



Quick Reference Card for University of Duisburg-Essen

Guidelines for the Application, Approval and Allocation
of HPC-Resources at University of Duisburg-Essen

<https://www.uni-due.de/>

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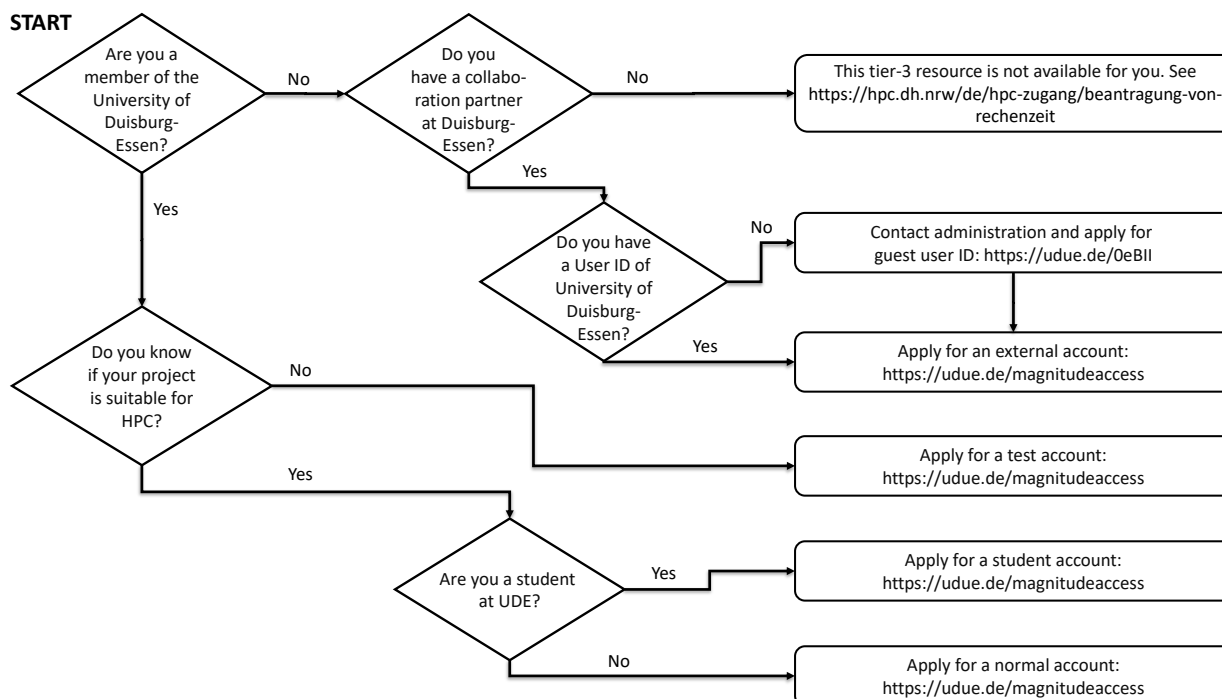
Project Preparation	<p>Estimate the needed resources (Core-h, memory, etc.)</p> <p>Example Core-h: One magnitUDE compute node (24 cores) for one month (24/7): 17280 Core-h</p> <p>Example Memory: A normal node on magnitUDE has 64 GB main memory.</p>
Proposal Submission	<p>Use the online web form for the submission: https://udue.de/magnitudeaccess.</p>
Formal Evaluation	<p>In the formal evaluation the access criteria are verified by members of the HPC support team.</p>
Technical Review	<p>HPC experts at the CCSS will check your proposal for technical feasibility and contact you or the PI in case of any problems show up.</p>
Scientific Review	<p>HPC experts at the CCSS will review your project application. After a positive evaluation, access is activated by the ZIM user administration.</p>
Resource Allocation and Monitoring	<p>The compute time, measured in percentage of the available core hours of the entire computer are allocated according to the CCSS agreement. To determine the allotments, user-level accounting is performed from which group resource consumption is derived. This is used by the job scheduler. The accounting groups are not identical to the normal UDE user ID group assignments. The assignment of the UDE user ID to the accounting groups is done when the access is requested and must be explicitly confirmed at each renewal. There are three types of compute nodes that only differ in memory size:</p> <ul style="list-style-type: none">• Normal compute node: 64 GB memory (492 nodes)• FAT compute node: 128 GB memory (72 nodes)• SUPERFAT compute node: 256 GB memory (60 nodes) <p>The maximal wall time is 96 hours and depends on the number of used compute nodes.</p>



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Glossary of Terms and Definitions

CCSS The Center for Computational Sciences and Simulation (CCSS) provides a platform for UDE scientists to exchange contacts, experiences and methods in the field of computational science and scientific computing. Joint activities in interdisciplinary research networks such as CRCs, research groups, graduate colleges and EU projects are thus supported. Likewise, CCSS is actively involved in the qualification of young scientists as well as in graduate education.

Core-h A Core-Hour (Core-h) is a unit used for the accounting of compute cluster resources. One core-hour equals one CPU core being used for the duration of one hour of execution time. The latter is always measured as the elapsed wall clock time from the job start to the job finish and not as the actual CPU time. For exclusively scheduled jobs (i.e., jobs using the complete node), the used core-hours usage are always equal to the total number of CPU cores on the allocated nodes times the execution time, regardless of the actual number of node slots allocated to the job.

PI The Principal Investigator (PI) has to take responsibility for the project application and the project execution. He/She has to be a senior researcher (a leading scientist with a Dr./PhD degree or a permanent position) who can also act as a reviewer for other submissions of computing project applications or otherwise to nominate and supervise a delegate who is able to thoroughly take part in the reviewing process. He/She has to sign the paper version of the application and he/she is also responsible for any due status or final reports. Furthermore, the PI is responsible for granting access to further project members. He has to make sure that citizens of countries that are subject to the export control policy of the German Federal Government have an additional authorization from the German Federal Office for Economic Affairs and Export Control (BAFA) before they are allowed to use magnitUDE. For lectures, seminars and practica the corresponding lecturer acts as the PI; for thesis works the primary advisor acts as the PI.

ZIM The Centre for Information and Media Services (ZIM) of the University Duisburg-Essen is the central IT-service facility. Its tasks range from providing networks and servers, e-learning platforms, qualified consulting on all our e-services and on e-learning, media and IT-support, to high-performance computing, training courses, as well as support for special events and processes in the library and in the administration.