Omics Integration and Systems Biology Workshop

Oct 14 – 18, 2024

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National Bioinformatics Infrastructure Sweden (NBIS)

Consultations

Future compute infrastructure

Compute projects
Software and databases

Training

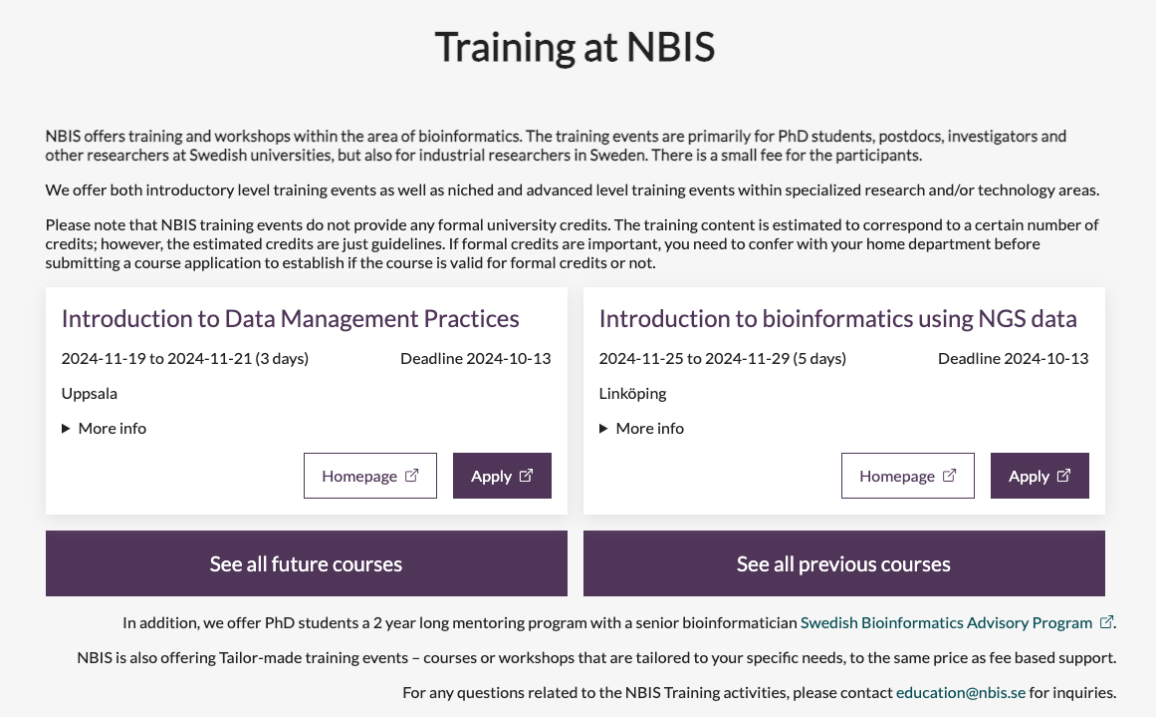
Data publishing and open science
Secure sharing of sensitive data

Efficient tools and workflows

Research support

Need help from NBIS?

- Drop-in sessions at all universities (now online) 14.00 Tuesdays
- Consultations
- Courses
- Support:
  - Long-term support (Peer reviewed)
  - Fee-for-service support, hourly fee
  - Partner projects
- Data management
- PhD advisory program



http://www.nbis.se/

NBIS OISB Workshop – 2024

OISB 2024 Teachers and TAs

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Sergiu Netotea

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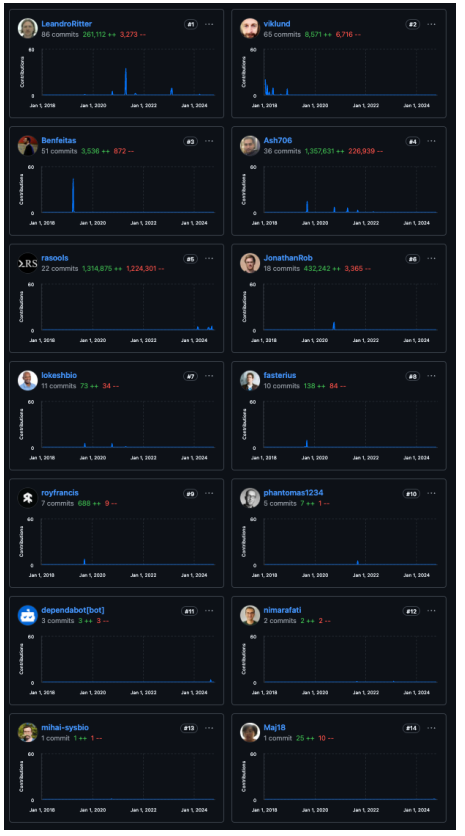
Contributors



NBIS OISB Workshop – 2024

For information about the course
please check the course website

Omics Integration and Systems Biology

Omics Integration and Systems Biology Workshop, 2024

Github repository

Course canvas homepage.

