SwarmLab.io !

Πίνακας περιεχομένων

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The followin HowTo shows how services are used in swarmlab.io!

1. What is swarmlab.io?

A Lab management and orchestration tool that provides On Demand Lab Instances.

Lab Instances are services that run your project in a particular programming enviroment.

The swarmlab.io consists of a main **Git Service** and a **Web-based interactive Lab environment.**

1.1. Git service.

git.swarmlab.io is a painless self-hosted Git service.

It is similar to GitHub, Bitbucket, and GitLab.

https://git.swarmlab.io:3000 - uses **Gitea**.

1.2. Web-based interactive Lab environment

https://api-client.swarmlab.io:8088 - **api-client.swarmlab.io is a web-based interactive development environment for On Demand Lab Instances**

1.3. Purpose

The goal of this project is to provide the easiest, fastest, and most painless way of using a LAB and its services and technologies.

2. Docs

2.1. HowTo-register

2.2. HowTo-create Repo

2.2.1. Repo Directory_Structure_4_Lab_Instance Service

Lab_Instance service first clone your Repo and then automatically loads certain files based on a known file structure.

Directory_Structure

```
swarmlab/
├──── Makefile
├──── ..
└──── ..
```

You need a file called a **Makefile** to tell make what to do. The makefile tells make how to compile and link a program, it can also tell make how to run miscellaneous commands when explicitly asked (for example, to remove certain files as a clean-up operation)

Makefile is executed with the make command, e.g.

make all

```
if [ -d swarmlab ]; then
  cd swarmlab
  make all
fi
```

Makefile

Lab_Instance dependencies. **"Makefile"** allows you to automatically pull-in other dependencies when using a Lab_Instance service.

This file should contain a list of tasks and parameters to insert before the specified repos are executed on Lab_Instance and a list of tasks to be executed by the Lab_Instance service.

example

```
all: hello_world generate clean

hello_world:
        @echo "Hello World"

generate:
        @echo "Creating empty text files..."
        touch file-{1..10}.txt

clean:
        @echo "Cleaning up..."
        rm *.txt
```

