Install slurm client

Note: this tutorial is meant to be installed for each node. Repeat each step as necessary.

1. Install Slurm on the Login/Controller Node
    1. sudo yum install slurm slurm-slurmctld slurm-slurmd -y
2. Verify installation
    1. Check for Slurm Configuration Files
        1. cd /etc/slurm/
        2. ls
        3. cat slurm.conf
3. Check where installed
    1. which sbatch
4. Get slurm information
    1. yum info slurm
5. Check status of munge (required for slurm)
    1. systemctl status munge
        1. Should be loaded but is not active
        2. Side note gpu permissions for munge were loaded but not active
        3. Check ownership
            1. id munge
            2. Output should be
                1. uid=978(munge) gid=976(munge) groups=976(munge)
6. Check status for Slurm Controller Daemon
    1. Check status
        1. sudo systemctl status slurmctld
        2. It should not be loaded nor in service
    2. Enable it and Start it on boot
        1. sudo systemctl start slurmctld
        2. sudo systemctl enable slurmctld
    3. Check status again
7. Check Status of Slurm Daemons
    1. sudo systemctl status slurmd
        1. Gets you
            1. slurmd.service - Slurm node daemon
            2. Loaded: loaded (/usr/lib/systemd/system/slurmd.service; **disabled**; preset: **disabled**)
            3. Active: inactive (dead)
        2. So not active yet so make it active
            1. sudo systemctl start slurmd
        3. Enable slurmd to start on boot

        1. sudo systemctl enable slurmd
8. For now every service should be up and running so we can update node to recognize login node as controller node
    1. Add hosts file to match login and recognize all nodes
        1. 127.0.0.1   localhost localhost.localdomain localhost4 localhost4.localdomain4
        2. ::1   localhost localhost.localdomain localhost6 localhost6.localdomain6
        3. 10.3.66.104 scc135-login
        4. #our nodes
        5. 10.3.66.59   scc135-cpu0
        6. 10.3.66.110   scc135-cpu1
        7. 10.3.66.6   scc135-cpu2
        8. 10.3.66.32   scc135-cpu3
        9. 10.3.66.95   scc135-gpu0
    2. To check this run
        1. cat /etc/hosts
    3. To change it
        1. sudo nano /etc/hosts
        2. Paste our ip and names of nodes
    4. Check again via cat and should be updated
9. Add slurm config from login
    1. Copy file from login
        1. sudo scp /etc/slurm/slurm.conf /tmp/slurm.conf
    2. Check your file
        1. ls
    3. Grant permissions for rwx temporarily for everyone
        1. sudo chmod 777 /tmp/slurm.conf
    4. Transfer our temp file to the other nodes directory. in this example we use gpu0 ip from our cluster address
            1. To note it helps to just keep it this way as naming a placeholder may include undesired spaces
        1. rsync --progress /tmp/slurm.conf rocky@10.3.66.95:/tmp/slurm.conf
    5. Ssh onto your desired node. In this example we ssh onto gpu0 based on its ip from our cluster
        1. ssh rocky@10.3.66.95
    6. Once logged in we can move the file to our actual file
        1. sudo mv /tmp/slurm.conf /etc/slurm/slurm.conf
    7. We can check if we have the same file via nano
        1. nano /etc/slurm/slurm.conf
10. After each change we have to update each node and restart slurm

services

1. For login/controller node
    1. Restart slurm controller service
        1. sudo systemctl restart slurmctld
    2. Check status
        1. sudo systemctl status slurmctld
2. For worker nodes
    1. Restart slurm worker services
        1. sudo systemctl restart slurmd
    2. Check status
        1. sudo systemctl status slurmd