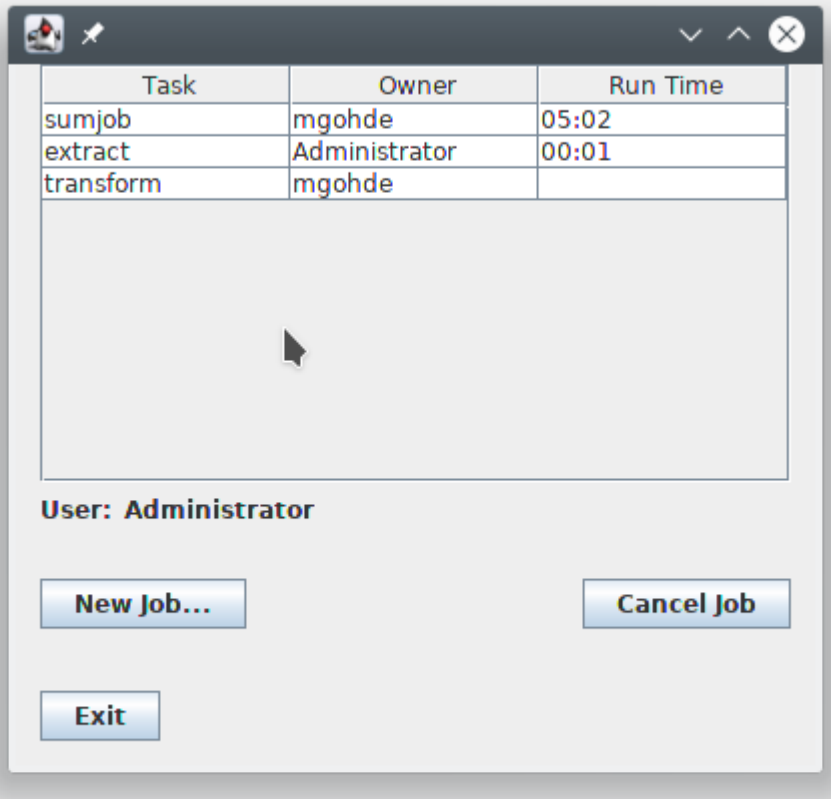
Name: Michael Gohde
Title: ProcessManager (ProcMgr)

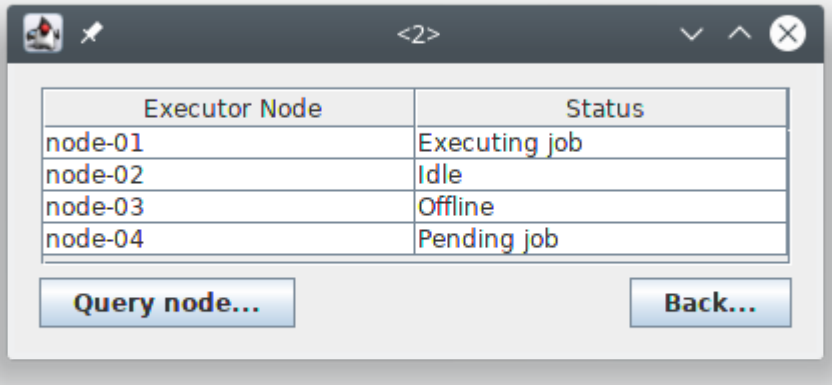
Project Summary: To create something generally similar to SLURM and related task schedulers, namely a tool that can schedule and run jobs given various resource requirements across nodes in a cluster. Each job is to be represented as a Java class passed and loaded through the ClassLoader interface.

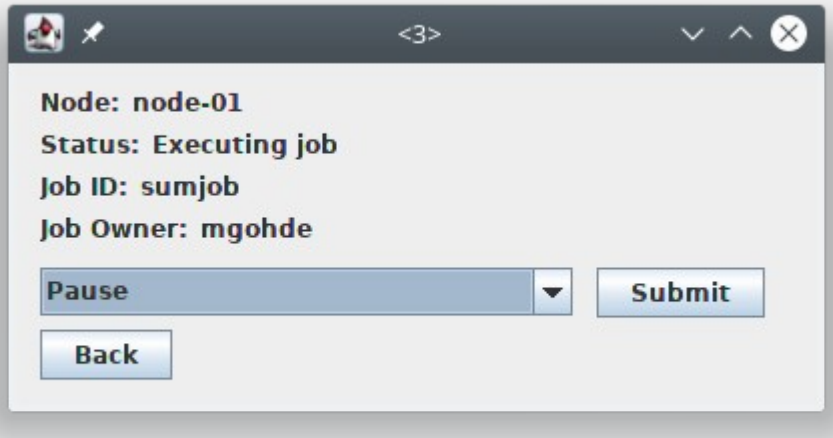
Project Requirements:

