SERNEC – TCN Cyberduck Instructions

The SERNEC project has made arrangements to store images on CyVerse's cloud-based iRODS Data Store (http://www.cyverse.org/data-store). The CyVerse Data Store provides basic digital preservation services, parallel upload functionality, an image service (through BisQue), and many other features. The CyVerse project was previously called The iPlant Collaborative, so that name is still used in some URIs and file paths.

We will be using an application called Cyberduck to upload images to CyVerse. This includes both .jpeg and .dng file types. Cyberduck version 4.7.1 (released July 7, 2015) and later supports the iRODS protocol, and allows users to directly access the CyVerse Data Store in order to upload and download files and directories to and from the CyVerse Data Store using its high-throughput and parallel data transfer capabilities. It serves as an alternative to the iDrop Java applet that was previously used by the SERNEC - TCN. Cyberduck allows you to upload and download files from your local computer to the SERNEC CyVerse Data Store repository, copy and move files and folders from the CyVerse repository to your local computer and view items in the repository. However, file deletion using Cyberduck will NOT be reflected in Bisque.

Below are the steps needed to set up this service.

1. **Set up your collection's CyVerse account and access to BisQue:**

    a. Create a CyVerse account at https://user.cyverse.org/.

    b. [Request access](#) to BisQue..

    c. Activate your BisQue account: Go to http://www.cyverse.org/bisque and log in using the CyVerse username and password generated in step 1a..

2. **Share your institution's SERNEC folder with your institution's CyVerse users: Email** Michael Denslow (michael.denslow@gmail.com) with the first and last name(s) of the user(s) who created CyVerse accounts at your institution. The SERNEC folder is used by users to upload and access images. You will not be able to upload images until this step has been completed.

3. **Create a separate CyVerse directory for each collection:** If you are loading images for a collection other than your own, have the SERNEC CyVerse Administrator create a separate CyVerse directory for each collection. There is no limit to how many CyVerse directories you can manage. These folders need to be generated by the Administrator of the SERNEC CyVerse account.

4. **Install Cyberduck:**

    a. Download Cyberduck at https://cyberduck.io/ for your operating system. Cyberduck 5.0.11 was tested on Windows 7, Windows 8.1, and Mac 10.10.4 for this document.

        Follow instructions for the installer. Currently, we have not tested the optional Bonjour installation (Windows only) and the absence of which has not caused any problems.

Instructions for downloading and configuring Cyberduck can be found here: https://pods.iplantcollaborative.org/wiki/display/DS/Using+Cyberduck+for+Uploading+and+Downloading+to+the+Data+Store

5. Configure Cyberduck (one time only):

1) After installation is complete, click the Cyberduck icon to open Cyberduck.
2) Follow the instructions on the CyVerse wiki under "Step 2: Configure Cyberduck for use with the Data Store."
3) Follow the link in that section to download the Connection Profile.
   NOTE: The Mac version may crash here. If this happens, reopen Cyberduck and proceed to the next step.
4) This will open a connection profile window. (This can also be done by right-clicking on the iPlant bookmark and selecting **Edit Bookmark**.)
   Note that unless you are using Cyberduck for any other purpose, you should only see one bookmark displayed. If you have created an extra bookmark by mistake, you can delete it by right-clicking and selecting **Delete Bookmark**. To verify which bookmark is correct, examine the path in the bookmark window.
5) Confirm that CyVerse Data Store is displayed in the top dropdown. If it is not displayed in the dropdown, you will not be able to connect to the server.
6) In the CyVerse username field, enter your username. Note that this changes what's displayed after "URL".
7) In the Port field, ensure that 1247 is entered. This should be the default.
8) In the Path field, enter **/iplant/home/shared/sernec/XXX**, where XXX represents the name of your collections folder or directory.
9) In the Transfer Files field, select the Open Multiple Connections option from the dropdown.
10) Close the connection profile window.
11) Enter your CyVerse password if prompted. Cyberduck should display your new bookmark.

6. **Upload files**

The first time you upload images, just upload a few and confirm that your setup is correct by checking that the images appear in BisQue (similar to what is described under "**To view your institution's images via the BISQUE web client"**)

a. Open Cyberduck.
b. Double-click the iPlant bookmark and enter your CyVerse/iPlant password when prompted. Click **Add to Keychain** to skip for future logins.
c. Your institution's folder should be your bookmark and you should see everything contained within it. You may wish to open a couple of folders to confirm everything seems in order (for large folders, it takes Cyberduck some time to populate a list of files). Note that because of the large number of files that may be present, it can take some time for the directory to appear. You will see the status in the lower right part of the window.

