

High Performance Computing

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Introduction

The WWU IT is providing HPC resources to aid researchers conduct computationally demanding tasks. For this purpose we are hosting the **PALMA-II** HPC cluster. It is meant to be used to run applications which are highly parallelized and can take advantage of hundreds or thousands of cores simultaneously and/or need very large amounts of memory.

The HPC team is maintaining the cluster and trying to keep it operational 24/7. We are also providing a default set of software to use on the cluster and try our best to help with installing or optimizing programs you want to run. However, time is limited and sometimes the applications you want to run on the cluster might just not be suited for this use-case. Please inform yourself about what resources you require and if you can actually make use of an HPC cluster.

What HPC is not

The cluster is not a *very fast computer* replacing your laptop or workstation. Programs on HPC clusters, normally, do not make use of any GUI and calculations are typically submitted via so called *job scripts*. Users should be familiar with the Linux command line and should *thoroughly* read the information provided in this wiki.



Manufacturer	MEGWARE
Cores	15,120
Memory	72,384 GB
Nodes	412
Processor	Intel Xeon Gold 6140 GHz (Skylake)
Interconnect	100Gbit/s Intel Omni-l
GPFS Storage	1 PB
Linpack Performance	Rmax: 800 TFlop/s Rpeak: 1,277 TFlop/s
OS	CentOS 7

Latest News and Announcements

- [2020-11-20 - MAINTENANCE 2020-12-05](#)
- [2020-05-15 - SSH key authentication mandatory from 2020-05-22 onwards](#)
- [2020-05-04 - Default software stack for Broadwell and Ivybridge architectures](#)
- [2020-02-21 - Diskspace & Storage Solutions](#)



CALCULATIONS ON THE LOGIN NODE ARE NOT ALLOWED!

The login node of PALMA is **not** a place to start any serious calculations nor is it a playground for testing purposes or compiling programs! Any user processes violating this rule will be terminated immediately without any warning!

Requirements

In order to gain access to PALMA-II, you have to:

- Register your research group for the usage of the HPC resources.
This has to be done only once per research group. The application can be found on the right. A *quick reference card* guiding you through the steps of your application can also be found on the right.

- Register for the group **u0clstr** at the [IT Portal](#) and accept our [Terms of Use](#).
- Register at our HPC [mailing list](#)
- Read the how-to guides provided on this website

Application



hpc_application_wwuit.pdf

Quick-Reference-Card



Quick_Ref_Card_Muenster.pdf



1. After registering it can take up to **24h** until you can login at PALMA-II!
2. It is not sufficient to just be a member of u0clstr. You also have to be a member of a registered research group!
3. "Registered research group" means one of the groups that either already preexist in the IT portal, or which can be created following the rules outlined [here](#). Group names consist of up to eight characters, always start with a letter, followed by a digit, followed by a character string, like in "u0clstr". Do not just invent arbitrary names on your application form. Projects can only be created by project leaders, i.e. regular staff members. Join the group of your professor if you are a student. You cannot register groups with a broad scope like "u0dawin", "p0stud", "u0mitarb" and the like. Groups on institute level are ok only if the institute is small, otherwise a group on chair level is preferable. If you still do not know what a research group is, please ask before sending in an application.

Publications

We kindly ask you to record any publication you made with the help of our HPC systems at [CRIS.WWU](#) with an appropriate note. Instructions can be found [here](#).

Lectures

Once a semester there is a [lecture](#) about parallel programming and the usage of our HPC system. This lecture is intended for people with prior knowledge in Linux and C/C++ or Fortran programming. It is **not** an introductory course, however, if you just want to inform yourself on the basic usage of PALMA-II, you are welcome to join the first day of this lecture.

News on HPC

Get important updates and news on HPC topics through our [mailing list](#) and have a look at the [News](#) page!

Getting started

A first overview can be found at the [Getting started](#) section. More specifics can be found at the individual pages of the [Wiki](#)

Contact

If you have questions regarding High Performance Computing, you can write to hpc@uni-muenster.de.

Please use your uni-muenster.de e-mail address or at least specify your user account when contacting us.

General HPC WIKI

In a joint effort of different German Universities, many useful tips and general information about HPC computing can be found at <https://hpc-wiki.info>.

