I3D:bio OMERO user training slides

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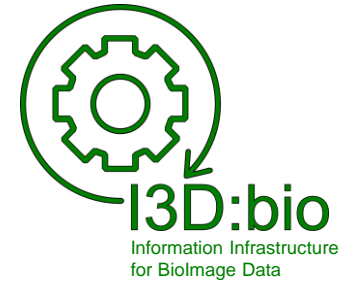 Note that these slides are optimized for 16:9 screen presentation layout
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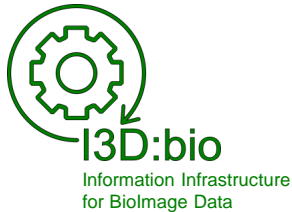
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- The following slides are intended for reuse after <mark>substituting yellow-marked text</mark> with the relevant information at your institute.
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I3D:bio
Information Infrastructure
for BioImage Data

https://www.i3dbio.de

Funded by the Deutsche Forschungsgemeinschaft (DFG, German Research Foundation), project I3D:bio, grant number 462231789

I3D:bio
Information Infrastructure
for BioImage Data

Research Data Management for Bioimage Data at the ADD INSTITUTE HERE

Uploading Data to OMERO

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Information Infrastructure
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(Main) options to upload data into OMERO

Upload using **OMERO.importer**

- Is integrated into the **OMERO.insight** client
- Easy, graphical user interface

→ *Recommended for most users*

Persons with restricted admin rights can upload data for other users, too.

Upload using the **Command Line Interface (CLI)**

- See the OMERO guide for details: https://omero-guides.readthedocs.io/en/latest/upload/docs/import-cli.html

- *Good to know:*
  There is an option called „*in-place import*" (by an admin), which allows to use OMERO with non-central storage locations. Discuss this option with your admin if required.
  https://omero-guides.readthedocs.io/projects/upload/en/stable/import-cli.html?highlight=in%20place#in-place-import-cli

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1) Open *OMERO.insight* on your computer

2) Connect to OMERO using your login credentials

(Note: If you haven't previously adjusted the settings, make sure to set the server settings correctly using the wrench icon)
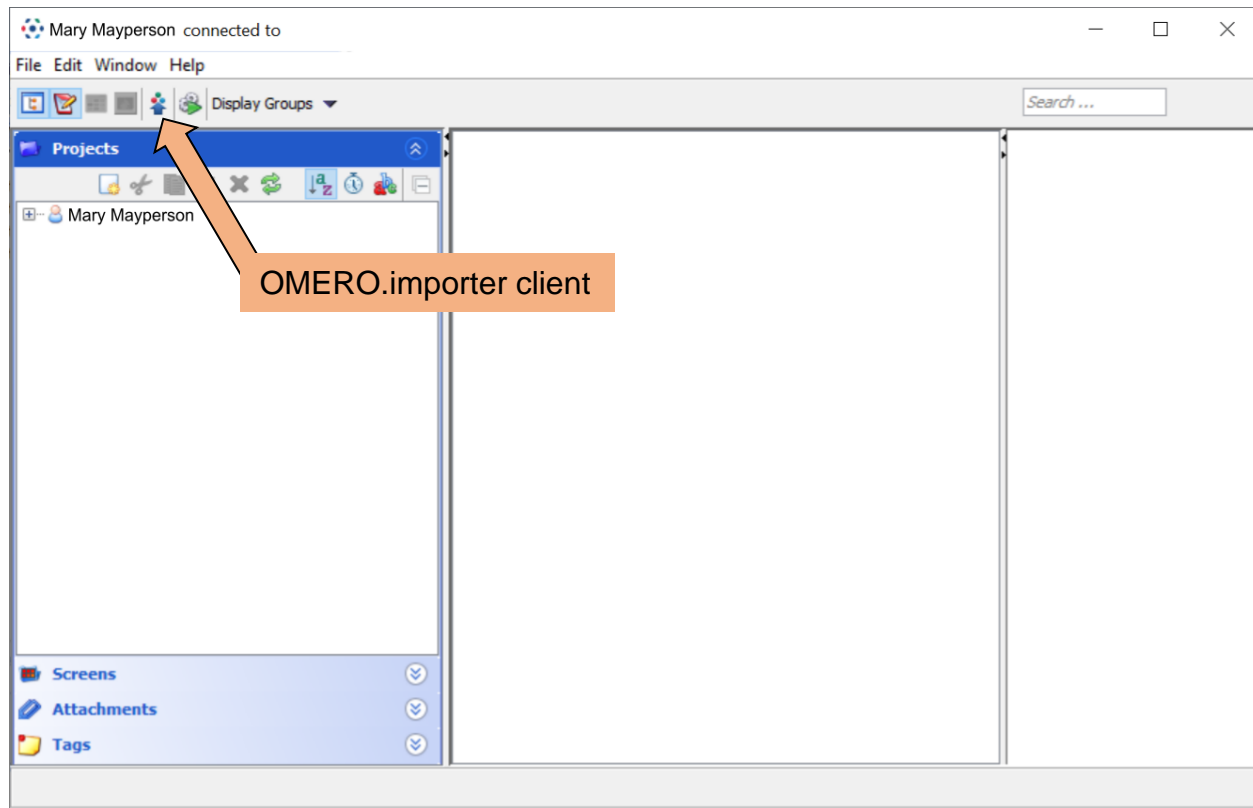
3) Open

