Celigo® Cytometer
Administrator Guide

Celigo Software Version 5.2

8001620 Rev. H

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Appropriate Use	For research and development uses only. Not for use in diagnostic or therapeutic procedures. The Celigo cytometer is designed to perform both user-interactive and automated functions for the measurement and analysis of cells. The Celigo cytometer is designed to be used in a temperature and humidity-controlled laboratory environment that is free from aerosols, liquid sprays or spills, and excessive airborne dust. Use of the Celigo instrument and software is governed by the *Celigo Terms and Conditions* and the *Nexcelom Bioscience, LLC. Software End User License Agreement*.
Certifications	

Contents

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1.   About this Guide

This section provides a brief description of this guide and how to use it.

1.1   Purpose

The purpose of this guide is to describe the Celigo cytometer administrative procedures. The procedures are those performed to ensure proper Celigo cytometer functionality, reasonable performance, and the ability to retrieve backup files. The procedures are those performed after Celigo cytometer installation and testing.

1.2   Conventions used in this Guide

This section describes the symbols and signal words used in this guide.

1.2.1   Hazard Symbols

This guide uses symbols and associated signal words to communicate safety hazards. The hazard symbols, listed in Table 1, allow for easy and rapid recognition of the hazard type.

The signal word definitions, listed in Table 2, comply with the ANSI Z535.4 standard for product safety signs and labels.

Table 1. Hazard Symbols

Symbol	Hazard
⚡	Voltage or electrical current
⚠	Moving parts (pinch point hazard)
⚠	General

Table 2. Hazard Severities

Signal Word	Severity
DANGER	Indicates an imminently hazardous situation that will result in severe personal injury or death if it is not avoided.
WARNING	Indicates a potentially hazardous situation that could result in severe personal injury or death if it is not avoided.

Signal Word	Severity
CAUTION	Indicates a potentially hazardous situation that may result in minor or moderate personal injury. It may also alert against unsafe practices. These include practices that may result in system damage, data corruption, data loss, or settings loss.

1.2.2   Other Symbols

This guide uses the additional symbols and signal words shown in Table 3.

Table 3. Additional Symbols

Symbol	Meaning
	A note. Indicates helpful information for the topic or step being described.

1.3   Safety Precautions

This section describes the precautions for safe operation of the Celigo cytometer.

1.3.1   Electrical Safety

The Celigo cytometer contains voltages and electric currents that are potentially hazardous. Under normal circumstances, the user and other persons in the vicinity of the Celigo cytometer are protected from accidental contact with these electrical hazards by physical barriers (exterior panels and access doors) and by electrical grounding of the instrument.

To reduce the risk of electric shock:

- Ensure that all three-pronged power cords from the Celigo cytometer (total of 3 for instrument, workstation and monitor) are plugged into properly grounded 100 – 240 VAC receptacles only.

- Do not perform repairs on or within the Celigo cytometer. Only qualified service personnel should perform repairs.

If you are uncertain about any of the safety issues highlighted in this manual or have additional safety concerns, do not hesitate to contact Nexcelom Customer Service directly, with your questions or concerns, before attempting to service the Celigo cytometer.

	WARNING: Use this product in the manner described in this document, and while observing all specified safety precautions. When used other than as specified, the safety features may be impaired or defeated. Failure to adhere to the safety precautions and/or procedures outlined in this document may result in system failure, personal injury, or death, for which Nexcelom shall not be held liable under any circumstances.

	WARNING: Risk of electric shock! The Celigo cytometer contains voltages and electric currents that are potentially hazardous. To reduce the risk of electric shock, do not remove instrument covers without proper training. Qualified service personnel should perform all repairs.

1.3.2   Moving Part Hazards

The Celigo cytometer contains mechanical components that move within the instrument. Some of these components move in a linear fashion (for example, the x-axis and y-axis movements of the specimen stage), and some of these components have a rotational motion (for example, the galvanometer motors).

The Celigo cytometer's moving components can pose risks of pinching, crushing, cutting, twisting or entrapping body parts, particularly hands and fingers. To avoid injury by the instrument's moving components, you must observe the following precautions.

- While an application is executing, keep the access door closed.

- While an application is executing, the various mechanical components of the instrument can move at any time, without warning. Do not reach into the instrument while an application is executing, unless the application specifically requests that a new specimen plate be loaded onto the stage at a particular time.

- Do not reach into the instrument to remove or load a specimen plate while the stage is still moving. Wait until the stage has come to a complete stop, before reaching into the instrument.

- Keep clothing, jewelry, hair, and other loose materials clear of the instrument's mechanical components. Moving components can catch hold of such loose materials, thereby forcing a body part into a dangerous position.

	CAUTION: The Celigo cytometer contains moving mechanical components that are capable of causing bodily harm. Do not reach into the instrument while parts are moving. Keep clothing, jewelry, hair, and other loose materials clear of mechanical components.

1.4   Disposal Compliance

Nexcelom Bioscience complies with European Union Waste Electrical and Electronic Equipment (WEEE) Directive 2002/96/EC. The Celigo cytometer, as supplied by Nexcelom, contains Electrical and Electronic Equipment (EEE) and is suitable for recycling, provided it is not contaminated with hazardous substances.

If disposal is needed, contact Nexcelom Customer Service for further information, assistance, and costing for disposal.

1.5   Technical Assistance

Contact Nexcelom Customer Service for further information:

Nexcelom Bioscience, LLC.
Customer Service
360 Merrimack St. Building 9
Lawrence, MA 01843, USA

- From the United States:
  E-mail: support@nexcelom.com
  Phone: +1 978-327-5340

- From Europe:
  E-mail: support@nexcelom.co.uk
  Phone: +44 (0) 161 232 4593

If you have a technical question that you are unable to answer after consulting the documentation provided with the Celigo cytometer, please contact Nexcelom for assistance. So that we may assist you in the most expeditious manner possible, please generate and send an error report as follows:

Using the Software Help feature

1. At the upper right corner of the Start tab, select **Help > Generate Diagnostic File** (Figure 1).

Figure 1. Generate Diagnostic File
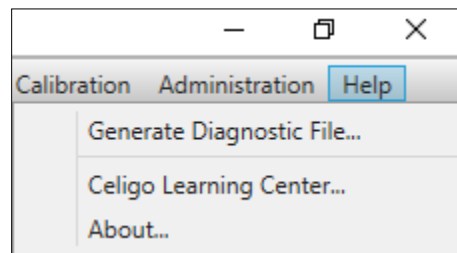
2. Perform the prompt instructions.

3. Save the resulting error report to your desktop.

4. Attach the error report to an e-mail and send it to the applicable e-mail address according to the above list. If it is too large to attach to an e-mail then please upload to a 3rd party file transfer site (such as Dropbox, Google Drive, etc.) or simply contact Nexcelom Customer Service for temporary use of our support Dropbox account.

2.   Startup and Shutdown

This section provides the procedures for starting up and shutting down the Celigo cytometer.

2.1   Startup

To start up the Celigo cytometer system

1. Turn on the main power button on the front of the instrument.

    Note: The instrument's front display panel should light up.

2. Turn on the Celigo computer.

3. Log in to the computer.

4. Launch the Celigo application.

    The Celigo program opens and the Home tab appears.

2.2   Shutdown

To shut down the Celigo cytometer system

1. In the Celigo application, click **Unload Plate** (Figure 2).

Figure 2. Unload Plate Button

2. An Unload Plate window appears (Figure 3).

Figure 3. Unload Plate Window
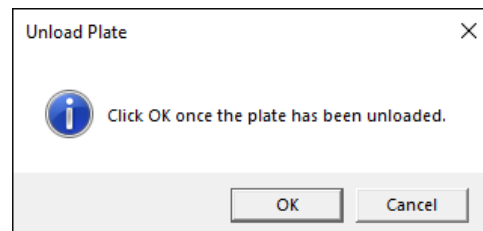
3. Remove the plate or flask from the instrument.

4. In the Unload Plate window, click **OK** or **Cancel**.

5. Exit the Celigo program by clicking the X icon in the upper right corner of the window.

6. Shut down the computer using the Windows Start/Shutdown menu.

	NOTE: It is recommended that you only *periodically* shut down the computer. Keeping it on will allow for defragmentation, which helps Celigo cytometer performance.

7.　Switch off the instrument power button.

3.   Managing Users

	NOTE: Managing users requires Local Administrator permissions.

You manage users in the User Management window, accessed from the Administration menu (Figure 4) on the Start tab. Managing users consists of adding, deleting, and changing user profiles.

Note: Administration tab is accessible from the HOME tab.

Figure 4. Administration Menu
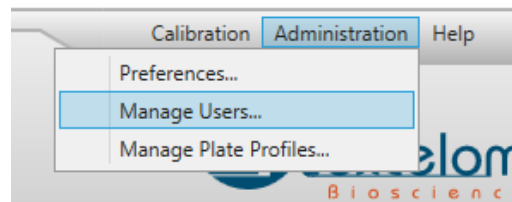
After a Local Administrator creates a user, that user can then login to the Celigo software using those credentials. Feature access and data access may be limited depending on the role associated to the user and the permissions provided to the user to various folders. For the additional information on folders, see section 5.

3.1   Adding a User

Perform the following steps to add a user profile to the database.

To add a user

	NOTE: Adding users requires Local Administrator permissions.

1.   Log in to the Celigo application.

2.   In the Start tab, at the top of the Celigo user interface, select **Administration > Manage Users** (Figure 4 above).

The User Management window appears (Figure 5) with the Users tab displayed.

Figure 5. User Management Window

Only Celigos configured with a network database and personnel logged in with Local Administrator permissions can view a User Sessions tab.

Only personnel logged in with Local Administrator permissions can view the Add User and Remove User buttons.

Only personnel logged in with Local Administrator permissions can view a User Groups tab.

Personnel logged in with Local Administrator permissions can view a list of all users. Scientists can view only their own user account.

3. In the upper right corner of the User tab, click the **+** button. The Add New User dialog box appears (Figure 6).

Figure 6. Add New User Dialog Box
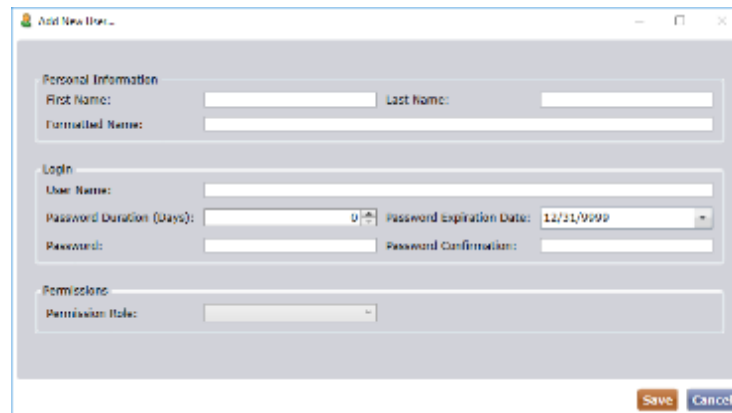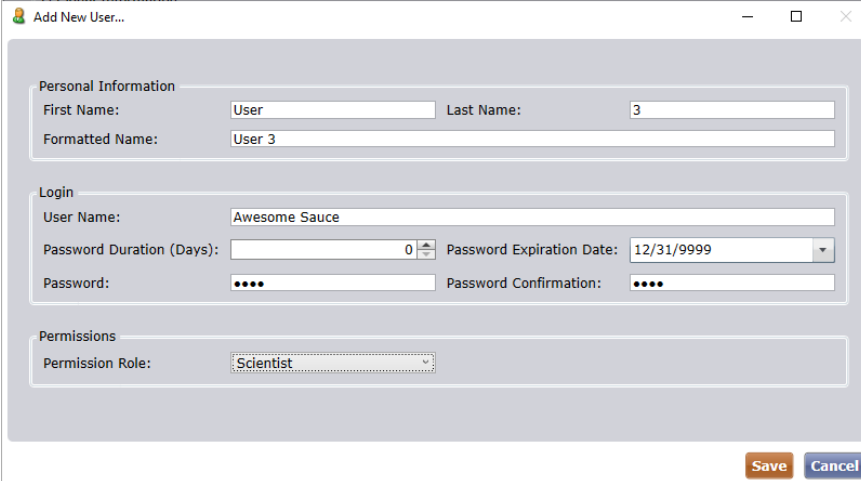
4. Fill in the following fields:

   - First Name

   - Last Name

   - Formatted Name (optional)

   - User Name – Fill in your login ID

   - Password Duration (Days) (optional) – 0 means forever

   - Password Expiration Date (optional)

   - Password (optional)

   - Password Confirmation (optional)

- Permissions: Select one of the following:

  – Scientist: Can view and edit only his or her data in their own user folder or folders the user was provided permissions to.

  – Local Administrator: Can view and edit all user folders and their scans, settings, and analyses. Also can perform administrative tasks, such as adding users and importing/exporting plate profiles.

An example of a completed Add New User dialog box is shown in Figure 7.

	NOTE: Keep the default Password Duration as 0 if you want the password to continue indefinitely, without expiring.

Figure 7. Add New User Example

5. Click **Save**.

The system adds the user to the database with full permissions to their user folder. In the User Management window, an icon for the user (their user folder) appears in the Users tab, and a listing for the user appears in the Groups tab. The new user is listed as a Non Group Member because new users have not yet been assigned to a group. An icon for the user's folder will also appear in the Data Management screen. The results of adding a user are shown in Figure 8.

Figure 8. Added User

New User Listing in User
Management Window's
Users List
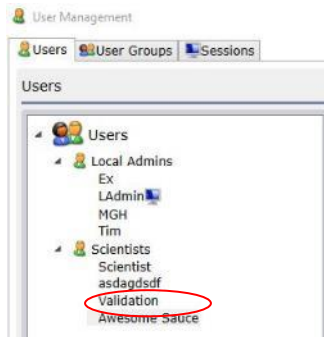
New User Listing in User Management
Window's Non Group Members List

New User Listing in Data
Management Screen

6. To confirm that the user has been added to the database:

- Select **Administration > Manage Users**.

  The User Management window appears.

- Confirm that the user's name is listed in the Users and User Groups tabs (Figure 8 above).

- Navigate to the Home tab and click **Manage Data**.

  The Data window appears.

  Confirm that the newly added user's name appears in the Non Group Members list in the right-hand pane, for potential adding to a group.

Figure 9 illustrates user permissions. In the Data window on the left, the logged-in user has Local Administrator permissions and therefore can view the icons (user folders) representing all users and can also view all folders. On the right, the logged-in user has Scientist permissions and therefore is limited to viewing only their own user folder and any shared folders the user has at least read access to.

Figure 9. User Permissions

Local Administrator   **Scientist**
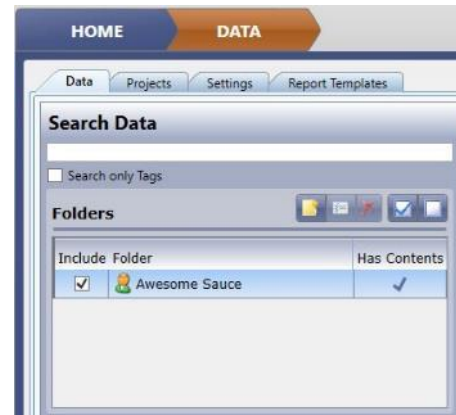
The logged-in user in this Data window has Scientist permissions and therefore cannot view the user folders for the other two users and the shared folder that the user does not have read access to.

3.2   Removing a User

Perform the following steps to permanently remove a user profile from the database. To temporarily remove a user profile from the database for possible future reactivation, see Deactivating a User in section 3.3.

To remove a user

> **NOTE: Removing users requires Local Administrator permissions.**

1. Log in to the Celigo application.

2. In the Start tab, at the top of the Celigo user interface, select **Administration > Manage Users** (Figure 4 above).

   The User Management window appears (Figure 5 in section 3.1) with the Users tab displayed.

3. In the Users list in the left pane, left-click the name of the user to be removed.

4. In the upper right corner of the Users tab, click the **X** button.

   A confirmation message appears asking if you are sure you want to remove the user.

5. Click **Yes**.

   The user list updates as follows to reflect the change:

   - If the user does not have any associated plates/scans, the user name is removed (Figure 10a).

   - If the user has associated plans/scans, a prompt appears (Figure 10b).

     - Clicking Yes will delete all the contents along with the user.

     - Clicking No will transfer all the data belonging to the user into the currently logged in user account's folder.

     - Clicking Cancel will cancel the delete user operation.

Figure 10a. Removing a User From the Database

Before Confirm   **After Confirm**
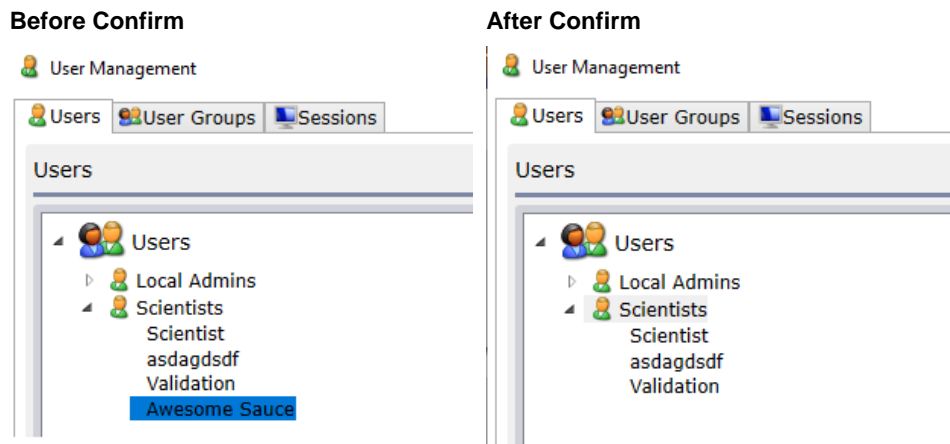
Figure 10b. Removing a User from the Database with Associated Data
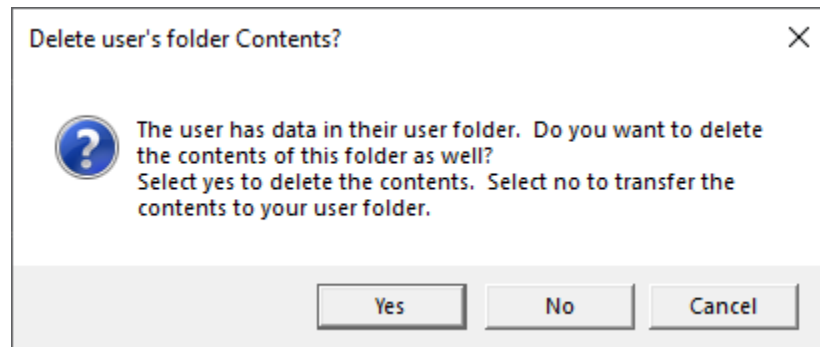
3.3   Deactivating a User

Perform the following steps to deactivate a user profile. To permanently remove a user profile, see Removing a User in section 3.2.

To deactivate an existing user profile

> **NOTE: Deactivating users requires Local Administrator permissions.**

1. Log in to the Celigo application.

2. In the Start tab, at the top of the Celigo user interface, select **Administration > Manage Users** (Figure 4 above).

    The User Management window appears (Figure 5 in section 3.1) with the Users tab displayed.

3. In the Users directory in the left pane, left-click the name of the user to be edited.

4. Click **De-Activate User** on the right-hand pane.

The users name in the user list changes to bold text with an asterisk (*). The asterisk indicates that the profile for the user has changed in the current session.

5. At the bottom of the Users tab, click **Update All Changes**.

    The system applies the change. The user's name in the user list changes to red (Figure 11) and the asterisk disappears. The red indicates a deactivated user.

Figure 11. User Profile Deactivation Indicated

Before Selecting Update All Changes	After Selecting Update All Changes

3.4   Editing an Existing User Profile

To edit an existing user profile

	NOTE: Editing user profiles requires Local Administrator permissions.

1. Log in to the Celigo application.

2. In the Start tab, at the top of the Celigo user interface, select **Administration > Manage Users** (Figure 4 above).

    The User Management window appears (Figure 5 in section 3.1) with the Users tab displayed.

3. In the Users directory in the left pane, left-click the name of the user to be edited.

    The user profile appears in the right-hand pane.

4. Edit the user profile as needed.

    The user's name in the user list (appears as bold text and with an asterisk (*) after it. The asterisk indicates that the profile for the user has changed in the current session.

5. Commit the edited user profile to the database by clicking **Update All Changes**.

The system applies the changes. The change is no longer bold and the asterisk disappears (Figure 12).

Figure 12. User Profile Change Indicated
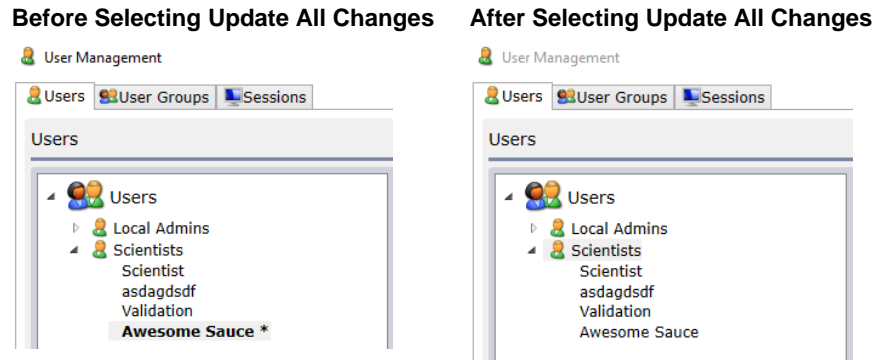
4.   Managing Groups

> **NOTE: Managing groups requires Local Administrator permissions.**

You manage groups in the User Management window, accessed from the Administration menu (Figure 4 above) on the Start tab. Managing groups consists of adding, editing, and removing user groups, and adding and removing users to/from user groups.

After a Local Administrator creates a group, any user can then use folders to limit access to data files and folders by those groups. For the instructions to use folders, see section 5.

4.1   Adding a User Group

To add a user group

> **NOTE: Adding user groups requires Local Administrator permissions.**
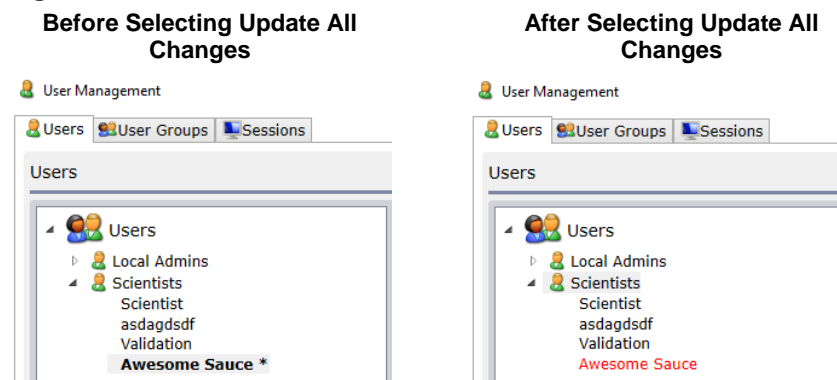
1. Log in to the Celigo application.

2. In the Start tab, at the top of the Celigo user interface, select **Administration > Manage Users** (Figure 4 above).

    The User Management window appears (Figure 5 in section 3.1) with the Users tab displayed.

3. Click the **User Groups** tab (Figure 13).

> **NOTE: The User Groups tab is available only to users who have Local Administrator permissions.**

Figure 13. User Groups Tab
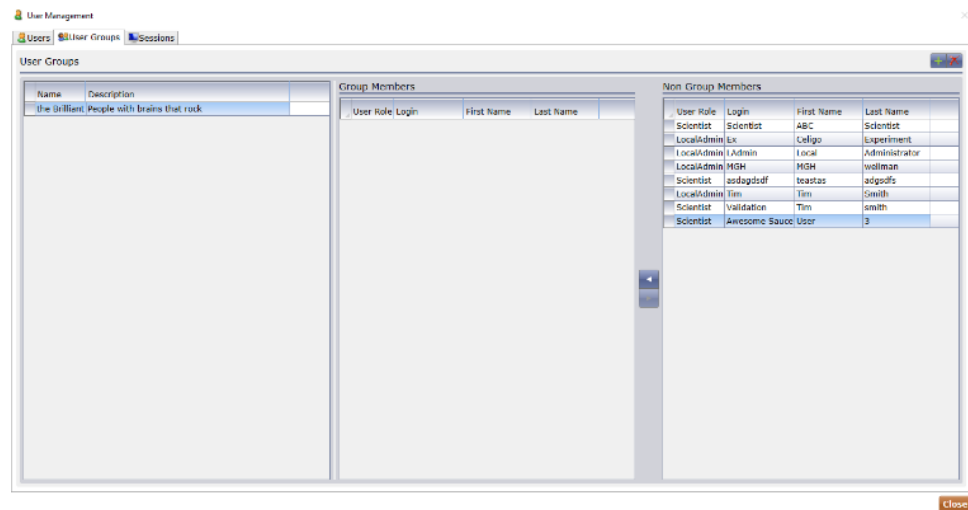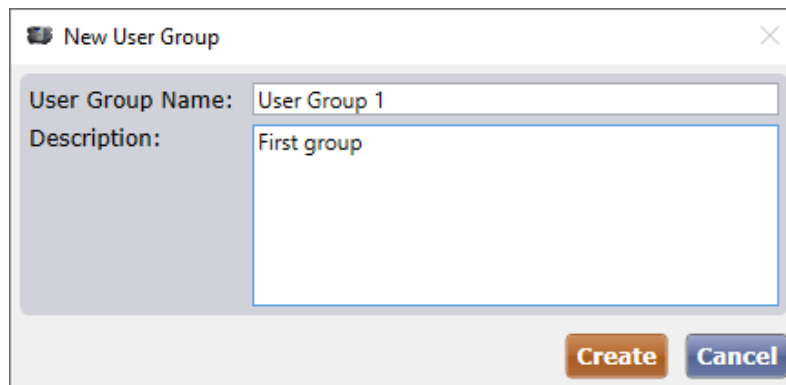
4. In the upper right corner of the User Groups tab, click the **+** symbol.

The New User Group dialog box appears (Figure 14).

Figure 14. New User Group Dialog Box

5. In User Group Name, enter the desired user group name.

6. In Description, enter a description of the group if needed (Figure 15).

Figure 15. New User Group Entries

	NOTE: If a user group by the entered name already exists, the Create button becomes disabled and a message appears when you hover the mouse cursor over the Create button.

7. Click **Create**.

The new user group appears in the User Groups list in the left-hand pane (Figure 16).

Figure 16. User Group Added
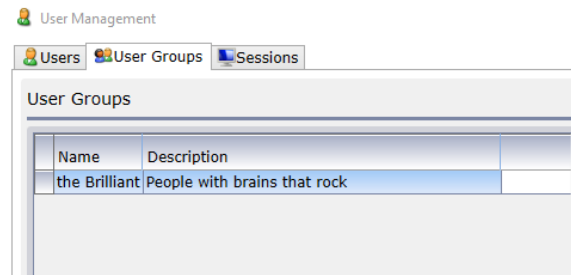
4.2   Adding Users to a User Group

It is convenient to add individual users to a user group. This will allow users to set up folders for multiple users to access.

To add users to a user group

> **NOTE: Adding users to a user group requires Local Administrator permissions.**

1. Log in to the Celigo application.

2. In the Start tab, at the top of the Celigo user interface, select **Administration > Manage Users** (Figure 4 above).

3. Click the **User Groups** tab.

4. In the User Groups list in the left-hand pane, click the User Group to which you want to add the user.

5. In the Non Group Members list in the right-hand pane, click the user that you want to add to the selected group.

    -   To select multiple individual users, use Ctrl+click.

    -   To select multiple users in a range, use Shift+click.

6. Click the **<** button.

    The user name moves from the Non-Group Members list to the Group Members list in the middle pane.

    In Figure 17, the users named Demo User and Local Administrator have been added to the group named User Group 2. Users named User 1, User 2, and User 3 have not yet been assigned to groups.

Figure 17. Users Added to a User Group

7. Repeat steps 5 and 6 as needed for each user that you want to add to the selected group.

4.3   Removing Users from a User Group

To remove users from a user group

> **NOTE: Removing user from a user group requires Local Administrator permissions.**

1. Log in to the Celigo application.

2. In the Start tab, at the top of the Celigo user interface, select **Administration > Manage Users** (Figure 4 above).

    The User Management window appears (Figure 5 in section 3.1) with the Users tab displayed.
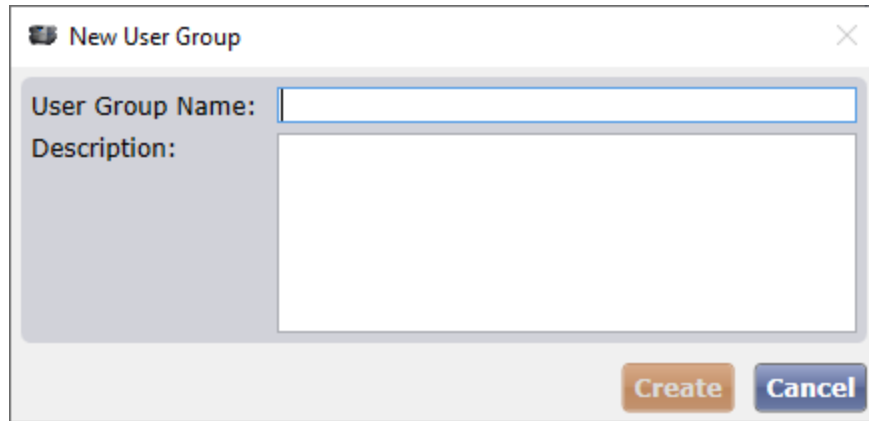
3. Click the **User Groups** tab.

4. In the User Groups list in the left-hand pane, click the User Group from which you want to delete the user.

    In the Group Members list in the middle pane, click the user that you want to delete from the selected group.

    - To select multiple individual users, use Ctrl+click.

    - To select multiple users in a range, use Shift+click.

5. Click the **>** button.

    The user name moves from the Group Members list to the Non-Group Members list in the right-hand pane.

4.4   Removing a User Group

Perform the following steps to remove a user group from the database.
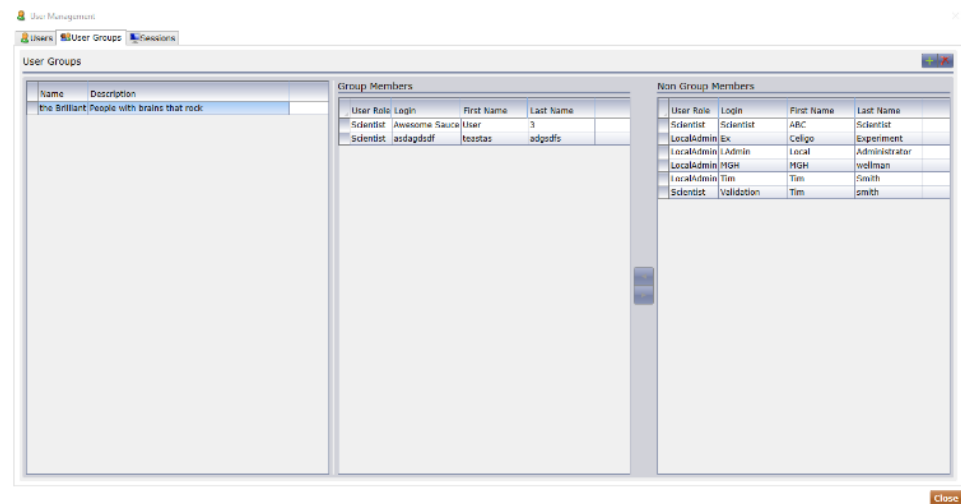
To remove a user group

	NOTE: Removing a user group requires Local Administrator permissions.

1. Log in to the Celigo application.

2. In the Start tab, at the top of the Celigo user interface, select **Administration > Manage Users** (Figure 4 in section 3).

    The User Management window appears (Figure 5 in section 3.1) with the Users tab displayed.

3. Click the **User Groups** tab.

4. In the User Groups list in the left-hand pane, click the name of the user group that you want to remove.

5. In the upper right corner of the User Management window, click the **X** button.

    A confirmation message appears asking if you are sure you want to remove the user group.

