

Make HPC Frictionless: an Overview on Open OnDemand and EESSI

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About me

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A global HPC Services Company



Servicing HPC customers world-wide

- 100% independent capital (Self-funded company)
- **160+ HPC experts** at your service
- **30+ years of experience** in the EMEA HPC Market
- **200+ clients through all industry verticals** (Aereospace, Automotive, Chemical, Energy, FSI, Life Sciences, Manufacturing, Oil & Gas)
- Services managed
 - 12k+ users/year**
 - 150+ clusters/year**
 - 200+ Training sessions/year**
- Installation services
 - 5 clusters in the Top 500**

Do IT Now Team

EMEA:

France (Montpellier) - 30 people
Germany (Munich) - 3 people
Italy (Torino, Maranello) - 70 people
Spain (Barcellona) - 45 people

APAC:

New Zealand (Auckland) - 8 people

USA: 3 people

BRASIL: 6 people

Total 160+ people

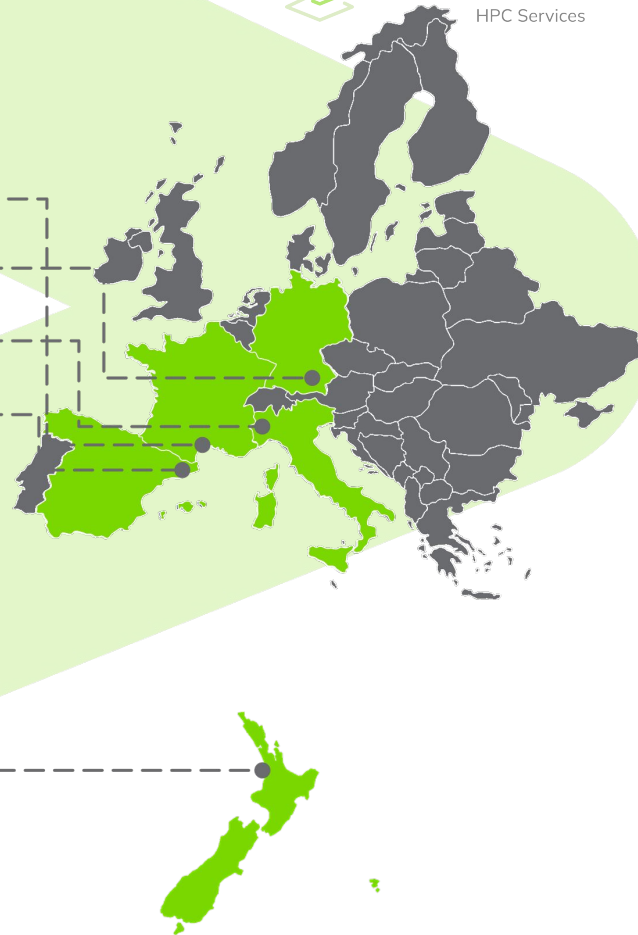
France - Montpellier

Germany - Munich

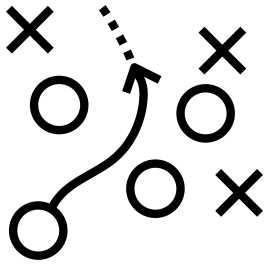
Italy - Turin

Spain - Barcelona

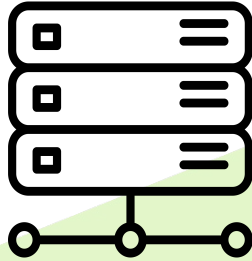
New Zealand - Auckland



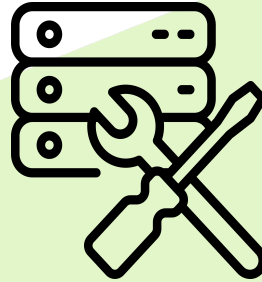
What we offer?



