# Interactive Jobs

There are many occasions when it’s desirable to have a node or nodes for interactive use with a specific hardware configuration. For instance, manually editing a 256GB file in vim might work better on a node with a fast connection to the storage and > 256 GB of memory, rather than a login node that is shared and may have memory usage restrictions. Or you may want to start a series of graphical applications and display them on your workstation (local, NoMachine or OnDemand desktop) while still having fast access to the underlying storage. In these cases a straightforward interactive shell obtained with srun or salloc is a good solution. Some examples:

# Simple srun session  
[john.hanks@login-01 ~]$ srun --pty bash -l  
[john.hanks@cpu-c-1 ~]$ exit  
logout  
[john.hanks@login-01 ~]$   
  
# Same thing, but using salloc  
[john.hanks@login-01 ~]$ salloc  
salloc: Granted job allocation 40494  
salloc: Waiting for resource configuration  
salloc: Nodes cpu-c-1 are ready for job  
[john.hanks@cpu-c-1 ~]$ exit  
exit  
salloc: Relinquishing job allocation 40494  
salloc: Job allocation 40494 has been revoked.  
[john.hanks@login-01 ~]$   
  
# Using srun for a session with a specific type of GPU  
[john.hanks@login-01 ~]$ srun --pty --gpus=a100:1 --partition=gpu bash -l  
[john.hanks@gpu-a-3 ~]$ exit  
logout  
[john.hanks@login-01 ~]$   
  
# salloc with a generic gpu request.  
[john.hanks@login-01 ~]$ salloc --gpus=1 --partition=interactive  
salloc: Granted job allocation 40496  
salloc: Waiting for resource configuration  
salloc: Nodes gpu-sm01-08 are ready for job  
[john.hanks@gpu-sm01-08 ~]$ exit  
exit  
salloc: Relinquishing job allocation 40496  
  
# This is better done by getting a NoMachine desktop on a workstation node, but  
# shown here just to show it works. Run an X app on a node with the display  
# forwarded to the submitting host. Requires X Forwarding having been set up  
# correctly, which may involve ssh options if trying to tunnel this back to a  
# desktop/laptop client.  
[john.hanks@login-01 ~]$ srun --pty --partition=gpu --gpus=1 --x11 glxgears  
3713 frames in 5.0 seconds = 742.472 FPS  
2071 frames in 5.0 seconds = 413.784 FPS  
746 frames in 5.0 seconds = 149.094 FPS  
793 frames in 5.0 seconds = 158.556 FPS