6. Click **Yes**.

    The User Groups list in the left-hand pane updates to reflect the deleted user group.

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5.   Managing User Sessions

You manage user sessions in the User Management window, accessed from the Administration menu (Figure 4 above) on the Start tab. Managing user sessions consists of viewing user sessions and their locked data, and terminating user sessions.

	NOTE: Managing user sessions requires a network database setup and Local Administrator permissions.

Figure 18. User Sessions Window
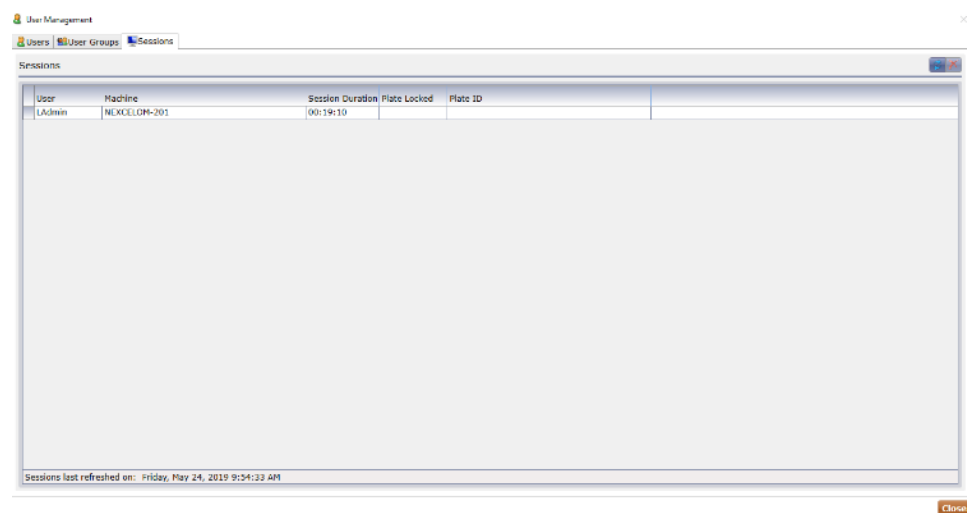
5.1   Viewing User Sessions

To view a user session

	NOTE: Viewing user sessions requires a network database setup and Local Administrator permissions.

1. Log in to the Celigo application.

2. In the Start tab, at the top of the Celigo user interface, select **Administration > Manage Users** (Figure 4 above).

    The User Management window appears (Figure 5 in section 3.1) with the Users tab displayed.

3. Click the **User Sessions** tab (Figure 18).

	NOTE: The User Sessions tab is available only to users who have a network database setup and Local Administrator permissions.

- Each entry in the user sessions table represent a current connection to the network database.

  Each session specifies the:

  – logged in user

  – machine name the session originated from session duration

  – plate details for any plate currently in use by the session

	NOTE: Whenever a user loads or views a plate, that plate is locked preventing others on other machines from loading or viewing the same plate. This locking mechanism is performed to protect the data while in use. In addition, various data management functions will not be allowed for data that is locked until it is unlocked. To unlock data, the user would have to unload the plate/scan or logout. In addition, a local administrator can terminate a user session. To terminate a user session, please refer to section 5.2.

4. To refresh the user sessions at any time, click the refresh button found at the top right corner of the window.

Figure 19. User Session Refresh Button
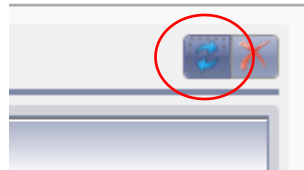
5.2   Terminating a User Session

To terminate a user session

	NOTE: Terminating user sessions requires a network database setup and Local Administrator permissions.
	NOTE: Whenever a user loads or views a plate, that plate is locked preventing others on other machines from loading or viewing the same plate. This locking mechanism is performed to protect the data while in use. In addition, various data management functions will not be allowed for data that is locked until it is unlocked. To unlock data, the user would have to unload the plate/scan or logout. In addition, a local administrator can terminate a user session. To terminate a user session, please refer to section 5.2.

1. Log in to the Celigo application.

2. In the Start tab, at the top of the Celigo user interface, select **Administration > Manage Users** (Figure 4 above).

3. Click the **User Sessions** tab.

4. In the window, select the user session to be terminated and then click the Terminate button to terminate the selected user session.

Figure 20. Terminate User Session Button
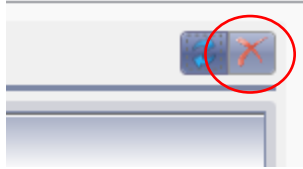
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6.   Managing Folders

Any user can create folders to both organize files and to limit access to the folders and their contents by existing users and user groups. You do this using the Folder view found in the Data Management screen from the Start tab's Manage Data button.

Folders are displayed in the Data and Settings tabs (Figure 21).

If the user has Local Administrator permissions, the user will have full permissions to view all folders. All other users will be able to view a folder only if the user has been given permission to view it. A user has access to a data file or folder by being associated with it either directly or indirectly by means of a user group. A user's access rights to a shared folder depends on the association a user has with the folder.

The folder view in the left pane displays the existing folders that the logged-in user has permissions to access (by means of the Scientist or Local Administrator permission selected when the user profile was created). When a folder is checked in the left pane, the data or settings contained in the folder appears in the right-hand pane for interaction.

Figure 21. Data Window
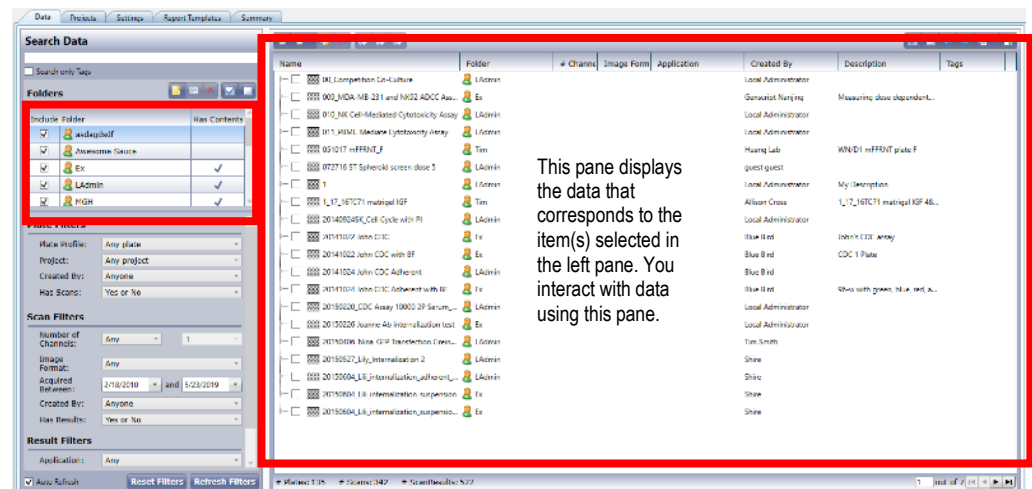
6.1   Adding a Folder

Any user can create (add) a folder to set up permissions to the folder and its contents. The permissions affect whether personnel will be able to view or take other actions on the folder and its contents.

To add a folder

1. Log in to the Celigo application.

2. In the Start tab's task screen, click **Manage Data**.

   The Data Management screen appears (Figure 21 above).

3. Near the top of the Data Management screen, in the left-hand pane, click the **new folder** symbol found within the folder view (Figure 22).

Figure 22. New Folder Button

The New Folder window appears (Figure 23). By default, the Name field is blank and the Permissions field displays Full permissions for the currently logged in user.

Figure 23. New Folder for Setting Up Permissions
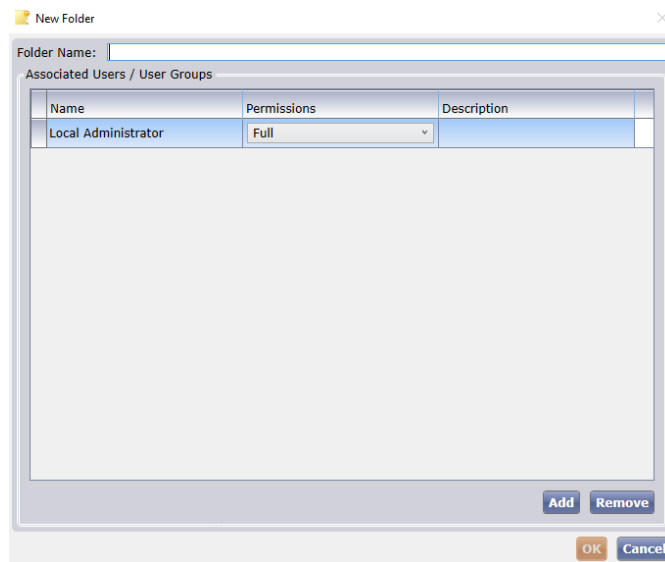
4. In Folder Name, type a unique folder name (a folder name that is not already in use).

    •   If the typed folder name is not unique, the folder name will display in red and the OK button will be greyed out.

5. In Permissions, change the permission for the folder as desired.

6. Click **Add**.

7. The Add User Group / User dialog box appears (Figure 24).

Figure 24. Add User Group / User Dialog Box

User Groups Tab   **Users Tab**
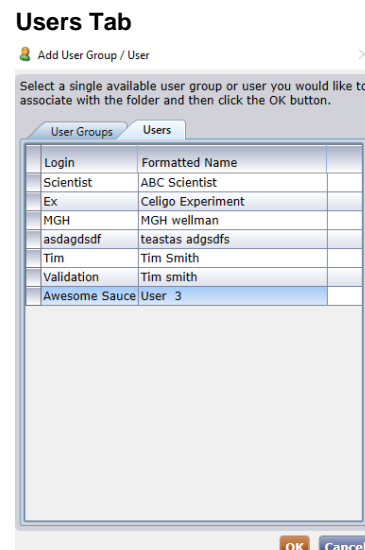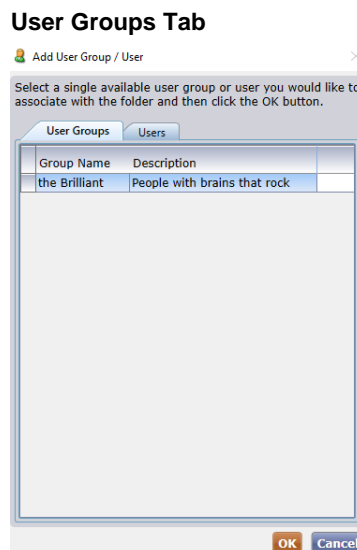
8. Click a single user group or user that you want to associate with the folder.

9. In the Add User Group / User dialog box, click **OK**.

   The name of the user group or user that you want to associate with the folder appears in the New Folder dialog box.

10. Repeat steps 8 and 9 as needed to associate more user groups and users with the folder.

11. In the New Folder dialog box, click **OK**.

   The new folder name appears in the Data window's left pane. Figure 25 shows users and groups with the four different types of permissions.

Figure 25. Permission Types
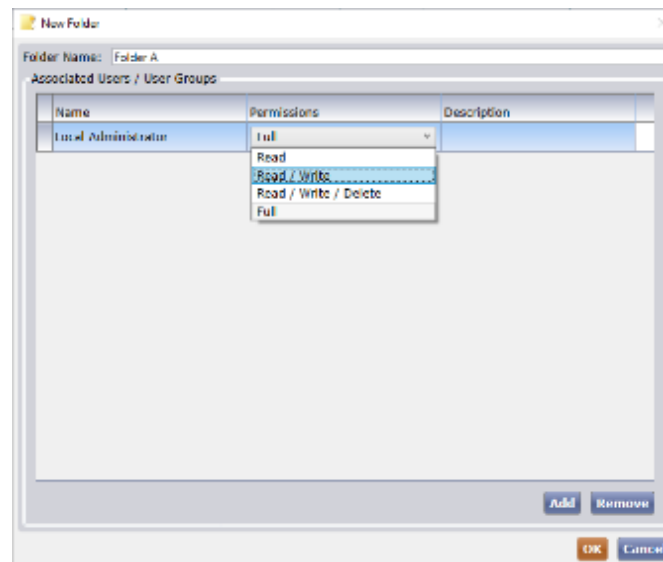
- Read – The folder and its contents can be viewed only.

- Read / Write – The folder and its contents can be viewed, and can be modified by only adding to the contents.

- Read / Write / Delete – The folder and its contents can be viewed, and can be modified by both adding and removing contents from the folder, but the folder itself cannot be deleted.

- Full – In addition to the access given in Read / Write / Delete, folder associations and permissions can be modified, and the folder itself can be deleted.

If the user has Local Administrator permissions, the user has full permissions to all folders.

6.2   Changing Permissions to a Folder

1. Log in to the Celigo application.

2. In the Start tab's task screen, click **Manage Data**.

   The Data Management screen appears (Figure 21 above).

3. Click the folder for which you want to change the permissions.

4. At the top of the Data Management screen, in the left-hand pane, click the **Modify Folder** button (Figure 26).

> **NOTE: You can click this button only if the selected folder is a shared folder and you have full permissions to the folder (by having been given Full permissions or by being an Administrator).**

Figure 26. Modify Folder Button

The Modify Folder dialog box appears (Figure 27).

Figure 27. Modify Folder
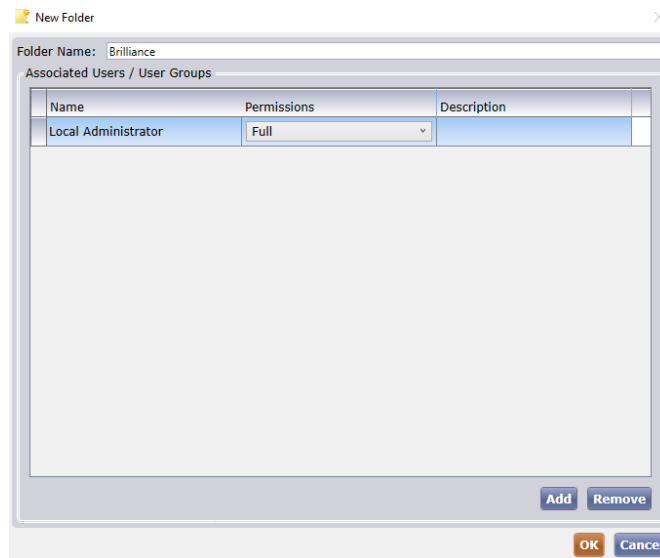
5. In Permissions, change the selection as needed.
6. Click **OK**.

6.3   Deleting a Folder

1. Log in to the Celigo application.

2. In the Start tab's task screen, click **Manage Data**.

    The Data Management screen appears (Figure 21 above).

3. Click the folder that you want to delete.

4. At the top of the Folder view in the Data Management screen in the left-hand pane, click the Delete Folder button (Figure 28).

Figure 28. Delete Folder Button

	NOTE: You can click this button only if the selected folder is a shared folder and you have full permissions to the folder (by having been given Full permissions or by being an Administrator).

A confirmation message appears about deleting the folder.

5. Click **Yes**.

One of the following occurs:

- If the folder contains no data or settings, the system deletes the folder.

If the folder contains data or settings, a confirmation message appears asking whether you would like to also delete the contents of the folder, transfer the contents of the folder to their own user directory, or cancel the delete operation (Figure 29).

Figure 29. Delete Folder Contents Confirmation Message
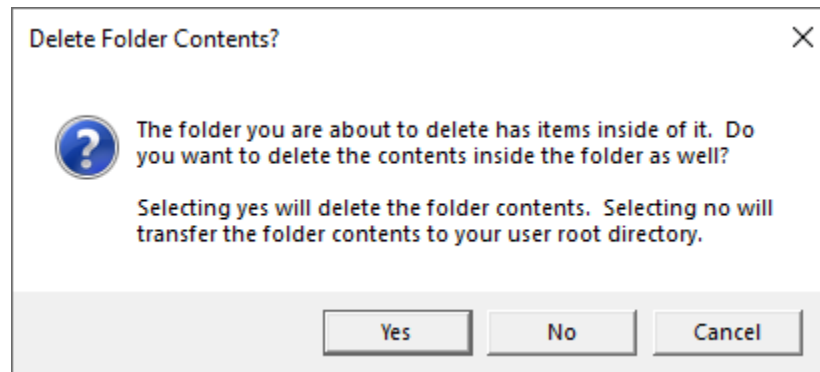
6. Do one of the following:

- If you want to delete the contents of the folder, click **Yes**.

  The folder and its data are deleted.

- If you want to transfer the contents of the folder to your user directory, click **No**.

  The folder is deleted and the contents are moved to your user directory.

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7.   Managing Data

Figure 30. Data Management Screen
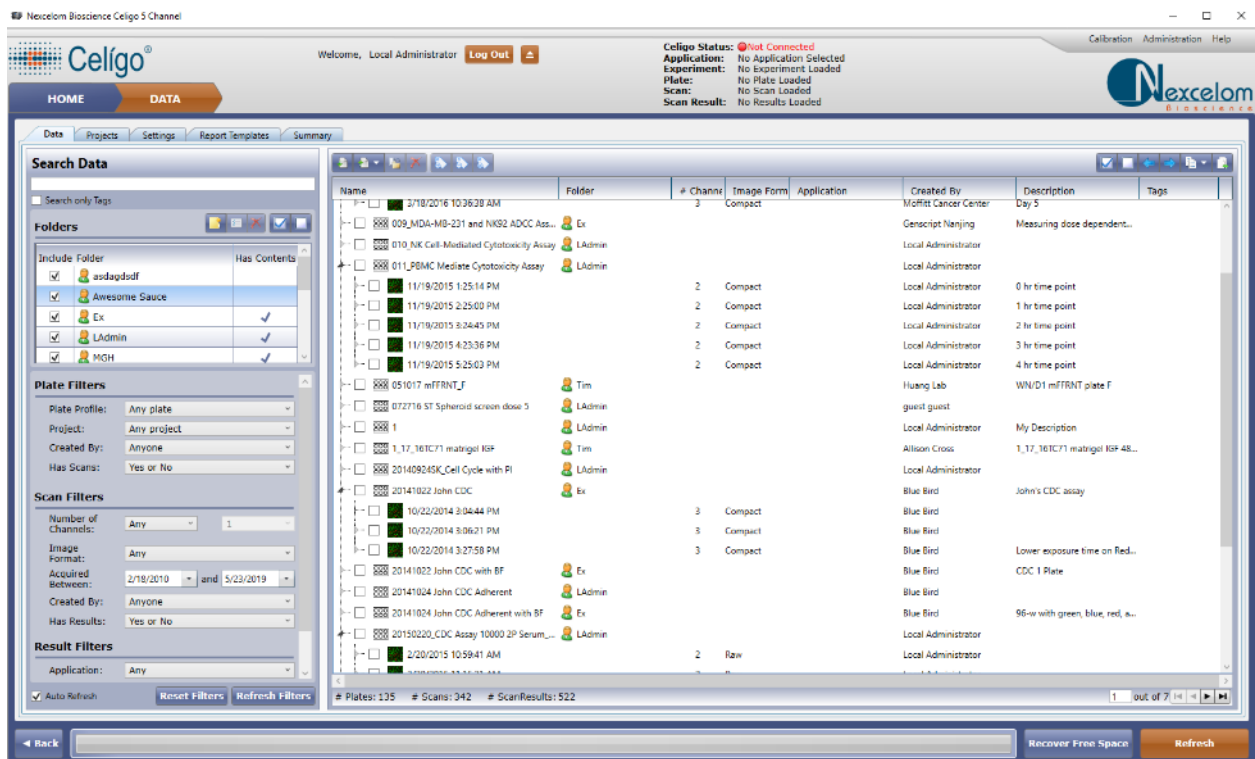
The Data Management is broken into five separate views: Data, Projects, Settings, Report Templates and Summary. The Data Tab displays all the data currently stored in the Celigo database. Data contains all Plates, Scans, and Scan Results. Data is displayed in a grid utilizing a tree like structure to display the relation between plates, scans, and scan results.

Figure 31. Data Management Tabs
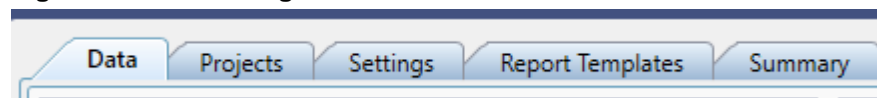
7.1   Searching for Data

The default setting for the Data Tab is to display all the data the user has access to. If the user would like to limit what is displayed, the user can modify the filter settings found on the left side of the screen.

Figure 32. Data Searching Filters
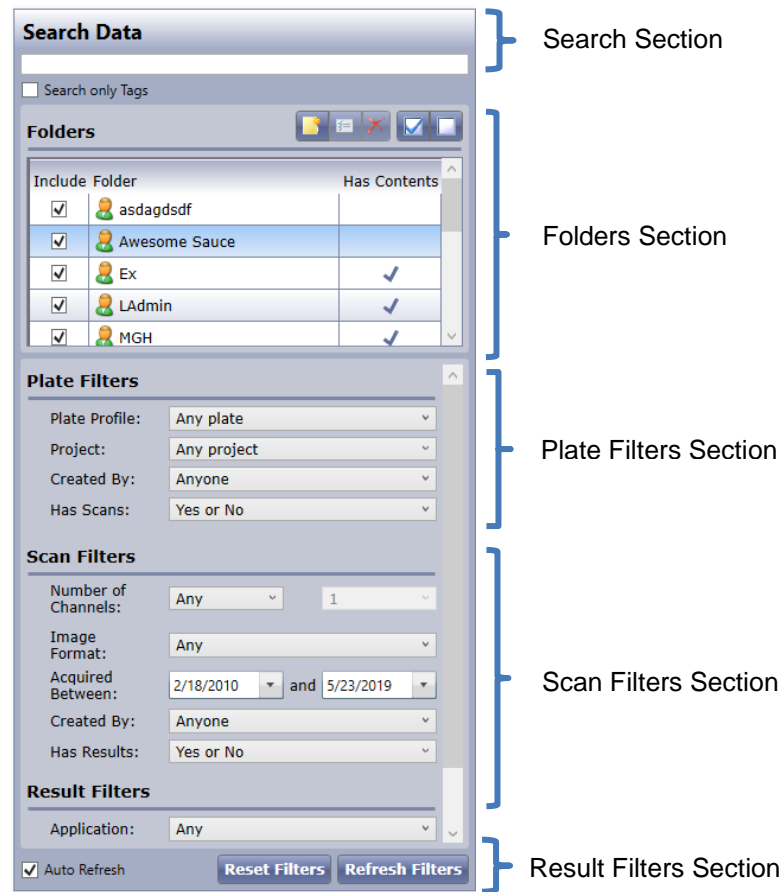
Filters are broken up into 5 sections: Search, Folders, Plate, Scan, and Result.

Search

The Search section appears just above the Folders section. This section is primarily an open text field that allows the user to type in any text to match a plate barcode, descriptions for any data (plates, scans or scan results), or tags for any data (plates, scans, or scan results). If desired, a checkbox exists to limit the filter to only data related tags.

Folders

The Folders section appears underneath the Search section and displays all folders the logged in user has access to. This section allows the user to add, modify, or delete folders as well as selecting which folders to display data for. If a folder is checked, the data contained within the folder is displayed. If a folder is not checked, the data contained within the folder is not displayed. The Check All and Uncheck All buttons (Figure 33) exist to quickly perform batch checking/unchecking. If a user wishes to display a single folder, the user double clicks on any folder to check that folder and uncheck all others.

Figure 33. Check/Uncheck All Buttons

Controls for creating, modifying, and deleting folders (Figure 34) exist in the Folders section. This functionality works in the same manner as in prior versions

of Celigo. Additional details can be found in section 6 of the Celigo Administrator Guide.

Figure 34. Folder Control Buttons

Plate Filters

The Plate Filters section appears just below the Folders section. This section allows a user to filter plates by plate type (also referred to as the plate profile), project, plate creator, and whether or not the plate has any associated scans.

Scan Filters

The Scan Filters section appears just below the Plate Filters section. This section allows a user to filter scans by the number of channels used when the scan was acquired, image format of the images in the scan, time frame the scans were acquired, plate creator, and whether or not the scan has any associated scan results.

Result Filters

The Result Filters section appears just below the Scan Filters section. This section allows a user to filter scan results by the scan's application type, time frame the scan results were generated, and scan result creator.

Refreshing Controls

If a user modifies any setting while the Auto Refresh checkbox (Figure 35) is checked, a refresh operation will occur, and the software will display the updated data set matching the new filter criteria on the right-hand side of the screen.

Figure 35. Auto Refresh Checkbox
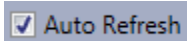
If the Auto Refresh checkbox (Figure 35) is not checked, no refresh operation will occur until the user clicks the Refresh button (Figure 36) located at the bottom right hand side of the screen.

Figure 36. Refresh Button

To search for data (plates, scans, scan results)

1. Log into the Celigo application.
2. In the Start tab's task screen, click Manage Data. The Data Management screen appears.
3. Adjust any search and filter entries as applicable (see descriptions above).
4. Click Refresh. The Data display on the right side of the screen will display any found data results matching the search parameters/filters specified.

	NOTE: If the Auto Refresh checkbox is checked, step 4 above is not necessary. A refresh operation will be invoked for every change setting as a setting is changed.

7.2   Clearing Search Selections

The Reset Filters button (Figure 37) provides the user the ability to revert all the filters back to default settings which will display all data on the right-hand side of the screen after a refresh is invoked.

Figure 37. Reset Filters Button

Reset Filters

To clear search settings for data (plates, scans, scan results)

- In Data Management screen in the Data Tab, click the Reset Filters button.

7.3   Updating Search Selections

The Plate, Scan, and Result Filters are set to have their selectable options and limits based on the entire database. Plate Types will therefore only display plate types that are existing in the database. Created By filter and all other filters function similarly. When the Celigo is connected to a network database (where it is possible for other users to be changing the data in the database you are connected to) the limits of your filters can change from when they have been loaded. The Refresh Filters button (Figure 38) allows a user to refresh the limits of all their filters to the current state of the database.

Figure 38. Refresh Filters Button

Refresh Filters

> **NOTE: The Refresh Filters button is only displayed when the Celigo is connected to a network database. This option is not present for Celigo connected to a local database.**

To update the bounds of the search settings for data (plates, scans, scan results)

- In Data Management screen in the Data Tab, click the Refresh Filters button.

7.4   Viewing Data

Data is displayed in a grid on the right-hand side of the screen (Figure 39). The grid utilizes a tree like structure to display the relation between plates, scans, and scan results. This section of the screen allows the user to view data that matches the specified filters and enables the user to perform various functions on the data.

Figure 39. Data Display Grid
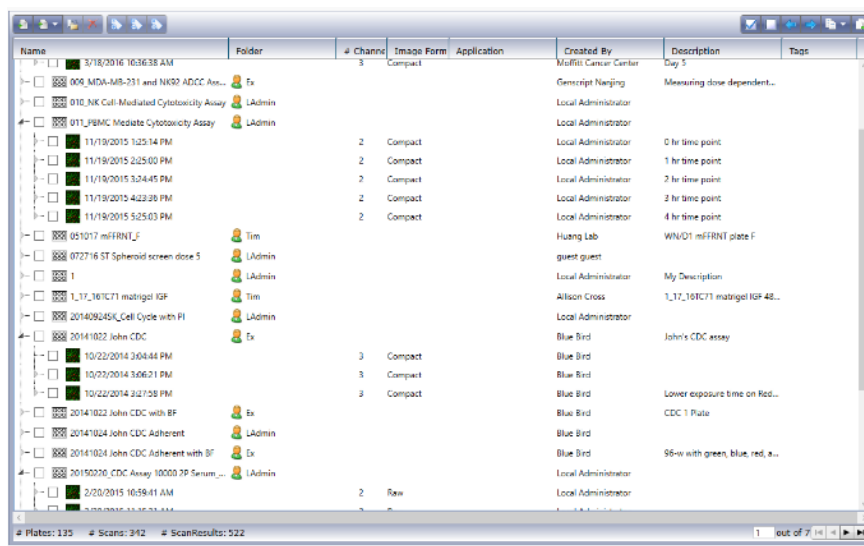
The data displayed in the grid is organized by plate. Each plate can be expanded to display any scans that were acquired for the plate. Each scan can also be expanded to display any scan results that were generated for the scan. The grid is organized into columns that display various properties of the plates, scans, and scan results. These columns include: Name, Folder, Number of Channels, Image Format, Application, Created By, Description, and Tags. Information within columns will be displayed as applicable. All columns are sortable except for the Tags column.

The button strip (Figure 40) at the bottom of the data display section displays the plate count, scan count, and scan result count of the found matching data set. Each data set is broken up into pages and only one page can be viewed at a time. On the right-hand side of the strip, controls exist to allow the user to navigate to different pages of the data set. A user can type in a page number to navigate to, click on a button with an arrow and a line to navigate to the first or last pages, or click on a button with just an arrow to navigate to the previous or next page. If an operation is not allowed, the buttons will become disabled.

Figure 40. Data Display Button Strip

You can expand and collapse the line items (data view) showing the plate listings containing the scan images and scan data (scan results).

To expand the data view

- With the Data tab selected in the Data Management screen, click the Expand All arrow at the top right of the screen (Figure 41).
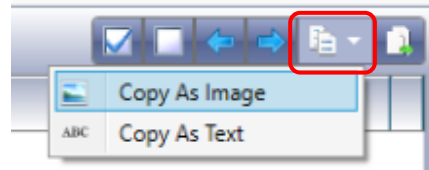
Figure 41. Expand All Arrow

To collapse the data view

- With the Data tab selected in the Data Management screen, click the Collapse All arrow at the top right of the screen (Figure 42).

Figure 42. Collapse All Arrow

7.5   Exporting Data Report

The Data Tab allows a user to copy the current data result set as an image, text, or as an exported CSV file.

Figure 43. Copy Dropdown Menu

The Copy As Image button allows the user to copy the displayed data (as seen on the screen) as an image to the clipboard.

The Copy As Text button allows the user to copy all data (in all pages) as text to the clipboard.

Figure 44. Export Button

The Export button (Figure 44) allows the user to save a text file of all data (from all pages) to disk.

7.6   Selecting Data

Each data item (plate, scan, scan result) can be checked or unchecked. Checking a data item marks the data item to be included for a data operation if one is chosen by the user.

Figure 45. Data Operations Buttons

Data operations (Figure 45) can be found at the top left of the data display section. These operations include: Export, Export and Delete, Move, Delete, Add Tag, Remove Tag, and Clear All Tags. One additional operation that exists in this area of the user interface that does not involve checked data items is the Import operation.

Context menu options (Figure 46) exist for all Plates for checking and unchecking all the plate's scans. The Check All Scans button allows the user to quickly check all scans for the specified plate. The Uncheck All Scans button allows the user to quickly uncheck all scans for the specified plate.

Figure 46. Context Menu Options for Plates
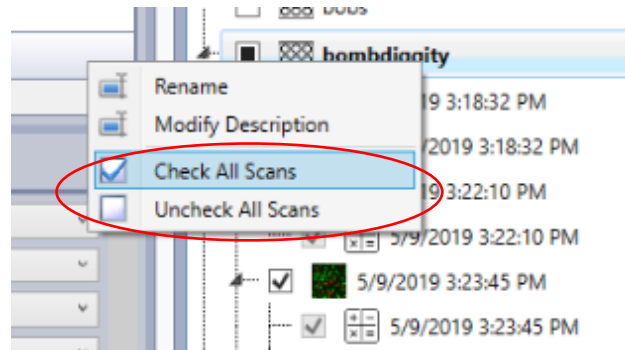
Context menu options (Figure 47) exist for all Scans for checking and unchecking all of the scan's scan results. The Check All Scan Results button allows the user to quickly check all scan results for the specified scan. The Uncheck All Scan Results button allows the user to quickly uncheck all scan results for the specified scan.

Figure 47. Context Menu Options for Scans
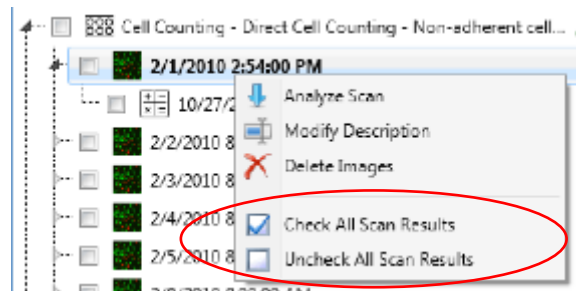
To check all data in the data view

- With the Data tab selected in the Data Management screen, click the Check All button at the top right of the screen (Figure 48).

