

# eLabFTW Guide (User)

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# 1) Role

“Users” are the main user group in eLabFTW and have all the same possibilities. There are no distinctions in this category, not even when it comes to people for whom TU Graz is not the parent institution. To be a user at all, you have to be assigned to at least one team. It is therefore possible to be in several teams at the same time, but it is advisable to keep this number as low as possible. As a user in several teams, there are special points to consider.

# 2) Get Access

You can access eLabFTW via [elabftw.tugraz.at](http://elabftw.tugraz.at) and can log in there using Single-Sign-On. You can access it with any device that has internet access and a web browser. If you register for the first time and do not have an account yet, you will be added to the standard team (**TU Graz General**). If you want to be added to an existing team, the admin of the team has to contact the RDM team. The RDM team will then take over this step. The next time you log in, you will see an overview of the teams you are a member of. You can then select the team and log in.

**Note:** All members of TU Graz automatically have access to eLabFTW. If you have members in your working group or consortium from outside TU Graz and you want them to use the electronic lab notebook as well, please go through the account procedure for [externals](#).

# 3) User Control Panel

The User Panel (Figure 1) is the first and most important place to go to configure the experience and settings in eLabFTW. Especially when logging in for the first time, you should familiarise yourself with this menu before proceeding. You can access it via the dropdown menu (top right).

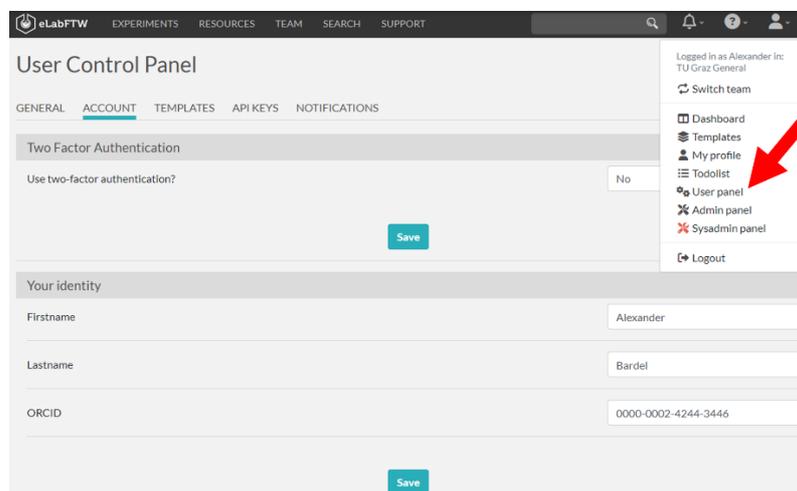


Figure 1: User Control Panel

## 1) General

In the first tab of the User Control Panel, you can select your preferences for certain aspects of the tool. eLabFTW currently distinguishes between 5 areas:

**Preferences:** Here you can set the language in which eLabFTW is displayed for you.

**Display:** You can set how many entries are displayed simultaneously and in what size. You can also switch between lists and table view. The order of the entries displayed can also be changed using various parameters. **Which page should be displayed first when logging in (e.g. Dashboard) can be set here.**

**Keyboard Shortcuts:** Five shortcuts are available for free assignment, but can also complete disabled. The "ToDo" list and "Search" are particularly helpful here.

**PDF configuration:** You can export entries as PDF and there are also some export settings available. Among other things, the format and language-specific fonts in Asian.

**Miscellaneous:** If you only want to write in Markdown, you can completely deactivate the Rich Text Editor here. Default settings for viewing/writing rights for your new experiments can also be set.

## 2) Account

In the account area, the only relevant information for you is ORCID. **The two-factor authentication takes place directly via TU Graz and does not have to be activated manually.** First and last name are also obtained directly from the TU Graz database. If you would like to enter your ORCID ID, you are welcome to do so.

## 3) Templates

Templates are a helpful invention to make work easier for yourself and others. In this section, you can create new templates yourself or update existing ones. The prerequisite for this is, of course, that the template has been authorised for you. Templates work very similarly to Experiments and are briefly explained there. You can also upload and edit existing templates in .eln format. Using the "Scope" button, you can also filter directly whether only your personal templates are displayed or those of your team or system-wide templates.

## 4) API Keys

Accessing eLabFTW via the browser interface is not the only option. APIs can also be used and one or more API keys must be generated. This is also done directly in the user panel. Here you name your key, set whether it should have read-only or read/write rights and generate it directly. **It is then**

**only displayed once for you and you have to save it externally.** The entire documentation on APIs in eLabFTW is also available [here](#) via a link. You can use this key in combination with a Python script and e.g.: add experiments automatically or append attachments.

## 5) Notifications

Certain notifications for events in eLabFTW can be set here. This means whether you want to receive these notifications by email or only in the browser or not at all. Depending on your role, different options are available.

## 4) Dashboard

The Dashboard is (as default setting) your starting point in eLabFTW. Here you get an overview of your experiments, your resources and which bookings have been made by you in the calendar for the future. You can also create new entries directly from this view. If you prefer to have the experiments or resources as the start page, you can change this via the User Control Panel.

