

BEXIS 2.3.0

Security System

User Guide

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Precautions

Caution! Do not delete the preset users and roles!

Users. There is just a single user inside the database. The user name is “Admin” and the password is “5yy-Gul”. By default, this user has full access to the whole application.

Roles. Similar to *Users*, there is just one role inside the database – and the role name is “Admin”. The user “Admin” belongs to that role. By default, this role has full access to the application.

Features. The set of features is fixed and corresponds to the different hierarchical items of the menu bar.

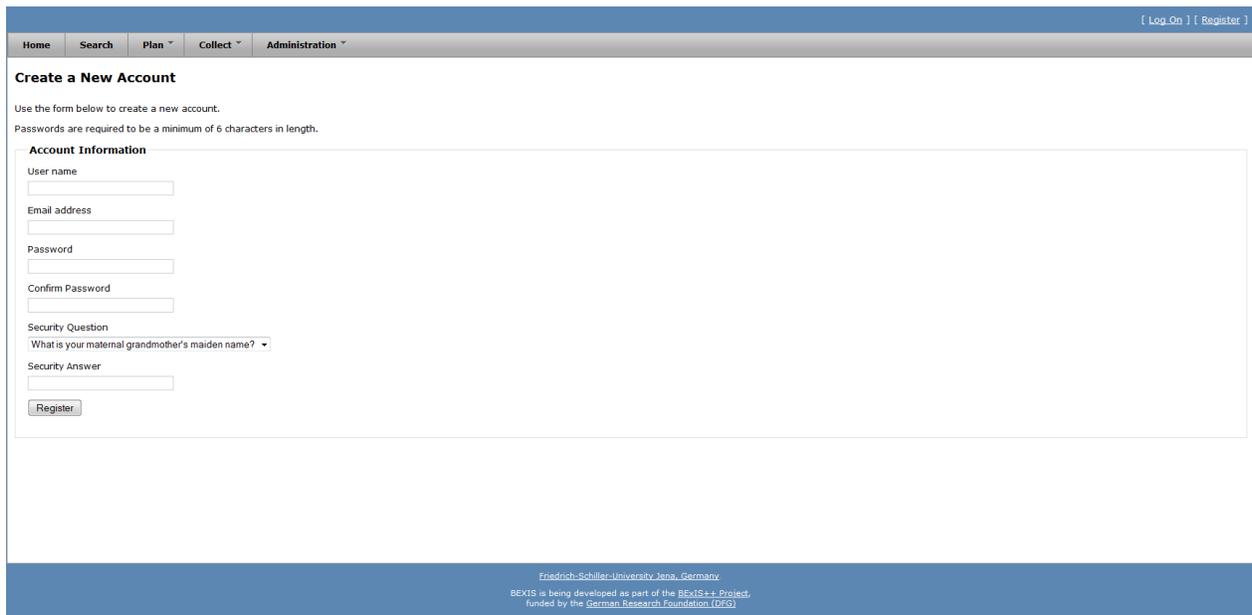
Permissions. Within the system, it is possible to add, remove or modify existing feature permissions. Up to now, there is no way to secure datasets (or data at all).

Account

By default, only a few components of BEXIS are accessible for anonymous users. Any further access to the application is available for authorized users, only. Therefore you need to register and create an account. After a successful registration you are able to logon to BEXIS using your account credentials for authentication.

Registration

First press [**Register**] in the upper right corner. Figure 1 shows the registration form. Please fill in the required information in the form and press [Register]. The system validates your entries and provides you with feedback, if there is something missing or not valid.



The screenshot shows a web browser window with a navigation bar at the top containing links for Home, Search, Plan, Collect, and Administration. In the top right corner, there are links for [Log On] and [Register]. The main content area is titled "Create a New Account" and includes instructions: "Use the form below to create a new account." and "Passwords are required to be a minimum of 6 characters in length." The form is titled "Account Information" and contains the following fields: "User name" (text input), "Email address" (text input), "Password" (text input), "Confirm Password" (text input), "Security Question" (dropdown menu with the text "What is your maternal grandmother's maiden name?"), and "Security Answer" (text input). A "Register" button is located at the bottom left of the form. At the bottom of the page, there is a footer with the text: "Friedrich-Schiller-Universität Jena, Germany. BEXIS is being developed as part of the BE-ISIS+ Project, funded by the German Research Foundation (DFG)." The footer text is small and partially obscured by a blue bar at the very bottom of the page.

