

DAY 2 DAY DATA MANAGEMENT COURSE

FOR LIFE SCIENCES

Funding:

- ELIXIR Implementation Study "Impact evaluation at Node-level - getting it done"
- ELIXIR-CONVERGE Project "Connect and align ELIXIR Nodes to deliver sustainable FAIR life-science data management services"



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HANDS ON: ELAB NOTEBOOK EXERCISE





Why use an Electronic Laboratory Notebook?

- With an ELN you can **document your experiments**, organise and access your lab work easily, as well as it has **many more benefits compared to traditional paper-based notebooks**.
- Within research groups ELNs have already proved to be an excellent tool:
 - To increase standardisation of procedures (e.g., use templates for standard experiments);
 - To distribute new versions of protocols or other relevant documents to every lab member;
 - To find researchers' older data;
 - To share experiments and protocols with other users using direct links.





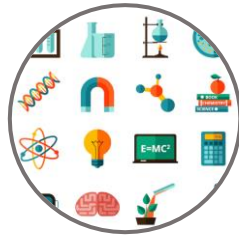
Selecting an ELN

- To choose an ELN your lab and/or institution needs to consider a number of different factors before selecting the best platform that meets your needs.

Some of these factors include:



Institution's policies



Type of science and the specific features that you will need



Lab/institution established practices and preferences



Level of data security



Budget





How to pick an electronic laboratory notebook?

Check the [Electronic Lab Notebook Matrix](#) which lists the details of more than **50 features for 27 ELNs**

[Benchling](#), [elabFTW](#), [BIOVIA Notebook](#), [eLabJournal](#), [Hivebench](#), [IDBSEWorkBook](#), [LabArchives](#), [LabCollector](#), [Labfolder](#), [Labguru](#), [Labii](#), [Labstep](#), [LabWare](#), [Mbook](#), [OpenLab](#), [PerkinElmer Signals Notebook](#), [RSpace](#), [Scilligence](#) and [sciNote](#).