OMERO.importer

client by clicking on
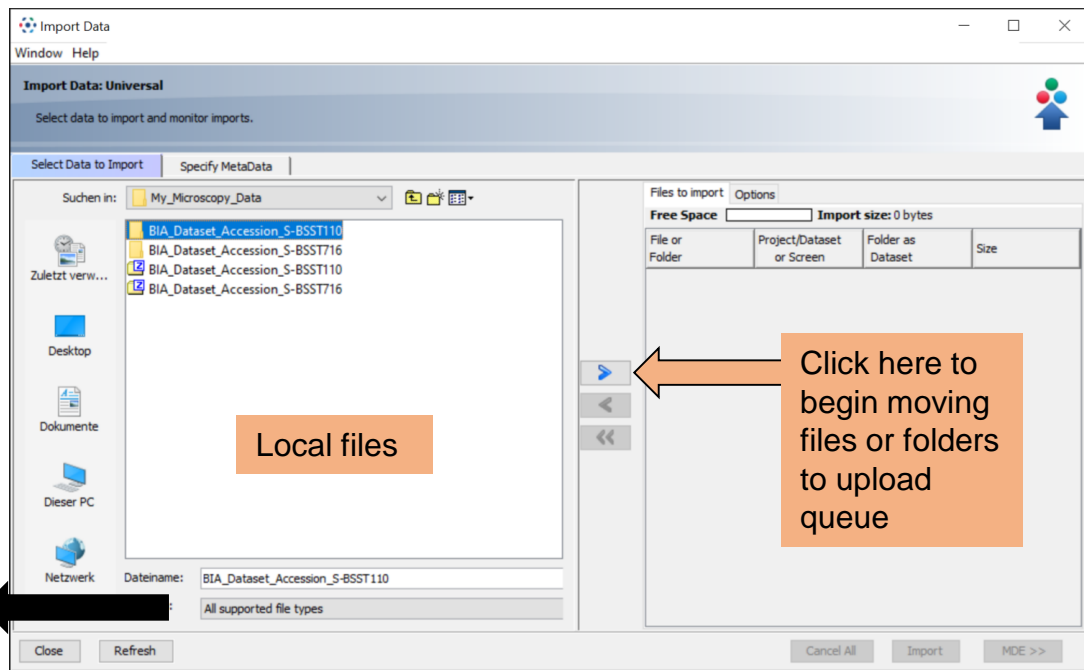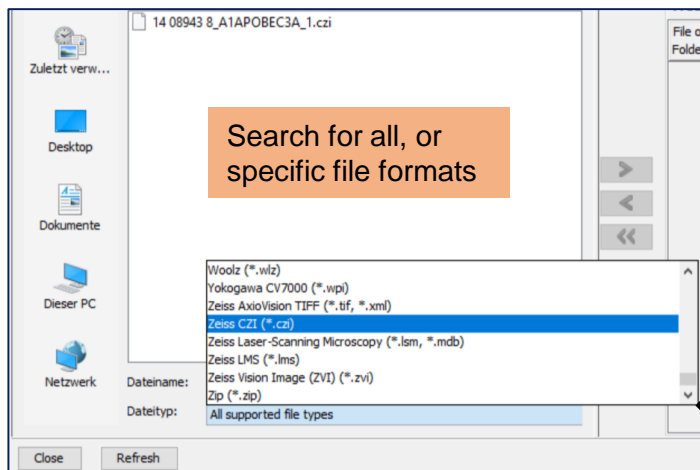
the   icon

