Manager. This allows end users to re-use information from their personal profile or information managed through the party package.

Authentication in BEXIS 2 now operates on ASP.NET Core Identity 3.0. This provides more advanced security features and single sign-on through external OpenID identity providers.

BEXIS 2 now handles entities other than datasets, such as events, resources, etc. Module developers can specify new entities as needed. These entities are also part of the entity permission

management.

Based on the new notification framework emails are now sent to a specified email address on all Create/Update/Delete operations on datasets.

We extended the properties of tenants which can be configured through the configuration files.

I. Software Information

- Name: BEXIS
- Version: 2.11.0
- Application Type: Web Application
- Platform: Windows

II. License Agreement

The contents included in this software are licensed to you, the end user. Your use of BEXIS software is subject to the terms of an End User License Agreement (EULA) accompanying the software and located in the \License subdirectory. You must read and accept the terms of the EULA before you access or use BEXIS software. If you do not agree to the terms of the EULA, you are not authorized to use BEXIS software.

III. System Requirements

- Operating System: Windows Server 2012 or 2012. For personal or small installations, the software is able to run on Windows 10 too
- Application Server: IIS 7.0 +. For IIS settings see the installation manual
- DBMS:
 - IBM DB2 Express C 10 (version 10.1.2) 32 or 64 bits. BEXIS has not been tested on other versions!
 - PostgreSQL: (version 9.3) 32 or 64 bits. BEXIS has not been tested on other versions!
- Dependencies
 - Microsoft.NET Framework 4.5.2
 - Microsoft.ASP.NET.MVC 5.2.3
 - Microsoft.ASP.NET.Razor.de 3.2.3
 - Microsoft.ASP.NET.WebHelpers 3.2.3
 - Microsoft.ASP.NET.WebPages.WebData 3.2.3
 - Microsoft.JQuery.Unobtrusive.Validation 3.0.0
 - Lucene.Net 3.0.3

- Lucene.Net Contrib 3.0.3
 - NHibernate 4.0.4.4000
 - Telerik MVC Extensions 2013.1.611
 - Unity Application Block 3.5.1404
 - Npgsql 2.2.5
 - PostSharp 4.1.21
 - Linq 1.0.4
 - bootstrap 3.3.5
 - bootstrap-slider 5.0.13
 - FluentBootstrap 3.3.5.1
 - FluentBootstrap.Mvc 3.3.5.1
 - font-awesome 4.4.0
- Disk Space:
 - The Software: 30-40 MB
 - The Workspace: 10 MB and more, based on the number of modules and the amount of data

IV. Installation

To install the software, please follow the instructions in the BEXIS2110_Installation_Manual.pdf.

V. System Functionality

The software consists of two main types of components; 1) core components that include Data Lifecycle Management (DLM), Web Interfaces, Security and some other internally used ones. 2) A collection of coherent features and use-cases bundled as modules so that each module is designed around one or a small set of steps of the DLM workflow i.e., Data Submission, Quality Control/ Assurance, Data Publication and so on.

a) General Application Features

General Application features are available in the entire application and across all modules.

Existing Features

- Online Help for each module now available within the application (version 2.7.0)
- Upon registration users need to agree to terms and conditions (placeholder) (version 2.9.0)

New Features

- Notification framework (currently by email, later also system messages)
- Sync on individual datasets can be triggered manually (Maintain Dataset)

Changed/ Enhanced Features

- System logging into file and database
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Dropped Features

- NA

Fixed Issues

- Session management caused memory leakage

Breaking Changes

- NA

Known Issues

- Some functions of the application do not work properly in Internet Explorer (e.g. download data structure). We recommend using Google Chrome or Mozilla Firefox.
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b) Data Discovery Module

The main purpose of this module is to enable users to search for data available within the system. The module executes user defined queries against the metadata and primary data and provides advanced features such as facets, keywords, categories, filters, grouping, and sorting. Depending on individual user permissions the system provides access to full metadata records, the underlying data structure and the primary data.

