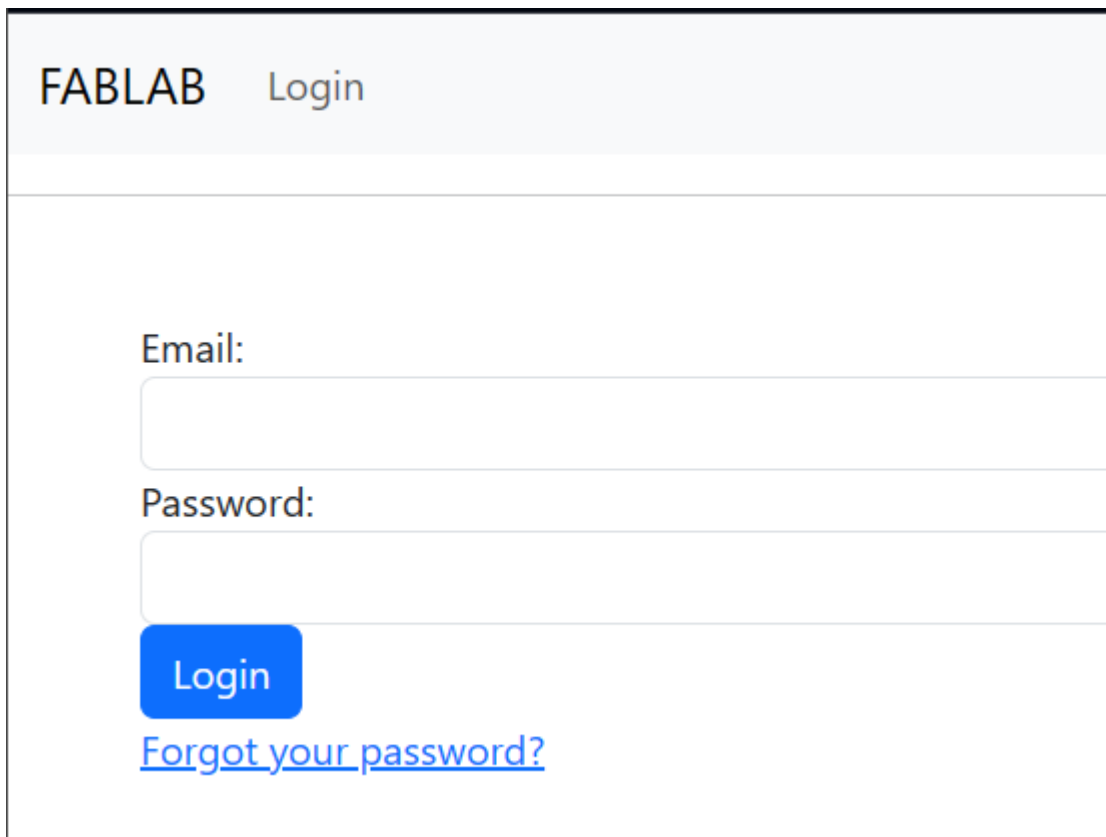


Authentication

The default page is a login page and all other site pages requires a logged-on user.



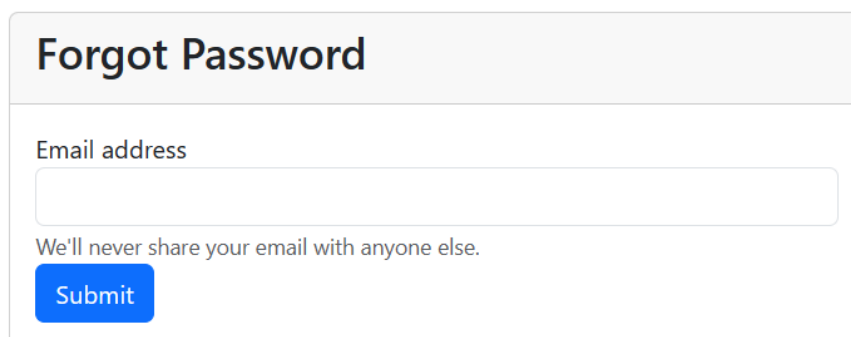
The login form is titled 'FABLAB Login'. It features two input fields: 'Email:' and 'Password:'. Below the password field is a blue 'Login' button. At the bottom of the form is a blue underlined link that says 'Forgot your password?'.