CONSULTING



INSTALLATION



SUPPORT



R&D-as-a-Service

Contribution to HPC community



Open OnDemand

OPEN

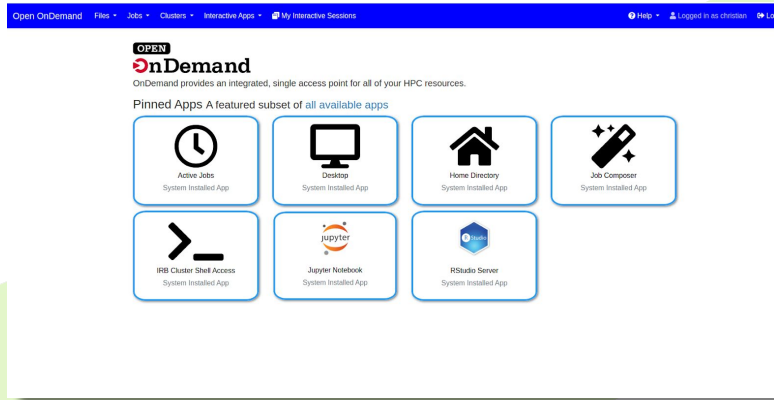
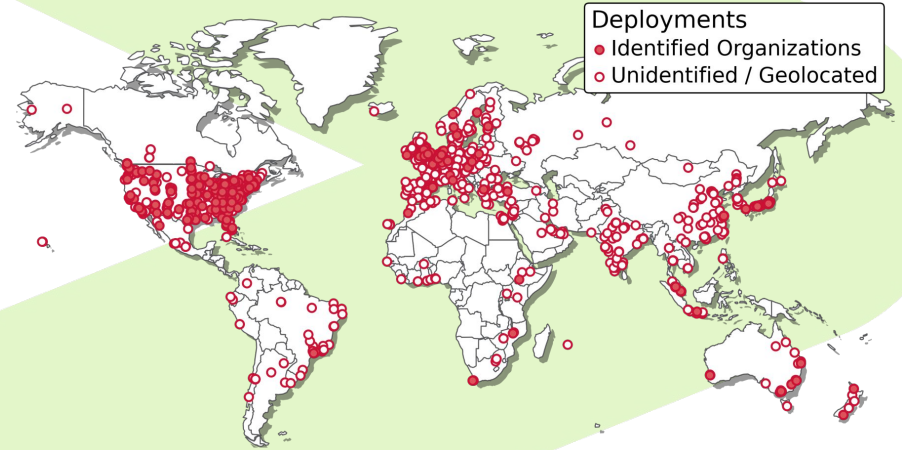
OnDemand



What is Open OnDemand (OOD)?

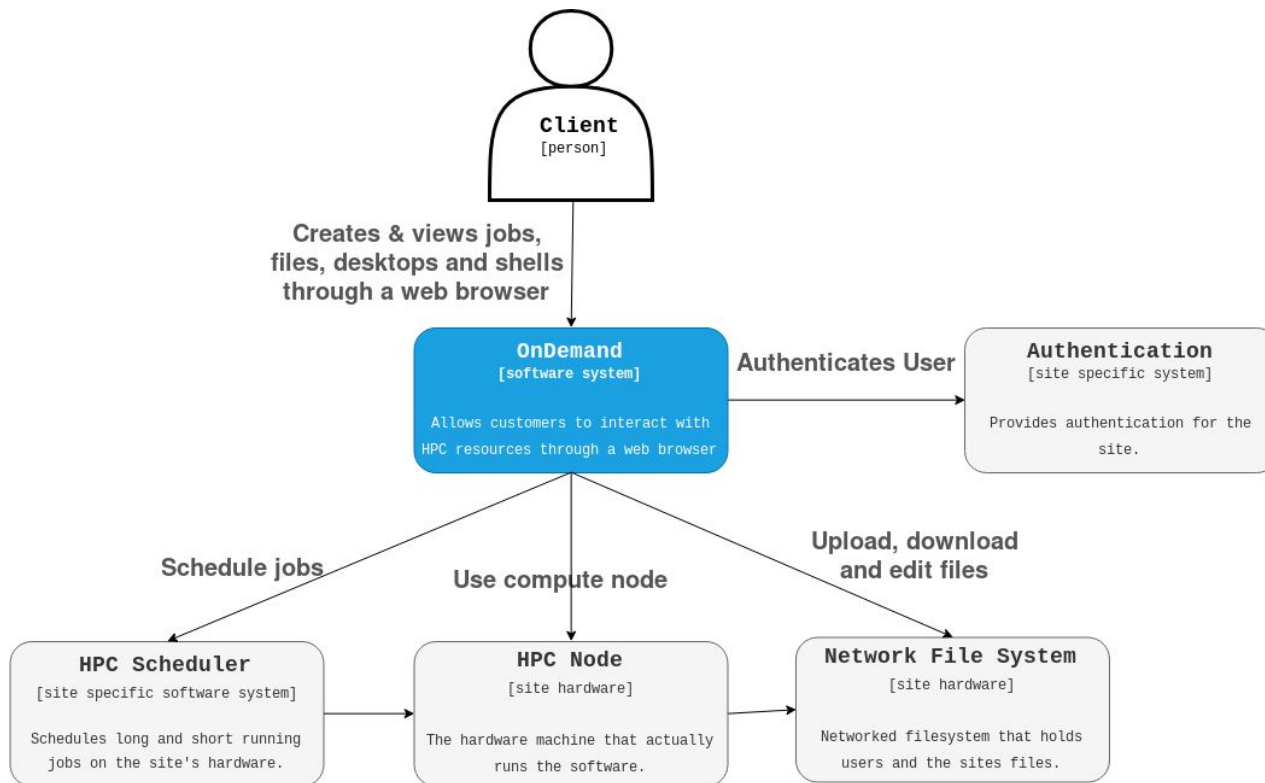
Supercomputing. Seamlessly.

