

Installation Procedures with Python and Perl

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Fortran 90

If you wish to recompile the TELEMAT-MASCARET 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 must be installed on your computer (compatible with standard Fortran 95). Fortran compilers can either be downloaded from free and open source software distribution websites, or bought through your usual software vendor whether on-line or not.

The TELEMAT-MASCARET system is written in a strict standard Fortran 90 language, which makes compilation under multiple compilers and multiple platforms possible. Here is the free solution depending on your operating system:

- The gfortran Fortran compiler comes default on many of the latest Linux and Unix operating system. It is often associated with its C compiler counterpart gcc. We recommend that you use gfortran 4.6.2 or above. The TELEMAT-MASCARET system may not work otherwise. To check this, just type the following in a terminal console:

```
$> gfortran -v
```

- The version 4.6.3 of the same [gfortran](#) compiler is the first version to be released for various MS Windows operating systems (i.e. without linux shell such as cygwin). While we used to recommend the so-called [g95 Fortran compiler](#), we now strongly recommend that you use gfortran 4.6.3, or even better its upgrade to 4.8.1 and above. The self-install file for the gfortran compiler can be downloaded as free software from [equation.com](#), and is available in 32bit and 64bit modes on MS Windows operating systems. The gfortran Fortran compiler is compatible with MS Windows XP, 2000, Vista, MS Windows 7 and 8. Once installed, please make sure that gfortran is accessible to you. Just type the following in a DOS command windows:

```
\> gfortran -v
```

Alternatively, if you are looking for speed and advanced optimisation, we recommend that you invest in the [Intel Fortran compiler](#), which can be installed on both Linux and MS Windows operating systems. To check that your Intel Fortran Compiler is set properly on MS Windows operating system, just type the following in a terminal console:

```
\> ifort
```

If this is unsuccessful, it is often the case that the execution of 'ifortvars.bat' is necessary to set

appropriate PATHs, LIBs and INCLUDEs within your DOS command console. 'ifortvars.bat' can usually be found under ...\\Program Files\\Intel\\Compiler\\11.0\\...\\fortran\\Bin, depending on the version of the compiler and the installation procedure.

Of course, if you are already using a different Fortran compiler whether on Linux or MS Windows operating systems, feel free to continue doing so. It is recommended though that you use the Python scripts of the TELEMAC-MASCARET system as the configuration is easier.

Tips and Tricks

- Trying to compile the TELEMAC system using the g95 Fortran compiler on MS Windows operating systems sometimes causes the following error:

```
\\>crt2.o: No such file: No such file or directory
```

By default, the environment variable 'G95_LIBRARY_PATH' is set to **D:\program\fortran\g95\lib\gcc-lib\i686-pc-mingw32\4.1.2**, where **D:\program\fortran** is an example of the root of the installation directory for g95. The crt2.o file is however in the **D:\program\fortran\g95\lib** directory. The solution is therefore to have:

```
G95_LIBRARY_PATH=D:\program\fortran\g95\lib\gcc-lib\i686-pc-mingw32  
4.1.2;D:\program\fortran\g95\lib
```

(note that the PATH separator on MS Windows operating system is ";")

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