Only users with email address and rôle « Can Admin backend » flag can log on.

Default user at install is :

- Login : admin@fablab.org
- Password : admin

In case an admin forgets the email, the forgot password will send an email with a unique link valid for 20 minutes to reset the password.



The 'Forgot Password' form has a title 'Forgot Password'. It contains an 'Email address' input field. Below the field is the text 'We'll never share your email with anyone else.' and a blue 'Submit' button.

Menu

This is the view for logged users :

FABLAB Users Machines Authorizations Maintenance Interventions History Roles Machine types Logout

By clicking on FABLAB you reach the homescreen.

Homescreen

The homescreen presents a real-time view of the various machines.

FABLAB Users Machines Authorizations Maintenance Interventions History Roles Machine types Logout

Hello admin!

Machines status

| | | |
|--|---|---|
| ENDER3 (3D Printer) Machine is MAINTENANCE | ZORTRAX 1 (3D Printer) Machine is IN USE by admin | ZORTRAX 2 (3D Printer) Machine is BLOCKED |
| LASER1 (Laser) Machine is OFFLINE | LASER2 (Laser) Machine is FREE | Fresa (Drill) Machine is FREE |

Status description :

- IN USE = there is an opened use record (manual or automatic) on this machine
- BLOCKED = the machine has been flagged « BLOCKED FOR ALL »
- OFFLINE = the RFID has not contacted the backend for more than 3 minutes
- MAINTENANCE = the machine is free but requires maintenance intervention based on the plan
- FREE = the machine is idle and waiting for users

Roles




This is to configure user privilege levels.

[View](#)

Roles

This system page configures the possible role of the users

[Add Role](#)

| ID | Name | Reserved | Backend admin? | Maintenance? | Authorize All? | Action |
|----|-----------|---|----------------|--------------|----------------|---|
| 1 | admins |  | ✓ | ✓ | ✓ | |
| 2 | Fab Staff |  | × | ✓ | ✓ | Edit Delete |
| 3 | Fab Users |  | × | × | ✓ | Edit Delete |

Maintenance = The user can perform maintenance by tapping the card on machine board

Authorize all = User can use any machine in any state. This also bypasses the authorization. This can be useful in an initial phase where all fablab users can use any machine in any state.

Backend admin = User can logon to the backend web interface with its email address. On first access, he needs to receive first a new password by an admin with the Users page.

Reserved = Roles that cannot be deleted.

[Add new role](#)

Add Role

Role Name:

- ☐ Can admin backend
- ☐ Can perform maintenance
- ☐ Authorize all

[Add Role](#)

See Roles page for flag description.

Edit existing role

Edit Role

Role Name:

Fab Staff

- ☐ System reserved
- ☐ Can admin backend
- ☒ Can perform maintenance
- ☒ Super user

Update Role

Users

Users are identified by their RFID card ID. There is no strong authentication of RFID cards in the Arduino board, only chip ID read.

View

This page shows the users and unrecognized RFID tags, and allows several actions:

- Adding new users, editing/disabling them. A disabled user cannot perform any action on the machines, but can still logon to the interface
- Deleting users. In this case the user cannot logon to the webbackend.
- Convert a badge to a new user: this is mainly to simplify the initial database creation where the fablab users may not be registered. Once the user is created, the corresponding rejected RFID card records will be purged.