Open OnDemand is an open source web-based interface that provides easy access to high-performance computing (HPC) and cloud resources.



**Supercomputer
Center**

How OOD works



Applications support – Appverse



... and more in the Appverse

Explore the Appverse

Use this community-driven catalog of software, interactive apps, dashboards, and widgets.



User side



Zero installation

No client software installation required.



Easy to use

Low barrier to entry.



Compatible with any device



Configurable, flexible and customizable

Create and deploy your own applications and profile: at the user level.



Open source

Install Open OnDemand for free, and gather knowledge from our large open-source community, with support.



Supports multiple workload managers



Minimal Software requirement

Browser: any modern browser supporting ECMAScript 2016

Cluster: Minimal on serving nodes, a bit more on the compute nodes: [Software requirements](#)



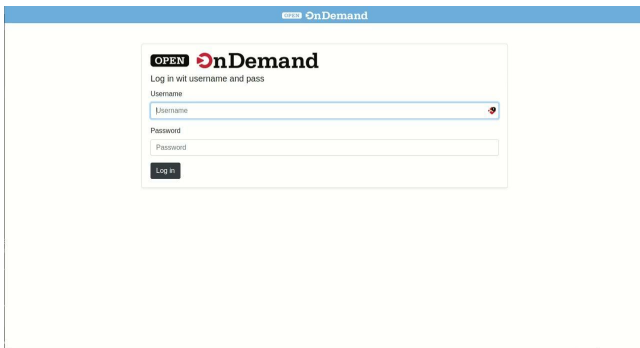
Configurable, flexible & customizable

Setup different interface profiles to meet users needs.

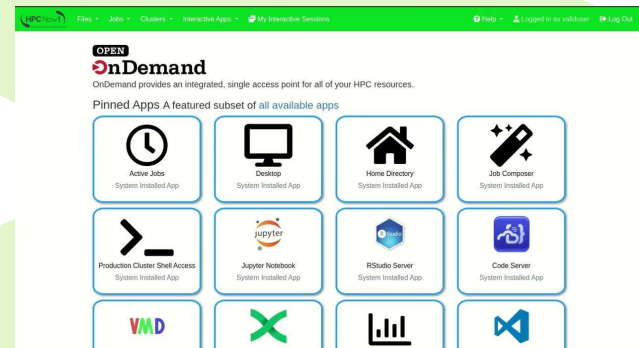
Create and deploy specific applications to meet your users' unique needs.

