



Deltablot



eLabFTW

by Deltablot



Chapter 00

THE SOFTWARE: eLabFTW

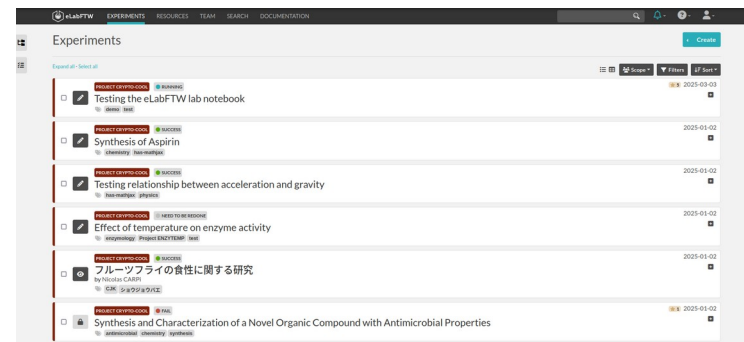


The software: eLabFTW

eLabFTW is an electronic laboratory notebook for research groups



Modernity





eLabFTW

EXPERIMENTS

TEMPLATES

RESOURCES

SCHEDULER

TEAM

TOOLS

?

TL

Experiments

Create

Search experiments

Filter category

Filter status

Filter owner

Tags

□

✖

👤

☰

⌵

TESTS

SUCCESS

□

✎

Synthesis of Aspirin

by Tutu Yundt

chemistry generated from yml has-mathjax

2025-01-02

📌

PROJECT CASIMIR

SUCCESS

□

✎

フルーツフライの食性に関する研究

CJK generated from yml ショウジョウバエ

2025-01-02

📌

PROJECT CRYPTO-COOL

RUNNING

□

✎

Testing the eLabFTW lab notebook

demo generated from yml test

★ 5

2025-03-03

📌

PROJECT CRYPTO-COOL

SUCCESS

□

✎

Testing relationship between acceleration and gravity

2025-01-02

📌



The software: eLabFTW

... allows you to:

- Store digital results in a digital notebook
- Share procedures and protocols through templates
- Collaborate on scientific results
- Improve probity, traceability and integrity of results
- Use tablets or phone to access it
- Step into the XXIst century



ELN + Laboratory stock management (LIMS)

- Highly customizable database to store:
 - Antibodies
 - Plasmids
 - Cell lines
 - Chemical products
 - Equipment (and booking system)
 - Basically any kind of resource → every team can configure it



General principles: we have experiments and resources

Experiments – store your lab results:

- Attached files
- Custom fields
- Rich text editor
- Categories
- Tags
- Status
- Advanced search
- Advanced permissions
- ...

The screenshot displays the eLabFTW web interface. At the top, a navigation bar includes links for EXPERIMENTS, TEMPLATES, RESOURCES, SCHEDULER, TEAM, and TOOLS. The main content area is titled 'Testing the eLabFTW lab notebook'. Below the title, there is a toolbar with icons for editing, deleting, and other actions. The experiment details section shows it was started on 2025-03-03, belongs to the 'Alpha' team, and is categorized under 'PROJECT CRYPTO-COOL'. The status is 'RUNNING'. Tags include 'demo', 'generated from yml', and 'test'. The ID is 316. The visibility is set to 'Only members of the team', and the 'Can write' permission is set to 'Only owner and admins'. The main text section is titled 'MAIN TEXT' and contains three sub-sections: 'Goal' (Test the software.), 'Procedure' (Click everywhere and explore everything.), and 'Results' (It's really nice, I think I'll adopt it for our lab.). The 'EXTRA FIELDS' section is expanded, showing a 'DEFAULT GROUP' with three custom fields: 'Raw data URL' (a link to https://datalake.example.com/experiments/3921), 'Annie, are you okay' (a checkbox custom input), and 'This is a custom list input'.



