



JUWELS BOOSTER ONBOARDING ISC TUTORIAL SESSION 1B

29 May 2022 | Andreas Herten | Jülich Supercomputing Centre, Forschungszentrum Jülich

Accessing JUWELS Booster

- Everything listed on GitHub repo of tutorial:

[go.fzj.de/isc22-mg-gh¹](https://go.fzj.de/isc22-mg-gh)

¹Unshortened link: <https://github.com/FZJ-JSC/tutorial-multi-gpu/>

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- 1 Create JSC account at JuDoor
- 2 Join training2216 project
→ go.fzj.de/isc22-mg-jd
- 3 Accept usage agreement
- 4 Wait 15 minutes 
- 5 Access system via Jupyter 3 2021a
→ jupyter-jsc.fz-juelich.de
- 6 Source course environment in a Jupyter Shell
`$ source $PROJECT_training2216/env.sh`
- 7 Gather course material
`$ jsc-material-sync`

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- Please start process now
- We'll repeat the following steps in the first hands-on session

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JuDoor Login

https://judoor.fz-juelich.de/login?show=/projects/join/training2216

JuDoor Login

You need to login in order to visit that page.

Portal for managing accounts, projects and resources at JSC.

Login using JSC account

Username

Password

[Login](#) [Register](#) [Reset password](#)

Login with e-mail callback

Login mail address

A confirmation email to confirm your identity will be sent to this address.

[Send identification mail](#)

Send join request to project

Your account xyhert1

Send join request to project

JÜLICH Forschungszentrum SUPERCOMPUTING CENTRE

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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Forschungszentrum Jülich, JSC

Contact Support
JuDoor Requests

We are pleased to bring "Supercomputing in your browser". Jupyter-JSC is designed to provide the rich high performance computing (HPC) ecosystem to the world's most popular software: web browsers. JupyterLab is a web-based interactive development environment for Jupyter notebooks, code, and data. JupyterLab is flexible to support a wide range of workflows in data science, scientific computing, and machine learning. [Read more.](#)

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.

[Login](#)  [Register](#)

 **Jupyter-JSC**  **JUWELS**  **JURECA**  **JUSUF**  **DEEP**

 **HDFML**  **HDF-Cloud**

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HELMHOLTZ
RESEARCH FOR GRAND CHALLENGES

Jupyter-JSC OAuth2 Authorizat X +

https://unity-jsc.fz-juelich.de/jupyter-oauth2-as/oauth2-authz-web-entry

Start Links

JSC account

xyhert1

Sign in

Helmholtz account

Sign in with Helmholtz

Jupyter-JSC JUWELS JURECA JUSUF DEEP

HDFML HDF-Cloud

Member of the Helmholtz Association

29 May 2022

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go.fzj.de/sc21-mg-jd and jupyter-jsc.fz-juelich.de

Jupyter-JSC

https://jupyter-jsc.fz-juelich.de/hub/home

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SUPERCOMPUTING
CENTRE

Last login: 12:51:00 2022-05-28

Logout

Start Links

Configurations

Please give each of your configurations a name.
This way you can run multiple instances at the same time.
Supported characters are a-z, 0-9 and '_'.
JupyterLab

mutligputut

Add new JupyterLab

Name	Version	System	Account	Project	Partition	Details	Actions
------	---------	--------	---------	---------	-----------	---------	---------

mutligputut

Add new JupyterLab

Jupyter-JSC JUWELS JURECA JUSUF DEEP

HDFML HDF-Cloud

A screenshot of a web browser window showing the JupyterLab Options interface. The window has a dark blue header bar with red, yellow, and green window control buttons. The title bar says "Jupyter-JSC". The address bar shows the URL: <https://jupyter-jsc.fz-juelich.de/hub/spawn/an@email.address.com/mutligputut>. The top right corner features a purple infinity symbol icon.

The main content area has a light gray background with a large, semi-transparent image of the planet Jupiter with its moon Ganymede visible. At the top left is the Jülich Supercomputing Centre logo, which includes a stylized blue and white circular graphic, the word "JÜLICH", and "Forschungszentrum". To the right of the logo is the text "Last login: 12:51:00 2022-05-28", the email address "an@email.address.com", and a "Logout" button.

Below the header, there are two navigation links: "Start" and "Links".