(OMERO importer is

integrated into

OMERO.insight)

OMERO.importer client

Upload data to OMERO using OMERO.importer 3/7

4) Navigate through the file browser, which shows your local file organization, to find the data for upload
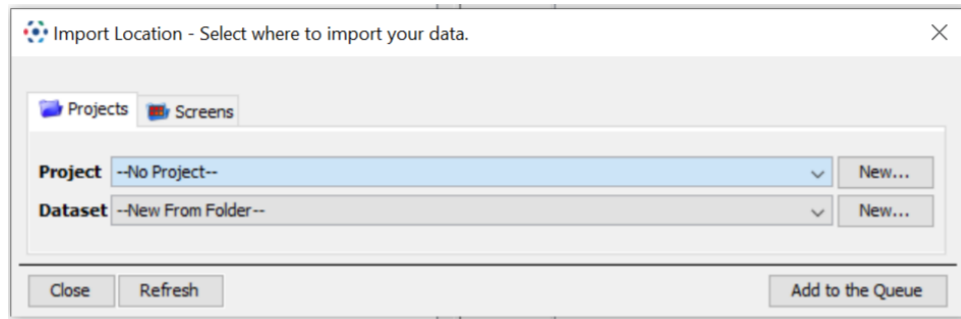
- individual files

- folders

Search for all, or specific file formats

Local files

Click here to begin moving files or folders to upload queue

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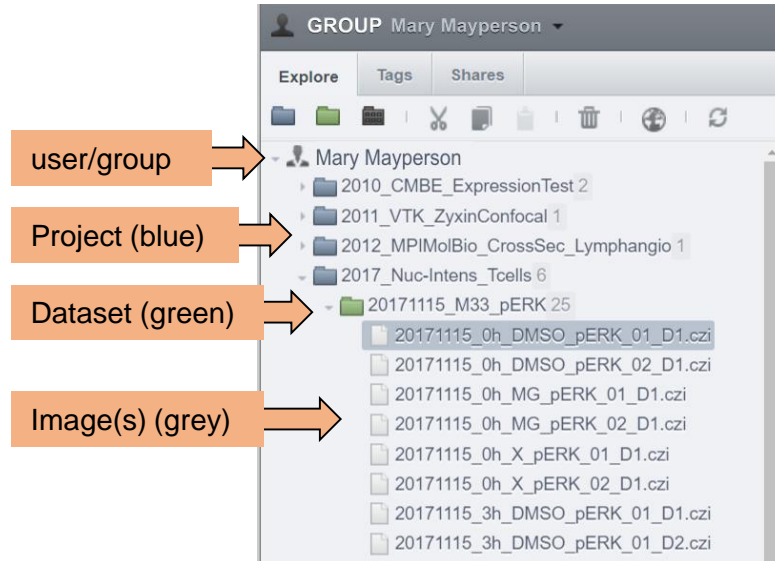# Upload data to OMERO using OMERO.importer 4/7

5) After you have clicked ![arrow], choose the upload destination (or create „*New*")