General principles: we have experiments and resources

Resources – store your materials and equipments

- Similar to experiments
- Highly customizable
- Booking system
- Inventory
- ...

☐  YEAST
BY4741

☐  CHEMICAL COMPOUND
Acetic acid - CH₃COOH

☐  CHEMICAL COMPOUND
Hydrogen peroxide - H₂O₂

☐  ANTIBODY
Anti-Myc

☐  PLASMID
pET-32a(+)

☐  MICROSCOPE
Scanning Electron Microscope

☐  MICROSCOPE
STORM/PALM




Inventory

Define containers for
Resources

▼ CONTAINERS (2)

1.00 L in Versailles > Écuries

1.00 L in Versailles > Écuries

 Add container

Search the inventory for finding
location of resources

Inventory

Search containers or locations

Fibronectin

Browse inventory locations

[Expand all](#)

Inventory location

 Versailles

► Catacombes

► Écuries

► Château



Scheduler

Select a resource below in order to book it.



Filter by category ▾

Select a resource ▾



today

3 – 7 Mar 2025

day

week

list

month

	Mon 03/03	Tue 04/03	Wed 05/03	Thu 06/03	Fri 07/03
08					
09					
10					
11					11:00 - 13:00 [STORM/PALM] (Toto Le sysadmin)
12	12:00 - 14:30 [PCR Machine 2] (Toto Le sysadmin)		11:30 - 14:30 [Video microscope Bravo] (Toto Le sysadmin)		
13				13:00 - 14:30 [Video microscope Bravo] (Toto Le sysadmin)	
14			14:00 - 16:30 [STORM/PALM] (Toto Le sysadmin)	13:30 - 16:00 [PCR Machine 2] (Toto Le sysadmin)	
15					
16					
17					
18					
19					



Integrated booking system

- Manage booking of resources:
 - Microscopes
 - Analyzers
 - Rooms
 - Machines, *etc...*
- Configure precisely:
 - Who is allowed to book a time slot
 - For how long
 - How many times in the day, *etc...*



Modify booking parameters



Allow booking this resource



Allow overlapping slots



Maximum slot time (in minutes)

60



Maximum per-user future slot allowed

3



Allow users booking in past



Allow cancelling a booking slot



Minimum time before a slot can be cancelled (in minutes)

30



Close



A chemical compounds database

eLabFTW EXPERIMENTS TEMPLATES RESOURCES SCHEDULER TEAM TOOLS

Compounds

Compounds are chemical entities. This page allows you to manage your compounds (Create, Edit, Delete, Import, Export, Search, etc.).

[Import from PubChem](#)

Search: [Search](#)

Double-click a row in the table below to edit the compound.

Name	Chemical Structure	PubChem CID	CAS number	SMILES	InChI	InChI Key
2,8,16-Trihydroxy-9-(hydroxyethyl)-10,11-dihydro-5H-benzo[5,6-b:4,5-b']dipyrrolo[2,3-d:2',3'-d']thiophene				CC1(CCC(C2(C1CC(C34...))	InChI=1S/C20H30O5/c1...	WHSUEVLJUHPRC
Kynurenic Acid		492-27-3	4-oxo-1H-quinoline-2-carboxylic acid	C1=CC=C2C(=C1)C(=O)...	InChI=1S/C10H7NO3/c1...	HCZHHFIFKROPD
CID 1919			1-ethenyl-2H-pyrido[3,2-b]pyrazine	C=CC1=C2C(=C3C=CC=...	InChI=1S/C13H10N2O/c...	BGKNXHODSGM
2-(2,4-Dichlorophenoxy)ethylamine			2-(2,4-dichlorophenoxy)ethylamine	CC1=CC(=C(N1C2=CC=...	InChI=1S/C20H16Cl2FN...	ATSLQZTUCNEW
CID 39919			sodium;5-ethyl-6-oxo-1,2,3,4-tetrahydropyridine	CCC[C@H](C)C1(C(=NC...	InChI=1S/C11H18N2O2S...	AWLILQARPMWU

Import from PubChem

Import a chemical compound from [PubChem online database](#): you can specify directly the CID of the compound you wish to import, or search from its CAS number.

