JUWELS BOOSTER ONBOARDING
SC TUTORIAL *SESSION 1B*

14 November 2022 | Andreas Herten | Jülich Supercomputing Centre, Forschungszentrum Jülich

JÜLICH Forschungszentrum
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Accessing JUWELS Booster

- Everything listed on GitHub repo of tutorial:
  `go.fzj.de/sc22-mg-gh`[1]

[1] Unshortened link: `https://github.com/FZJ-JSC/tutorial-multi-gpu/`

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1. Create JSC account at JuDoor
2. Join `training2232` project

→ `go.fzj.de/sc22-mg-jd`

3. Accept usage agreement
4. Wait 15 minutes 
5. Access system via Jupyter 3.4

→ `jupyter-jsc.fz-juelich.de`

6. Source course environment in a Jupyter Shell
   ```
   $ source $PROJECT_training2232/env.sh
   ```
7. Gather course material
   ```
   $ jsc-material-sync
   ```

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- We'll repeat the following steps in the first hands-on session

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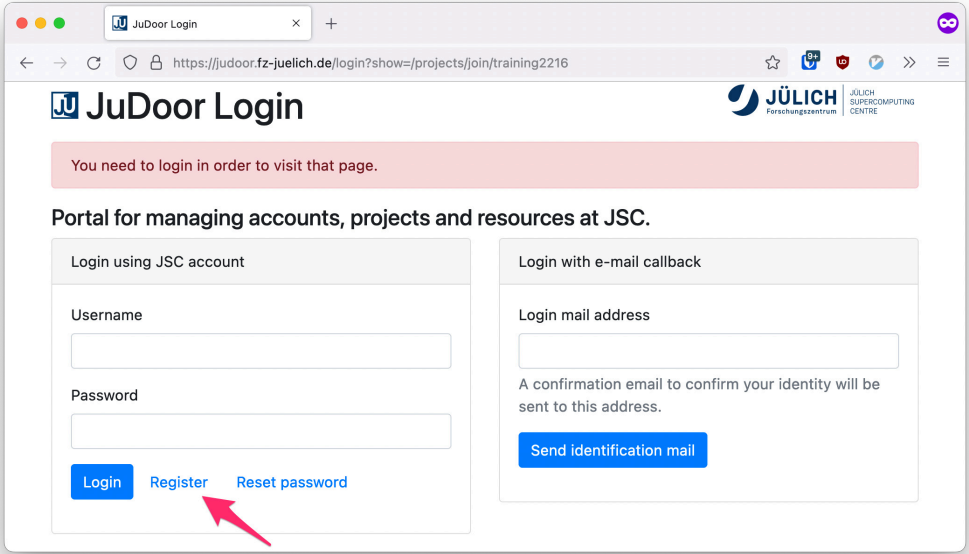
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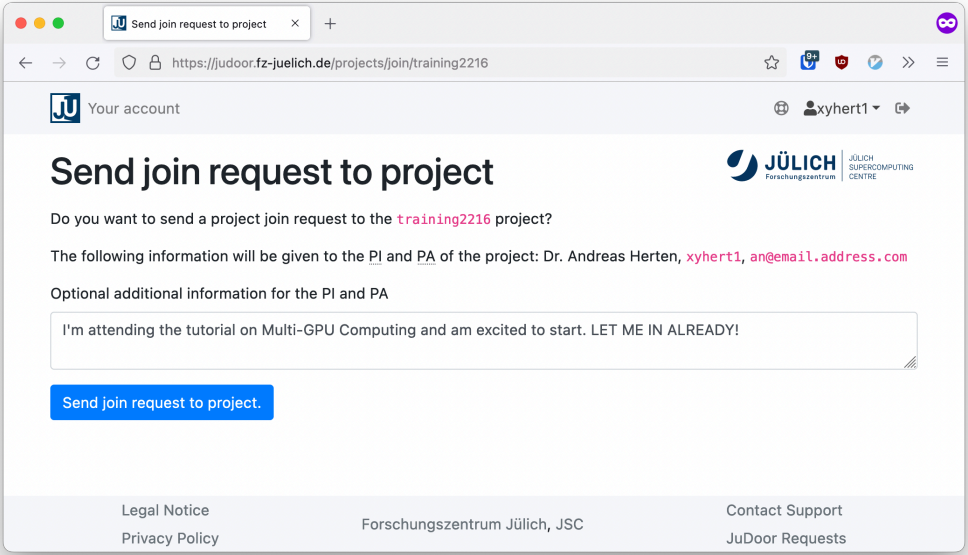
A confirmation email to confirm your identity will be sent to this address.
Send identification mail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Send join request to project
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Do you want to send a project join request to the training2216 project?
The following information will be given to the PI and PA of the project: Dr. Andreas Herten, xyhert1, an@email.address.com
Optional additional information for the PI and PA