## 5) Experiments

The central element of eLabFTW is the documentation of all relevant additional information (metadata) on experiments, laboratory exercises and basically all research activities. For this task, the button "Experiments" is available in the header and forwards to the overview of all experiment entries available to you. In addition to this overview, this view also provides you with a "Quick Search" bar, filter options and a sorting function (Figure 2). These functions are described below:

- 1.** In elabFTW there is no classical folder system, but entries are tagged for easier finding. Nevertheless, in combination with projects, which can be created as entries in the resource database, and the targeted use of tags, you can create a certain structure. Since it will come to an accumulation of certain tags in the use, you can store your favourite tags here. You also have access to your ToDo's here, i.e. all open steps that occur in your entries.
- 2.** If you want to select all entries for further options or expand the editor area of all entries on the page, you can do it using these two buttons.
- 3.** Here you can quickly switch between list and table view and use the "Scope" button to decide whether you only want to see your own experiments or those of your team or the entire instance. eLabFTW also offers the possibility to filter and sort the experiment entries according to a number of different sizes.
- 4.** The "Quick Search" bar searches all elements in the "Experiments" area for the term entered. You do not have to be careful whether it is a tag, full text or heading. If the search term occurs in the content of the entries, the corresponding experiments are displayed.

5. To create a new experiment entry, the "Create" button comes into action. This button is divided into two parts, although it is difficult to recognise. If you click on the right part ("Create"), a window opens and you can decide whether you want to create the default template or an empty experiment. The small arrow on the left side of the button offers the possibility to access the costume templates that have been created or shared and to create an experiment from them.

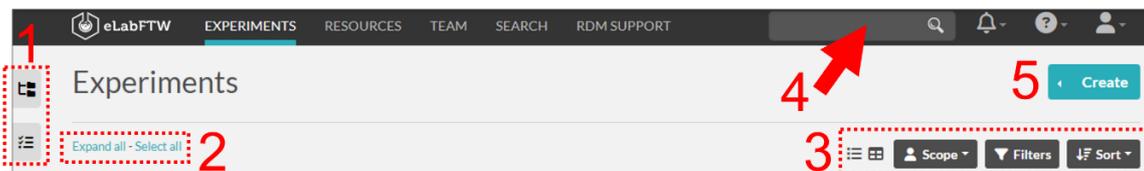


Figure 2: Experiments overview

6. With the filter option you can filter the available entries according to certain parameters. You can filter by the status and owner of the experiments, but also for whom the entries are visible or which group of the team has access to the entries. The number of results can also be limited during filtering and the included tags can be set. If you want to see archived entries, you still have to mark the corresponding checkbox.
7. If you have already selected one or more entries, you can make certain changes to all entries at the same time. This concerns the status, links or the viewing rights of the entries. Also, the export of several entries is possible.

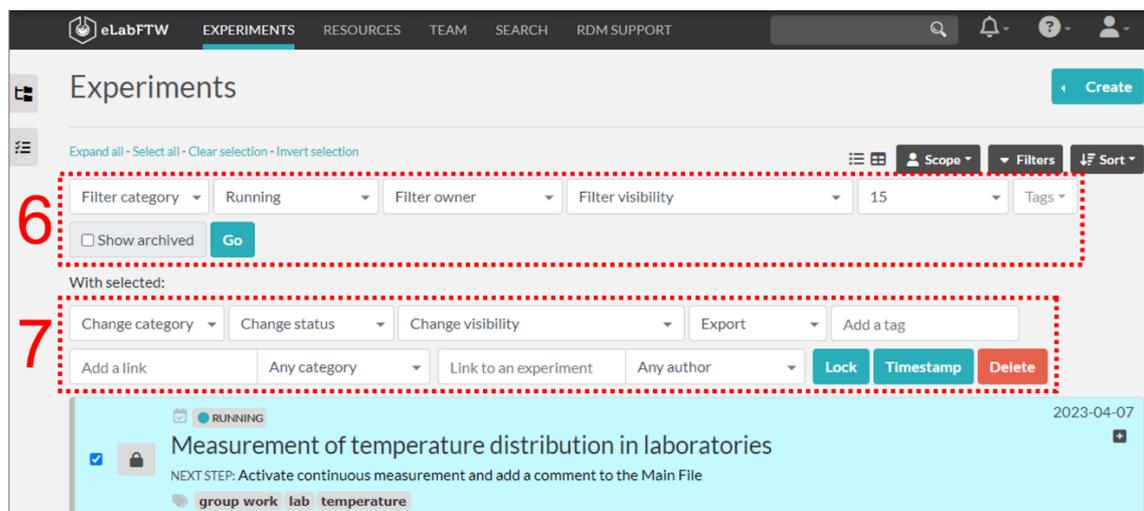


Figure 3: Filter and select Experiments

When you create a new experiment, a new window opens, which may have different contents depending on the templates used. The window has been separated into two figures for this manual and are visible in Figure 4 and Figure 5. The areas that appear in each experiment are explained in the next points:

8. Different icons here give you useful functions for your entry (from left to right):
  - **Eye/pen:** Switch between viewing and editing mode
  - **Sheets:** Duplicate entry
  - **Timestamping:** Associate certain date and time to a digital document, which are legally valid.
  - **Blocks:** Add entry to a blockchain
  - **Download the entry:** many different formats are available for different applications
  - **Pin:** Favourite entry
  - **Lock:** lock/open entry for editing (only available by the owner)
  - **Three dots:** Transfer of the ownership status, track changes and archive/unarchive entry (interactive window)
9. You can set the start date (can be set as desired) and the status of the experiment at the beginning. A category can also be set, but is not necessary as long as the admin has not configured it. You can give your entry any title you wish. Different entries can also have exactly the same title, as each entry is given a unique ID which is automatically assigned and which uniquely identifies the entry. On top of that, a custom ID can also be created. Below that, you assign tags that replace the classic folder structure of known systems. Here you can use meaningful terms that relate to your experiment, e.g. project number, abbreviations, methods, etc. Tags can be predefined and moderated by the admin, but can also be created by the users themselves.
10. It is important to check the read and write permissions of the entry. You have set default settings in your user panel that are automatically assigned here, but can be changed manually. **You can share an entry at different levels at the same time. In relation to the entire instance, several teams, different groups of teams and individual users.**
11. In the rich text editor, you can describe your experiment and also record all the results. You have different formatting options, integration of graphics, tables, links, code and much more.