Important Notes:
- Prior to transferring files, ensure all images are oriented in the proper direction (i.e., upright, with the label readable). The default orientation of all future images can be changed by clicking on the rotate icon (small box with arrows around it) in the upper right-hand corner of the EOS Utility, or by selecting "Rotate Image" within the "Remote Shooting" tab of the Preferences menu.

  If rotation of previously taken images is necessary, this can be done to the RAW images themselves in EOS Utility by selecting all images from a session and using the "Rotate" icon in the toolbar. The orientation of the images will then carry over to any further processing. Alternatively, rotation can be done within Lightroom, prior to the creation of jpegs or just to the jpegs themselves. Select all images and use the "Rotate" icon.
- Ensure that you are loading images into the correct directory. All your images should be loaded into the folder named after your institution.
- Batches of images ready for upload should be placed into folders named as the date the images were bundled for export (e.g., "2013-11-06"). Do not use spaces in directory names. If there are two folders for a particular date, consider appending each file name with a timestamp in hhmmss format (e.g., "2013-11-06-091945").

d. Select the folder into which the batch of images will be uploaded. In Cyberduck, click the File menu and then select Upload. If the upload option is not active, double-click the bookmark to confirm that you are connected to the server.

   It is important that you ensure that you are uploading your folder to the correct directory. You can check this by viewing the drop-down menu in the upper middle part of the Cyberduck screen. It should read **/iplant/home/shared/sernec/XXX/YYY**, where XXX represents the name of your collection folder or directory and YYY represents the folder into which the current files will be uploaded.

e. Navigate to the folder to upload and click Upload. Depending on the folder size, this will take some time. A dialog box will appear when the upload is complete.

f. When finished, disconnect from the server by pressing the Disconnect button at the upper right.

g. To return to the main bookmarks menu, click the Bookmarks button (book icon) at the upper left.

- Cyberduck has a tool called Compare that will verify that your folder and all its contents have been successfully uploaded. The functioning of this tool is not transparent and is still being tested.
- Cyberduck can also be used to download files back to your local computer. See Using Cyberduck for Uploading and Downloading to the Data Store on the CyVerse wiki.

7. **To view your institution's images via the BisQue web client (optional, but useful):**

This step is not required, but is useful for confirming that the upload was successful.

Remember you must log in to BisQue at least once to activate your account. If you did not do so before uploading images, contact your site manager before continuing. In this case, Any images that were uploaded did not register with Bisque. To correct the situation, Herrick/Michael will confirm if the images did not register with BISQUE. If not, the user should then delete the images (and the folder they were in if appropriate) from the iRODS data store using Cyberduck. The user should then log into BISQUE. Once all of these steps have been done, the user should upload the files again.

a) Go to http://bisque.iplantcollaborative.org/ and log in with your CyVerse username and password.
b) Click the Images tab or the Images menu item. BisQue does not have a directory/folder structure.

8. **To view your institution's images via the CyVerse Discovery Environment (optional):**
   ▪ Go to https://de.iplantcollaborative.org/.
   ▪ Log in with your CyVerse username and password.
   ▪ In the Navigation panel on the left side, click Community Data.
   ▪ Once it expands, look for the **sernec** folder. Your folder will be located there.

7. Important Reminders

▪ Be sure to request access and log in to BisQue at least once before loading any images.
▪ Your CyVerse directory should be used for only one collection. If you need to add images for more than one collection, please make a request to Michael (michael.denslow@gmail.com) to make a new folder for each collection for you on the server. You can request as many as you need.
▪ You can add as many additional users to your folder as you want. To do this, just have the person register with CyVerse and send the user name to Michael (michael.denslow@gmail.com). You can add as many users as you need.

[Notes and possible additions: Using the Cyberduck "synchronize" with the "mirror" option selected would do something similar to iDrop's Diff function, but would be slow for a folder containing many thousands of files. It isn't the traditional sync operation, it's a safer one, since, as far as I can tell from playing with it, it doesn't delete files, only adds them. However, site leads would need careful instructions to avoid accidentally re-uploading thousands of files — something the iDrop diff function doesn't risk doing. This needs to be further tested]

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