Figure 48. Check All Button

To uncheck all data in the data view

- With the Data tab selected in the Data Management screen, click the Uncheck All Button at the top right of the screen (Figure 49).

Figure 49. Uncheck All Button

To check all scans of a plate in the data view

1. With the Data tab selected in the Data Management screen, right click the plate you want to check all scans for (Figure 46).

2. Select the Check All Scans menu item in the context menu.

To uncheck all scans of a plate in the data view

1. With the Data tab selected in the Data Management screen, right click the plate you want to uncheck all scans for. (Figure 46).

2. Select the Uncheck All Scans menu item in the context menu.

To check all scan results of a scan in the data view

1. With the Data tab selected in the Data Management screen, right click the scan you want to check all scan results for (Figure 47).

2. Select the Check All Scan Results menu item in the context menu.

To uncheck all scan results of a scan in the data view

1. With the Data tab selected in the Data Management screen, right click the scan you want to uncheck all scan results for (Figure 47).

2. Select the Uncheck All Scan Results menu item in the context menu.

7.7   Importing Data

Figure 50. Import Data Button

The Import button (Figure 50) allows the user to import data into the Celigo database. Celigo data in file format is referred to as archives and archives can be imported back into a Celigo database using this operation.

When you import plates, you are returning plates, scans, and the associated scan results from their archive location (the location of the local hard drive) into the database in *.rcf format for use.

To import plates

1. Locate the files that you want to import.

2. In the Data tab, click the Import button.

   The Import Plates dialog box appears (Figure 51).

Figure 51. Import Plates Dialog Box
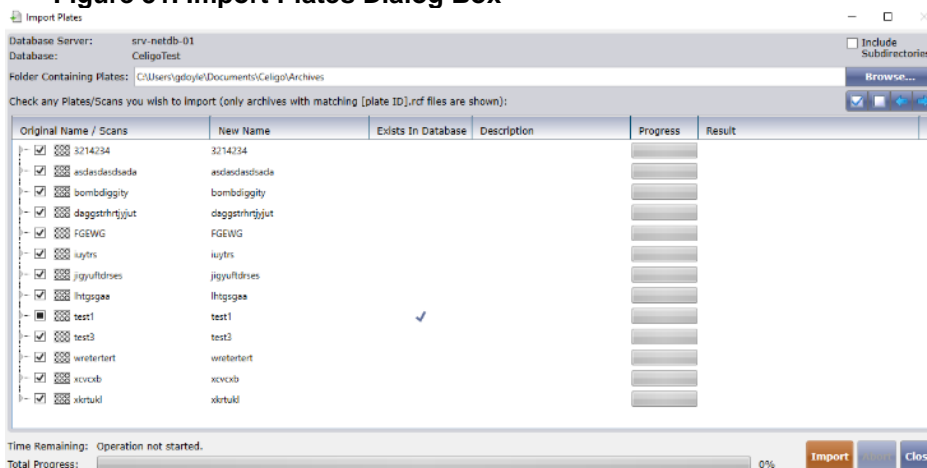
3. To display the path that contains the folder with the plate folders to import:

- To the right of the Root Folder Containing Plates field, click the Browse**...** button and then, in the resulting Select Folder dialog box (Figure 52), navigate to the needed folder and click **Select Folder.**

  NOTE: The default directory for archives will be the following: C:\Users\<username>\Documents\Celigo\Archives

- Users must browse to and select the parent folder that contains the entire archive folder. Users should not browse to and select the archive folder itself, or else no archives will appear in the list to import.

Figure 52. Select Folder Dialogue Box

If the selected plate folder contains exported archive folders (which individually contain their own .rcf file inside), the list 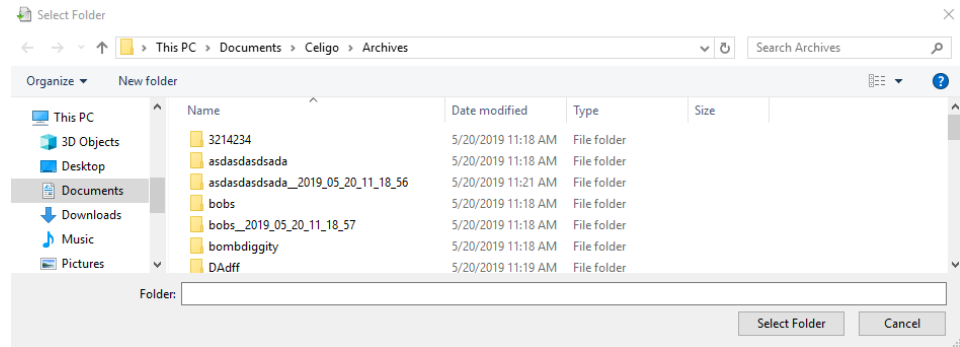of plate IDs appears in the Import Plates window. (The .rcf file must have the same name as the archive folder. The archive folder name is the plate name). If the, Include Subfolders checkbox is checked, when the path is updated by the Browse… button, the system will check every subfolder of the path for archives.

On the left side of the Import Plates dialog box, checkmark all plates that you want to import (Figure 53). You can also optionally choose individual scans of a plate to import.

This dialog will also specify whether a plate or its scan already exists in the database and provides you with the descriptions of the plates and scans to better inform the user what would be imported.

Figure 53. Plates Check Marked for Import
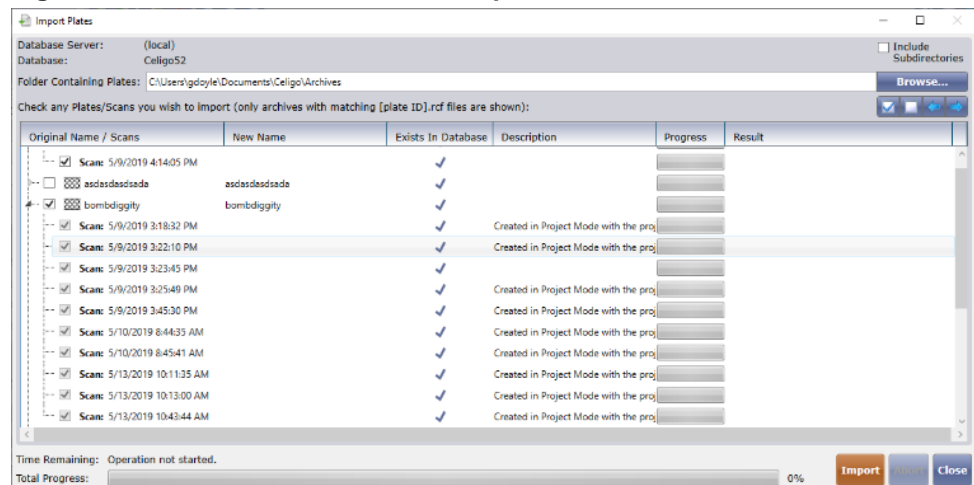
4. If renaming of the plate that is being imported is desired:

- Select the plate row of the plate to be renamed.

- Right click in the New Name column for the plate row selected.

- A context menu will appear with a Rename menu item (Figure 54).

- Click the rename menu item and the field will become editable.

- Type in a new name for the plate and press enter.

Figure 54. Renaming Plate During Import
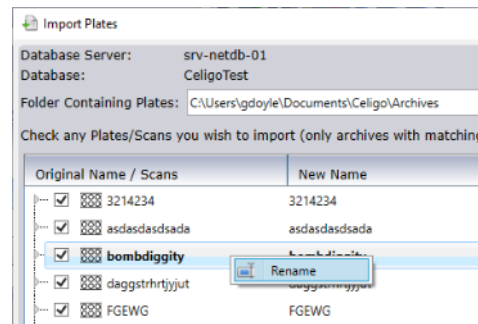

	NOTE: If a checkmark is visible in the field Exists in Database, the plate ID (for the new name field) already exists in the database. Continuing with an import operation will result in either the merging of the plate's scans with the existing plate in the database (if the plate is compatible and no duplicate scans exist) or an auto rename of the new plate name.

5. Click **Import**.

The system begins importing the .rcf format files to the database and a progress screen appears. After each plate and scan completes, the progress for the item will state 100% and an import message for the item will appear for each plate and scan stating what the software did as part of the import operation.

Clicking Abort will cancel the import operation.

- If importing a plate that doesn't already exist in the database, the software will import the plate with the specified plate name (Figure 55).

Figure 55. Importing New Plate
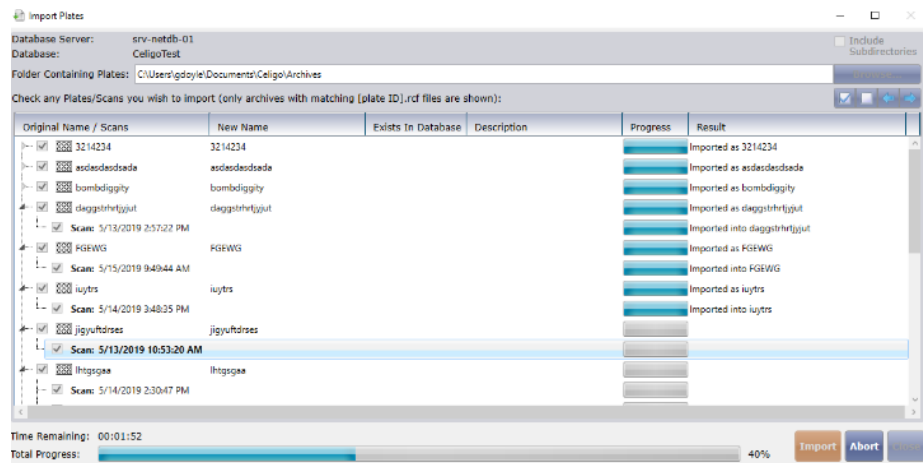
- If importing a plate that already exists, the software will check to see if scans and scan results already exist within a plate and will automatically pre-select to import compatible scan and scan results. The software will then merge the new scans within the existing plate (Figure 56).

Figure 56. Import Plate Merging
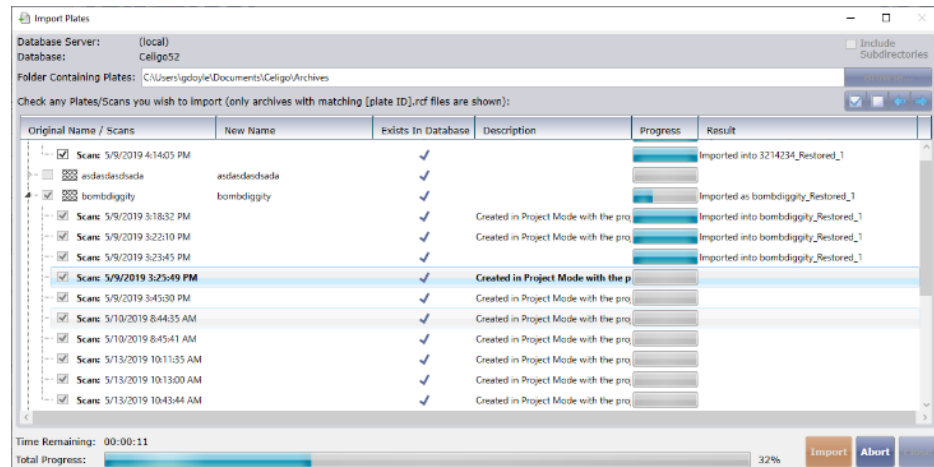
- If importing a plate with scan and scan results that already exists, the software will auto rename the imported plate. The software will automatically append to the name of the plate being imported to ensure it has a unique name (Figure 57).

Figure 57. Import Plate Auto Rename
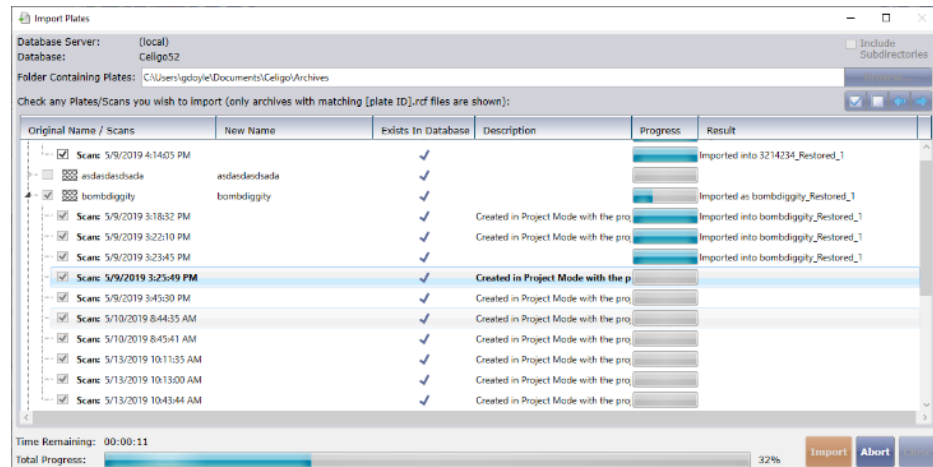
7.8   Exporting Data

Figure 58. Export Button Options
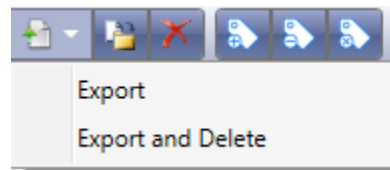
The Export button (Figure 58) allows the user to export checked data from the Celigo database into a file format referred to as an archive. The Export and Delete button performs the same task as the export operation, but will also delete the checked data that was exported after a successful export operation.

When you export plates, scans, or scan results, you are moving them from the SQL database to your local data drive in .rcf format, followed by moving this archive copy to a different data drive for possible future use.

You select plates and scans for exporting with the associated scan results; you cannot select only scan results for exporting. You can only export scan results as a set; you do not export individual scan results.

To export plates, scans, or scan results

1.   Log in to the Celigo application.

2.   In the Start tab's task screen, click **Manage Data**.

The Data Management screen appears (Figure 30 above).

3.   In the data view of the Data Tab, check the plates, scans, or scan results that you want to export.

To do this, left-click the checkbox to the left of the plate or select the **Check All** button (Figure 48), as applicable. To uncheck all, select the **Uncheck All** button (Figure 49).

	NOTE: If you checkmark a plate, then a checkmark is automatically applied to ALL of its scans and all scan results, since they cannot exist in the database without an associated plate. Likewise, if you checkmark a scan, then a checkmark is automatically applied to its associated scan results.

4.   Click **Export**.

A Browse for Folder dialog box appears (Figure 52). In the dialog box, navigate to the desired destination for the file.

	NOTE: For best performance, archiving to an eSATA, USB 3.0 external hard drive, or networked file location over a 1 Gigabit Ethernet connection or better is recommended over exporting to the local C drive.
	NOTE: Another option exists for exporting and deleting data at the same time. This is meant to streamline the operation if a user intends to delete the data after exporting. Data will only be deleted if it was successfully exported.

5.   Click **Select Folder**.

The system begins exporting the plate in .rcf format and a progress bar appears.

	NOTE: At this time, clicking Cancel only cancels the action on the next plate (assuming multiple plates were selected for export) to be exported and not on the plate currently being exported.

7.9   Moving Data

Figure 59. Move Button

The Move button (Figure 59) allows the user to move checked data from one Celigo folder to another.

To move data

1.   In the Start tab, in the task screen, click **Manage Data**.

The Data Management screen appears (Figure 30 above) with the files and folders that the logged-in user has permission to view (by means of the Scientist or Local Administrator permission selected when the user profile was created).

2.   In the data display of the Data Tab, check all plates, scans, and scan results that you want to move to a new folder.

To do this, left-click the checkbox to the left of the plate or select the **Check All** button (Figure 48), as applicable. To uncheck all, select the **Uncheck All** button Figure 49).

> **NOTE: If you checkmark a plate, then a checkmark is automatically applied to ALL of its scans and all scan results, since they cannot exist in the database without an associated plate. Likewise, if you checkmark a scan, then a checkmark is automatically applied to its associated scan results.**

3. Click the move button and the Folder Selection dialog will appear (Figure 60).

4. Select the folder to move all the checked data to and click **OK**.

Figure 60. Move Data – Folder Selection Dialog
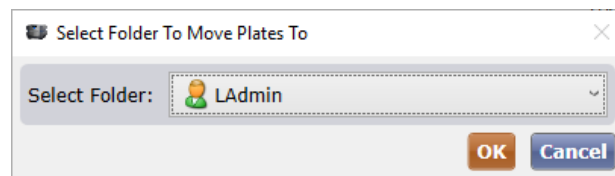
5. After the OK button is pressed, the software will attempt to perform the move operation for all data that is checked. If one of the following conditions for the data is found, no operation will be performed:

- The data already resides in the selected folder.

- The data is currently locked (the data is in use by another user). A lock icon will appear next to the data and no operation is performed.

- The user does not have permission to move the data.

7.10   Deleting Data

Figure 61. Delete Button

The Delete button (Figure 61) allows the user to delete checked data from the Celigo database.

To delete plates, scans, or scan results

1. Log in to the Celigo application.

2. In the Start tab's task screen, click **Manage Data**.

   The Data Management screen appears (Figure 30 above).

3. Search as needed to find the items you want to delete (section Figure 32).

4. In the right-hand pane check the data items that you want to delete.

   To do this, left-click the checkbox to the left of the plate or select the **Check All** button (Figure 48), as applicable. To uncheck all, select the **Uncheck All** button (Figure 49).

	NOTE: If you checkmark a plate, then a checkmark is automatically applied to ALL of its scans and all scan results, since they cannot exist in the database without an associated plate. Likewise, if you checkmark a scan, then a checkmark is automatically applied to its associated scan results.

5. At the top of the data display in the Data Tab, click **Delete** (Figure 61).

    The system deletes all check marked items from the database (the entire plate and its associated scans and scan results).

6. Do one of the following:

    - If you want to wait for the system to begin freeing up space from the deleted files at its next scheduled checkpoint, no additional action is required.

    - If you want to immediately request that the system begin freeing up space from the deleted files, click the **Recover Free Space** button at the bottom right of the Data Management window (Figure 62).

      Note: The Recover Free Space button is only active for the Sysadmin user.

Figure 62. Recover Free Space Button

	NOTE: Recover Free Space requires a Celigo installation utilizing SQL Server 2012 or newer for the Celigo database and requires Local Administrator permissions. Please be aware that the Recover Free Space operation is resource intensive and should not be performed with ongoing Celigo activities (particularly if working with a Celigo Network Database setup). Be sure to run this during times of low activity.

7.11   Tagging Data

Figure 63. Add Tag Button

The Add Tag button (Figure 63) allows the user to add a tag to checked data. When first clicking on the Add Tag button, a dialog will appear asking the user to type in a new tag. As the user types a tag, a list will appear of tags matching the text typed if any exist. Once the tag has been entered, the user clicks OK to complete the operation and then a tag will appear next to the checked items.

Figure 64. Add Tag Selection Dialogs

To tag data

1. In the Start tab, in the task screen, click **Manage Data**.

    The Data Management screen appears (Figure 30 above) with the files and folders that the logged-in user has permission to view (by means of the Scientist or Local Administrator permission selected when the user profile was created).

2. In the data display of the Data Tab, check all plates, scans, and scan results that you want to associate a tag with.

    To do this, left-click the checkbox to the left of the plate or select the **Check All** button (Figure 48), as applicable. To uncheck all, select the **Uncheck All** button (Figure 49).

	NOTE: For adding or removing specific tags to/from data, operations are only performed on top most checked data. For example, if a plate is checked, adding or removing a specific tag is only performed on the plate, but not the plate's scans or scan results. If a scan is checked, adding or removing a specific tag is only performed on the scan, but the not scan's scan results.

3. Click the **Add Tag** button (Figure 63) and the Tag Selection dialog (Figure 64) will appear.

4. In the Tag Selection dialog, enter a new or existing tag to associate with all the checked data to and click **OK**.

    As text is typed, all matching tags will be displayed in a dropdown.

5. After the OK button is pressed, the tag is associated with all top most checked items.

7.12   Removing a Tag from Data

Figure 65. Delete Tag Button

The Delete Tag button (Figure 65) allows the user to delete a tag from checked data. When first clicking on the Delete Tag button, a dialog will appear (Figure 66) asking the user to type in a tag to remove. As the user types a tag, a list will appear of tags matching the text typed if any exist. If a tag is typed that is associated with the checked data, that tag will be removed when the user clicks OK. If a tag is typed that is not associated with the checked data, the data's tags will remain unchanged.

Figure 66. Delete Tag Selection Dialogs
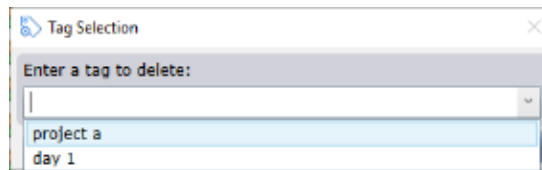
Figure 67. Clear All Tags Button

The Clear All Tags button (Figure 67) allows the user to delete all tags from checked data.

To remove a specific tag from data

1. In the Start tab, in the task screen, click **Manage Data**.

    The Data Management screen appears (Figure 30 above) with the files and folders that the logged-in user has permission to view (by means of the Scientist or Local Administrator permission selected when the user profile was created).

2. In the data view of the Data Tab, check all plates, scans, and scan results that you want to dissociate a tag from.

    To do this, left-click the checkbox to the left of the plate or select the **Check All** button (Figure 48), as applicable. To uncheck all, select the **Uncheck All** button (Figure 49).

> **NOTE: For adding or removing specific tags to/from data, operations are only performed on top most checked data. For example, if a plate is checked, adding or removing a specific tag is only performed on the plate, but not the plate's scans or scan results. If a scan is checked, adding or removing a specific tag is only performed on the scan, but the not scan's scan results.**

3. Click the **Remove Tag** button and the Tag Selection dialog will appear.

4. In the Tag Selection dialog, enter an existing tag to dissociate from the checked data to and click **OK**.

    As text is typed, all matching tags will be displayed in dropdown.

5. After the OK button is pressed, the tag, if it is found associated with the top most checked items, is removed from the data item.

To remove all tags from data

1. In the Start tab, in the task screen, click **Manage Data**.

    The Data Management screen appears (Figure 30 above) with the files and folders that the logged-in user has permission to view (by means of the Scientist or Local Administrator permission selected when the user profile was created).

2. In the data view of the Data Tab, check all plates, scans, and scan results that you want to clear all tags from.

To do this, left-click the checkbox to the left of the plate or select the **Check All** button (Figure 48), as applicable. To uncheck all, select the **Uncheck All** button (Figure 49).

> **NOTE: If you checkmark a plate, then a checkmark is automatically applied to ALL of its scans and all scan results, since they cannot exist in the database without an associated plate. Likewise, if you checkmark a scan, then a checkmark is automatically applied to its associated scan results.**

3. Click the **Delete All Tags** button.

4. After the button is pressed, all tags are removed from all plates, scans, and scan results currently checked.

7.13 Renaming a Plate

The user can right click on any plate in the displayed area and additional operations for the plate will appear via a context menu.

Figure 68. Plate Context Menu for Renaming a Plate

The Rename button allows the user to rename a plate by displaying the plate name in an editable textbox. If the name is already taken or if the name is invalid, the editing box for the name will appear red.

Figure 69. Editing Plate Name
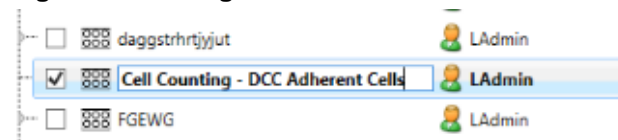
To change a Plate Name (Plate ID)

1. Log in to the Celigo application.
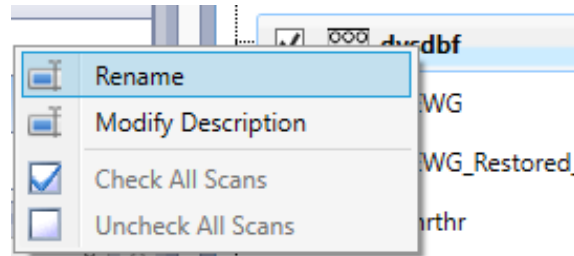
2. In the Start tab's task screen, click **Manage Data**.

 The Data Management screen appears (Figure 30 above).

3. In the Data Management screen, click the Plate name that you want to change.

4. Right Click on the Plate.

 A context menu (Figure 68) will appear with an option to rename the plate. After selecting this, the Plate name appears in a recessed field for editing.

5. Type the new name.

6. Press the enter key or click anywhere off of the new name to commit it.

7.14   Modifying Data Descriptions

The user can right click on any plate, scan, or scan result in the displayed area and an option to modify the data item's description will appear via a context menu. Clicking the Modify Description button allows the user to modify the data item's description by displaying the existing description in an editable textbox.

Figure 70. Data Description

To change a Plate Description

1. Log in to the Celigo application.

2. In the Start tab's task screen, click **Manage Data**.

    The Data Management screen appears (Figure 30 above).

3. In the Data Management screen, click the Plate name that you want to change.

4. Right click on the Plate.

    A context menu (Figure 68) will appear with an option to modify the plate's description. After selecting this, the Plate description appears in a recessed field for editing.

5. Type the new description.

6. Press the enter key or click anywhere off of the new description to commit it.
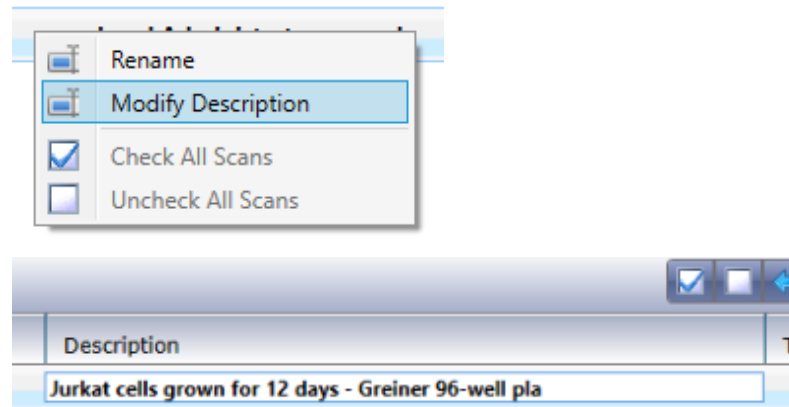
To change a Scan Description

1. Log in to the Celigo application.

2. In the Start tab's task screen, click **Manage Data**.

    The Data Management screen appears (Figure 30 above).

3. In the Data Management screen, expand the Plate containing the scan you want to update.

4. Right Click on the Scan.

A context menu will appear with an option to modify the scan's description. After selecting this, the Scan description appears in a recessed field for editing.

5. Type the new description.

6. Press the enter key or click anywhere off of the new description to commit it.

To change a Scan Result Description

1. Log in to the Celigo application.

2. In the Start tab's task screen, click **Manage Data**.

   The Data Management screen appears (Figure 30 above).

3. In the Data Management screen, expand the Plate and Scan containing the scan result you want to update.

4. Right click on the Scan Result.

   A context menu will appear with an option to modify the scan result's description. After selecting this, the Scan Result description appears in a recessed field for editing.

5. Type the new description.

6. Press the enter key or click anywhere off of the new description to commit it.

7.15   Loading a Scan

The user can right click on any scan in the displayed area and an option will appear via a context menu to load the scan (Figure 71). The Analyze Scan button allows the user to load the selected scan directly into the Analyze tab.

Figure 71. Context Menu for Scans
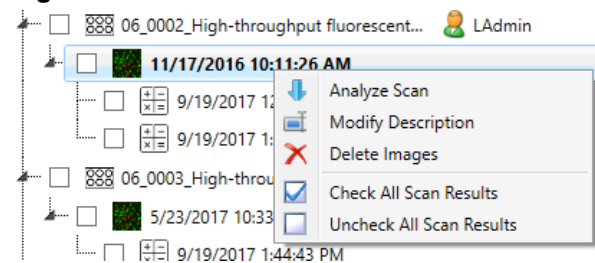
The user can right click on any scan result in the displayed area and an option will appear via a context menu (Figure 72) to load the scan with the specified scan result. View Result button allows the user to load the scan with the specified scan result directly into the Results tab.

Figure 72. Context Menu for Scan Results
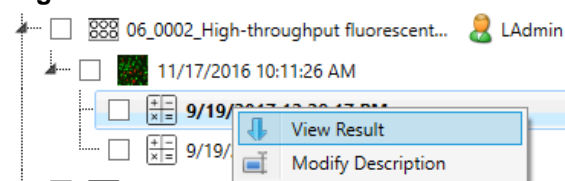
To Load a Scan

1. Log in to the Celigo application.

2. In the Start tab's task screen, click **Manage Data**.

    The Data Management screen appears (Figure 30 above).

3. In the Data Management screen, expand the Plate you want to load a scan from.

4. Right Click on the scan you want to load.

    A context menu (Figure 71) will appear with an option to load the scan.

5. Select the Analyze Scan menu item from the context menu and the scan will load directly into the Analyze tab.

To Load a Scan with a specific Scan Result

1. Log in to the Celigo application.

2. In the Start tab's task screen, click **Manage Data**.

    The Data Management screen appears (Figure 30 above).

3. In the Data Management screen, expand the Plate and Scan you want to load a scan from.

4. Right Click on the scan result you want have loaded with the Scan.

    A context menu (Figure 72) will appear with an option to load the scan with the specified scan result.

5. Select the View Result menu item from the context menu and the scan will load with the specified scan result directly into the Results tab.

7.16   Deleting Scan Images

The Delete Images button allows the user to delete all images associated with the scan while keeping the scan data in the Celigo database. If the user selects this operation, the user will first be prompted to confirm the operation. Once the user confirms the operation, the scan's images will be deleted.

Figure 73. Image Deletion Confirmation
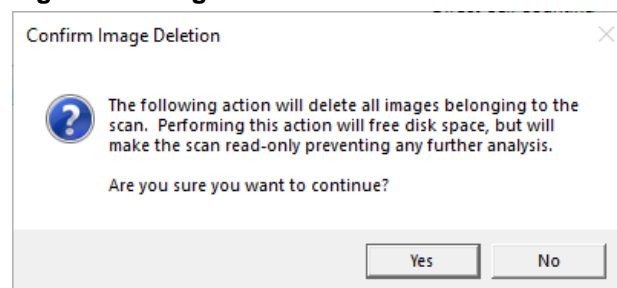
Once the images are deleted for a scan, the scan will have the text Deleted displayed in its Image Format column and will no longer be capable of being re-analyzed (read-only). If the scan is loaded, the user will only have access to the Results Tab displaying the well thumbnails and measurements. Since no images are available for the scan, well viewing is disabled for the scan.

To Delete Scan Images

1. Log in to the Celigo application.

2. In the Start tab's task screen, click **Manage Data**.

The Data Management screen appears (Figure 30 above).

3. In the Data Management screen, expand the Plate you want to delete scan images from.

4. Right Click on the scan you want to delete images from.

    A context menu will appear with an option to delete scan images.

