

24/10/16 - aspect build

Hi Payman,

Here is a list of instructions, a step by step guide. This should take around 2 hours all in all. the dealli make is log. Because of this you need to login into scinet and then ssh into arc01

```
ssh arc01
```

(Rather than logging into say gpc02 etc. the arc01 nodes allows for a longer time to compile code, which you will need).

- first you should go into dealii-8.4.1

```
cd dealii-8.4.1
```

- then make a build dir and then enter it.

```
mkdir build
```

```
cd build
```

- load your modules

```
module load gcc/4.8.1 cmake/3.4.0 intel/15.0.2 openmpi/  
intel/1.6.4  
cxxlibraries/boost/1.55.0-intel trilinos/12.6.1 nano  
python/2.7.5 extras/64_6.4  
paraview/4.1.0
```

- set up trilinos and the other compilers

```
export TRILINOS_DIR=/scinet/gpc/Libraries/trilinos-12.6.1-  
openmpi/  
export TRILINOS_INC=/scinet/gpc/Libraries/trilinos-12.6.1-  
openmpi//include  
export TRILINOS_LIB=/scinet/gpc/Libraries/trilinos-12.6.1-
```

```
openmpi//lib
export CC=mpicc
export CXX=mpicxx
export FC=mpif90
export F77=mpif77
```

- then do your cmake

```
cmake -DDEAL_II_WITH_MPI=ON \
      -DCMAKE_INSTALL_PREFIX=/home/r/russ/janbakhs/
dealii-8.4.1/build/ \
      -DTRILINOS_DIR= ${SCINET_TRILINOS_BASE} \
      -DP4EST_DIR=/home/r/russ/janbakhs/p4est/ \
      -DDEAL_II_WITH_P4EST=ON \
      -DDEAL_II_WITH_TRILINOS=ON \
      /home/r/russ/janbakhs//dealii-8.4.1/
```

- then do you make install

```
make -j8 install
```

- after this you'll want to do the test.

```
make -j8 test
```

- Following that, you can head over to aspect (if you have just downloaded the clone):

```
cd ~/aspect
```

- get rid of any old builds

```
rm CMakeCache.txt
```

- set up to find DEAL II

```
export DEAL_II_DIR=/home/r/russ/janbakhs/dealii-8.4.1/
build/
```

- cmake with modifications

```
cmake -D CMAKE_C_COMPILER="icc" -D  
ASPECT_USE_FP_EXCEPTIONS=OFF .
```

- making

```
make -j8
```

- then test

```
make -j8 test
```

Let me know if you have any problems, or if you want me to explain anything.