



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)

hard facts

compute CPUs:

1.536

compute RAM:

15.360 GB

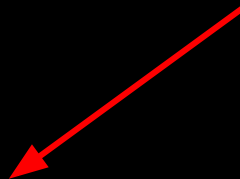
GPUs:

32 x A100 (80 GB)  
14 x A100 (40 GB)

storage:

672 TB (HDD)  
207 TB (SSD)

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 Desktop
- Jupyter Lab
- > HiPer4All Shell Access**

Welcome to the HiPer4All Dashboard. From here you can access the HPC Cluster resources through your Web Browser!

## Pinned Apps A featured subset of all available apps



Jupyter Lab  
System Installed App



HiPer4All Desktop  
System Installed App

## Fair Use Policy

Welcome to the HiPer4All HPC Cluster!  
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>

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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 ~]\$



Required steps to get started:

1. open SSH shell

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4. clone provided git repository

```
[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

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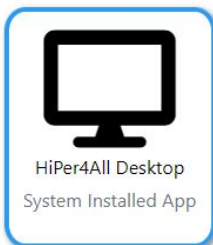
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[Home](#) / [My Interactive Sessions](#) / Jupyter Lab

## Interactive Apps

HiPer4All Desktop

Jupyter Lab

## Jupyter Lab

This app will launch a Jupyter Lab server on a compute node.

## Account

Select the Account on which to bill the Ressources for this Job on.

## Python Virtual Environment

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

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)

Must match the path where you copied the virtual environment in the previous step

Load required modules, separated by a space

Session was successfully created. ×[Home](#) / [My Interactive Sessions](#)

