

Using NSight at NERSC - Perlmutter

ssh to “perlmutter-p1.nersc.gov”

```
salloc -N 1 -t 60 -C gpu -A ntrain5 --reservation=nsight (11:30-1:30 PST)  
salloc -N 1 -t 90 -C gpu -A ntrain5 -q interactive (Before 11:30 PST)
```

`module load cudatoolkit` # automatically loads NSight-Compute and NSight-Systems modules.

`module unload Nsight/Systems` # Currently, the NSight modules are older than the built-in.
Feel free to unload them if you want the latest version of Systems

Must pause the NVIDIA Data Center GPU Manager to profile your code:

```
srun --ntasks-per-node 1 dcgmi profile --pause  
srun <Slurm flags> ncu -o <filename> <other Nsight Compute flags> <program>  
srun --ntasks-per-node 1 dcgmi profile --resume
```

<https://docs.nersc.gov/systems/perlmutter/#profiling-applications-on-perlmutter-with-tools-that-queries-hardware-counters>

(NOTE: Currently, the dcgmi is not functioning, so shouldn't need this step right now.

If dcgmi is down: “*Error: unable to establish a connection to the specified host: localhost*”)



Using NSight at NERSC - Using the GUI

Two recommended methods:

- 1) Move the results to your local machine and download/install NSight locally. Preferred method. Allows best responsiveness in the GUI.
- 2) NoMachine / NX: <https://docs.nersc.gov/connect/nx/>
NX is a virtual machine that lives on NERSC's systems.

Much better GUI interaction than “ssh -Y”. Recommended when removing it from the system is infeasible (i.e. files too big, quick accesses, local machine limitations).