# Data Organization in Clowder

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## About this Page

This page contains some initial ideas about how to organize data within Clowder for this project.

## Clowder Information

### General

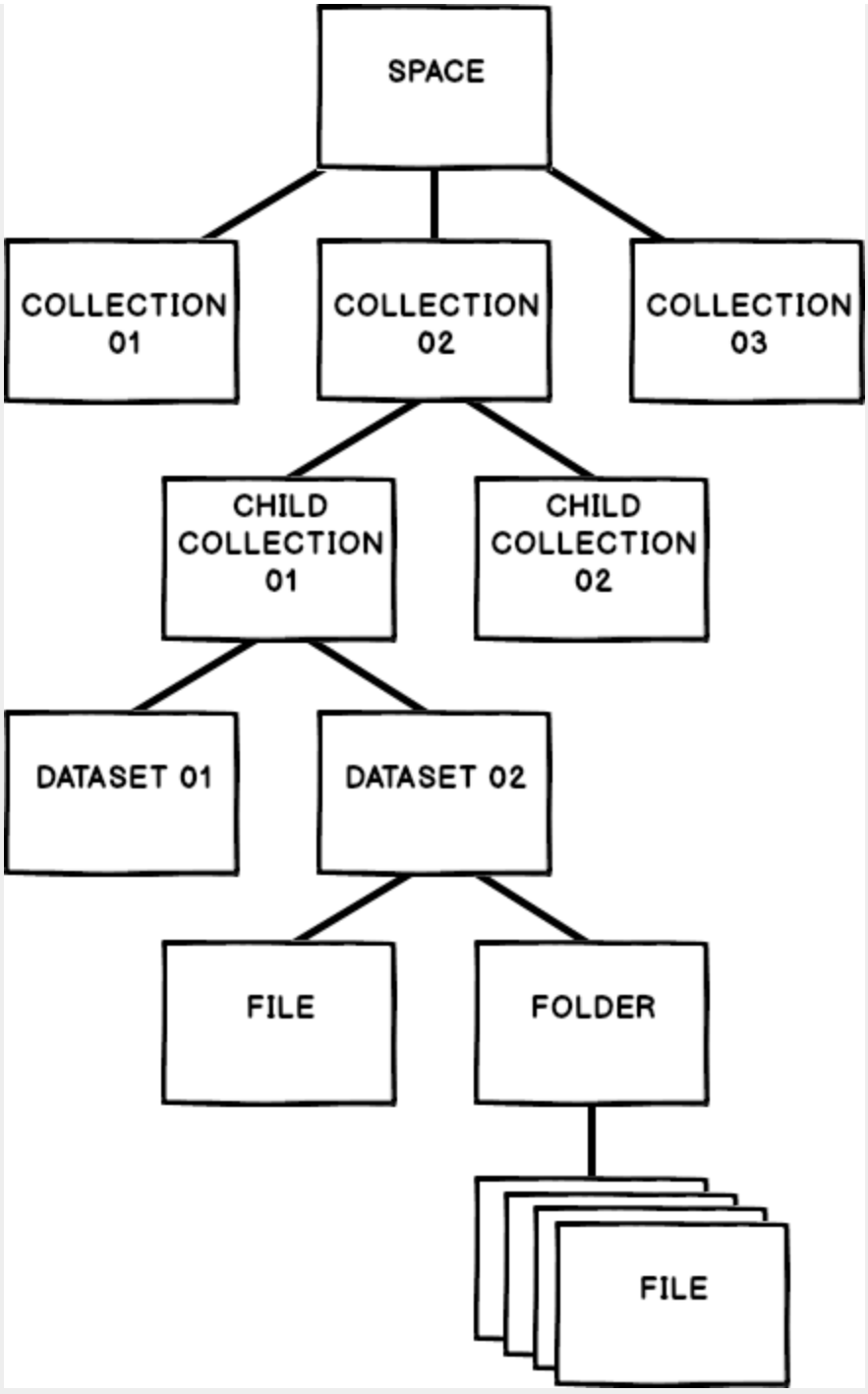
There are three basic sections within Clowder:

- Spaces
- Collections
- Datasets

Access Control Details:

- Being a Clowder User does not automatically provide Access to all Spaces
- Access type is established at the Space level (Admin, Editor, Viewer)
- Access must be set for each Space individually
- All Datasets and Collections inherit permissions from the Space to which they belong

### Graphical Description




## Organization Ideas

### Naming Conventions

Some ideas for how to name items that are placed in Clowder:

- When able, include the name of the Sensor in the title of Spaces, Collections, and Datasets
- Including the name of the Sensor may make it is easier to search for items

### Metadata and Tags

Metadata and Tags can be utilized to enhance organization and search capabilities.

