General Instructions for Tutorials

Computer systems

For the exercises we will use two computer systems at Cineca:

1. PLX (IBM DataPlex, Intel GPU cluster)
2. Eurora (Eurotech, Intel Xeon PHI/GPU cluster)

The exercises involving GPUs will be performed on Eurora, while all the others will be done on PLX. (It is also possible also to use GPUs on PLX, but with no special privileges).
For more information on these systems please see the Cineca HPC userguide.
http://www.hpc.cineca.it/

Log in

For PLX,
ssh username@login.plx.cineca.it

For Eurora,
ssh username@login.eurora.cineca.it

User accounts

The UNIX usernames and password will be provided by the demonstrators at the start of the lesson. For the training sessions, a special batch queue and reservation have been created - see the PBS section for how to use these.

PBS batch system

On both Eurora and PLX the PBS batch system is used. Note that on PLX there are normally 12 cores per node (i.e. ncpus <=12) , while on Eurora 16 are available (i.e. ncpus <=16). For the nodes reserved for the course, GPUs are only available on Eurora.

Note that for the reserved nodes for this course on PLX (the private queue) there are only 8 cores/node (but with 128 Gb RAM/node).

Example batch scripts for both systems are given below:

PLX

```
#PBS -l walltime=00:30:00
#PBS -l select=1:ncpus=4:mpiprocs=4
#PBS -N myjob
#PBS -o job.out
#PBS -e job.err
#PBS -A train_cnov2014
## The following lines give access to the reserved nodes
#PBS -q private
#PBS -W group_list=train_cnov2014

# go to launch directory
cd $PBS_O_WORKDIR
module load autoload openmpi
mpirun ./myexecutable
```

EURORA

```
#PBS -l walltime=00:30:00
#PBS -l select=1:ncpus=16:mpiprocs=2:ngpus=2
#PBS -N myjob
#PBS -o job.out
#PBS -e job.err
#PBS -A train_cnov2014
## The following lines give access to the reserved nodes
#PBS -q R1422507

# go to launch directory
cd $PBS_O_WORKDIR


module load autoload openmpi
mpirun ./myexecutable
```

Alternatively, interactive access is available:

```
qsub -l select=1:ncpus=4:mpiprocs=4,walltime=20:00 -q private -A
train_cnov2014 -W group_list=train_cnov2014 -I
```