Load environments

```
module purge

CUDA_VERSION=cuda/11.2.1-43c2jmw
GCC_VERSION=gcc/9.2.0-r4tyw54
MPI_VERSION=openmpi/4.1.2-cuda-ucx
CMAKE_VERSION=cmake/3.21.1-e5i6eks
PYTHON_VERSION=python/3.8.8-zuw6wmh

module load $GCC_VERSION
module load $MPI_VERSION
module load $CMAKE_VERSION
module load $PYTHON_VERSION

module load $CUDA_VERSION
```

Download package

git clone --recursive https://usqcd.lns.mit.edu/git/LHPC/Public/build2.git

$ git checkout quda-dev
$ git submodule update

$ cd parts/quda/tree
$ git remote add mit-gitweb https://usqcd.lns.mit.edu/git/LHPC/Public/alien-libs/quda.git
$ git fetch mit-gitweb
$ cd ../../../
$ git submodule update

4eaef4640d697c3bafe550f53521bb00ff6e0650 parts/aff/tree (4eaef46)

33da7f4e3bc07fc010f8bfbe786bb4df17eea7a4 parts/arpack/tree (heads/master)

3b35622925296cbe506316411daeedbe60495d7f parts/clover/tree (clover-1.5.0-25-g3b35622)

ead0c92c7c8cdc1f6e0700dddf01da12d19d74c4 parts/grid/tree (heads/master-1-gead0c92c)

5c90e2d93009f6f4a9b7843949faf1754033489f parts/gsl/tree (heads/master)

a0fef093c451d235e63292af1c367693b4002bcf parts/hdf5/tree (hdf5-1.8.22)

7cbea996833202b894f09f136c31258402638805 parts/lapack/tree (heads/master)

f676f113bbb6a4c7d57f05ed6d4efe5adad5dc20 parts/lua/tree (heads/master)

7565b395990049792302e320a19d074e286d1c03 parts/mdwf/tree (mdwf-1.4.1-95-g7565b39)

e147c66f9a404a692bcefcf5b3a9328833728ab9 parts/qa0/tree (qa0-1.13.00)

b9e3fbcfd90024246e4258f3dc6c61b297cfbee5 parts/qdp/tree (qdp1-11-0-16-gb9e3fbc)

3d5e075a7fe0894728c4935b789a13fd84ff9d19 parts/qio/tree (qio2-4-2-18-g3d5e075)

91ce106eea9cd9ff674f8780fb81aed1d46cdb10 parts/qla/tree (qla1-9-0-1-g91ce106e)

53e3ca9370a99dd4660f250978938d082584d97a parts/qlua/tree (qlua-v20201002-325-g53e3ca9)

e85867db7e6f68e7fe5bbfcb64a24348f21b8ee9 parts/qmp/tree (qmp2-4-0-a4-26-ge85867d)

57c3151741809f04918ec52c609ba2dc5ce8eab1 parts/qopqdp/tree (qopqdp-0-20-0-qlua-4-g57c3151)

55aee2e5ef4424e79ba84b0cc7447dea66b065ef parts/quda/tree (v0.9.0-1975-g55aee2e5e)

2cfccb6d9a07e53662e2478c20853dfb2342641c parts/sfc/tree (b200)

9887268e66d40d109eaac5a19fd0cbe19591f5cf parts/twisted/tree (remotes/origin/threaded-iface)

Check each module, if the hash are different you should checkout the above one.

If build2/parts/quda/tree/externals/eigen/3.3.7.tar.bz2 can't be dowdload correctly you need to find it somewhere else.

Add "#define THRUST_IGNORE_CUB_VERSION_CHECK" to the beginning of build2/parts/quda/tree/include/thrust_helper.cuh

Compile:
-Prepare the config file for building (you can refer to my config file swing.gpu.omp) -Change the "prefix" to be your install directory.
- You need to change CUDA_INSTALL_PATH and CUDA.root if you are using other version of cuda.
-If you were building with different modules/compiler versions, then XCC, YCC, XCXX and XFC should be changed to the corresponding version.
- Go into the build2 directory and type: $ make -j 8 TARGET= swing.gpu.omp (without the configs/path, just the filename)
- If everything builds/links successfully, you should see the executable "qlua" in build2/parts/qlua/tree