Existing Features

- Discover data using metadata dimensions (aspects, facets) and attributes (version 2.0.0)
- Configure search module through a user interface (version 2.1.0)
- Primary data search (version 2.4.0)
- mapping Lucene fields to multiple Metadata Nodes in the Search Component Manager (version 2.5.0)
- The homepage contains a list of accessible dataset (version 2.6.0)
- Edit metadata of an exiting dataset from the Show Details page (version 2.8.0)
- Metadata view was not available for non-authenticated users (public datasets) (version 2.8.0)
- some metadata entries in complex metadata schemas were not shown correctly (version 2.8.0)
- the search index is now re-created automatically whenever a new dataset is created or deleted (version 2.9.0)
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New Features

- NA

Changed/ Enhanced Features

- Elements in the Search Manager have been altered slightly

Dropped Features

- NA

Fixed Issues

- Facets do not act as expected when names contain special characters (e.g. “-“).

Breaking Changes

- NA

Known Issues

- NA

c) Data Collection Module

The purpose of the data collection module is to allow users to submit data alongside with metadata. The module processes the data in accordance with its data/metadata structure rules to find any inconsistencies and communicates with the user to overcome the issues. The module may also notify or trigger other internal services such as the search indexing engine to make the dataset ready for discovery. Based on the settings of the associated research context/ plan, datasets get versioned.

Existing Features

- Uploading an Excel file (version 2.1.0)
- Uploading a delimited file (CSV, TSV), (version 2.2.0)
- Adding data to an existing dataset (version 2.2.0)
- Create Structured Dataset (version 2.3.0)
- Create Unstructured Dataset (version 2.4.0)
- Push big files to server (version 2.4.0)
- Importing metadata schemas via XSD files (version 2.6.0)
- The Create Dataset Wizard has been changed to cope with varying metadata structures. (version 2.6.0)
- using a dataset as a template for a new dataset (version 2.9.0)
- import of existing metadata of the same metadata structure from an XML file (version 2.9.0)
- Selecting a data/metadata structure in dataset creation work now also with large quantities of these entities
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New Features

- Data Import wizard for MS Excel files, incl. creation of data structure extracted from the file
- Metadata Mapping tool to create mappings between metadata schemas and party package elements

Changed/ Enhanced Features

- autocomplete for metadata elements using information from the new BAM module (i.e. Party Package)

Dropped Features

- NA

Fixed Issues

- NA

Breaking Changes

- NA

Known Issues

- Empty rows within or at the end of Excel or CSV files lead to validation errors and should be removed (by the user) before adding (i.e. uploading) data to a dataset.
- Boolean Values in Excel, should be true or false, 0 1, TRUE FALSE.
- Excel Files, generated from libre office, currently not supported

d) Data Planning Module

The purpose of the data planning module is to manage (create, edit, delete) data and metadata structures, data attributes (variables), units, data types and their relations. The aim is to foster reuse

and data integration while retaining flexibility.

A conceptual model showing the connection and relationship between the different terms and entities is available at: <http://fusion.cs.uni-jena.de/bppCM/index.htm>

Existing Features

- Data structure manager (version 2.1.0)
- Data attribute manager (version 2.1.0)
- Data type manager (version 2.1.0)
- Unit manager (version 2.1.0)
- Unstructured data structures (version 2.4.0)
- Create copy of a data structure (version 2.5.1)
- Creating units without a data type assigned to it is no longer possible (version 2.6.0)
- In data type creation, more information is provided on available system types (version 2.6.0)
- In-line editing for name and description of a data structure (version 2.6.0)
- Data Attributes and Variables can now have constraints (e.g. list of domain values, data ranges, and patterns as regular expressions)(version 2.7.0)
- Units can now contain a dimension specification (e.g. Length, Mass, Time)(version 2.7.0)
- Variables can have individual units of the same dimension (e.g. mm, cm, m, km) independent from their corresponding Data Attribute (version 2.7.0)
- The header in downloaded Excel Templates is now locked to avoid accidental editing, which causes errors in the upload process later on (version 2.7.0)
- In the Data Attribute Manager constraints could not be deleted (version 2.8.0)
- After deleting a dataset, its data structure refers to the dataset id=0 (version 2.8.0)
- Patterns of various date/time formats on data types (version 2.9.0)

New Features

- NA

Changed/ Enhanced Features

- NA

Dropped Features

- NA

Fixed Issues

- NA

Breaking Changes

- NA

Known Issues

- If macros are disabled in Excel, the downloaded Excel template is not being validated in Excel. This also leads to the issue that only the first row is being imported when submitting a dataset to BEXIS using such a template.

e) Data Dissemination Module

The main purpose of this module is to provide users with access to primary data and metadata managed by the system. In the future this module shall also provide support for publishing, orchestrating and harvesting data of the system by external resources.

