

# How to navigate inside openlab servers

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# How to request access

**Open a ticket to us**  
*on service-now*

- Explain the project you're in
- Which are your requirements: CPU,GPU, FPGA, memory, disks...
- Specify the anticipated end date of the access
- Add your supervisor on the watchlist (after submitting)

[ServiceNow - Request access to an openlab machine](#)

# Request access to an openlab machine



IT Procurement Service - Ticket assigned to openlab-systems 2nd Line Support

Please fill this form to request access to one of the various hardware platforms maintained by openlab.

For more information, and to get an idea of the available resources, please check: <https://openlab-systems.web.cern.ch>

**Please note:** openlab systems are operated as evolving, test systems, on a best effort basis, and must not be used for production work or with sensitive data. Hosts are reinstalled on a regular basis and user data is permanently deleted at the end of each test slot.

## Description of your use of the openlab system

\*Please give the name of your experiment/project

openlab project

\*What are the goals that your project or team is trying to achieve using openlab hardware?

Benchmark the hardware

3978 remaining of 4000 characters

Could you explain what technical features you are planning to exploit in particular on the openlab system you are interested in? 

CPU, GPU, FPGA, 128G of memory

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## CERN User(s) requiring access

\*Please fill the list below with all users requiring access

Albane Carcenac

\*Please give CERN login corresponding to users in the above list

acarcena


## Other information

\*Anticipated End Date

30-08-2024 

Other requirements and remarks

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 Add attachments

Submit



Number  
RQF2710409

Created just now Updated just now Request State Assigned

## Request access to an openlab machine for project/experiment: openlab project

[Actions](#)

Caller  
Albane Carcenac

Visibility  
SE Level

Request Location  
513/R-043

Service Element  
IT Procurement Service

Functional Element  
openlab-systems

Assignment group  
openlab-systems 2nd Line Support

[Activity](#)[Details](#)[Watch List](#)[Form](#)[Attachments](#)

Joaquim Santos  
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[Save](#)

Cannot find what you need here? Do you simply need advice or assistance? The [Service Desk](#) is here to help.  
Call the Service Desk on: **77777** (07:30 - 18:30 work days, Geneva time)

# How to connect to the openlab machines

## SSH connection

### Inside CERN's Network

- You can connect directly from your computer with your CERN username:

```
local_user@user-pc-name:~$ ssh cern_user@openlab-node-name
```

```
acarcena@cern-laptop-acarcena:~$ ssh acarcena@olcsl-02
* *****
* Welcome to olcsl-02.cern.ch, Red Hat Enterprise Linux release 8.7 (Ootpa)
* Archive of news is available in /etc/motd-archive
* Reminder: you have agreed to the CERN
*   computing rules, in particular OC5. CERN implements
*   the measures necessary to ensure compliance.
*   https://cern.ch/ComputingRules
* Puppet environment: qa, Roger state: build
* Foreman hostgroup: openlab_systems/intel/opacluster
* Please set a host or hostgroup parameter 'comment' to describe your host or hostgroup.
* *****
Collectd alarm dnf_distro_sync_wrong in FAILURE state
Collectd alarm puppet_agent_has_run_errors in FAILURE state
Register this system with Red Hat Insights: insights-client --register
Create an account or view all your systems at https://red.ht/insights-dashboard
Last login: Fri Jun 21 12:11:35 2024 from 188.184.106.50
Following users are logged in to olcsl-02.cern.ch:
user      CPU utilization
-----
acarcena  5%
-----
Currently used frequency scaling driver is: intel_pstate
-----
[acarcena@olcsl-02 ~]$
```

Managing personal user space - SSH connection



# How to connect to the openlab machines

## SSH connection

### Outside CERN's Network

You first need to connect to `lxplus.cern.ch` with your CERN username:

```
[local_user@user-pc-name]:~$ ssh cern_user@lxplus.cern.ch
```