5. Select the Delete Images menu item from the context menu to have its images deleted.

6. Click Yes for the confirmation pop-up (Figure 73) and the scan's images will be deleted.

8.   Managing Projects

Figure 74. Data Management Screen
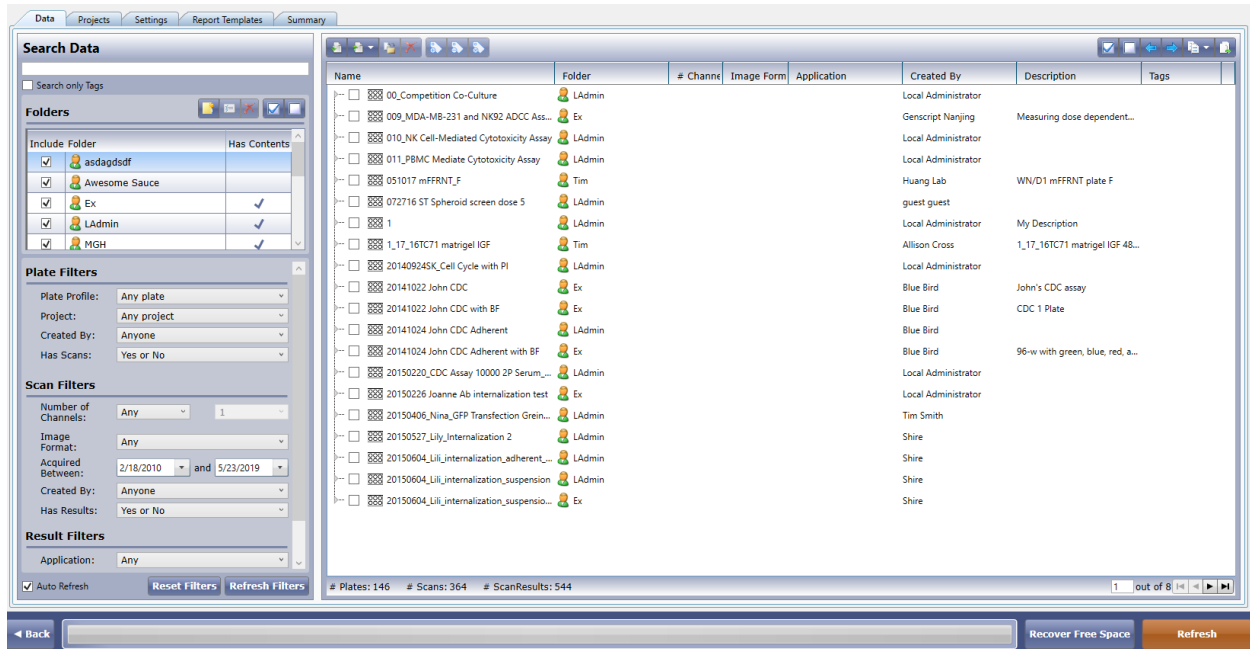
The Data Management is broken into five separate views: Data, Projects, Settings, Report Templates and Summary. The Projects Tab displays all the project files, currently stored in the Celigo database, which the logged in user has access to. Projects refer to a collection of settings that bundle the plate profile, experiment, and export settings together. Projects are displayed to the user in a grid on the right-hand side of the screen.

Figure 75. Projects Tab in Data Management
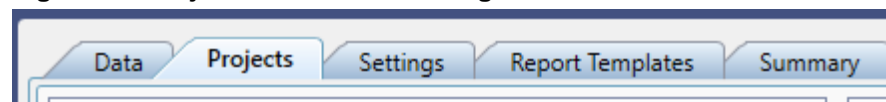
8.1   Searching for Projects

The default setting for this Projects Tab (Figure 75) is to display all the projects the user has access to. If the user would like to limit what is displayed, the user can modify the filter settings found on the left side of the screen (Figure 76).

Figure 76. Search Filters for Projects

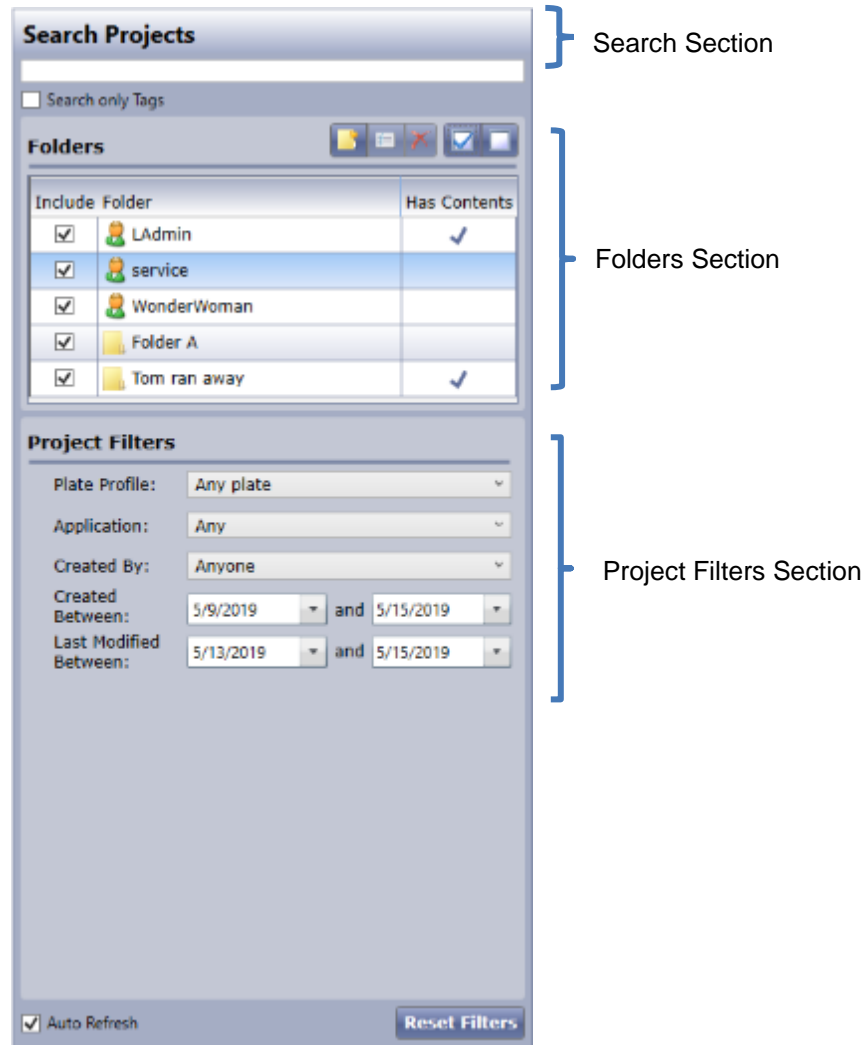

Filters are broken up into 3 sections: Search, Folders, and Project Filters.

Search

The Search section appears just above the Folders section. This section is primarily an open text field that allows the user to type in any text to match a name, description, or tag for any project. If desired, a checkbox exists to limit the search to only the project's related tags.

Folders

The Folders section appears underneath the Search section and displays all folders the user has access to.

Project Filters

The Project Filters section appears just below the Folders section. This section allows a user to filter projects by setting plate profile, application, project creator, date the project was created, and date the project was last modified.

Refreshing Controls

If a user modifies any setting while the Auto Refresh checkbox (Figure 77) is checked, a refresh operation will occur, and the software will display the updated project set matching the new filter criteria on the right-hand side of the screen.

Figure 77. Auto Refresh Checkbox
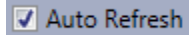
☑ Auto Refresh

If the Auto Refresh checkbox is not checked, no refresh operation will occur until the user clicks the Refresh button (Figure 78) located at the bottom right hand side of the screen.

Figure 78. Refresh Button

Refresh
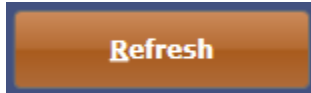
Perform the following steps to search for projects.

1. Log into the Celigo application.

2. In the Start tab's task screen, click Manage Data. The Data Management screen appears.

3. Select the Projects Tab.

4. Make adjustments to any search and filter entries as applicable (see descriptions above).

5. Click Refresh. The Data display on the right side of the screen will display any found project results matching the search parameters/filters specified.

> **NOTE: If the Auto Refresh checkbox is checked, step 5 above is not necessary. A refresh operation will be invoked for every change setting as a setting is changed.**

8.2   Clearing Search Selections

The Reset Filters button (Figure 79) provides the user the ability to revert all the filters back to default settings which will display all projects on the right-hand side of the screen after a refresh is invoked.

Figure 79. Reset Filters Button

Reset Filters

To clear search settings for projects

*   In Data Management screen in the Projects Tab, click the Reset Filters button (Figure 79).

8.3   Updating Search Selections

The Project Filters are set to have their selectable options and limits based on the entire database. Application will therefore only display applications that are associated with the projects in the database. Created By filter and all other filters

function similarly. When the Celigo is connected to a network database (where it is possible for other users to be changing the data in the database you are connected to) the limits of your filters can change from when they have been loaded. The Refresh Filters button (Figure 80) allows a user to refresh the limits of all their filters to the current state of the database.

Figure 80. Refresh Filters Button

Refresh Filters

> NOTE: The Refresh Filters button is only displayed when the Celigo is connected to a network database. This option is not present for Celigos connected to local databases.

To update the bounds of the search settings for projects

- In Data Management screen in the Projects Tab, click the Refresh Filters button.

8.4　Viewing Projects

Projects are displayed to the user in a grid (Figure 81) on the right-hand side of the screen. This section of the screen allows the user to view projects matching the filters specified and enables the user to perform various functions on that data.

Figure 81. Data Display Grid for Projects

Check	Icon	Name	Folder	Application	Created By	Created Date	Last Modified	Description	Tags
☐		DCC Secretion	LAdmin	Direct Cell Cou	Local Administ	5/22/2019	5/22/2019		
☐		test459231	LAdmin	Target 1 + 2 +	Local Administ	5/22/2019	5/22/2019		
☐		DCC	LAdmin	Direct Cell Cou	Local Administ	5/22/2019	5/22/2019		

Projects: 3

The projects displayed in the grid are organized into columns that display various properties of the projects. These columns include: Check, Icon, Name, Folder, Application, Created By, Created Data, Last Modified, Description, and Tags. All columns other than Tags are sortable. The button strip (Figure 82) at the bottom of the projects display section displays the project count of the found matching settings set.

Figure 82. Button Strip for Projects

Projects: 3

8.5 Exporting Projects Report

The Projects Tab allows a user to copy the current data result set as an image, text, or as an exported CSV file.

Figure 83. Copy Button Dropdown Menu
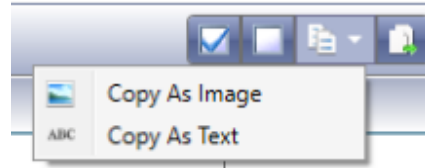
The Copy As Image button allows the user to copy the displayed projects (as seen on the screen) as an image to the clipboard.

The Copy As Text button allows the user to copy all projects as text to the clipboard.

Figure 84. Export Button

The Export button (Figure 84) allows the user to save a text file of all projects to disk.

8.6 Selecting Projects

Each project item can be checked or unchecked. Checking a project item marks it to be included for a project operation if one is chosen by the user.

Figure 85. Project Operation Buttons

Project operations (Figure 85) can be found at the top left of the projects display section. These operations include: Import, Export, Export and Delete, Create New, Edit, Move, Delete, Add Tag, Remove Tag, and Clear All Tags.

To check all projects in the projects view

- With the Project tab selected in the Data Management screen, click the Check All button at the top right of the screen (Figure 86).

Figure 86. Check All Button

To uncheck all projects in the projects view

- With the Projects tab selected in the Data Management screen, click the Uncheck All Button at the top right of the screen (Figure 87).

Figure 87. Uncheck All Button

# 8.7   Importing Projects

Figure 88. Import Button

The Import button (Figure 88) allows the user to import projects into the Celigo database. When you import projects, you are importing to the database in XML format.

To import projects

1. Log in to the Celigo application.

2. In the Start tab's task screen, click **Manage Data**.

    The Data Management screen appears (Figure 101).

3. Click the Projects Tab.

4. Click **Import**.

A Select Projects to Import dialog box appears. The dialog box for importing projects is shown in (Figure 89).

NOTE: The default directory for settings will be the following:
C:\Users\<username>\Documents\Celigo\Projects

Figure 89. Importing Projects Dialog Box
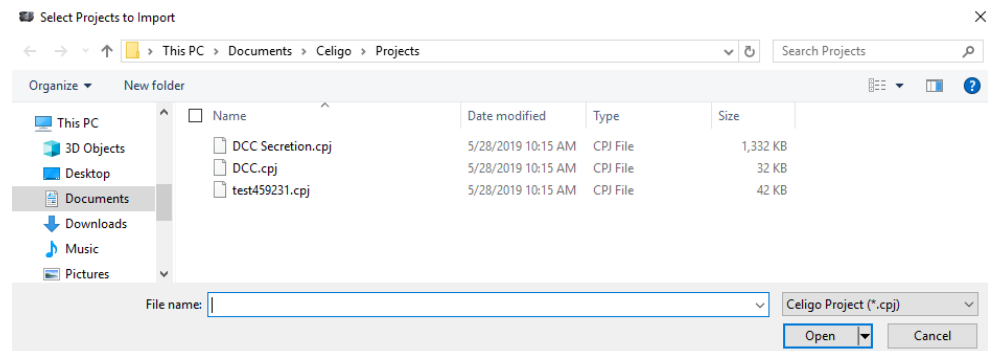
5. In the Look in field, navigate to the folder that contains the projects to import.

    The system displays the projects folders that contain a corresponding XML file. The file extensions for the XML files are as follows:

    - Projects: .cpj (Celigo Project).

6. Do one of the following to select the project(s) that you want to import:

    - To select a single file: In the File name field, type a name for the project that you want to import.

    - To select multiple files, Ctrl+click.
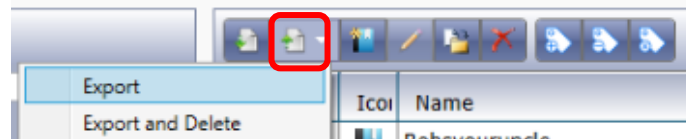
7. Click **Open**.

The system begins the import operation and a progress screen appears.

The system imports the .cpj files (XML format) to the database.

Clicking Cancel will cancel the import operation.

8.8   Exporting Projects

Figure 90. Export Button

The Export button (Figure 90) allows the user to export checked projects from the Celigo database into a file format. The Export and Delete button performs the same task as the export operation, but also will delete the checked projects that were exported after the export operation is successful.
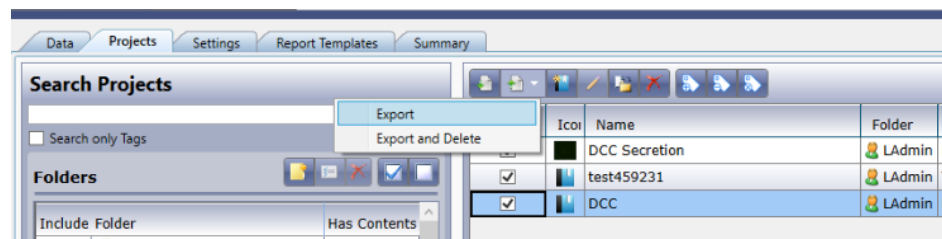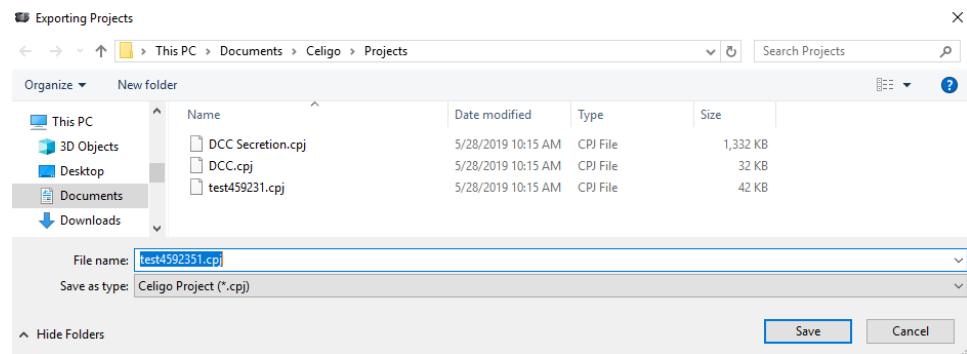
To export projects

1. Log into the Celigo application.

2. In the Start tab's task screen, click **Manage Data**.

The Data Management screen appears (Figure 101).

3. Select the Projects Tab.

4. In the right pane, check the projects you want to export.

5. Click **Export**.

Figure 92 shows the dialog box that appears for exporting the Project line item.

6. Navigate to designated or default folder (Figure 91), if applicable.

7. Enter File name.

8. Click Save.
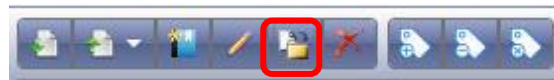
Figure 91. Exporting Project

Figure 92. Exporting Projects Dialog

NOTE: The default directory for settings will be the following:
C:\Users\<username>\Documents\Celigo\Projects

- Projects: .cpj (Celigo Project).

8.9   Moving Projects

Figure 93. Move Button

The Move button (Figure 93) allows the user to move checked projects from one Celigo folder to another.
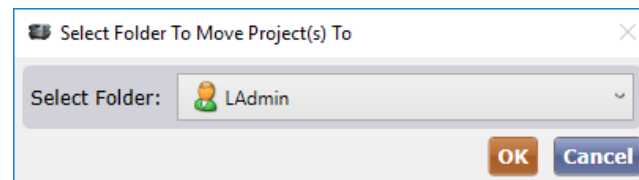
To move projects

1. In the Start tab, in the task screen, click **Manage Data**.

   The Data Management screen appears (Figure 101) with the files and folders that the logged-in user has permission to view (by means of the Scientist or Local Administrator permission selected when the user profile was created).

2. In the data view of the Projects Tab, check all projects that you want to move to a new folder.

   To do this, left-click the checkbox to the left of the project or select the **Check All** button (Figure 113), as applicable. To uncheck all, select the **Uncheck All** button (Figure 114).

3. Click the Move button and the Folder Selection dialog will appear.

4. In the Folder Selection dialog (Figure 120), select the folder to move all the checked projects to and click **OK**.

   Figure 94. Folder Selection Dialog

5. After the OK button is pressed, the software will attempt to perform the move operation for all projects that are checked. If one of the following conditions for the settings is found, no operation will be performed:

- The project already resides in the selected folder.
- The user does not have permission to move the project.

8.10   Deleting Projects

Figure 95. Delete Button

The Delete button (Figure 121) allows the user to delete checked projects from the Celigo database.

To delete projects

1. Log in to the Celigo application.
2. In the Start tab's task screen, click **Manage Data**.

   The Data Management screen appears (Figure 101 above).
3. Select the Projects Tab.
4. Search as needed to find the items you want to delete (section 9.1).
5. In the right-hand pane check the detail items that you want to delete.

   To do this, left-click the checkbox to the left of the project or select the **Check All** button (Figure 113), as applicable. To uncheck all, select the **Uncheck All** button (Figure 114).
6. At the top of the projects view in the Projects Tab, click **Delete**.

   The system deletes all check marked items from the database.

8.11   Tagging Projects

Figure 96. Add Tag Button

The Add Tag button (Figure 96) allows the user to add a tag to checked projects. When first clicking on the Add Tag button, a dialog will appear asking the user to type in a new tag. As the user types a tag, a list will appear of tags matching the text typed if any exist. Once the tag has been entered, the user clicks OK to complete the operation and then a tag will appear next to the checked items.

Figure 97. Add Tag Selection Dialogs
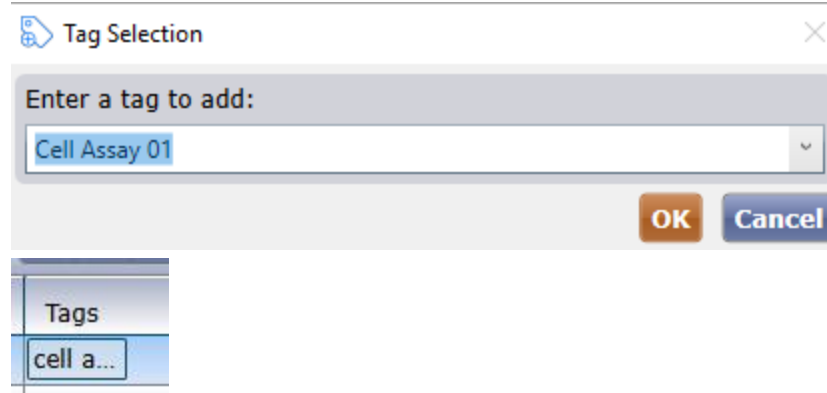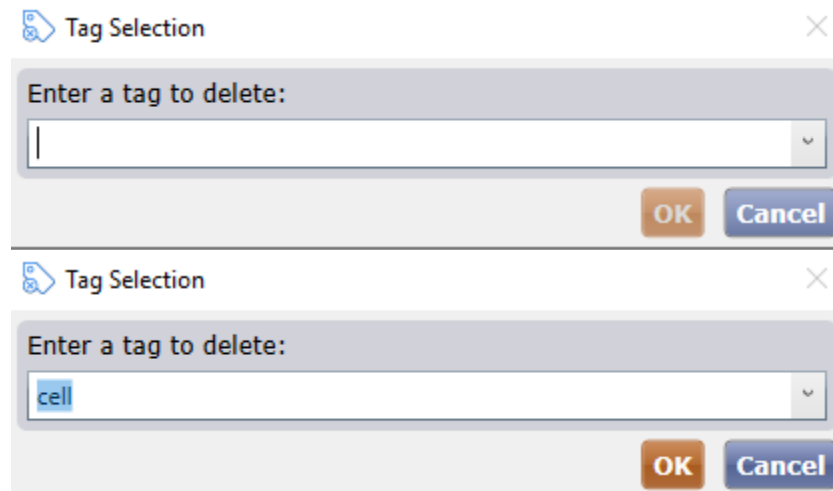
To tag projects

1. In the Start tab, in the task screen, click **Manage Data**.

    The Data Management screen appears (Figure 101 above) with the files and folders that the logged-in user has permission to view (by means of the Scientist or Local Administrator permission selected when the user profile was created).

2. In the projects view of the Projects Tab, check all projects that you want to associate a tag with.

    To do this, left-click the checkbox to the left of the project or select the **Check All** button (Figure 113), as applicable. To uncheck all, select the **Uncheck All** button (Figure 114).

3. Click the **Add Tag** button (Figure 96) and the Tag Selection dialog (Figure 97) will appear.

4. In the Tag Selection dialog, enter a new or existing tag to associate with all the checked projects to and click **OK**.

    As text is typed, all matching tags will be displayed in dropdown.

5. After the OK button is pressed, the tag is associated with all checked items.

8.12   Removing a Tag from Projects

Figure 98. Delete Tag Button

The Delete Tag button (Figure 98) allows the user to delete a tag from checked projects. When first clicking on the Delete Tag button, a dialog will appear (Figure 99) asking the user to type in a tag to remove. As the user types a tag, a list will appear of tags matching the text typed if any exist. If a tag is typed that is associated with the checked projects, that tag will be removed when the user clicks OK. If a tag is typed that is not associated with the checked projects, the data's tags will remain unchanged.

Figure 99. Delete Tag Selection Dialog

Figure 100. Delete All Tags Button

The Delete All Tags button (Figure 100) allows the user to delete all tags from checked projects.

To remove a specific tag from projects

1. In the Start tab, in the task screen, click **Manage Data**.

    The Data Management screen appears (Figure 101) with the files and folders that the logged-in user has permission to view (by means of the Scientist or Local Administrator permission selected when the user profile was created).

2. In the project view of the Projects Tab, check all projects that you want to dissociate a tag from.

    To do this, left-click the checkbox to the left of the project or select the **Check All** button (Figure 113), as applicable. To uncheck all, select the **Uncheck All** button (Figure 114).

3. Click the **Delete Tag** button (Figure 99) and the Tag Selection dialog will appear.

4. In the Tag Selection dialog, enter an existing tag to dissociate from the checked projects to and click **OK**.

    As text is typed, all matching tags will be displayed in dropdown.

5. After the OK button is pressed, the tag, if it is found associated with the checked items, is removed from the item.

To remove all tags from projects

1. In the Start tab, in the task screen, click **Manage Data**.

    The Data Management screen appears (Figure 101) with the files and folders that the logged-in user has permission to view (by means of the Scientist or Local Administrator permission selected when the user profile was created).

2. In the projects view of the Projects Tab, check all projects that you want to clear all tags from.

   To do this, left-click the checkbox to the left of the project or select the **Check All** button (Figure 113), as applicable. To uncheck all, select the **Uncheck All** button (Figure 114).

3. Click the **Delete All Tags** (Figure 100) button.

4. After the button is pressed, all tags are removed from all projects currently checked.

9.   Managing Settings

Figure 101. Data Management Screen: Settings Tab
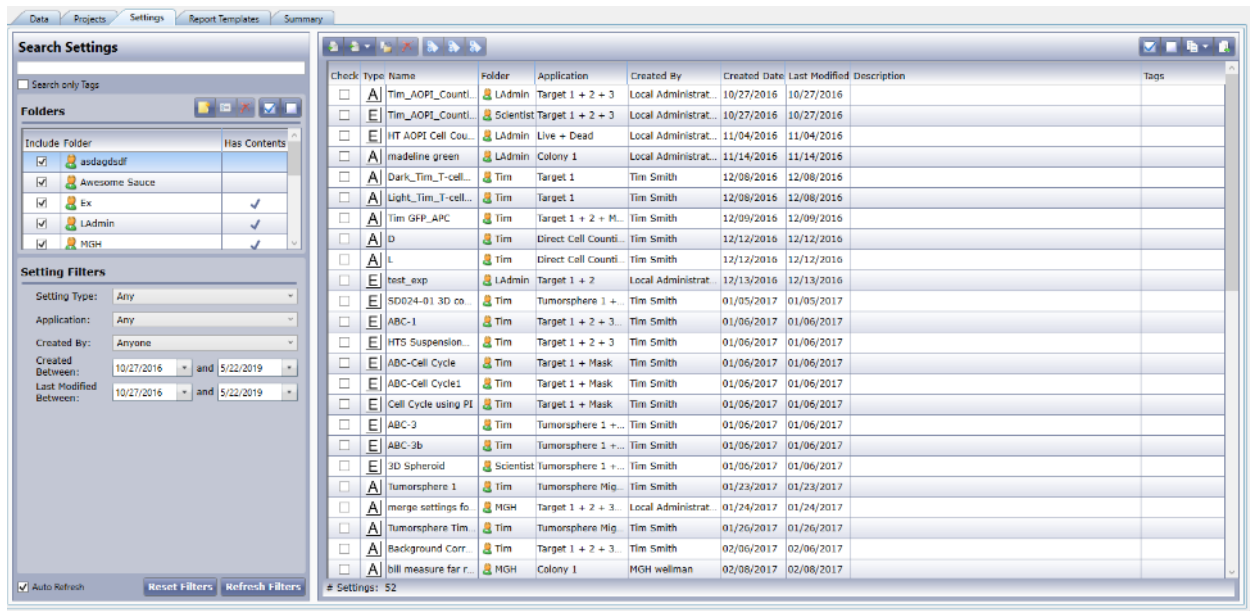
The Data Management is broken into five separate views: Data, Projects, Settings, Report Templates and Summary. The Settings Tab displays all the settings, currently stored in the Celigo database, which the logged in user has access to. Settings refer to Experiments, Analysis Settings, and Classification Settings. Settings are displayed to the user in a grid on the right-hand side of the screen.
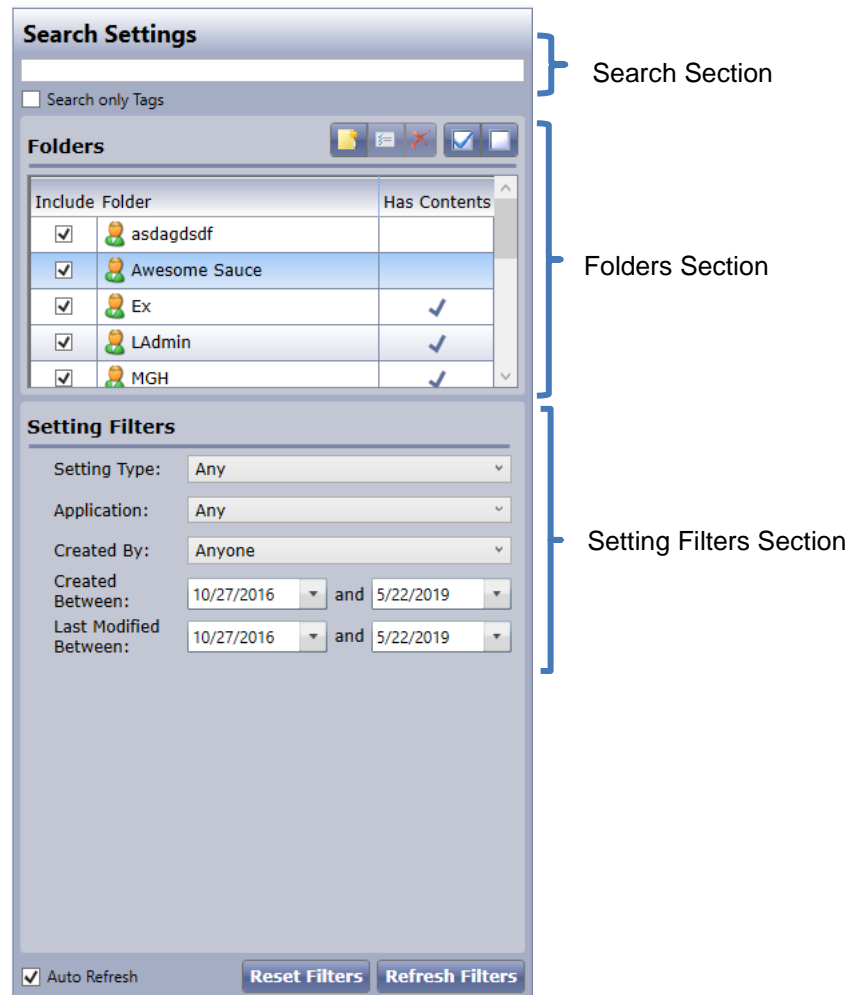
Figure 102. Settings Tab in Data Management
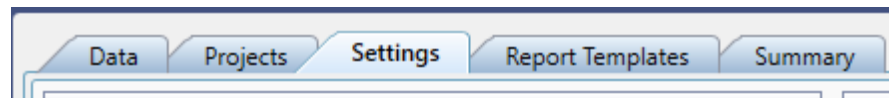
9.1   Searching for Settings

The default setting for this Settings Tab (Figure 102) is to display all the settings the user has access to. If the user would like to limit what is displayed, the user can modify the filter settings found on the left side of the screen (Figure 103).

Figure 103. Search Filters for Settings

Filters are broken up into 3 sections: Search, Folders, and Setting Filters.

Search

The Search section appears just above the Folders section. This section is primarily an open text field that allows the user to type in any text to match a name, description, or tag for any setting (experiment, analysis settings, or classification settings). If desired, a checkbox exists to limit the search to only the setting's related tags.

Folders

The Folders section appears underneath the Search section and displays all folders the user has access to. This section works in the same manner as it does in the Settings Tab.

Setting Filters

The Setting Filters section appears just below the Folders section. This section allows a user to filter settings by setting type, application, setting creator, date the setting was created, and date the setting was last modified.

Refreshing Controls

If a user modifies any setting while the Auto Refresh checkbox (Figure 104) is checked, a refresh operation will occur and the software will display the updated settings set matching the new filter criteria on the right-hand side of the screen.

Figure 104. Auto Refresh Checkbox
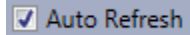
☑ Auto Refresh

If the Auto Refresh checkbox is not checked, no refresh operation will occur until the user clicks the Refresh button (Figure 105) located at the bottom right hand side of the screen.

Figure 105. Refresh Button

Refresh

Perform the following steps to search for settings.

To search for settings (experiments, analysis settings, classification settings):

1. Log into the Celigo application.

2. In the Start tab's task screen, click Manage Data. The Data Management screen appears.

3. Select the Settings Tab.

4. Make adjustments to any search and filter entries as applicable (see descriptions above).

5. Click Refresh. The Data display on the right side of the screen will display any found setting results matching the search parameters/filters specified.

> **NOTE: If the Auto Refresh checkbox is checked, step 5 above is not necessary. A refresh operation will be invoked for every change setting as a setting is changed.**

9.2   Clearing Search Selections

The Reset Filters button (Figure 106) provides the user the ability to revert all the filters back to default settings which will display all settings on the right-hand side of the screen after a refresh is invoked.

Figure 106. Reset Filters Button

Reset Filters

To clear search settings for settings (experiments, analysis settings, classification settings):

*   In Data Management screen in the Settings Tab, click the Reset Filters button (Figure 106) Updating Search Selections.

The Setting Filters are set to have their selectable options and limits based on the entire database. Application will therefore only display applications that are associated with the settings in the database. Created By filter and all other filters function similarly. When the Celigo is connected to a network database (where it

is possible for other users to be changing the data in the database you are connected to) the limits of your filters can change from when they have been loaded. The Refresh Filters button (Figure 107) allows a user to refresh the limits of all their filters to the current state of the database.