PubChem CID

CID

[Search](#)

CAS number

CAS

[Search](#)

Cancel

Import

Available in upcoming version 5.2



Edit compound

Search associated resources

Name

Kynurenic Acid

IUPAC Name

4-oxo-1H-quinoline-2-carboxylic acid

CAS number

492-27-3

EC number

200-362-1

Molecular formula

C₁₀H₇NO₃

Molecular weight

189.17

SMILES

C1=CC=C2C(=C1)C(=O)C=C(N2)C(=O)O

InChI

InChI=1S/C₁₀H₇NO₃/c12-9-5-8(10(13)14)11-7-4-2-1-3-6(7)

InChI Key

HCZHHEIFKROPDY-UHFFFAOYSA-N

Safety information

Hazardous to health

Safety information

Hazardous to health

Corrosive

Explosive

Flammable

Gas under pressure

Hazardous to environment

Serious health hazard

Oxidising

Toxic

Radioactive

Controlled substance

Antibiotic precursor

Explosive precursor

Drug precursor

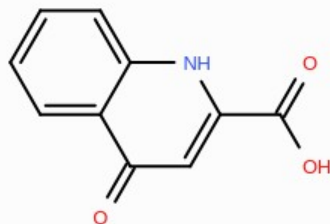
Carcinogenic, mutagenic and reprotoxic (CMR)

Nanomaterial





Chemical Structure Editor



H

C

N

O

S

P

F

Cl

Br

I

PT

[A]

ET

[Add to compounds database](#)[Search similar structures](#)☐ Exact structure



OpenCloning

[CLONING](#)[PRIMERS](#)[DESCRIPTION](#)[SEQUENCE](#)[DATA MODEL](#)

1

Read from file example.gbk



2



bacterial terminator
pBRforEco
AmpR promoter
J23119(SpeI) promoter
gRNA scaffold
Myc
6xHis

Annotate features

CRISPR

Gateway

Gibson assembly

Homologous recombination

In-Fusion

Join overlap extension PCR fragments

Ligation (sticky / blunt)



PCR

Polymerase extension

Restriction

Restriction + ligation / Golden Gate





Custom fields can be added to templates and experiments

Paragraphe 12pt B I U

P

Host

Rabbit

Storage temperature

+4 °C

Dilution to use for IF

Dilution to use for WB

Number of aliquots left

Make sure to decrement this when using one!

Ajouter un champs supplémentaire

Groupe

Ajouter groupe

Nouveau nom de groupe

Informations de base

Type de champs

Date

Nom (requis) *

Date de réception

Description

Entrez une description pour ce champs

Valeur par défaut

mm / dd / yyyy

Supprimer la valeur lors de la duplication

Requis

Lecture seule


Fermer Enregistrer


Ajouter un champs Charger les champs



Fine-grained permissions system

Control who can see what precisely

 Visibility



Only members of the team

▼ Teams

• Alpha


▼ Groups


• Collaboration UXBE

▼ Users

• Tata Hoppe

• Titi Hintz

 Can write



Only owner and admins

Select who can see this entry

Base

This setting sets a baseline upon which you can add more permissions by selecting teams, user groups or users below.

Only members of the team

+ Teams (hold **ctrl** key to select multiple entries, **ctrl** + click to deselect a selected entry)

Selecting a team here will give access to all members of this team.

Filter

Team - a new team

Team - Alpha

Team - Bravo

Team - Charlie

+ User Groups

(hold **ctrl** key to select multiple entries, **ctrl** + click to deselect a selected entry)

► Set scope

Selecting a user group here will give access to all users part of this user group.