ID	Requirement
1	The system must be able to execute jobs as represented by Java classes • Each class should inherit and extend attributes from a common interface. • Using a Java Runnable would be a good choice.
2	Administrators must be able to terminate jobs.
3	Administrators must be able to specify available resources to the job scheduler.
4	Jobs must specify their approximate resource requirements.
5	The job scheduler must be able to track the resource requirements of running jobs and compare them to available resources.
6	The job scheduler must be able to queue jobs that cannot be run immediately due to a lack of resources.
7	All users must be able to list the job queue.
8	All users must be able to log in and authenticate
9	Users must be able to cancel their own jobs once submitted 9.1 – Administrators must be able to cancel any job currently running or in the queue.
10	Administrators must be able to create and manipulate user accounts

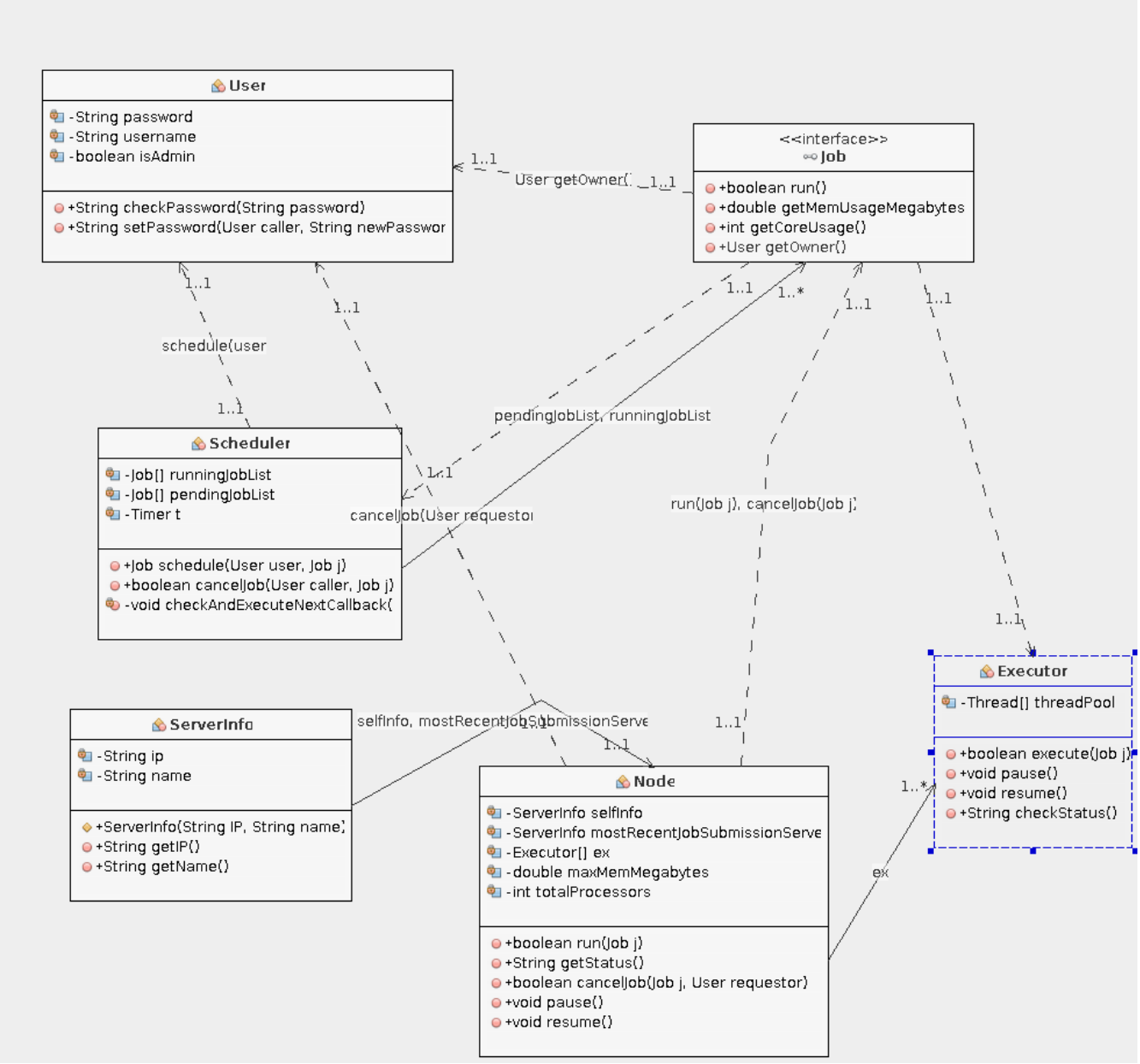
UI Mockups:
Due to the underlying complexity of this application, I would *prefer* to use a command line interface. However, it should be possible to add a simple point and click user interface:






<3>
Node: node-01
Status: Executing job
Job ID: sumjob
Job Owner: mgohde
Pause
Submit
Back

UML Diagrams



The above is a (semi) abridged UML diagram based on some of the initial features I expect to exist within this project. Within a practical context, I expect that entities like the Scheduler and Node will (on their respective machines) act as singletons.