more info Gnu make

A simple example can be found here

2.3. HowTo-create_and_Run Lab_Instance

3. The Lab Instance Interface

3.1. Main Interface
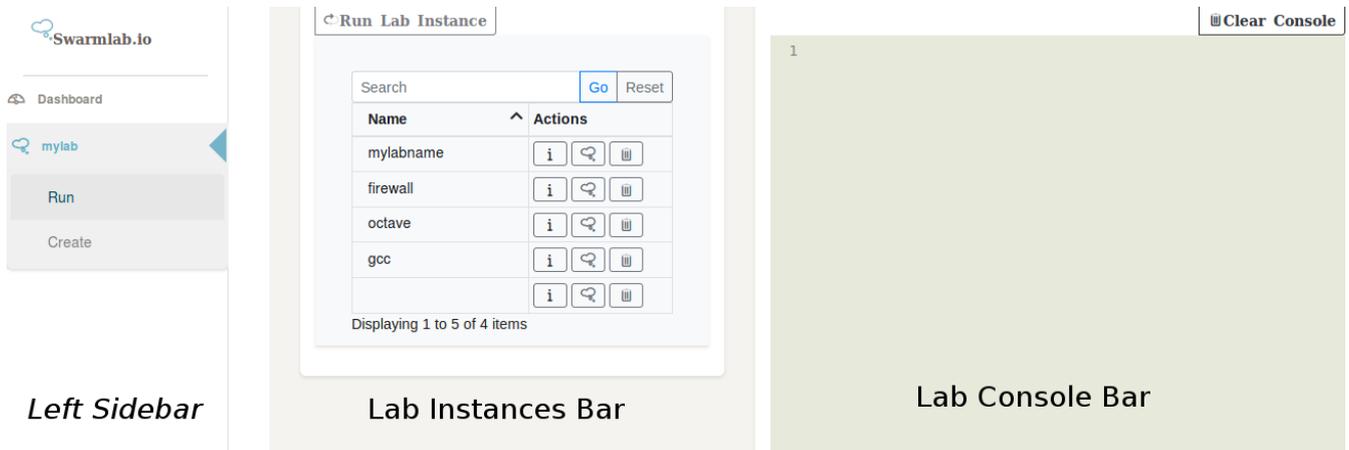
Figure 1. Main Interface

# 3.2. **Main Lab Intance Interface**
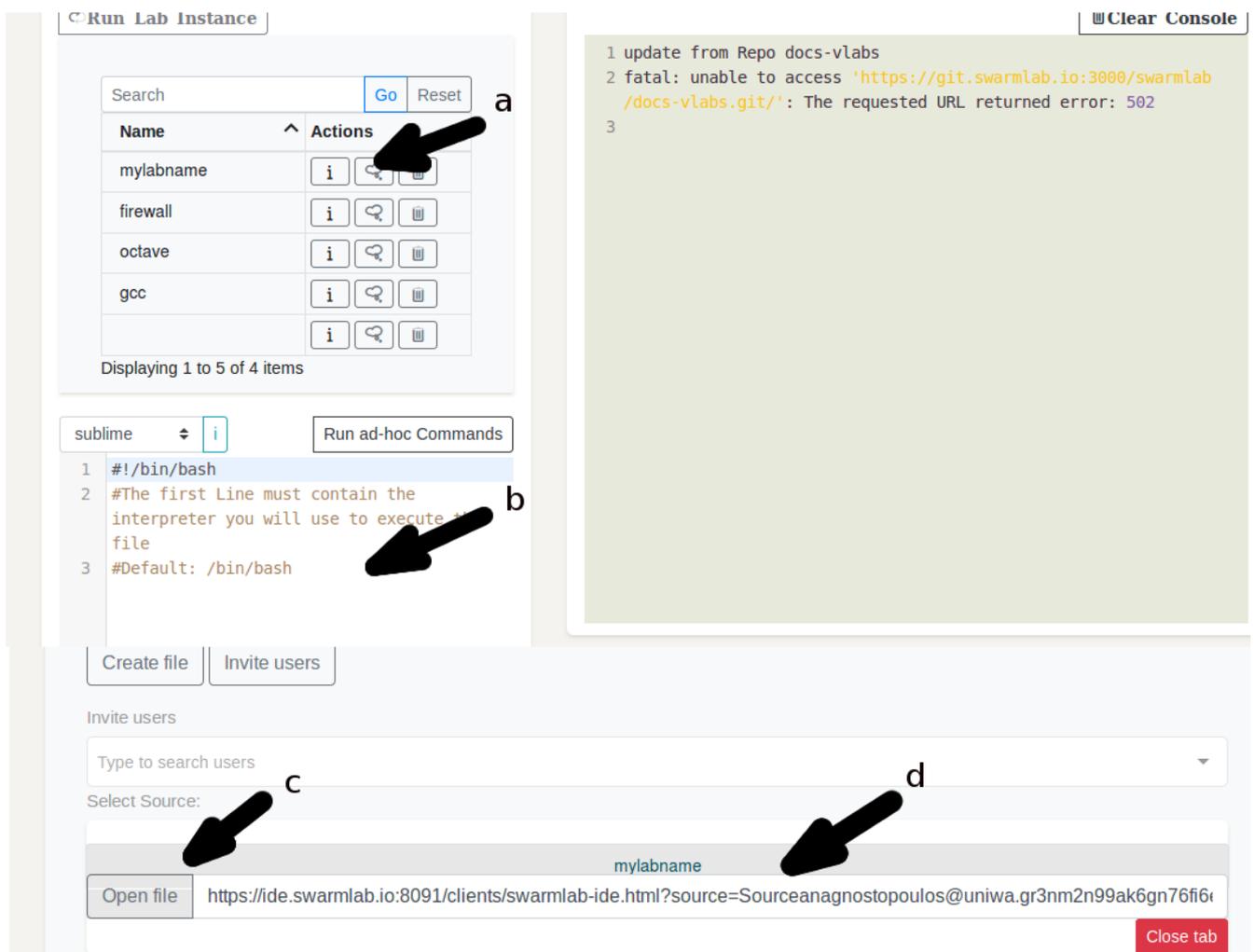
Figure 2. Lab Instance Interface

The default menus are:

- **a)** Run your project in particular Lab
- **b)** Terminal provides full support for system shells (bash, tsch, etc.). You can run anything in your system shell, including languages such as php, perl, python etc. The terminal runs on the Lab Instance with sudo rights.

- **c)** Opens a collaborative text editor. The text editor includes syntax highlighting, key maps and basic theming. It can also be used as a terminal with **console output**. It includes a basic **chat** room enviroment.

- **d)** Link to invite users. The "Invite users" function is not available yet, you will have to e-mail it by your self! :-)

> **i**   **b, c, d** only appear after you click on a Lab Instance

3.3. Editor Interface

3.3.1. Open Editor
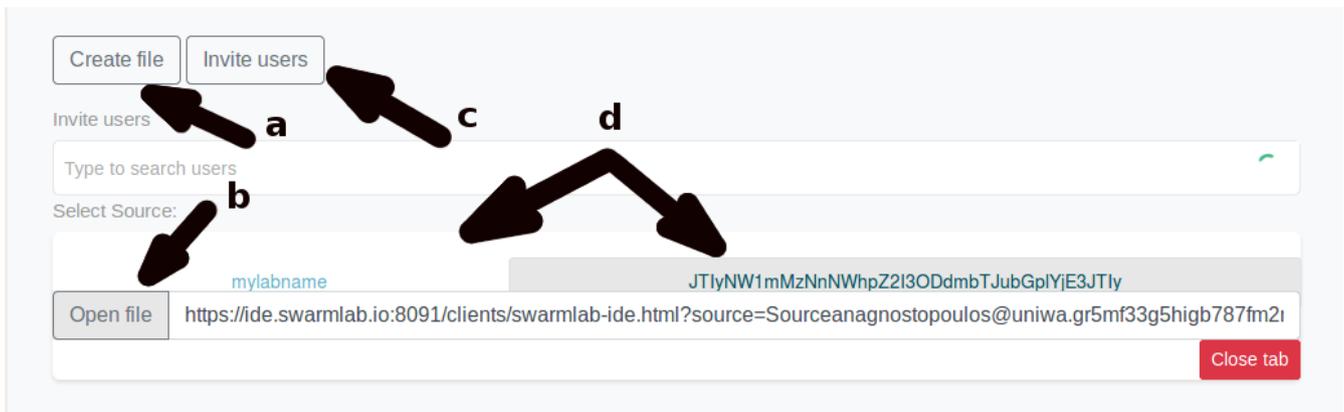
Figure 3. Open Editor

The default choisses are:

- **a)** Create a new file and chat session.
- **b)** Open text editor interface.
- **c)** Inivite users
- **d)** File tabs

> **i**   • Run code on Lab Instance** is only available on Lab Instance creator - When you click on "Open File" button not in URL