Figure 1

LogOn

First press [**LogOn**] in the upper right corner. The system redirects you to the logon page (see fig 1) where you need to enter your account credentials (user name and password). If the logon is successful, you will see a short welcome message instead of [**LogOn**]. Otherwise, the system will notify you about the status and reason why the logon was not successful.

[Log On] [Register]

Home Search Plan Collect Administration

Log On

Please enter your user name and password. [Register](#) if you don't have an account.

Account Information

User name

Password

Remember me?

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BEXIS is being developed as part of the BEXIS+ Project,
funded by the German Research Foundation (DFG)

Figure 2

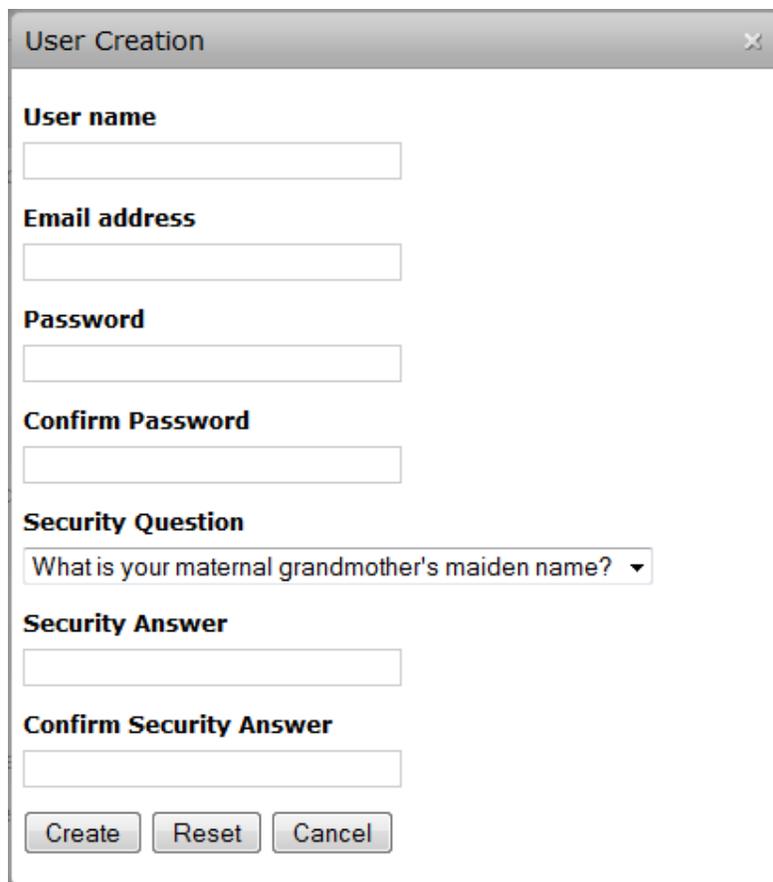
Users

Caution! This part of the system is secured. You may not have access to it.

BEXIS provides different features for managing users. These are typically available to system administrators only. Each of them is described in more detail in one of the following subsections.

Creation

In addition to the self-registration procedure, user accounts may also be created by an administrator. This feature is available from **Administration > Authorization > Users Manager**. Please press the **+New User** button. A modal window will pop up that contains the user creation form (see **fig 3**). Similar to the self-registration, the system supports you with validation on all information entered.



The image shows a modal window titled "User Creation" with a close button (X) in the top right corner. The form contains the following fields and controls:

- User name**: A text input field.
- Email address**: A text input field.
- Password**: A text input field.
- Confirm Password**: A text input field.
- Security Question**: A dropdown menu with the selected option "What is your maternal grandmother's maiden name?".
- Security Answer**: A text input field.
- Confirm Security Answer**: A text input field.
- At the bottom, there are three buttons: "Create", "Reset", and "Cancel".

Figure 3

Deletion

Please go to **Administration > Authorization > Users Manager** and press the delete button of the corresponding user. Figure 4 shows the modal window that will pop up after pushing the button. It contains the users contact details and some information on the users activities. The deletion will be confirmed by clicking the **Delete** button.

