BC Platforms

BC|GENOME Administration for both user account and data management tasks and logging of system events

Index

This document describes the tools for user and dataset management and for viewing BC|GENOME system logs.

The first chapter contains general information for all users about accessing BC|GENOME main page and about changing user's password.

From the second chapter onwards tools for database administrators are described with the information about user profiles, and the changes logged in BC|GENOME.

User login

To log in to BC|GENOME:

When you receive your ID and password you can log in to BC|GENOME.

1. Go to https://*server*/bcos/ (replace *server* with the name or IP address of your own server).
   The account information is provided by your local database owner (usually the project PI).
2. Enter your user ID.
3. Enter your password.

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Figure 1. BC|GENOME login page.

NOTE: You can enter an incorrect user name and password <10 times before access to BC|GENOME is locked.

Website certificate

To login, users go to the BCOS main page using the following address: https://*server*/bcos/.

When accessing the system for the first time the browser programs may show a warning message and ask whether to trust the provider of the certificate or not. This so called website certificate, displayed on the screen before logging into the database, is to notify the user of a guarantee of the secure data transfer. The certificate can either be provided by a third-party company, who sells the certificates, or the web certificate can be provided privately. As BC products are not public services, the website certificate is by default provided by Biocomputing Platforms Ltd. With both public and private certificates, the method of encryption (SSL, Secure Sockets Layer (SSL) technology) is exactly the same.

If the certificate is private, as with BC products, the browser program will show a warning message and ask whether to trust the provider of the certificate or not. To be able to proceed the certificate needs to be accepted for the BCOS URL (see Figure for details). If you want purchase the public certificate please contact support@bcplatfors.com.
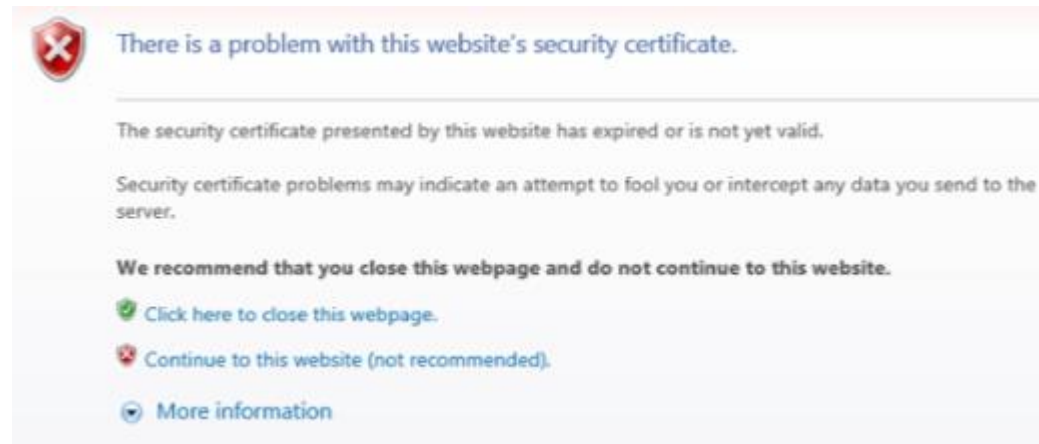

Figure 2. When you see the browser warning similar to this one about the untrusted certificate when accessing BC|GENOME select Continue to this website and accept the access to the BC|GENOME login page.

