

Tutorial for new users

Speakers: Klaus Reuter, Sebastian Ohlmann

Part 1 (overview)

Aim: support MPG scientist in data analysis, development etc.

MPCDF operate:

- several mid-range compute clusters,
- long-term storage tape archives,...
- remote-visualization infrastructure (hardware, software)
- see webpage (docs.mpcdf.mpg.de)

Systems:

- HPC systems (Raven, Cobra, Draco), 5 year renewal cycle
- Manage Linux clusters owned by various institutes
- RVS (remote visualization): rvs.mpcdf.mpg.de, purely browser based, OpenGL rendering
- Jupyter notebook service
- HPC performance monitoring service (hpc-reports.mpcdf.mpg.de)
- Data service: <https://gitlab.mpcdf.mpg.de> (also wikis, issues, boards) Sign-in: selfservice.mpcdf.mpg.de ; allows guest accounts
- owncloud: datashare.mpcdf.mpg.de (sign-up: selfservice.mpcdf.mpg.de, allows guest accounts)
- Account at mpcdf: www.mpcdf.mpg.de (For users - new users) **Needs approval by director or representative**

Accessing the clusters:

- Login through gateway machine (gatezero.mpcdf.mpg.de)
- Uses 2-factor authentication; needs OTP token
- Machines to connect: raven, cobra, draco e.g. `ssh raven.mpcdf.mpg.de`

Software on the cluster:

- wide range of compilers & libraries
- pre-built applications
- activate through environment modules
- containers: "last resort" solution if software cannot be compiled
- Charliecloud & Singularity are available

Filesystems:

- `/u` home, code, config
- `/ptmp` High performance FS (50-100GB/s)
- cross-mounts between the clusters (`/raven /cobra /draco`)

Resource manager / scheduler:

- SLURM