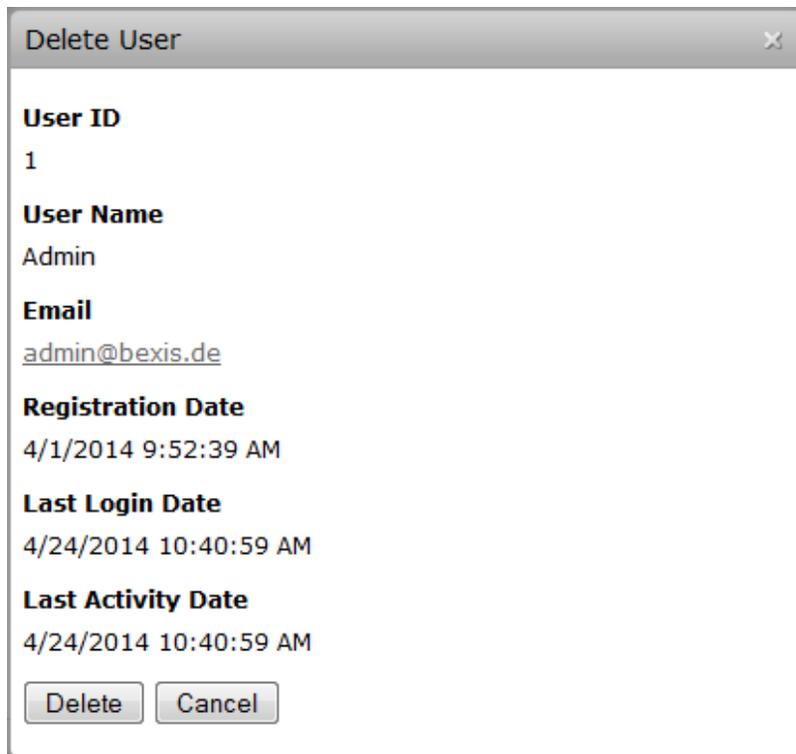


Figure 4

Details

Within BEXIS you are able to display and modify user information (see fig 5 and fig 6). For security and usability reasons, the system allows modification only for certain parts of the user information. Please go to **Administration > Authorization > Users Manager** and press the details button of the respective user. By default, the modal window only shows the user information. To enable the edit mode, please press the **Edit** button. You are now able to alter the user information. Changes are committed to the system once you pressed the **Save** button.

For any given user memberships to certain roles need to be specified. Please go to **Administration > Authorization > Users Manager** and press the details button of the respective user. Within the modal window please select the tab **Membership** (see fig 7). There are two different states:

user is in role → checkbox selected
user is NOT in role → checkbox NOT selected

You can change the status easily by (un)select the corresponding checkbox.

Furthermore, the system supports you for all mentioned features with different validation messages if any status or information is not valid.