Changing of BC|GENOME user password

For safety reasons it is recommended to change the BCOS password regularly.
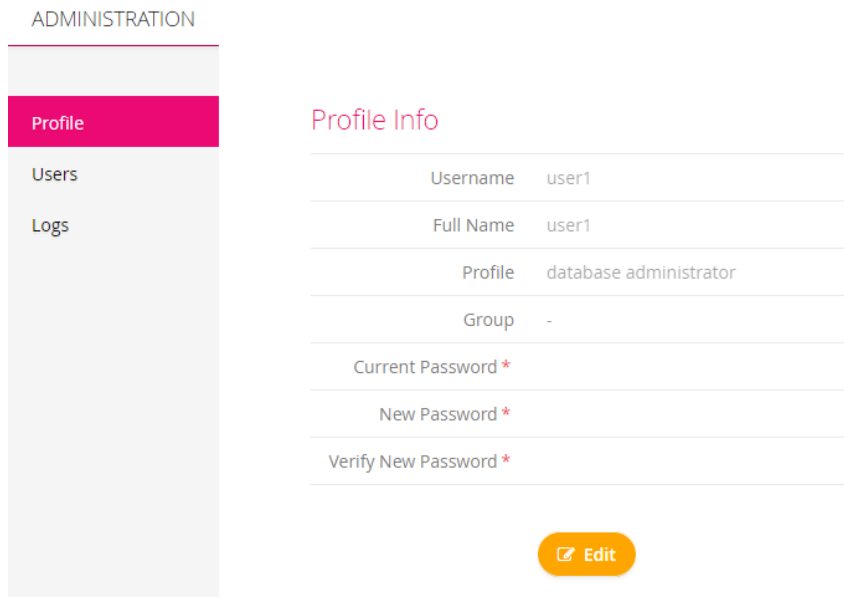
If your institution provides a centralized authentication system, and it has been integrated with BC|GENOME, follow the instructions provided by your local IT team.

To change your password:
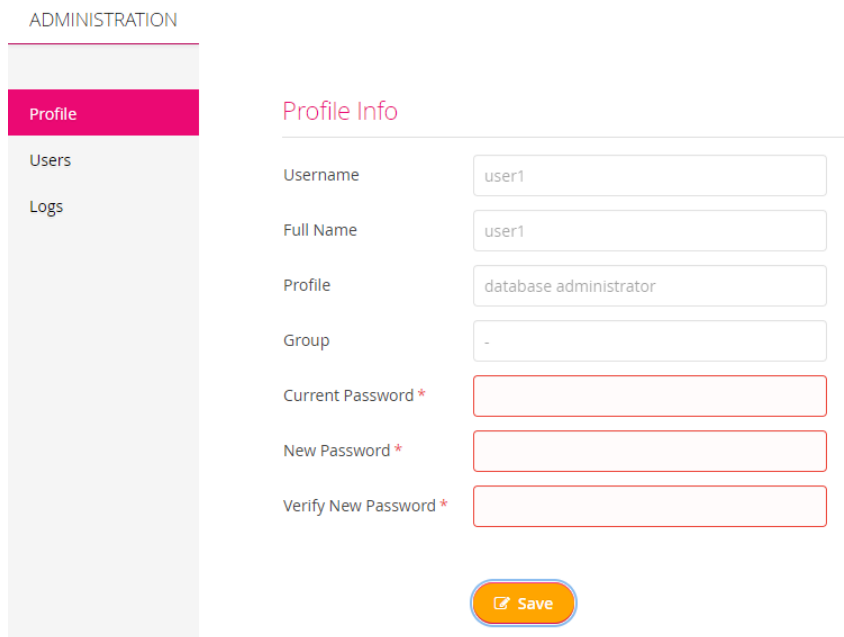
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1. Go to **Administration** in the main page of BC|GENOME.
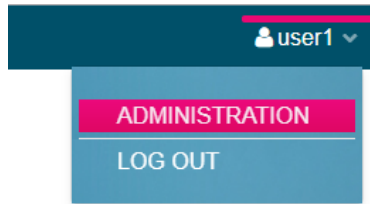
2. Press **Edit** to change the password

3. Type your current password

4. Type the new password and verify the change by retyping the password.
   A password must be 7 (min) - 32 (max) characters long, and contain a combination of capital (A-Z) and lower case letters (a-z), and numbers (0-9).

NOTE: A good password is not easy to guess and should not be written down.

5. Press **Save** to store the new password
6. Press **OK**
   When the new password matches the required criteria, you get a message to say your password is changed.
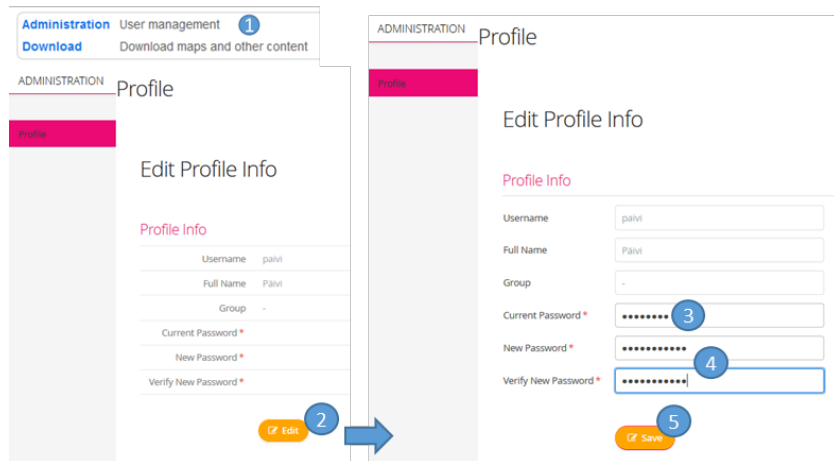