   - Project

   -- Dataset

Reminder: This is how it the data tree is organized in OMERO.web (this screenshot is not part of the upload process)
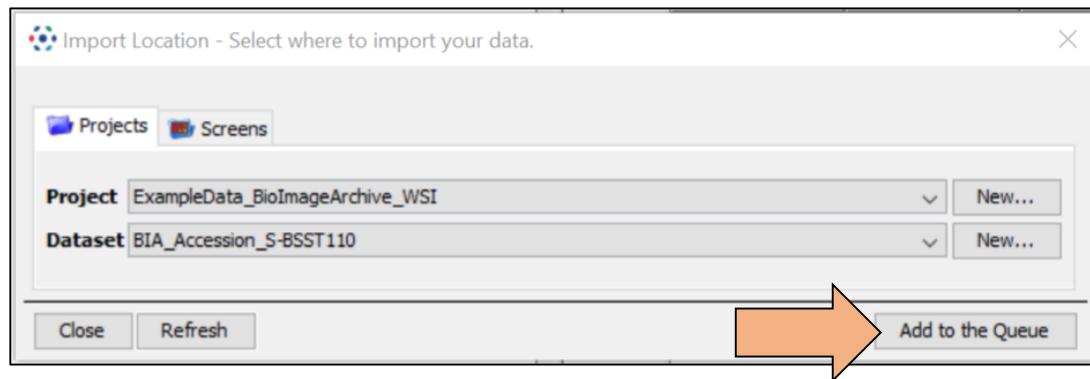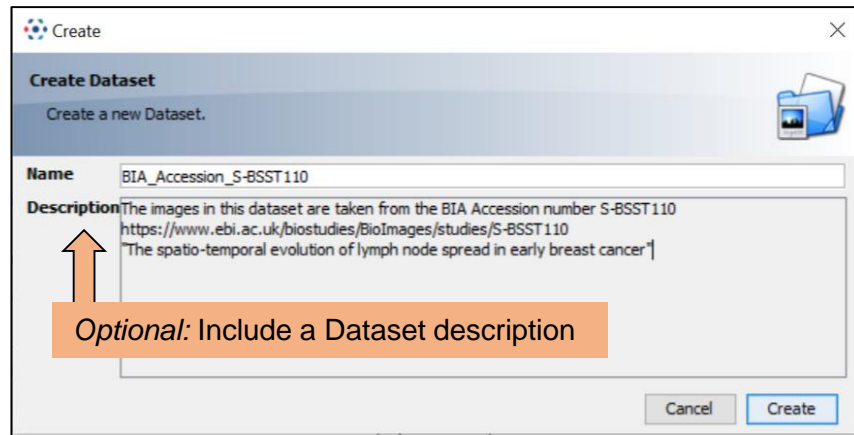
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Example: Upload of data with