I'm attending the tutorial on Multi-GPU Computing and am excited to start. LET ME IN ALREADY!
Send join request to project.
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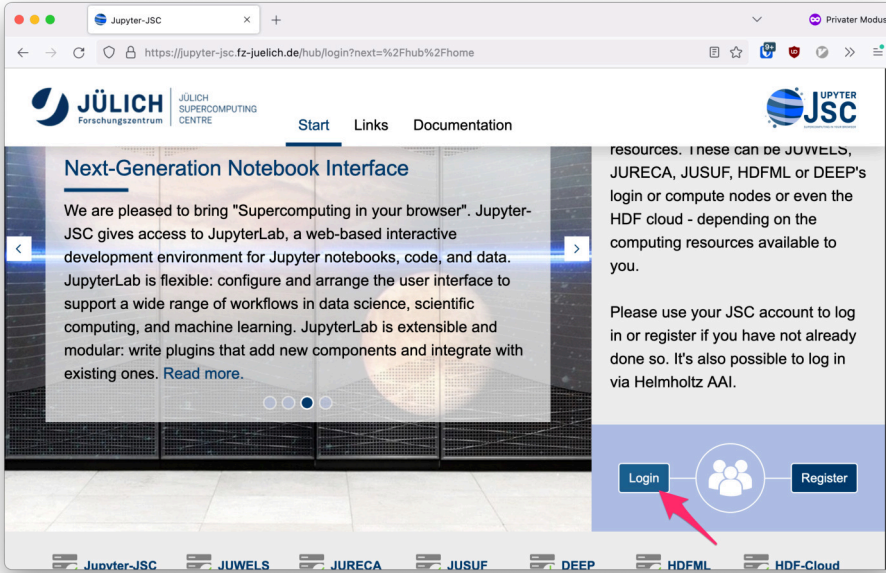
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resources. These can be JUWELS, JURECA, JUSUF, HDFML or DEEP's login or compute nodes or even the HDF cloud - depending on the computing resources available to you.
Please use your JSC account to log in or register if you have not already done so. It's also possible to log in via Helmholtz AAI.
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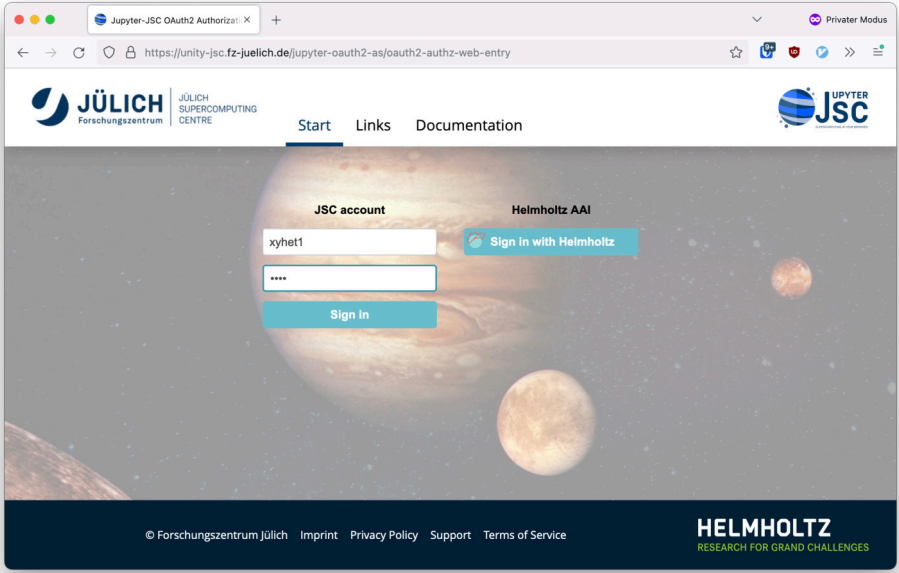
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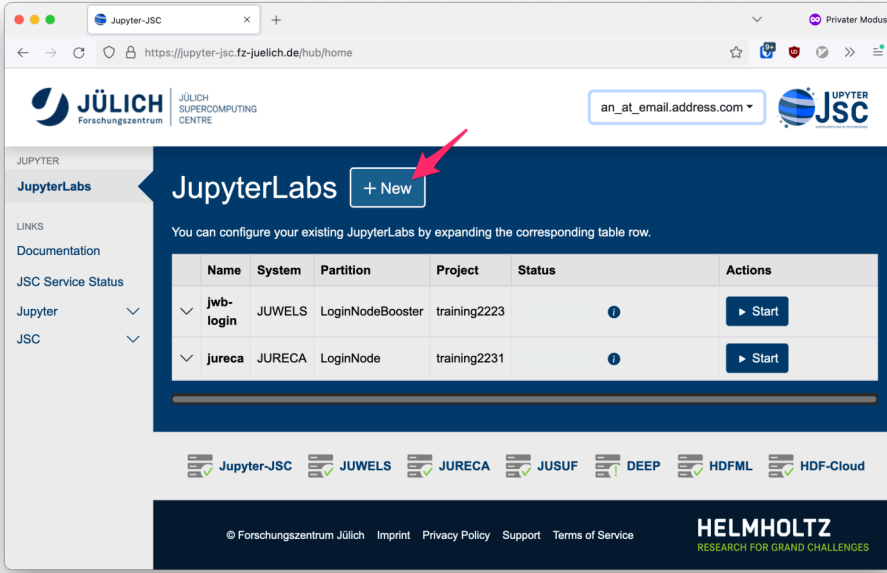
