

jobid	owner	project	queue	starttime	est_endtime	runtime	#nds	Load/Nd	Mem/Nd	IC Mib/Nd	IC Pck/Nd	HomeWr	HomeRd	PrjWr	PrjRd	ScrWr	ScrRd	FDataWr	FDataRd	#spis
1261174	user0065	grp055	gpus	2019-07-05 15:39	2019-07-05 21:39	2h54m	1	8.30	13.44	257.21	0.22					37.13	4.44			174 PDF
1261176	user0065	grp055	gpus	2019-07-05 15:39	2019-07-05 21:39	2h54m	1	8.54	13.47	291.23	0.25					40.50	4.42			174 PDF
1261179	user0065	grp056	gpus	2019-07-05 15:39	2019-07-05 21:39	2h54m	1	8.35	13.46	347.88	0.45					42.75	4.45			174 PDF
1261180	user0065	grp056	gpus	2019-07-05 15:39	2019-07-05 21:39	2h54m	1	8.40	13.45	287.55	0.31					38.25	4.41			174 PDF
1261173	user0065	grp056	gpus	2019-07-05 15:39	2019-07-05 21:39	2h54m	1	8.41	15.84	255.08	0.22					39.38	4.33			174 PDF
1261172	user0065	grp055	gpus	2019-07-05 15:39	2019-07-05 21:39	2h54m	1	8.31	13.49	186.62	0.07					36.00	4.48			174 PDF
1260784	user0424	grp135	batch	2019-07-05 15:12	2019-07-06 15:12	3h21m	64	94.73	80.18	80.01	0.10									201 PDF
1260783	user0424	grp135	batch	2019-07-05 14:49	2019-07-06 14:49	3h44m	64	94.53	45.01	20.10	0.02									224 PDF
1248142	user0635	grp107	batch	2019-07-05 14:40	2019-07-05 20:40	3h53m	4	63.23	44.92	1763.54	0.46									233 PDF
1260887	user0065	grp056	gpus	2019-07-05 14:40	2019-07-05 20:40	3h53m	1	8.50	13.45	285.26	0.24					48.38	4.38			233 PDF
1259952	user0065	grp055	gpus	2019-07-05 14:31	2019-07-05 20:31	4h02m	1	8.52	15.18	421.38	0.90					50.63	4.30			242 PDF
1259955	user0065	grp056	gpus	2019-07-05 14:31	2019-07-05 20:31	4h02m	1	8.45	13.46	342.13	0.56					51.75	4.48			242 PDF
1259626	user0065	grp055	gpus	2019-07-05 14:31	2019-07-05 20:31	4h02m	1	8.58	13.45	379.93	0.66					56.25	4.39			242 PDF
1259953	user0065	grp055	gpus	2019-07-05 14:31	2019-07-05 20:31	4h02m	1	8.61	15.99	419.69	0.85					50.63	4.20			242 PDF

Jobid: 1805205 User: luehrs2 Project: cstao Date/Time of job data: 19/10/29-14:23:18

**Job runtime:** 11m  
-> 72.48% of wall: 15m

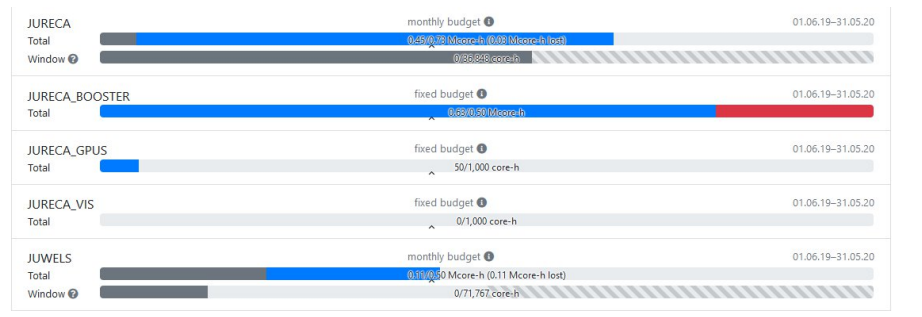
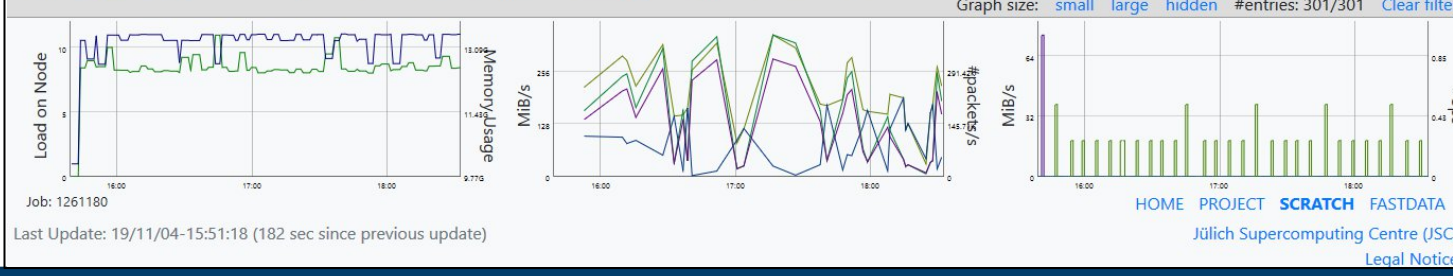
**Job Performance metrics**

	min	avg	max
Load (CPU-Nodes):	0.00	29.29	48.25
Memory (CPU-Nodes):	7194.40	40841.74	74024.40 MIB
Interconnect Traffic (in):		1745.53	1973.90 MIB/s
Interconnect Traffic (out):		1895.68	2232.05 MIB/s
Interconnect Packets (in):		1626172	1802858 pck/s
Interconnect Packets (out):		1666604	1911087 pck/s

Queue: batch  
Job Size, #nodes: 683 #data points: 11

**Job I/O statistics**

	Total Data Write	Total Data Read	max. Data rate/Node Write	max. Data rate/Node Read	Open-Close Rate/Node
\$HOME:	0.00 MB	0.00 MB	0.00 MB/s	22.27 MB/s	3509.30 op/s
\$PROJECT:	0.00 MB	0.00 MB	0.00 MB/s	0.00 MB/s	22.17 op/s
\$SCRATCH:	13.28 MB	16731064.13 MB	0.09 MB/s	85074.54 MB/s	2511.62 op/s
\$FASTDATA:	0.00 MB	0.00 MB	0.00 MB/s	0.00 MB/s	22.17 op/s