Edit User

User Info | Membership

User ID
1

User Name
Admin

Email
admin@bexis.de

Registration Date
4/1/2014 9:52:39 AM

Last Login Date
4/24/2014 10:40:59 AM

Last Activity Date
4/24/2014 10:40:59 AM

Edit

Figure 5

Edit User

User Info | Membership

User ID
1

User Name
Admin

Email
admin@bexis.de

Registration Date
4/1/2014 9:52:39 AM

Last Login Date
4/24/2014 10:40:59 AM

Last Activity Date
4/24/2014 10:40:59 AM

Save | Reset | Cancel

Figure 6

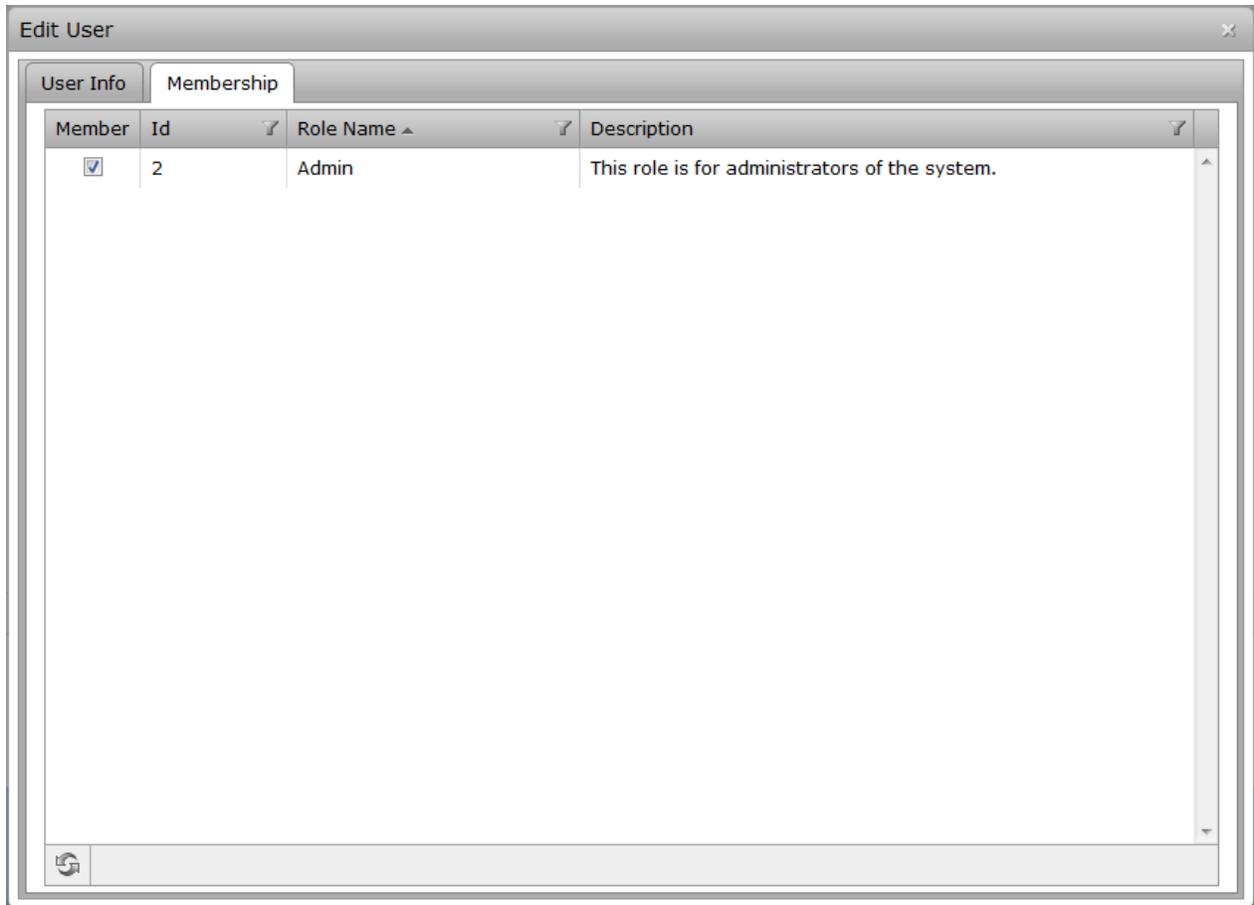


Figure 7

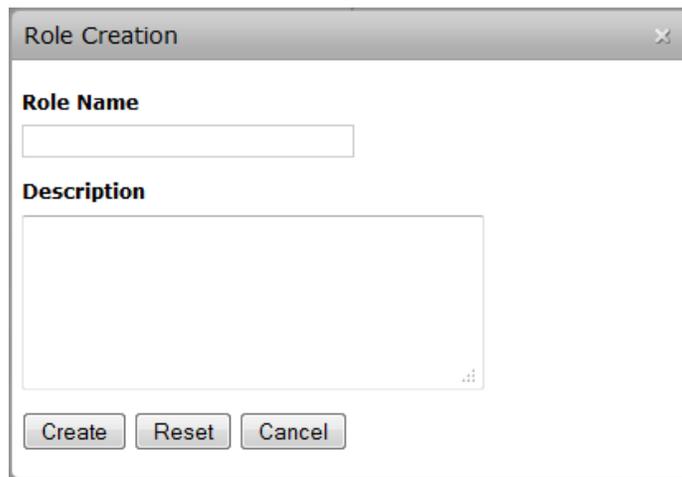
Roles

Caution! This part of the system is secured. You may not have access to it.

BEXIS provides different features for managing roles. They are typically available to system administrators only. Each of them is described in more detail in the following subsections.

Creation

This feature is available from **Administration > Authorization > Roles Manager**. Please press the **+New Role** button. A modal window will pop up that contains the role creation form (see fig 8). The system supports you with validation on all information entered.



The image shows a modal window titled "Role Creation". It features a "Role Name" label above a single-line text input field. Below that is a "Description" label above a larger multi-line text area. At the bottom of the window, there are three buttons: "Create", "Reset", and "Cancel".

Figure 8

Deletion

Please go to **Administration > Authorization > Roles Manager** and press the delete button of the corresponding role. Figure 9 shows the modal window that will pop up after pushing the button. It contains a few details about the role. The deletion will be confirmed by clicking the **Delete** button.