Figure 3. Changing user's password.

Database administration tools

In BC|GENOME Administration you can find a list of tools for user and data management tasks (see Figure 4):

- **Profile** – for changing a user's password (not applied for the DBowner account)
- **Users** – tool available for both DBowner and database administrator to generate new user accounts
- **Groups** – tool for DBowner to manage user groups in BC|GENOME (DB2 role)
- **Datasets list** – tool for DBowner to manage ownership of datasets
- **Logs** – tool for DBowner (extendable for database administrator) to search for log information in BC|GENOME

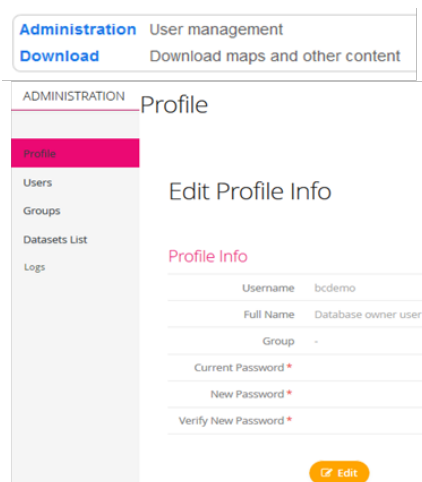The following chapters describe the tools in Administration.

Figure 4. Administration tools of DBowner in BC|GENOME.

Creating a new user account with a profile

The DBowner and database administrator users can generate new user accounts for the BC|GENOME user interface. Technically, BC|GENOME user is a local linux user account. If you have a centralized user authentication system in use (for example, lightweight directory access protocol (LDAP), active directory (AD)), contact support@bcplatforms.com for more details about the configuration.

When a new user account is created in BC|GENOME, one of five user profiles must be specified (see Table 1). These profiles are specified in BC|GENOME to provide a set of tools to match a user's work profile and privileges. Table 1 describes user profiles and privileges.

Table 2 describes the data management and analysis tools for different user profiles.. In addition to profiles, the data permission tool can be used to manage user access to stored data in datasets in view, add and/or edit access level.

Table 1. User profiles in BC|GENOME

Profile	Privileges	Notes
DBowner *(set by BC support)*	*Tools for user, group and dataset permission management*	*Account credentials are provided by BC support. Not for data management and analysis work*
Database administrator	User creation and tools for data management and analysis work	Cannot be used to change other user password
Researcher	Tools for data management and analysis tools	Profile for research work
Researcher with restrictions	Tools for data management and analysis but no tools for exporting data from the database	Analysis results can be exported from the result archive
Data entry	Tools for managing data entries in clinical work	BC|CLIN user profile
Data viewer	Only for accessing and exporting data	Data sharing profile for collaboration purposes

Table 2. Matrix for profile-specific user and data management permissions and tools

Profile / Action	DBowner	Database administrator	Researcher	Researcher with restriction	Data entry	Data viewer
User management						
User Creation	Yes	Yes	No	No	No	No
User group management	Yes	No	No	No	No	No
Change any password	Yes	No	No	No	No	No
Change own password	No	Yes	Yes	Yes	Yes	Yes
Logs	Yes	No *	No	No	No	No
Data management						
Data structures	No	Yes	Yes	Yes	No	No
Folder management	Yes	Yes	Yes	Yes	No	No
Dataset creation	No	Yes	Yes	Yes	No	No
Dataset permission	Yes	Yes	Yes	Yes	No	No
Dataset removal	Yes	Yes	Yes	Yes	No	No
Data upload / edit						
Single entry	No	Yes	Yes	Yes	Yes	No
File(s) upload	No	Yes	Yes	Yes	Yes	No
Delete entry / -ies*	No	Yes	Yes	Yes	No	No
Dataset export	No	Yes	Yes	No	No	Yes
Data queries	No	Yes	Yes	Yes	Yes	No
Download services	Yes	Yes	Yes	Yes	Yes	Yes
Data analysis						
Statistical analyses	No	Yes	Yes	Yes	No	No