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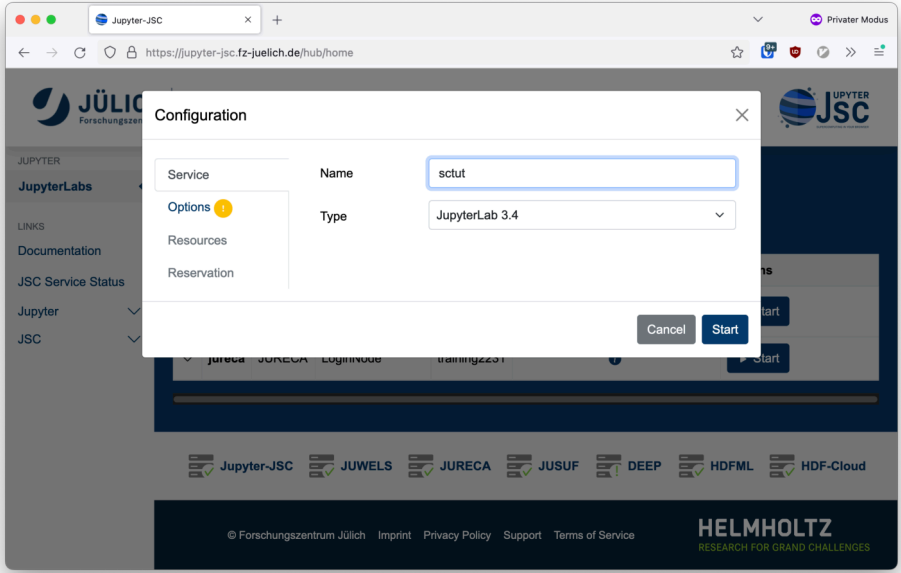
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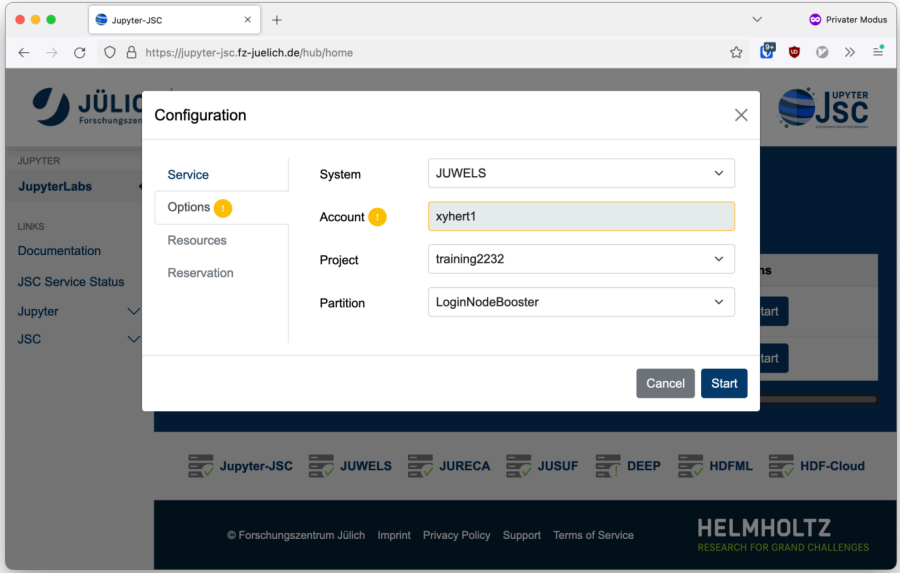
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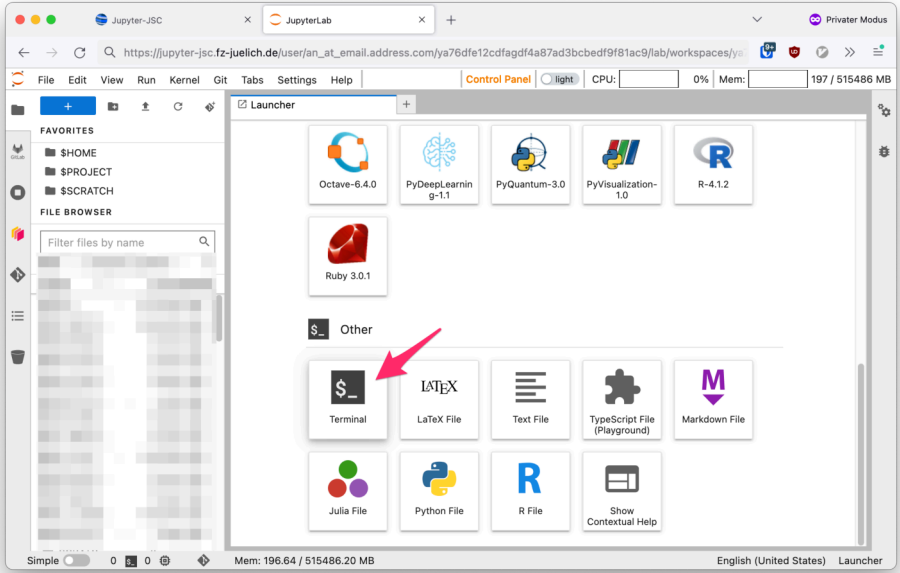
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PyDeepLearning-1.1
PyQuantum-3.0
PyVisualization-1.0
R-4.1.2
Ruby 3.0.1
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R File
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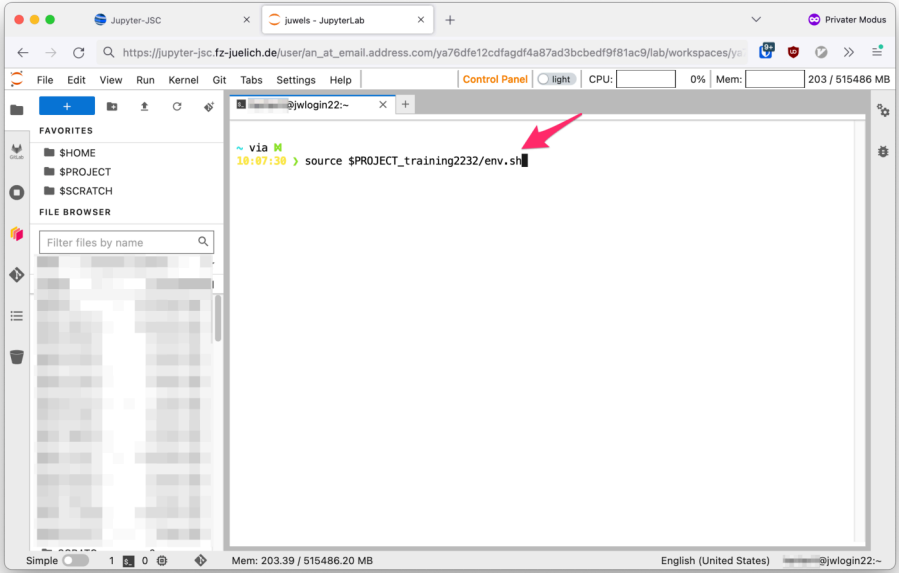
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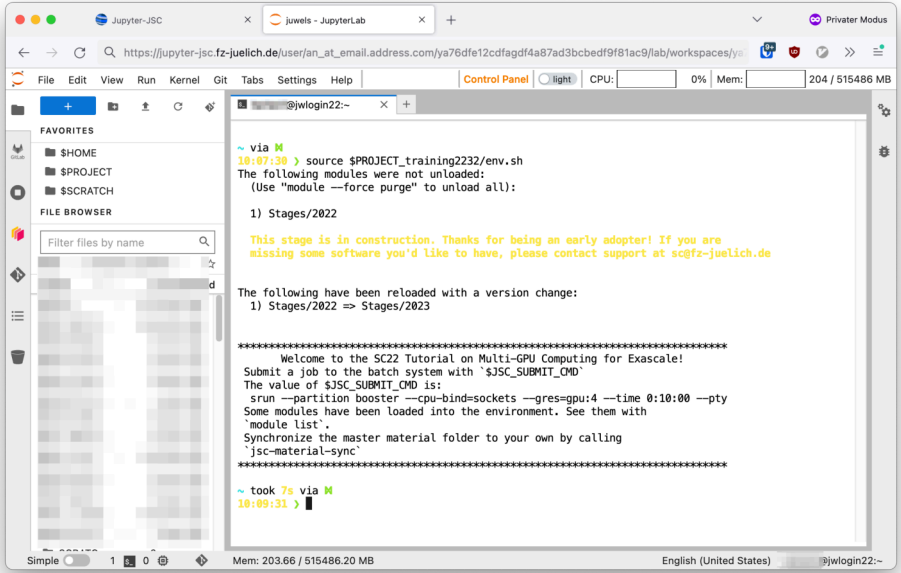
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~ via M
10:07:30 ❯ source $PROJECT_training2232/env.sh
The following modules were not unloaded:
(Use "module --force purge" to unload all):
1) Stages/2022
This stage is in construction. Thanks for being an early adopter! If you are
missing some software you'd like to have, please contact support at sc@fz-juelich.de
The following have been reloaded with a version change:
1) Stages/2022 => Stages/2023
Welcome to the SC22 Tutorial on Multi-GPU Computing for Exascale!
Submit a job to the batch system with `$JSC_SUBMIT_CMD`
The value of $JSC_SUBMIT_CMD is:
srun --partition booster --cpu-bind=sockets --gres=gpu:4 --time 0:10:00 --pty
Some modules have been loaded into the environment. See them with
`module list`.
Synchronize the master material folder to your own by calling
`jsc-material-sync`
~ took 7s via M
10:09:31 ❯
Simple
Mem: 203.66 / 515486.20 MB
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jwlogin22:~

