Python for TELEMAC   links from Wikis of the TELEMAC system

Introduction

The TELEMAC system is written in Fortran (standard Fortran 95). The mathematics, the physics, the advanced parallelisation are all in Fortran. Therefore, if you wish to recompile the TELEMAC system from its source code, to tune the compiler optimisation to your processor or if you need to input your own Fortran code to model the specifics of your application (boundary, initial conditions, special output variable, etc.) a Fortran compiler is required (that is compatible with standard Fortran 95). At this stage, we recommend the gfortran compiler, which is freely available on both Linux and Windows operating systems.

Further, surrounding the scientific code, are sets of scripts based on the Python language. As a user, you will see these Python scripts in action as they are used to download and compile the TELEMAC system, prepare the input and output files during simulation and run the modules of the TELEMAC system, coupled or not, on a distributed cluster of computers or locally. As developpers, we also use these Python scripts to validate the TELEMAC system every night and produce a number of checks and balances for quality assurance purposes, to make sure that the TELEMAC system can be relied upon for both research and commercial applications. Having said that, the Python scripts now form a large library of tools that have been found very useful for other uses, such as mesh analysis, plotting and extraction of model results, download of global model databases, etc.

The following pages explain what these scripts are and how to use them.

To conclude, we would like to emphasise at this stage that the Python scripts can be used as stand-alone software and will always be. However, the intention of the TELEMAC Consortium is to make sure they are integrated as plug-ins within other open source platforms such as QGIS, and directly callable from these. Eventually, some users might never have to look at a Python script to use the TELEMAC system.

The Python scripts in the context of ...

- The configuration of the TELEMAC system
- The compilation of the TELEMAC system
- Running TELEMAC on multiple platforms
- The validation of the TELEMAC system
- The SELAFIN file toolbox

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