OOD HPC Portal features

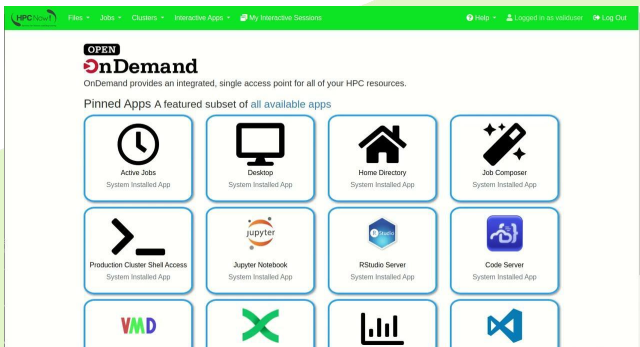
Shell access



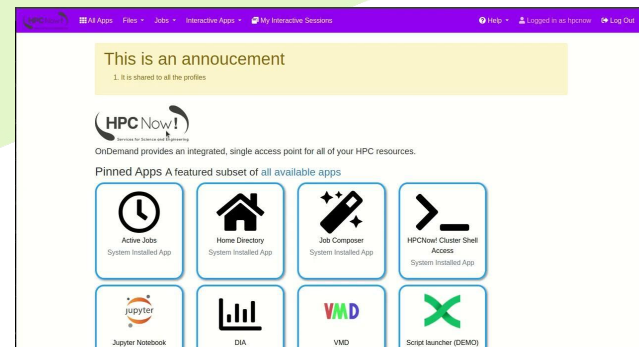
Interactive GUI apps



File browser



Get support /Documentation



More info?

- Open OnDemand docu and website
- Open OnDemand Discourse
- GOOD25, GOOD26, HPCKP and others (vimeo or youtube)
- Monthly Tips and Tricks calls

