

Access		Linux Cluster Kassel
node	description	
its-cs1	login-node, access possible for everyone with ITS account, batch mode only	
its-cs10	access possible for everyone with ITS account, interactive mode	

Partitions		job queues
partition	runtime	features
minijobs	1h	public partition, min. 64GB / max. 128GB, 12 cores, Gigabit Ethernet
exec	24h	public partition for parallel jobs, min. 32GB / max. 256GB, 32 cores, InfiniBand
public	48h	public partition for non-parallel jobs, min. 64GB / max. 128GB, 12 cores, Gigabit Ethernet
mpi1	400h	moderated partitions, min. 32GB / max. 256GB, 32 cores, InfiniBand QDR. Access upon request.

sinfo	view info about nodes and partitions
Syntax:	sinfo [options]
-i <seconds>	print state on a periodic basis
-l, --long	print more detailed information
-n <nodes>	print info only about the specific node
-p <partition>	print info about the specified partition
-R, --list-reasons	list reasons why nodes are in the down, drained, fail or failing state
-s, --summarize	list only a partition state summary with no node state details

Linux Cluster Portal	job informations
	http://www.uni-kassel.de/go/clusterportal

squeue	view job info located in scheduling queue
Syntax:	squeue [options]
-i <seconds>	repeatedly gather and report requested information
-j <job_id_list>	print list of job IDs
-n <name_list>	print jobs or job steps having one of the specified names
--start	report expected start time and resources to be allocated for pending jobs
-u <user_list>	print jobs from list of users

scontrol	view state of specified entity hold and resume
Syntax:	scontrol show ENTITY_ID
job <job_id>	print job information
node <name>	print node information
partition <name>	print partition information
reservation	print list of reservations
Syntax:	scontrol hold resume requeue
hold <jobid>	pause a particular job
resume <jobid>	resume a particular job
requeue <jobid>	requeue (cancel and rerun) a particular job

salloc	allocate resources
Syntax:	salloc [options] [<command> [command args]]
-C <feature>	specify features of Linux Cluster (32 24 12 8Cores, InfiniBand, NoIB, Switch1 2 3 A B, Xeon5675)
--exclusive	job allocation cannot share nodes with other running jobs
--mem=<MB>	specify real memory required per node
-N <min[-max]>	min. to max. of nodes will be allocated to this job.
-p <partition>	request specific partition for resource allocation
-t <time>	set a limit on total run time of the job allocation

srun	interactive mode run parallel jobs
After resources have been allocated, a shell on the assigned computer can be started with preceding srun command (e.g. srun xterm). In this shell window more applications can be started. MPI applications do not need the srun command, they will start directly after calling mpirun.	

sbatch	batch mode myBatchscript.sh
<pre> 1 #!/bin/bash 2 #SBATCH -p public # partition (queue) 3 #SBATCH -N 1 # number of nodes 4 #SBATCH -n 1 # number of cores 5 #SBATCH --mem 100 # memory pool for all cores 6 #SBATCH -t 0-2:00 # time (D-HH:MM) 7 #SBATCH -o slurm.%N.%j.out # STDOUT 8 #SBATCH -e slurm.%N.%j.err # STDERR 9 #SBATCH --mail-type=END,FAIL # alert for job done 10 #SBATCH --mail-user=user@host.de # mail-address 11 mpirun helloworld # start program </pre>	
To execute a batch script, just run sbatch myBatchScript.sh.	

scancel	cancel a job
Syntax:	scancel <jobid>
-u <username>	cancel all the jobs from a user
-t PENDING -u <username>	cancel all the pending jobs from a user

Contact	HPC Kassel
If you encounter any problems, want help for optimizing your program, or need software to be installed, contact kassel@hpc-hessen.de.	

Detailed Information	Linux Cluster Kassel
http://www.uni-kassel.de/go/linuxcluster	