Users

List of machines and web interface users

Add User

| ID | Name | Surname | Role | Card UUID | E-mail | Disabled? | Action |
|----|--------|---------|--------|-----------|------------------------------------|-----------|-----------------------|
| 1 | admin | admin | admins | 12345678 | admin@fablag.org Password reset | | <div>EditDelete</div> |
| 2 | Admin2 | Test | admins | DEADBEEF | | | <div>EditDelete</div> |

List of rejected RFID cards

| Machine | Card UUID | Time of attempt | Action |
|----------|-----------|---------------------|--------------------------------|
| MACHINE1 | 4ABCDEF0 | 2024-01-25 04:00:00 | <div>Convert to new user</div> |
| MACHINE1 | 1ABCDEF2 | 2024-01-10 04:00:00 | <div>Convert to new user</div> |

Edit existing user

This allows to change user rôle, name, email or card UUID.

Edit User

Name:

admin

Surname:

admin

Email (required for backend admins):

admin@fablag.org

Role:

admins

☐ Tick to disable user

Card UUID:

12345678

Please enter either 8 hexadecimal characters or leave it empty.

Update User

Add new user

This page is reached by « Add User » button or « Convert to new user » button on the main page.

Add User

Name:

Surname:

Email (required for backend admins):

Role:

Card UUID:

☐ User is disabled

Add User

Please note :

- Card UUID is displayed on the arduino LCD when tapping an unknown card.
- When converting a unknown card, the Card UUID field is automatically filled

Machines


This is the list of machines. Every machine has a unique ID. The Arduino Board is uniquely linked to a machine thanks to the ID field.

View machines

Machines

Use this page to view and configure FabLab machines.

Add Machine

| ID | Name | Machine type | Cumulated usage | Blocked for all? | Maintenance plan | Last seen | Actions |
|----|----------|--------------|-----------------|---|------------------|-----------|--|
| 1 | MACHINE1 | Default type | - |  | | - | View history Edit Delete |

Description :

- Cumulated usage : hours of power on by users. This is not reset.
- Maintenance plan : list of maintenance procedures to be applied to the machine
- Last seen : when an arduino board has last trasmitted the status of the machine.

View History button : view the latest uses of the machine

Edit machine

Allows to change machine attributes. The machine name is acquired by the arduino board every minute in case of changes.

Blocked for all : this blocks any user to log on the machine except for user having « authorize all » rôle privileged.

Edit Machine

Machine Name:

Machine Type:

Cumulated hours:

☐ Blocked for all?

Update Machine

Add machine

Same as Edit Screen.

Add Machine

Machine Name:

Machine Type:



Machine Hours:

☐ Blocked:

Add Machine

Authorizations

Authorizations maps users to machines. If a user belongs to a rôle with «Authorize all », the authorizations list is ignored. This can be useful if the FabLab does not want to implement authorization for fab users.

View authorizations

The list of authorization by machine and users can be filtered.

FABLAB Users Machines Authorizations Maintenance Interventions History Roles Machine types Logout

Authorizations

Add Authorization...

Add in bulk...

Filter Users:

--Select User--

Filter Machines:

--Select Machine--

Apply Filters

| ID | User | Machine | Action | |
|----|-------------|----------|--------|--------|
| 1 | admin admin | MACHINE1 | Edit | Delete |
| 2 | Admin2 Test | MACHINE1 | Edit | Delete |

Description :

- Add Authorization : to add a record for a single user on a single machine
- Add in buli : to quickly add authorizations for many users on a single machine

Add authorization

Add Authorization

User

Mario Rossi

Machine

LASER 1

Add Authorization

Edit authorization

| |
|---------------------------------------|
| FABLAB |
| <h3>Edit Authorization</h3> |
| User |
| Mario |
| Machine |
| LASER 1 |
| <button>Update Authorization</button> |

Add in bulk

Use this screen to add permissions. To remove permissions, you have to use the main screen Delete button.

First select the machine, then the users or the « Add all users.. » button.

Bulk Authorization

Only the checked users will be authorized for the chosen machines. Unselected users will keep their current authorizations.