3.3.2. Basic Editor Interface

Figure 4. Basic Editor Interface
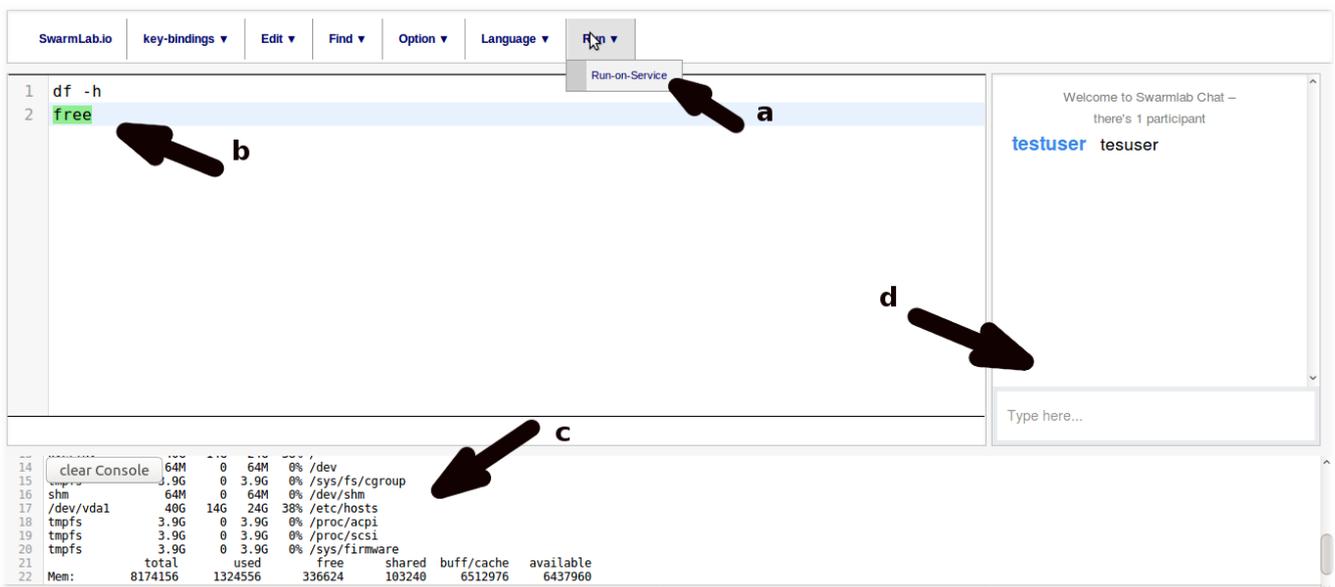
Figure 5. Editor Interface

The default menus are:

- **a)** Run your code in particular Lab Instance. You can run anything, including languages such as php, perl, python etc. The code runs on the Lab Instance with sudo rights.

- **b)** The text editor includes syntax highlighting, key maps and basic theming. It can also be used as a terminal with **console output**.

- **c)** Lab Instance Console

- **d)** A basic **chat** room session.