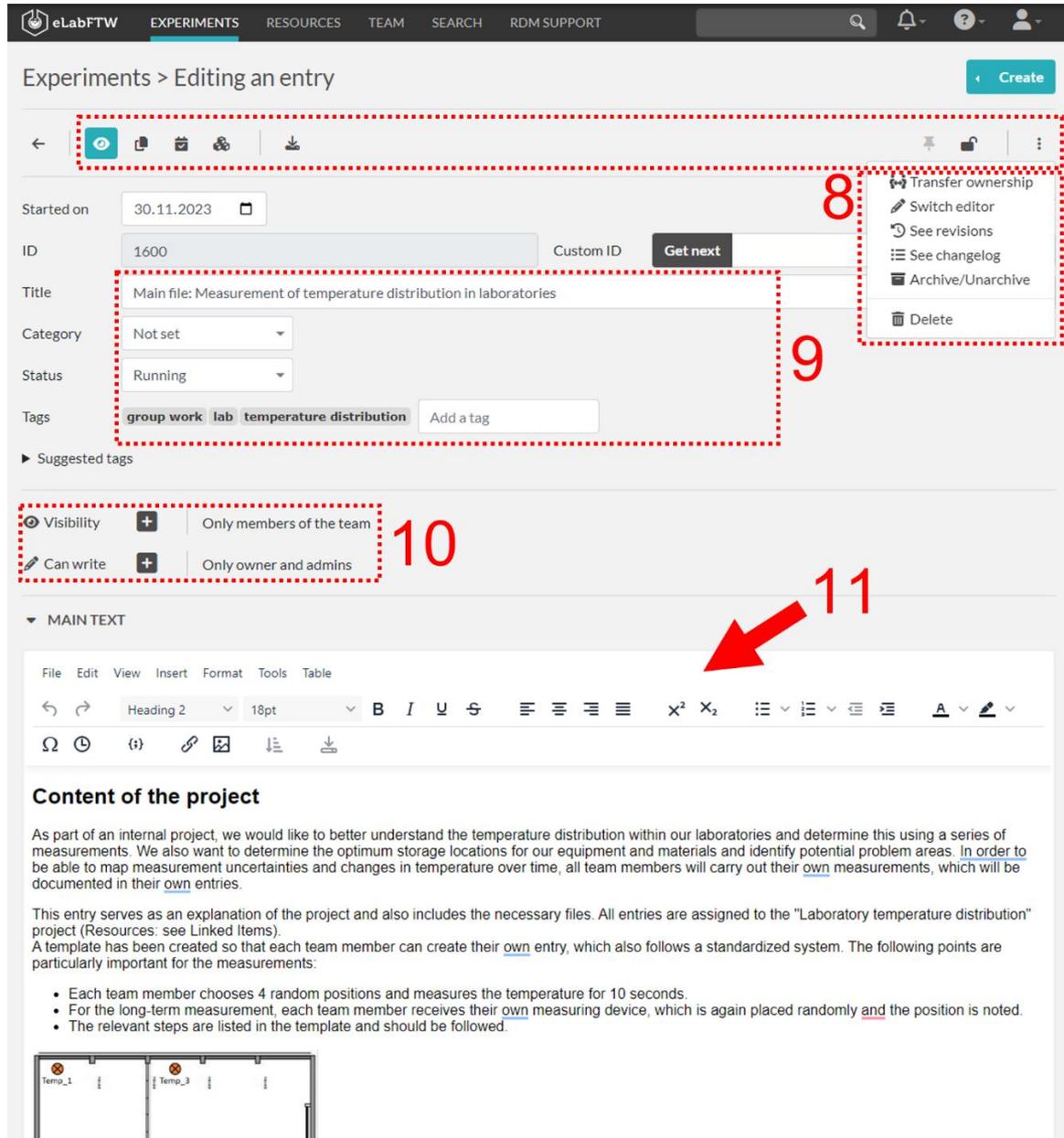


Figure 4: Experiments editor mode (Part 1)

12. Below the rich text editor, you can add interactive metadata fields, which you can organise in several groups and at the same time can have different functions like a dropdown menu or checkboxes. The "Load fields" button allows you to import the metadata fields of an existing entry and use them directly.

13. Experiments go through different steps and you can name these steps here. The advantage here is that you can mark them as done/open and they will show up in your "ToDo" list. **Steps can also be given a deadline and added to the notifications as well as directly as a link in the editor area.**

14. Rarely do experiments stand on their own or require no tools. You can add existing experiment entries as well as resource entries to your entry and thus create links to quickly get to other relevant entries. This function works in both directions and so the other entries also receive a link.
15. You can add all kinds of files to your entry. Currently there are no known restrictions on the file type, but the size is limited to 100 MB. Graphics of the type .png and .jpeg can also be transferred directly into the rich text editor. You can drag and drop files into the field or click on it and the familiar selection editor opens.
16. There are three editors available that allow you to create additional information in special formats directly in eLabFTW. With the "JSON editor", metadata can be stored as machine-readable information and can also be edited directly in eLabFTW. In the "Draw Something" editor you can easily make sketches and make additions in uploaded .png and .jpg. The "Molecule Editor" allows you to build molecular structures and save them in different formats.