Alpha - Collaboration UXBE

Alpha - Project LALABA

+ Users Allow individual users to access this entry.

 Tata Hoppe (tata@yopmail.com) X

 Titi Hintz (titi@yopmail.com) X

Add user

Add

Close

Save



Integrity, signatures and timestamping



- eIDAS qualified timestamping (910/EU/2014 - RFC 3161)
- Blockchain timestamping (Consortium Bloxberg)
- Immutable audit logs
- Immutable files with integrity cryptographic sum
- Cryptographic signatures (ed25519 elliptic curves)
- Soft delete mechanism to prevent destructive actions



Centralised authentication

Login through your institution

Select an identity provider

Acme University ▲

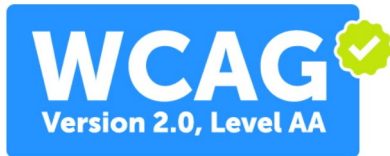
Acme University

Example Institute

- Use your institutional authentication service
- Support for federated services
- SAML or LDAP protocols



Accessibility



- Compliant with WCAG2.1 guidelines
- Level AA et AAA when possible
- Included in Continuous Integration pipeline

Download our accessibility report:

<https://www.deltablot.com/files/deltablot-accessibility-report-WCAG.pdf>



Comments

Batch actions

TK

Hans-Peter Falkenberg



German



7 hours



"Sammelaktion" has a different meaning in German. "Gebündelte Aktion" or "Bündelaktion" would be a literal translation but sounds kind of clunky. Therefore, I think that "Batch-Aktion" is good compromise.

LB

Katrin Steinbauer



German



5 hours



i have to agree

MS

Markus Hohenfeld



German



2 hours



Oder vielleicht ist etwas wie "Stapelverarbeitung" gemeint?

Internationalization

Translated into 21 languages by the user community (160+ contributors)

Each user is free to display the interface in the language of their choice



Users in Europe

eLabFTW ELN is massively used in Europe by numerous Universities and companies



France: CNRS, IRD, INRAE, SOLEIL, ENS, various Universities and research centers

Germany: even more in use than France...

Spain, Portugal, Belgium, Italy, United Kingdom, Finland, Sweden, the list doesn't stop!



Users in United States of America

- **Brandeis University** (Massachusetts)
- **Montana State University** (Montana)
- **University of New England** (Maine)
- **NHLBI National Heart, Lung, and Blood Institute** (Maryland)
- + various labs and private companies





open source
initiative
Approved License®

Features of eLabFTW

- **Freedom:** published under an OSI approved license (AGPL3.0)
- **Utility:** saves time
- **Popular:** greatly appreciated by users
- **Flexibility:** adaptable to all kinds of research
- **Accessibility:** compliant to international accessibility standards
- **Internationalisation** : available in 21 languages
- **Community:** large user base from various domains
- **Security:** code audits, bug bounty program, good practices



Chapter 02

SOFTWARE SECURITY



Quality and security

openssf best practices silver

▼ Basics	13/13 ●
▼ Change Control	9/9 ●
▼ Reporting	8/8 ●
▼ Quality	13/13 ●
▼ Security	16/16 ●
▼ Analysis	8/8 ●

Quality and security aspects

- Code audits by external security companies
- Bug bounty program for security researchers
- Responsible disclosure through CVE publication
- Advanced configuration options: centralized authentication, password policy, multi factor, protection against brute-force attacks, *etc...*
- Good practices of project management (OpenSSF referential)



eLabFTW: quality and security

Scan Summary



Host:	demo.elabftw.net
Scan ID #:	20518336 (unlisted)
Start Time:	July 28, 2021 2:59 PM
Duration:	6 seconds
Score:	115/100
Tests Passed:	11/11

