

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

File systems on SKYLLA	
/home	Network file system, accessible from all nodes, backed up regularly. Slow (relative to /fhgfs), forbidden to be used for job IO.
/fhgfs	Network file system, accessible from all nodes. No backup, temporary storage. Fast, to be used for all job IO.
/bigtmp	Network file system, accessible from all nodes. No backup, slow, for temporary storage (legacy).

Parameter limits	Skylla Cluster
h_rt	Mandatory, max. runtime hh:mm:ss. Max. 1:00:00 (debug queue), 120:00:00 (regular queue), INFINITY (long queue)
h_vmem	Mandatory, RAM per core, e.g. h_vmem=1.9G
excl	(Experimental) Request exclusive node usage. <n_cores> must be divisible by 8, in addition you need to specify the correct queue/host group, e.g. -q regular@@nodes_8_cores. Without specifying excl, node usage is shared.

qstat	Displaying queued jobs
-u <user>	Displays queued jobs for <user>
-u "*"	Display all queued jobs
-j <jobID>	Display detailed info for a job

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

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

Module	Setting program environments
Syntax:	module <command> [module-name]
avail	Display all available modules
list	Display all loaded modules
load <module>	Load a module, e.g. module load GE (loads Grid Engine, qsub etc.)
unload <module>	Unload a module
switch <module1> <module2>	Unload module1, load module2
purge	Unload all currently loads modules
. /etc/profile.d/modules.sh	This is needed to use these commands in job scripts.

Possible job states in qstat	
q	Queued
w	Waiting
h	On hold
r	Running
d	Deleted
e	Error

Detailed Information	Skylla
<a href="https://www.uni-giessen.de/cms/fbz/svc/hrz/svc/server/hpc">https://www.uni-giessen.de/cms/fbz/svc/hrz/svc/server/hpc</a>	
	

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