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Profiling Tools

- Extra Credits: Prepare for *Profiling Session*
- Download **Nsight Systems** now; install!

→ `developer.nvidia.com/gameworksdownload#?dn=nsight-systems-2022-4`

- Also: Via package manager `developer.download.nvidia.com/devtools/repos`

SSH Login

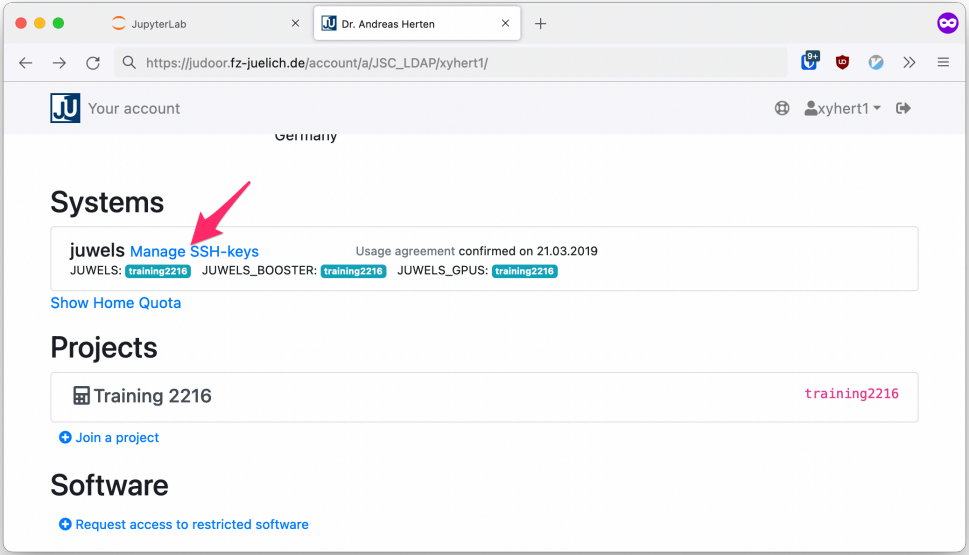
SSH Login

- Login with SSH available
- We recommend Jupyter JSC: easier, more features
- Add SSH key via JuDoor to JUWELS Booster
- Important: `from` clause (limits connections to be from defined sources)
- Example

```
from="140.221.247.0/24" ssh-ed25519 AddddACadsfzaC1lZDI1NTE5AAAAsa
```

→ SSH: `ssh user1@juwelsbooster.fz-juelich.de`

- Help at `apps.fz-juelich.de/jsc/hps/juwels/access.html`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Usage agreement confirmed on 21.03.2019
JUWELS: training2216 JUWELS_BOOSTER: training2216 JUWELS_GPUS: training2216
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Join a project
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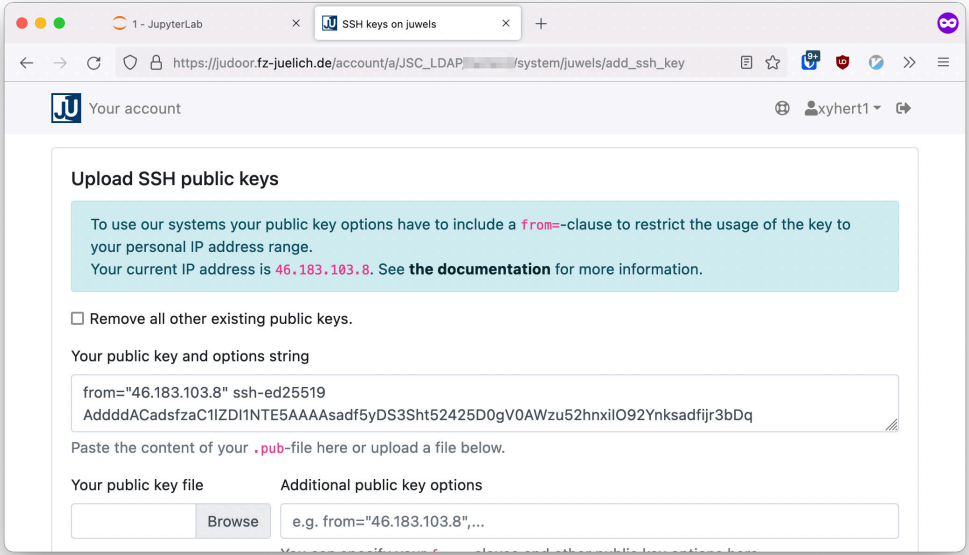
Request access to restricted software


1 - JupyterLab
SSH keys on juwels
https://judoor.fz-juelich.de/account/a/JSC_LDAP[redacted]/system/juwels/add_ssh_key
Your account
xyhert1
Upload SSH public keys
To use our systems your public key options have to include a from=-clause to restrict the usage of the key to your personal IP address range.
Your current IP address is 46.183.103.8. See the documentation for more information.
Remove all other existing public keys.
Your public key and options string
from="46.183.103.8" ssh-ed25519
AddddACadsfzaC1IZDI1NTE5AAAAsadf5yDS3Sht52425D0gV0AWzu52hnxiIO92Ynksadfijr3bDq
Paste the content of your .pub-file here or upload a file below.
Your public key file
Browse
Additional public key options
e.g. from="46.183.103.8",...