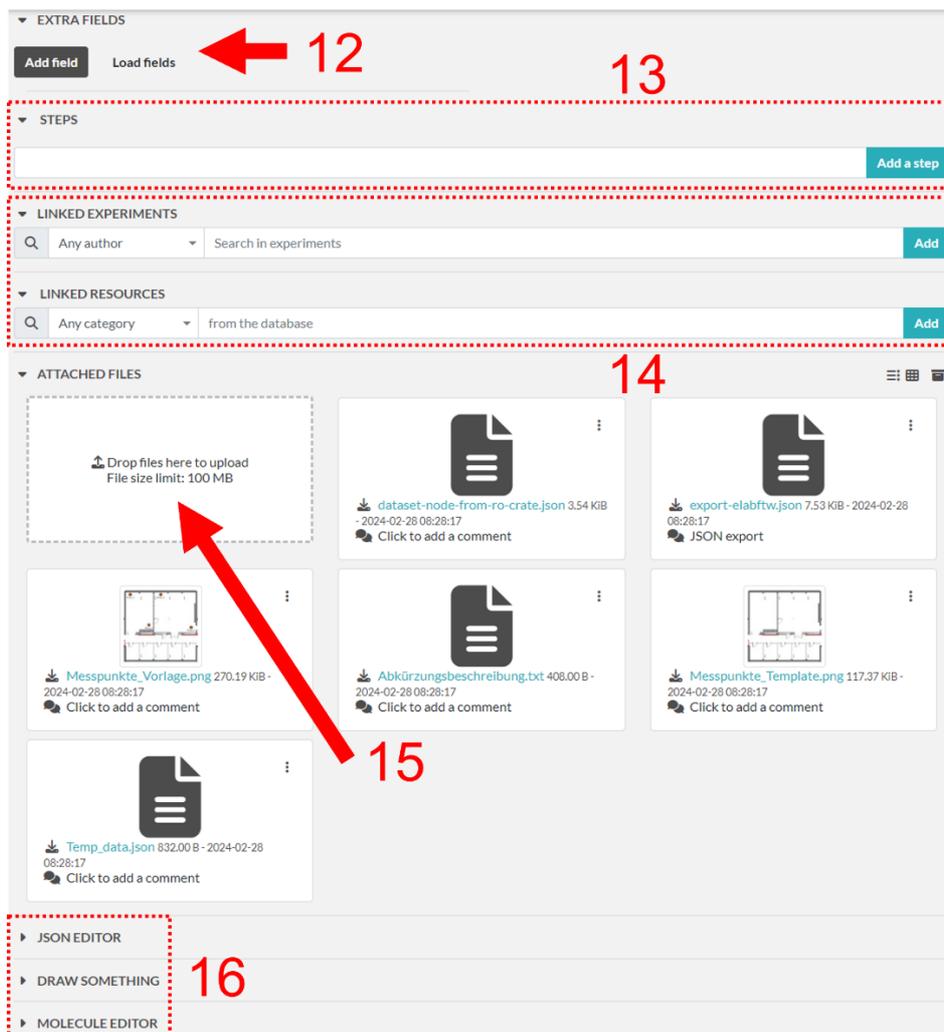


Figure 5: Experiments editor mode (Part 2)

When you are finished with your entry, you can save it at any time and edit it later. In any case, you can switch from the editing mode to the viewing mode and check the entry. For this manual this is again divided into two figures and visible in Figure 6 and Figure 7:

17. This area is no different from the functions in edit mode. The options here are the same in both modes (see number 8). It is important to note here that the affiliation of the entry to a certain team can also be seen here.
18. In view mode, the rich text editor corresponds to the main text area. If you open individual entries in the experiment overview, this area is displayed as well.
19. All individual metadata fields that you have added are visible in this area and are displayed in groups (if assigned). Changes to the metadata fields can only be made in edit mode. In this mode the fields are not interactive.
20. Here you can see your work steps and check them off or open them again. You will also always be shown how long ago the task was completed.
21. Here you have an overview of all linked elements in the experiments and the resources. You can jump directly to the elements and, in the case of resources entries, also directly to the scheduler.
22. In the overview of all attached documents you can get different information and make changes depending on the file type. This also includes changing the name, deleting, archiving/unarchiving and a content preview. It is also possible to display files that have already been archived or to change the display layout. Below this is the comment line. Here you or your colleagues can leave comments on the entry, practical for feedback or messages.

## 1) Templates

You can create and edit your templates in the user panel. Most of the fields and settings are the same as those of an experiment. Of course, some fields are missing, as are the editors, with the exception of the JSON editor. These fields are added as soon as a new entry is created from the template. **It is also possible to transfer the ownership to another user and import already existing template in .eln format into your own collection.** Templates can play an important role when it comes to documenting experiments with a similar structure. This not only saves time but can also be of great advantage for reasons of reproducibility. Laboratory exercises are another use case where templates can be very supportive. The template selection is displayed at the arrow of the Create button. To increase the overview, only templates that you have previously toggled are displayed there.