OPEN

OnDemand

EMEA Open OnDemand Tips & Tricks Community

SHORT DEMOS • REAL-WORLD TIPS • OPEN Q&A

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EESI

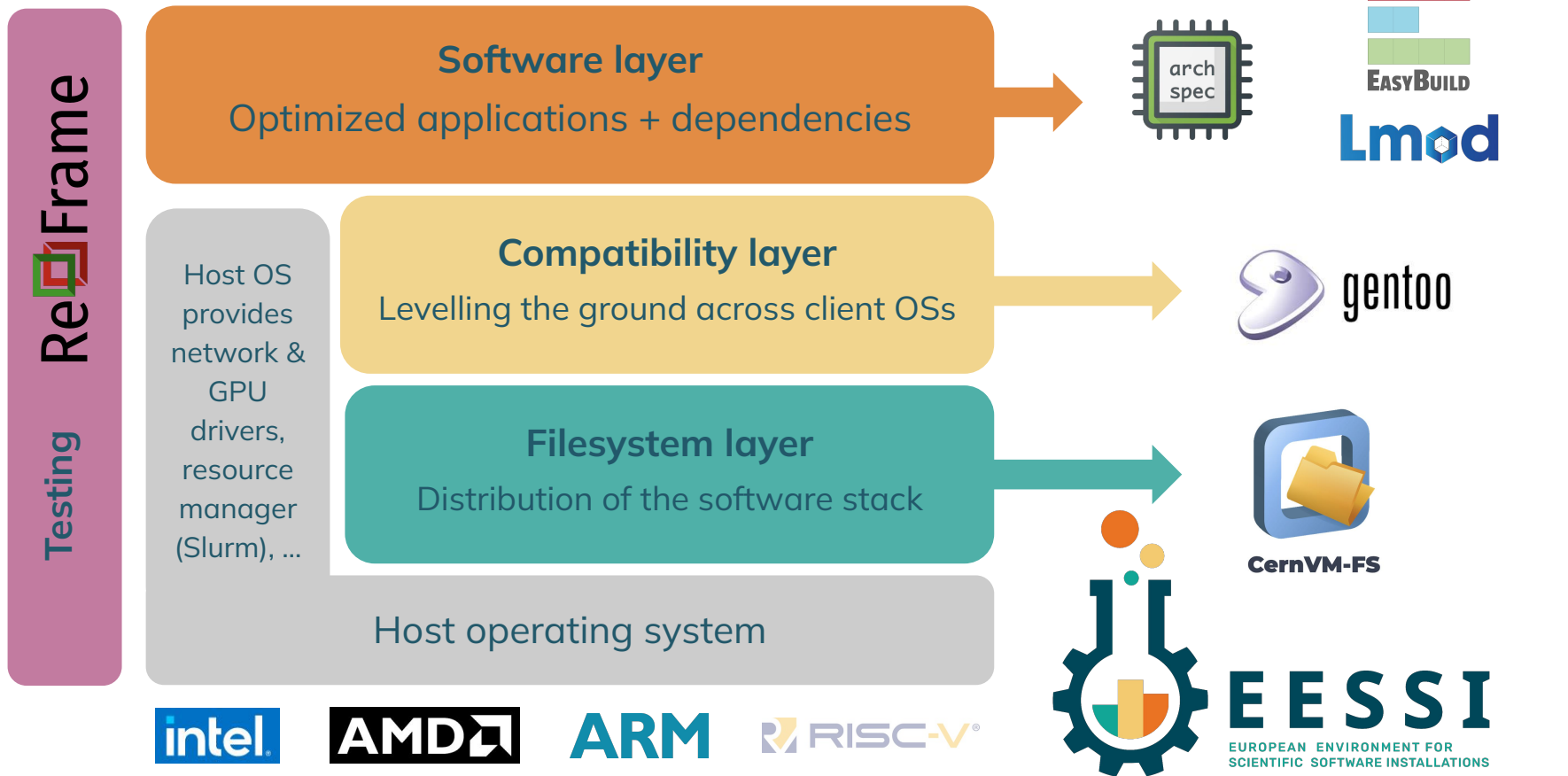


EESI

EUROPEAN ENVIRONMENTAL
SCIENTIFIC SOFTWARE INSTALLATIONS



High-level overview of EESSI



New releases and repositories

pilot.eessi.io

Deprecated

software.eessi.io

2023.06

- Default one since June 2023
- **1141** software installed (total: 16037)
- **617** unique packages
- foss/(2022b+23a+23b) -> GCC 12.4 ↓

riscv.eessi.io

- Development versions of an EESSI RISC-V software stack
- **Deprecated: part of dev.eessi.io**

dev.eessi.io

- Developer repository
- More about it later :)

2025.06

- Already available but ongoing effort to add more software
- **546** software installed (total: 7689)
- **326** unique packages
- foss/(2024a+25a+25b) -> GCC 13.3 ↑

(new) CPU targets

aarch64		generic a64fx neoverse_n1 neoverse_v1	graviton2 thunderx2
	nvidia		grace
x86_64			generic
	amd		zen2 zen3 zen4
	intel		cascadelake haswell icelake sapphirerapids skylake_avx512