> **a,** only available on Lab Instance creator

3.3.3. Language Menou
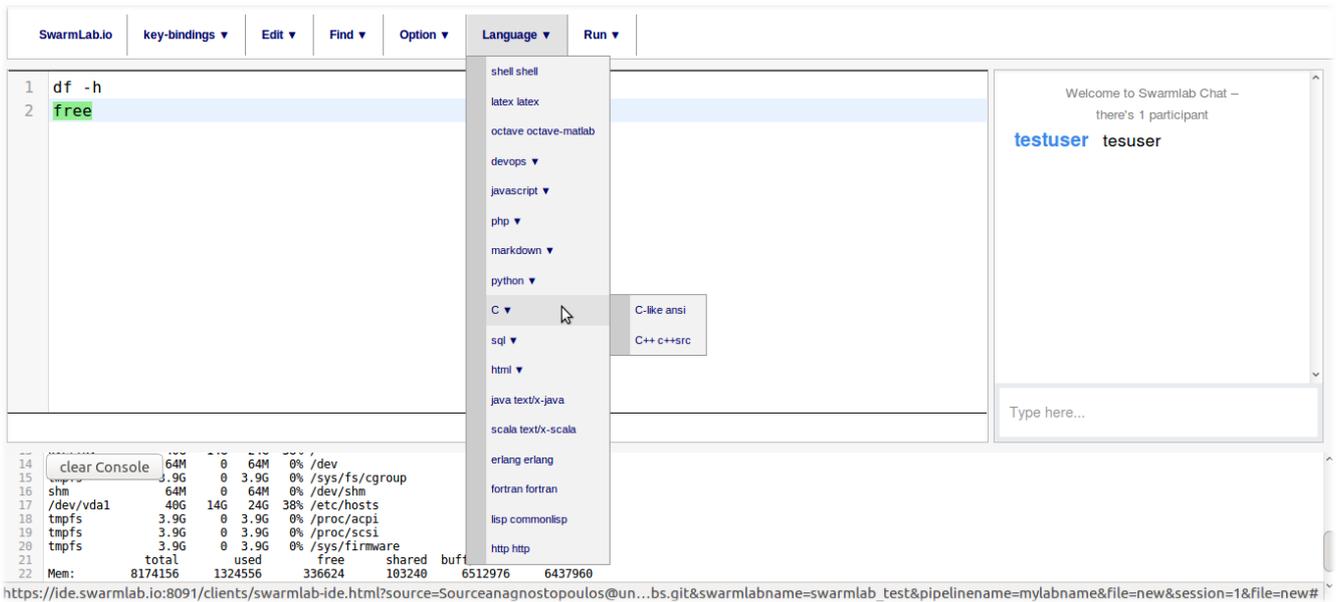
Figure 6. Language Menou
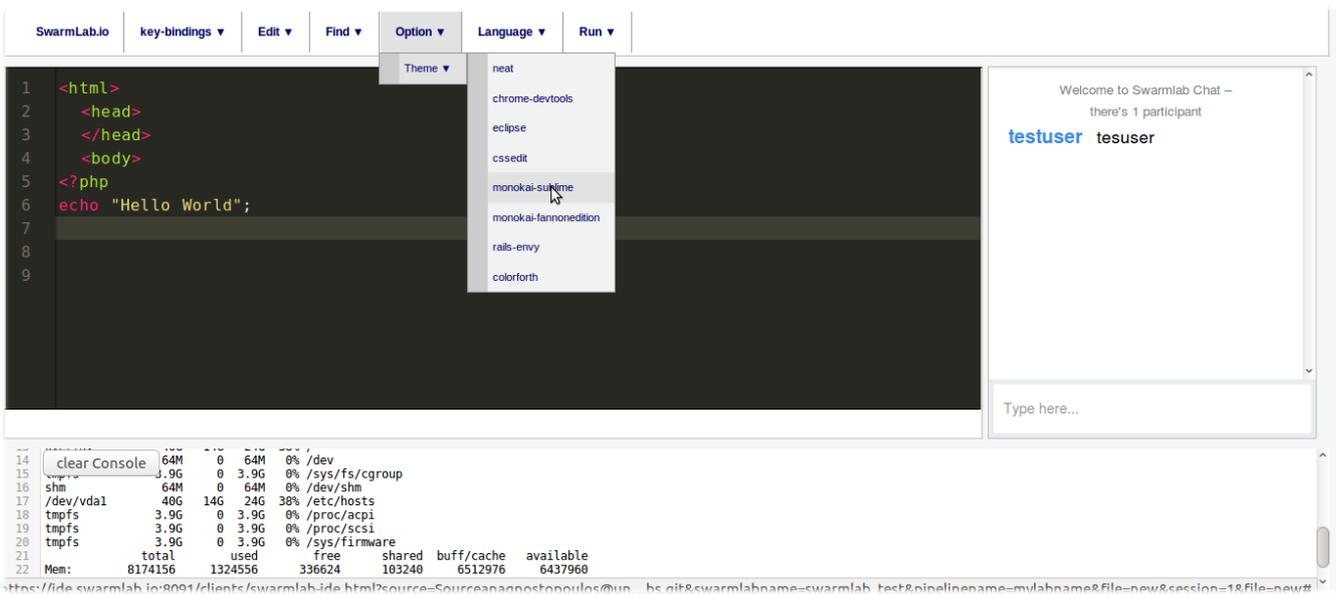
3.3.4. Theme Menou

