HOCHSCHULE OSNABRÜCK
UNIVERSITY OF APPLIED SCIENCES

WORKING WITH THE HPC CLUSTER

hard facts

compute CPUs:	1.536
compute RAM:	15.360 GB
GPUs:	32 x A100 (80 GB) 14 x A100 (40 GB)
storage:	672 TB (HDD) 207 TB (SSD)

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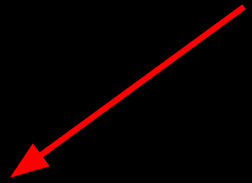
enables powerful machine learning applications (inference and training)



`https://docs.hpc.hs-osnabrueck.de`

`https://web.hpc.hs-osnabrueck.de`

access from within the university's network
using a modern web browser

Required steps to get started:

1. open SSH shell
2. copy virtual environment
3. start new JupyterLab instance
4. clone provided git repository

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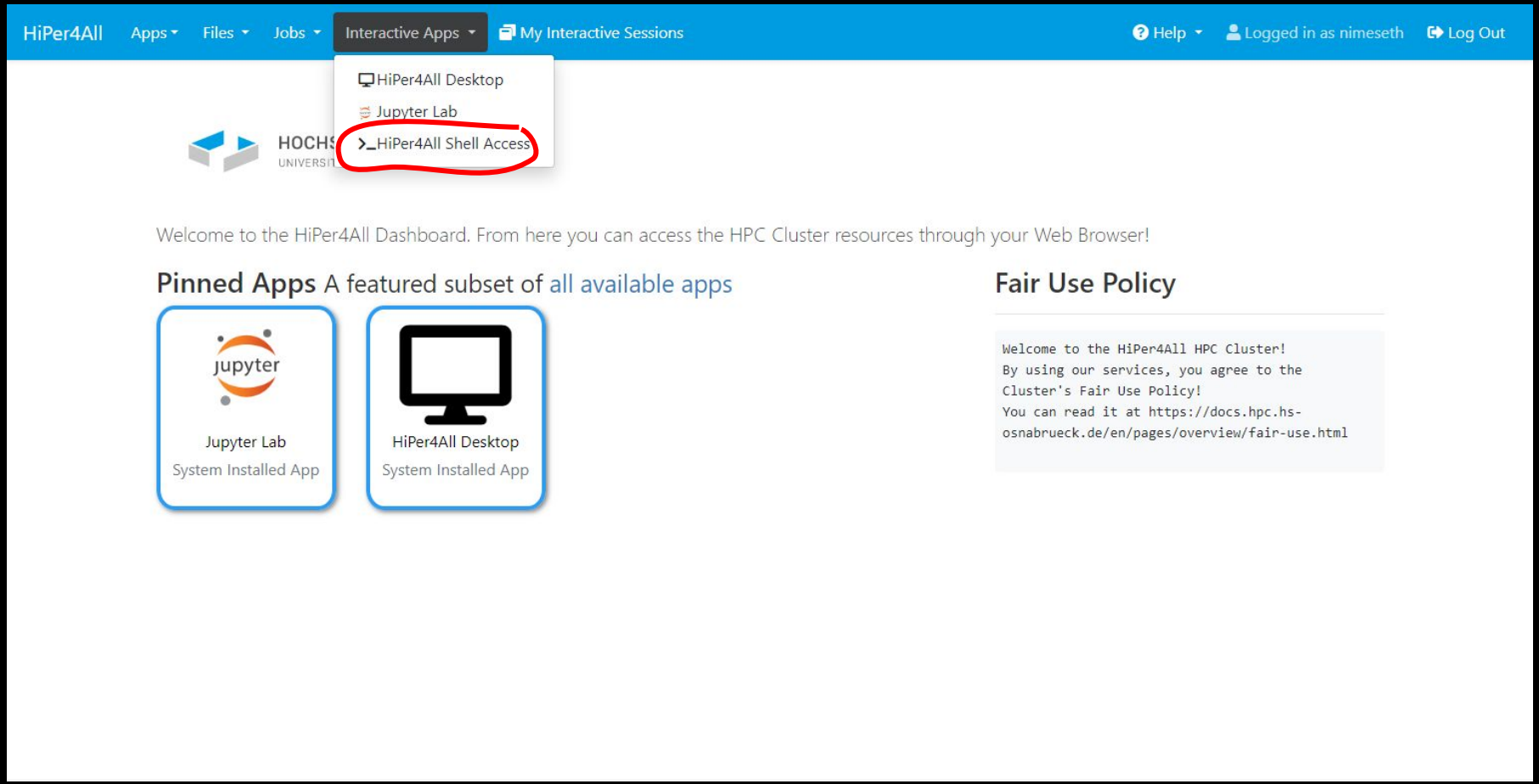
HiPer4All
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Logged in as nimeseth
Log Out