Scan result from observatory.mozilla.org

More security aspects

- Perfect score on Mozilla's Observatory
- Services hardening
- Services containerization
- Automated vulnerabilities scanning



eLabFTW: quality and security

The screenshot shows a GitHub release page for the repository 'elabimg'. The release is titled 'elabimg 5.2.0 with elabftw-5.1.4' and is marked as the 'Latest' version. The version number '5.1.4' is also displayed. The release was made 'last week' by the user 'NicolasCARPi'. A green checkmark icon indicates that the tag was signed with the committer's verified signature. Below this, the user's name 'NicolasCARPi' is shown, along with their GitHub profile picture and the text 'Nicolas CARPi'. The GPG key ID '3F1E365415256C7E' is listed, and a link to 'Learn about vigilant mode.' is provided. The 'Assets' section shows two downloadable files: 'Source code (zip)' and 'Source code (tar.gz)'. A public build log icon is also visible.

Tagged releases are signed with a GPG key and have a public build log



eLabFTW: quality and security

Summary

Jobs

Build images and push to Docker Hub...

Run details

Usage

Workflow file

Build images and push to Docker Hub summary

Docker Build summary

For a detailed look at the build, download the following build record archive and import it into Docker Desktop's Builds view. Build records include details such as timing, dependencies, results, logs, traces, and other information about a build. [Learn more](#)

[elabftw-elabimg-jm2sia.dockerbuild](#) (347.16 KB - includes 1 build record)

Find this useful? [Let us know](#)

ID	Name	Status	Cached	Duration
JM2SIA	elabimg	completed	35%	29m12s

► Build inputs

Cimon Security Report - Prevent Mode

Report Summary

Finished auditing CI/CD pipeline successfully

Network Events

PID	Process	Protocol	Address	Domain	Policy
2076	git-remote-http	TCP	140.82.112.3:443	github.com	
3062	docker-buildx	UDP	34.226.69.105:9	index.docker.io	
3062	docker-buildx	UDP	54.196.99.49:9	index.docker.io	
3062	docker-buildx	UDP	3.219.239.5:9	index.docker.io	

Auditable build logs with kernel level protection against supply chain attacks



Chapter 03

OPEN SCIENCE COMMUNITY



eLabFTW: a major actor in open science and FAIR data

Founding member of The ELN Consortium

- 15+ members including other ELN editors
- Created a standardized exchange file format (.eln)
- Based on RO-Crate and JSON-LD
- Recognized as an official media type by [IANA](#)
- Increases interoperability of data (FAIR)





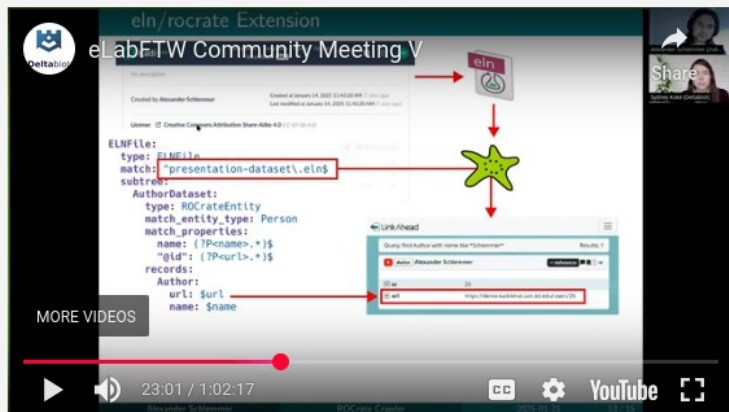
Organizer of Community Meetings (bi-monthly)

☀ Fifth eLabFTW Community Meeting

In this session, we learned about the integration of eLabFTW with other tools.

1. Dr. Alexander Schlemmer (IndiScale): “Data Integration from RO-Crate and the ELN-File format using the [LinkAhead Crawler](#)”
2. Open session where users can ask questions, discuss upcoming features, and talk about their experiences with eLabFTW.

[Watch recording](#)



☀ Sixth eLabFTW Community Meeting

In this session, we learned about strategies for teaching with eLabFTW and implementing the software at research institutions.