- Metadata
    - Metadata is *searchable*
    - Datasets can have Metadata
    - Files (in either Datasets or Folders) can have Metadata
    - Definition sources are provided for each Metadata field
- Tags
    - Tags are *searchable*
    - Can view a list of all Tags in the application
    - Datasets can have Tags
    - Files (in either Datasets or Folders) can have Tags

## Using the Sections Within Clowder

It would be good to have a general organization methodology moving forward.

This section contains ideas for organization.

An idea for utilizing and organizing these sections:

- Spaces
    - Named after each Sensor or a general category (e.g.: "How To" Documentation, Images, etc.)
    - Contains both Collections of Datasets and individual Datasets
    - Can have an image appear in the listing on Clowder
- Collections
    - Naming would include the Sensor name
    - Contains Datasets
- Datasets
    - The name would include the name of the Sensor
    - Should be placed in Collections
    - Some Datasets can contain raw data and other derived data
    - Can contain Folders that contain files
    - Datasets and Files can both have Metadata and Tags

This is an example illustrating this idea:

- This is based upon the Flux Tower data (information about this Dataset is available in this Wiki space at **Flux Tower Data**)
- **Space**
    - There is only one of these for this Space
    - *Space Name:* Flux Tower Site
    - *Space Description:* Flux Tower located at `location-description`
    - *Space Image:* Suggestion - provide an image of the site or the instrument or a logo (if available)
- **Collection**
    - There can be several of these for this Space
    - Raw Data Measurements Example
        - *Collection Name:* Flux Tower Raw Data Files
        - *Collection Description:* Collection of Raw Data Files
        - *Collection Content:* This will contain all relevant Datasets for this collection
    - Data Measurements Example
        - *Collection Name:* Flux Tower Data Files
        - *Collection Description:* Collection of Data Files
        - *Collection Content:* This will contain all relevant Datasets for this collection
    - Documentation Example
        - *Collection Name:* Flux Tower Documentation
        - *Collection Description:* Documentation for the Flux Tower Sensor
        - *Collection Content:* This will contain any relevant documentation that describes the Sensor (types of measurements gathered, etc.)
            - Datasets would be present in this collection for enhanced organization
            - Files can be of any preferred format
- **Datasets**
    - There can be several of these for each Collection in the Space
    - To simplify managing data, use Folders in yearly Datasets to group files by month
    - Datasets with Folders Example
        - Would be in the Flux Tower Raw Data Files Collection
        - *Dataset Name:* Flux Tower Raw Data 2016
            - Flux Tower `information` for 2016
            - The `information` would just describe the general content of the Dataset (type of measurement, type of data, etc.)
        - *Dataset Description:* Flux Tower Raw Data collected during the year of 2016
            - A Dataset with Flux Tower `information` for 2016
        - *Dataset Metadata:* This will contain any relevant Metadata
        - *Dataset Tags:* This will contain any relevant Tags
        - *Dataset Content:* This will contain Folders for each month of data
            - *Folder 1:* January 2016
                - This will contain all January files
            - *Folder 2:* February 2016
                - This will contain all February files
            - *Folder 3:* March 2016
                - This will contain all March files
            - Keep creating Folders for the year as needed

## Organization Tasks

General Tasks to be completed:

- Decide upon the organization methodology
- Removing any extraneous or duplicated data
    - Remove "imlczo" Space and move Datasets contained within to appropriate Spaces
- Where possible, moving and renaming items to fit the decided upon organization methodology
- Provide a "**How To**" wiki page about the decided upon organization methodology
- Make some example changes in Clowder that reflect the ideas presented herein