Contact `nikolay.oskolkov@scilifelab.se` or `rasool.saghaleyni@nbis.se` for questions.

Course information can be found under the following pages:

- Practical information
- Schedule
- Reading materials
- Pre-course preparation
- Invited speakers
- Contact

https://nbisweden.github.io/workshop_omics_integration/

For communication during the course
please use the course slack

https://join.slack.com/t/omicsintegrat-oou8386/shared_invite/zt-2qke3cai9-LyaWeaN8ZPBoq0cED~dmFQ

Practical's structure

https://hub.docker.com/repository/docker/rasoolsnbis/omicsint_h24/tags

Docker

Conda

Data

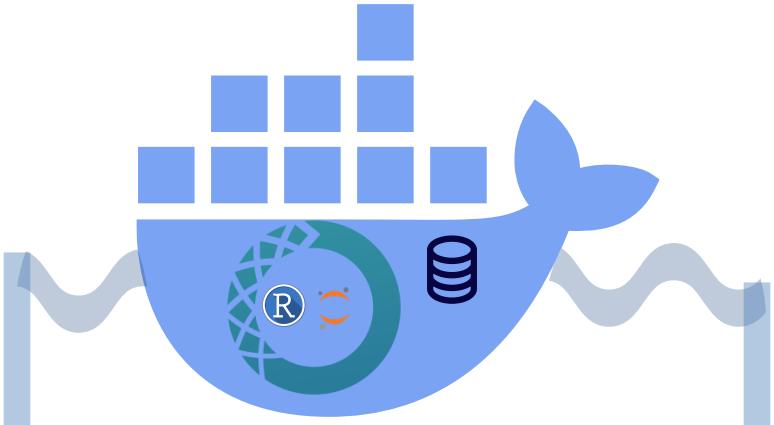
We are testing!

BETA

Scilifelab Serve

6 CPU + 12 GB RAM

Plan B



Local machines

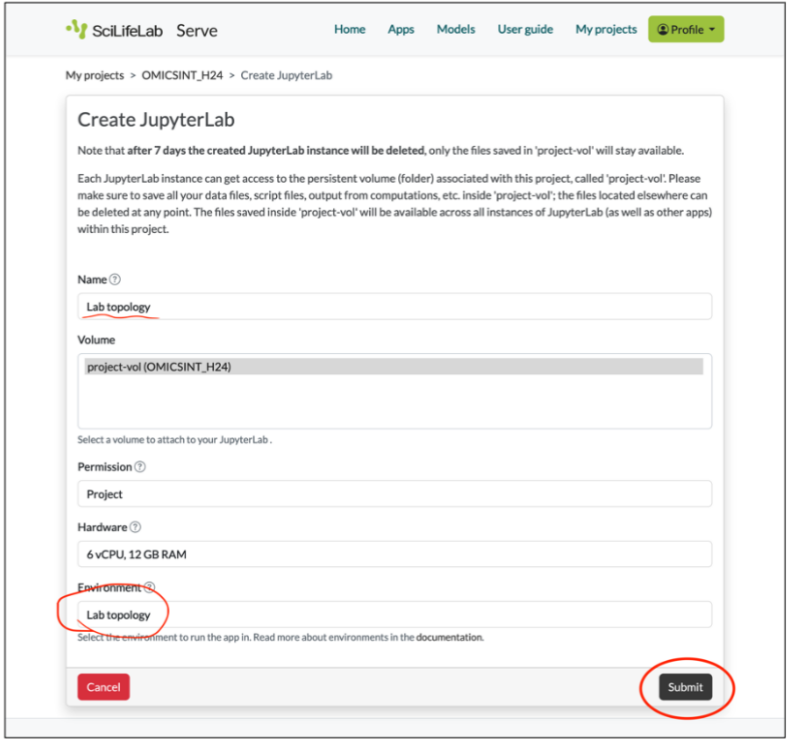
Running practical

1- Go to https://serve.scilifelab.se and Log in with your account.

2. Go to *My projects* from the main menu. You should see a project called OMICSINT_H24 there. Click *Open*.

3. To launch a particular lab, you first need to know if it is a Jupyter or Rstud on the button *Create* under a corresponding lab type.