the creation of a new Project

and a new Dataset

(This example data was downloaded

from the BioImage Archive)
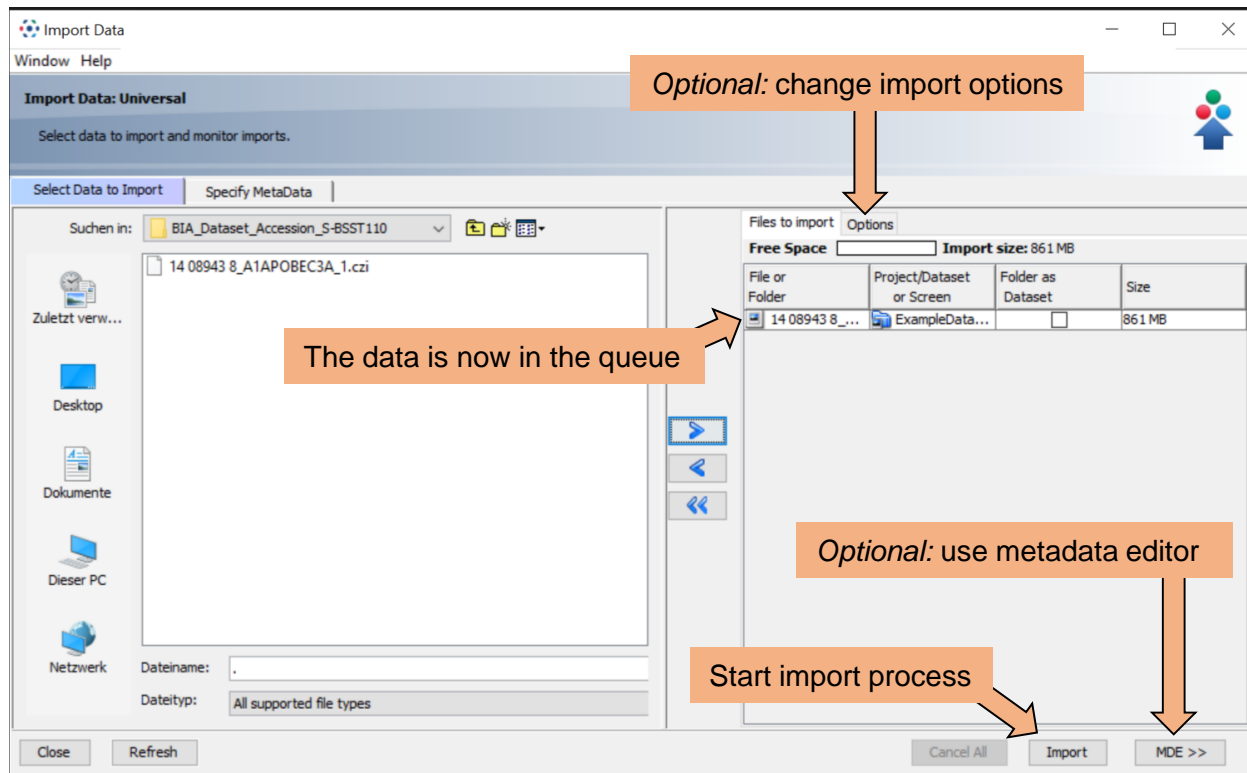
Click **Add to the Queue** to

finish this step.

Create

Create Dataset

Create a new Dataset.

Name BIA_Accession_S-BSST110

Description The images in this dataset are taken from the BIA Accession number S-BSST110
https://www.ebi.ac.uk/biostudies/BioImages/studies/S-BSST110
"The spatio-temporal evolution of lymph node spread in early breast cancer"

Optional: Include a Dataset description

Cancel   Create

Import Location - Select where to import your data.

Projects   Screens

Project ExampleData_BioImageArchive_WSI   New...

Dataset BIA_Accession_S-BSST110   New...

Close   Refresh   Add to the Queue

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Upload data to OMERO using OMERO.importer 6/7

6) The dataset or file is now in the import queue;