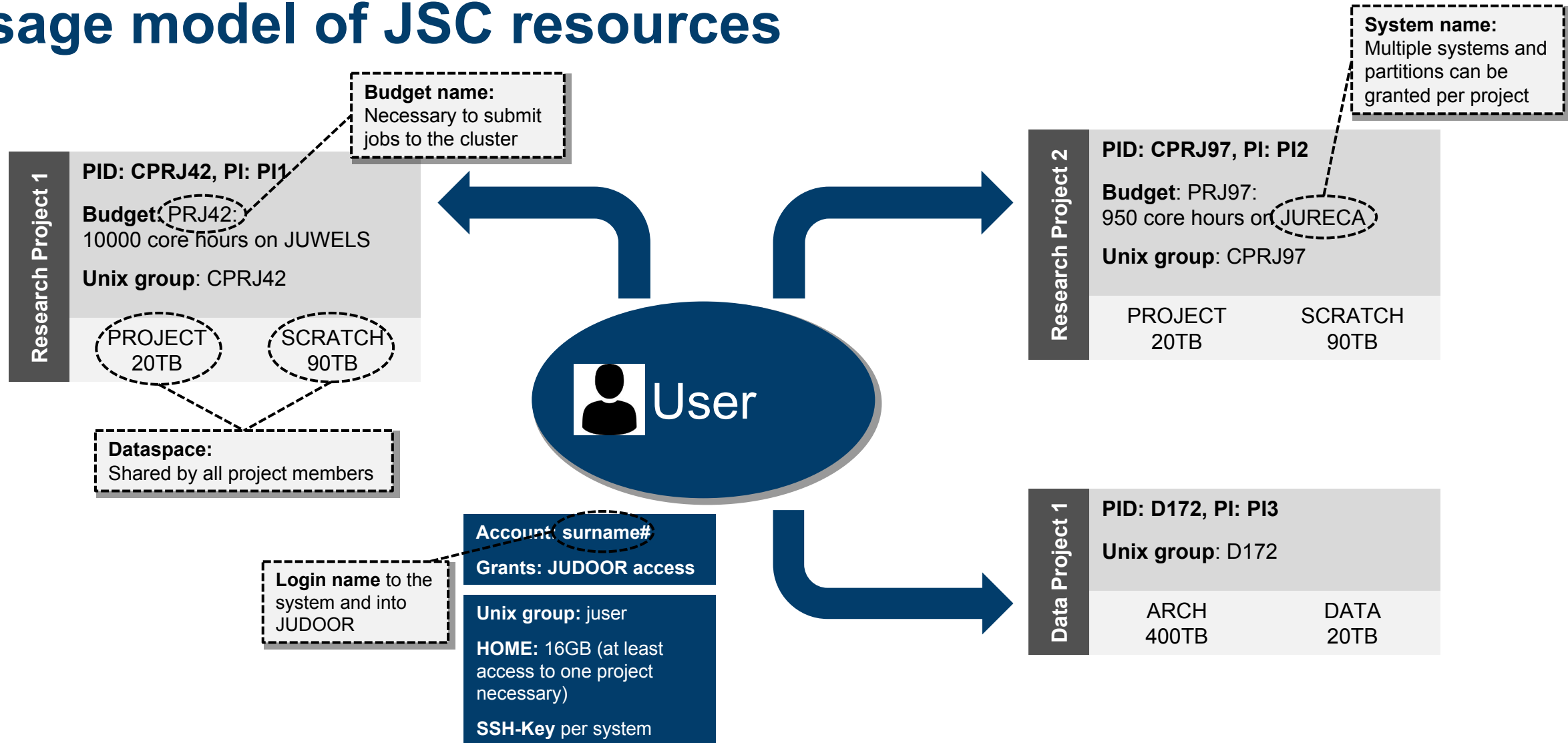


# First Steps: User Portal and Job Monitoring



## Webportals and Support-Tools @ JSC

30.05.2023 | Dr. Jolanta Zjupa

# Usage model of JSC resources



# Compute project vs. data project

	Compute project	Data project
Call	Twice per year	Continuously open
Computing time		
Grants system access	<ul style="list-style-type: none"><li>• JUWELS</li><li>• JURECA</li><li>• JUDAC ...</li></ul>	<ul style="list-style-type: none"><li>• JUDAC</li></ul>
Filesystem access on all systems	<ul style="list-style-type: none"><li>• PROJECT</li><li>• SCRATCH</li></ul>	<ul style="list-style-type: none"><li>• ARCHIVE</li><li>• FASTDATA</li><li>• DATA</li><li>• SOFTWARE</li></ul>

**Note:** \$SCRATCH has **no backup** and files that have not been touched 90 days are **automatically deleted**

# 3 Steps to access the HPC systems

# Step 1: JUDOOR account registration

## JuDoor Login



Portal for managing accounts, projects and resources at JSC.

Login using JSC webservice 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.

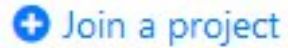
[Send identification mail](#)

If you are stuck take a look at the [JuDoor Documentation](#).

<https://judoor.fz-juelich.de>

# Step 2: Join a project

## *Two alternatives*

 + Join a project

in JUDOOR if you  
know the project ID

Follow invitation link send  
by PI or PA

<https://judoor.fz-juelich.de/projects/join/...>






PI/PA receives notification and grants  
project resource specific access

If you are already a project member but don't see all  
available project systems, you can use

Request access for resources

# JUDOOR Overview

An user can be part of multiple compute and data projects

 JSCbenchmark	jscbenchmark
 PRACE CoE Allocation EoCoE	prcoe03
 Cross Sectional Team - Application Support	cstao
  HPCLAB - Schulungsprojekt	hpclab

Annotations:

- Compute project: points to the JSCbenchmark row.
- Data project: points to the Cross Sectional Team - Application Support row.
- Data project and PI/PA access: points to the HPCLAB - Schulungsprojekt row.

# JUDOOR Overview

## Project details

### Project training2000

**Project title**

Parallel I/O

**Type**

📅 Computeproject

**Principal Investigator**

Sebastian Lührs

**Project Mentor**

Sebastian Lührs

**Start date**

01.01.2020

**End date**

29.02.2020

**Community**

Training

**Address**

Forschungszentrum Jülich GmbH, JSC  
Wilhelm-Johnen-Straße  
52425 Jülich  
Germany

**Group name**

training2000

Data access is possible up to 3 month after the end of the project via JUDAC.

**Project duration:**  
Job execution is only possible during the runtime of the project if there is an available budget.

**Project unix group:**  
Unix group for project related top level folders

#### Project Mentor:

Project specific permanent contact point at JSC, in addition to [sc@fz-juelich.de](mailto:sc@fz-juelich.de).

The mentor is available for requests concerning further support and training offers by JSC or helps to arrange in-depth code analyses.

More details:

<https://www.fz-juelich.de/en/ias/jsc/services/user-support/project-mentoring>



# JUDOOR Overview

Each projects grants access to various systems and partitions.

## Systems

deep <a href="#">Manage SSH-keys</a> cprcdeep cjsc	Usage agreement confirmed on 21.02.2019
judac <a href="#">Manage SSH-keys</a> ccstao chpclab jscbenchmark cparateam cprcdeep prcoe03 cjsc jsc prcdeep hpclab software cstao	Usage agreement confirmed on 03.12.2018
jureca <a href="#">Manage SSH-keys</a> JURECA: ccstao jscbenchmark cjsc JURECA_BOOSTER: ccstao jscbenchmark cjsc JURECA_GPU: ccstao jscbenchmark cjsc JURECA_VIS: ccstao jscbenchmark cjsc	Usage agreement confirmed on 03.12.2018
juron <a href="#">Manage SSH-keys</a> chpclab	Usage agreement confirmed on 04.12.2018
juropa3exp <a href="#">Manage SSH-keys</a> chpclab cjsc	Usage agreement confirmed on 21.02.2019
juwels <a href="#">Manage SSH-keys</a> JUWELS: ccstao jscbenchmark prcoe03 JUWELS_GPUS: ccstao jscbenchmark	Usage agreement confirmed on 06.12.2018

Usage agreement link must be visited first before Manage SSH-Keys link appears

Projects connected to this resource

# Step 3: Upload your SSH-key

## SSH keys on jureca

Here you can upload an SSH public key to the system. Information on how to create an SSH public key can be found [here](#). It might take up to 15 minutes until the newly added SSH key is activated.

More details on from-clause handling and key generation

### 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 `134.94.52.69`. See [the documentation](#) for more information.

Remove all other existing public keys.