HiPer4All Desktop
Jupyter Lab
HiPer4All Shell Access
Welcome to the HiPer4All Dashboard. From here you can access the HPC Cluster resources through your Web Browser!
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Jupyter Lab
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HiPer4All Desktop
System Installed App
Fair Use Policy
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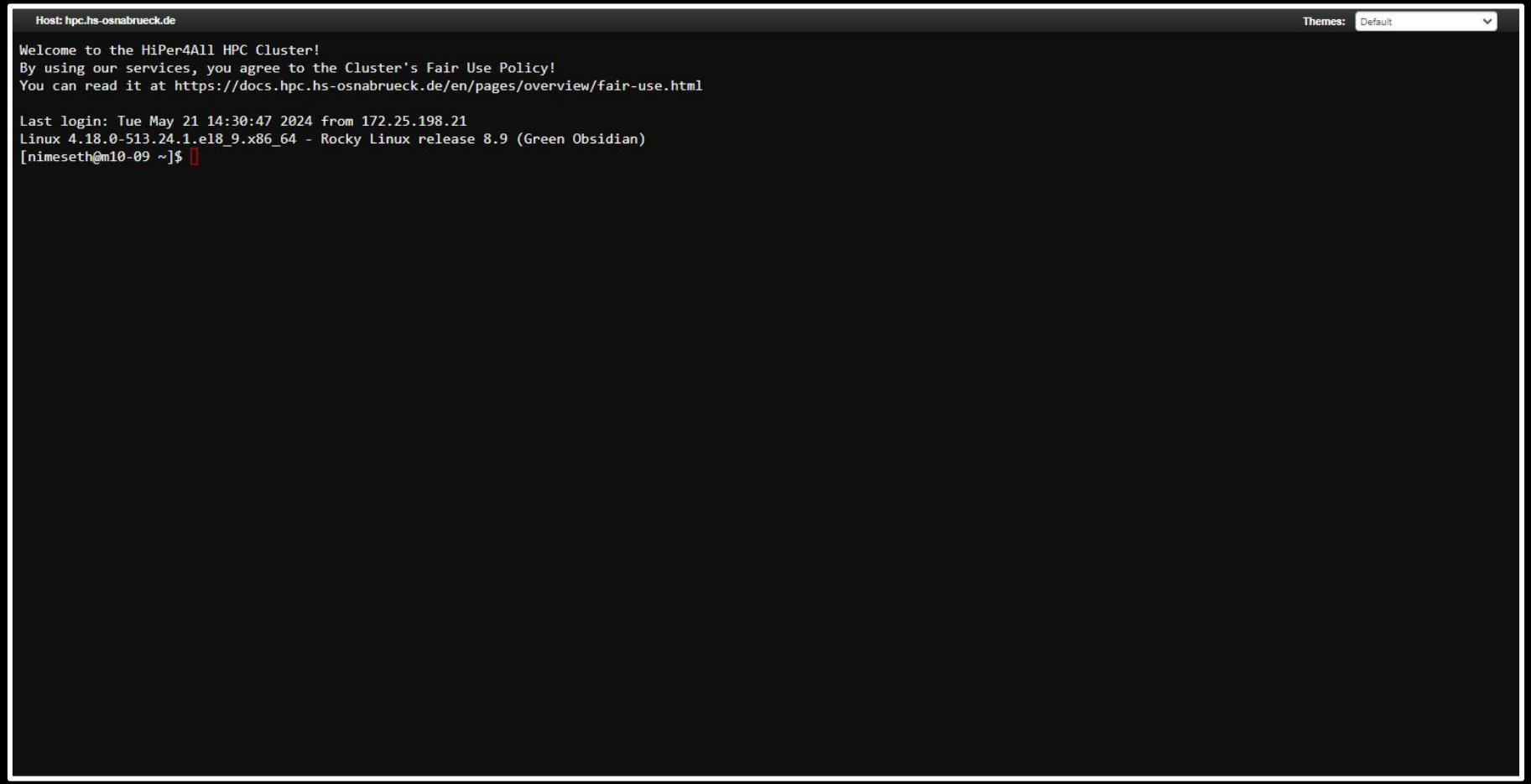
By using our services, you agree to the
Cluster's Fair Use Policy!
You can read it at https://docs.hpc.hs-
osnabrueck.de/en/pages/overview/fair-use.html


Host: hpc.hs-osnabrueck.de
Themes:
Default
Welcome to the HiPer4All HPC Cluster!
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Last login: Tue May 21 14:30:47 2024 from 172.25.198.21
Linux 4.18.0-513.24.1.el8_9.x86_64 - Rocky Linux release 8.9 (Green Obsidian)
[nimeseth@m10-09 ~]$

