Swarmlab quick-start guide!

Welcome to the vast world of Swarmlab!

Swarmlab is a powerful collaboration tool that connects tutors and students in a unique all-in-one environment that gets work done fast and easily.

In other words Swarmlab is the way to make your learning fun while at the same time getting to your goals faster!

But let's get you started...

Note: These instructions are general targeted at both students and tutors.

If you wish to skip to the specific instructions for tutors (lab creation, student invitation etc) click here.

⚠️ "General info WILL NOT be repeated so if you have basic questions regarding registration or labroom usage please read on from here.

1. The first steps

Before you have all of the powerfull tools of Swarmalb at your grasp you will have to create an account.

To do that navigate to the home page at https://api-client.swarmlab.io:8088

You should have been greeted by our login screen!

[login] | *images/registration/login.png*

To register click on the 'login with sso' option and accept the terms.

[terms] | *images/registration/terms.png*

Now you should be redirected to the login screen and you should be able to use the 'register' option at the bottom to make a new account!

[login main] | *images/registration/login_main.png*

Now fill in the required details

[register details] | *images/registration/register_details.png*

and follow the remaining instructions to activate your account.

Now that your acount is ready, lets get to know Swarmlabs main page.

2. The main page

Once loaded the main page should look like this:

[main page] | *images/run/main_page.png*

On the left we can see that there are two areas inside swarmlab:

1. the dashboard where our services live

2. the 'mylab' tab from which we can control our labrooms.

The dashboard page is pretty straight forward:

1. The left list shows all the available services and allows you to run them.

2. The other shows the available lab rooms and allows you to interact with them (p.e. subscribe).

With that out of the way lets enter the heart of our platform, 'my lab'!

3. My Lab

Nested under 'mylab' are both creation tools (bootstrap) and execution tools (run).

4. The run menu

Inside the run menu there are three areas:

1. 'Rub lab instance'

2. 'Enter lab room'

3. the console

As the names suggest we can use the first to **run** one of our available lab instances, the second to **enter** a created labroom, and the third to **execute** scripts.
Lets look at the options one by one.
For the purpose of this walkthrough 'testmpi2' and 'test 18' were created.
Since the console is explained along with the first area we dont feel there is a need to have seperate walkthrough.

4.1. Run lab instance area

4.1.1. Creating a lab

To create a lab instance simply add a repo to your git!
You will then be able to locate that repo inside the instance list and run it.
For more info on this please refer to the Bootstrap chapter here !

4.1.2. Running a lab instance

First we have to select the lab we want to run. To find a specific lab we can use the search bar at the top.

[lab instance list] | *images/run/lab_instance_list.png*

After we have located the desired lab we can run it by using the cloud icon. image::images/run/cloud_icon.png[]

To request more info about the lab we use the info icon image::images/run/info_icon.png[] and the trashcan image::images/run/trash_icon.png[] deletes the lab (forever).
Carefull, forever is a long time!

So lets go back to running the lab. After clicking on the according icon we should be redirected to the execution screen.

[execution screen] | *images/run/execution_screen.png*

Here we can use the command line on the bottom to execute the required commands. Our results will be visible in the console above.

[ls results console] | *images/run/ls_results_console.png*

Note that you can choose to use the editor of your liking from the drop down menu.

For more complicated tasks that may require responsivines from the machine you can use the terminal option to open a full-blown unix command line.

4.2. Enter lab room area

This is the area where you will find the available labrooms created by tutors and join the desired one.

4.2.1. Browsing labrooms

You can easily browse throught the available labrooms in the list using the search bar at the top.

[lab room list] | *images/run/lab_room_list.png*

You can get more info about a specific labroom by clicking the info button image::images/run/info_icon.png[].

[info poppup] | *images/run/info_poppup.png*

Active labrooms are indicated using a green color while closed ones with orange.

4.2.2. Entering a labroom

Once you have found the labroom you were looking for you can enter by simply clicking on the cloud icon [cloud icon].

You should see a screen as follows:

[password big] | *images/run/password_big.png*

The passwords are randomly generated and you can use them to connect to your lesson (see picture bellow).

[password user] | *images/run/password_user.png*

If the tutor is sharing his screen you can watch by clicking on the according button and using the respective password.

[password tutor screen] | *images/run/password_tutor_screen.png*

Now, under the password area there are three other options:

'Meeting' image::images/run/meeting_button.png[]

> Here you can join a meeting with your group (this will redirect you to a jitsi implementation). For more visit https://jitsi.org/

'Gui' [gui button]

> This loads a graphic unix environment.

'Console' image::images/run/console_button.png[]

> This loads a unix terminal.

By now it should propably be clear how to run a lab from the list or enter a labroom.
But you are propably wondering 'My list is empty how am i supposed to run labs from it?!'
Well here is where the final but most basic menu comes into play: **'Bootstrap'** !

5. Bootstrap

[bootstrap main] | *images/bootstrap/bootstrap_main.png*

Here we can create and add labs to our list. To do so we have to go through a series of steps, but lets first understand some basic things about how swarmlab works...

> Every swarmlab lab instance resides in a git repo created inside our git and owned by the lab creator. This repo then serves as a 'home' for all the work inside that lab.
> So for us to create and run a lab we have to link a service to a git repo.

Asuming we have an account (using the same email as our swarmlab account!) all our repos should be shown on the list in the top left corner.
To search for any public repo we can use the search bar.

[test search repo] | *images/bootstrap/test_search_repo.png*

From that list we can now select the desired repository that we want to use by clicking on the plug icon. image::images/bootstrap/plug_icon.png[]
We can use any repo we like, but we will be able to commit only to those that we have access to.
If we wish to edit or contribute to the development of a project we are not part of we can use the clone option as usual!

Now we have to select the service that our lab will be using. We just select the desired one from the list on the right and it will be automatically linked to the project.

[service select] | *images/bootstrap/service_select.png*

Finally we have to save the lab instance by filling in the required info at the bottom.

[save lab details] | *images/bootstrap/save_lab_details.png*