## Interactive Apps

 HiPer4All Desktop Jupyter Lab

## Jupyter Lab (3787)

Queued

**Created at:** 2024-05-21 16:32:39 CEST**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× Delete

Please be patient as your job currently sits in queue. The wait time depends on the number of cores as well as time requested.

Session was successfully created. ×[Home](#) / [My Interactive Sessions](#)

## Interactive Apps

 HiPer4All Desktop Jupyter Lab

## Jupyter Lab (3787)

1 node

4 cores

Running

Host: &gt;\_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

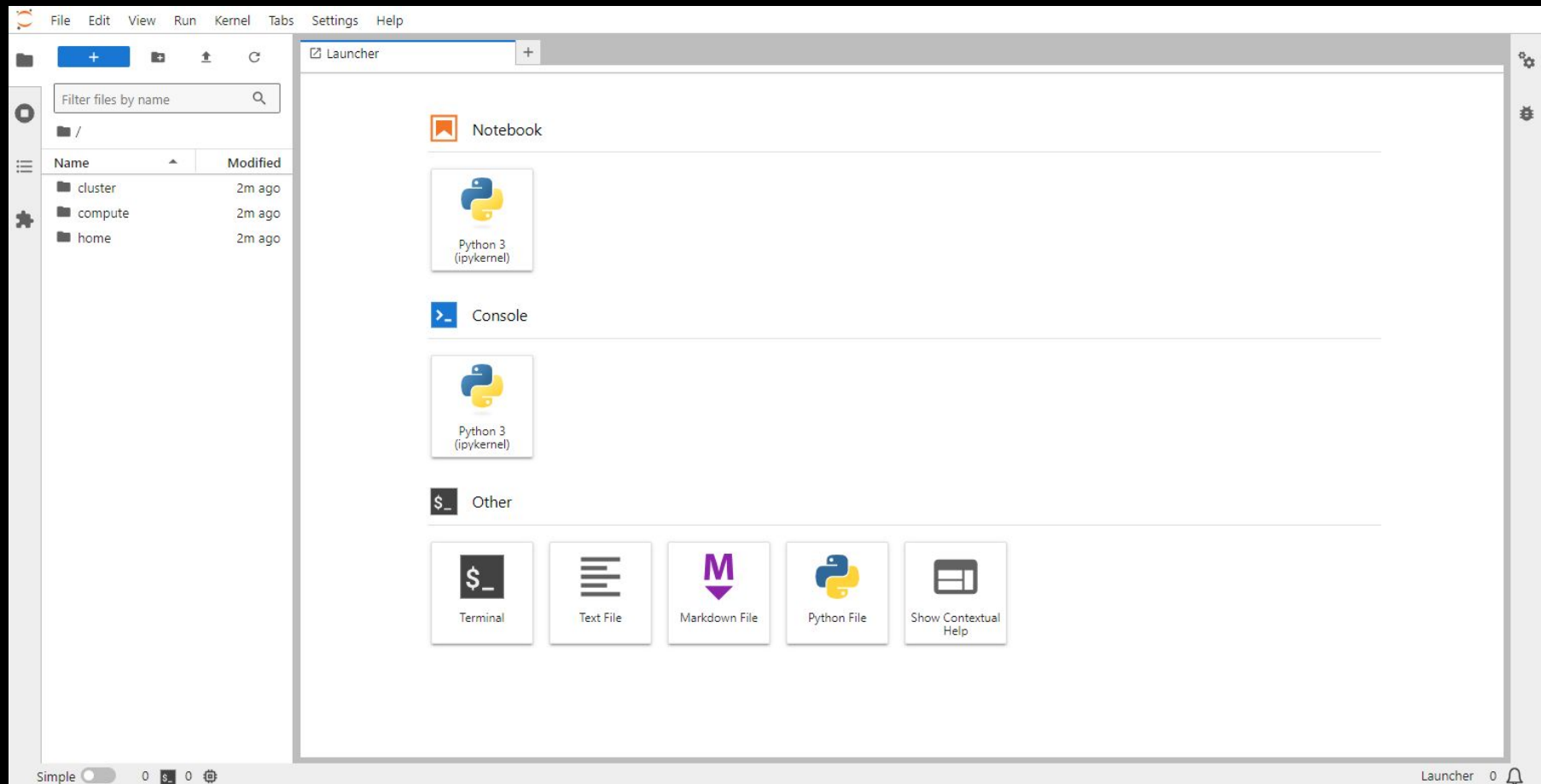
Python Virtual Environment: /cluster/user/nimeseth/env

Max Time (in h): 8

GPU Type: ampere80

 Connect to Jupyter

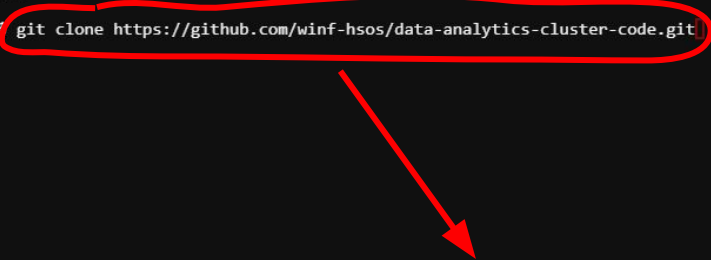




Required steps to get started:

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```
(env) [nimeseth@m10-09 ~]$ pwd  
/home/nimeseth  
(env) [nimeseth@m10-09 ~]$ git clone https://github.com/winf-hsos/data-analytics-cluster-code.git
```



```
git clone https://github.com/winf-hsos/data-analytics-cluster-code.git
```

## useful commands

|  |   |
|--|---|
| <code>ls -a</code>                         | List all files and folders, including hidden ones |
| <code>rm -r &lt;folder&gt;</code>          | Remove all files and subfolders in <folder>       |
| <code>cd &lt;folder&gt;</code>             | Change directory to folder                        |
| <code>cd ..</code>                         | Move one folder up                                |
| <code>pwd</code>                           | Show the current folder                           |
| <code>cp -r &lt;from&gt; &lt;to&gt;</code> | Copy all content from one folder to another       |