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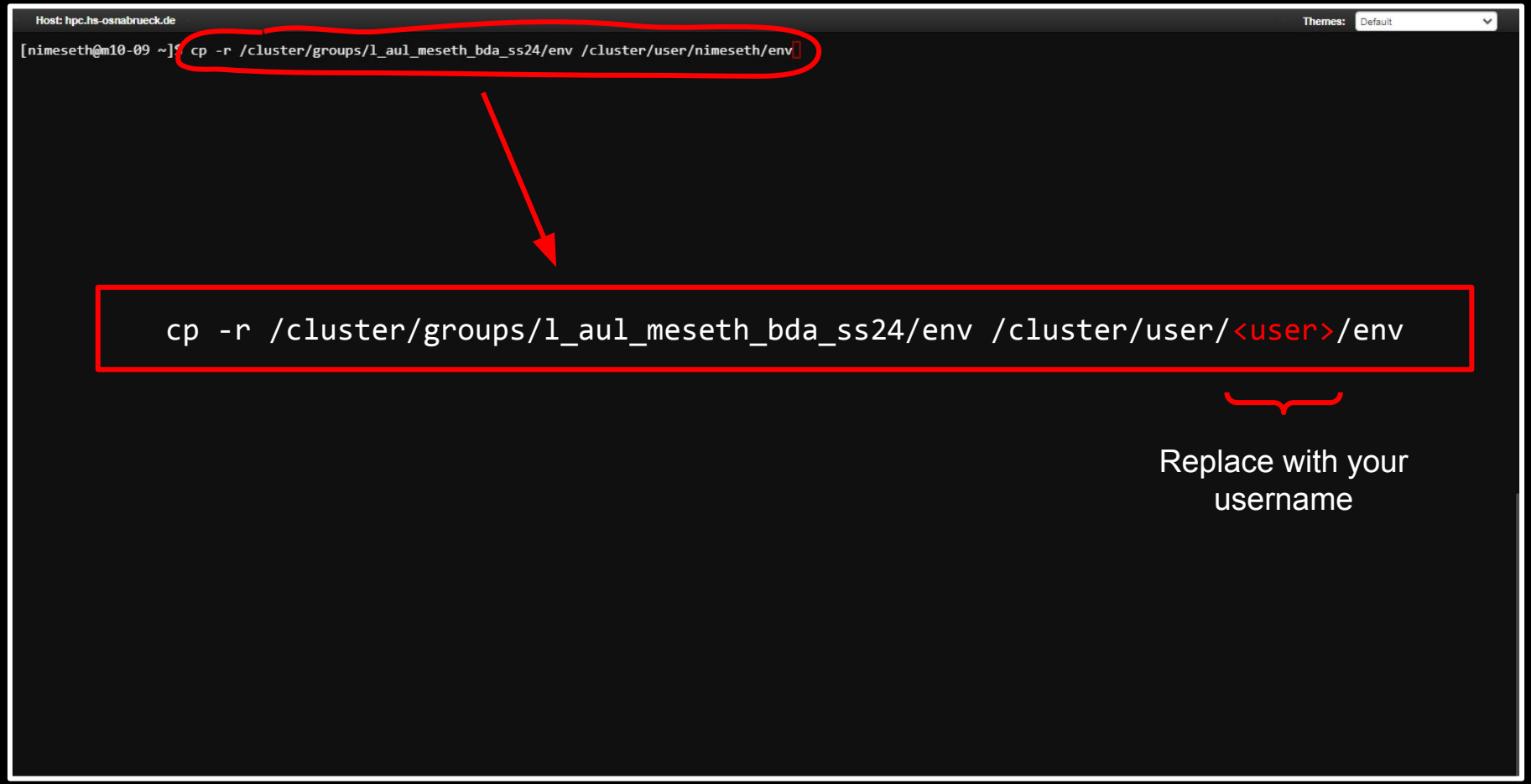
Host: hpc.hs-osnabrueck.de
Themes:
Default
[nimeseth@m10-09 ~]$ cp -r /cluster/groups/l_aul_meseth_bda_ss24/env /cluster/user/nimeseth/env
cp -r /cluster/groups/l_aul_meseth_bda_ss24/env /cluster/user/<user>/env
Replace with your username

Required steps to get started:

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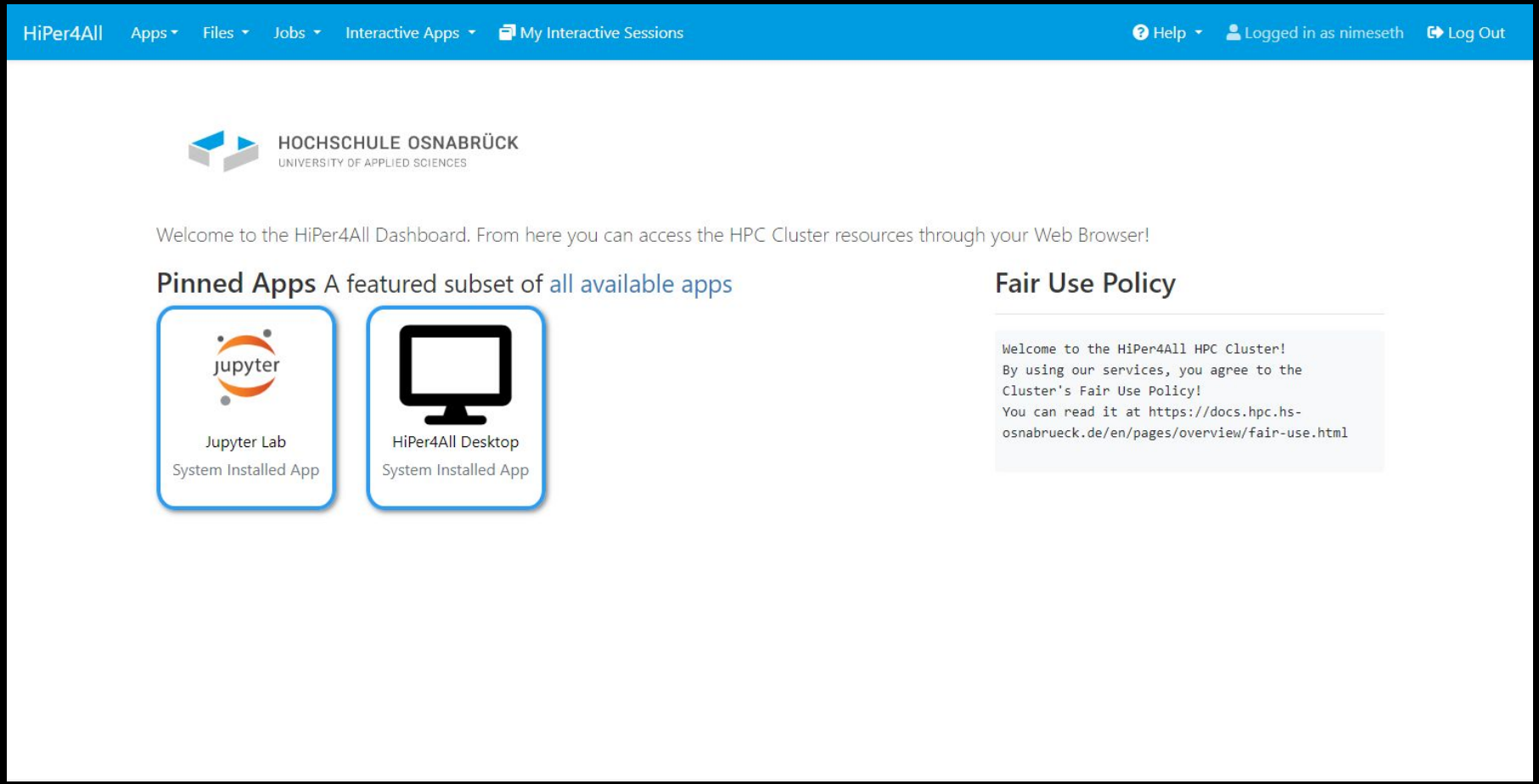
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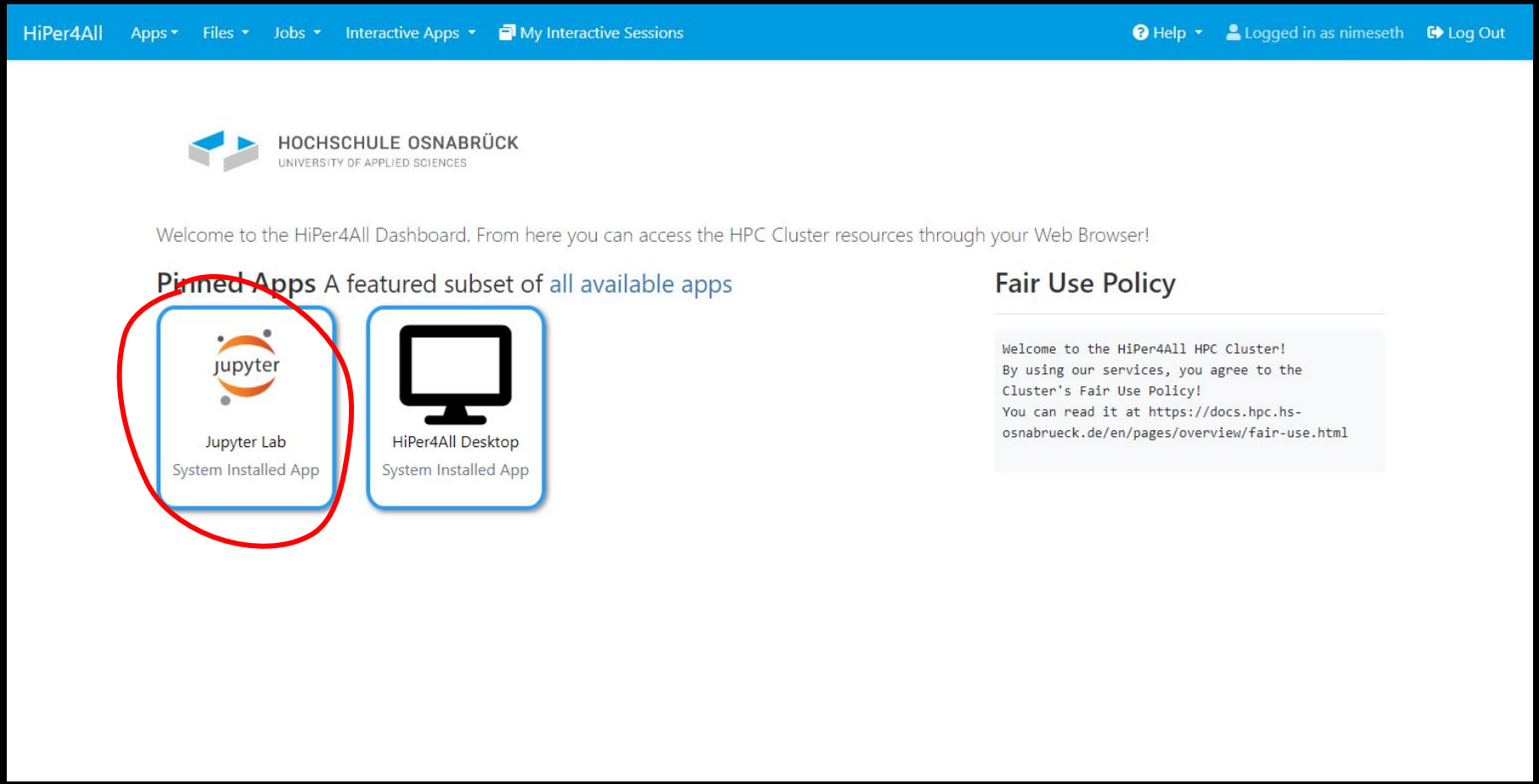
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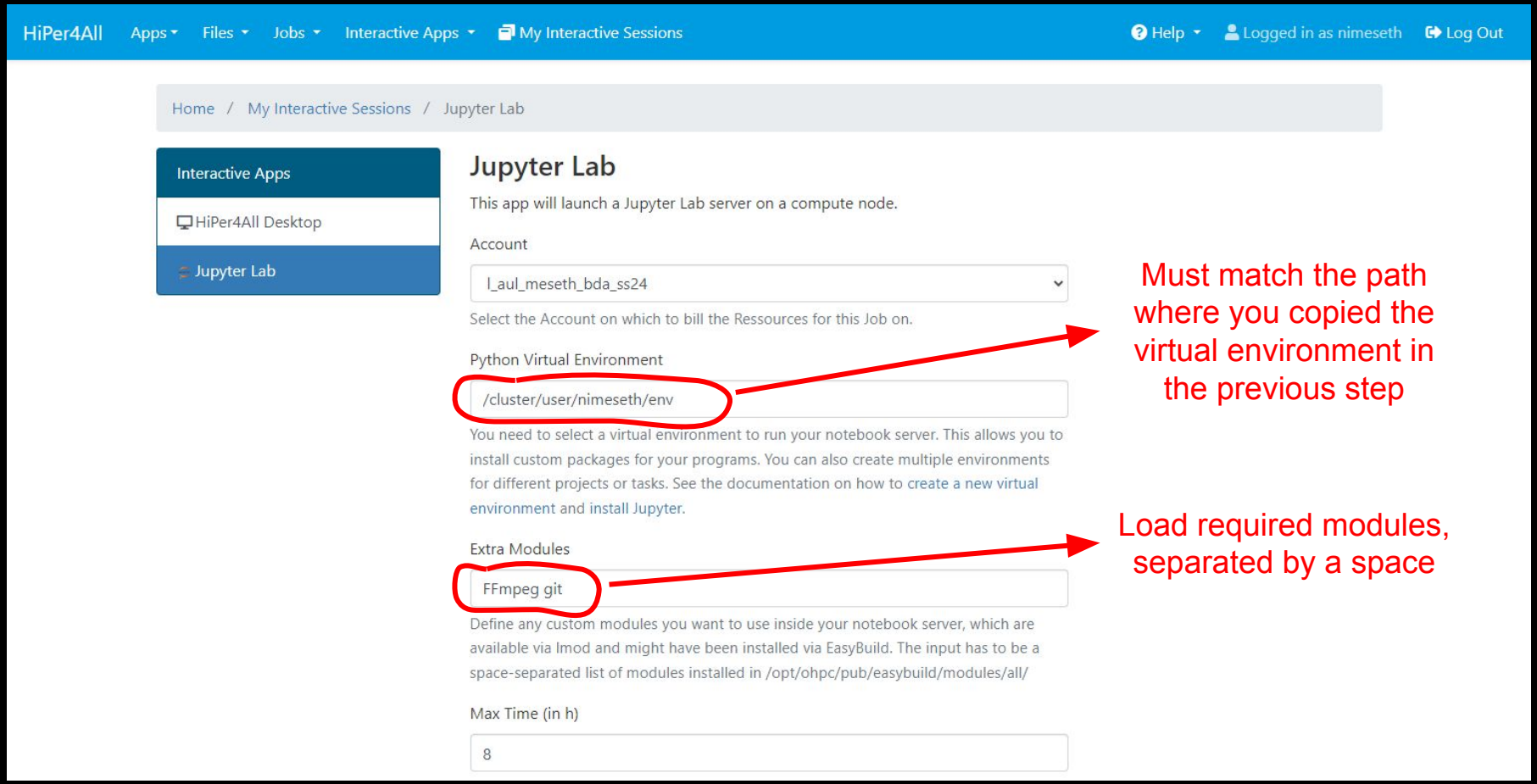
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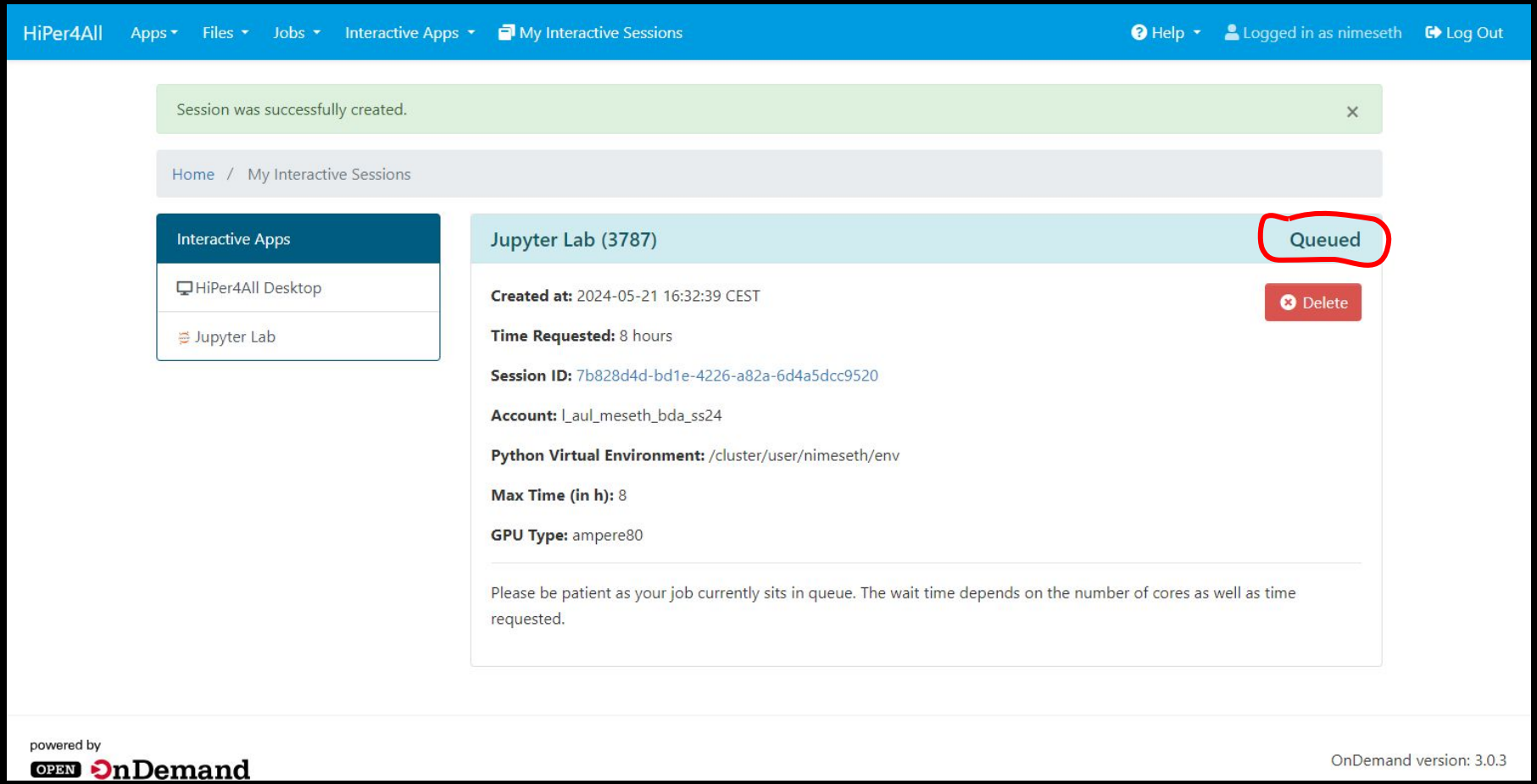
Home / My Interactive Sessions / Jupyter Lab
Interactive Apps
HiPer4All Desktop
Jupyter Lab
Jupyter Lab
This app will launch a Jupyter Lab server on a compute node.
Account
l_aul_meseth_bda_ss24
Select the Account on which to bill the Ressources for this Job on.
Python Virtual Environment