Figure 7. Theme Menou
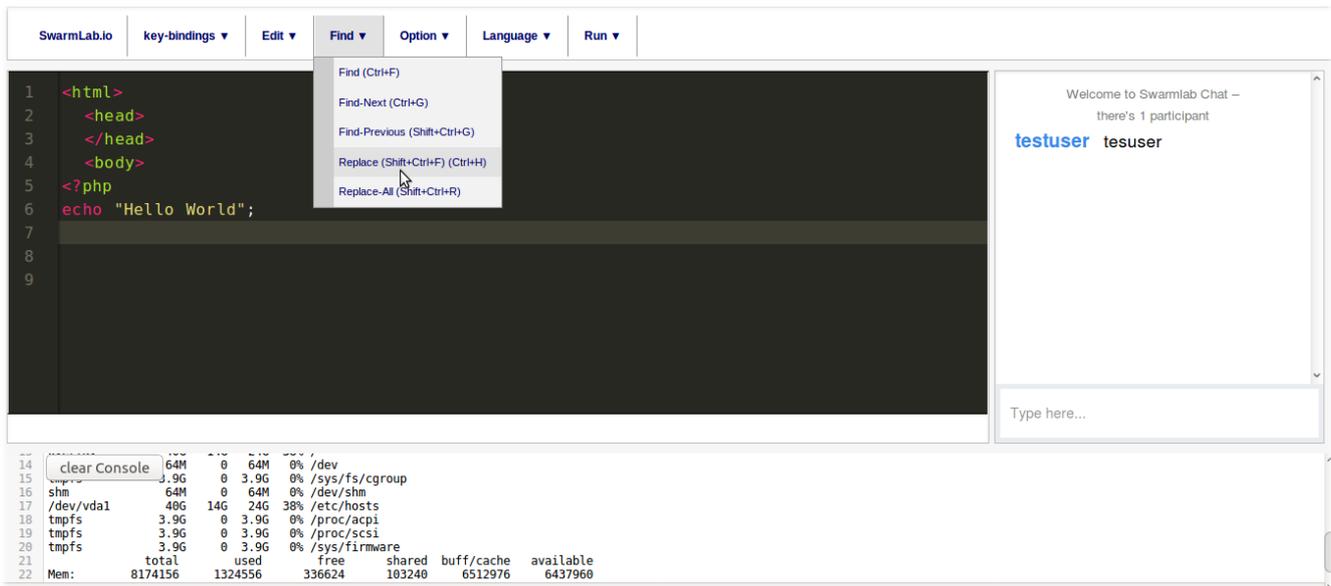
3.3.5. Find Menou

Figure 8. Find Menou

3.3.6. Edit Menou
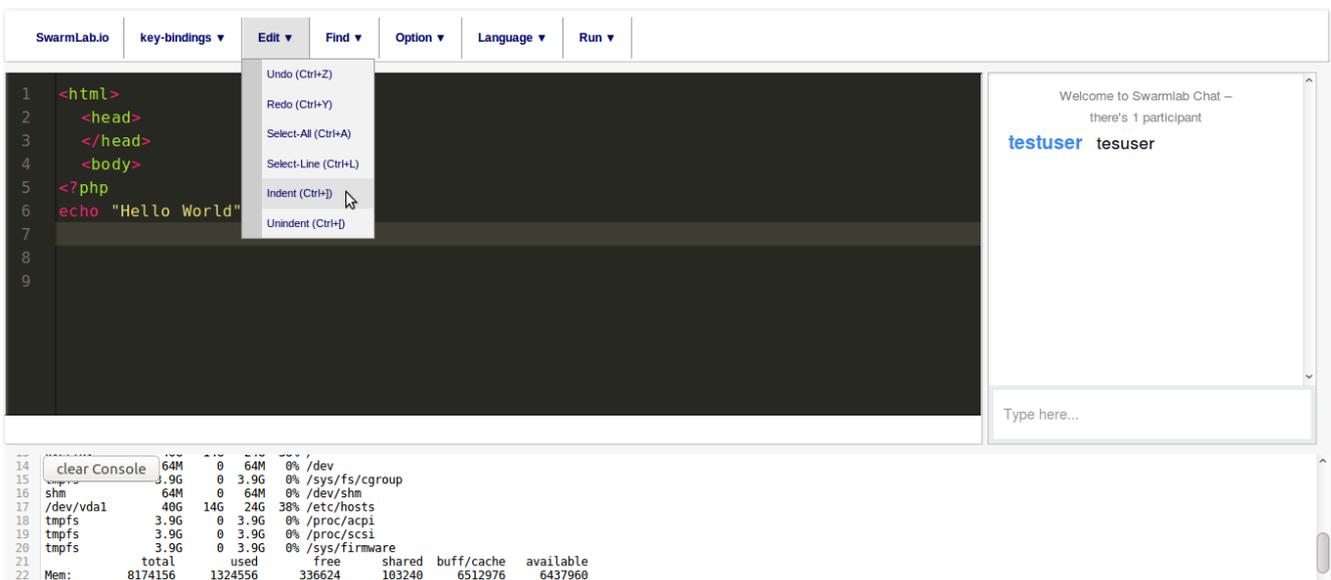
Figure 9. Edit Menou

3.3.7. Key-binding Menou
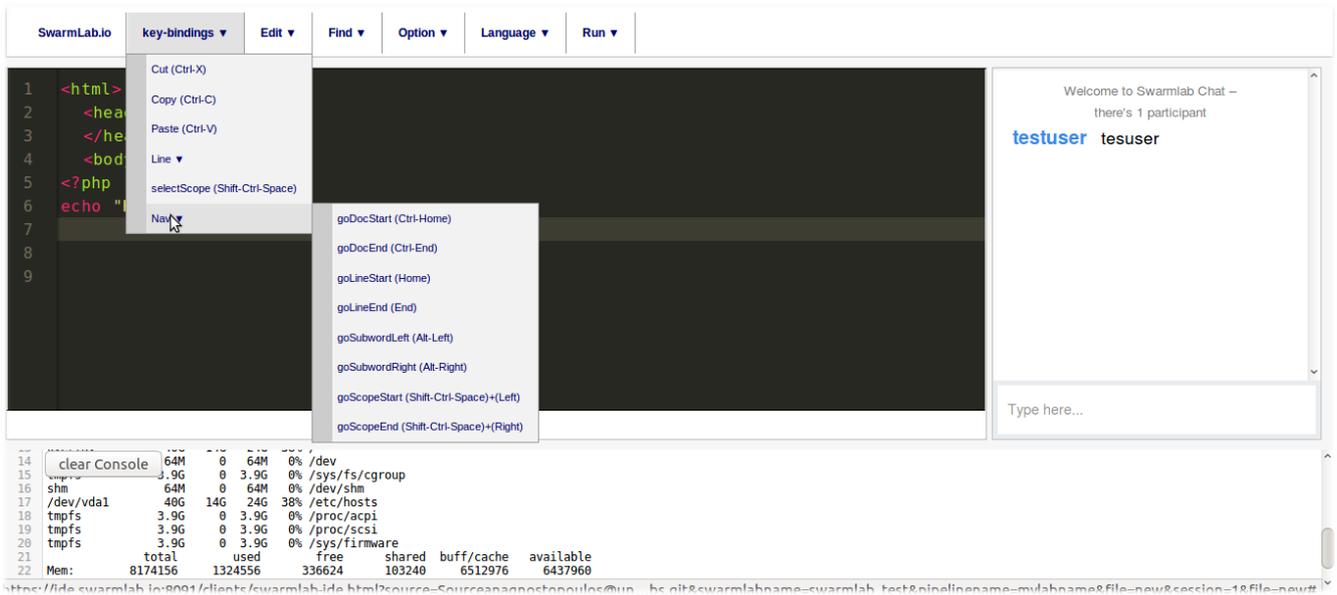
Figure 10. Key-binding Menou

4. HowTo-Use our Labs with noVNC

5. Terms

Terms of Service

6. Legal Disclaimer and Notices

before you continue.

> ℹ   Using swarmlab.io confirms that you agree to both documents.

7. Feature request

Have a new idea for us?

Please contact us.

apostolos swarmlab.io