Slurm 101

How to use the HPC-infrastructure at the CIMH

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Outline

Parallel Computing

- Programs have parallel and serial parts
- increase speed of programs by adding more computational power to parallel parts
- Split up larger problems into smaller independently solvable sub-problems to computate them in parallel

Our HPC-Cluster

- 24 virtual nodes and many other hardware nodes (old hardware getting reused)
- Access via your RDS-Machines
- Local storage and FIstorage+Home shared
- Resources are CPU, RAM and GPU

Basic Tools

- sinfo/squeue Status
- salloc/srun/sbatch Nutzung
- sacct Analyse

Requesting Resources

- Default Values
- Absolute/relative
- CPU/RAM/GPU

Interactive Mode

- Interactive mode for testing
- srun to run commands on cluster
- salloc for longer session

Batch Processing

- Kinit -¿ copy input -¿ process -¿ Kinit -¿ mv output
- Request ressources in script
- Mail

Kerberos

- Kerberos on RDS (Login -¿ no manual kinit needed)
- Create Keytab
- Kinit in script

Examples

- Normal
- Array

Thank You!