

A white wolf is the central focus, standing in a snowy, misty environment. The background is a dark, blue-toned digital space filled with vertical light streaks, glowing particles, and faint grid lines, creating a futuristic or high-tech atmosphere.

LUMI

Using the LUMI
web-interface

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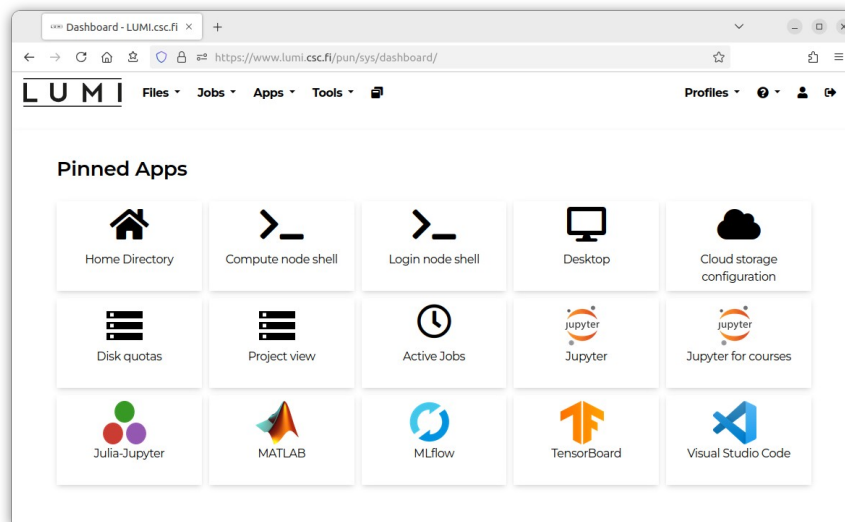
Two ways of accessing LUMI



- via SSH connection
 - terminal access only



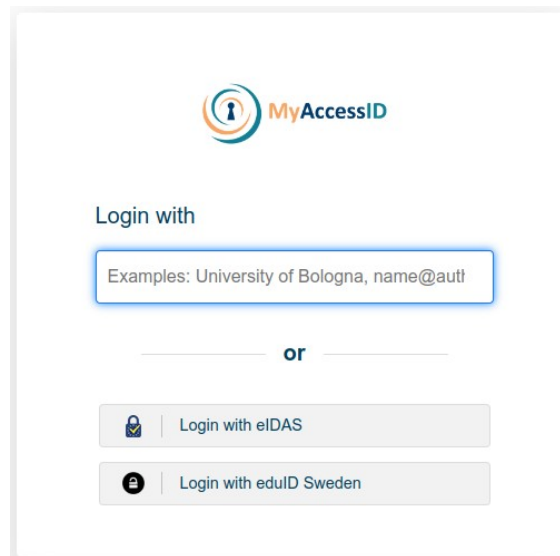
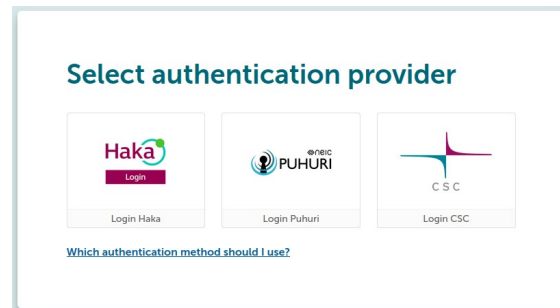
- via the LUMI web-interface
 - browser based
 - terminal + various apps



Accessing the LUMI web-interface

- Go to <https://www.lumi.csc.fi>
- Click “Go to login”
- Select login method
 - In most cases you should select Login Puhuri (neic) → MyAccessID
 - Finnish users: if you have linked your account to MyCSC, you can also use Haka
- MyAccessID: type the name of your institution / university
- You should be directed to your institution's login page

LUMI



Pinned Apps



Home Directory



Compute node shell



Login node shell



Desktop

Cloud storage
configuration

Disk quotas



Project view



Active Jobs



Jupyter



Jupyter for courses



Julia-Jupyter



MATLAB



MLflow



TensorBoard



Visual Studio Code

Files browser and shell (login node)

LUMI



Home Directory



Login node shell

Dashboard - LUMI.csc.fi

https://www.lumi.csc.fi/pun/sys/dashboard/files/fs/users/mvsjober

LUMI Files Jobs Apps Tools

The web interface has been updated to release 3. MATLAB and VisIt are now available in the Desktop app. Additionally, the web version of MATLAB is also available as an interactive app.