Your current public IP

Your public key and options string

```
from="134.94.52.69" ssh-ed25519 AAAAC3N...
```

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

Your public key file

Additional public key options

E.g. `from="134.94.52.69",...`

Can be a list of static IP, a static network range, a static hostname or a hostname suffix using `*` as a wildcard symbol

You can specify your `from=` clause and other public key options here

Start upload of SSH-Keys

Add additional keys...

### Your SSH keys on jureca

sebi@zam495

SHA256:

MD5:

Options: `from="134.94.0.0/16"`

# How to Login

## Terminal

```
ssh [-X] userX@jureca.fz-juelich.de
```

➤ This will bring you to \$HOME on JURECA, analogously other systems

**Note:** \$HOME has only 16GB and is *not* meant for production - go to: \$PROJECT or \$SCRATCH

➤ On your local machine you can edit `.ssh/config` to set shortcuts

- **JupyterLab** (through the browser)

Talk today by  
J.-H. Göbbert (JSC)

- Setup SSH connection through your favourite editor (VSC, Sublime, Atom, Kate, ... many others)

- Mount the Filesystem to your local machine through a mount point

Hands on

# Overview preinstalled software

## JUWELS

Jülich Wizard for European Leadership Science



### Status

Please see [here](#) for system status information.

### News

Date	News
------	------

23.11.2020 Start of production of the JUWELS Booster module

### Supercomputers

#### JUWELS

User Documentation

Configuration

FAQ

Known Issues

Further Documentation

Related Organisations

Job reporting cluster

Job reporting booster

Modules overview cluster

Modules overview booster

Contact

JURECA

JUSUF

QPACE3

DEEP-EST

New Usage Model

**JURECA:** [https://apps.fz-juelich.de/jsc/llview/jureca\\_modules/](https://apps.fz-juelich.de/jsc/llview/jureca_modules/)  
**JUWELS Cluster:** [https://apps.fz-juelich.de/jsc/llview/juwels\\_modules/](https://apps.fz-juelich.de/jsc/llview/juwels_modules/)  
**JUWELS Booster:** [https://apps.fz-juelich.de/jsc/llview/juwels\\_modules\\_booster/](https://apps.fz-juelich.de/jsc/llview/juwels_modules_booster/)

# Overview preinstalled software

Software toolchains

Compiler/GCCcore/8.3.0 [100]
intel/2019.3.199-GCC-8.3.... [83]
intel/2019.3.199-GCC-8.3.... [82]
intel/2019.3.199-GCC-8.3.... [79]
GCC/8.3.0/psmpi/5.2.2-1 [73]
Core [48]
Compiler/GCC/8.3.0 [14]
Compiler/intel/2019.3.199... [13]
intel/2019.3.199-GCC-8.3.... [13]
GCC/8.3.0/MVAPICH2/2.3.2-... [9]
GCC/8.3.0/MVAPICH2/2.3.1-... [8]
Compiler/mpi/intel/2019.3... [7]
PGI/19.3-GCC-8.3.0/MVAPIC... [5]
PGI/19.3-GCC-8.3.0/MVAPIC... [5]
Compiler/mpi/GCC/8.3.0 [4]
Compiler/mpi/PGI/19.3-GCC... [2]
show hidden modules: <input type="checkbox"/>

<b>MPI/intel/2019.3.199-GCC-8.3.0/psmpi/5.2.2-1</b>		
<a href="#">ABINIT/8.10.2</a>	<a href="#">LAMMPS/12Dec2018</a>	<a href="#">Silo/4.10.2</a>
<a href="#">ARPACK-NG/3.7.0</a>	<a href="#">MUMPS/5.1.2</a>	<a href="#">SuiteSparse/5.4.0-</a>
<a href="#">ASE/3.17.0-Python-3.6.8</a>	<a href="#">MUST/1.6-rc3-Python-3.6.8</a>	<a href="#">METIS-5.1.0</a>
<a href="#">Boost/1.69.0-Python-2.7.16</a>	<a href="#">Meep/1.7.0</a>	<a href="#">Valgrind/3.14.0</a>
<a href="#">Boost/1.69.0-Python-3.6.8</a>	<a href="#">NAMD/2.13</a>	<a href="#">VampirServer/9.6.1</a>
<a href="#">CDO/1.9.5</a>	<a href="#">NCL/6.6.2</a>	<a href="#">YAXT/0.6.0</a>
<a href="#">CGAL/4.13.1-Python-2.7.16</a>	<a href="#">NCO/4.7.9</a>	<a href="#">buildenv/intel-para</a>
<a href="#">CGAL/4.13.1-Python-3.6.8</a>	<a href="#">OSPRay/1.8.4</a>	<a href="#">darshan-runtime/3.1.7</a>
<a href="#">CP2K/6.1-plumed-elpa</a>	<a href="#">PETSc/3.11.1</a>	<a href="#">darshan-util/3.1.7</a>
<a href="#">CPMD/4.3</a>	<a href="#">PETSc/3.11.1_complex</a>	<a href="#">ecCodes/2.12.0</a>
<a href="#">ELPA/2016.05.004</a>	<a href="#">PETSc/3.11.1_int8</a>	<a href="#">h5py/2.9.0-Python-2.7.16</a>
<a href="#">ELPA/2018.11.001</a>	<a href="#">PLUMED/2.5.1</a>	<a href="#">h5py/2.9.0-Python-3.6.8</a>
<a href="#">ELPA/2018.11.001-gpu</a>	<a href="#">ParMETIS/4.0.3</a>	<a href="#">imkl/2019.3.199</a>
<a href="#">ELPA/2018.11.001-single</a>	<a href="#">ParMETIS/4.0.3-double</a>	<a href="#">mpi4py/3.0.1-Python-2.7.16</a>
<a href="#">ESMF/7.1.0r</a>	<a href="#">PyFerret/7.5.0-Python-2.7.16</a>	<a href="#">mpi4py/3.0.1-Python-3.6.8</a>
<a href="#">Elemental/0.87.7</a>	<a href="#">QuantumESPRESSO/6.4.1</a>	<a href="#">mpiP/3.4.1</a>
<a href="#">Extrac/3.7.0</a>	<a href="#">R/3.5.3</a>	<a href="#">netCDF-C++4/4.3.0</a>
<a href="#">FFTW/3.3.8</a>	<a href="#">R/3.5.3.bak_20190521110136</a>	<a href="#">netCDF-Fortran/4.4.5</a>
<a href="#">GPAW/1.5.2-Python-3.6.8</a>	<a href="#">RELION/3.0.4</a>	<a href="#">netCDF/4.6.3</a>
<a href="#">GROMACS/2019.1</a>	<a href="#">SCOTCH/6.0.6</a>	<a href="#">netcdf4-python/1.5.0.1-</a>
<a href="#">GROMACS/2019.1.bak_20190712181530</a>	<a href="#">SONLib/1.7.2</a>	<a href="#">Python-2.7.16</a>
<a href="#">GROMACS/2019.3</a>	<a href="#">SLEPc/3.11.1</a>	<a href="#">netcdf4-python/1.5.0.1-</a>
<a href="#">HDF5/1.10.5</a>	<a href="#">Scalasca/2.5</a>	<a href="#">Python-3.6.8</a>
<a href="#">Harminv/1.4.1</a>	<a href="#">Score-P/5.0</a>	<a href="#">parallel-netcdf/1.11.0</a>
<a href="#">Hypr/2.15.1</a>	<a href="#">Score-P/6.0</a>	<a href="#">petsc4py/3.11.0-</a>
<a href="#">Hypr/2.15.1-bigint</a>	<a href="#">Score-P/default</a>	<a href="#">Python-3.6.8</a>
	<a href="#">Siesta/4.0.2</a>	<a href="#">sprng/1</a>
		<a href="#">sprng/5-14042019</a>
		<a href="#">sundials/3.2.1</a>
		<a href="#">sundials/4.1.0</a>