Figure 107. Refresh Filters Button

> **NOTE: The Refresh Filters button is only displayed when the Celigo is connected to a network database. This option is not present for Celigos connected to local databases.**

To update the bounds of the search settings for settings (experiments, analysis settings, classification settings):

- In Data Management screen in the Settings Tab, click the Refresh Filters button.

9.3   Viewing Settings

Settings are displayed to the user in a grid (Figure 108) on the right-hand side of the screen. This section of the screen allows the user to view settings matching the filters specified and enables the user to perform various functions on that data.

Figure 108. Data Display Grid for Settings

The settings displayed in the grid are organized into columns that display various properties of the settings. These columns include: Check, Type, Name, Folder, Application, Created By, Created Data, Last Modified, Description, and Tags. All columns other than Tags are sortable. The button strip (Figure 109) at the bottom of the settings display section displays the setting count of the found matching settings set.
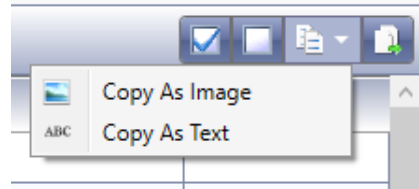
Figure 109. Button Strip for Settings
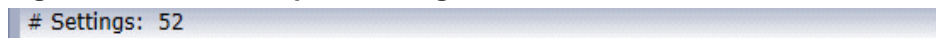
9.4　Exporting Settings Report

The Settings Tab allows a user to copy the current data result set as an image, text, or as an exported CSV file (Figure 110).

Figure 110. Copy Button

The Copy As Image button allows the user to copy the displayed settings (as seen on the screen) as an image to the clipboard.

The Copy As Text button allows the user to copy all settings as text to the clipboard.

Figure 111. Export Button

The Export button (Figure 111) allows the user to save a text file of all settings to disk.

9.5　Selecting Settings

Each setting item (experiment, analysis setting, and classification setting) can be checked or unchecked. Checking a data item marks the data item to be included for a data operation if one is chosen by the user.

Figure 112. Setting Operation Buttons

Setting operations (Figure 112) can be found at the top left of the setting display section. These operations include: Export, Export and Delete, Move, Delete, Add Tag, Remove Tag, and Clear All Tags. One additional operation that exists in this area of the user interface that does not involve checked data items is the Import operation.

To check all settings in the settings view

- With the Setting tab selected in the Data Management screen, click the Check All button at the top right of the screen (Figure 113).

Figure 113. Check All Button

To uncheck all settings in the settings view

- With the Setting tab selected in the Data Management screen, click the Uncheck All Button at the top right of the screen (Figure 114).

Figure 114. Uncheck All Button

9.6   Importing Settings

Figure 115. Import Button

The Import button (Figure 115) allows the user to import settings into the Celigo database. When you import settings, you are importing to the database in XML format.
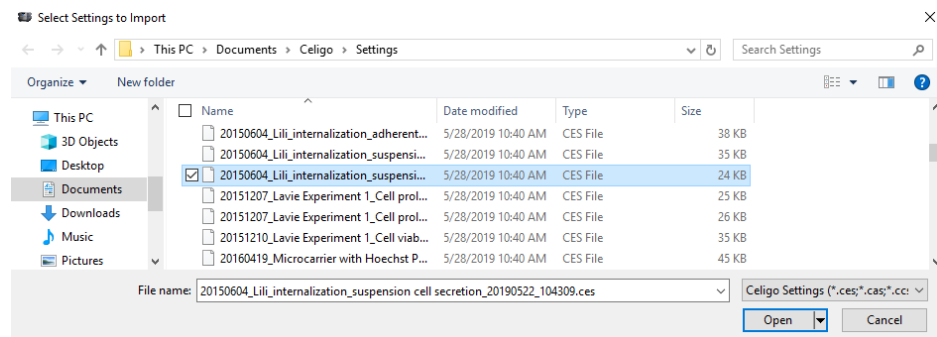
To import settings

1. Log in to the Celigo application.

2. In the Start tab's task screen, click **Manage Data**.

    The Data Management screen appears (Figure 101 above).

3. Click the Settings Tab.

4. Click **Import**.

A Select Settings to Import dialog box appears. The dialog box for importing settings is shown in (Figure 116).

NOTE: The default directory for settings will be the following: C:\Users\<username>\Documents\Celigo\Settings

Figure 116. Importing Settings Dialog Box

5. In the Look in field, navigate to the folder that contains the settings to import.

    The system displays the settings folders that contain a corresponding XML file. The file extensions for the XML files are as follows:

    - Analysis Settings: .cas (Celigo Analysis Setting).

    - Classification Settings: .ccs (Celigo Classification Setting).

    - Experiments: .ces (Celigo Experiment Setting).

6. Do one of the following to select the setting(s) that you want to import:

    - To select a single file: In the File name field, type a name for the experiment that you want to import.

    - To select multiple files, Ctrl+click.

7. Click **Open**.

    The system begins the import operation and a progress screen appears.

    The system imports the .cas, .ccs, or .ces files (XML format) to the database.

    Clicking Cancel will cancel the import operation.

9.7 Exporting Settings

Figure 117. Export Button
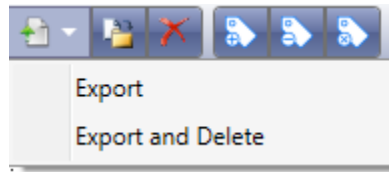
The Export button (Figure 117) allows the user to export checked settings from the Celigo database into a file format. The Export and Delete button performs the same task as the export operation, but also will delete the checked settings that were exported after the export operation is successful.

To export settings

1. Log into the Celigo application.

2. In the Start tab's task screen, click **Manage Data**.

    The Data Management screen appears (Figure 101 above).

3. Select the Settings Tab.

4. Check the settings you want to export, in the right pane.

5. Click **Export**.

6. Navigate to designated or default folder (Figure 118), if applicable

7. Enter File name

8. Click Save

Figure 118. Exporting Dialog for Setting
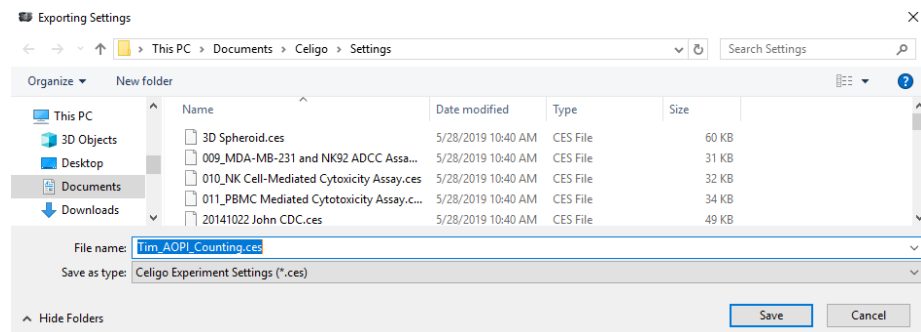
NOTE: The default directory for settings will be the following: C:\Users\<username>\Documents\Celigo\Settings

- Analysis Settings: .cas (Celigo Analysis Setting)

- Classification Settings: .ccs (Celigo Classification Setting)

- Experiments: .ces (Celigo Experiment Setting)

9.8   Moving Settings

Figure 119. Move Button
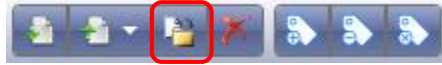
The Move button (Figure 119) allows the user to move checked settings from one Celigo folder to another.

To move settings:

1. In the Start tab, in the task screen, click **Manage Data**.

    The Data Management screen appears (Figure 101 above) with the files and folders that the logged-in user has permission to view (by means of the Scientist or Local Administrator permission selected when the user profile was created).

2. In the data view of the Setting Tab, check all settings that you want to move to a new folder.

    To do this, left-click the checkbox to the left of the setting or select the **Check All** button (Figure 113), as applicable. To uncheck all, select the **Uncheck All** button (Figure 114).

3. Click the Move button and the Folder Selection dialog will appear.

4. In the Folder Selection dialog (Figure 120), select the folder to move all the checked settings to and click **OK**.

    Figure 120. Folder Selection Dialog

5. After the OK button is pressed, the software will attempt to perform the move operation for all settings that are checked. If one of the following conditions for the settings is found, no operation will be performed:

    - The setting already resides in the selected folder.

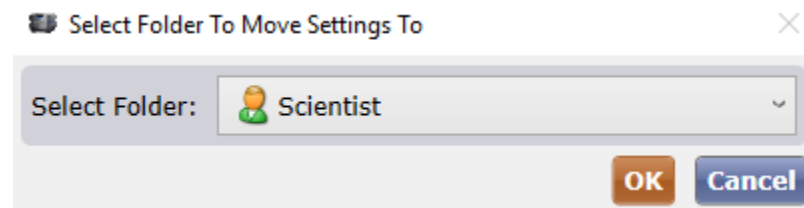   - The user does not have permission to move the setting.

9.9   Deleting Settings

Figure 121. Delete Button
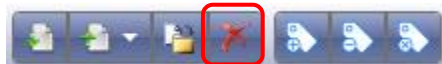
The Delete button (Figure 121) allows the user to delete checked settings from the Celigo database.

To delete experiments, analysis settings, classification settings

1. Log in to the Celigo application.

2. In the Start tab's task screen, click **Manage Data**.

   The Data Management screen appears (Figure 101 above).

3. Select the Settings Tab.

4. Search as needed to find the items you want to delete (section 9.1).

5. In the right-hand pane check the detail items that you want to delete.

   To do this, left-click the checkbox to the left of the setting or select the **Check All** button (Figure 113), as applicable. To uncheck all, select the **Uncheck All** button (Figure 114).

6. At the top of the settings view in the Settings Tab, click **Delete**.

   The system deletes all check marked items from the database.

9.10   Tagging Settings

Figure 122. Add Tag Button

The Add Tag button (Figure 122) allows the user to add a tag to checked settings. When first clicking on the Add Tag button, a dialog will appear asking the user to type in a new tag. As the user types a tag, a list will appear of tags matching the text typed if any exist. Once the tag has been entered, the user clicks OK to complete the operation and then a tag will appear next to the checked items.

Figure 123. Add Tag Selection Dialogs
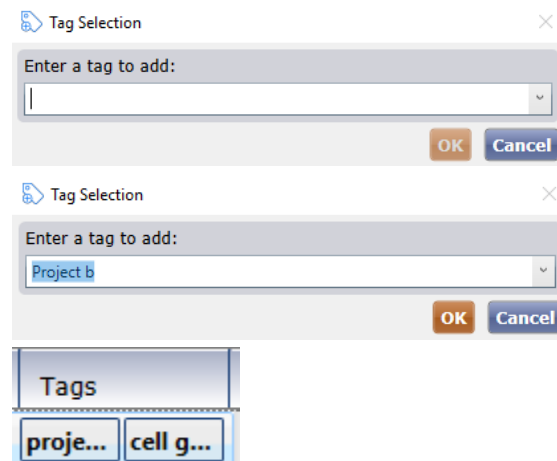
To tag settings

1. In the Start tab, in the task screen, click **Manage Data**.

   The Data Management screen appears (Figure 101 above) with the files and folders that the logged-in user has permission to view (by means of the Scientist or Local Administrator permission selected when the user profile was created).

2. In the settings view of the Settings Tab, check all settings that you want to associate a tag with.

To do this, left-click the checkbox to the left of the setting or select the **Check All** button (Figure 113), as applicable. To uncheck all, select the **Uncheck All** button (Figure 114).

3. Click the **Add Tag** button (Figure 122) and the Tag Selection dialog (Figure 123) will appear.

4. In the Tag Selection dialog, enter a new or existing tag to associate with all the checked settings to and click **OK**.

   As text is typed, all matching tags will be displayed in dropdown.

5. After the OK button is pressed, the tag is associated with all checked items.

9.11   Removing a Tag from Settings

Figure 124. Delete Tag Button

The Delete Tag button (Figure 124) allows the user to delete a tag from checked settings. When first clicking on the Delete Tag button, a dialog will appear (Figure 125) asking the user to type in a tag to remove. As the user types a tag, a list will appear of tags matching the text typed if any exist. If a tag is typed that is associated with the checked settings, that tag will be removed when the user clicks OK. If a tag is typed that is not associated with the checked settings, the data's tags will remain unchanged.

Figure 125. Delete Tag Selection Dialog
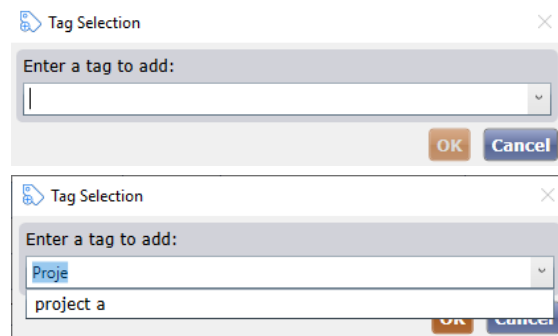
Figure 126. Delete All Tags Button

The Delete All Tags button (Figure 126) allows the user to delete all tags from checked settings.

To remove a specific tag from settings

1. In the Start tab, in the task screen, click **Manage Data**.

   The Data Management screen appears (Figure 101 above) with the files and folders that the logged-in user has permission to view (by means of the Scientist or Local Administrator permission selected when the user profile was created).

2. In the data view of the Settings Tab, check all settings that you want to dissociate a tag from.

To do this, left-click the checkbox to the left of the setting or select the **Check All** button (Figure 113), as applicable. To uncheck all, select the **Uncheck All** button (Figure 114).

3. Click the **Delete Tag** button (Figure 124) and the Tag Selection dialog will appear.

4. In the Tag Selection dialog, enter an existing tag to dissociate from the checked settings to and click **OK**.

   As text is typed, all matching tags will be displayed in dropdown.

5. After the OK button is pressed, the tag, if it is found associated with the checked items, is removed from the item.

To remove all tags from settings

1. In the Start tab, in the task screen, click **Manage Data**.

   The Data Management screen appears (Figure 101 above) with the files and folders that the logged-in user has permission to view (by means of the Scientist or Local Administrator permission selected when the user profile was created).

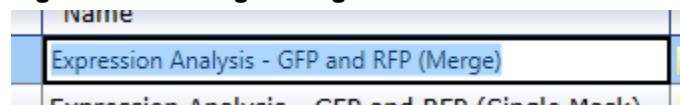2. In the settings view of the Settings Tab, check all settings that you want to clear all tags from.

   To do this, left-click the checkbox to the left of the setting or select the **Check All** button (Figure 113), as applicable. To uncheck all, select the **Uncheck All** button (Figure 114).

3. Click the **Delete All Tags** (Figure 126) button.

4. After the button is pressed, all tags are removed from all settings currently checked.

9.12   Updating Settings

The user can perform text modification operations on settings in the displayed area. These operations include renaming a setting and modifying a setting's description. Both modifications can occur by double clicking the cell in the display grid for the specific setting.

Figure 127. Editing Setting Name

To change a Setting Name

1. Log in to the Celigo application.

2. In the Start tab's task screen, click **Manage Data**.

   The Data Management screen appears (Figure 101 above).

3. In the Data Management screen in the Settings Tab, double-click the Setting name that you want to change.

4. Type the new name. Press the enter key or click anywhere off of the new name to commit it (Figure 127).

To change a Setting Description

1. Log in to the Celigo application.

2. In the Start tab's task screen, click **Manage Data**.

    The Data Management screen appears (Figure 101 above).

3. In the Data Management screen in the Settings Tab, double-click the Setting description that you want to change.

4. Type the new description.

5. Press the enter key or click anywhere off of the new description to commit it.

10.   Managing Report Templates

Figure 128. Data Management Report Template Screen
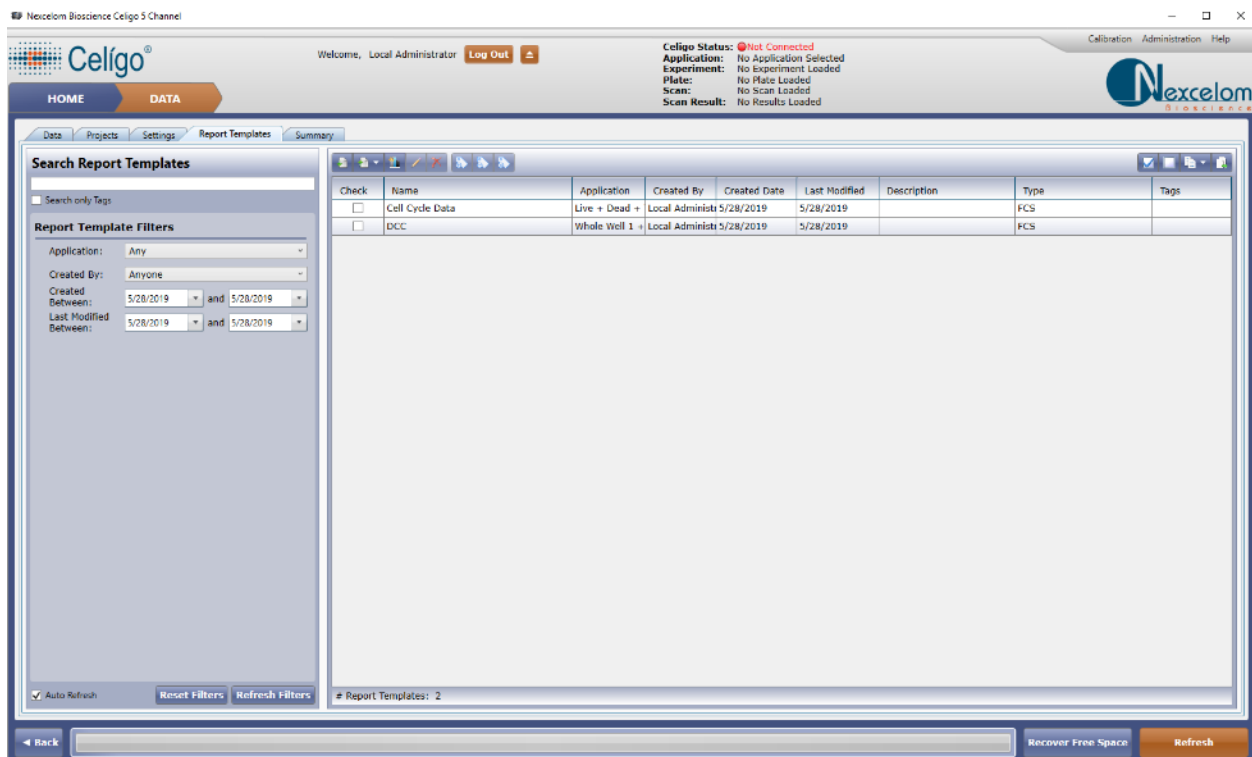
The Data Management is broken into five separate views: Data, Projects, Settings, Report Templates and Summary. The Report Templates Tab displays all the report template files, currently stored in the Celigo database, which the logged in user has access to. Report templates are displayed to the user in a grid on the right-hand side of the screen.

Figure 129. Report Template Tab in Data Management
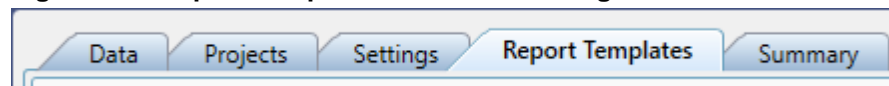
10.1   Searching for Report Templates

The default setting for this Report Templates Tab (Figure 129) is to display all the report templates the user has access to. If the user would like to limit what is displayed, the user can modify the filter settings found on the left side of the screen (Figure 130).

Figure 130. Search Filters for Projects
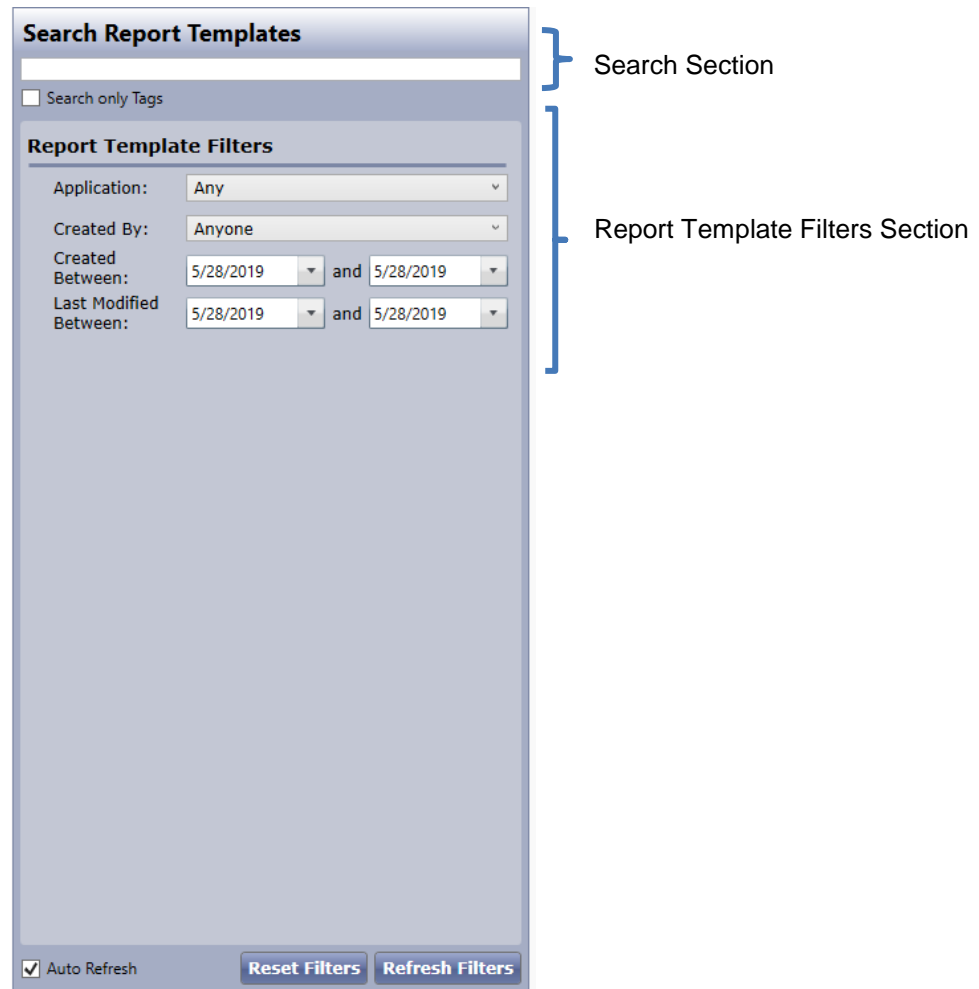
Filters are broken up into 2 sections: Search and Report Template Filters.

Search

The Search section appears just above the Report Template section. This section is primarily an open text field that allows the user to type in any text to match a name, description, or tag for any report template. If desired, a checkbox exists to limit the search to only the report template's related tags.

Report Template Filters

The Report Template Filters section appears just below the Search section. This section allows a user to filter report templates by setting application, report template creator, date the report template was created, and date the report template was last modified.

Refreshing Controls

If a user modifies any setting while the Auto Refresh checkbox (Figure 131) is checked, a refresh operation will occur, and the software will display the updated report template set matching the new filter criteria on the right-hand side of the screen.

Figure 131. Auto Refresh Checkbox
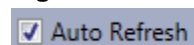
If the Auto Refresh checkbox is not checked, no refresh operation will occur until the user clicks the Refresh button (Figure 132) located at the bottom right hand side of the screen.

Figure 132. Refresh Button

Perform the following steps to search for report templates.

1. Log into the Celigo application.

2. In the Start tab's task screen, click Manage Data. The Data Management screen appears.

3. Select the Report Templates Tab.

4. Make adjustments to any search and filter entries as applicable (see descriptions above).

5. Click Refresh. The Data display on the right side of the screen will display any found report template results matching the search parameters/filters specified.

> **NOTE: If the Auto Refresh checkbox is checked, step 5 above is not necessary. A refresh operation will be invoked for every change setting as a setting is changed.**

10.2   Clearing Search Selections

The Reset Filters button (Figure 133) provides the user the ability to revert all the filters back to default settings which will display all projects on the right-hand side of the screen after a refresh is invoked.

Figure 133. Reset Filters Button

To clear search settings for report template

- In Data Management screen in the Report Templates Tab, click the Reset Filters button (Figure 133).

10.3   Updating Search Selections

The Report Templates Filters are set to have their selectable options and limits based on the entire database. Application will therefore only display applications that are associated with the report templates in the database. Created By filter and all other filters function similarly. When the Celigo is connected to a network database (where it is possible for other users to be changing the data in the database you are connected to) the limits of your filters can change from when they have been loaded. The Refresh Filters button (Figure 134) allows a user to refresh the limits of all their filters to the current state of the database.

Figure 134. Refresh Filters Button

	NOTE: The Refresh Filters button is only displayed when the Celigo is connected to a network database. This option is not present for Celigos connected to local databases.

To update the bounds of the search settings for report templates

- In Data Management screen in the Report Templates Tab, click the Refresh Filters button.

10.4   Viewing Report Templates

Report Templates are displayed to the user in a grid (Figure 135) on the right-hand side of the screen. This section of the screen allows the user to view report templates matching the filters specified and enables the user to perform various functions on that data.

**Figure 135. Data Display Grid for Report Templates**

The report templates displayed in the grid are organized into columns that display various properties of the report templates. These columns include: Check, Name, Application, Created By, Created Data, Last Modified, Description,

Type and Tags. All columns other than Tags are sortable. The button strip (Figure 136) at the bottom of the report templates display section displays the report template count of the found matching settings set.
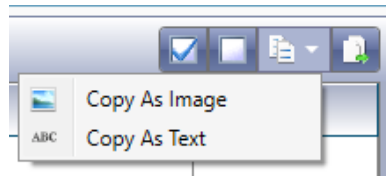
Figure 136. Button Strip for Report Templates
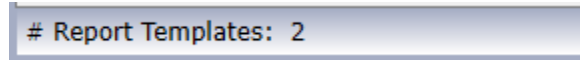
Report Templates: 2

10.5   Exporting Report Templates Report

The Report Templates Tab allows a user to copy the current data result set as an image, text, or as an exported CSV file.

Figure 137. Copy Button Dropdown Menu

Copy As Image
ABC Copy As Text

The Copy As Image button allows the user to copy the displayed report templates (as seen on the screen) as an image to the clipboard.

The Copy As Text button allows the user to copy all report templates as text to the clipboard.

Figure 138. Export Button

The Export button (Figure 138) allows the user to save a text file of all report templates to disk.

10.6   Selecting Report Templates

Each report template item can be checked or unchecked. Checking a report template item marks it to be included for a report template operation if one is chosen by the user.

Figure 139. Report Template Operation Buttons
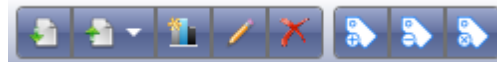
Report template operations (Figure 139) can be found at the top left of the report template display section. These operations include: Import, Export, Export and Delete, Create New, Edit, Delete, Add Tag, Remove Tag, and Clear All Tags.

To check all projects in the report templates view

- With the Report Templates tab selected in the Data Management screen, click the Check All button at the top right of the screen (Figure 140).

Figure 140. Check All Button

To uncheck all report templates in the report templates view

- With the Report Templates tab selected in the Data Management screen, click the Uncheck All Button at the top right of the screen (Figure 141).

Figure 141. Uncheck All Button

10.7   Importing Report Templates

**Figure 142. Import Button**

The Import button (Figure 142) allows the user to import projects into the Celigo database. When you import report templates, you are importing to the database in XML format.

To import report templates

1. Log in to the Celigo application.

2. In the Start tab's task screen, click **Manage Data**.

    The Data Management screen appears (Figure 101 above).

3. Click the Report Templates Tab.

4. Click **Import**.

A Select Report Templates to Import dialog box appears. The dialog box for importing projects is shown in (Figure 143).

NOTE: The default directory for settings will be the following: C:\Users\<username>\Documents\Celigo\Report Templates

Figure 143. Importing Report Templates Dialog Box
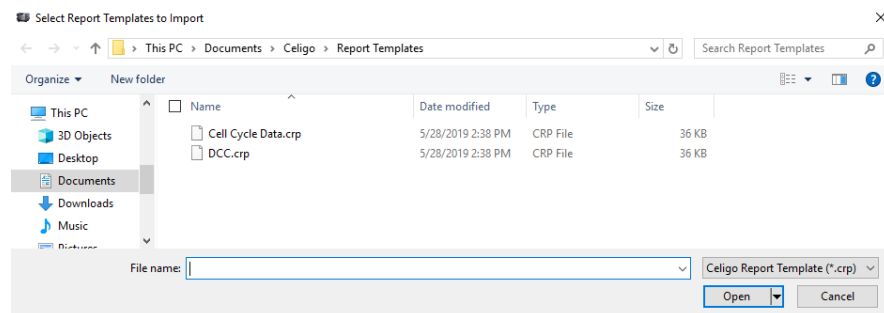
5. In the Look in field, navigate to the folder that contains the report template to import.

    The system displays the report templates folders that contain a corresponding XML file. The file extensions for the XML files are as follows:
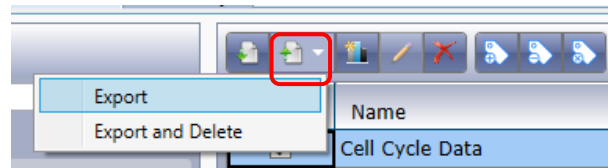
    - Report Template: .crp (Celigo Report Template).

6. Do one of the following to select the report template(s) that you want to import:

    - To select a single file: In the File name field, type a name for the report template that you want to import.

    - To select multiple files, Ctrl+click.

7. Click **Open**.

    The system begins the import operation and a progress screen appears.

    The system imports the .crp files (XML format) to the database.

    Clicking Cancel will cancel the import operation.

10.8   Exporting Report Templates

Figure 144. Export Button

The Export button (Figure 144) allows the user to export checked report templates from the Celigo database into a file format. The Export and Delete button performs the same task as the export operation, but also will delete the checked projects that were exported after the export operation is successful.

To export report templates

1. Log into the Celigo application.

2. In the Start tab's task screen, click **Manage Data**.

    The Data Management screen appears (Figure 101 above).

3. Select the Report Templates Tab.

4. In the right pane, check the report templates you want to export.

5. Click **Export**.

6. Navigate to the designated or default folder (Figure 145), if applicable.

7. Enter File name.

8. Click Save.

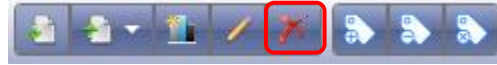**Figure 145. Exporting Report Template Dialog**
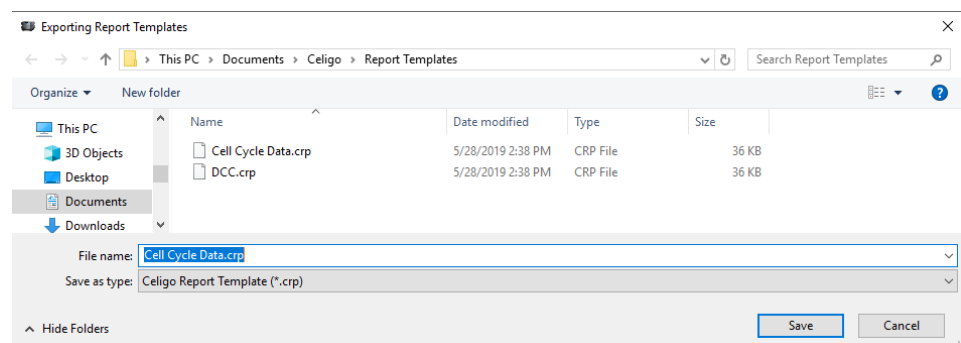
NOTE: The default directory for settings will be the following: C:\Users\<username>\Documents\Celigo\Report Templates

- Report Template: .crp (Celigo Report Template).

10.9 Deleting Report Templates

Figure 146. Delete Button

The Delete button (Figure 146) allows the user to delete checked Report Templates from the Celigo database.

To delete report templates

1. Log in to the Celigo application.

2. In the Start tab's task screen, click **Manage Data**.

   The Data Management screen appears (Figure 101 above).

3. Select the Report Template Tab.

4. Search as needed to find the items you want to delete (section 9.1).

5. In the right-hand pane check the detail items that you want to delete.

   To do this, left-click the checkbox to the left of the report template or select the **Check All** button (Figure 140), as applicable. To uncheck all, select the **Uncheck All** button (Figure 114).

