

What is TELEMAC

TELEMAC is a collection of modelling tools to simulate free-surface flows. This guide to running TELEMAC provides instructions on how to run a standard TELEMAC test case on the HPC Wales systems.

Step 1 - Log in

The example used in this guide is configured to run on the Swansea Sandy Bridge cluster. Connect to `login.hpcwales.co.uk` with your HPC Wales user credentials using your preferred method (e.g. PuTTY from a Windows machine or `ssh` from any Linux terminal), then `ssh sw-sb-log-001` to connect to the Swansea system.

The steps below involve typing commands (**in bold font**) in the terminal window.

Step 2 - Load a TELEMAC module

A number of TELEMAC binary packages are available.

- List preinstalled TELEMAC versions:
`module avail TELEMAC`
- Load your preferred version (v6p2r1 is used in this example):
`module load TELEMAC/v6p2r1`
- Confirm the loaded modules. All dependencies are handled automatically via the module file:
`module list`

Step 3 - Create a directory

From your home directory, create a directory to hold the TELEMAC data:

```
cd ~  
mkdir TELEMAC
```

Step 4 - Obtain a test case

TELEMAC has a large number of predefined test cases, which are located at:

```
/app/environment/TELEMAC/v6p2r1/examples
```

TELEMAC has different solvers for different category of physical problems. For this example, we are using the `011_bumpflu` case, which is a `telemac2d` example (two-dimensional flow).

```
cd ~/TELEMAC  
  
cp -rp /app/environment/TELEMAC/v6p2r1/sb/intel-13.0/intel-  
4.1/v6p2r1_validation/telemac2d/tel2d_v6p2/011_bumpflu .  
  
cd 011_bumpflu/
```

Step 5 - Submit a job

Now the current directory should contain all required files to run a TELEMAC job. In particular, the SLURM jobscript is called *telemac2d_submit.SLURM.q* and the .cas file is where configurations of this test case are located.

- Submit the job using:
`sbatch telemac2d_submit.SLURM.q`
- Check the job queue using:
`squeue`
- When completed, output can be found in a file called **TELEMAC2D.o.<JOBID>** and errors, if any, can be found in **TELEMAC2D.e.<JOBID>** (where <JOBID> is a unique ID generated by the queuing system).
- If your job is successful, its output should look similar to what's in file *TELEMAC2D.o.595*.

References

- Official TELEMAC homepage <http://www.opentelemac.org/>
- TELEMAC Doxydoc source code documentation <http://docs.opentelemac.org>