From there, you can access to the node:

```
[cern_user@lxplus ~]$ ssh cern_user@openlab-node-name
```

```
acarcena@cern-laptop-acarcena:~$ ssh acarcena@lxplus.cern.ch
* *****
* Welcome to lxplus974.cern.ch, Red Hat Enterprise Linux release 9.4 (Plow)
* Archive of news is available in /etc/motd-archive
* Reminder: you have agreed to the CERN
*   computing rules, in particular OC5. CERN implements
*   the measures necessary to ensure compliance.
*   https://cern.ch/ComputingRules
* Puppet environment: production, Roger state: production
* Foreman hostgroup: lxplus/nodes/login
* Availability zone: cern-geneva-a
* LXPLUS Public Login Service - http://lxplusdoc.web.cern.ch/
* Please read LXPLUS Privacy Notice in http://cern.ch/go/TpV7
* 2024-06-27 - lxplus7 CC7 termination https://cern.ch/otg0147045
* *****
Last login: Fri Jun 21 12:11:07 2024 from 2001:1458:204:1::102:2954
[acarcena@lxplus974 ~]$ ssh acarcena@olcsl-02
* *****
* Welcome to olcsl-02.cern.ch, Red Hat Enterprise Linux release 8.7 (Ootpa)
* Archive of news is available in /etc/motd-archive
* Reminder: you have agreed to the CERN
*   computing rules, in particular OC5. CERN implements
*   the measures necessary to ensure compliance.
*   https://cern.ch/ComputingRules
* Puppet environment: qa, Roger state: build
* Foreman hostgroup: openlab_systems/intel/opacluster
* Please set a host or hostgroup parameter 'comment' to describe your host or hostgroup.
* *****
Collectd alarm dnf_distro_sync_wrong in FAILURE state
Collectd alarm puppet_agent_has_run_errors in FAILURE state
Register this system with Red Hat Insights: insights-client --register
Create an account or view all your systems at https://red.ht/insights-dashboard
Last login: Fri Jun 21 12:08:49 2024 from 194.12.138.164
Following users are logged in to olcsl-02.cern.ch:
user          CPU utilization
-----
acarcena      11%
-----
Currently used frequency scaling driver is: intel_pstate
-----
[acarcena@olcsl-02 ~]$
```

# Inside the servers

## *The environment*

Shared Bare metal access only

RHEL/ALMA 8 and 9

CERN's filesystems available

## *The hardware*

Different CPU architectures

Different GPUs



# Space to use

`/data/<username>` (*local*) Your personal local directory in each server

Preferred working &  
storage space

**AFS** (*not local*) Where you arrive when you log in, your home folder  
`~/` or `/afs/cern.ch/user/<1st letter of the CERN username>/username/`

**EOS** (*not local*) You can access your EOS folder, as well  
`/eos/home-<1st letter of the CERN username>/username/`

*Managing personal user space - User personal directories*

## AFS

```
[acarcena@olcsl-02 ~]$ echo $HOME  
/afs/cern.ch/user/a/acarcena  
[acarcena@olcsl-02 ~]$ pwd  
/afs/cern.ch/user/a/acarcena
```

## /data/

```
[acarcena@olcsl-02 ~]$ ls -l /data/  
total 32  
drwxrwx---. 2 acarcena root          4096 May  3 17:39 acarcena  
drwxrwxr-x. 2 root      daos_daemons 4096 May  8 06:39 daos  
drwxrwx---. 2 jpmarque root          4096 Jan 31 2023 jpmarque  
drwx-----. 2 root      root        16384 Jan 31 2023 lost+found  
drwxrwx---. 2 luatzori root          4096 Jan 31 2023 luatzori  
[acarcena@olcsl-02 ~]$
```

## EOS

```
[acarcena@olcsl-02 ~]$ ls -l /eos/home-  
home-a/ home-d/ home-g/ home-j/ home-m/ home-p/ home-s/ home-v/ home-y/  
home-b/ home-e/ home-h/ home-k/ home-n/ home-q/ home-t/ home-w/ home-z/  
home-c/ home-f/ home-i/ home-l/ home-o/ home-r/ home-u/ home-x/  
[acarcena@olcsl-02 ~]$ ls -ld /eos/home-a/acarcena/  
drwx-----. 2 acarcena it 4096 Jun 18 15:17 /eos/home-a/acarcena/  
[acarcena@olcsl-02 ~]$
```

# Documentation

[openlab-systems.web.cern.ch](https://openlab-systems.web.cern.ch)

[Procedure to request access](#)

[Managing personal user space](#)

[Using Jupyter notebooks](#)

[Install Python3 packages in your own environment](#)

[Hardware portfolio](#)

# How to contact us

## Where to open request / incident tickets

[https://cern.service-now.com/service-portal?id=functional\\_element&name=openlab-systems](https://cern.service-now.com/service-portal?id=functional_element&name=openlab-systems)

## Our email address

[openlab-systems@cern.ch](mailto:openlab-systems@cern.ch)

Thank you!

Questions?