One software toolchain: Intel compiler & ParaStationMPI

Can be loaded on the system by using:  
 module load Intel  
 module load ParaStationMPI  
 module load netCDF

Talk tomorrow by R. Schöbel (JSC)

# Slurm job submission

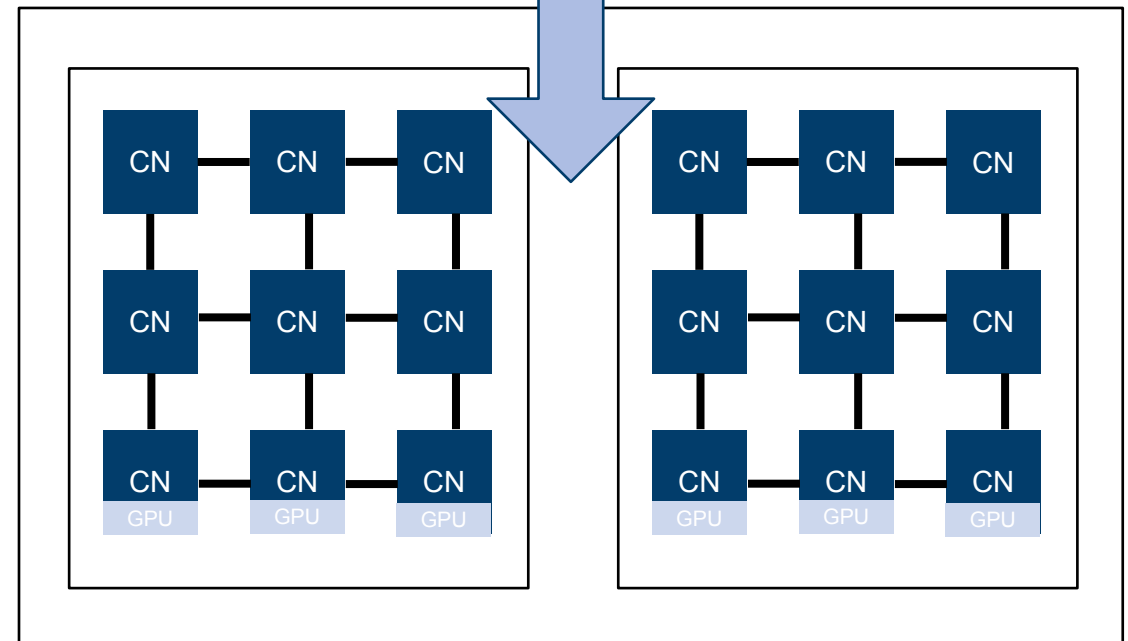
```
#!/bin/bash -x
#SBATCH --mail-type=BEGIN,END,FAIL
#SBATCH --mail-user=

#SBATCH --account=
#SBATCH --job-name
#SBATCH --output=
#SBATCH --error=
#SBATCH --time=24:00:00
#SBATCH --nodes=
#SBATCH --ntasks-per-node=
#SBATCH --partition=

srun ./mycode
```

Login node

Terminal: `sbatch job_jureca.sh`



Compute nodes

Talk tomorrow by  
C. Paschoulas (JSC)

# Quota calculation

`#nodes x #physical_cores_per_node x runtime`

- `#physical_cores_per_node`:
  - JUWELS or JUWELS\_BOOSTER: 48
  - JURECA-DC or JUSUF: 128
- `runtime`: actual job runtime, not the provided walltime of the job
- There is no node-sharing on compute nodes
- The quota is fully placed on the day when the job ended
- The quota of a job is not taken into account in advance
- The base priority of a job based on the overall project quota and is updated on a daily basis

# JUDOOR Quota status

## Active Budgets

Budget **cstao** ?

Budget name to submit a job

Used

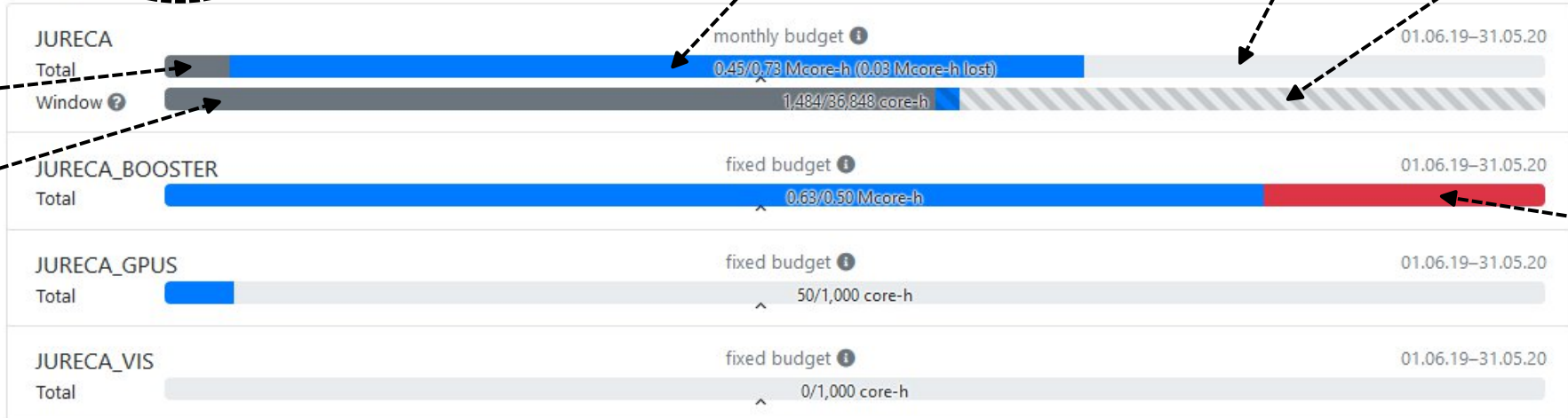
Available

Consumable budget of next month

Lost

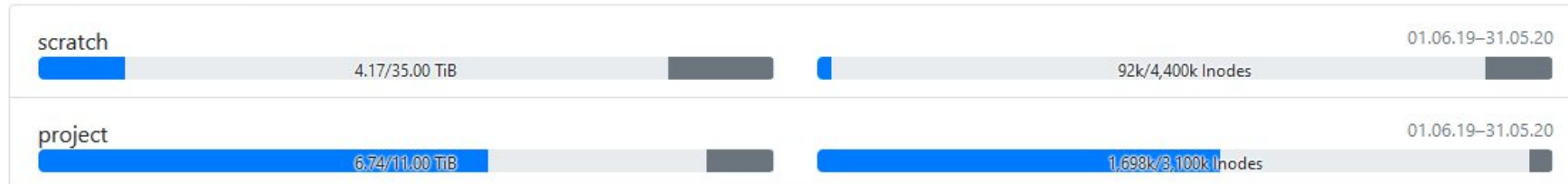
Consumed before this month

Over Budget



## Storage Quota

### Storage on just





# Jutil tool & budget monitoring

The budget can be provided on a per job basis (using the `--account` or `-A` option in SLURM), or the command line tool `jutil` can be used to monitor the budget or to activate a specific budget by default for a running Shell:

```
# See your projects  
jutil user projects
```