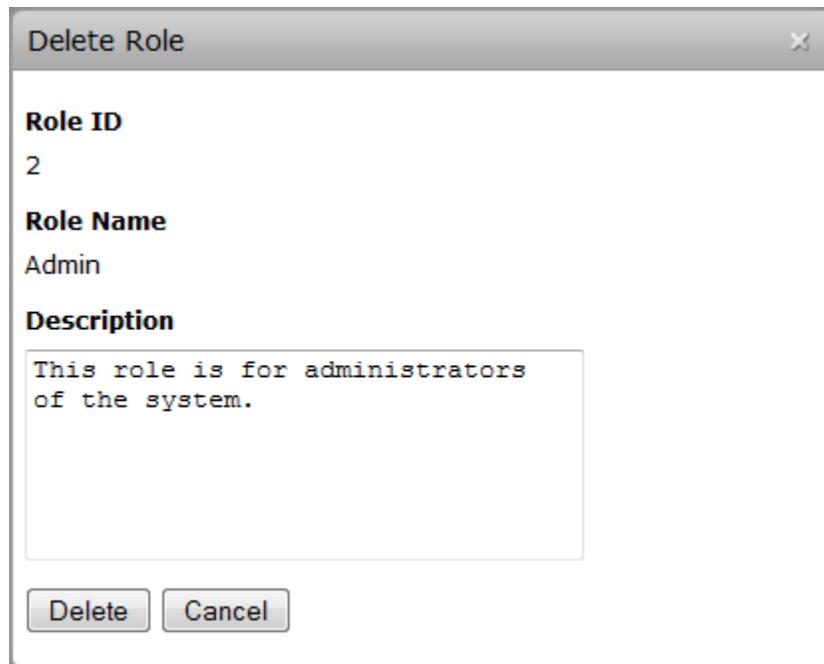


Figure 9

Details

Within BEXIS you are able to display and modify role information (see fig 10 and fig 11). Please go to **Administration > Authorization > Roles Manager** and press the details button of the respective role. By default, the modal window only shows the role information. To enable the edit mode, please press the **Edit** button. You are now able to alter the role information. Changes are committed to the system once you pressed the **Save** button.

For any given role memberships of users need to be specified. Please go to **Administration > Authorization > Roles Manager** and press the details button of the respective role. Within the modal window please select the tab **Membership** (see fig 12). There are two different states:

user is in role → checkbox selected
user is NOT in role → checkbox NOT selected

You can change the status easily by (un)select the corresponding checkbox.

Furthermore, the system supports you for all mentioned features with different validation messages if any status or information is not valid.

Edit Role

Role Info | Membership

Role ID
2

Role Name
Admin

Description
This role is for administrators of the system.

Edit

Figure 10

Edit Role

Role Info | Membership

Role ID
2

Role Name
Admin

Description
This role is for administrators of the system.

Save | Reset | Cancel

Figure 11

The screenshot shows a window titled "Edit Role" with a close button in the top right corner. Inside the window, there are two tabs: "Role Info" and "Membership". The "Membership" tab is active and displays a table with the following data:

Member	Id	User Name	Email
<input checked="" type="checkbox"/>	1	Admin	admin@bexis.de
<input type="checkbox"/>	4	demo	demo@bexis.de
<input type="checkbox"/>	5	nafiseh	navabpourn@gmail.com

At the bottom left of the window, there is a refresh icon.

Figure 12

Permissions

Caution! This part of the system is secured. You may not have access to it.

A permission is a rule that contains certain security regulations. In general, it is possible to set a rule on both, users and roles.

The security system of BExIS distinguishes between two types of permissions. On the one hand, there are feature permissions, which allow or prohibit the access to well-defined and delimited areas of the application. This type of permissions is working on functional objects (e.g. actions that should be performed) – so called *Features*. On the other hand, data permissions provide the ability to protect real data (e.g. datasets, research plans and so on). However, data permissions are not implemented yet.

Features

Features are accessible from the menu: **Administration > Authorization > Features Manager** (see fig 13). BExIS provides a tree of all features and their hierarchical relationship (parent /children). Currently, the feature tree is predefined and only permissions of those features can be set.

