

# Installation of OpenCalphad on Windows

Bo Sundman, August 19, 2018

There is no automatic installation routine for OC, you must compile the software yourself after downloading. You may also have to install Fortran and C 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.

On Windows you can use a native Fortran compiler like Microsoft Developer Studio or Intel but there is no installation guide for that. Maybe you can use some of the information below. Usually you have to pay for these so you may be able to get some help from the vendor if you have problems.

You can also use the free MSYS2/MinGW or Cygwin system which emulates (in slightly different ways) a linux OS on Windows. This guide is for MSYS2/MinGW. There is a French guide for Cygwin which is more elaborate (and it does not require that you understand much French).

The description below applies when installing OC on Windows using MSYS2/MinGW, the other guides available are (probably not updated):

- Install-OC-parallel-Windows-French
- Install-OC-Linux-or-macOS

Step by step installation:

1. Download OC from <http://opencalphad.org> or the sundmanbo repository at <http://github.com> to some directory on your computer.
2. The OC software is written in the new Fortran standard and requires a compiler like GNU Fortran 4.8 or similar. It also uses some library routines written in C.
3. If you have not already installed MSYS2/MinGW and the Fortran compiler you must do that from <https://SourceForge.net> or some similar site. If you have MSYS2/MinGW but not the Fortran compiler you must add that. This software is free.
4. Open a terminal window. If you do not know what is a terminal window on Windows you should ask a local expert. Keep him or her with you until you finished the installation.
5. In the terminal window you may have to use “cd” (change directory) until you reach the directory where you downloaded OC.
6. Unzip OC, this will create a directory opencalphad-master or opencalphad-versionX.
7. cd to this directory in your terminal window.

8. It will also be convenient to go to this directory in a file explorer window. You will find several files and directories. There is a readme.pdf file which tells you to look in the installation directory for this file.
9. In this directory rename the file “linkmake” to linkmake.cmd so it can be executed.
10. If your computer have several kernels you can use OC with parallelization using Open MP. In that case you should use the linkfile “linkpara” below (after renaming it to linkpara.cmd).
11. Then exectute the file you just renamed by typing its name in the terminal window.
12. **If you have errors running the linkmake or linkpara command files please ask a local expert for help.**
13. From version 5.018 OC has a popup window for opening files to make it easy to search for files. This is in the “tinyfiledialogs” which is compiled together with OC. If you have problems with this or do not want this feature try compiling using “linkmake-notinyfd” or “linkpara-notinyfd” instead.
14. For the graphics you must download and install the free GNUPLOT software, you can find that on SoureForge.  
  
Make sure your PATH includes the directory with the GNUPLOT program. You can check this by simply typing GNUPLOT in the terminal window. If you get the message “gnuplot is not recognized ...” ask your local expert to fix the path or installation of gnuplot.
15. The steps below are not necessary but may enhance the use of OC by creating a home directory for OC

- Create a directory called OCHOME at you home directory, usually “C:\Users\yourname”.
- Create an environment variable for your account called OCHOME with the path to your OCHOME directory as value. If you do not know how to create an environment variable please ask a local expert.  
Normally you have to restart your computer to make the environment variable available.
- Copy the file ochelp.hlp to this directory
- Later you may also add a macro file on this directory called “start.OCM” that will be run everytime you start OC. You may also create a direcorey called “databases” with databases you use. Such databases will be searched if you prefix the database name with “ocdata/” in the command “read tdb”
- If you want to start the OC program from any directory copy also the executable to OCHOME and add the path to OCHOME to your %PATH%

16. Look in “after-installation” for help to use OC.

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

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