Optional:
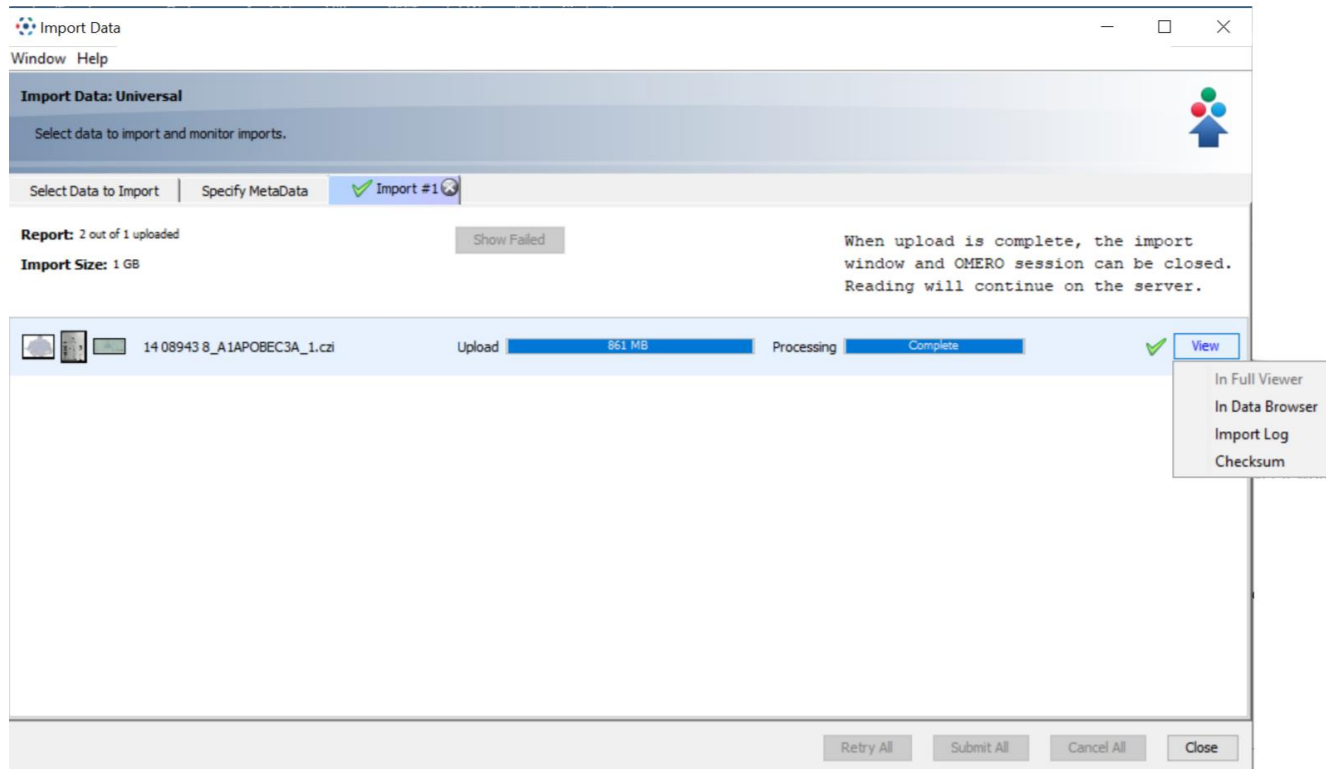
- Change import options
- Use metadata editor

You can start the import

Optional: change import options

The data is now in the queue

Optional: use metadata editor

Start import process

Upload data to OMERO using OMERO.importer 7/7

6) Monitor the upload status and success

Close OMERO.importer and inspect the files with OMERO.insight or OMERO.web

Inspect the uploaded files in OMERO (here: using OMERO.web)

Data remains in the original file format but is presented to you by the software!

A multi-scene image ➤

Preview thumbnails

Metadata ➤

This would be a result of the optional usage of MDE before the Import ➤

The original file is never changed by OMERO, even when you change rendering settings or metadata in OMERO.

Important notes about Data Upload to OMERO

- Data is stored in *the original file formats* (raw data is conserved!)

- The storage location is not directly accessible for users via file explorers, only via OMERO (exception: „in-place import")

- The uploaded data is never changed or corrupted by OMERO

- The original data can be retrieved from OMERO if desired

- The storage location is on a backed-up server

- The available storage can be increased if necessary

- *Very* large data (e.g., whole slide images, light-sheet images) might require extra care – contact your facility/OMERO admin.

Upload data to OMERO using OMERO.importer - metadata

Optional, intermediate step during the import:

Review and annotate metadata using **OMERO.mde**, a metadata editor

based on MDE.mic (Kunis et al., 2021, Nat. Meth.). Allows to edit:

- metadata of individual files,

- metadata the import queue in batch,

- and is supported by standardized,

  but configurable metadata fields

See also:

- Chapter 7 (Metadata Curation)

- OMERO.mde user guide:

  https://omero-guides.readthedocs.io/en/latest/mde/docs/index.html

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