<https://apps.fz-juelich.de/jsc/hps/just/jutil.html>

```
# See your compute allocation  
jutil user cpuquota
```

```
# See your disk quota  
jutil user dataquota
```

```
# Activate environment (and optionally default budget) for a given project  
# Sets $PROJECT and $SCRATCH  
jutil env activate -p <project> [-A <budget>]
```

# Project quota overview: KontView

Accessible from JuDoor:

Show extended statistics

Show extended statistics for PI/PAs

User view

PI/PA view

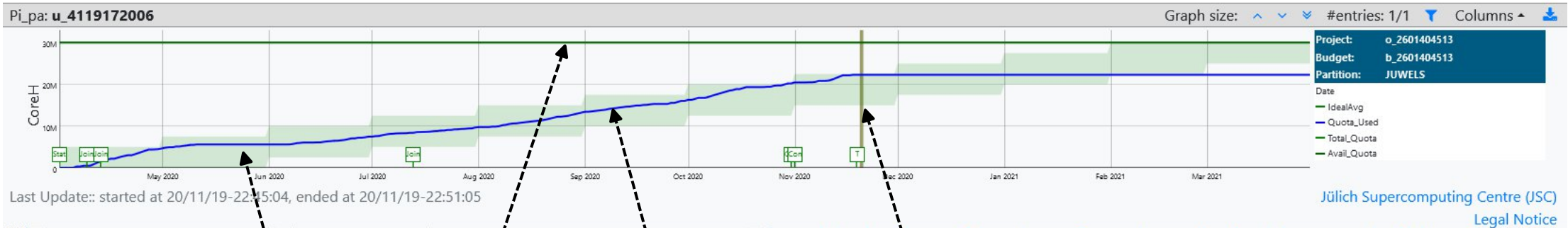


JSC KontView for **Juwels and Jureca** - PI/PA view



Compute Projects Data Projects

Class	Project	Budget	Partition	PI	Mentor	Kind	Status	Start	End	Elapsed %	Coreh used	% of avail.	% of requ.	Coreh ideal	% of ideal	Coreh avail.	Coreh awarded	Coreh requ.	Coreh bonus	Coreh lost	Coreh nocont
											Σ 22286298.00	∅ 74.29	∅ 74.29		∅ 116.37	Σ 30000000.00	Σ 30000000.00	Σ 30000000.00	Σ 0.00	Σ 0.00	Σ 218119.29
pra	o_2601404513	b_2601404513	JUWELS	u_4119172006	u_0325695197	m	A	01.04.20	31.03.21	63.84%	22286298	74.29%	74.29%	19150685	116.37%	30000000	30000000	30000000			218119.29



3-month window

total quota

used quota

now

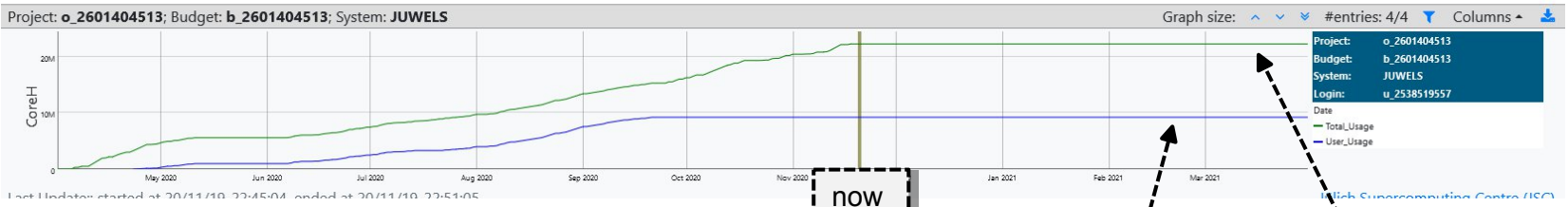
# Project quota overview: KontView

PI/PA view:  
display quota per user:



JSC KontView for **Juwels and Jureca** - Quota view

Name	Vorname	login	R_CLS	project	budget	hostname	CoreH user	numjobs
filter	filter	filter	filter	filter	filter	filter	filter	filter
							Σ 22286298.00	Σ 649.00
n_1164480197	v_1368957785	u_4119172006	pra	o_2601404513	b_2601404513	JUWELS	11182307	80
n_3761323631	v_4014760557	u_2538519557	pra	o_2601404513	b_2601404513	JUWELS	9241735	431
n_2841376739	v_3254141488	u_3494758383	pra	o_2601404513	b_2601404513	JUWELS	1677191	136
n_0025459174	v_1006594725	u_3131446118	pra	o_2601404513	b_2601404513	JUWELS	185065	2



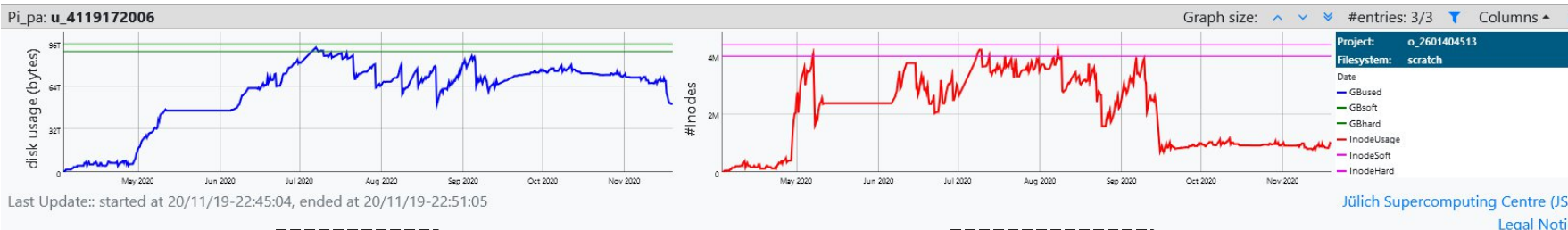
Storage utilization:



JSC KontView for **Juwels and Jureca** - PI/PA view

project	group	storage	filesystem	P_Leiter	Start	Ende	GBused	%ofSoft	GBsoft	GBsoftPerHard	GBhard	InodeUsage	InodeUsagePerCsoft	InodeSoft	InodeUsagePerHard	InodeHard
filter	filter	filter	filter	filter	filter	filter	filter	filter	filter	filter	filter	filter	filter	filter	filter	filter
							Σ 160998.00	Ø 82.49	Σ 209819.00	Ø 75.71	Σ 226705.00	Σ 1037230.00	Ø 9.52	Σ 7100000.00	Ø 8.65	Σ 7810000.00
o_1070008056	o_1070008056	data	largedata	n_1164480197	01.07.2020	30.06.2021	93880	91.68%	102400	83.35%	112640	2396	2.40%	100000	2.18%	110000
o_2601404513	o_2601404513	scratch	scratch	n_1164480197	01.04.2020	31.03.2021	51947	56.37%	92160	53.40%	97280	1000158	25.00%	4000000	22.73%	4400000
o_2601404513	o_2601404513	project	project	n_1164480197	01.04.2020	31.03.2021	15171	99.42%	15259	90.39%	16785	34676	1.16%	3000000	1.05%	3300000

used quota user      used quota total



disc usage

inodes usage

# Documentation

JUWELS

Jülich Wizard for European Leadership Science



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## Supercomputers

JUWELS

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[Configuration](#)

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[Job Reporting](#)

[Modules overview](#)

[Related Organisations](#)

[JURECA](#)

[JUSUF](#)

[Apply for test access](#)

[Apply for computing time](#)

**Supercomputers:** [https://www.fz-juelich.de/en/ias/jsc/systems/supercomputers\(/<system>\)](https://www.fz-juelich.de/en/ias/jsc/systems/supercomputers(/<system>))