Features & Specifications	Benchling	Bio-Tech	BIOVIA	Chemotion	Confuence	Dockdash	eLabNote	eLabFTW	ELNOS	Evernote	Examiner	Findings	Hivebench	IDBS	LabArchives	LabCollector	LabGuru	LabVantage	LabWare	Labfolder	MBook	OneNote	OpenWatWork	QSC	PerkinElmer-Signals
Interactivity																									
Auto Metadata Harvest	+	+	No response received	+	+	+	No response received	+	+	No response received	No response received	+	+	+	+	+	+	+	+	+	+	+	No response received	+	+
Search functions can search across file formats and beyond types	+	+	No response received	+	+	+	No response received	+	+	No response received	No response received	+	+	+	+	+	+	+	+	+	+	+	No response received	+	+
Ability to manipulate files and images	+	+	No response received	+	+	+	No response received	+	+	No response received	No response received	+	+	+	+	+	+	+	+	+	+	+	No response received	+	+
Support for multiple open windows	+	+	No response received	+	+	+	No response received	+	+	No response received	No response received	+	+	+	+	+	+	+	+	+	+	+	No response received	+	+
Ability to view all	+	+	No response received	+	+	+	No response received	+	+	No response received	No response received	+	+	+	+	+	+	+	+	+	+	+	No response received	+	+
Support for Researcher Documentation																									
Hypertext support	+	+	No response received	+	+	+	No response received	+	+	No response received	No response received	+	+	+	+	+	+	+	+	+	+	+	No response received	+	+
Metadata Creation Prompts	+	+	No response received	+	+	+	No response received	+	+	No response received	No response received	+	+	+	+	+	+	+	+	+	+	+	No response received	+	+
Rights Management (Daring)	+	+	No response received	+	+	+	No response received	+	+	No response received	No response received	+	+	+	+	+	+	+	+	+	+	+	No response received	+	+
Protocol Integration	+	+	No response received	+	+	+	No response received	+	+	No response received	No response received	+	+	+	+	+	+	+	+	+	+	+	No response received	+	+
Adaptability to Lab workflows																									
Accounts/Permissions Levels	+	+	No response received	+	+	+	No response received	+	+	No response received	No response received	+	+	+	+	+	+	+	+	+	+	+	No response received	+	+
Internal Data Sharing	+	+	No response received	+	+	+	No response received	+	+	No response received	No response received	+	+	+	+	+	+	+	+	+	+	+	No response received	+	+
Adaptable to a Variety of Workflows	+	No response received	No response received	+	+	+	No response received	+	+	No response received	No response received	+	+	+	+	+	+	+	+	+	+	+	No response received	+	+
Compatibility with authoring tools	+	+	No response received	+	+	+	No response received	+	+	No response received	No response received	+	+	+	+	+	+	+	+	+	+	+	No response received	+	+
Windows Compatible	+	+	No response received	+	+	+	No response received	+	+	No response received	No response received	+	+	+	+	+	+	+	+	+	+	+	No response received	+	+
Macintosh Compatible	+	+	No response received	+	+	+	No response received	+	+	No response received	No response received	+	+	+	+	+	+	+	+	+	+	+	No response received	+	+
Linux Compatible	+	+	No response received	+	+	+	No response received	+	+	No response received	No response received	+	+	+	+	+	+	+	+	+	+	+	No response received	+	+
Android Compatible	+	+	No response received	+	+	+	No response received	+	+	No response received	No response received	+	+	+	+	+	+	+	+	+	+	+	No response received	+	+
iOS Compatible	+	+	No response received	+	+	+	No response received	+	+	No response received	No response received	+	+	+	+	+	+	+	+	+	+	+	No response received	+	+
Storage																									
Cloud Storage	+	+	No response received	+	+	+	No response received	+	+	No response received	No response received	+	+	+	+	+	+	+	+	+	+	+	No response received	+	+
Local Storage	+	+	No response received	+	+	+	No response received	+	+	No response received	No response received	+	+	+	+	+	+	+	+	+	+	+	No response received	+	+
Hybrid (cloud/local) Storage	+	+	No response received	+	+	+	No response received	+	+	No response received	No response received	+	+	+	+	+	+	+	+	+	+	+	No response received	+	+
Versioning	+	+	No response received	+	+	+	No response received	+	+	No response received	No response received	+	+	+	+	+	+	+	+	+	+	+	No response received	+	+
File Redundancy	+	+	No response received	+	+	+	No response received	+	+	No response received	No response received	+	+	+	+	+	+	+	+	+	+	+	No response received	+	+
Create data URLs or permanent identifiers for entries	+	+	No response received	+	+	+	No response received	+	+	No response received	No response received	+	+	+	+	+	+	+	+	+	+	+	No response received	+	+
Can unregistered users access the data found at persistent links?	+	+	No response received	+	+	+	No response received	+	+	No response received	No response received	+	+	+	+	+	+	+	+	+	+	+	No response received	+	+
Storage Capacity - Users	+	+	No response received	+	+	+	No response received	+	+	No response received	No response received	+	+	+	+	+	+	+	+	+	+	+	No response received	+	+
Storage Capacity - New File Size	+	+	No response received	+	+	+	No response received	+	+	No response received	No response received	+	+	+	+	+	+	+	+	+	+	+	No response received	+	+
Hosting																									
Cloud	+	+	No response received	+	+	+	No response received	+	+	No response received	No response received	+	+	+	+	+	+	+	+	+	+	+	No response received	+	+
Local	+	+	No response received	+	+	+	No response received	+	+	No response received	No response received	+	+	+	+	+	+	+	+	+	+	+	No response received	+	+
Hybrid	+	+	No response received	+	+	+	No response received	+	+	No response received	No response received	+	+	+	+	+	+	+	+	+	+	+	No response received	+	+
Support																									
Training	+	+	No response received	+	+	+	No response received	+	+	No response received	No response received	+	+	+	+	+	+	+	+	+	+	+	No response received	+	+
Documentation	+	+	No response received	+	+	+	No response received	+	+	No response received	No response received	+	+	+	+	+	+	+	+	+	+	+	No response received	+	+
Data Migration from Other Systems (incoming migration)	+	+	No response received	+	+	+	No response received	+	+	No response received	No response received	+	+	+	+	+	+	+	+	+	+	+	No response received	+	+
Compatibility with data repositories	+	+	No response received	+	+	+	No response received	+	+	No response received	No response received	+	+	+	+	+	+	+	+	+	+	+	No response received	+	+
Exit Strategies (outgoing migration)	+	+	No response received	+	+	+	No response received	+	+	No response received	No response received	+	+	+	+	+	+	+	+	+	+	+	No response received	+	+
Recovery Options	+	+	No response received	+	+	+	No response received	+	+	No response received	No response received	+	+	+	+	+	+	+	+	+	+	+	No response received	+	+
Single Sign-on (institutional ID)	+	+	No response received	+	+	+	No response received	+	+	No response received	No response received	+	+	+	+	+	+	+	+	+	+	+	No response received	+	+
Number of installations per institution	+	+	No response received	+	+	+	No response received	+	+	No response received	No response received	+	+	+	+	+	+	+	+	+	+	+	No response received	+	+
Multiple client use	+	+	No response received	+	+	+	No response received	+	+	No response received	No response received	+	+	+	+	+	+	+	+	+	+	+	No response received	+	+
Number of registered Harvard-MBS users	+	+	No response received	+	+	+	No response received	+	+	No response received	No response received	+	+	+	+	+	+	+	+	+	+	+	No response received	+	+
Other higher-education users	+	+	No response received	+	+	+	No response received	+	+	No response received	No response received	+	+	+	+	+	+	+	+	+	+	+	No response received	+	+

