



# 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-gh<sup>1</sup>](https://go.fzj.de/isc22-mg-gh)

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- 1 Create JSC account at JuDoor
- 2 Join training2216 project  
→ [go.fzj.de/isc22-mg-jd](https://go.fzj.de/isc22-mg-jd)
- 3 Accept usage agreement
- 4 Wait 15 minutes 
- 5 Access system via Jupyter v2  
→ [jupyter-jsc.fz-juelich.de](https://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/training2125/>

# 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](#)

JU Send join request to project X +

>Your account xyzhert1

# Send join request to project

JÜLICH Forschungszentrum

Do you want to send a project join request to the [training2125](#) project?

The following information will be given to the PI and PA of the project: Dr. Andreas Herten, [xyzhert1, an@email.address.com](#)

Optional additional information for the PI and PA

Attending SC21 Mult-GPU tutorial and excited about today!

[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](#).

JURECA, JUWELS, JURECA, JUSUF, DEEP  
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      Helmholtz account

xyzhert1

Sign in with Helmholtz

Sign in

Jupyter-JSC JUWELS JURECA JUSUF DEEP

The screenshot shows a web browser window with the URL <https://unity-jsc.fz-juelich.de/jupyter-oauth2-as/oauth2-authz-web-entry>. The page has a light gray header with the Jupyter-JSC logo and a search bar. Below the header is a navigation bar with icons for back, forward, search, and other browser functions. The main content area has a dark blue header with the Jülich Forschungszentrum logo and the text "Start Links". The background of the main content is a photograph of the planet Jupiter with several small moons visible against a dark space background. On the left side, there is a form for a "JSC account" with fields for "xyzhert1" and a masked password. On the right side, there is a "Helmholtz account" section with a "Sign in with Helmholtz" button. At the bottom of the page, there is a footer with logos for "Jupyter-JSC", "JUWELS", "JURECA", "JUSUF", and "DEEP".

JÜLICH  
Forschungszentrum

JÜLICH  
SUPERCOMPUTING  
CENTRE

Last login: 13:23:11 2021-10-27

an@email.address.com

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

sc21multigpu Add new JupyterLab

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

Jupyter-JSC JUWELS JURECA JUSUF DEEP  
HDFML HDF-Cloud

Jupyter-JSC

Last login: 19:50:07 2021-11-13

an@email.address.com

Logout

## JupyterLab Options

Version	JupyterLab 2 (2020b) ▾
System	JUWELS ▾
Account	herten1 ▾
Project	training2125 ▾
Partition	LoginNodeBooster ▾

Start

Jupyter-JSC JUWELS JURECA JUSUF DEEP

HPCML HPC Cloud

JupyterLab Jupyter-JSC

https://jupyter-jsc.fz-juelich.de/user/juwelsbooster/lab/workspaces/juwelsbooster?vo\_

File Edit View Run Kernel Git Tabs Settings Help Control Panel light Mem:200 MB

Launcher

Name

- bin
- CUDA-Course
- cuda-workspace
- Desktop
- Documents
- env\_booster\_test
- GPU-Course
- GPUXMAS
- GTC-LSPCI
- JUWELS-Booster-Porting-...
- mvapich-debug
- PROJECT\_cjsc
- Projects
- SCRATCH\_share
- shared

