CORSAIR

1 Required packages

Corsair requires the following external packages:

- Boost: `http://www.boost.org/`
- Zoltan: `http://www.cs.sandia.gov/Zoltan/`
- Silo: `https://wci.llnl.gov/codes/silo/release_notes.html`
- MPI compiler, such as OpenMPI or MPICH2.

2 User-Specific Makefile

Corsair requires two Makefiles – machine-independent file *Makefile* and machine-dependent *Makefile.arch*. There should be no need to touch file $Makefile$, it assumes some options that can be set in *Makefile.arch*.

Make a copy of one of the machine-dependent Makefile.arch files, e.g.

```
cp Makefile.arto Makefile.myfile
```

Then open Makefile.myfile with emacs and set the include and library paths. Note that *pargrid* and *vlsv* are part of *Corsair* svn repository, and that *vlsv* library needs to be compiled separately.

3 Compilation

Corsair is compiled with command

```
make "ARCH=myfile" "SIM=example_advection"
```

Here ARCH selects the machine-dependent *Makefile.arch*, in this example *Makefile.myfile*. SIM selects compiled project – one of the directories under *<corsair root>/src/user*. Here the files under *<corsair root>/src/user/example_ advection* are compiled into a library file that is linked to the rest of code.

Note that SIM parameter can be set in Makefile.arch as

```
SIM=example_advection
```

ARCH parameter defaults to *Makefile.arto*, but as it tells make which file it should include its value cannot be read from *Makefile.arch*.

4 Running Corsair

Corsair is run by invoking mpirun and by giving one (or more) config file names in command line,

```
ln -s src/user/example_advection/config.advection .
mpirun -n 4 ./corsair_example_advection --runconfig=config.advection
```