**Storage systems:** [https://www.fz-juelich.de/en/ias/jsc/systems/storage-systems\(/<system>\)](https://www.fz-juelich.de/en/ias/jsc/systems/storage-systems(/<system>))

# Service status

## - Cluster Systems

 JUWELS Booster	Next Maintenance at 3. Mai 2022, 08:00:00	 JUWELS Cluster	Next Maintenance at 3. Mai 2022, 08:00:00
 JURECA Booster	Next Maintenance at 3. Mai 2022, 08:00:00	 JURECA DC	Next Maintenance at 3. Mai 2022, 08:00:00
 JUSUF HPC	Next Maintenance at 3. Mai 2022, 08:00:00	 JUDAC	Next Maintenance at 3. Mai 2022, 08:00:00
 HDF-ML	Next Maintenance at 3. Mai 2022, 08:00:00	 JUZEA1	Next Maintenance at 3. Mai 2022, 08:00:00
 QLM	Next Maintenance at 3. Mai 2022, 08:00:00		


## - File Systems

 \$HOME	Next Maintenance at 3. Mai 2022, 08:00:00	 \$PROJECT	Next Maintenance at 3. Mai 2022, 08:00:00
 \$SCRATCH	Next Maintenance at 3. Mai 2022, 08:00:00	 \$ARCHIVE	Next Maintenance at 3. Mai 2022, 08:00:00
 \$CSCRATCH	Next Maintenance at 3. Mai 2022, 08:00:00	 \$DATA	Next Maintenance at 3. Mai 2022, 08:00:00
 \$FASTDATA	Next Maintenance at 3. Mai 2022, 08:00:00		

## - Services

 JuDoor		 Jupyter-JSC	Next Maintenance at 3. Mai 2022, 08:00:00
 Backup	Next Maintenance at 3. Mai 2022, 08:00:00	 UNICORE	Next Maintenance at 3. Mai 2022, 08:00:00
 HDF Cloud	Next Maintenance at 3. Mai 2022, 08:00:00	 JUSUF CLOUD	Next Maintenance at 3. Mai 2022, 08:00:00
 Cloud Object Storage	Next Maintenance at 3. Mai 2022, 08:00:00	 JUSTCOM	Next Maintenance at 3. Mai 2022, 08:00:00

## - Support

 SC Support			
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### Supercomputers

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- JUSUF
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### Status

→ [the JSC Service Status Page](#) for system status information:

System messages JUWELS Cluster

System messages JUWELS Booster

<https://status.jsc.fz-juelich.de/>

**Read the MOTD**

# Service status

## JUWELS Cluster

The Cluster partition of the JUWELS Supercomputer [↗](#)



JUWELS Cluster is currently degraded

### Degraded base services

Unavailable login nodes

- juwelsvis01.fz-juelich.de

\$CSCRATCH [↗](#)

### Current state

#### Issues in cell 03

28. Feb. 2022, 14:20:00 - unknown

Today, on Monday 2022-02-28, at 14:20, a series of hardware failures resulted in a malfunction in the power and cooling systems of cell 03 in JUWELS Cluster. As a result the InfiniBand network suffered instabilities that affected other cells, and some jobs failed. The cell is now disconnected from the fabric and the system is stable.

We apologize for the inconvenience.

### History

#### New software stage

10. Feb. 2022, 12:00:00 - 7. März 2022, 20:14:16


The default software stage has been changed to Stages/2022. If you wish to continue using the previous default stack please load Stages/2020 before any other module. Note that this stage will be deprecated.

# Job monitoring & reports: LLview

JUWELS

Jülich Wizard for European Leadership Science

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JUWELS is a multi-petaflop modular supercomputer operated by Jülich

- Supercomputers
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- Calls for proposals

<https://llview.fz-juelich.de/<system>>

Services / User Support / JSC Software & Tools / LLview



Access to Job reports for JSC systems

- JUWELS ↗
- JUWELS Booster ↗
- JURECA-DC ↗
- JUSUF ↗
- DEEP ↗

Useful Links

- Job reporting full documentation ↗

LLview

Logindata: JUDOOR username & password

Live View

Scheduler overview

Job overviews

JUWELS Booster: Project view

Live Queue Workflows Active jobs Jobs ended today Jobs < 3 weeks

jobid	owner	project	queue	starttime	endtime/lastupd	runtime	#nds	Load/Nd	Mem/Nd	IC MIB/Nd	IC Pck/Nd	FS_GB_Wr	FS_GB_Rd	FS_Moc	state	#err	#errnds	Score	#spl
6531171	user1041	grp242	booster	2023-01-14 20:16	2023-01-14 23:28	3h12m	128	13.07	152.23	12,027.33	5.00	23.70	59,272.89	1.26	COMPLETED			0.88	192
6531170	user1041	grp242	booster	2023-01-14 17:51	2023-01-14 20:15	2h23m	128	13.01	160.89	11,934.44	4.96	239.82	44,298.55	1.15	COMPLETED			0.88	144
6530893	user1002	grp242	booster	2023-01-14 08:47	2023-01-14 09:17	30m	256	4.08	92.13	21.83	0.01		259.59	2.76	TIMEOUT			0.30	30
6530182	user1067	grp242	booster	2023-01-14 05:49	2023-01-14 05:52	3m	256	2.18	97.72	173.10	0.06		6,036.94	2.82	FAILED			0.20	3
6528383	user1002	grp242	booster	2023-01-14 04:00	2023-01-14 07:54	3h53m	4	8.06	152.66	14,738.15	4.76	0.05	1,701.26	3.59	COMPLETED			0.92	294
6527477	user1002	grp242	booster	2023-01-13 18:50	2023-01-13 19:20	30m	256	4.16	117.48	19.50	0.01	0.12	298.13	3.01	TIMEOUT			0.29	30
6527389	user1067	grp242	booster	2023-01-13 09:12	2023-01-13 10:14	1h02m	256	7.20	132.48	12,498.21	4.53	13.42	21,166.54	2.89	FAILED			0.92	62
6527358	user1041	grp242	booster	2023-01-13 20:08	2023-01-14 13:50	17h41m	128	12.96	130.91	11,901.91	4.97	145.55	349,746.02	3.44	FAILED			0.89	1058
6527355	user1041	grp242	booster	2023-01-13 19:22	2023-01-13 21:22	1h59m	128	12.86	102.93	11,913.05	4.96	13.54	55,105.31	1.56	COMPLETED			0.88	120
6526224	user1002	grp242	booster	2023-01-13 04:58	2023-01-13 16:58	12h00m	4	8.10	118.71	14,833.38	4.75	489.84	9,518.59	21.76	TIMEOUT			0.93	719
6526168	user1002	grp242	booster	2023-01-12 21:28	2023-01-12 21:49	21m	256	3.96	143.94	25.52	0.01	0.06	213.10	2.42	TIMEOUT			0.28	21
6525244	user1041	grp242	booster	2023-01-12 16:21	2023-01-12 18:22	2h01m	128	12.83	100.61	11,841.71	4.92	0.32	42,323.51	1.09	COMPLETED	29	29	0.89	121
6525142	user1002	grp242	booster	2023-01-12 15:16	2023-01-12 15:23	7m	128	3.60	263.76	53.93	0.02		94.15	1.08	CANCELLED by 16918			0.12	7
6525141	user1002	grp242	booster	2023-01-12 14:54	2023-01-12 15:14	20m	128	3.81	328.85	119.33	0.04	0.01	99.53	1.06	TIMEOUT			0.22	20
6524385	user1002	grp242	booster	2023-01-12 10:10	2023-01-12 10:21	10m	32	4.40	462.70	4,260.76	1.36	23.84	38.37	0.29	FAILED			0.44	11
6524384	user1002	grp242	booster	2023-01-12 10:10	2023-01-12 10:30	19m	32	6.48	365.85	16,715.20	5.23	21.25	68.03	0.42	TIMEOUT			0.72	20
6524383	user1002	grp242	booster	2023-01-12 10:10	2023-01-12 10:30	19m	32	6.43	346.84	27,818.37	8.85	2.59	35.80	0.22	TIMEOUT			0.72	20
6524382	user1002	grp242	booster	2023-01-12 10:10	2023-01-12 10:30	19m	32	6.34	358.11	38,640.59	12.33	10.80	22.83	0.18	TIMEOUT			0.70	20
6524381	user1002	grp242	booster	2023-01-12 10:02	2023-01-12 10:22	20m	32	5.92	220.76	46,306.66	14.23	0.00	39.05	0.31	TIMEOUT			0.68	20
6524380	user1002	grp242	booster	2023-01-12 09:38	2023-01-12 09:58	20m	32	6.09	325.38	51,353.32	15.81	0.00	33.80	0.36	TIMEOUT			0.69	20
6524379	user1002	grp242	booster	2023-01-12 09:16	2023-01-12 09:36	20m	32	6.09	325.38	51,353.32	15.81	0.00	33.80	0.36	TIMEOUT			0.69	20
6524378	user1002	grp242	booster	2023-01-12 09:16	2023-01-12 09:36	20m	32	6.09	325.38	51,353.32	15.81	0.00	33.80	0.36	TIMEOUT			0.69	20
6524377	user1002	grp242	booster	2023-01-12 09:16	2023-01-12 09:36	20m	32	6.09	325.38	51,353.32	15.81	0.00	33.80	0.36	TIMEOUT			0.69	20