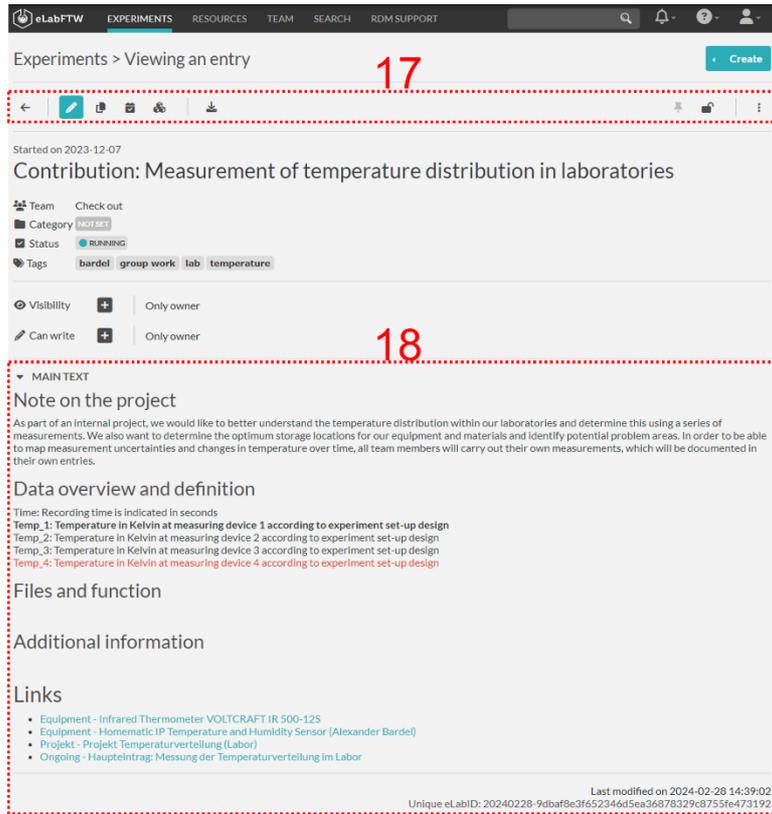


Figure 6: Experiments view mode (Part 1)

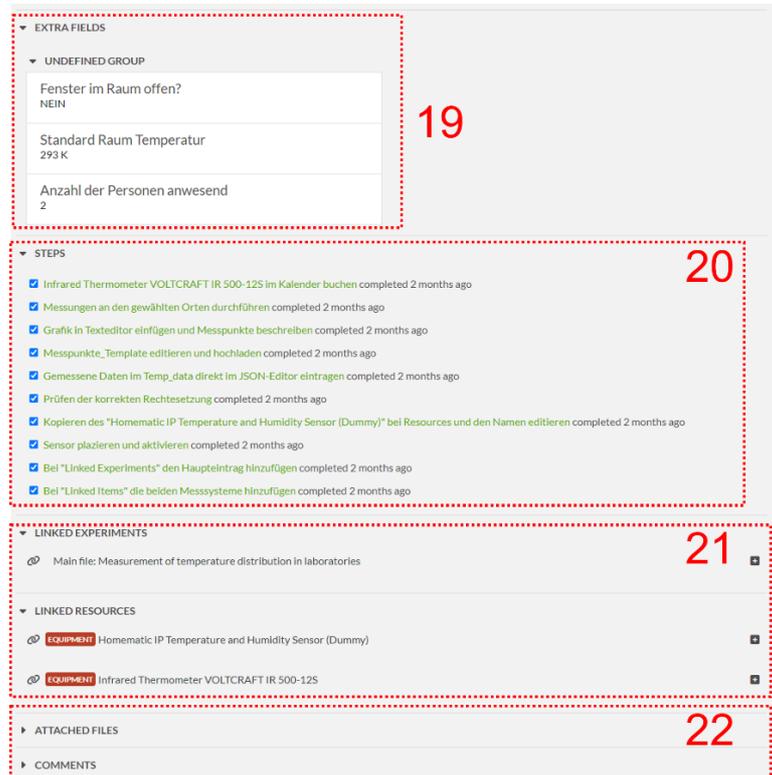


Figure 7: Experiments view mode (Part 2)

## 2) Export of entries

Depending on the section in eLabFTW, different export formats are available for one or more entries. This allows you to use your documentation externally or, for example, as additional information for publications or audits. Below you will find an overview of the available export formats and a short description:

### Experiment/Resource Export options: Single entry view mode

- PDF file Regular PDF format (no attached files)
- Long term storage PDF PDF/A, an ISO-standardized version of the PDF format<sup>1</sup>
- ZIP Archive Regular ZIP format, entire entry with all files
- Long term storage ZIP Regular ZIP format with PDF/A included<sup>1</sup>
- ELN Archive Interchange format (JSON-LD) for export/import of datasets<sup>2</sup>
- CSV file Regular CSV format
- QR codes QR as .png type for printing
- JSON Information about the entry in JSON format (machine readable)

### Experiment/Resource Export options: Overview mode

- ELN Archive Interchange format (JSON-LD) for export/import of datasets<sup>2</sup>
- ZIP Archive Regular ZIP format, entire entry with all files
- CSV file Regular CSV format
- PDF file Regular PDF format (no attached files)
- QR codes PDF Multiple QRs as PDF type for documentation/printing
- JSON Information about the entry in JSON format (machine readable)

<sup>1</sup> PDF format designed for long term storage and includes changelog, but transparent PNG will appear with a black background. This PDF format is also used for timestamping.

<sup>2</sup> Designed to promote the The ELN Consortium and allows to exchange one or more entries between eLabFTW instances and users.

## 6) Resources

The second very important area in eLabFTW can be accessed through the "Resources" button. The entries in this section can be seen as part of our project and lab management, i.e. equipment, tasks, lab exercises. An important difference to the experiments is that each element in the "resources" necessarily belongs to a certain category. These categories are also templates for our entries. The possible categories are defined by the admin of the team. The structure and functionality do not differ substantially from the Experiments overview (see Figure 2 and Figure 3).