/cluster/user/nimeseth/env
You need to select a virtual environment to run your notebook server. This allows you to install custom packages for your programs. You can also create multiple environments for different projects or tasks. See the documentation on how to create a new virtual environment and install Jupyter.
Extra Modules
FFmpeg git
Define any custom modules you want to use inside your notebook server, which are available via lmod and might have been installed via EasyBuild. The input has to be a space-separated list of modules installed in /opt/ohpc/pub/easybuild/modules/all/
Max Time (in h)
8
Must match the path where you copied the virtual environment in the previous step
Load required modules, separated by a space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Session was successfully created.
Home / My Interactive Sessions
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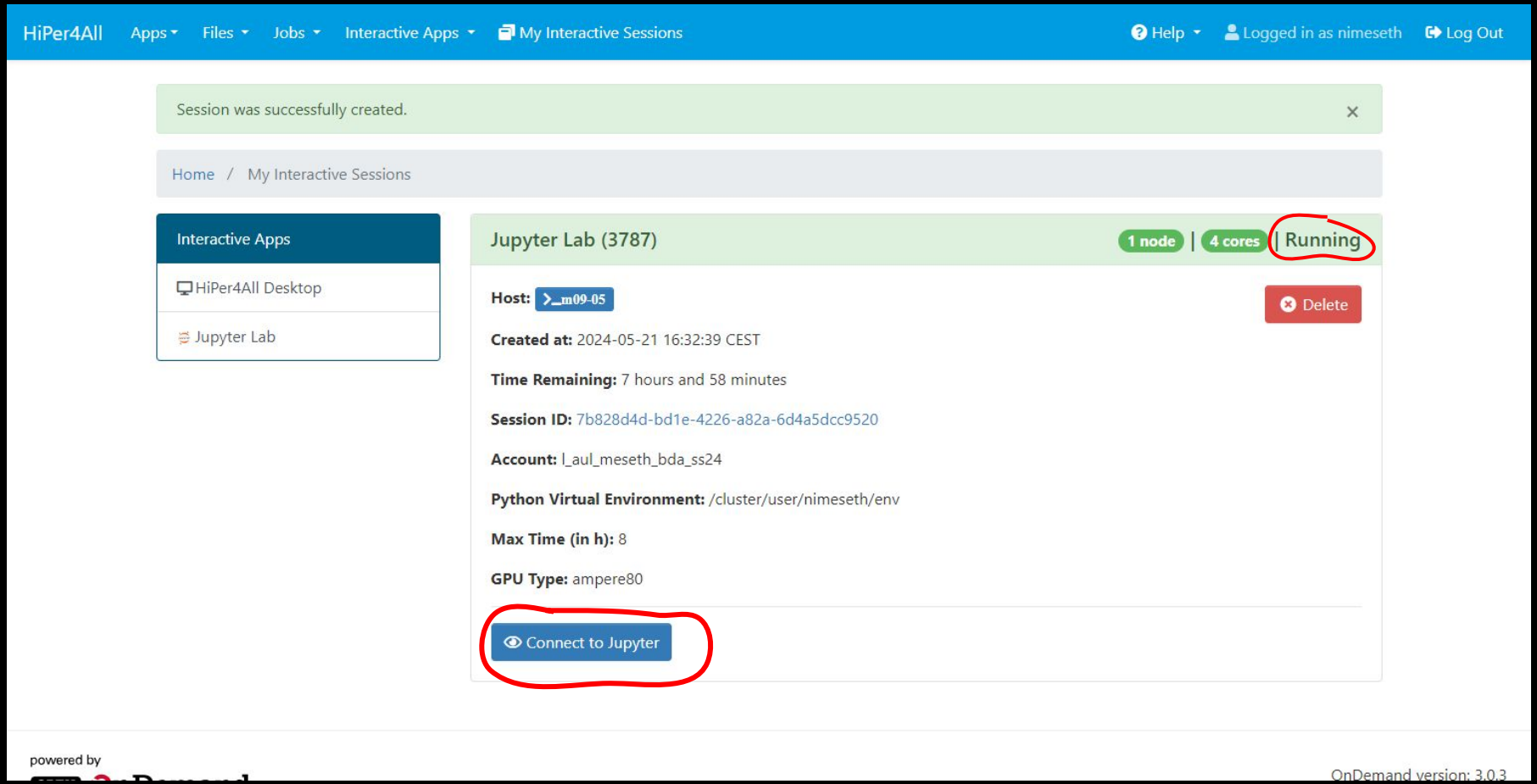
HiPer4All Desktop
Jupyter Lab
Jupyter Lab (3787)
Queued
Created at: 2024-05-21 16:32:39 CEST
Delete
Time Requested: 8 hours
Session ID: 7b828d4d-bd1e-4226-a82a-6d4a5dcc9520
Account: l_aul_meseth_bda_ss24
Python Virtual Environment: /cluster/user/nimeseth/env
Max Time (in h): 8
GPU Type: ampere80
Please be patient as your job currently sits in queue. The wait time depends on the number of cores as well as time requested.