6. At the top of the projects view in the Report Templates Tab, click **Delete**.

   The system deletes all check marked items from the database.

10.10 Tagging Report Templates

Figure 147. Add Tag Button

The Add Tag button (Figure 147) allows the user to add a tag to checked report templates. When first clicking on the Add Tag button, a dialog will appear asking the user to type in a new tag. As the user types a tag, a list will appear of tags matching the text typed if any exist. Once the tag has been entered, the user clicks OK to complete the operation and then a tag will appear next to the checked items.

Figure 148. Add Tag Selection Dialogs
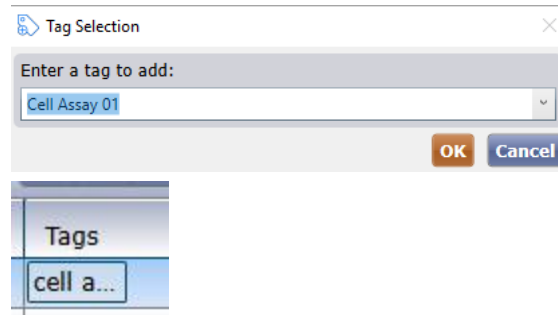
To tag report template

1. In the Start tab, in the task screen, click **Manage Data**.

    The Data Management screen appears (Figure 101 above) with the files and folders that the logged-in user has permission to view (by means of the Scientist or Local Administrator permission selected when the user profile was created).

2. In the report templates view of the Report Templates Tab, check all report templates that you want to associate a tag with.

    To do this, left-click the checkbox to the left of the report template or select the **Check All** button (Figure 140), as applicable. To uncheck all, select the **Uncheck All** button (Figure 141).

3. Click the **Add Tag** button (Figure 147) and the Tag Selection dialog (Figure 148) will appear.

4. In the Tag Selection dialog, enter a new or existing tag to associate with all the checked projects to and click **OK**.

    As text is typed, all matching tags will be displayed in dropdown.

5. After the OK button is pressed, the tag is associated with all checked items.
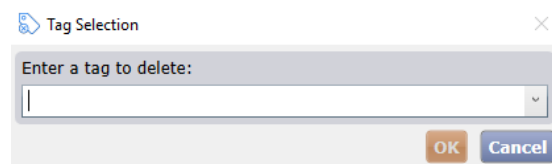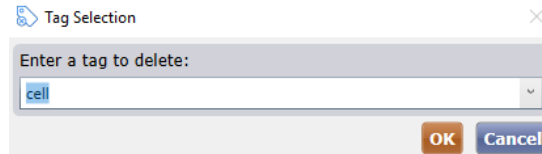
10.11   Removing a Tag from Report Templates

Figure 149. Delete Tag Button

The Delete Tag button (Figure 149) allows the user to delete a tag from checked report templates. When first clicking on the Delete Tag button, a dialog will appear (Figure 150) asking the user to type in a tag to remove. As the user types a tag, a list will appear of tags matching the text typed if any exist. If a tag is typed that is associated with the checked report templates, that tag will be removed when the user clicks OK. If a tag is typed that is not associated with the checked report templates, the data's tags will remain unchanged.

Figure 150. Delete Tag Selection Dialog

Figure 151. Delete All Tags Button

The Delete All Tags button (Figure 151) allows the user to delete all tags from checked report templates.

To remove a specific tag from report templates

1. In the Start tab, in the task screen, click **Manage Data**.

    The Data Management screen appears (Figure 101 above) with the files and folders that the logged-in user has permission to view (by means of the Scientist or Local Administrator permission selected when the user profile was created).

2. In the report template view of the Report Templates Tab, check all report templates that you want to dissociate a tag from.

    To do this, left-click the checkbox to the left of the report template or select the **Check All** button (Figure 140), as applicable. To uncheck all, select the **Uncheck All** button (Figure 141).

3. Click the **Delete Tag** button (Figure 146) and the Tag Selection dialog will appear.

4. In the Tag Selection dialog, enter an existing tag to dissociate from the checked report templates to and click **OK**.

    As text is typed, all matching tags will be displayed in dropdown.

5. After the OK button is pressed, the tag, if it is found associated with the checked items, is removed from the item.

To remove all tags from report templates

1. In the Start tab, in the task screen, click **Manage Data**.

    The Data Management screen appears (Figure 101 above) with the files and folders that the logged-in user has permission to view (by means of the Scientist or Local Administrator permission selected when the user profile was created).

2. In the report templates view of the Report Templates Tab, check all report templates that you want to clear all tags from.

    To do this, left-click the checkbox to the left of the report template or select the **Check All** button (Figure 140), as applicable. To uncheck all, select the **Uncheck All** button (Figure 141).

3. Click the **Delete All Tags** (Figure 151) button.

4. After the button is pressed, all tags are removed from all report templates currently checked.

11.   Data Administration

Figure 152. Data Management Summary
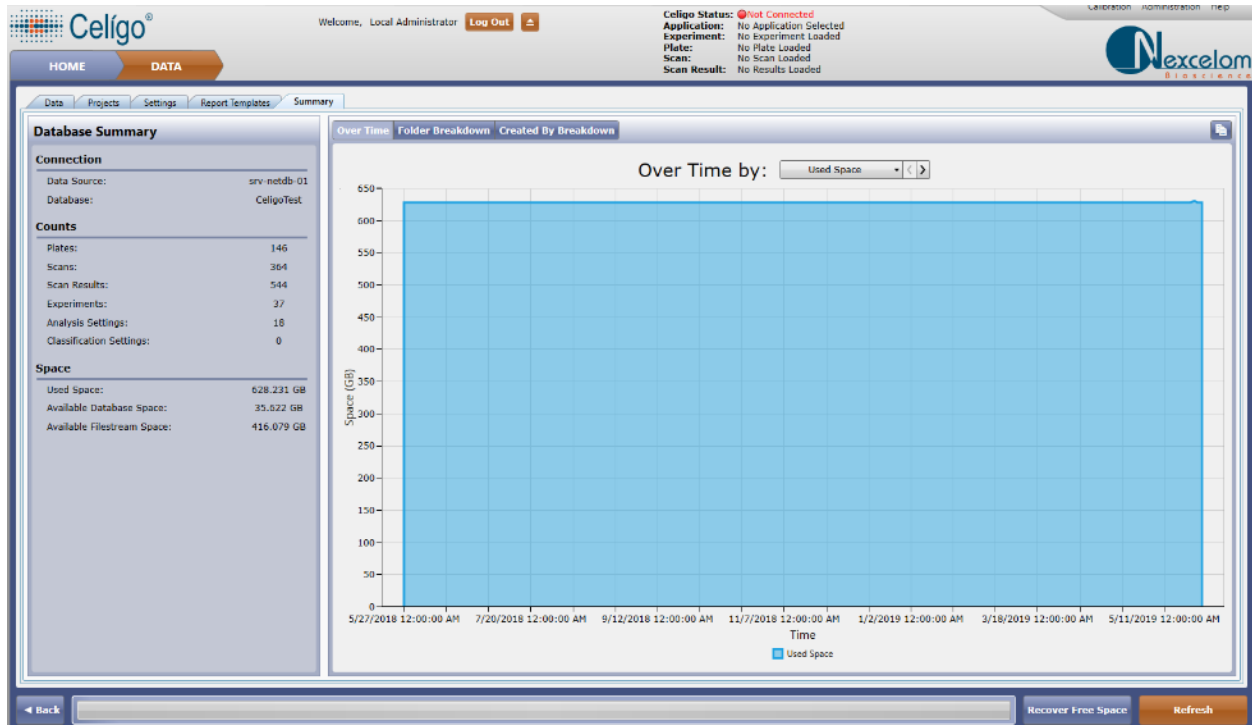
The Data Management screen is broken into five separate views: Data, Projects, Settings, Report Templates and Summary. The Summary Tab (Figure 153) displays to the user a database summary and other miscellaneous administration information for the Celigo database. The Summary Tab is only displayed to local administrator users and is broken up into 4 areas: Database Summary, Over Time, Folder Breakdown, and Created by Breakdown.

Figure 153. Summary Tab in Data Management
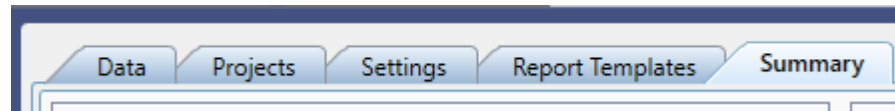
11.1   Viewing Database Summary Information

The Database Summary displays summary information for the database that the Celigo software is connected to. The data shown here contains connection information, count information for each data and setting item, and storage space information.
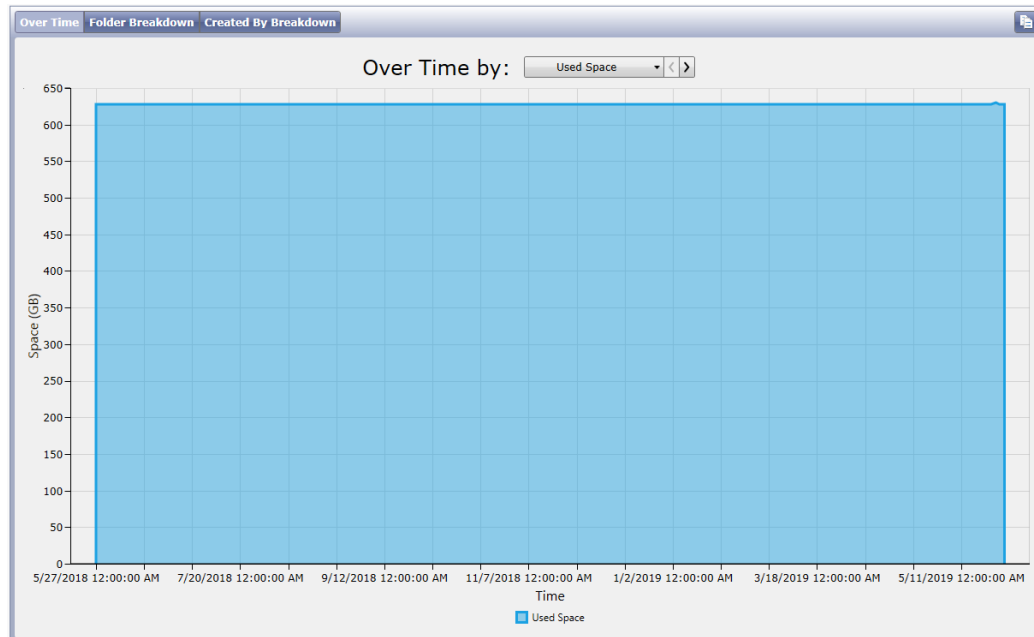
Figure 154. Database Summary Stats

To view Database Summary Information

1. Log in to the Celigo application.

2. In the Start tab's task screen, click **Manage Data**.

   The Data Management screen appears (Figure 101 above).

3. In the Data Management screen, click the Summary Tab (Figure 153). The summary information will appear on the left side of the screen.

11.2   Viewing Over Time Information

Figure 155. Over Time Data Display

The Over Time section (Figure 155) displays up to a year's worth of various information for the Celigo database. Charts for the following can be displayed: Used Space, Database Available Space, Filestream Available Space, Plates, Scans, Scan Results, Experiments, Analysis Settings, and Classification Settings.

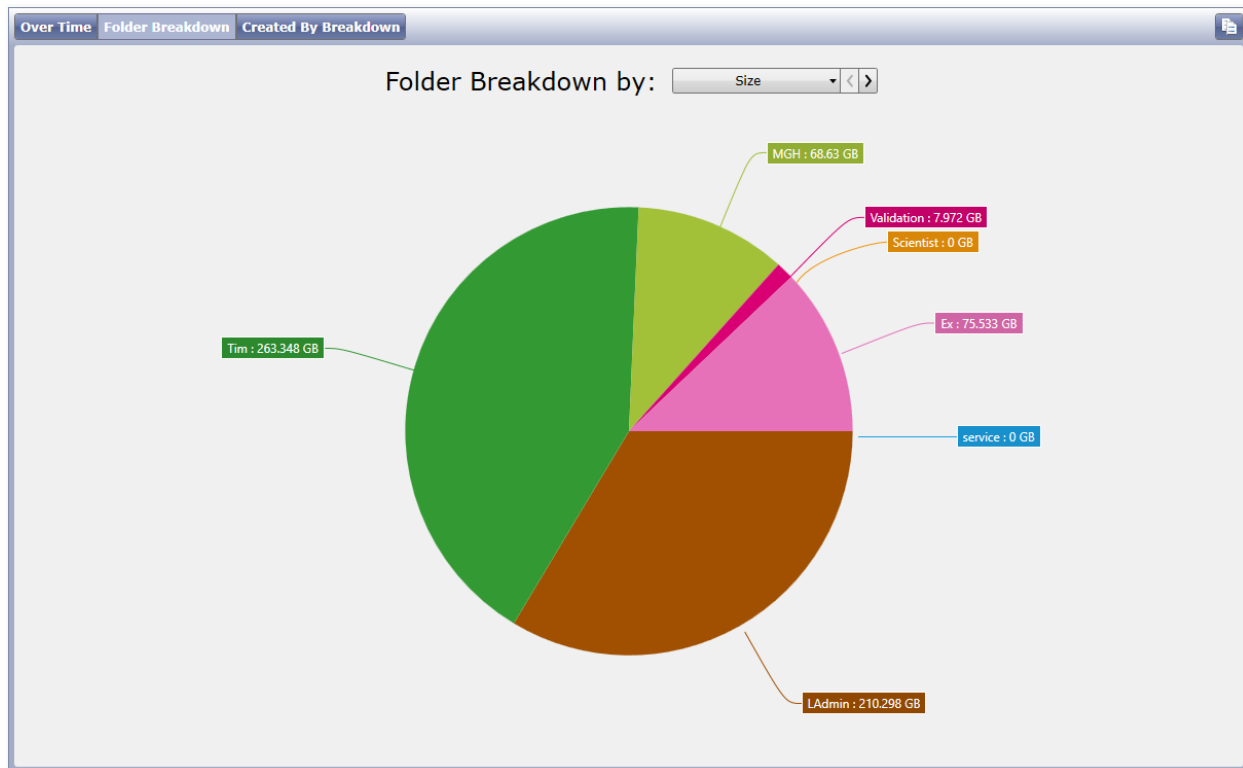**To view Over Time Information**

1.   Log in to the Celigo application.

2.   In the Start tab's task screen, click **Manage Data**.

     The Data Management screen appears (Figure 101 above).

3.   In the Data Management screen, click the Summary Tab.

4.   In the right side of the screen, select the Over Time option you want to have a report for.

5.   Optionally, you can copy the chart information currently displayed as an image to the clipboard by clicking the Copy to Clipboard button (Figure 156) in the top right of the screen.

Figure 156. Copy to Clipboard Button

11.3   Viewing Folder Breakdown Information

Figure 157. Folder Breakdown Data Display

The Folder Breakdown section (Figure 157) displays what portion of the Celigo database resides in each Celigo folder. Charts for the following can be displayed: Size, Plates, Scans, Scan Results, Experiments, Analysis Settings, and Classification Settings.
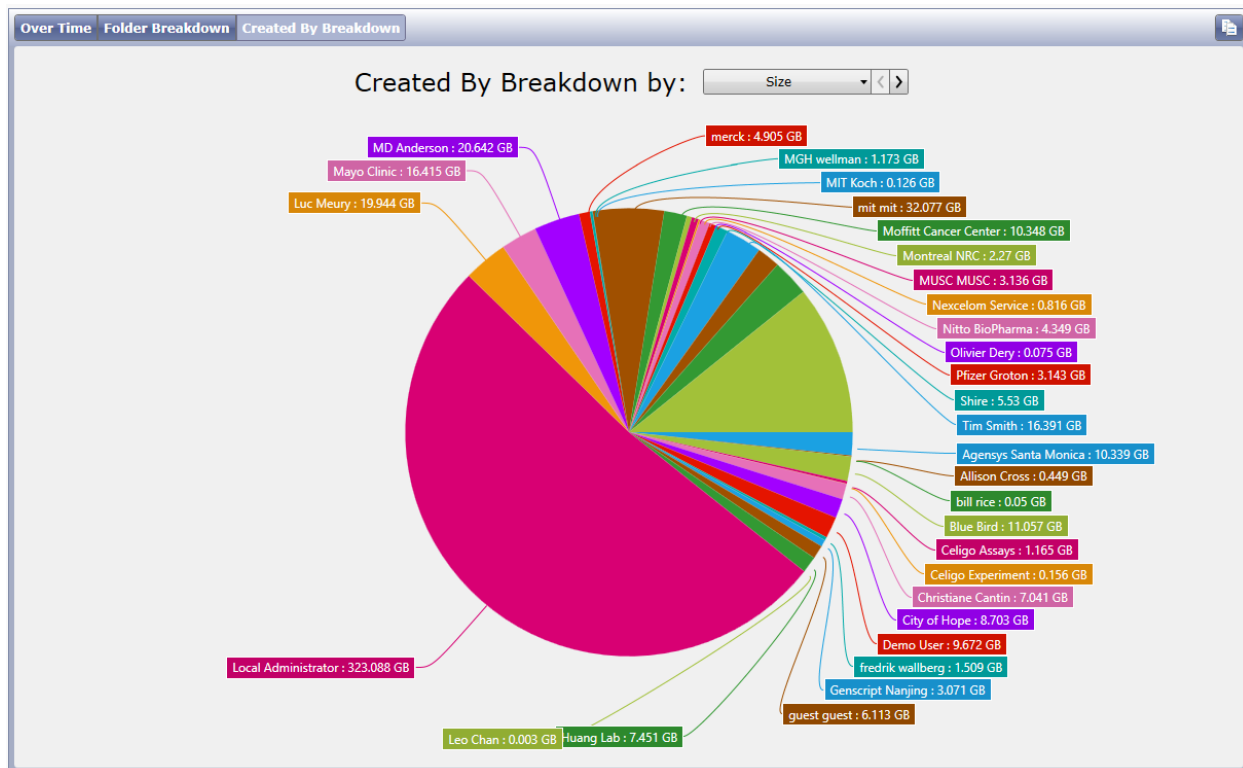
To view Folder Breakdown Information

1. Log in to the Celigo application.

2. In the Start tab's task screen, click **Manage Data**.

    The Data Management screen appears (Figure 101 above).

3. In the Data Management screen, click the Summary Tab.

4. Select the Folder Breakdown button to display the Folder Breakdown screen.

5. In the right side of the screen, select the Folder Breakdown option for which you want to create a report.

6. Optionally, you can copy the chart information currently displayed as an image to the clipboard by clicking the Copy to Clipboard button (Figure 156) in the top right of the screen.

11.4   Viewing Created by Breakdown Information

Figure 158. Created by Breakdown Data Display

The Created by Breakdown section (Figure 158) displays what portion of the Celigo database was created by each user. Charts for the following can be displayed: Size, Plates, Scans, Scan Results, Experiments, Analysis Settings, and Classification Settings.

To view Folder Breakdown Information

1. Log in to the Celigo application.

2. In the Start tab's task screen, click **Manage Data**.

    The Data Management screen appears (Figure 101 above).

3. In the Data Management screen, click the Summary Tab.

4. Select the Created By Breakdown button to display the Created By Breakdown screen.

5. In the right side of the screen, select the Created By Breakdown option you want to have a report for.

6. Optionally, you can copy the chart information currently displayed as an image to the clipboard by clicking the Copy to Clipboard button (Figure 156) in the top right of the screen.

12.   Managing Plate Profiles

Plate profiles are the plate formats that are used for scanning various plate and flask types on the Celigo cytometer.

You manage plate profiles in the Plate Profile Management window. Managing plate profiles consists of viewing, deleting, importing, and exporting.

All users have the permissions to view plate profiles.

The following are permission levels and the associated actions that can be taken on plate profiles:

- Scientist – Can view only active plates

- Local Administrator – Can view active and deleted plates, and can import, export, and delete plates

For more information on user permissions, see Adding a User section 3.1.

## 12.1   Viewing Plate Profiles

To view plate profiles

1. In the Start tab, select **Administration > Manage Plate Profiles.**

   The Plate Profile Management window appears (Figure 159) with the first line item highlighted. The following figure shows the display for users with Local Administrator permissions.

Figure 159. Plate Profile Management Window

Plates that the current user has permissions to view (only active plates vs. also deleted plates)
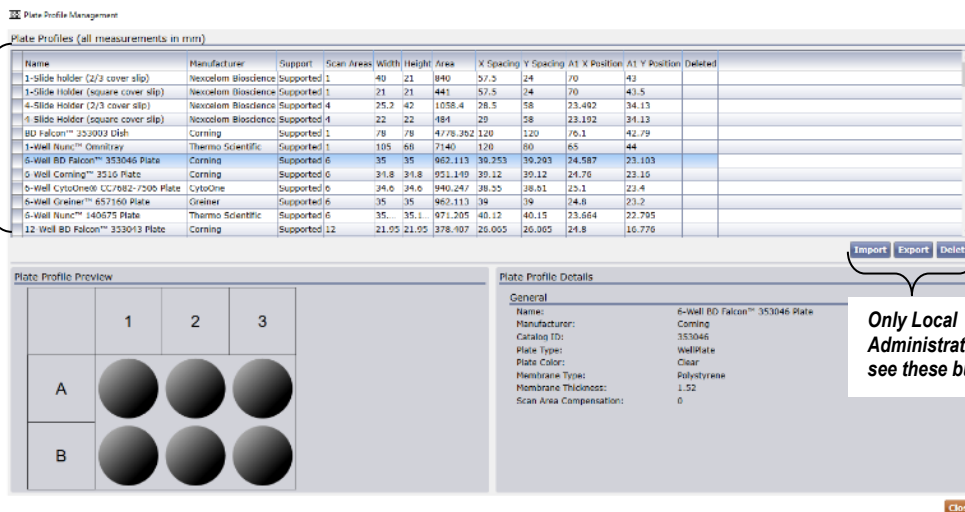
Only Local Administrators can see these buttons

The Plate Profile Management window (Figure 159) displays the list of all plate profiles, with their specifications.

2. Scroll to view any plate profiles not in view.

3. If you want to view a well layout, click the name of the applicable plate profile.

   The well layout appears in the Plate Profile Preview section.

12.2   Deleting Plate Profiles

	NOTE: Deleting plate profiles requires Local Administrator permissions.

To delete a plate profile

1. Locate the plate profile that you want to delete by scrolling to it in the Plate Profiles list per Viewing Plate Profiles section 12.1.

2. In the Plate Profiles pane, click the plate profile you want to delete so that it is highlighted.

3. Click **Delete**.

   A Confirm Delete message box appears similar to the following (Figure 160).

Figure 160. Confirm Delete Message Box

Confirm Delete...   ✕

⚠ Delete plate profile '4-Slide Holder (square cover slip)'?

Yes	No
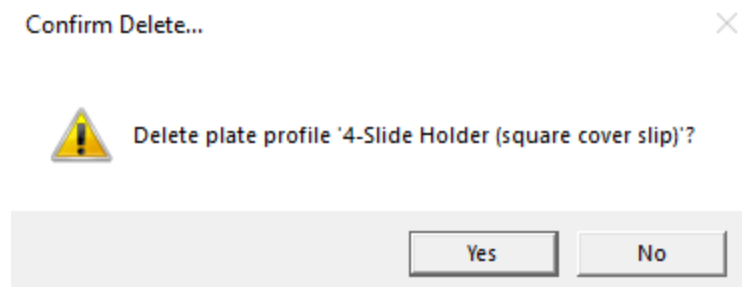
4. Click **Yes**.

   The system does one of the following:

   - If a plate profile is requested to be deleted and has *not* yet been used for imaging, the system deletes the profile. In the future, the plate will not be listed in the Enter Plate Details screen.

   - If the plate profile is requested to be deleted and *has* been used for imaging, the system only *marks* the plate profile as deleted. In the future, the plate will not be listed in the Enter Plate Details screen, but any analysis and results associated with that plate will be viewable.

12.3   Importing Plate Profiles

	NOTE: Importing plate profiles requires Local Administrator permissions.

When you import a plate profile (also called a plate definition), you are importing into the database in XML format.

To import a plate profile

1. In the Plate Profile Management window, click **Import**.

   The Open dialog box appears (Figure 161).

Figure 161. Import Plate Profile – Open Dialog
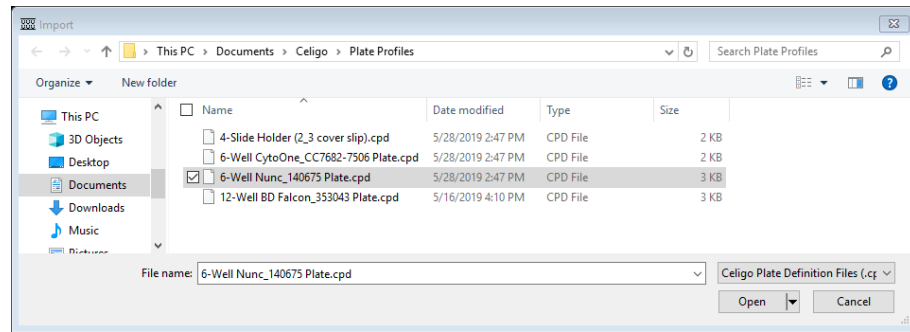
2. In the Look in folder, navigate to a folder that contains the plate profile to import.

   The system displays the plate profile folders that contain a corresponding .cpd (Celigo plate data) file (XML format).

3. In the File name field, type a name for the plate profile that you want to import.

4. Click **Open**.

   The system begins the import operation and a progress screen appears.

   The system validates the .cpd (Celigo Plate Definition) file (XML format) and then imports it to the database. If there were no errors, you will see the added plate profile in the Plate Profiles pane.

   Clicking Cancel will cancel the import operation.

12.4   Exporting Plate Profiles

> **NOTE: Importing plate profiles requires Local Administrator permissions.**

When you export a plate profile, you are exporting from the database to a hard drive in XML format.

To export a plate profile

1. Locate the plate profile that you want to export by scrolling to it in the Plate Profiles list per Viewing Plate Profiles section 12.1.

2. In the Plate Profiles pane, click the plate profile you want to export so that it is highlighted.

3. Click **Export**.

A Save As dialog box appears (Figure 162).

Figure 162. Export Plate Profile – Save As Dialog
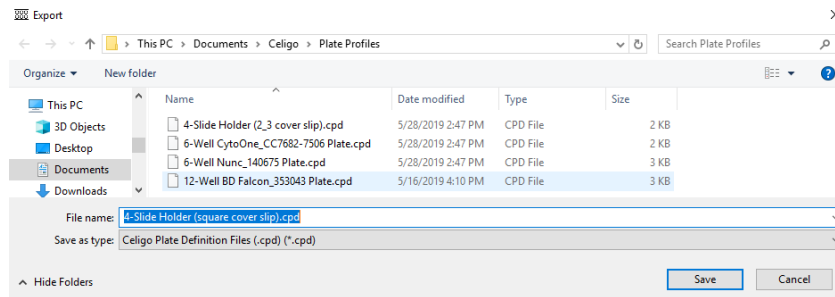
4.   In the Save in menu, navigate to a folder location.

5.   In File name, type a filename for the file.

6.   Click **Save**.

The system saves the plate profile to the selected folder in XML format with a .cpd (Celigo Plate Definition) file extension.
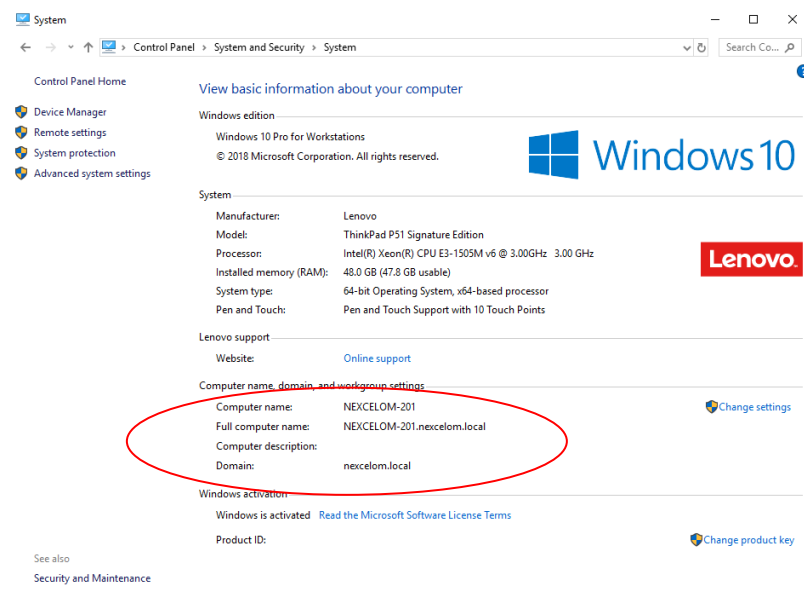
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13.   Database Access

Perform the following procedure to set up access permissions to the Celigo database on customer instruments.

13.1   Preparation

Start with a blank system. This system will have some prerequisites installed, specifically SQL Server with the default Celigo user account configured as a SQL Server Administrator allowing access to the management tools and our application. The system (Computer name) in the following example is called Celigo-PC-###.

Figure 163. System Information

|	CAUTION: Do not delete the original Celigo account (admin account for older Celigo models) or make any changes to it until you have performed this procedure and confirmed that the users are able to log in to SQL Server Management Studio and launch the Celigo application.

13.2   Procedure

	CAUTION: This procedure is to be performed by qualified Information Technology personnel only. Failure to perform this procedure correctly can delete the current database and all subsequent data will be lost.

1. Make sure that you have performed the steps in Preparation section 13.1.

2. In SQL Server Management Studio, connect to the local database as follows:

   a) Open SQL Server Management Studio.

**Figure 164. SQL Server Management Studio Location in Start Menu**
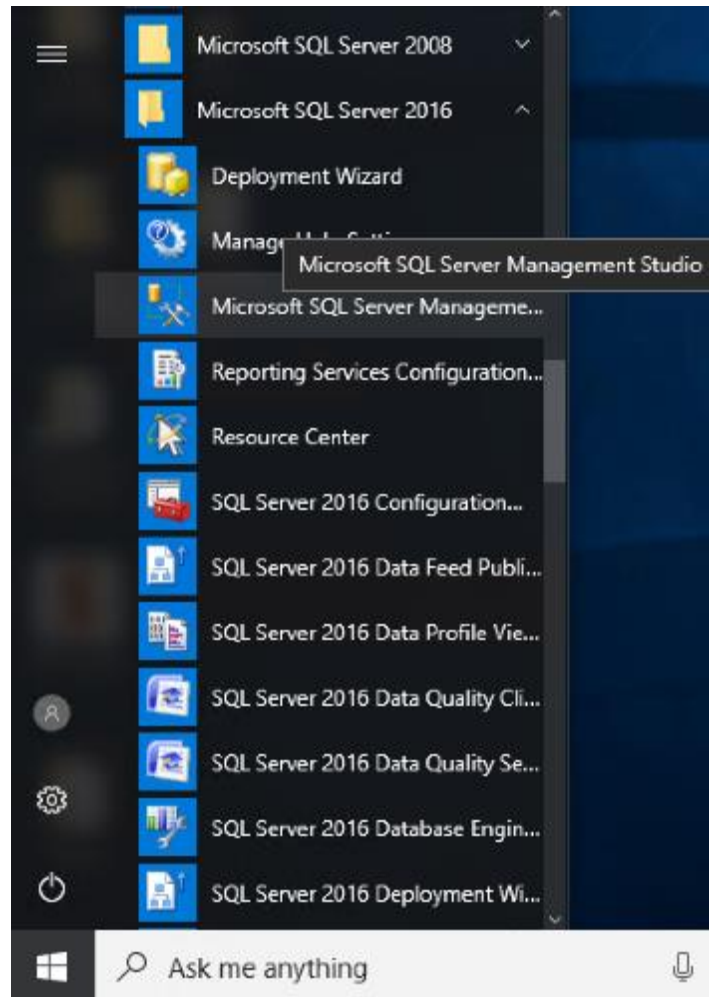
   b) Make the following selections:

- Server type – Database Engine
- Server name – (local)
- Authentication – Windows Authentication

Figure 165. SQL Server Connect to Server Login
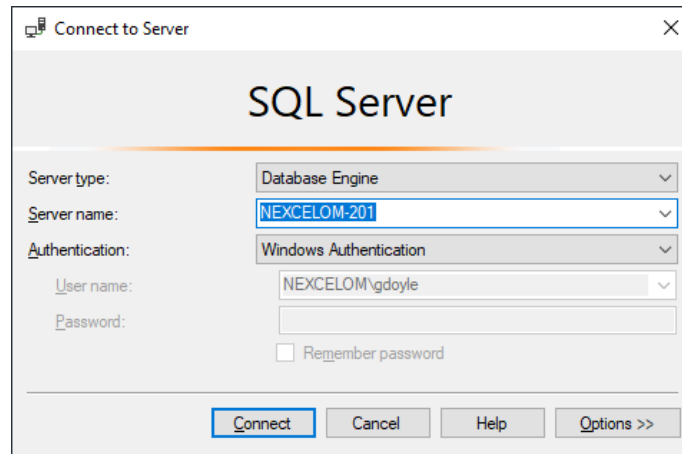
c) Click **Connect**.