**Note:** You can also create a "Project" category that contains all the important information about your research project. Experiments can add this entry to themselves and thus, in addition to the tags, you have an additional possibility to link experiments and resources elements to your project.

The creation of a resources entry works almost exactly the same way as in the experiments and can also be checked there (Figure 4). Just as with the experiments, it is possible to switch back to the view mode (Figure 8) after editing and check the entry:

1. Different icons here give you useful functions for your entry (from left to right):
  - **Eye/pen:** Switch between viewing and editing mode
  - **Sheets:** Duplicate entry
  - **Calendar:** Jump directly to the scheduler and book the selected item
  - **Check mark:** Timestamp your resource item
  - **Blocks:** Add entry to a blockchain
  - **Download the entry:** many different formats are available for different applications
  - **Pin:** Favorite entry
  - **Lock:** lock/open entry for editing (only available by the owner)
  - **Three dots:** Different options possible
2. Shows when the entry was created and to which resource category (highlighted in the respective colour) it belongs, as well as the assigned title and the team, in which it was created, can be checked here. **An important point compared to the entries in the experiments is the "Can book" option. Here you can additionally set who has the rights to book the resource in the calendar.** Read and write permissions, however, behave identically to the experiments.
3. In the rich text editor (here main text) all options are available as with its counterpart in the experiment entries.
4. Similar to the previous point, here you get an overview of all attached files. You can also add a comment to them directly. Here you have an overview of all linked elements in the experiments and in the resources. You can jump directly to the elements and, in the case of

resource entries, also directly to the scheduler. It is also possible to comment on the entire entry. Practical for feedback or messages.

- 5. Similar to the three points of experiment entries, there are the archiving functions and a changelog. The ownership of a resource entry can be transferred to another user. **A further and important point for the resource management is the option "Modify booking parameters" which will be explained in more detail in Figure 9.**

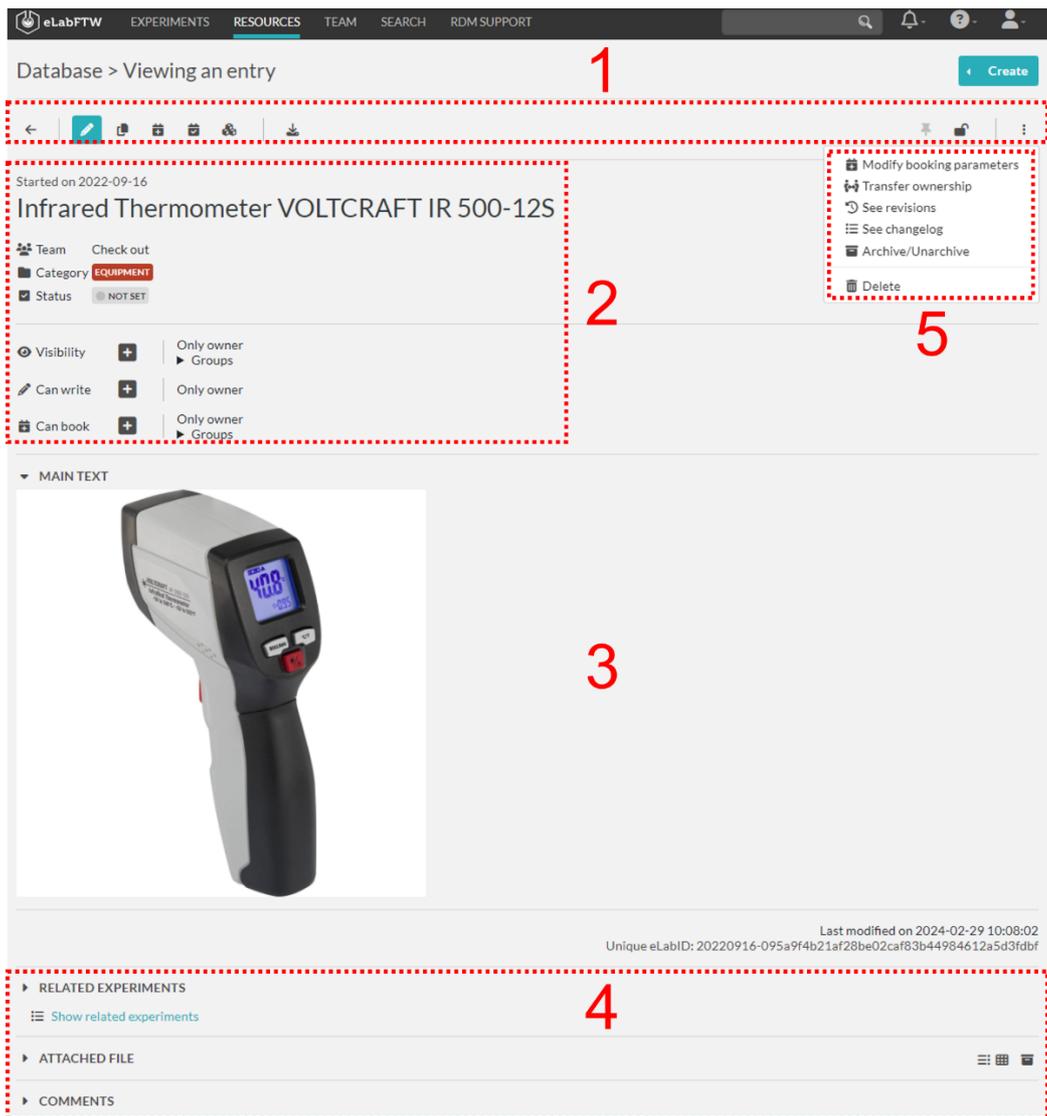


Figure 8: Resources view mode

By clicking on "Modify booking parameters" a pop-up window (Figure 9) opens and the following six setting options are available:

- 1. Resource is bookable or not
- 2. Bookings of the same resource may overlap or not
- 3. Maximum duration of one booking slot

- 4. Maximum number of bookings per user for the future
- 5. Bookings can be deleted by user or not
- 6. Maximum time before event start until which the booking slot can be deleted

**Modify booking parameters**
✕

---

Allow booking this resource

Allow overlapping slots

Maximum slot time (in minutes)

Maximum per-user future slot allowed

Allow cancelling a booking slot

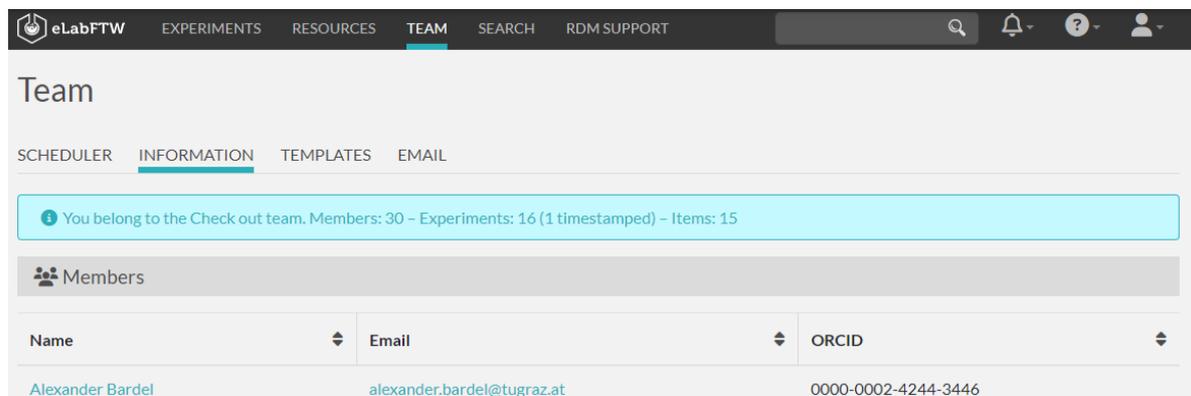
Minimum time before a slot can be cancelled (in minutes)

**Close**

**Figure 9: Resources view mode (Booking parameters)**

## 7) Team

The team menu (Figure 10), contains various information about the team itself as well as contact options and the scheduler. There you can find four tabs:



**Figure 10: Team menu**

**Scheduler:** Your team has its own calendar that can manage certain resources of your team in the form of a scheduler (Figure 11). Here, the resource entries of your team (not the experiments)

can be filtered by category of resource item and individual resource element. Then you can book the item in the calendar with a short note. You can also display several items at the same time. This provides you with a simple tool for managing your laboratory equipment or exercise groups or planned activities in the team. You can also use the "Scope" button to pre-filter whether only your own resource entries or also the team or instance-wide resources should be available. A newly created calendar entry can also be edited (Figure 12).

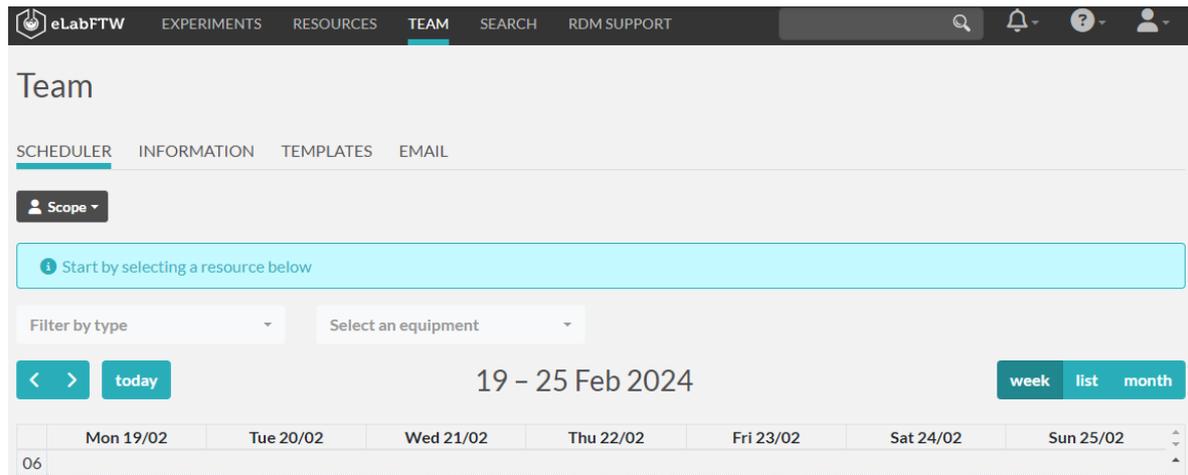


Figure 11: Team menu (Scheduler tab)

1. This field contains the original note of the booking, but you can change it by clicking on the text.
2. If the booking may be deleted, this area is available, which can be a deletion without notification or with message to a certain group of people. **The first option "Past and ..." is about users of the last two months and the upcoming month.**

**Information:** In this section you will get an overview of all members of your team. The role of the member and a contact option via email is also stored. Optionally, you can also look up the ORCID ID.

