

Installation SNAPHU in Windows

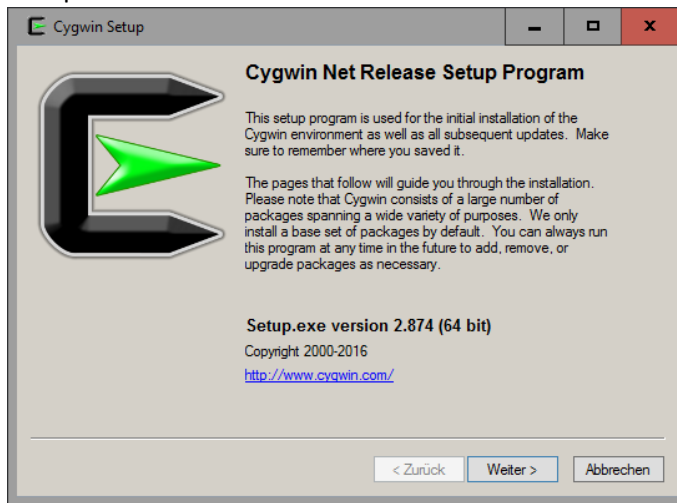
SNAPHU is a tool for phase unwrapping of interferometric information. To use it as an executable file (*.exe) in Windows it has to be compiled first so all required drivers (*.dll) are installed correctly.

Requirements

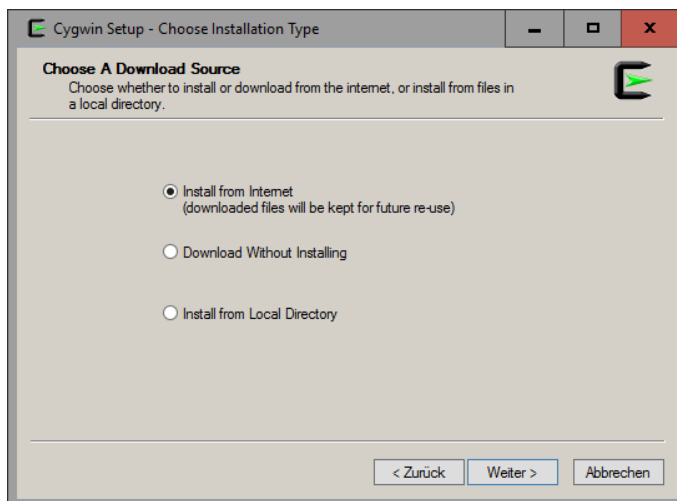
- a. cygwin (<http://www.cygwin.com>)
- b. snaphu (<http://www.stanford.edu/group/radar/softwareandlinks/sw/snaphu/>)

Installation

1. Install cygwin (32 or 64 bit version¹).
 - a. Open the downloaded installer:

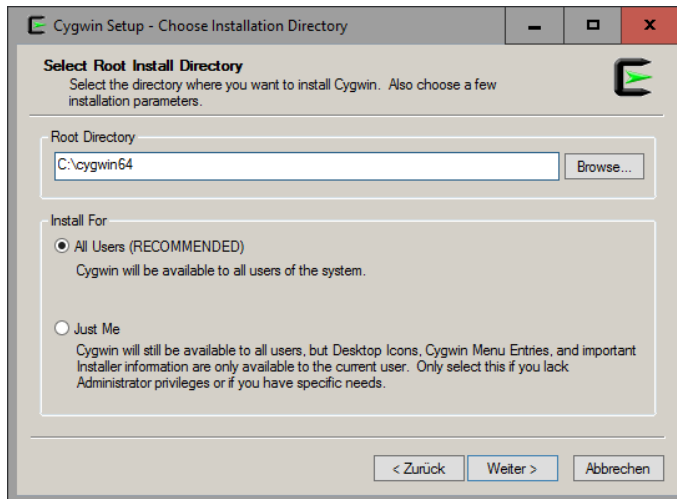


- b. Next

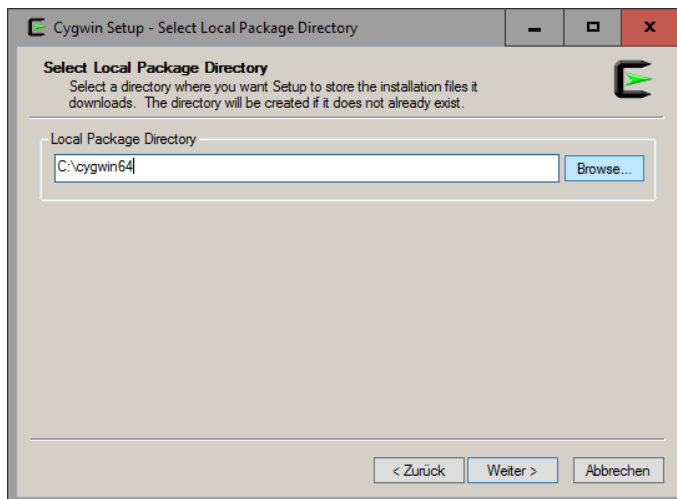


- c. Install from Internet > Next

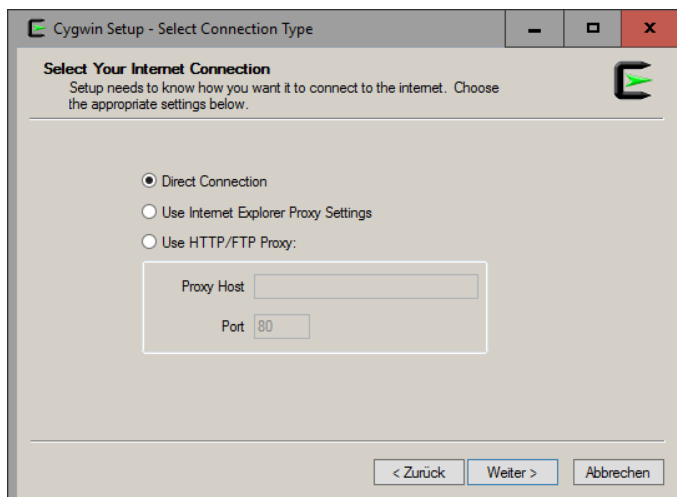
¹ Open System by clicking the Start button The Start button > right-clicking on Computer > Properties. Under System, you can view the system type.



