

File Systems on Marc2

<code>/home</code>	Network file system, accessible from all nodes, backed up regularly. Slow (compared to <code>/scratch</code>), writing lots of IO or massively parallel IO to <code>/home</code> should be avoided.
<code>/scratch</code>	Network file system, accessible from all nodes, no backup. Faster than <code>/home</code> , should be used for jobs that generate high amounts of IO.
<code>/local</code>	Local file systems on the compute node. Only accessible for processes on the same node. May be used for temporary files. Please remove your files or your job script from <code>/local</code> at the end of your program or when you finished your calculation.

Parameter limits

Marc2

<code>h_rt</code>	Mandatory, max. 10 days (864000s), no default.
<code>h_vmem</code>	RAM per core, max. for 64 cores on single node: 4000M, default 1000M.
<code>-pe</code>	Mandatory for multicore, recommended: use <code>omp*</code> for multithreaded jobs (max. 64 cores) and <code>orte*</code> for multiprocess jobs.

qstat

Displaying queued jobs

<code>-u <user></code>	Displays queued jobs for <code><user></code> .
<code>-u "*"</code>	Display all queued jobs.
<code>-j <jobID></code>	Display detailed info for a job.
<code>-j <jobID></code>	Explain why this job is in error state.
<code>-explain E</code>	

qalter

Changing script parameters

<code>qalter [options] <jobID></code>	Use to change or add any <code>qsub</code> parameters like <code>-pe</code> or <code>-l h_rt</code> . If a job is not allowed to start due to wrong parameters, it will run after setting them with <code>qalter</code> .
<code>qalter -w v <jobID></code>	Display queueing information for this job. Should display "verification: found suitable queue(s)," otherwise it is likely that the job's <code>qsub</code> parameters contain errors.

Other useful commands

<code>qdel <jobID>1</code>	Delete a queued or running job.
<code>qmod -cj <jobID></code>	Clear error state of a job.
<code>qmod -cj "*"</code>	Clear error state for all of your jobs.
<code>dos2unix <file></code>	Convert a text file from DOS/Windows to UNIX formatting.

Module

Setting program environments

Syntax	<code>module <command></code> <code><modulename></code>
<code>avail</code>	Display all available modules.
<code>list</code>	Display all loaded modules.
<code>load <module></code>	Load a module.
<code>unload <module></code>	Unload a module.
<code>switch <module1> <module2></code>	Unload <code>module1</code> , load <code>module2</code> .
<code>purge</code>	Unload all currently loaded modules.
<code>. /etc/profile.d/modules.sh</code>	Needed to use the <code>module</code> commands in job scripts.

Possible job states in qstat

<code>q</code>	Queued
<code>w</code>	Waiting
<code>h</code>	On hold
<code>r</code>	Running
<code>d</code>	Deleted
<code>e</code>	Error

qsub

Submitting job scripts

Syntax	<code>qsub [options] jobscript [script options]</code>
<code>-cwd</code>	Use current directory as working directory for a job.
<code>-o <path></code>	Name and path to the output file.
<code>-e <path></code>	Name and path to the error file.
<code>-j</code>	Merge output and error streams into one file.
<code>-l <resource=value></code>	resource-reservation, e.g. <code>h_rt=<max runtime></code> , <code>h_vmem=<max memory></code> .
<code>-pe <pe> <n_cores></code>	Choose the parallel environment <code><pe></code> and <code><n_cores></code> to be used, e.g. <code>-pe orte* 16</code> for OpenMPI jobs with 16 cores. Omit this parameter for single core jobs.
<code>-q <queue></code>	Specify the queue for job execution. Choose from <code>debug</code> , <code>regular</code> or <code>long</code> with different runtime limits (cf. Parameter limits, <code>h_rt</code>).
<code>-V</code>	Export calling environment to job.
<code>-N <name></code>	Set job name.
<code>-t n[-m[:s]]</code>	Submit a task array with either amount of tasks <code>n</code> , index range <code>n-m</code> or range and step size <code>n-m:s</code> (ex. <code>-t 2-10:2</code> → 2,4,6,8,10).

Contact, Further Information

HPC Hessen

marc@hrz.uni-marburg.de | marburg@hpc-hessen.de

Detailed Information

Marc2

URL: <http://marc2-doc.hrz.uni-marburg.de/trac>