**Templates:** All templates available to your team can be found in your User panel. You will find a direct link to this portal there.

**E-Mail:** If you have a message that is relevant for members of your team, you can send it here to all members of the team or if you are also a member of one or more groups of the team you can limit it to this group of people.

Edit event
×

---

### Measuring cycle 1 1

Start time

28.02.2024 08:00
📅

End time

28.02.2024 13:00
📅

[🔗 Bind an experiment](#)  
Event is bound to an experiment: [Contribution: Measurement of temperature distribution in laboratories.](#)

Unbind

Search
Attach

[🔗 Bind a resource](#)  
Event is bound to an item: [Infrared Thermometer VOLTCRAFT IR 500-12S.](#)

Unbind

Search
Attach

### Cancel booking slot

Add a custom message

Send to

- Past and future users who booked this resource
- Members of team Check out
- Members of teamgroup Internal Training
- Members of teamgroup Makerspace
- Members of teamgroup RDM Team Internal

Send message and cancel

Cancel

Close

Figure 12: Scheduler: Edit event

## 8) Search

Search (Figure 13) is a very powerful tool in eLabFTW. **Remember:** In eLabFTW there is no folder structure but categorisation is done with tags. This means that you can search for certain tags in the individual areas. The real strength lies in the extended fields, which allow a refined search in groups or for individual users. In addition, there are further specialised fields and also a search query if desired.

Advanced search

Search query

Enter search query, e.g.: (locked:yes OR timestamped:yes) AND author:"Firstname Lastname"

Enter a term to search in title, body, date and elabid; or use advanced syntax, or a combination of both.  
Press **ctrl + enter** or **\* + enter** to submit search.

▼ HELP

Allowed Fields (field:value):

<b>attachment:</b> yes, no, simple or quoted term	<b>group:</b> simple or quoted term
<b>author:</b> simple or quoted term	<b>locked:</b> yes or no
<b>body:</b> simple or quoted term	<b>rating:</b> 1, 2, 3, 4, 5, or unrated or 0
<b>category:</b> simple or quoted term	<b>status:</b> simple or quoted term
<b>custom_id:</b> number	<b>timestamped:</b> yes or no
<b>date:</b> see date format	<b>title:</b> simple or quoted term
<b>eLabid:</b> simple or quoted term	<b>visibility:</b> simple or quoted term
<b>extrafield:key:value</b> simple or quoted term	

Show full syntax

Search in: Experiments | And category is: Select category | And status is: Select status

Date from: - | tt.mm.jjjj | Date to (optional): tt.mm.jjjj

And author is/belongs to group: Select author/group | And visibility is: Select visibility | And rating is: Select number of stars

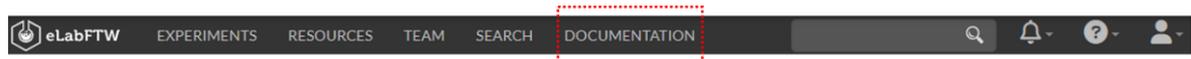
And extra field is: Name of field : Value | Locked: Select lock status | Timestamped: Select timestamp status

Tip: you can use '%' as wildcard in value

Launch search | Clear all

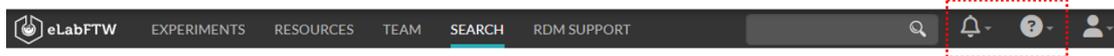
Figure 13: eLabFTW Search

## 9) Custom field a.k.a. Documentation



This field may or may not already have a new name in your team. The reason for this is that the admin of the team can assign a name herself/himself and set the link behind it. This link can be anything, e.g. the website of your project team, the institute or a GitHub/GitLab page.

## 10) Notifications and Help



On the right side of the header you will find three symbols. The first two are the **bell** and the **question mark**. The first one shows the overview of your open notifications and the second one shows a variation of links to the open source community of eLabFTW. These are fellow players outside of Graz University of Technology. An important point is the **"Support"** section, which links to the eLabFTW support page of the RDM team. [Here](#) you will find the manuals and FAQ for eLabFTW.

## 11) Profile



The third symbol on the right in the header deals with the user's personal profile. Here you can see directly in which team you are currently logged in, get access to your control panels depending on your role and log out of eLabFTW. In addition, there are the following helpful buttons:

### 1) „Switch Team“

If you are a member of several teams, you can switch directly to another team here. You will then return to a selection window and choose an available team.

### 2) Dashboard

This button will take you to the overview of your experiments, resources and next bookings.

### 3) Templates

Via the button "Templates" you can jump directly to all templates available for you in the User Control Panel.

### 4) My Profile

“My Profile” is a very important window for you, as it gives you a complete overview of all the teams you are in and a list of the groups you are also a member of. In addition, you can see who is also present in these groups and always know with whom you share your experiments. You also get statistics about the status of your experiments and can export all your experiments in different formats.

## 5) ToDo List

The "ToDo" list is a nice feature to leave yourself short notes as a reminder. In addition, you can keep track of open "steps" from experiments and resources entries for yourself or your team. You can also access this via Short Cut.

## 6) User panel

All functions of the user control panel have already been explained in a previous chapter (User Control Panel).

# 12) Hard Facts

Operating System: Linux

eLabFTW Version: 5.0.1

Docker image version: 5.0.0

PHP Version: 8.1.27

MySQL Version: 8.0.31

Maximum file size for uploaded files: 100M

Timezone: Europe/Paris



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