Open in Terminal Refresh New File New Directory Upload Download Copy/Move Delete

Home Directory

- /projappl/project_465001063
- /projappl/project_462000007
- /projappl/project_462000131
- /projappl/project_462000187
- /projappl/project_462000229
- /projappl/project_462000450
- /projappl/project_462000584
- /scratch/project_465001063
- /scratch/project_462000007
- /scratch/project_462000131
- /scratch/project_462000187
- /scratch/project_462000229
- /scratch/project_462000450

/ users / mvsjober / Change directory Copy path

Show Owner/Mode Show Dotfiles Filter: Showing 31 of 63 rows - 0 rows selected

	Type	Name	Size	Modified at
☐	Folder	appl_sync_logs	-	29/04/2024 10:26:10
☐	Folder	bin	-	01/03/2024 09:32:01
☐	Folder	code	-	19/03/2024 09:25:23
☐	Folder	Desktop	-	07/09/2023 12:18:16
☐	Folder	Documents	-	07/09/2023 12:18:21
☐	Folder	Downloads	-	07/09/2023 12:18:21

uan09

https://www.lumi.csc.fi/pun/sys/shell/ssh/default/users/mvsjober

Host: uan09.can Initial directory: users/mvsjober Themes: Default

```
uan09:/scratch/project_465001063/mvsjober/Getting_Started_with_AI_workshop $ ls
01_Introduction_to_LUMI/      05_Running_containers_on_LUMI/  09_Hyper-parameter_tuning_us
02_Using_the_LUMI_web_interface/ 06_Building_containers_from_conda_pip_environments/ 10_Extreme_scale_AI/
03_Your_first_AI_training_job_on_LUMI/ 07_Virtual_environments_to_iterate_and_test/ 11_Coupling_AI_and_HPC/
04_Workarounds_and_checking_jobs/ 08_Scaling_to_multiple_GPUs/    bonus_material/
uan09:/scratch/project_465001063/mvsjober/Getting_Started_with_AI_workshop $
```

Jupyter notebook



- Launching Jupyter actually launches a job in the cluster (more on that in the next lecture)
- You need to fill in some things:
 - Project
 - Partition - not needed with course reservation!
 - Resources
 - What Python installation to use
- Max resources for a single GPU job
 - 1/8 of a node:
 - Number of CPU cores: 7
 - Memory: 60 GB

Jupyter
Interactive Jupyter session
[Documentation](#)

Reservation
No reservation

Project
project_465002178 (LUST Training / 2025-10-08 Moving your AI training)
The selected project will be available as \$PROJECT in other fields in this form.

Partition
small-g

Resources

Number of CPU cores
7
SMT is enabled for the selected partition. 2 threads per core will be allocated.

Memory (GiB)
16

Number of GPUs (MI250 GCDs)
1

Time
0:30:00
d-hh:mm:ss, or hh:mm:ss

Settings

Working directory
/project/\$PROJECT

Python
pytorch (Via CSC stack, limited support available)

Basic Advanced

Jupyter notebook



L U M I

- The job is submitted to the normal Slurm queue
- Once it has started “Connect to Jupyter” button will appear

Jupyter (13221358) 1 node | 14 cores | Running

Host: >_ nld005060 Cancel

Created at: 2025-09-29 10:06:08 UTC

Time Remaining: 29 minutes

Session ID: [577755d9-6a14-458e-a698-08557b2bd052](#)

If you run into issues, please include the following log file in the support ticket: [output.log](#)

Project: project_465002178
Partition: small-g
Cores: 14
Memory: 16384M
GPUs (MI250): 1
Module: pytorch

Connect to Jupyter

Filter files by name

Getting_Started_with_AI_workshop /
02 Using the LUMI web interface /

Name	Last Modified
GPT-neo-1...	1 hour ago
index.md	1 hour ago

Limitations of interactive Jupyter runs

- Using GPUs interactively is *inefficient usage of resources*
 - Most of the time, when you are editing code or grabbing a coffee , the GPU is idle (but nobody else can use it!)
 - Because of this interactive use is limited to a single node
- Running multiple copies of your job (e.g., hyperparameter search) is not possible
- Solution:
 - Use Jupyter for development and experimentation
 - Use terminal interface and batch jobs for real runs

→ more on this in the next session

Our running example

L U M I

- Finetuning GPT-Neo LLM for generating movie reviews on the IMDb data set
- Using Hugging Face's datasets and transformers on top of PyTorch as training library

GPT-Neo 1.3B

- 1370 M parameters
- BF16
- ~2.67 GB

Stanford IMDb data set

- 100 000 movie reviews
- Varying lengths (low hundreds of words)
- 25 000 reserved for testing

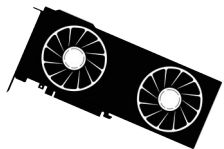


Our running example

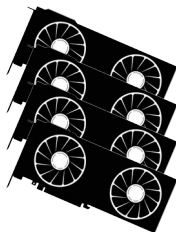
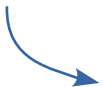
LUMI



02: Get familiar with LUMI web interface and the example



03: Your first AI training job on LUMI (next lecture)



08: Scaling to multiple GPUs (tomorrow)

Course practicalities: Reservations

- A portion of the cluster is reserved for the course
- When starting jobs you need to give the reservation names, otherwise you apply for resources in the general queues
 - in the web-interface, select from the drop down menu
- Day 1: AI_workshop_Day1
- Day 2: AI_workshop_Day2
- However, if you use a reservation that is not active, your job will not run until the reservation becomes active.