Existing Features

- Primary data download as Microsoft Excel file (version 2.2.0)
- Primary data download as comma or tab separated file (CSV) (version 2.4.0)
- Download of unstructured data (single file, multiple files in ZIP) (version 2.4.0)
- Export of metadata from an internal representation into XML files (version 2.5.0)
- Prepare Dataset package for publication with GFBio; the package contains the primary data, data structure, metadata and the metadata schema.
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New Features

- publication workflow from BEXIS 2 to Pensoft data journals (first version requires EML based metadata)

Changed/ Enhanced Features

- publication workflow to GFBio repositories now generates specific file packages for different GFBio repositories

Dropped Features

- Due to a performance issue with large datasets, the customized download (introduced in version 2.4.0) using filters, sorting and column selection has been disabled. Download of the full dataset is still available.

Fixed Issues

- NA

Breaking Changes

- NA

Known Issues

- Open a downloaded Excel file in Libre Office does not display values correctly

f) System Administration Module (former name: SecurityModule)

The System Administration Module (SAM) provides functions for dataset maintenance, system configuration and authentication and authorization management. It is typically only accessible to system administrators or data managers.

Existing Features

- User self-registration (version 2.1.0)
- Users and roles management for an administrator (version 2.1.0)
- Feature security (version 2.2.0)
- Dataset Security (version 2.4.0)
- Sign-On with existing credentials from an external authentication provider (LDAP Service) (version 2.5.0)
- System features and datasets can be made publicly accessible without authentication (version 2.6.0)

- passwords can be changed by users or administrators (version 2.6.0)
- administrators are able to approve, block, or unlock users (version 2.6.0)
- Sessions are properly timed out and users are logged off after a given time and informed (version 2.6.1)
- Inheritance of feature permissions for groups and users has been changed slightly to be more intuitive. (version 2.7.0)
- Internal refactoring: the security module is now part of the System Administration Module. (version 2.7.0)
- Delete/Purge Datasets (version 2.7.0)
- Dataset permissions are not taken into account when deleting/purging from the dataset maintenance area (version 2.8.0)
- assigning groups to users (and vice versa) did not work across multiple pages (paging) (version 2.8.0)
- when a user logged in through single sign on (LDAP) and tried to edit his local BEXIS profile (My Account) an error occurred
- users can set permissions on their own datasets in the dataset view.
- upon registration new users will by default get permissions to use the dashboard and the search

New Features

- switch to ASP.NET Core Identity 3.0 for more interoperability
- confirmation email upon user registration

Changed/ Enhanced Features

- Dataset permissions are now part of entity permissions (datasets are entities, such as resources, event, etc.)
- Permission settings in the Show data view are now separate from the general feature permission settings

Dropped Features

- administrators are able to approve, block, or unlock users (version 2.6.0)
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Fixed Issues

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Breaking Changes

- NA

Known Issues

- NA

g) Business Administration Module (Party Package)

This module is to manage (Create, Update, Delete) Information about organizations, projects, people, etc. and their relationships in central place and make it available for re-use throughout the system.

Existing Features

- NA

New Features

- Import an XML file at instantiation time containing party types and relation types

- Create/Edit/delete instances of parties and relations through the UI

Changed/ Enhanced Features

- NA

Dropped Features

- NA

Fixed Issues

- NA

Breaking Changes

- NA

Known Issues

- NA

VI. Contact

Help desk:

- Website: <http://bexis2.uni-jena.de>
- Email address: bexis-support@uni-jena.de
- Telephone: +49-(0)3641-948968
- Fax: +49-(0)3641-946302