

Swarmlab quick-start guide!

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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 account is ready, let's 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 let's 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. 'Run 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.

Let's 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 don't feel there is a need to have separate

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 responsiveness 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 through 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 popup] | *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.

Assuming 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*

6. Tutors

Tutors have access to an extended 'my lab/bootstrap' page where they can create labrooms from existing lab instances.

To do so we have to scroll all the way down whilst on the Bootstrap page.

There we should find two menus, 'My labrooms' and 'Bootstrap Labroom'

7. 'My labrooms'

[my labrooms] | *images/for_tutors/my_labrooms.png*

Here we can see a list of all the labrooms programmed to run today. Again like in the run tab we can distinguish open from closed ones by color (green/orange).

[todays labrooms] | *images/for_tutors/todays_labrooms.png*

We can also get info using the info icon *image::images/for_tutors/info_icon.png[]* or delete the labroom using the trashcan icon *image::images/for_tutors/trash_icon.png[]* .

To search for a specific labroom we can use the searchbar at the top.



The delete command is **FORCED** even if the labroom is running!!!

8. 'Bootstrap Labroom'

Now lets see how we can bootstrap a new labroom using one of our lab instances. To do that lets navigate to the respective tab that should look like this:

[bootstrap labroom] | *images/for_tutors/bootstrap_labroom.png*

Here we can select the desired (existing!) lab instance that will be used to create the labroom using the plug icon image::images/for_tutors/plug_icon.png[].

[lab instance choose] | *images/for_tutors/lab_instance_choose.png*

Then we have to specify starting date and time and also set the duration for which our lab room will be open.

[timeframe selection] | *images/for_tutors/timeframe_selection.png*



You can only start a labroom every whole or half hour (p.e. 12.00 or 14.30) and never inbetween so please plan ahead!!

Also note that the duration cannot be greater than three hours since we consider that the maximum for any type of lesson!

Now using the searchbar that follows (you HAVE to search for students for them to come up) we search and select (image::images/for_tutors/plug_icon.png[]) the students that we want to invite to the lesson.

Note that only students that have subscribed to our labroom will be available for invites to avoid confusion!

[student selection] | *images/for_tutors/student_selection.png*

After selecting all the desired students we have to fill in the last details at the bottom of the page. Please give concise titles and good descriptions to your labrooms!!

[bootstrap details] | *images/for_tutors/bootstrap_details.png*

Now we shall check and upon making shure that everything is right we click the 'bootstrap your lab' button!



Bootstraping is final and no further edits are allowed!!