

QUICK SUMMARY

CENTER FOR RESEARCH COMPUTING

UNIVERSITY OF PITTSBURGH

Useful Links

- H2P Documentation:
<https://crc.pitt.edu/resources/h2p-user-guide>
- HTC Documentation:
<https://crc.pitt.edu/resources/htc-user-guide>
- Submit a Ticket:
<https://crc.pitt.edu/tickets>
- CRC Status:
<https://crc.pitt.edu>
- Proposals, Renewals, and Allocations:
<https://crc.pitt.edu/apply>
- Hardware Description:
<https://crc.pitt.edu/Resource-Description-Proposal-Language>
- Submit Citations:
<https://crc.pitt.edu/doi>
- Submit Feedback:
<https://crc.pitt.edu/about/contact-us>

Access Environments

- **Connect to the VPN when off-campus or on Pitt WiFi!**
 - Details: <https://crc.pitt.edu/resources/h2p-user-guide>
- Login Nodes: h2p.crc.pitt.edu or htc.crc.pitt.edu
- Jupyter Notebooks: <https://hub.crc.pitt.edu>
- Visualization: <https://viz.crc.pitt.edu>
- Open OnDemand: <https://ondemand.htc.crc.pitt.edu>
- Galaxy: <https://crc.pitt.edu/galaxy>
- CLC Genomics: <https://crc.pitt.edu/resources/htc-cluster/clcbio-genomics-server>

Storage

- Mount points and quotas:
 - Isilon (75G per user) /ihome
 - ZFS (5TB per group) /zfs1 or /zfs2
 - BGFS (5TB per group) /bgfs
- Policies:
 - Your home directory will be located in /ihome and is backed up
 - BGFS and ZFS are **not** backed up

- Each group can have up to 5TB on BGFS or ZFS for free
- To get access to BGFS or ZFS submit a ticket

Useful Commands

- Connect via secure shell `ssh <username>@h2p.crc.pitt.edu`
- Transferring data:
 - `scp <file> <username>@h2p.crc.pitt.edu:~`
`## local to remote`
 - `scp <username>@h2p.crc.pitt.edu:~/<file> .`
`## remote to local`
- Check your filesystem quotas: `crc-quota.py`
- Check your service units quotas: `crc-usage.pl`

Software

- Search all available software: `module spider`
`## Use '/' for search, 'q' quits`
- Load a module: `module load <module>`
- List loaded modules: `module list`
- Purge your modules: `module purge`

Getting Help

- When submitting a support ticket:
 - Use a descriptive and specific title
 - * Bad: Command doesn't work
 - * Good: Gaussian is failing with <abbreviated error here>
 - Provide enough information for us to reproduce your problem, e.g.
 - * The input and output file with exact paths
- CRC Consultants with Expertise
 - Kim Wong: Molecular Dynamics | Agent-based Modeling
 - Fangping Mu: Bioinformatics | Computational Biology/Genomics
 - Barry Moore II: Computational Chemistry | Deep Learning
 - Shervin Sammak: Computational Fluid Dynamics
 - Leonardo Bernasconi: Computational Chemistry
 - Firas Shomali: High Performance Computing
- Comments and suggestions for improvement can be submitted at <https://crc.pitt.edu/about/contact-us>

Slurm Jobs

- Show your jobs only: `crc-squeue.py`
- Cancel a job: `crc-scancel.py <jobid>`
- Submit an interactive job: `crc-interactive.py -s`
- Submit a batch job: `sbatch <file>`
- Browse clusters and partitions: `crc-squeue.py`
- Add this to the end of your batch scripts: `crc-job-stats.py`
- Example job scripts, browse `/ihome/crc/how_to_run`
- Description of `sbatch` arguments:
 - `job-name`: This name shows up in `crc-squeue.py`
 - `output`: Standard input/output will be written to this file
 - `time`: How long your job will run for
(format: [days-]hours:minutes:seconds)
 - `nodes`: How many nodes your job needs
 - `ntasks-per-node`: How many MPI processes your job needs per node, pro tip: if you don't know what this means it should be equal to 1
 - `cpus-per-task`: Either the number of cores or OpenMP threads
 - `cluster`: Run on this cluster, try `crc-sinfo.py` to see clusters
 - `partition`: Run on this partition, try `crc-sinfo.py` to see partitions
 - `mail-user`: Set to your Pitt email address to get updates (optional), pair with `--mail-type=END,FAIL`
- Reasons from `crc-squeue.py` (don't submit a ticket unless specified)
 - `Priority`: You are waiting in line
 - `MaxCPUTPerAccount`: You are waiting in line because your group is running on too many cores
 - `MaxMemoryPerAccount`: You are waiting in line because your group is using too much memory
 - `GrpTresRunMinsLimit`: Your group is out of service units. Submit a ticket!

Notes

- Is something not working? <https://crc.pitt.edu/tickets>
- Suggestion or improvement for this document:
<https://github.com/pitt-crc/crc-quicksummary/issues/new>