The central part of the interface is titled "JupyterLab Options". It contains several dropdown menus and buttons:

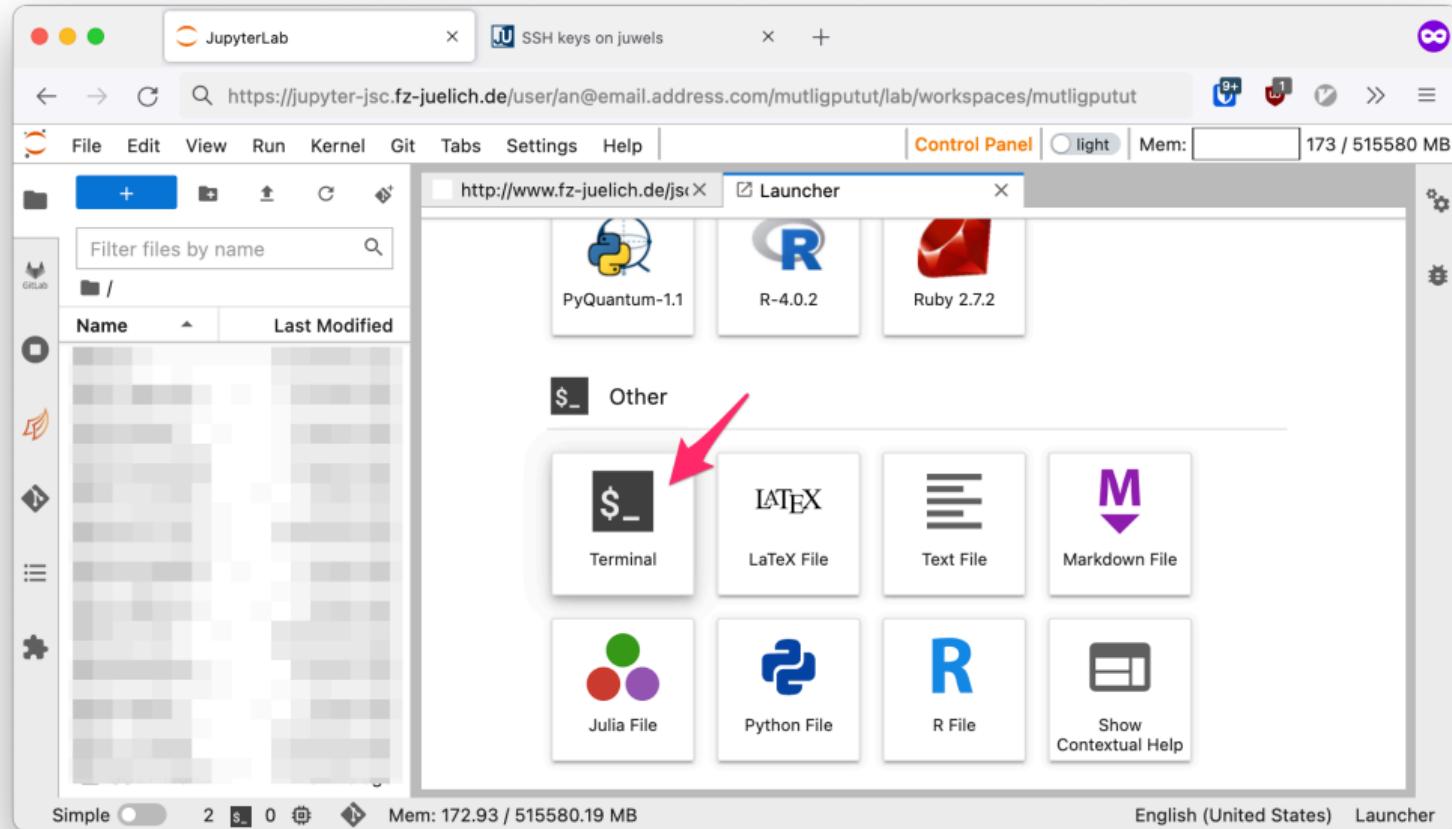
- Version: JupyterLab 3 (2021a) ▾
- System: JUWELS ▾
- Account: herten1 ▾
- Project: training2216 ▾
- Partition: LoginNodeBooster ▾