Julia 1.6.1 Octave-6.1.0 PyDeepLearning-1.0 PyParaView-5.8 .1

PyQuantum-1.1 R-4.0.2 Ruby 2.7.1

Other

Terminal Text File Markdown File Show Contextual Help

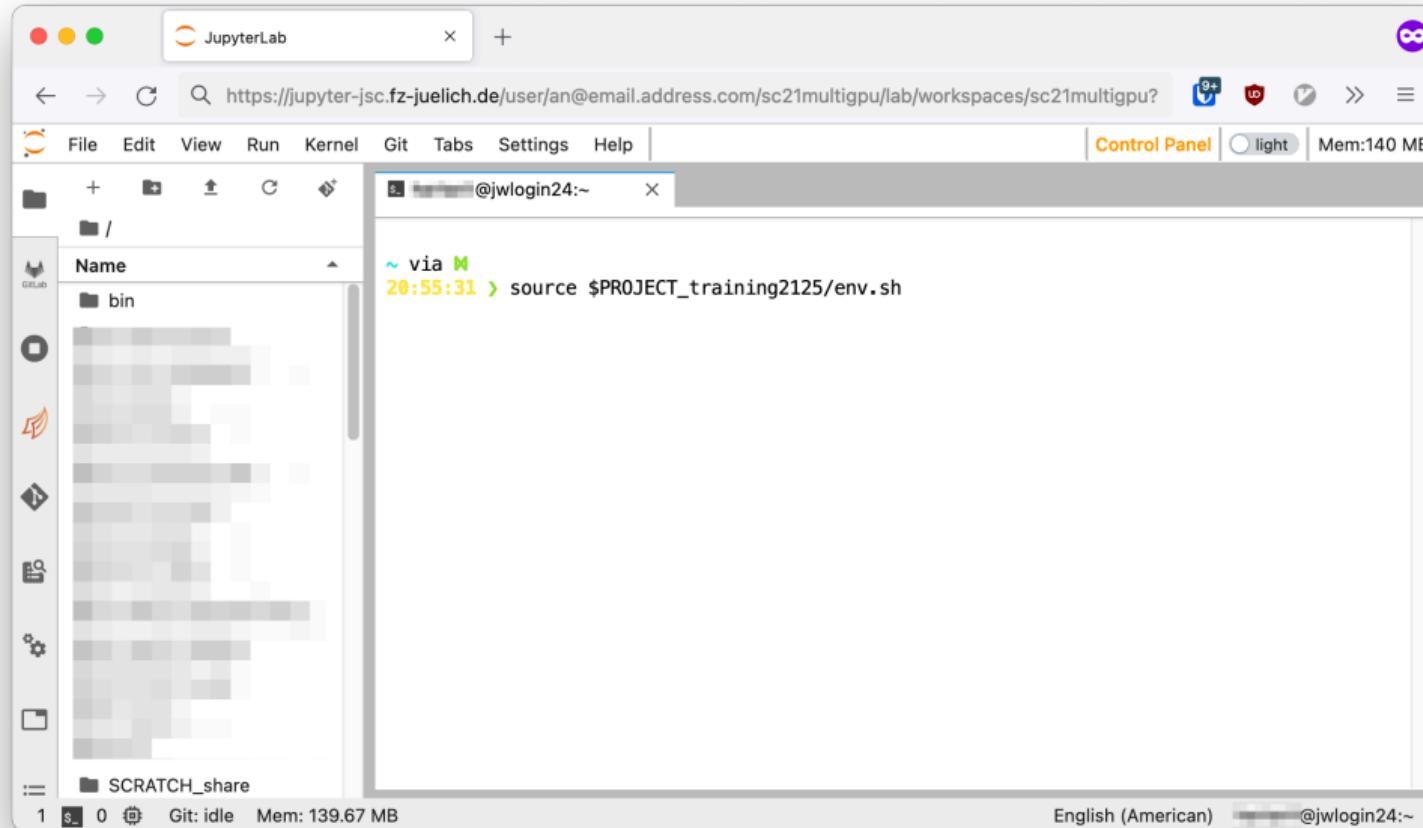
1 s 0 Git: idle Mem: 200.07 MB English (American) Launcher

Member of the Helmholtz Association

29 May 2022

Slide 213

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



JupyterLab

https://jupyter-jsc.fz-juelich.de/user/an@email.address.com/sc21multigpu/lab/workspaces/sc21multigpu?

File Edit View Run Kernel Git Tabs Settings Help Control Panel light Mem:156 MB

@jwlogin24:~

1) Stages/2020

Preparing the environment for use of requested stage ( 2020 ).

The following have been reloaded with a version change:

1) NCCL/2.8.3-1-CUDA-11.3 => NCCL/2.10.3-1-CUDA-11.3

\*\*\*\*\*

Welcome to the SC21 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 20:56:02

1 \$\_ 0 Git: idle Mem: 140.28 MB English (American) @jwlogin24:~

The following have been reloaded with a version change:  
1) NCCL/2.8.3-1-CUDA-11.3 => NCCL/2.10.3-1-CUDA-11.3

\*\*\*\*\*  
Welcome to the SC21 Tutorial on Multi-GPU Computing for Exascale!  
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Some modules have been loaded into the environment. See them with  
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Synchronize the master material folder to your own by calling  
'jsc-material-sync'  
\*\*\*\*\*

~ took 3s via M  
20:56:02 > jsc-material-sync

~ via M  
20:56:15 > cd SC21-Multi-GPU-Tutorial/

~/SC21-Multi-GPU-Tutorial via M  
20:56:27 > █

File Edit View Run Kernel Git Tabs Settings Help Control Panel light Mem:140 MB

SC21-Multi-GPU-Tutorial

1 s 0 Git: idle Mem: 140.34 MB English (American) @jwlogin24:~/SC21-Multi-GPU-Tutorial

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