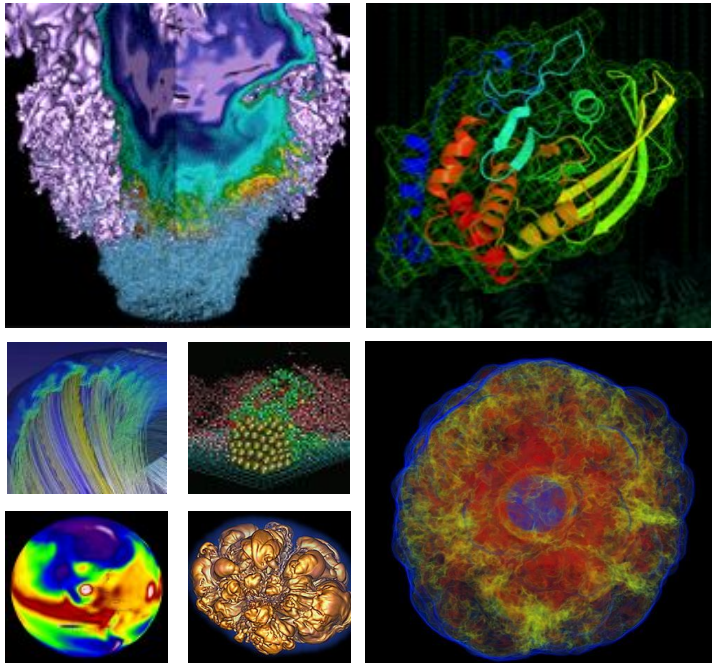
How to Use the Cori GPU Nodes



NERSC

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Documentation Website

- 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`

```
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/
- 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
cp -r /global/cfs/cdirs/training/2020/GPU_Feb2020 .
```

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

Thank You