Gromacs 2023.4

Webpage

http://www.gromacs.org/

Version

2023.4

Build Environment

- GCC 9.2.1 (gcc-toolset-9)
- Open MPI 4.1.5

Files Required

- gromacs-2023.4.tar.gz
- regressiontests-2023.4.tar.gz

Build Procedure

```
#!/bin/sh

VERSION=2023.4
INSTALL_PREFIX=/apl/gromacs/${VERSION}

BASEDIR=/home/users/${USER}/Software/Gromacs/${VERSION}/
GROMACS_TARBALL=${BASEDIR}/gromacs-${VERSION}.tar.gz
REGRESSION_TARBALL=${BASEDIR}/regressiontests-${VERSION}.tar.gz
WORKDIR=/gwork/users/${USER}
REGRESSION_PATH=${WORKDIR}/regressiontests-${VERSION}

PARALLEL=12
export LANG=C

#------------------------------------------------------------------
umask 0022

module -s purge
module -s load gcc-toolset/9
module -s load openmpi/4.1.5/gcc9

cd ${WORKDIR}
if [ -d gromacs-${VERSION} ]; then
  mv gromacs-${VERSION} gromacs_erase
```

```
  rm -rf gromacs_erase &
fi

if [ -d regressiontests-${VERSION} ]; then
  mv regressiontests-${VERSION} regressiontests_erase
  rm -rf regressiontests_erase &
fi

tar xzf ${GROMACS_TARBALL}
tar xzf ${REGRESSION_TARBALL}
cd gromacs-${VERSION}

# single precision, no MPI
mkdir rccs-s
cd rccs-s
cmake .. \
   -DCMAKE_INSTALL_PREFIX=${INSTALL_PREFIX} \
   -DCMAKE_VERBOSE_MAKEFILE=ON \
   -DCMAKE_C_COMPILER=gcc \
   -DCMAKE_CXX_COMPILER=g++ \
   -DGMX_MPI=OFF \
   -DGMX_GPU=OFF \
   -DGMX_DOUBLE=OFF \
   -DGMX_THREAD_MPI=ON \
   -DGMX_BUILD_OWN_FFTW=ON \
   -DREGRESSIONTEST_DOWNLOAD=OFF \
   -DREGRESSIONTEST_PATH=${REGRESSION_PATH}
make -j${PARALLEL} && make check && make install
cd ..

# double precision, no MPI
mkdir rccs-d
cd rccs-d
cmake .. \
   -DCMAKE_INSTALL_PREFIX=${INSTALL_PREFIX} \
   -DCMAKE_VERBOSE_MAKEFILE=ON \
   -DCMAKE_C_COMPILER=gcc \
   -DCMAKE_CXX_COMPILER=g++ \
   -DGMX_MPI=OFF \
   -DGMX_GPU=OFF \
   -DGMX_DOUBLE=ON \
   -DGMX_THREAD_MPI=ON \
   -DGMX_BUILD_OWN_FFTW=ON \
   -DREGRESSIONTEST_DOWNLOAD=OFF \
   -DREGRESSIONTEST_PATH=${REGRESSION_PATH}
make -j${PARALLEL} && make check
make install
cd ..
```

```
# single precision, with MPI
mkdir rccs-mpi-s
cd rccs-mpi-s
cmake .. \
  -DCMAKE_INSTALL_PREFIX=${INSTALL_PREFIX} \
  -DCMAKE_VERBOSE_MAKEFILE=ON \
  -DCMAKE_C_COMPILER=mpicc \
  -DCMAKE_CXX_COMPILER=mpicxx \
  -DGMX_MPI=ON \
  -DGMX_GPU=OFF \
  -DGMX_DOUBLE=OFF \
  -DGMX_THREAD_MPI=OFF \
  -DGMX_BUILD_OWN_FFTW=ON \
  -DREGRESSIONTEST_DOWNLOAD=OFF \
  -DREGRESSIONTEST_PATH=${REGRESSION_PATH}
make -j${PARALLEL} && make check && make install
cd ..

# double precision, with MPI
mkdir rccs-mpi-d
cd rccs-mpi-d
cmake .. \
  -DCMAKE_INSTALL_PREFIX=${INSTALL_PREFIX} \
  -DCMAKE_VERBOSE_MAKEFILE=ON \
  -DCMAKE_C_COMPILER=mpicc \
  -DCMAKE_CXX_COMPILER=mpicxx \
  -DGMX_MPI=ON \
  -DGMX_GPU=OFF \
  -DGMX_DOUBLE=ON \
  -DGMX_THREAD_MPI=OFF \
  -DGMX_BUILD_OWN_FFTW=ON \
  -DREGRESSIONTEST_DOWNLOAD=OFF \
  -DREGRESSIONTEST_PATH=${REGRESSION_PATH}
make -j${PARALLEL} && make check
make install
cd ..
```

Notes

- Please check procedure and notes of version 2023.2.