3. In SQL Server Management Studio, navigate to security\logins folder.

4. Right-click **Logins** and select **New Login**.

Figure 166. Creating a New Login
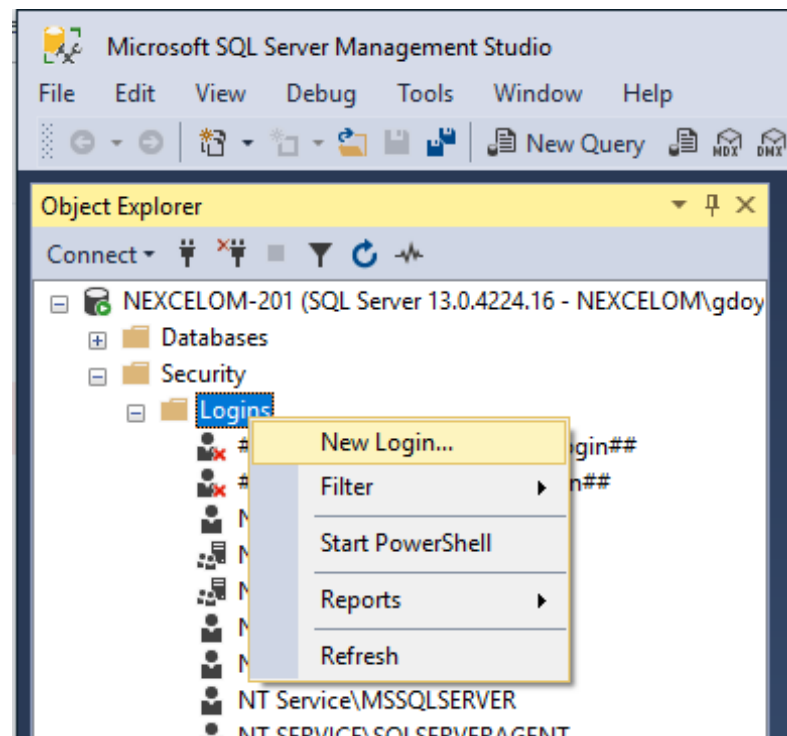
5. In the Login name field (Figure 167), type the fully qualified user or group name (including the domain) of the user or group to which you want to provide access, as shown in the following figure. In this example, the new user is DBPROBLEMTESTER\Test Admin. You can also use the Search button to search for a user or group in your active directory.

⚠	**CAUTION: Be sure to keep the Default database selection as master. This will allow you to log in if the database is somehow removed or modified.**

**Figure 167. New Login Window**

On the Server Roles page (Figure 168), keep **public** and **sysadmin** selected. Sysadmin will allow the new user full access to all management functions. Sysadmin should be reserved for the Superuser only.

Note: Only the Sysadmin can select the Recover Free Space button.

It is recommended to define user roles and map the user permissions (i.e., select the Securable and then set, Grant, With Grant, and Deny, specific permissions).

Note: DB_Owner role is set to allow user to change the database settings, but cannot create or delete database permission.

Figure 168. New Login User Roles
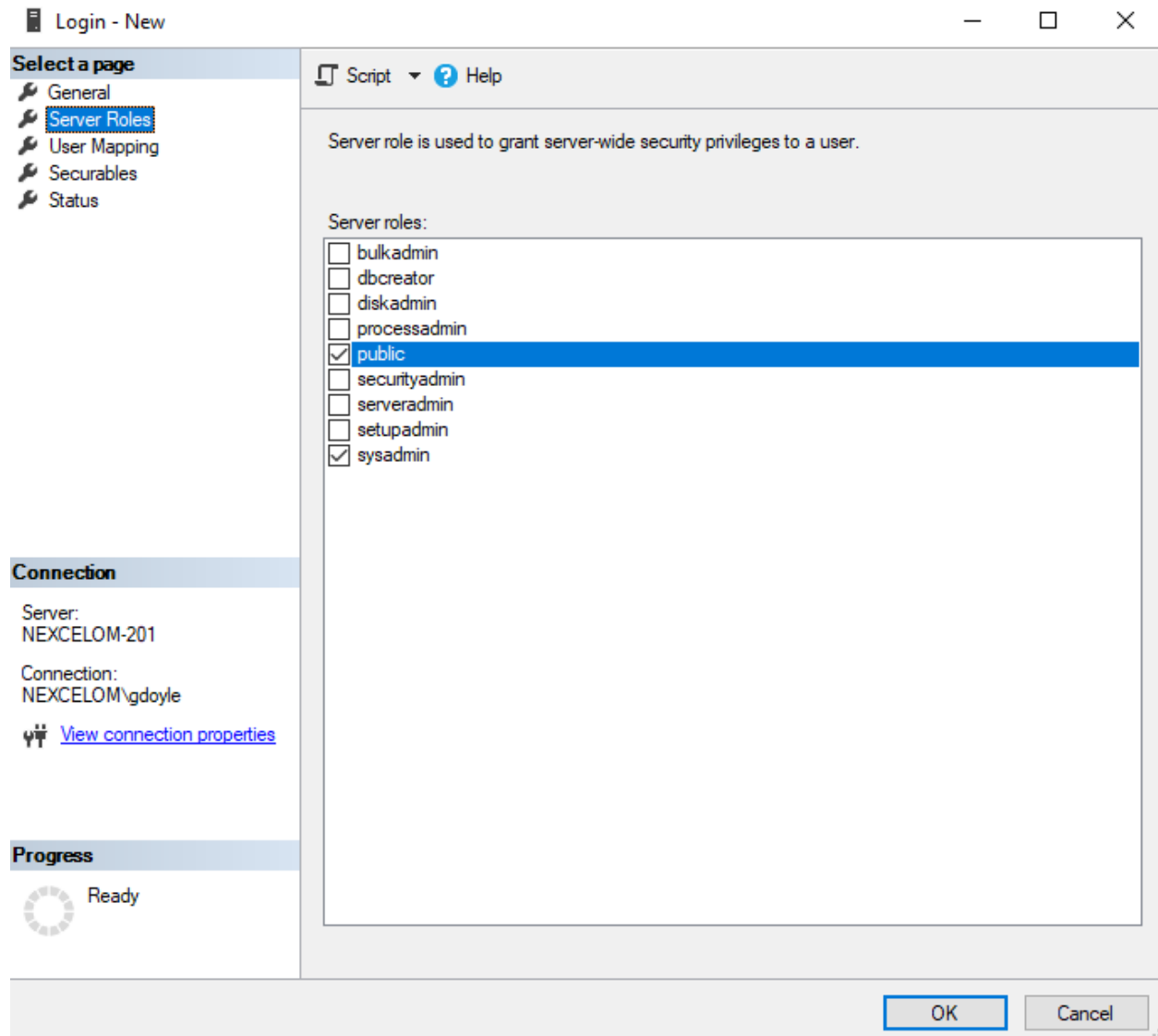
6. Test that the new user is able to log in to Microsoft SQL Server Management Studio and launch the Celigo application.

   Note: In order to test the new user login ability, logout of Windows and login as the new user.

7. Repeat steps 4 through 6 for each user or group that you want to give database access.

13.3   Troubleshooting

If the Windows Security dialog appears (Figure 169) at any time it may be because the instrument is not yet on the domain and/or the login credentials do not have access permissions.

Figure 169. Windows Security Prompt

If you are planning to rename the computer, please be advised that this may cause the local machine login credentials for sql server to break and that the logins may need to be deleted and re-added to allow for the logins to access the database after the computer re-name.

14.   SQL Authentication

This section provides the procedures for setting up SQL Authentication mode for the Celigo database in the case you prefer to use that mode of authentication instead of the Windows login mode. There are only two major steps involved: creating a database login and adjusting the QueryEngineConfig.xml file. After that, you should be able to start up the Celigo application and it will guide you through the rest. The software will ask you to enter the credentials for the SQL login you created and then restart itself. If everything was entered correctly, the software will encrypt the login credentials in the QueryEngineConfig.xml file and you will be able to start using the Celigo.

NOTE: SQL Authentication method is only available in software versions 3.2 and later.
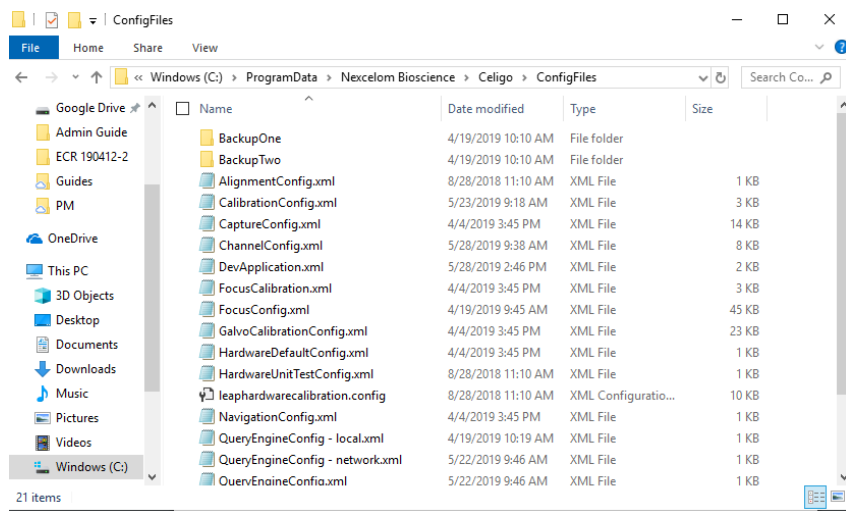
14.1   Create a SQL database login

Create a login following the steps from above in section 13.2(Procedure) with the only difference being we need to select SQL Server Authentication (See Figure 166, Figure 167, and Figure 168) and give it a password.

14.2   Setup the QueryEngineConfig.xml file

Perform the following steps to setup the Celigo database in SQL Authentication mode.

1. Open and edit C:\ProgramData\Nexcelom Bioscience\Celigo\ConfigFiles\QueryEngineConfig.xml.

2. Add in a new setting element with the following values inside of the section element:

   <setting key=IsSqlAuthenticationMode>

     <string>true</string>

   </setting>

3. Save File

   Path: C:\ProgramData\Nexcelom Bioscience\Celigo\ConfigFiles

4. Copy edited file

5. Paste copied file into both Backup folders One and Two (Figure 170)

Figure 170. Config File Backup Folders

6. Now start the Celigo application. Once you do this you should see a prompt asking for the username and password that you entered in section 14.1 (Create a SQL database login).

15.   Database Maintenance

To ensure proper Celigo cytometer functionality, reasonable performance, and the ability to retrieve backup files, periodic database maintenance tasks must be performed by the person assigned the administrator role for the system.

Database maintenance consists of the following main tasks. Please familiarize yourself with the steps for each task and keep this document close to the Celigo server for reference while performing the tasks:

- Deleting Unneeded Files from the Celigo Data Drive

- Freeing Up Data Drive Space from Deleted Plates, Scans, or Scan Results

- Scheduling Database Backups and Maintenance Tasks

In the event that data is lost, Celigo field service personnel will be able to retrieve the data from the backup files.

- Restoring Database Backups

- Defragmenting the Data Drive

- Anti-virus Rule Recommendations

> **NOTE: The displays in this section show backup to the C drive. It is highly recommended, however, that you instead back up to a USB 3.0 external drive or network location.**

15.1   Deleting Unneeded Files from the Celigo Data Drive

> **CAUTION: There are several large files used by the operating system that should not be removed. Check with your IT Administrator before removing files that you are not sure about.**

By deleting unneeded files from the Celigo data drive, you create free space, increasing Celigo computer speed and reliability. This section describes how to delete the following files that you determine are not needed:

- Database backup files

- Plates, scans, or scan results files

- Temp directory files

- Miscellaneous files and directories

15.1.1   Deleting Database Backup Files

Database backup files typically end in .bak and are extremely large, usually greater than 1 GB and often greater than 100 GB. The Celigo cytometer uses the C:\backup directory to store backups of application configuration files.

> **NOTE: Define a strategy for backing up important data for storing off of the Celigo C:\ (and D:\ if applicable) drives. Consider keeping three months' worth of monthly backups, a month's worth of weekly backups, and a week's worth of nightly backups. (For the backup types and reasons, see Scheduling Database Backups section 15.3). This strategy will protect against loss of data and ensure that you are not keeping more large files than you will likely need.**

To delete database backup files

- Right-click the backup file and select **Delete**.

- If applicable, also go to your Recycle Bin and remove the files using the same instructions.

The space from the deleted file immediately becomes available for use.

15.1.2   Deleting Plates, Scans, or Scan Results

Make sure to regularly delete any plates, scans, and scan results that are not necessary to ongoing projects; the image data accumulates quickly. The images captured during a scan are large files, accounting for more than 90% of the disk space that the Celigo application uses. The plates, scans, and scan results are stored in an SQL server database.

> **NOTE: For Celigo prior to v3.0, the deletion of plates, scans, or scan results requires a subsequent checkpoint operation to free up the space from the deletion; your deletion of the other types of files described in this section will immediately result in the freeing up of data drive space operation.**

To delete plates, scans, or scan results

1. Do one of the following:

   - If you want to archive the plates, scans, or scan results for possible future use, archive them per Exporting Plates, Scans, or Scan Results at section 7.8. Then continue to step 2.

   - If you do *not* want to archive the plates, scans, or scan results for possible future use, continue to step 2.

   - If you want to immediately request that the system begin freeing up space from the deleted files, click the **Recover Free Space** button at the bottom right of the Data Management window (Figure 62).

     Note: Recover Free Space button is only available to the Sysadmin user.

2. Delete the plates, scans, or scan results from the Celigo drive and free up the space from the deleted files by performing Deleting Plates, Scans, Scan Results, or Settings section 7.10 and 9.9.

15.1.3   Deleting Miscellaneous Files and Directories

Delete from the Celigo data drive any additional miscellaneous files and directories that you have determined are not needed.

<table>
<tr>
<td>⚠️</td>
<td>CAUTION: There are several large files used by the operating system that should not be removed. Check with your IT Administrator before removing files that you are not sure about.</td>
</tr>
</table>

To delete miscellaneous files and directories

Right-click the unwanted file and select **Delete**.

The space from the deleted file immediately becomes available for use (may have to clear from the Recycle Bin first).

15.2   Freeing Up Data Drive Space from Deleted Plates, Scans, or Scan Results

For Celigo Software Prior to v3.0:

When you delete plates, scans, or scan results from the Celigo data drive (see section 7.10), space is not yet freed up for use until the system performs a data drive space free-up process, called a checkpoint. Specifically, during a checkpoint process, the SQL server recovers deleted data blocks to the Windows file system at a gradual rate as to not impact the computer's processing power.

For Celigo Software v3.0 and Higher (And SQL Server 2012 or newer):

Checkpoints are automatically issued during deletion operations for Celigo Software v3.0 and higher. In addition, to speed up the free-up process, a Recover Free Space operation was provided that will immediately recover the deleted data blocks. This operation requires a large amount of resources and is recommended to be run only during times of non-operation. This operation is only available to users running their Celigo with an SQL Server 2012 or newer database.

It is recommended to define a maintenance schedule as to when to click the Recover Free Space button. To perform this too infrequently may mean it will take a great deal of time to recover the database's free space.

You can immediately start the freeing up of data drive space at any time.

<table>
<tr>
<td>📝</td>
<td>NOTE: A checkpoint operation freeing up space from deleted plates, scans, or scan results may take several days for the system to complete, regardless of whether you perform an immediate checkpoint request or schedule it.</td>
</tr>
</table>

To immediately start the freeing up of data drive space

- Click **Recover Free Space** (Figure 171) at the bottom of the Data Management window.

Figure 171. Recover Free Space Button

	NOTE: The freeing up of space (recover free space operation) requires a large amount of resources and is recommended to run only during times of non-operation. This operation is only available for use with SQL Server 2012 or newer.

15.3   Database Manual Backup

Perform the following procedure to manually back up the database.

15.3.1   Procedure

	CAUTION: This procedure is to be performed by qualified Information Technology personnel only. Failure to perform this procedure correctly can result in failed backups for the database or even delete the current database.

1. Make sure that you have performed Database Access section 13.

2. In SQL Server Management Studio, connect to the local database per section 13.2.

3. Select the database that you want to back up. Typically this will be called Celigo, but it is possible there can be other names. Right-click the database name and select **Tasks >** Backup (Figure 172).

Figure 172. Back Up Task
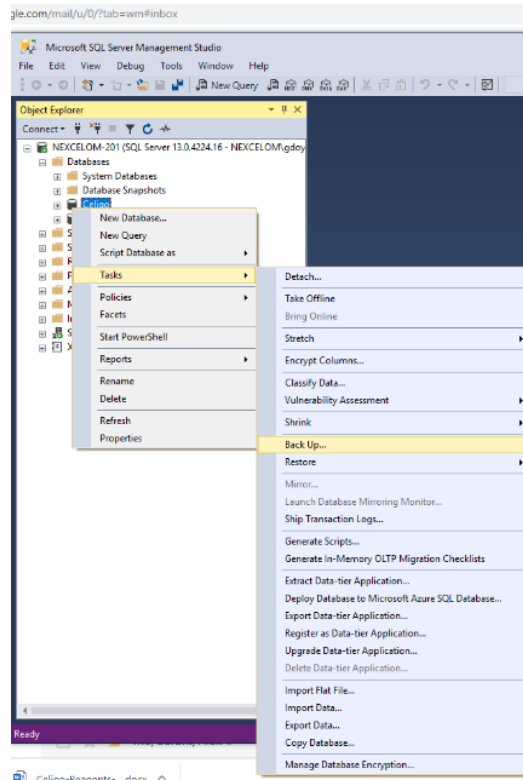
The Back Up Database - name of database window (Figure 173) appears. In the Source section, the database field will already be populated with the name you right-clicked.

Figure 173. Back Up Database Window
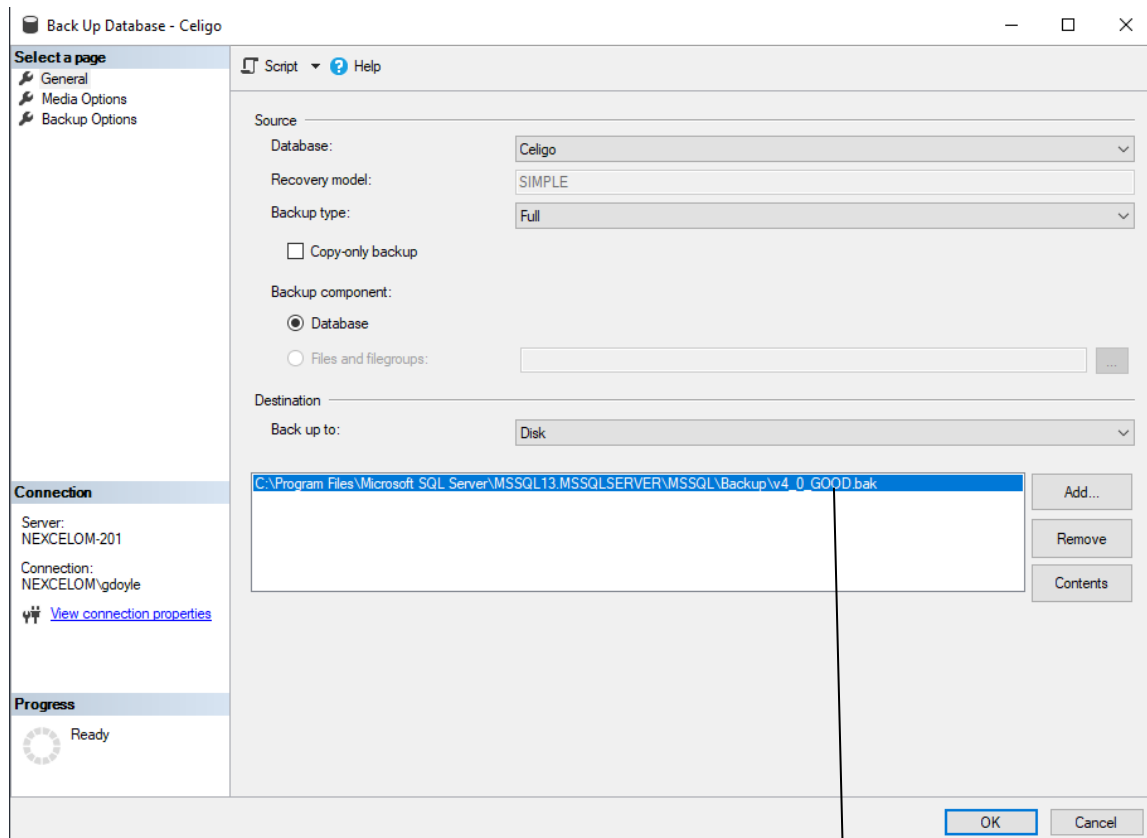
For maximum backup speed, it is highly recommended that you select the network file location or a USB 3.0 external drive as the file path.

4. Make the following selections:

   - **Backup type:** Full

   - **Destination:** Disk

5. If there are any unwanted directories listed under Destination, click on them and click **Remove**.

6. Click **Add.**

7. Click the… button to browse for a location to save the backup to.

8. Once the target location is found, give your backup a name (filename.bak) and click **OK**.

> **NOTE: For maximum backup speed, is highly recommended that you select the USB 3.0 external drive as the file path. The database may be directly backed up to the network or copied from a USB 3.0 to the network for maximum data safety.**

9. Click **OK** again and you will return to the Back Up Database window and see your location has been added to the Destination list.

10. In the left-hand pane, select **Options: Backup pages**.

The default options (e.g., Backup options) are adequate for typical backup operations. Change the entries as needed.

11. Click **OK**.

The backup starts. This operation can take a large amount of time depending on the backup size.

15.4   Scheduling Automatic Database Backups

Perform a database backup regularly for use as recovery files in the event that a hard drive fails. This activity is separate from the recommended periodic deletion of unnecessary data and archiving of data for longer term storage.

The two types of backup strategies that accomplish this approach are:

- Full backup

- Differential backup

By combining these two backup strategies to overlap throughout the week, the Celigo data will be protected from serious loss. The strategy described below will copy all the data except the scans acquired since the last backup to the day of the failure. To supplement the backup strategy, export important scans to an archive location soon after they have been acquired.

15.4.1   About Full Backups

There are several different types of full backups. The simplest form is sufficient for Celigo data backup purposes. The full backup described below will copy all data and configuration information into a single backup file that you move to an alternate archive location and can use to recover from a data drive catastrophic failure.

	NOTE: A full backup can take 8 hours or longer to complete and cannot be performed while other database activity is occurring. It is best to perform a full backup on late Saturday night, which will allow for the backup to run through Sunday if necessary without impacting the database access too much.

15.4.2   About Differential Backups

Differential backups archive all the data that have changed since the last backup was performed. These backups can be overlaid on top of full backups to provide a complete data set without requiring the same amount of down time or disk space.

You should perform a differential backup nightly to ensure that all scanned data is protected from loss. Like the full backup, a differential backup must be run without other activity on the system and can last up to a few hours to complete. Therefore, schedule differential backups to run when the system is not being used; very busy labs could get away with running this type of backup every other day if the risk of data loss is a lower priority than a few hours of down time, but this is very risky.

15.4.3   Checking the SQL Server Agent Service

To enable automatic backups, the SQL Server Agent Service must be enabled, allowing the scheduling setup to be successful.

1. Click **Start**.

2. Type services.msc

3. Click on the Services application that appears.

4. In the Services pane, double-click **SQL Server Agent (MSSQLSERVER)**. The SQL Server Agent (MSSQLSERVER) Properties window appears (Figure 174).

5. In the Startup type menu, make sure that Automatic is displayed. If it is not displayed, select it and click **OK**.

6. If the status for SQL Server Agent (MSSQLSERVER) is not already Started, right click on it and click **Start**.

Figure 174. SQL Server Agent (Service) Properties
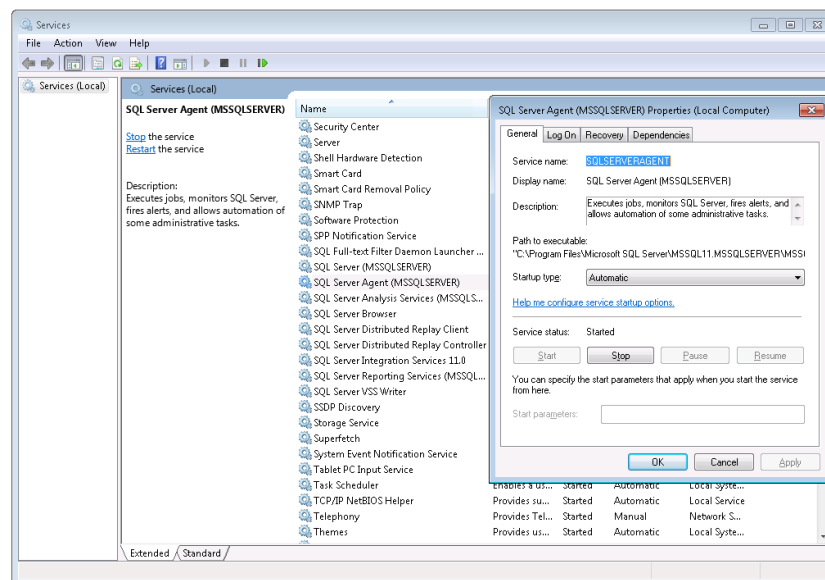
If you plan on choosing a network location as the target for scheduled database backups, the SQL Server Agent service must be run with an account that has access to the network location. By default, the service runs with a local SQL account. Do the following to run the service as a different user.

7. Open the SQL Server Agent service properties (Figure 174).

8. At the top, click the Log On tab.

9. For the This account field, type the fully qualified user name (including domain) of the account that has access to the network location. Otherwise you can click the Browse button to search your active directory for the desired account.

10. Type in the password for the selected account twice and click OK.

11. Restart the service by right clicking on it and choosing either **Restart** or **Start**.

If you plan on choosing a network location as the target for manual database backups, repeat the above steps for the service SQL Server (MSSQLSERVER).

15.4.4   Scheduling Full or Differential Backups

The same basic steps are performed for either a full or differential backup, and are presented for both cases below in a single procedure. Perform the procedure two times – once for scheduling a full backup, and then again for scheduling a differential backup.

To schedule full or differential backups

1. Check that the SQL Server Agent service is set to Automatic per section 15.4.3.

2. Open Microsoft SQL Server Management Studio, right-click the Maintenance Plans folder (Figure 175) and select New Maintenance Plan.

Figure 175. SQL Server Maintenance Plans
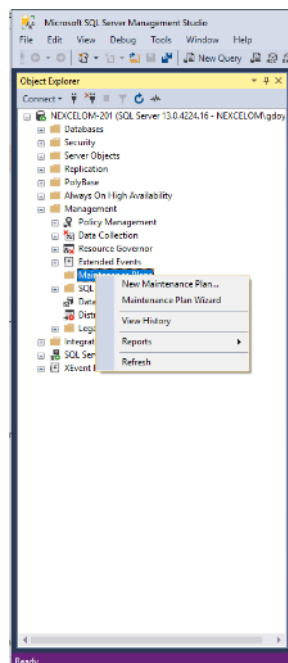
3. The New Maintenance Plan Name box appears. Type in a name such as:

   - Celigo Full Backup

   - Celigo Differential Backup

   Click OK and the new Maintenance Plan will appear in the SQL Server window (Figure 176).

Figure 176. Maintenance Plan Editing
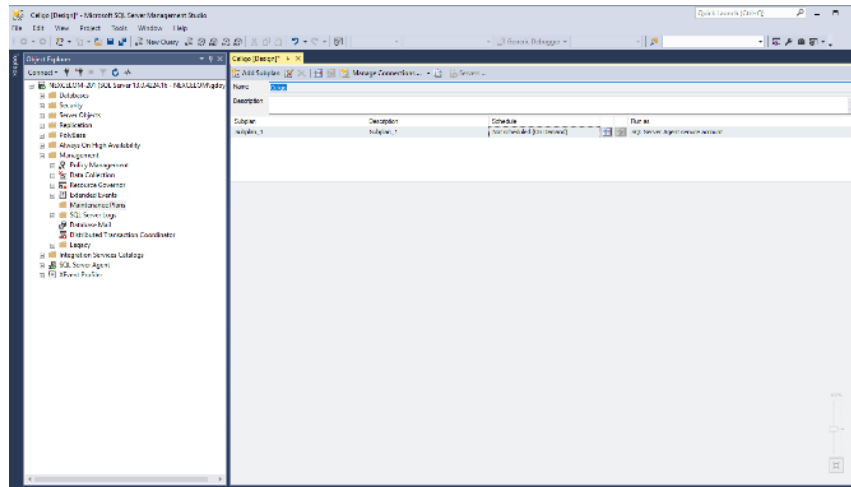
4. In the upper right pane of the SQL Server window, double-click the Subplan_1 line item.

   The Subplan Properties dialog box appears (Figure 177).

Figure 177. Subplan Properties Dialog Box
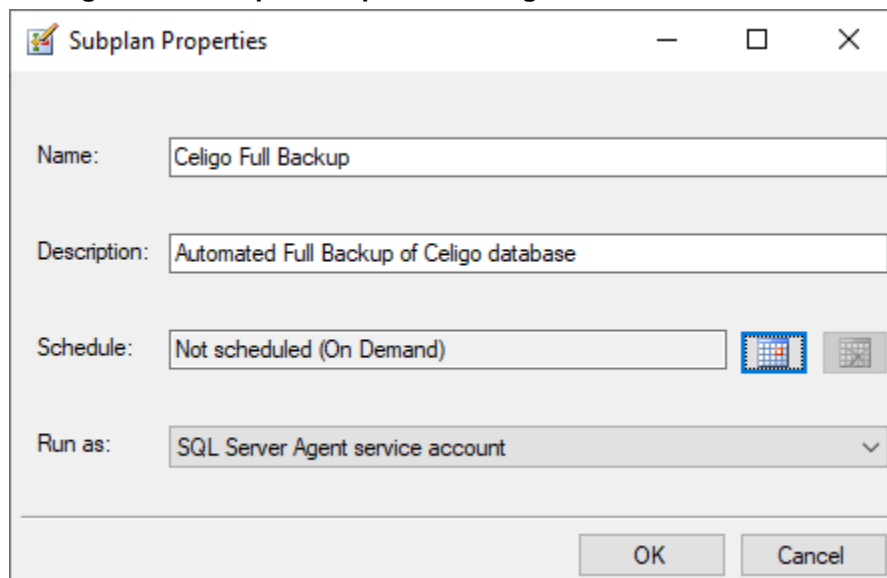
5. In the Subplan Properties dialog box, make selections as follows:

   • In Name, enter one of the following, as applicable:
      o Celigo Full Backup
      o Celigo Differential Backup

   • Enter a description for the Subplan

6. Click the Calendar control button (Figure 177)

7. The New Job Schedule window appears (Figure 178)

Figure 178. New Job Schedule Window

8. Schedule the full or differential backups.

    To do this, make selections as follows (Figure 179 or Figure 180):

    - Schedule type – Recurring

    - Frequency

        o Occurs – Weekly

        o Recurs every – 1 week

        o Full Backup typically 1 day chosen

        o Differential Backup typically multiple days chosen

    - Daily Frequency – 12:00:00 AM or whatever time you choose

Figure 179. New Job Schedule – Celigo Full Backup Example

Figure 180. New Job Schedule – Celigo Differential Backup Example

9.   Click **OK** to accept the Job Schedule Properties settings.

10. Click the next **OK** to accept the Subplan Properties (Figure 181).

11. Click **View > Toolbox** to enable the Toolbox. You can move it to wherever is most convenient for yourself.

Figure 181. Backup Subplan Dialog
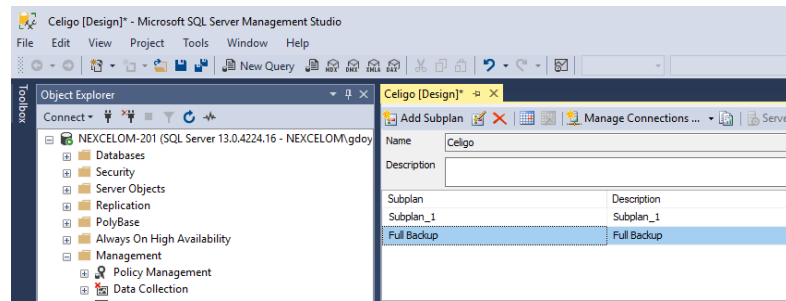
12. In the Toolbox under Maintenance Plan Tasks, drag the Back Up Database Task onto the workspace to the right.