by Harvard Medical School in Boston, Massachusetts





a free and open source electronic lab notebook

Designed by researchers, for researchers, with usability in mind.

With **eLabFTW** you get a secure, modern and compliant system to track your experiments efficiently but also manage your lab with a powerful and versatile database.

If you do experimental research, then **eLabFTW** is for you. Whatever your field is. It is also well suited for universities, tinkerers or biotech companies.

Keep track of your experiments and collaborate with your team easily!





Hands On eLab Notebook Exercise

Login

Go to www.elab.biodata.pt/register.php

*link created for training proposes



Register your account and select your team

*choose a random password (suggestion: pass.123); do not use your password



Wait for the system admin to validate your account

Login to your account



Welcome to eLab



Hands On eLab Notebook Exercise

eLab Overview

Explore the MAIN tab

- Experiments tab

☐

- Database tab

☐

- Team and Other tabs

☐

Check the Admin Panel

☐

Check the User Panel

☐

Hands On eLab Notebook Exercise

- We will use a published research article as an example of how experiments should be documented in an Electronic Lab Notebook
- Document the workflow from the moment you acquire/generate the raw data to the moment you get your results

Microbial Culture in Minimal Medium With Oil Favors Enrichment of Biosurfactant Producing Genes

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Hands On eLab Notebook Exercise

Let's start

Duplicate the experiment named: "Original Exercise Guide"






☐


Now in the "Edit mode" click "Back to listing"

☐

Experiments


[Back to listing](#)





 Duplicate

tags

delete these tags

 Running


 Organization

 Organization


Original Exercise Guide


Experiments

[Back to listing](#) [View mode](#)


 Started on

18/01/2023



 Status

Running



Title

Original Exercise Guide I



Hands On eLab Notebook Exercise

...

Go to the **User Panel**, uncheck this box and return to “Experiments” tab

*now in the Experiment page only your experiments are available



Miscellaneous

☐ Show experiments from the team on the Experiments page



Hands On eLab Notebook Exercise

- Now that you look for the paper you can start writing down the different sections

Start Editing your duplicated experiment

Browse the original paper

- Change the default title: "Original Exercise Guide I" ☐
- Define tags related to the paper ☐

Follow the instructions provided in eLab





Summary

- ELNs allow to link experiments to samples, managing supplies, and ordering supplies
- ELNs allow for metadata collection and integration with Mendeley, Dataverse (and other applications)
- ELNs **support FAIR Principles**
- Enable **monitoring by PIs, Lab- and Facility managers**
- Data and documentation can be **easily shared**
- Exclude issues with **poor handwriting, damaged paper notebooks** and can prevent data from **being lost when researchers move on**
- ELNs make the publishing and the research process easier



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Questions?



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DAY 2 DAY DATA MANAGEMENT COURSE FOR LIFE SCIENCES

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