powered by
OPEN OnDemand
OnDemand version: 3.0.3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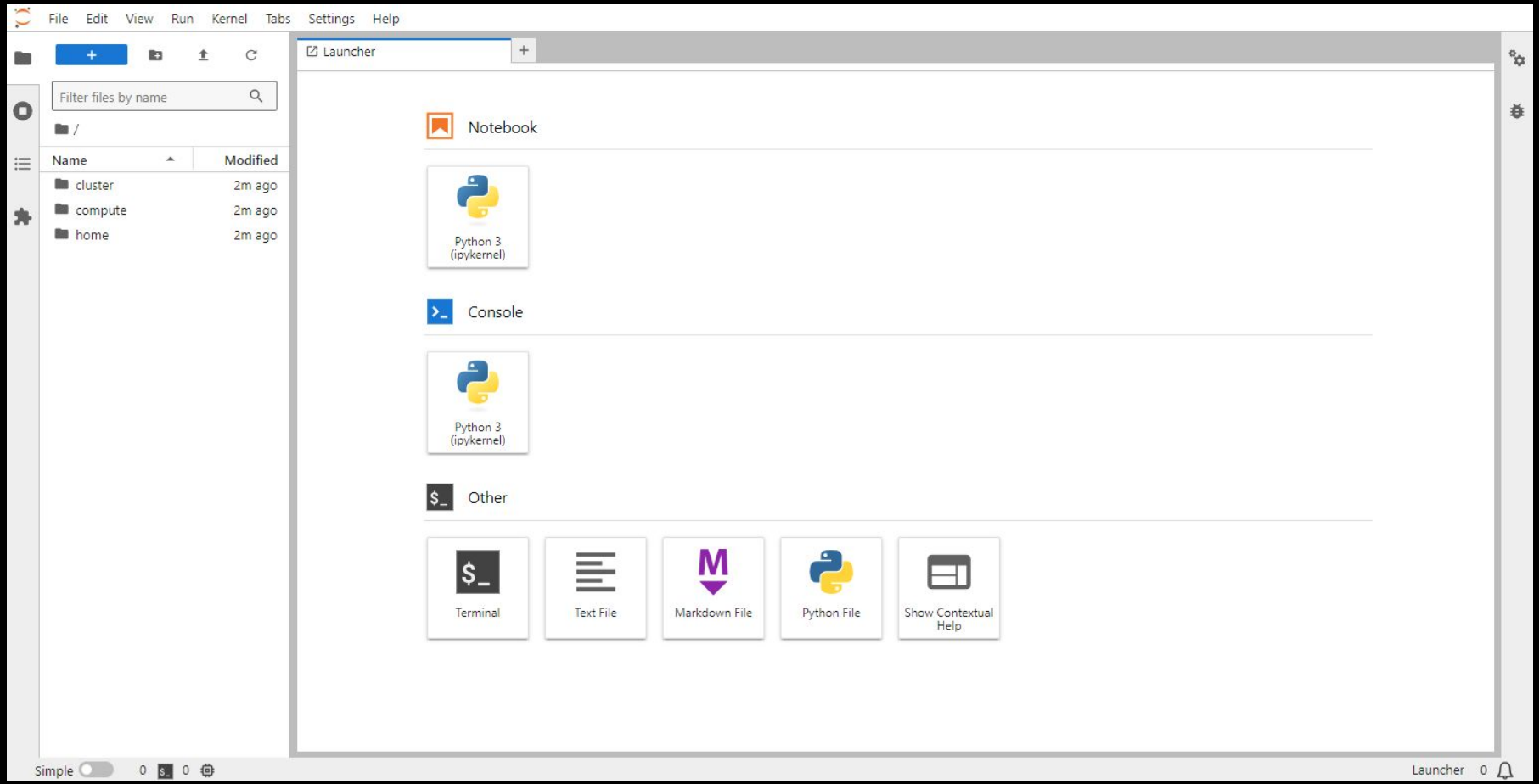
Session was successfully created.
Home / My Interactive Sessions
Interactive Apps
HiPer4All Desktop
Jupyter Lab
Jupyter Lab (3787)
1 node | 4 cores | Running
Host: m09-05
Delete
Created at: 2024-05-21 16:32:39 CEST
Time Remaining: 7 hours and 58 minutes
Session ID: 7b828d4d-bd1e-4226-a82a-6d4a5dcc9520
Account: l_aul_meseth_bda_ss24
Python Virtual Environment: /cluster/user/nimeseth/env
Max Time (in h): 8
GPU Type: ampere80
Connect to Jupyter
powered by
OnDemand version: 3.0.3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Edit
View
Run
Kernel
Tabs
Settings
Help
Launcher
Filter files by name
/
Name
Modified
cluster
2m ago
compute
2m ago
home
2m ago
Notebook
Python 3 (ipykernel)
Console
Python 3 (ipykernel)
Other
Terminal
Text File
Markdown File
Python File
Show Contextual Help
Simple
0
0
Launcher
0

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1. open SSH shell
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useful commands

`ls -a`	List all files and folders, including hidden ones
`rm -r <folder>`	Remove all files and subfolders in <folder>
`cd <folder>`	Change directory to folder
`cd ..`	Move one folder up
`pwd`	Show the current folder