Project: grp242

Columns: #entries: 267/267

Jan 14, 2023

CPU GPU IC FS\_all FS\_project FS\_scratch FS\_fastdata FS\_home Job: 6528383

Last Database update: 23/01/15-11:33:36 (took 66.84 sec since previous update)

Auto-Reload

Job report (interactive HTML view, or PDF download)

User info

Job info (start, end, nodes)

Avg. load & max. memory

Avg. network traffic

Total I/O traffic

- Column selection:
- FS\_all
  - FS\_by\_fs
  - GPU
  - GPU\_max
  - final\_status
  - info
  - loadmem
  - mentor
  - network
  - sched
  - sched\_ext
  - score
  - timings

Job specific metric history for CPU, GPU, ...

LLview version 2.0  
Dec. 2022



# Job reports

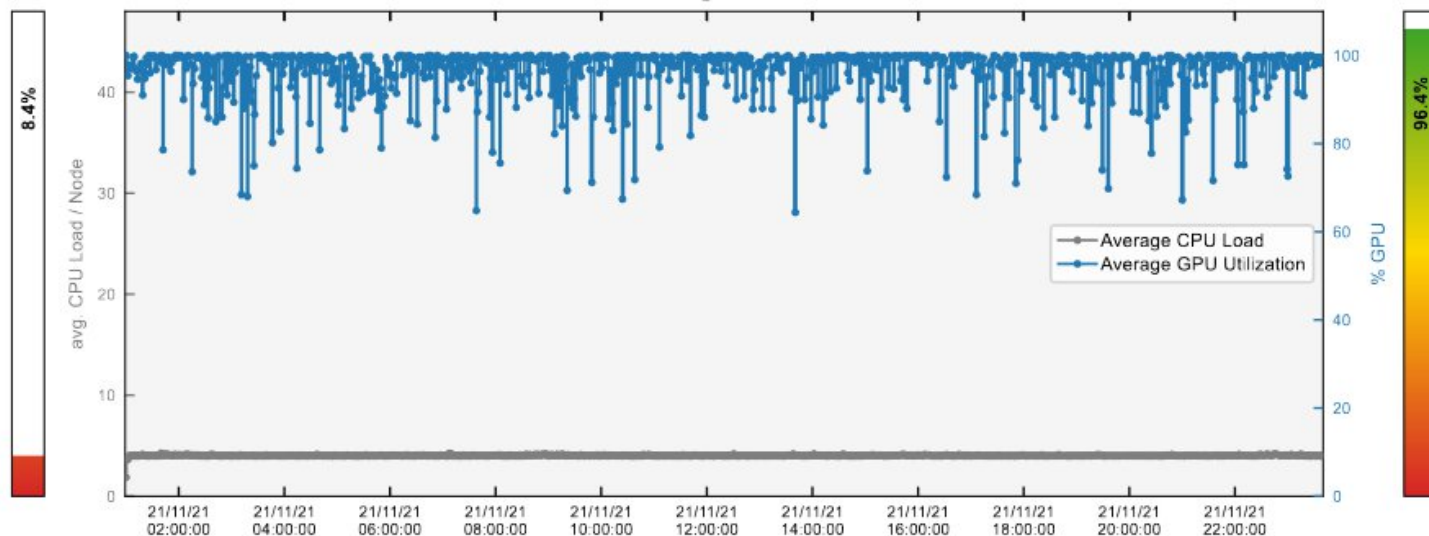
<b>Job Runtime:</b> 22h40m → 94.42% of Wall: 1d00h00m Job Start Time: <b>2021-11-20 23:58:33</b> Job Last Timestamp: <b>2021-11-21 22:38:12</b> (Running) Current Time: 2021-11-21 22:38:12 Job Endtime (Est.): 2021-11-21 23:58:51		<b>Job Performance Metrics</b>			
Queue: <b>booster</b> Job Size, #Nodes: <b>1</b> #Data Points: 1147 Job Size, #GPUs: <b>4</b> #Data Points: 901			min.	avg.	max.
		Load (CPU-Nodes):	<b>1.88</b>	<b>4.02</b>	<b>4.24</b>
		Memory (CPU-Nodes):	<b>20532.40</b>	<b>26328.19</b>	<b>26384.40</b> MiB
		Interconnect Traffic (in):	<b>0.00</b>	<b>12.73</b>	<b>7887.81</b> MiB/s
		Interconnect Traffic (out):	<b>0.00</b>	<b>0.08</b>	<b>29.35</b> MiB/s
		Interconnect Packets (in):	<b>0</b>	<b>306</b>	<b>2328</b> pck/s
		Interconnect Packets (out):	<b>1</b>	<b>76</b>	<b>3658</b> pck/s
<b>Job I/O Statistics</b>					
	Total Data Write	Total Data Read	max. Data Rate/Node Write	max. Data Rate/Node Read	max. Open-Close Rate/Node
\$HOME:	<b>0.00</b> MiB	<b>0.00</b> MiB	<b>0.00</b> MiB/s	<b>0.00</b> MiB/s	<b>0.00</b> op./s
\$PROJECT:	<b>0.00</b> MiB	<b>0.00</b> MiB	<b>0.00</b> MiB/s	<b>0.00</b> MiB/s	<b>0.00</b> op./s
\$SCRATCH:	<b>0.00</b> MiB	<b>0.00</b> MiB	<b>0.00</b> MiB/s	<b>0.00</b> MiB/s	<b>0.00</b> op./s
\$FASTDATA:	<b>0.00</b> MiB	<b>0.00</b> MiB	<b>0.00</b> MiB/s	<b>0.00</b> MiB/s	<b>0.00</b> op./s
<b>Job GPU Statistics</b>					
avg. GPU Usage: <b>96.40</b> %		avg. Mem. Usage Rate: <b>13.52</b> %	avg. GPU Temp.: <b>69.03</b> °C	avg. GPU Power: <b>310.22</b> W	
max. Clk Stream/Mem: <b>1410/1215</b> MHz		max. Mem. Usage: <b>1738.50</b> MiB	max. GPU Temp.: <b>75.00</b> °C	max. GPU Power: <b>343.43</b> W	

