

Slurm

Slurm's architecture

Slurm is made of a slurmd daemon running on each compute node and a central slurmctld daemon running on a management node.

Node

In slurm a node is a compute resource, usually defined by particular consumable resources, i.e. cores, memory, etc...

Partitions

A partition (or queue) is a set of nodes with usually common characteristics and/or limits. Partitions group nodes into logical sets. Nodes are shareable between partitions.

Jobs

Jobs are allocations of consumable resources from the nodes and assigned to a user under the specified conditions.

Job Steps

A job step is a single task within a job. Each job can have multiple tasks (steps) even parallel ones.

Common user commands:

- **sacct**: report job accounting information about running or completed jobs.
- **salloc**: allocate resources for a job in real time. Typically used to allocate resources and spawn a shell. Then the shell is used to execute commands to launch parallel tasks.
- **sbatch**: submit a job script for later execution. The script typically contains the tasks plus and the environment definitions needed to execute the job.
- **scancel**: cancel a pending or running job or job step.
- **sinfo**: overview of the resources (node and partitions).
- **squeue**: used to report the state of running and pending jobs.

- **[srun](#)**:submit a job for execution or initiate job steps in real time. The srun allows users to requests consumable resources.
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