Mothur

https://www.mothur.org/

Korištenje

Dostupne verzije su:

Verzija	Modul
1.40.4	mothur/1.40.4
1.48.0	mothur/1.48.0

Mothur je po prirodi interaktivan program, no postoji način i upisivanja direktno u terminal bez ulaženja u mothur-ovu konzolu.

Command line primjer

```
mothur "#dist.seqs(fasta=final.fasta, processors=12)"

#lananje naredbi
mothur "#dist.seqs(fasta=final.fasta, processors=12);cluster(column=current, count=final.count_table);collect.
single();rarefaction.single()"
```

Potpuna dokumentacija naredbi je dostupna na https://mothur.org/wiki/tags/#file_types

Primjer je napisan u skladu s podnošenjem posla na čvor prema https://mothur.org/wiki/miseq_sop/ primjeru analize.

Primjer korištenja: mothur-teran.sge

```
#!/bin/bash

#$ -cwd
#$ -pe *mpisingle 16

# load program environment
module load mothur/1.48.0

# run the program
mothur "#make.contigs(file=stability.files, processors=$NSLOTS)"
```

Važno

Isključivo se koristiti sa *mpisingle 2-28 ili *mpifull 28.

Prije instalacije same aplikacije, instalirane su potrebne knjižnice.

HDF5 je instaliran s prevoditeljem intel/2020. Verzija knjižnice je s cxx i fortran prevoditeljima prevedena.

Izvorni kod je skinut s https://portal.hdfgroup.org/display/support/HDF5+1.13.0 .

```
module load intel/2020
CC=icc CXX=icpc FC=ifort F90=ifort ./configure --prefix=/home/mhrzenja/mothur/hdf5/hdf5 --enable-fortran --
enable-cxx
make
make install
```

GSL je instaliran s prevoditeljem intel/2020

```
module load intel/2020
wget https://mirror.easyname.at/gnu/gsl/gsl-latest.tar.gz
tar -xvzf gsl-latest.tar.gz
cd gsl-latest
./configure CC=icc CXX=icpc --prefix=/home/mhrzenja/mothur/gsl-comp
make && make install
```

Boost knjižnica je bila već instalirana

Izmjene u Makefile-u:

Makefile

```
USEREADLINE ?= no
USEBOOST ?= yes
USEHDF5 ?= yes
USEGSL ?= yes


BOOST_LIBRARY_DIR ?= /apps/boost/1.70/avx2/lib
BOOST_INCLUDE_DIR ?= /apps/boost/1.70/avx2/include/
HDF5_LIBRARY_DIR ?= /apps/hdf5/1.13.0_fortran_cxx/lib
HDF5_INCLUDE_DIR ?= /apps/hdf5/1.13.0_fortran_cxx/include
GSL_LIBRARY_DIR ?= /apps/gsl/2.7.1/lib
GSL_INCLUDE_DIR ?= /apps/gsl/2.7.1/include
```

Instalacija je izvršena s prevoditeljem intel/2020

```
module load intel/2020
export LD_LIBRARY_PATH=/apps/boost/1.70/avx2/lib:/apps/hdf5/1.13.0_fortran_cxx/lib:/apps/gsl/2.7.1
/lib:$LD_LIBRARY_PATH
cd mothur-1.48.0
make -j8 CC=icc CXX=icpc
```