13. Double-click the new Task icon to open the Back Up Database Task Window.

14. In the Back Up Database Task window, make the following selections:

- For full backups (Figure 181):

    – Backup type – **Full.**

    – Database(s) – **Specific databases** – Click the arrow on the right and select the Celigo database (Figure 182).

    – Folder: Enter or browse to target location to save backup, preferably to an external hard drive if one exists, or network location.

    NOTE: It is not recommended to use the computer's local drives.

    – Check **Verify Backup Integrity** checkbox. This will verify that the backup does not contain errors.

- For differential backups (Figure 184):

    – Backup type – **Differential.**

    – Database(s) – **Specific databases** – Click the arrow on the right and select the Celigo database (Figure 182).

    – Folder: Enter or browse to target location to save backup, preferably to an external hard drive if one exists, or network location.

    NOTE: It is not recommended to use the computer's local drives.

    – Check **Verify Backup Integrity** checkbox. This will verify that the backup does not contain errors.

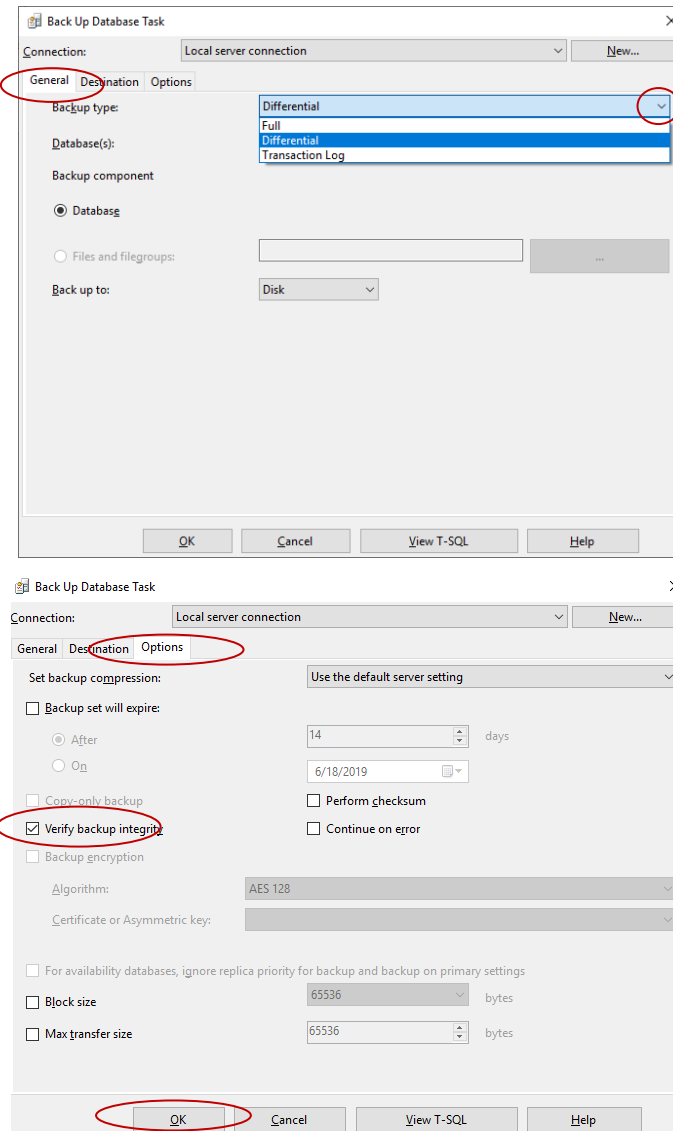**Figure 182. Database Selection Dialog**
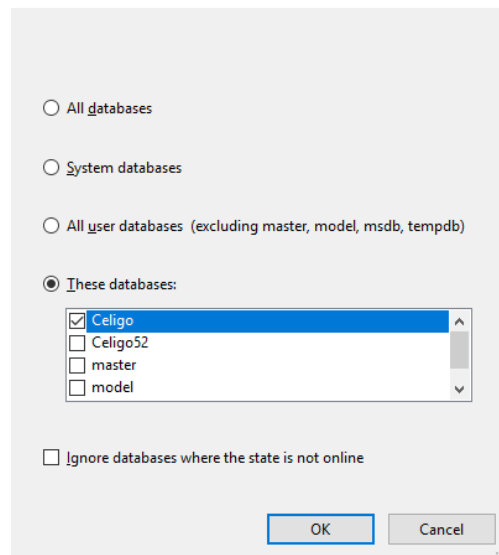
Figure 183. Back Up Database General, Destination, and Options tabs for Full Backups
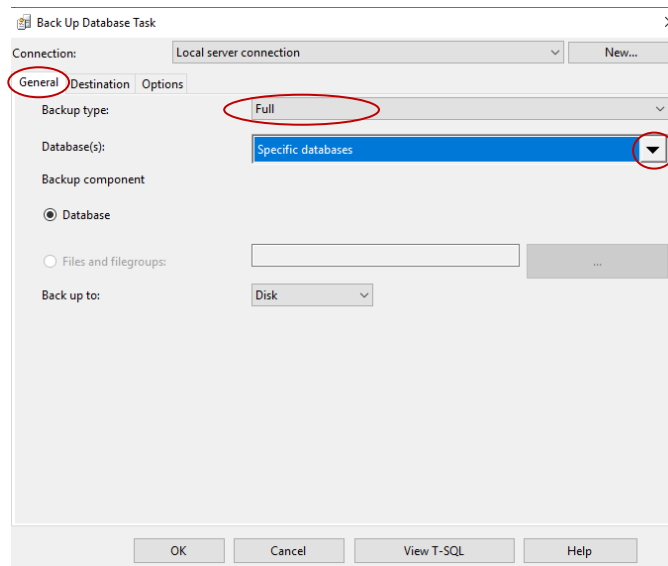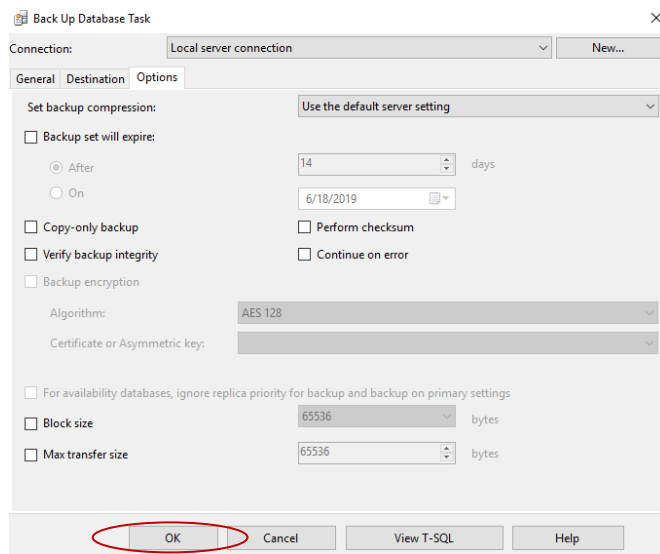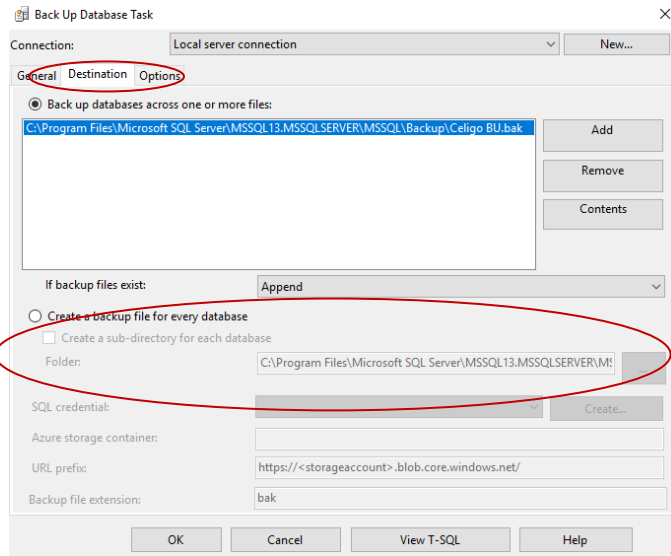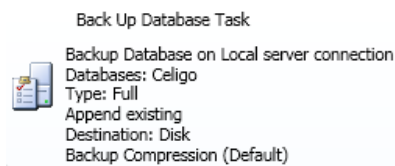
Figure 184. Back Up Database General and Options tabs for Differential Backups


- Click **OK** to return to the maintenance plan editor window (Figure 185).
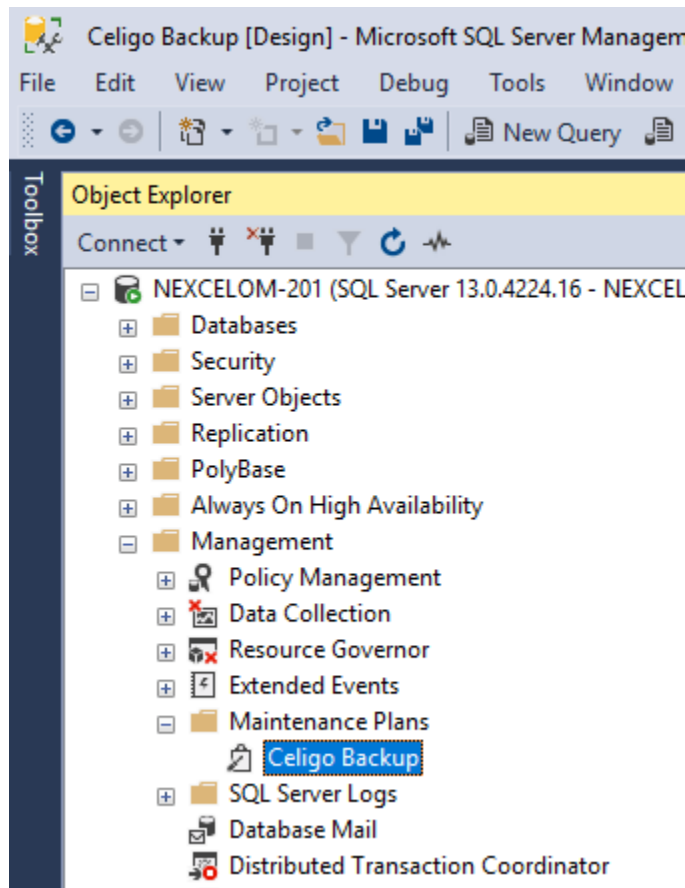
Figure 185. Linking Tasks

15. Save the maintenance plan by clicking the Save or Save As icon (Figure 186).

16. Right click on the Maintenance Plans folder and click **Refresh**. If you expand the folder you should see your saved maintenance plan as a file. (Figure 187)

Figure 186. Celigo Backup Maintenance Plans
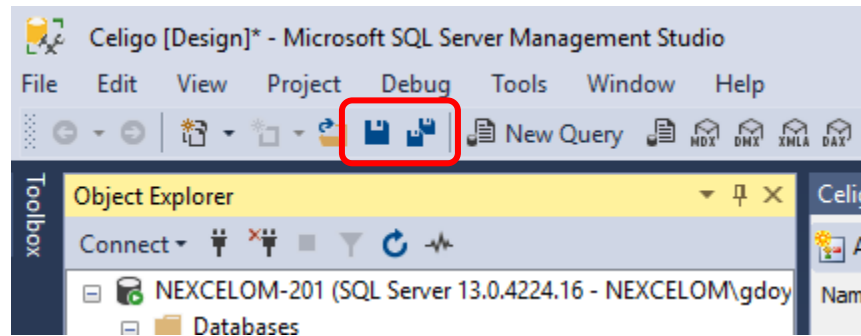
Figure 187. Celigo Backup in Object Explorer

17. Be sure to plug in and turn on an external USB 3.0 drive and leaving it connected to prevent disk letter changing

15.5   Restoring Database Backups

Perform the following procedure to manually restore a backed up database. If you need to restore a database onto a network database server, please contact Nexcelom Customer Service.

15.5.1   Procedure

⚠	CAUTION: This procedure is to be performed by qualified Information Technology personnel only. Failure to perform this procedure correctly can result in failed backups for the database or even delete the current database.

1. Make sure that you have performed Database Access section 13.

2. Open SQL Server Management Studio and login.

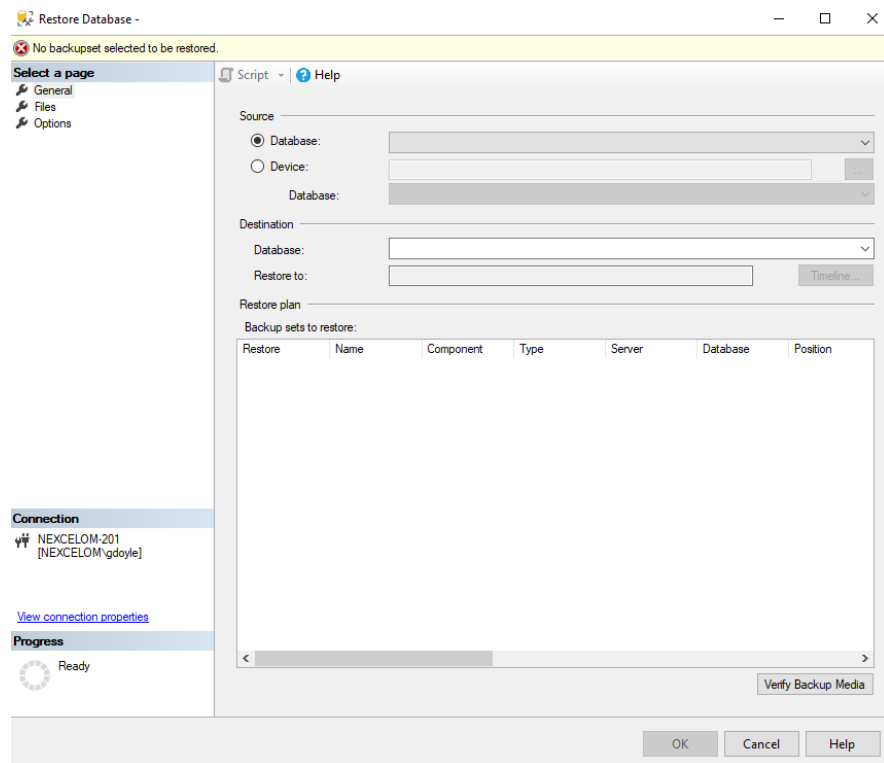3. Right-click Databases and select **Restore Database…** (Figure 188)

Figure 188. Restore Database
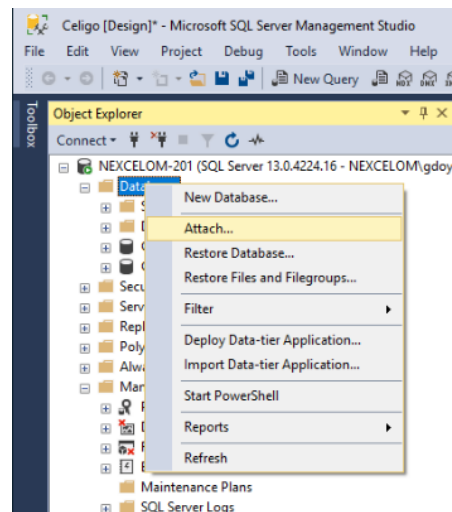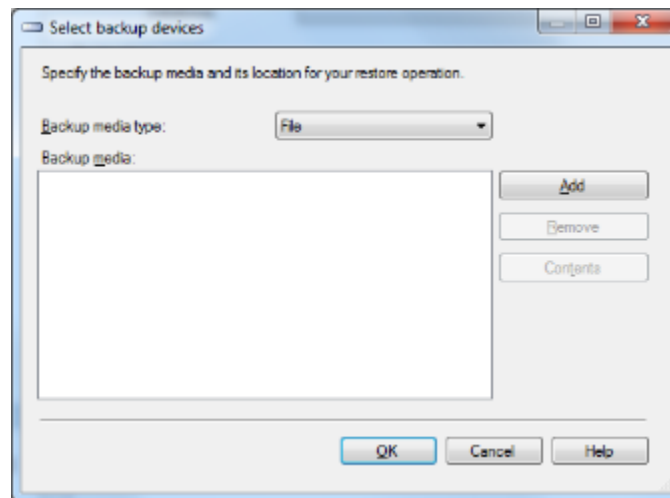

The Restore Database window appears (Figure 189).

Figure 189. Restore Database Window

4. Select the Device radio button and then click the… button located to the right. The dialog in Figure 190 should appear:

Figure 190. Select Backup Devices Dialog

5. Click the **Add** button and browse to and select the backup file you intend to restore and click **OK**. The file you selected should be added under Backup Media.

6. Click **OK** and return to the Restore Database window.

7. In the Restore Database dialog under the Destination section, set the Database name to **Celigo** (Figure 191) or Celigo # (e.g., Celigo 2) if the database already exists.

8. Ensure that the appropriate database is checked in the Restore plan section (Figure 191).

Figure 191. Restore Database Settings Example
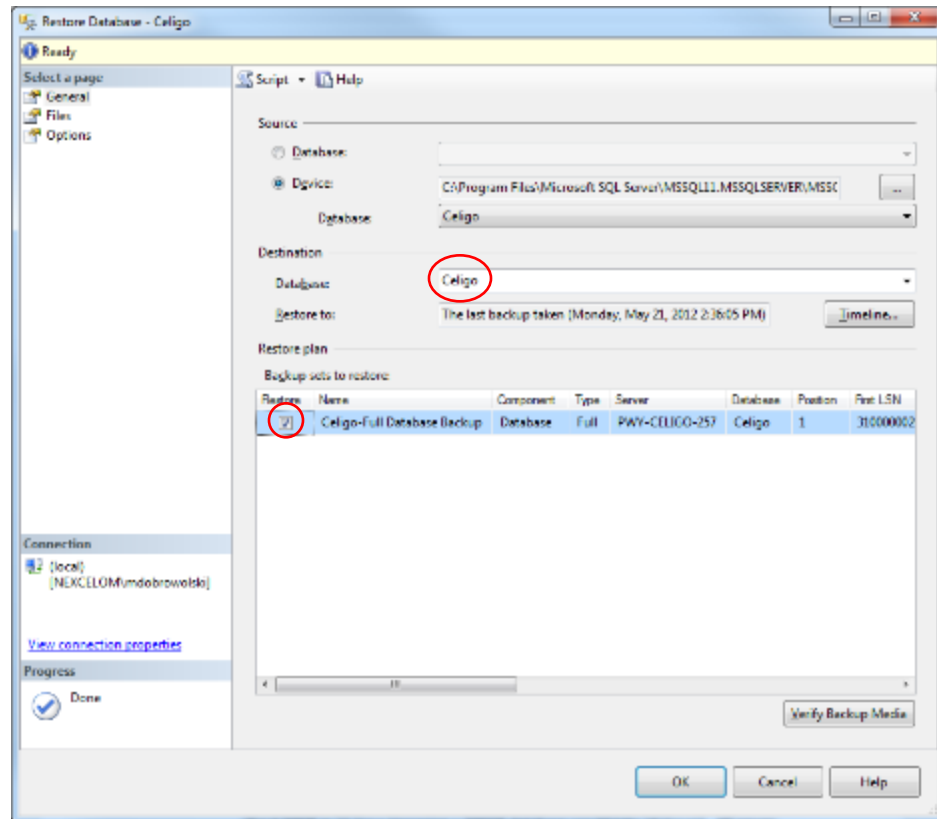
9. Click on Files in the left hand side, and make sure that the 3 files all have the same path (unless this is a network database) and are named the following:

- Celigo.mdf

- Celigo.ldf

- Celigo.ImageStreams

    NOTE: If the restored database has a different name than the default Celigo then these files must be named with the restored database name

    - RestoredDBName.mdf

    - RestoredDBName.ldf

    - RestoredDBName.ImageStreams

Figure 192. Restore Database File Names
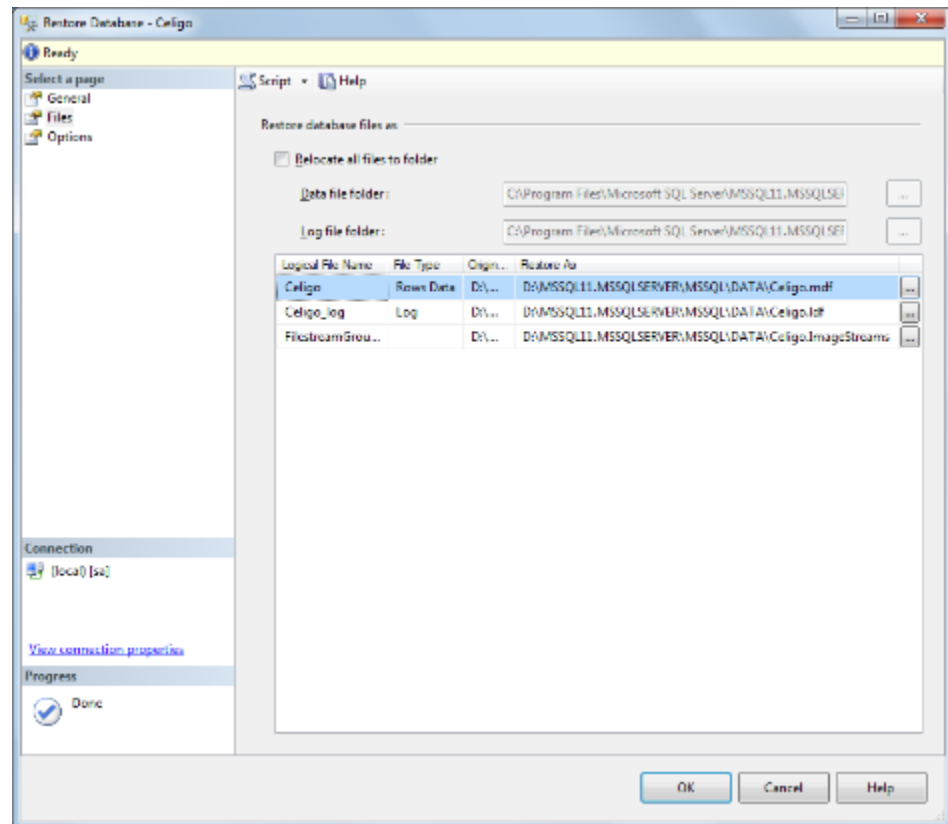
10. Click the OK button to begin the restoration.

    - Database restoration can take some time. Original Celigos (Dell T3500) on average were able to do about 50GB in ~1 hour (meaning a 300GB database would take ~6 hours). All newer Celigo computers are able to restore at a much faster rate.

    - You will see a prompt when your database restoration has completed.

11. After restoring a database, be sure to also apply the correct user permissions to enable users to access the database when logged in. See section 13.

15.6   Defragmenting the Data Drive

The Celigo cytometer's data drive(s) can become fragmented over time from creation and deletion of large image files. As the disk drive fragments, its performance decreases, which can negatively impact the Celigo application's scan performance. To ensure that fragmentation does not become a performance problem, the hard drives should be defragmented approximately once every week.

You can either defragment the data drive immediately or schedule a recurring defragmentation. Celigo computers are setup with default defragmentation schedules already in place. If these have not been altered, then defragmentation is already occurring on the Celigo computer on a weekly basis.

If your computer is a more recent Celigo computer, one of the hard drives is a SSD. Do not perform defragmentation on SSD hard drives.

15.6.1   Defragmenting the Data Drive Immediately

To defragment the data drive immediately

|	NOTE: Be sure to perform or schedule defragmentation so that it occurs while the Celigo application is *not* acquiring images or analyzing plates.

1. Using the Windows File Explorer, right-click on the data drive that you want to defragment and then select **Properties**.

   Model specific Data Drive:
    - If you have these models, T3500 and/or T3600, defrag the C:\ Drive.
    - For all other models, defrag the D:\ Drive only.

    The Properties dialog box shown appears (Figure 193).

Figure 193. Disk Properties Window
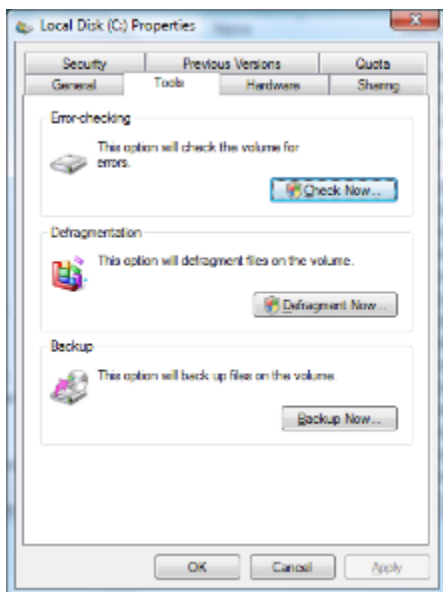
2. Click the **Tools** tab.

3. In the Defragmentation section, click **Defragment Now**.
    The Disk Defragmenter dialog box appears (Figure 194).

Figure 194. Disk Defragmenter Window
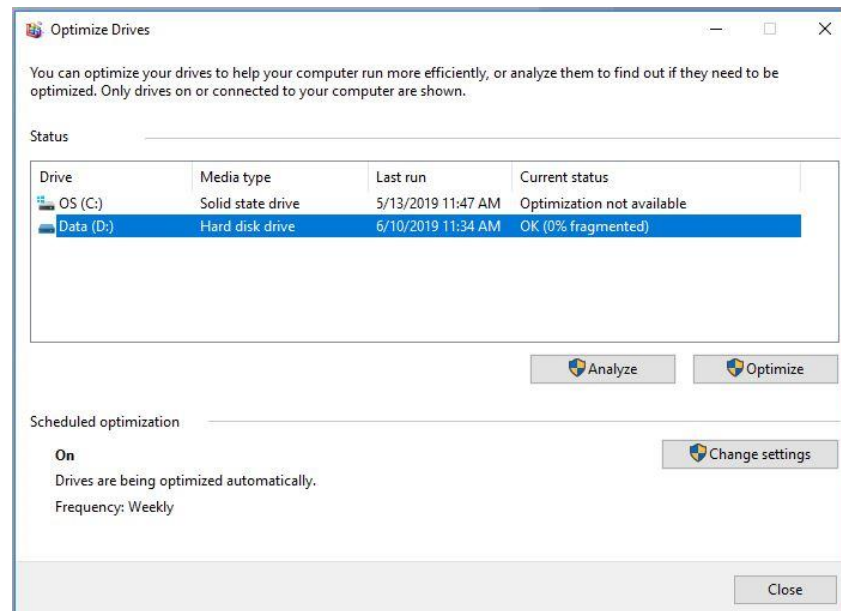
4. In Disk Defragmenter, select the (D:) disk you wish to defragment and click **Defragment Disk**.

5. You can stop the Defragmentation process at any time by returning to this window and clicking **Stop operation**.

15.6.2   Scheduling Defragmentation

To schedule defragmentation

1. Using the Windows File Explorer, right-click the data drive that you want to defragment and then select **Properties**.

    The Properties dialog box shown appears (Figure 193).

2. Click the Tools tab.

3. In the Defragmentation section, click **Defragment Now** (you click this button even for scheduling).

4. Click **Configure schedule** and the Modify Schedule window opens.

5. Check the checkbox for **Run on a schedule**.

6. Adjust Frequency, Day and Time as needed. Be sure to schedule the defragmentation process for a time period where the Celigo is not being used or has low-usage.

7. Click **Select Disks**, check the checkbox for all disks you wish to put on the defragmentation schedule and click **OK**.

8. Click **OK** again to return to the Disk Defragmenter.

9. Click **Close** and your defragmentation schedule is set.

15.7   Stopping Defragmentation

To stop defragmentation

1. If the Disk Defragmenter window is not open, open it by using the Windows File Explorer to right-click the drive that you want to stop defragmenting and select **Properties**.
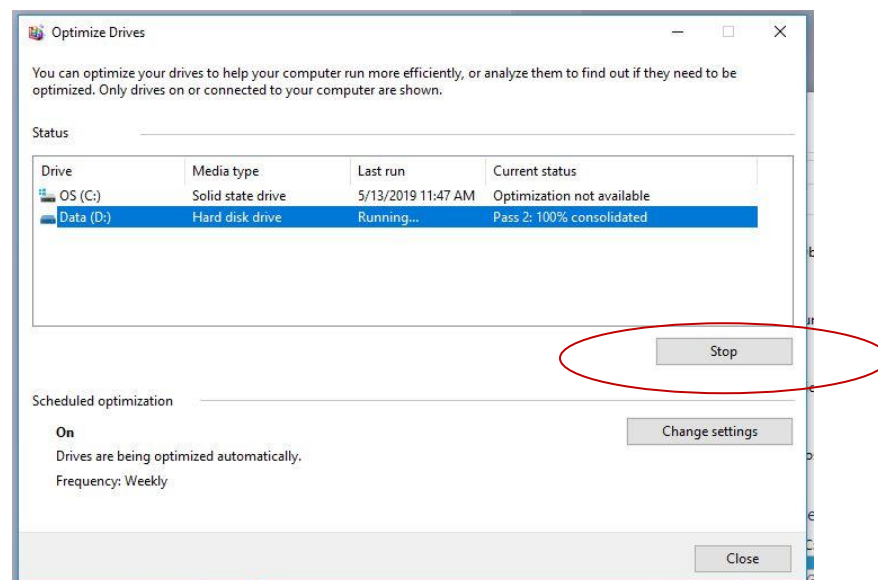
   The Properties dialog box appears.

2. Click the **Tools** tab.

3. In the Defragmentation section, click **Defragment Now**.

   The Disk Defragmenter window appears.

4. In the Disk Defragmenter window, click **Stop operation** (Figure 195).

Figure 195. Stopping Disk Defragmentation

15.8   Anti-Virus Rule Recommendations

The following are anti-virus rule recommendations to prevent database corruption and loss of data. Please configure the antivirus to exclude all of the following items:

SQL Server processes

- SQL Server (MSSQLSERVER)
  - o Process used for all database accesses to the Celigo database.
- SQL Server Agent (MSSQLSERVER)
  - o Process used for database tasks including database verification and automated backups.

File Extensions:

The below are all SQL Database file extensions. Database backups are of extension .bak

- .mdf

- .ldf
- .ndf
- .trn
- .bak

The below are all (custom) extensions of data files that are generated/exported from the Celigo software

- .cync
- .cynp
- .cynl
- .cynr
- .cas
- .ces
- .ccs
- .crp
- .cpj

The below are all DENOVO FCS files

- .fcs
- .ice
- .acs

Folders:

- C:\Program Files\Nexcelom Bioscience
  - o   Celigo software installation directory.
- C:\Program Files\Microsoft SQL Server
  - o   Location of the master and default system databases.
  - o   This will cover all versions of SQL installed.
- D:\
  - o   Location of Celigo database. We recommend this drive only be used for integrated Celigo database use and that external documents are not stored here.
- C:\ProgramData\Nexcelom Bioscience
  - o   Location of the Celigo software configuration files.

Windows Updates:

We do not manage Windows Updates on Celigo systems. By default, the Windows Updates settings are configured to update automatically once weekly, so if the computer is on your network, then the updates are controlled by either your WSUS server, or else just the default Windows Update servers.

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