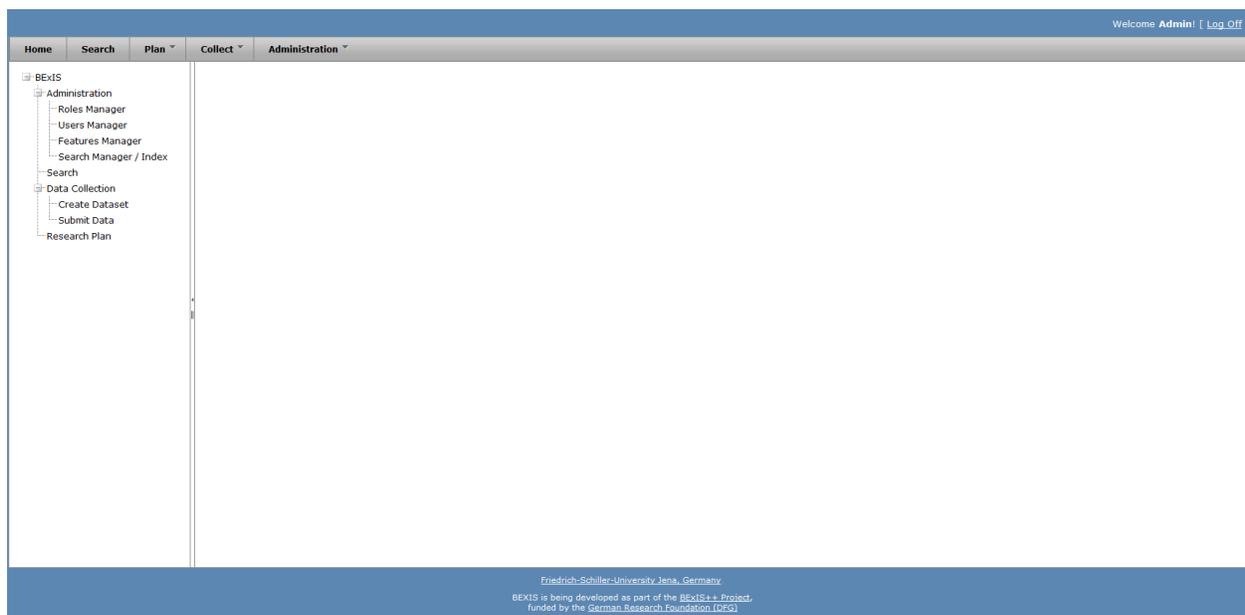


Figure 13

Feature Permissions

BExIS provides a user-friendly interface to manage feature permissions (**Administration > Authorization > Features Manager**). As depicted in fig. 13 features are organized in a tree. By selecting a feature on the left side (one node of the tree), the system will show a table on the right side, which contains all subjects (users and roles) and their feature permission type (see fig 14). In total, there are three different types of feature permissions:

- **Grant**: allow access
- **None**: revoke permission
- **Deny**: prohibit access

Each type is marked with a distinct color (see fig 14). On this page, you are also able to alter all permissions for the selected feature.

For each user access request to the application, the security system must allow or deny the access. This decision is called *effective right* and it is calculated with the help of a security policy. In general, BEXIS provides a set of different security policies from which one can be selected. Each of them contains specific rules, e.g. how to decide if there is no feature permission for a given user. Currently, the system works with a default and fixed security policy. This one uses the following rules for a user u and a requested feature f , whereby $r = \{r_1, \dots, r_n\}$ is the set of roles which u belongs to.

1. If there is a feature permission for user u and feature f , then return the corresponding permission type (allow or deny). Else, go to step 2.
2. Get the list of all feature permissions for the set of roles r and feature f . If there is no feature permission go to step 3. Else, if the amount of grants and denies is equal, then return the default draw permission type (deny). Else, return the permission type, which occurs more frequently (allow or deny).
3. If f has a parent feature, then go to step 1 with $f = parent(f)$. Else, return the default permission type (deny).

The screenshot shows the BEXIS Administration interface. The top navigation bar includes 'Home', 'Search', 'Plan', 'Collect', and 'Administration'. The left sidebar shows a tree view of the application structure. The main content area displays a table with columns for 'Grant', 'None', 'Deny', 'Subject Id', 'Subject Name', and 'Subject Type'. The table contains five rows of data, with the first row highlighted in green.

Grant	None	Deny	Subject Id	Subject Name	Subject Type
<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	2	Admin	Role
<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	1	Admin	User
<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	4	demo	User
<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	5	nafiseh	User

At the bottom of the page, there is a footer with the text: 'Friedrich-Schiller-Universität Jena, Germany. BEXIS is being developed as part of the BEXIS++ Project, funded by the German Research Foundation (DFG)'.

Figure 14