

Intermediate Course 2025/04/10: Intermediate HPC and Data Management topics @KIT

Thursday, April 10, 2025 - Thursday, April 10, 2025

KIT Campus Süd

Book of Abstracts

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Intermediate Bash Scripting + Exercises

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- Bash and shell features and utilities: * loops * using the terminal efficiently * basic unix tools and their composability * defensive programming
- ssh tips and tricks
- Discussion about workflows
- Bash/Job Scripting and HPC workflows:
 - best practices for data/metadata organization and workflows
 - Job Arrays
 - Coalescing work together: parbatch

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Advanced Job Scripting + Exercises

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Adv. topics - Usage of bwHPC & HoreKa clusters

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Batch System: Best Practices and Running parallel jobs

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- Best practices for job setup and resource specification
- Job script templates
- Making use of the greatly parallel systems: specifying resources for parallel programs
- MPI programs (compute bound, memory bound, ...)
- OpenMP programs
- MPI + OpenMP hybrid programs

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File Systems

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- Learn more about the file systems available at our Clusters
- Understand the advantages and disadvantages of each file systems.
- How to use file systems like \$TMPDIR, BeeOND, LSDF, and PFS6
- Run simple benchmarks on different file systems.

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Hints for successful submitting procedure to the HPC cluster (Horeka)

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