

# Installation of OpenCalphad on Linux or macOS

Bo Sundman, May 11, 2017

There is no automatic installation routine for OC, you must download and compile the software yourself. You may also have to install Fortran compilers and the GNUPLOT software if you do not already have them. The OC development team cannot offer you any help for that, please ask some local experts if you need help.

The description below applies when installing OC on a “vanilla” Linux system, the guides available are:

- Install-OC-Windows-MinGW
- Installation de OC sous Windows avec Cygwin (in French)
- Install-OC-Linux

Step by step installation:

- The code is written in the new Fortran standard and requires a compiler like GNU Fortran 4.8 or similar.
- Normally you have the GNU Fortran compiler in your linux system otherwise you can get the GNU Fortran suite free from <https://SourceForge.net> or some similar site. If you have Intel or another Fortran compiler you must be sure it is compatible with GNU Fortran 4.8 or later.
- open a terminal window and use “cd” (change directory) to the directory where you unzipped OC.
  - run “make -f Makefile-sequential” to build a serial version of OpenCalphad...
  - ... or if you have access to several CPUs you can test OC with parallelization using Open MP. In that case run “make -f Makefile-parallel” to build a OpenCalphad
- **If you have errors running the make command files please contact a local expert.**
- For the graphics you must download and install the free GNUPLOT software, for example from SourceForge.

Make sure your PATH includes the directory with the GNUPLOT program. If you do not know how to set your PATH ask a local expert.

- Creating a home directory for OC

- Create a directory called OCHOME, usually at your home directory “mkdir OCHOME”
  - Copy the file ochelp.hlp to this directory
  - Create an environment variable called OCHOME with the path to your OCHOME directory. If you do not know how create an environment variable please ask a local expert.
  - Later you may also add a macro file called “start.OCM” that you want to run every time you start OC on this directory. You can also create a subdirectory called “databases” that you can search when you give the command “read tdb” in OC if you prefix the file name by “ocbase/”
- Look in “after-installation” for help using OC.

You are welcome to help providing a better installation guide also!

**Have fun and help make OC useful!**