1. Nikki Parks (RWTH Aachen University) - “Establishing eLabFTW as a Central University Service”
2. Isabell Schmitz (Goethe University Frankfurt) - “Transforming Lab Education: Teaching with eLabFTW”

[Watch recording](#)



[elabftw](#)

[community meeting](#)



Chapter 04

THE DELTABLOT COMPANY



- Founded in 2019
- Located in Paris, France
- Operating on 4 continents
- Dedicated to helping research teams



Nicolas Carpi
President



Sydney Koke
Customer Success Manager



Moustapha Camara
Full Stack Developer



Our partners



easter eggs

Paris, France

Easter Eggs
GNU/Linux
specialists



Paris, France

Universign
eIDAS qualified
timestamping



Marseille, France

Keeex
Document integrity,
traceability, and
probity



Our team of experts



- **Marcel Bolten:** Fullstack developer



- **Hüseyin Uzun:** Video editor, german language trainer



- **Simon Bekemeier:** German language trainer



- **Manon Stripes:** UI/UX design



Our customers





We believe in Open Source Software

- We maintain open source projects
- We contribute to open source projects
- We donate to open source projects
- We are member of APRIL association for the promotion of free and libre software

Learn more: <https://www.deltablot.com/opensource/>



We fund eco-friendly projects

Deltablots has a carbon reduction plan through ecologi.com



Visit our forest: <https://ecologi.com/deltablots>



Chapter 05

CHOOSE YOUR PLAN



Two main plans

1 PRO SUPPORT

We help you deploy eLabFTW on your network and provide support and training (On-Premise)

2 PRO HOSTING

We take care of everything (SaaS)



1. Support for self-hosting **PRO Support**

- We help you implement eLabFTW within your IT system
- User training (webinars) in French, English or German
- Access to sandbox instance
- 20% discount on custom development requests
- 1000 eIDAS qualified timestamping token
- Development funding

1 789 € / year





2. PRO Hosting

- Hosted close to you:
 - Europe → Paris, France, optionally in the SecNumCloud environment
 - North America → Toronto, New York, or San Francisco
 - Japan, Australia → Tokyo
- Dedicated eLabFTW instance
- Custom domain name
- eIDAS qualified timestamping tokens included
- Fully managed backups and updates
- Ransomware protection
- Infinite updates
- **Includes PRO Support**



2. We take care of everything **PRO Hosting**



Price per year: ~3 to 8k €

Depending on instance size and location



contact@deltablot.email

A user-friendly and flexible open source tool with great support and a helpful community

Nikki Parks – Universität Aachen



Florian Strauß

14:12

"Great tool for doing and teaching good RDM practices"



alexander-haller (alexander-haller)

"Super fast developer feedback" "Easy setup and onboarding"



Lauritz Bußfeld

14:32

well maintained interdisciplinary ELN with a lively community



adienne_karsten | ULB MS

In reply to **NicolasCARPi**



Mahadi Xion

eLabFTW is built on top of a stable OpenAPI design that gives me confidence that my API automation scripts are future proof.

"Intuitive to use, great UI, great community, open source and generically usable!" 🚀

Easy and simple to setup and use.

Rohit Karthikeyan

The most adapted ELN software for academic research groups.

A true alternative to paper notebooks, that is simple and intuitive to use.

Garrett Curley – École Polytechnique – Laboratoire Physique des Plasmas



The Diefenbacher Lab @DiefenbacherL · Jun 25

Hey #scicetwitter Our lab is looking for an useful #opensource labbook variant. Anyone any recommendations or experiences on that?
#AcademicTwitter #academia #Science



3



3



2



Christoph Engwer

@EngwerChristoph

Follow

Replying to @DiefenbacherL

I can highly recommend @eLabFTW. I'm using it since more than two years. It's easy to install and maintain. And more over, requests for features are listened to and implemented.