Storing scripts	Yes	Yes	Yes	Yes	Yes	No
Running scripts	No	Yes	Yes	Yes	No	No
Running reports	No	Yes	Yes	Yes	Yes	Yes
Result archive sharing	Yes	Yes	Yes	Yes	Yes	Yes

* Contact BC support to change the default setting.

Changes in user accounts

When a BC|GENOME user account is created in BC|GENOME, BC support makes all user account modifications, such as:

- Change of user ID
- Change of user description
- Change of user profile
- Removal of user account from graphical user interface

Therefore, BC|GENOME is able to securely maintain the integrity of the system logs that are collected and stored.

Administration tools for user management

The DBowner and database administrator can add users, edit existing user profiles, manage groups and dataset lists using the Administration tools.

A regular user can only edit their own user profile(s) and logs.

From the main page, go to the **Administration** page to access the available tools.

Manage users

Select **Users** in the Administration page.

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Figure 5. Tools in Administration / Users

To change a user's password

1. Select the user you want to edit from the list of users.
2. Select **Edit**.
3. Type a new user password.
4. Type it again to verify the password.

To add a new user:

Both DBowner and database administrator can add all new users and all users except administrators,

Figure 6. Specifying the user account information in Administration.

1. Select **Add**.
2. Type a **User ID**.
   The user ID can contain 2 – 16 alphanumeric characters and underscores (_).
3. Type a full name for the user (max. 65 characters).
4. Type a user password.
   A password must be 7 (min) - 32 (max) characters long, and contain a combination of capital (A-Z) and lower case letters (a-z), and numbers (0-9).
   NOTE: A good password is not easy to guess and should not be written down.
5. Retype the password to verify it.
   If there is no match between the passwords a red exclamation mark (!) sign is shown.
   If the password violates password specifications, a pop-up help is shown.
6. Select a user profile from the drop-down menu (see Table 1 for a list of user profiles).
7. Press **Save** to store the new password.

Manage groups
In BC|GENOME, dataset user permissions in groups are managed by DBowner. Instead of granting dataset permissions individually, read or read/write permissions can be granted to a group of users. Technically, a group

is a type of role (R) in IBM's DB2 database
(https://www.ibm.com/support/knowledgecenter/en/SSEPGG_10.5.0/com.ibm.db2.luw.sql.rtn.doc/doc/r00522
86.html). One user can belong to several groups.

Figure 7. Group management tools.

To add a group:

1. Select **Groups**.
2. Select **Add group**.

Figure 8. Add a new user group

3. Type a name for the group.
    A group name can contain 1 – 128 alphanumeric characters and underscores (_), and the name cannot start
    with a number.

4. Type a description for the group.
5. Select **Add** to create a new group.

When a group has been specified (type of role, R) click the right mouse button to open the action menu for:
- **Change description** – Edit the group description
- **Edit users list** – To add or remove users from groups

Figure 9. Edit a group.

To manage users in groups:

1. Select a group to manage.
2. Select one or more (*CTRL+click*) users to add to a group.

Figure 10. Administration / Groups: Edit user lists

3. Use the right arrow to add the selected user(s) to a group.

4. Use the left arrow to remove users from a group. You can select one or more subjects to be removed from a group.

5. Press **OK** to store changes.

If you want to remove unnecessary groups from graphical user interface, contact support@bcplatforms.com

Manage datasets

DBowner can grant ownership of a dataset to another user in BC|GENOME. The datasets list tool shows all datasets in the database.

To change ownership of a dataset:

1. Select **Datasets List**.
   A list of datasets in BC|GENOME is shown.
2. Select a dataset whose ownership you want to change.
3. Right-click the dataset.
4. Select **Change ownership**.

Menu to specify up to 600 lines per page

Tools for browsing rows shown in the browser page

Figure 11. Administration / Datasets List.

Browser for BC|GENOME log information

The Logs tool is an administrative tool for viewing changes that are made in the BC|GENOME database.

