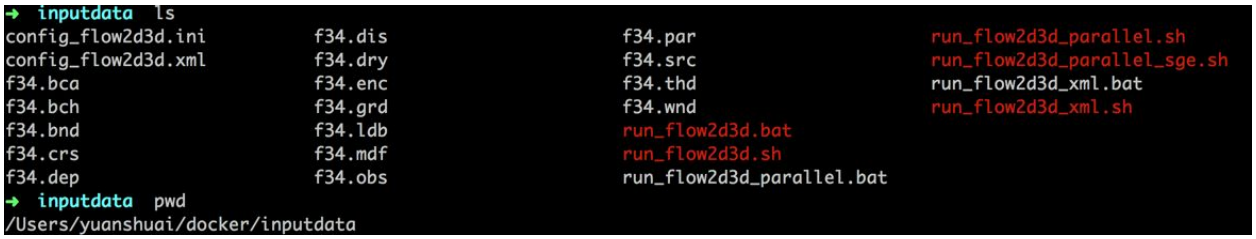
Quickstart Guide for Coastal Modeling with Docker

Running Models

Prepare Input Data

The input data could be under any directory that you have full access to. In this example the input data directory is under */Users/yuanshuai/docker/inputdata*



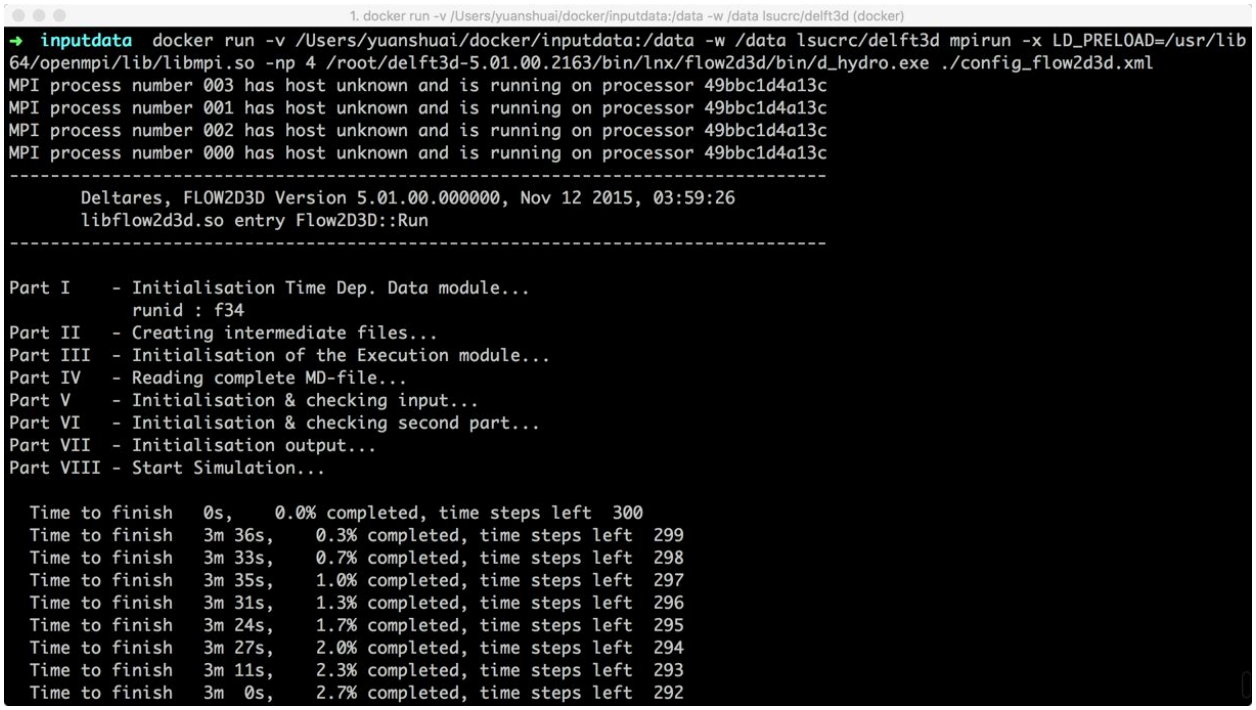
Run Model

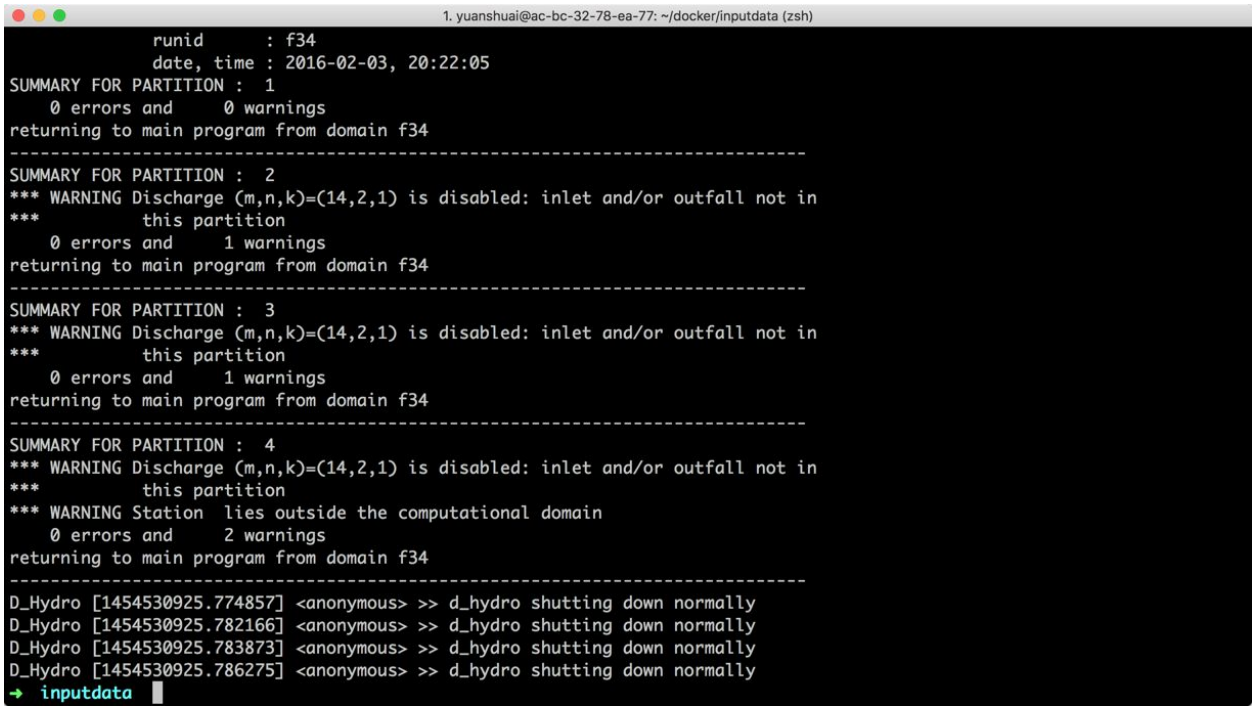
In the console, type in the command:

```
docker run -v /Users/yuanshuai/docker/inputdata:/data -w /data lsucrc/delft3d mpirun -x LD_PRELOAD=libmpi.so -np 4 d_hydro.exe ./config_flow2d3d.xml
```

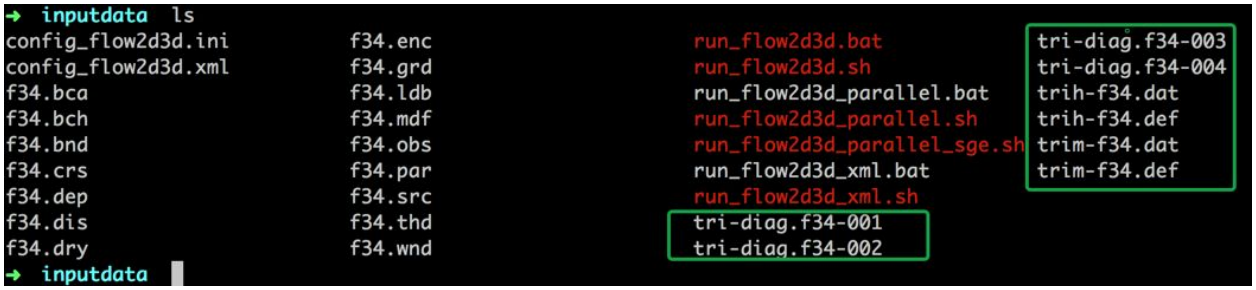
[docker run] is the Docker command to start a docker container.
[-v /Users/yuanshuai/docker/inputdata:/data] tells docker to mount your data directory to a predefined data directory which is /data in the Delft3D image lsucrc/delft3d.
[-w /data] is changing work directory to the default data directory in the container.
[lsucrc/delft3d] the model image prepared by the CRC team. Of course, you will need to make sure the input data are ready for the model you want to run.
[mpirun … ./config_flow2d3d.xml] is the command to run your model.

If the model runs successfully, you will see the following output.





You can then check, analyze, or visualize your output data.


➜ inputdata ls
config_flow2d3d.ini
config_flow2d3d.xml
f34.bca
f34.bch
f34.bnd
f34.crs
f34.dep
f34.dis
f34.dry
f34.enc
f34.grd
f34.ldb
f34.mdf
f34.obs
f34.par
f34.src
f34.thd
f34.wnd
run_flow2d3d.bat
run_flow2d3d.sh
run_flow2d3d_parallel.bat
run_flow2d3d_parallel.sh
run_flow2d3d_parallel_sge.sh
run_flow2d3d_xml.bat
run_flow2d3d_xml.sh
tri-diag.f34-001
tri-diag.f34-002
tri-diag.f34-003
tri-diag.f34-004
trih-f34.dat
trih-f34.def
trim-f34.dat
trim-f34.def
➜ inputdata