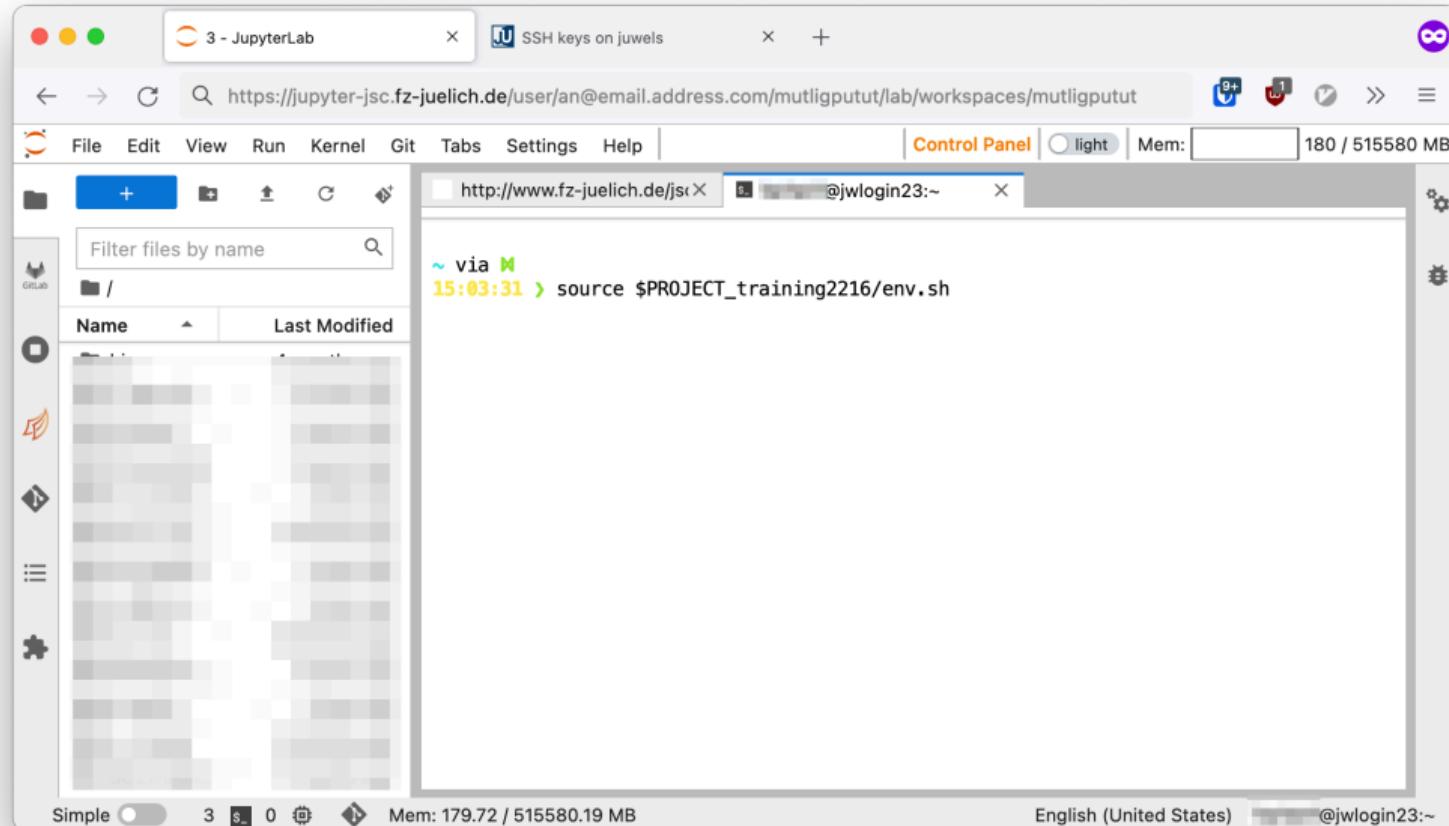
A large blue "Start" button is located below these controls.

At the bottom of the interface, there is a footer bar with five icons and labels:

- Jupyter-JSC
- JUWELS
- JURECA
- JUSUF
- DEEP

Below the footer, there are additional labels: HPE EXPLORER, HPE SLURM, and HPE SCHEDULER.





3 - JupyterLab SSH keys on juwels

https://jupyter-jsc.fz-juelich.de/user/an@email.address.com/mutligputut/lab/workspaces/mutligputut

File Edit View Run Kernel Git Tabs Settings Help | Control Panel | light | Mem: 180 / 515580 MB

http://www.fz-juelich.de/jsc@jwlogin23:~

The following modules were not unloaded:
(Use "module --force purge" to unload all):

1) Stages/2020

The following have been reloaded with a version change:
1) Stages/2020 => Stages/2022

Welcome to the ISC22 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 --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 3s via M
15:04:04 > cd ISC22-Multi-GPU-Tutorial

Simple 3 s 0 Mem: 180.25 / 515580.19 MB English (United States) @jwlogin23:~

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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="80.146.183.0/24" ssh-ed25519 AddddACadsfzaC1lZDI1NTE5AAAAsa
```

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

- Help at apps.fz-juelich.de/jsc/hps/juwels/access.html

JupyterLab Dr. Andreas Herten

Your account Germany

Systems

juwels [Manage SSH-keys](#) Usage agreement confirmed on 21.03.2019
JUWELS: [training2216](#) JUWELS BOOSTER: [training2216](#) JUWELS_GPUS: [training2216](#)

Show Home Quota

Projects

Training 2216 [training2216](#)

[Join a project](#)

Software

[Request access to restricted software](#)

1 - JupyterLab x JU SSH keys on juwels +

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  
AdddddACadsfzaC1lZDI1NTE5AAAAAsadf5yDS3Sht52425D0gV0AWzu52hnxiO92Ynksadfijr3bDq
```

Paste the content of your `.pub`-file here or upload a file below.

Your public key file Additional public key options

 e.g. `from="46.183.103.8",...`