DBowner can view system logs using Administration / Logs tool by events (**Table 3**). BC support can also configure the database administrator to access the Logs tool. Logs shown in BC|GENOME are collected from the BC|GENOME application server system log files in:

- /var/log/bcos/messages
- /var/log/bcos/gened.log
- /var/log/httpd/ssl_access_log
- /var/log/httpd/ssl_error_log
- /var/log/bcos/vaadin-servlet.log
- /var/log/bcos/vaadin-events.log

Figure 12 shows the features of Administration / Logs:

1. System logs for viewing change log information.
2. Refresh tool for updating log information.
3. Clear filters in the log table.
4. Click to view the menu to specify the columns displayed in the Logs table:
   - Event
   - Timestamp

- Grantor
- Grantee
- Database
- Message
- Job id
- Client IP
- Type

5. Filter the Logs view by events, (see **Table 3**).
6. Press the column title to sort information in either ascending or descending order, or type a field value to search for.
7. Press the **Event** field to view the summary collected from column fields.
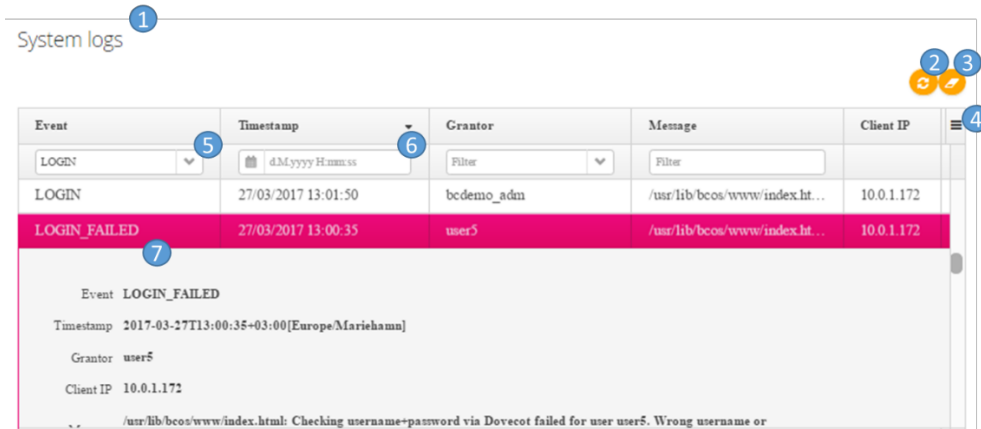

Figure 12. Administration / Logs for viewing system logs.

Table 3 shows the events listed when you select the **Event** drop-down menu in the **Logs** page.

Table 3. System events generated in BC|GENOME Administrations / Logs.

Event	Action in BC|GENOME
Password_change	Administration: Profile / Edit; Users / Edit
User Create	Administration: Users / add
User_access	Datasets / permissions change (access / revoke)
Create_user_group	Administration: Groups /new
Remove_user_from_group	Administration: Groups / edit
Dataset_create	Datasets / new
Dataset_moved	Datasets / move to trash, or Folders / move datasets
Dataset_interactive_export	Datasets / export to the next page
Backup_sys_tables	DB2 backup script for system tables started / completed
Empy_Trash	Indication of a job completed when using the Tools / empty trash tool
Fileserver_upload	Tools / file transfer
Dataset_privilege	When creating a new dataset

Logout	User logout
Login	User login
Login_failed	Login with a wrong user ID / password
Drop_table	Tools / empty trash for a dataset
Drop_view	Tools / empty trash for a subset
Create_view	Dataset / subset
Create_subset	Dataset / subset
Job_started	Job submitted in the analysis GUI: Data input / large files; analysis jobs
Job_failed	Tools / cancel jobs when the job of software is in run
Job_success	Completed analysis job(s) in Tools / result archive
Data_viewed	Subjects: Multi-subject browser or Phenotypes: Datasets / new datagrid
Result_folder_command	Download of a file in Tools / result archive; or delete result folder content; or user shared result folder content
Result_folder_upload_to_a_dataset	Data input / one file, or edit row, or add row, or delete row
User_logout	Event generated by the logout tool
Open_dataset	Datasets / open
Snapshot_create	Datasets / snapshot
Add_user_to_group	Administration: Groups / add groups