green → former architectures in pilot repository

Bold → from the beginning of the project

*A bit of a special one





riscv64

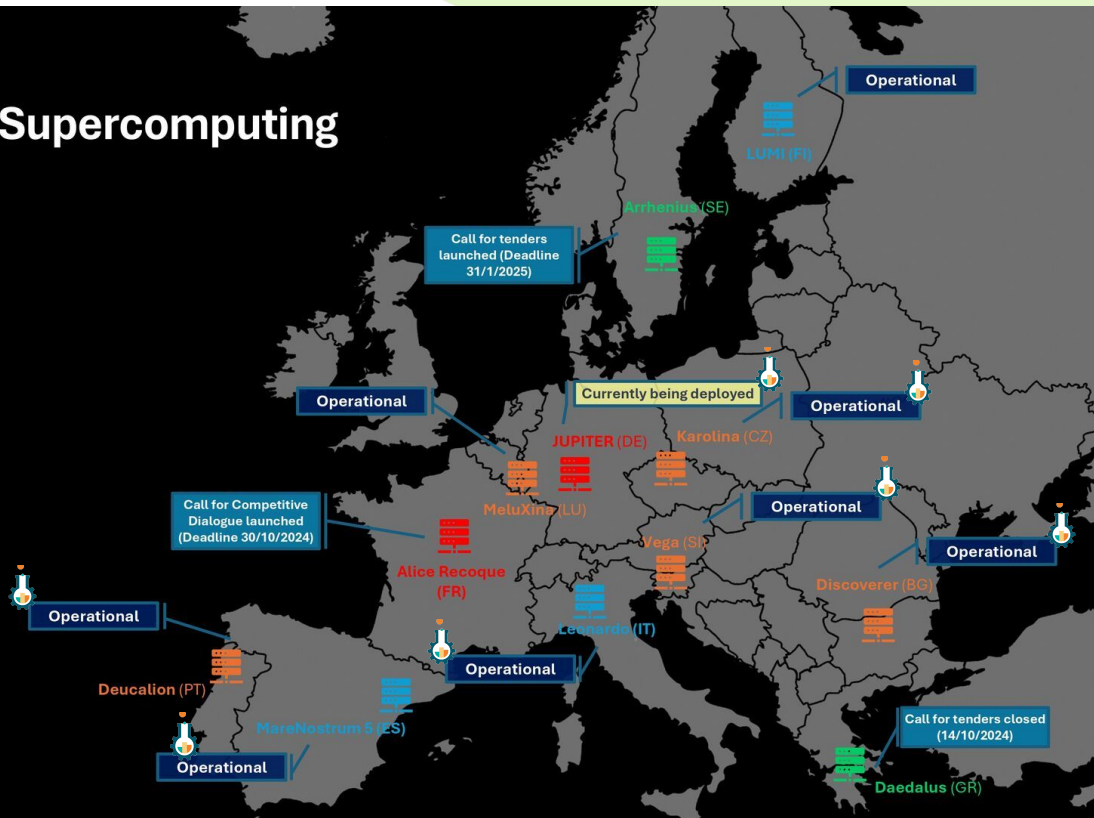
generic

EuroHPC systems with EESSI available

<https://www.eessi.io/docs/systems/>

The EuroHPC Supercomputing Ecosystem

-  EXASCALE
-  PRE-EXASCALE
-  PETASCALE
-  MID-RANGE



Multi-scale



NVIDIA GPU support in EESSI

- Detailed documentation available at eessi.io/docs/gpu
- Problems we had to deal with:
 - 1) We don't know where the **NVIDIA GPU driver libraries** are in host OS...
 - 2) We **can not redistribute the full CUDA installation** due to EULA, only runtime libraries...
- In EESSI, we provide scripts to deal with both these problems:
 - 1) `link_nvidia_host_libraries.sh` script to link GPU driver libraries provided by OS “into” EESSI; (requires write access to (target of) `/cvmfs/software.eessi.io/host_injections`)
 - 2) `install_cuda_host_injections.sh` script to **install full CUDA installation** to subdirectory of (target of) `/cvmfs/software.eessi.io/host_injections` (and unbreak symlinks in CUDA in EESSI)
- **Available CUDA software in EESSI:** CUDA-Samples, GROMACS, ESPResSo, LAMMPS, ...
- More CPU/GPU combos and software (PyTorch, TensorFlow, AlphaFold, ...) coming soon...
- Testing of the software we install complicates the process of adding GPU software

More on EESSI



- Check more [eessi.io](https://www.eessi.io)
- EESSI webinar series April-May 2026 about to start (next week):

<https://www.eessi.io/docs/training-events>

Multi scale

- multixscale.eu



EuroHPC
Joint Undertaking

OOD meets EESSI

- Web Desktop Based application
- Modules field to select software needed by the user
- Selected modules unwritable field to check the selected ones
- Search mechanism to find specific modules

Interactive Apps

- Desktops
 - Classiq
 - Desktop XFCE-GNOME
 - Desktop w.Container
- GUIs
 - Avogadro2
 - DIA
 - MATLAB
 - ParaView
 - VMD
- Script Execution
 - Cnes App
 - Pandoc App
 - Script launcher (DEMO)
- Servers
 - Code Server
 - Jupyter Notebook
 - Jupyter Notebook EESSI
- Test
 - API test
- EESSI General App**

EESSI General App

This app will launch a Desktop on one node with the modules of EESSI loaded. You will be able to interact with it through a VNC session.

Desktop Environment

gnome

Account

example_account_2

Number of hours

1

Module list

Module Filter

- Abseil/20230125.2-GCCcore-12.2.0
- HDF/4.2.15-GCCcore-12.2.0
- OpenJPEG/2.5.0-GCCcore-13.2.0
- Abseil/20230125.3-GCCcore-12.3.0
- HDF/4.2.16-2-GCCcore-12.3.0
- OpenMPI/4.1.4-GCC-12.2.0

Selected Modules

Launch

* The EESSI General App session data for this session can be accessed under the data root directory.

Join our events!



H.PC<P

Call for Presentation &
Tutorial is **OPEN!**

17-18 June 2026

Barcelona, Spain



HPC
roundtable 26
T U R I N

22 September 2026

Turin, Italy



HPC
roundtable 26
M U N I C H

27 October 2026

Munich, Germany

