How to Use the Cori GPU Nodes

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February 28, 2020
Documentation Website

- [https://docs-dev.nersc.gov/cgpu/](https://docs-dev.nersc.gov/cgpu/)
- Hardware information
  - CPU info, GPU info, node topology
- Slurm access instructions
- Software information
  - Supported software info
  - Code examples
  - FAQs
Basic Access Instructions

• Log into Cori

```
module purge
module load esslurm
salloc -C gpu -N 1 -G 1 -t 30 -A <project> \ 
--reservation=gpu_training
```

• Use “m3502” as the project
On-node GPU Access

- All commands accessing the GPU(s) must be run through `srun`

```bash
user@cori02:~$ module load esslurm
user@cori02:~$ salloc -C gpu -N 1 -G 1 -t 30 -A <project>
salloc: Granted job allocation 12345
salloc: Waiting for resource configuration
salloc: Nodes cgpu09 are ready for job
user@cgpu09:~$ nvidia-smi -L
No devices were found
user@cgpu09:~$ srun nvidia-smi -L
GPU 0: Tesla V100-SXM2-16GB (UUID:GPU-22414df4-16c2-06ee-c4f4-d904be8bb91a)
```
Cori GPU Software

- [https://docs-dev.nersc.gov/cgpu/software/](https://docs-dev.nersc.gov/cgpu/software/)
- Only a select subset of modules available on Cori are designed to work on the GPU nodes
  - `module purge`, then load select modules
- Compilers: GCC, PGI, Intel, LLVM
- MPI: MVAPICH2, OpenMPI
- OpenMP and OpenACC support
- CUDA SDK available
- Tensorflow and PyTorch available
Login Exercise

• Please do the following:

• Log into Cori
  
  cd $SCRATCH

This will copy the directory containing the afternoon hands-on exercises into your scratch directory.