

Things to keep in mind

- 3mE education is not convinced Vocareum doesn't meet the needs of our students. If we want something different than Vocareum we have to make the case why that different thing is beneficial for the students.

Things we cannot do with Vocareum Labs

Use this section to list the educational thing you want to be able to do that is not possible to do with Vocareum.

- An MSc student working on their graduation project should be able to log into a persistent hub for the duration of their project and have access to a general suite of OSS tools that they learn in their courses (and more).
- An MSc student working on their graduation project should have access to reasonably powerful computing resources (CPU, cores, ram, disk) for real world problems. "Reasonably powerful" would need to be defined, but it should be much more than their personal laptop provides.
- Students should be able to log into a JupyterHub that has an identical software environment as the instructor during class for in-class programming activities.
- An MSc student should be able to use the conda package manager to install and manage scientific software because it offers some technical advantages. Vocareum does not make this package manager available.
- Vocareum does not offer 24/7 support and is located in California (9 hour time difference), so the support has a time lag that isn't suitable for our timezone.

Big picture reasons why Vocareum is not preferable

Use this section to indicate more general reasons Vocareum may not be a good choice for the University (reasons that don't fit the above).

- Vocareum may be violating student privacy rights by hosting the data in the USA. It isn't clear that the data has been migrated by the start of the contract.
- Vocareum does not contribute resources back into the open source software projects it uses for its business. This does not align with TU Delft's commitment to supporting Open Science.

Advantages of using Vocareum Labs

- LTI connection with Brightspace is already developed and assignments synchronize between Vocareum labs and Brightspace. There are no open source LTI connectors from Jupyter grading tools to Brightspace yet.

Advantages of a general use 3mE Education JupyterHub

- System administrators would handle maintenance of software installation and upgrades, relieving the instructors from this task.
- More autograding services can be supported such as okpy, otter grader, nbgrader+ngshare.

Additional features from Vocareum

In this section, list any features that Vocareum offers that we currently do not have access to that you want to have access to. List the feature and why you'd need/want it.

- Vocareum is running containers with Ubuntu 16.04 LTS, which is no longer supported by Canonical. Options to use supported versions of Ubuntu should be present (18.04, 20.04, upcoming 22.04). Jupyter is also running on Python 3.5 which is also non longer supported. Both Ubuntu and Python should be running on supported versions. The reason is that software should be up-to-date for security reasons and ease-of-use.