4. You will now see a form to create a lab. Under Name put the name of the lab, under Environment select the lab name. Leave the rest of the fields unchanged. Now lick Submit.



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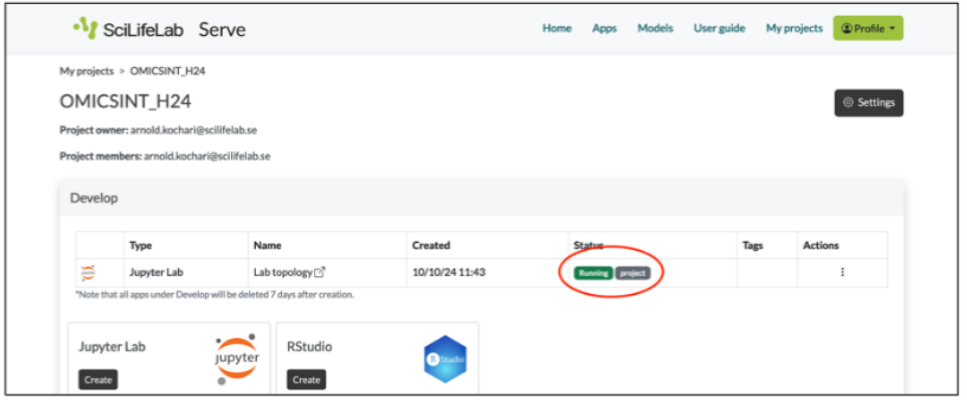
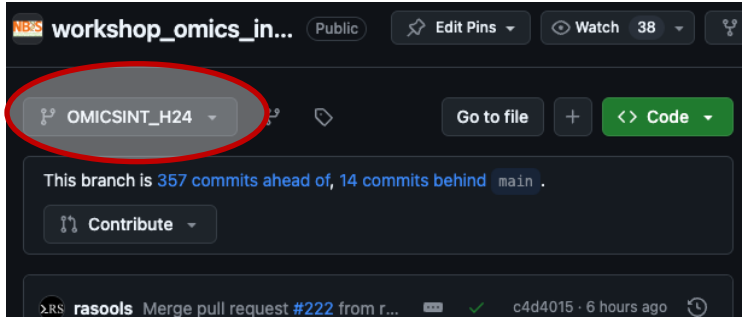
5. The lab will now be created for you. Wait a few minutes to see the status “Running” in green. You can now click on the lab name and open the lab.
If the status does not turn to “Running” within 5 minutes click on the three dots under Actions, click on “Delete”. Wait a few minutes until you see the status “Deleted”. Now you can refresh the page and start over.



The code

All code for the exercises is available as R-markdown documents, or Jupyter notebooks, in the GitHub repo :

https://github.com/NBISweden/workshop_omics_integration/tree/OMICSINT_H24



Please report to us if you find any errors in the code!

- Slack channel #**exercises**
- An Issue on the GitHub repo:
  https://github.com/NBISweden/workshop_omics_integration/issues

We may find bugs and update the code – in that case, update your git repo with command:

```
git pull
```

Troubleshooting during exercises

Slack channel: **#exercises**

It is important that you learn how to troubleshoot:

- Look at your error messages, perhaps the answer is there?
- If not – Google is your best friend! Forums like Seqanswers, Stackexchange, Bioconductor support forum, specific forums (or Github issues) for each package may have the answer.
- **Ask for help** from your colleague in the room
- **Be kind and help** if your colleague in need or ask for assistance
- If the question persists, ask for help in the room

Instructors are here to answer any questions and give suggestions, but we may not always have the answer.

Invited Speakers

Daniel Muthas

Head of Data Science & Bioinformatics at AstraZeneca

Talk Title: *Deriving actionable insight from omics data – an industry perspective*

Time: October 15, 10:00 – 11:15 CET onsite and online on zoom

Onsite and broadcasting

https://nbisweden.github.io/workshop_omics_integration/invited_speakers.html

Johan Gustafsson

Postdoctoral Fellow, Broad institute, USA

Talk Title: *Generation of context-specific genome-scale metabolic models using single-cell RNA-Seq data*

Time: October 17, 13:00 – 14:15 CET online on zoom

Mats Nilsson

Professor of Biochemistry at Stockholm University, Head of In Situ Sequencing unit Spatial Biology platform Scilife Lab

Talk Title: *Targeted in situ sequencing for characterization of the genetic, molecular and cellular diversity of healthy and disease tissues*

Time: October 18, 10:00 – 11:00 CET online, only for course participants

Please ask questions!

 Slack