Select Machine:

MACHINE1

Select Users:

☒ Add All users...

☒ admin admin

☒ Admin2 Test

Bulk add authorizations

Maintenance

This is for regular maintenance which shall be triggered every X hours of use.

[View](#)

Maintenances

This system page configures the possible maintenances actions of the machines

[Add Maintenance](#)

Hours Between: 10.0

Description: replace engine

Machine : LASER 1

Edit

Delete

Hours Between: 10.0

Description: replace brushes

Machine : PRINTER 1

Edit

Delete

[Edit](#)

Edit Maintenance

Hours Between:

10,0

Description:

replace engine

Machine:

LASER 1

[Update Maintenance](#)

[Add new maintenance](#)

Add Maintenance

Description of maintenance:

Machine to maintain:

LASER 1

Number of use hours to trigger:

Attachment: Nessun file scelto

[Add Maintenance](#)

Interventions

View

Interventions

This is the list of performed maintenance actions on the machines.

Add Intervention

| Intervention ID | Maintenance | Machine | User | Timestamp | Action |
|-----------------|-----------------|-----------|--------|-----------------------|-----------------------------------|
| 1 | replace engine | LASER 1 | Mario | May 28, 2023 10:39 AM | <div>Edit</div> <div>Delete</div> |
| 2 | replace brushes | PRINTER 1 | Andrea | May 28, 2023 10:39 AM | <div>Edit</div> <div>Delete</div> |

Add manually

Interventions will be created automatically by tapping the card on the machine board, but can be added manually if the maintenance was done offline.

Add Intervention

Maintenance:

replace engine

Machine:

LASER 1

User:

Mario

Add Intervention

Edit interventions

FABLAB

Edit Intervention

Maintenance:

replace engine

Machine:

LASER 1

User:

Mario

Update Intervention

Usage History

Search page for machine usage history

User:

Machine:

Start Time:

| Use ID | User | Machine | Start Time | End Time | Duration (minutes) | Action |
|--------|-------|-----------|-----------------------|-----------------------|--------------------|---------------------------------------|
| 1 | Mario | LASER 1 | May 28, 2023 10:55 AM | May 28, 2023 10:57 AM | 2.0 | <input type="button" value="Delete"/> |
| 2 | Mario | PRINTER 1 | May 28, 2023 10:55 AM | May 28, 2023 10:57 AM | 2.0 | <input type="button" value="Delete"/> |
| 3 | Mario | LASER 1 | May 28, 2023 10:55 AM | May 28, 2023 10:57 AM | 2.0 | <input type="button" value="Delete"/> |

If a machine is in use, row is highlighted :

Usage History

Search page for machine usage history

User:

Machine:

Start Time:

| Use ID | User | Machine | Start Time | End Time | Duration (minutes) | Action |
|--------|-------|---------|-----------------------|--------------|--------------------|---------------------------------------|
| 1 | Mario | LASER 1 | Dec 24, 2023 11:03 AM | Still in use | In use | <input type="button" value="Delete"/> |

Machine types

View

Machine Types

This page defines the categories of machines in the LAB.

[Add Machine Type](#)

| ID | Machine type | Auto-logout | Action | |
|----|--------------|-----------------|----------------------|------------------------|
| 1 | LASER | 1000 min | Edit | Delete |
| 2 | 3D PRINTER | <i>disabled</i> | Edit | Delete |
| 3 | DRILL | 1440 min | Edit | Delete |

Description :

- Auto logout delay : if a user remains active more than X minutes on the machine, the arduino board will log him off. When set to 0, there is no log-off.

[Add/Edit](#)

Edit Machine Type

Type Name

LASER

Auto-logout delay

(minutes)

1000

[Submit](#)

Technical details

- <https://github.com/fablab-bergamo/rfid-backend>
- Flask python application + MQTT client

TODO/MISSING

- PDF upload for maintenance procedures