This job will use approximately 1 nodes × 48 cores × 24.000 hours = 1152.00 core-h for the specified walltime (up to now: 1087.68)

Average CPU Usage

Job-Usage Overview

Average GPU Usage



# Job reports – further job stats

## Nodelist

1 jwc07n106 Interconnect group: 88	2 jwc07n107 Interconnect group: 88	3 jwc07n108 Interconnect group: 88	4 jwc07n109 Interconnect group: 88	5 jwc07n110 Interconnect group: 88	6 jwc07n111 Interconnect group: 88	7 jwc07n112 Interconnect group: 88	8 jwc07n113 Interconnect group: 88
9 jwc07n114 Interconnect group: 88		10 jwc07n115 Interconnect group: 88					

<b>Job Finalization Report</b>		
Job State:	<b>FAILED</b>	Job Return Code: <b>11</b> Job Signal Number: <b>0</b>
Timings (Accounting):		
Start Time	<b>2021-11-20 11:25:20</b>	
End Time	<b>2021-11-21 10:25:44</b>	
Wall Time	<b>24.00</b>	
Runtime	<b>23.00 hours</b>	
Step RCs:		
Step: <b>batch</b>	RC: <b>11</b>	Sig.-Nr: <b>0</b>
Step: <b>0</b>	RC: <b>0</b>	Sig.-Nr: <b>9</b>
<b>Node System Error Report</b>		
	# Msgs <b>1</b>	# Nodes <b>1</b>
<i>Error Messages:</i>		
<pre>2021-11-21T10:25:08+0100 jwc07n112.juwels kernel: ramses3d invoked oom-killer: gfp_mask=0x6280ca(GFP_HIGHUSER_MOVABLE!_GFP_ZERO), order=0, oom_score_adj=0</pre>		

# Scheduler overview

- Current usage of system:
  - clickable
  - update 1min
- Mapping of jobs to nodes
- Prediction of system usage using JuFo

JUWELS Booster: Project view
Live
Queue
Workflows
Active jobs
Jobs ended today
Jobs < 3 weeks
view

CPUs	Userid	cpuh	wall	Class	Spec	TEnd	I/O(MiB)	BW(MiB/s)	#IOops	IOp/s	load_avg	load_max	mem
496	user1262	17.7h of 24:00	booster	n01.p96.t00	17:58	0.0	0.0	0	0.00	4.04	7.83	385	
496	user1064	0.2h of 8:00	booster	n01.p96.t00	19:28	0.0	0.0	0	0.00	3.24	4.06	210	
496	user2249	7.8h of 23:00	booster	n01.p96.t00	+02:51	0.0	0.0	0	0.00	5.36	6.67	320	
496	user1262	17.8h of 24:00	booster	n01.p96.t00	17:52	0.0	0.0	0	0.00	4.05	12.07	340	
496	user2249	7.8h of 23:00	booster	n01.p96.t00	+02:51	0.0	0.0	0	0.00	4.01	4.87	275	
496	user1001	0.1h of 2:00	booster	n01.p96.t00	13:36	0.0	0.0	0	0.00	7.43	13.65	517	
496	user2045	2.4h of 24:00	booster	n01.p96.t00	+09:18	0.0	0.0	0	0.00	4.02	4.14	233	
496	user1587	5.1h of 23:59	booster	n01.p96.t00	+06:34	0.0	0.0	0	0.00	4.01	4.17	303	
496	user2249	7.8h of 23:00	booster	n01.p96.t00	+02:51	0.0	0.0	0	0.00	5.28	6.55	331	
3968	user1101	17.4h of 24:00	booster	n08.p02.t00	18:13	0.0	0.0	0	0.00	5.18	28.81	437	
2976	user1072	10.0h of 15:00	booster	n06.p96.t00	16:39	0.0	0.0	0	0.00	48.03	57.12	887	
1984	user1046	5.5h of 24:00	booster	n04.p96.t00	+06:08	0.0	0.0	0	0.00	5.51	6.83	363	
1984	user1042	1.2h of 8:00	booster	n04.p96.t00	18:29	0.0	0.0	0	0.00	13.17	24.04	500	
1984	user1042	1.0h of 8:00	booster	n04.p96.t00	18:39	0.0	0.0	0	0.00	13.12	23.36	489	
1984	user1002	9.2h of 12:00	booster	n04.p04.t00	14:30	0.0	0.0	0	0.00	7.86	22.58	1159	
1984	user1042	1.0h of 8:00	booster	n04.p96.t00	18:41	0.0	0.0	0	0.00	12.43	23.79	514	
1984	user1042	2.1h of 8:00	booster	n04.p96.t00	17:36	0.0	0.0	0	0.00	13.96	48.04	507	
1984	user1042	1.9h of 8:00	booster	n04.p96.t00	17:44	0.0	0.0	0	0.00	12.87	23.60	511	
1984	user1042	2.1h of 8:00	booster	n04.p96.t00	17:36	0.0	0.0	0	0.00	13.70	24.34	505	
1984	user1002	9.2h of 16:40	booster	n04.p04.t00	19:10	0.0	0.0	0	0.00	8.02	16.45	1157	
1984	user1042	1.5h of 8:00	booster	n04.p96.t00	18:09	0.0	0.0	0	0.00	13.41	24.60	532	
1984	user1042	2.1h of 8:00	booster	n04.p96.t00	17:36	0.0	0.0	0	0.00	13.71	48.02	502	
1984	user1042	1.7h of 8:00	booster	n04.p96.t00	17:57	0.0	0.0	0	0.00	13.39	25.20	527	
1984	user1042	0.8h of 8:00	booster	n04.p96.t00	18:49	0.0	0.0	0	0.00	11.71	22.45	503	
1984	user1042	0.8h of 8:00	booster	n04.p96.t00	18:51	0.0	0.0	0	0.00	13.32	21.52	502	
1984	user1046	6.2h of 24:00	booster	n04.p96.t00	+05:29	0.0	0.0	0	0.00	5.52	6.64	526	
1984	user1046	5.5h of 24:00	booster	n04.p96.t00	+06:10	0.0	0.0	0	0.00	5.54	11.98	320	
1984	user1040	2.5h of 12:00	booster	n04.p04.t00	21:13	0.0	0.0	0	0.00	60.57	85.06	1624	
1984	user1042	2.1h of 8:00	booster	n04.p96.t00	17:36	0.0	0.0	0	0.00	13.53	25.80	511	
1984	user1046	7.8h of 24:00	booster	n04.p96.t00	+03:51	0.0	0.0	0	0.00	5.51	6.57	319	

Project: grp242

Last Database update: 23/01/15-11:39:38 (took 63.4 sec since previous update)

JuFo: Simulator for Job Schedulers on HPC Systems, C.Karbach, T.Bauer, JSC

# HELP

Contact SC support at [sc@fz-juelich.de](mailto:sc@fz-juelich.de) or your Mentor if you need any help.

- Which **system** did you use? What is your **user ID**?
- If there was an error, what is the **error message**?
- Is the error **reproducible**?
- If related to a job, what was the **job ID**?
- Which **module environment** did you use?

