

Exercise 7 in HPC

Exercise 1

Log on to the cluster and load the necessary compiler and MPI modules

```
module add gnu/gcc/7.1.0  
module add mpich/gcc/7.1.0/3.2
```

which are used by PETSc.

You can then load the PETSc module

```
module load petsc-mpich/gcc/7.1.0/3.10.2
```

At

```
http://www.mcs.anl.gov/petsc/petsc-current/src/ksp/ksp/examples/tutorials/ex23.c
```

you can find the simple PETSc tutorial program “example 23”.

A clickable source code version, where all PETSc function calls are linked to the respective manual pages of the functions, can be found at

```
http://www.mcs.anl.gov/petsc/petsc-current/src/ksp/ksp/examples/tutorials/ex23.c.html
```

Try to understand the program.

Now download `ex23.c` to the cluster: You can use `wget` on the login node

```
wget http://www.mcs.anl.gov/petsc/petsc-current/src/ksp/ksp/examples/tutorials/ex23.c
```

Download also the makefile

```
http://www.mcs.anl.gov/petsc/petsc-current/src/ksp/ksp/examples/tutorials/makefile
```

rename it to `Makefile` and try to compile `ex23.c` by running

```
make ex23
```

You can now run `ex23` like any standard MPI program.