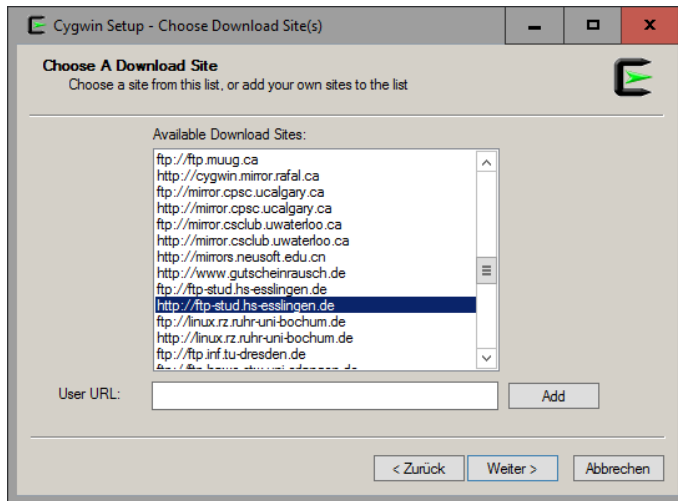
d. Select an installation directory (at best leave as suggested) > All Users > Next



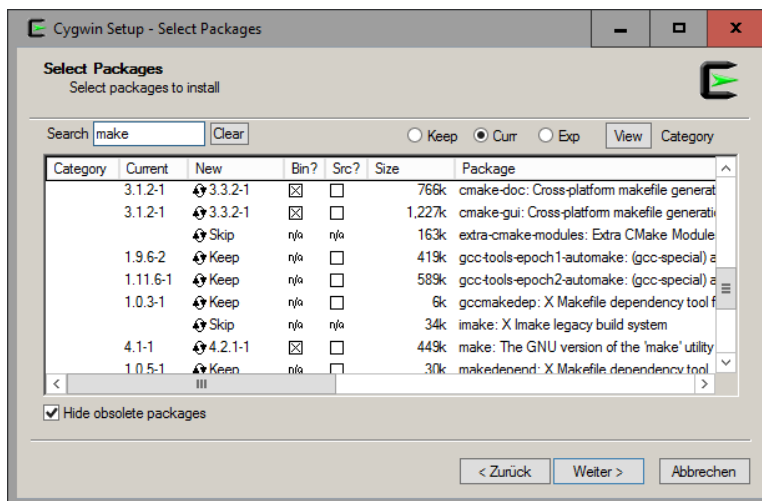
e. Select a directory for the installation files (at best leave as suggested) > Next



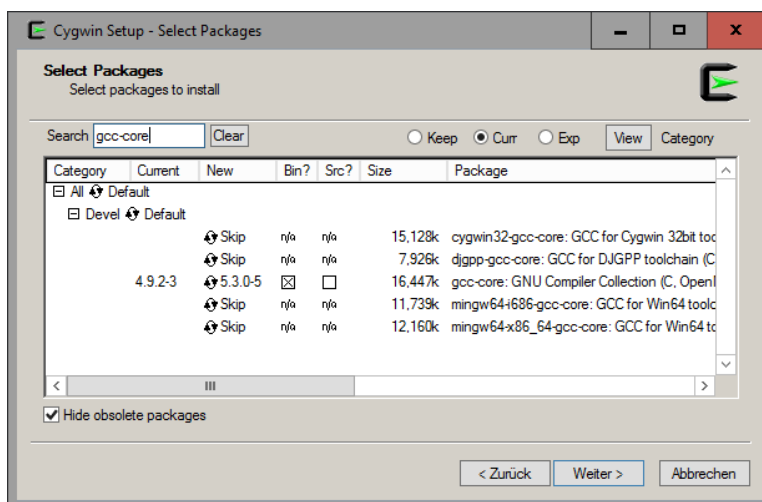
f. Direct Connection > Next



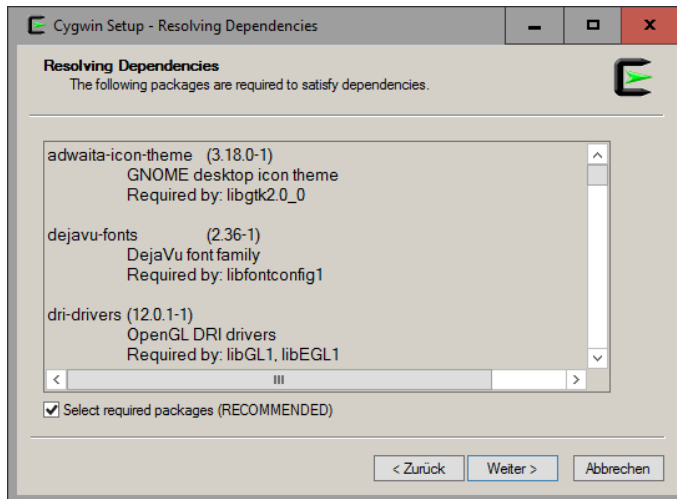
g. Chose a server in your proximity > Next



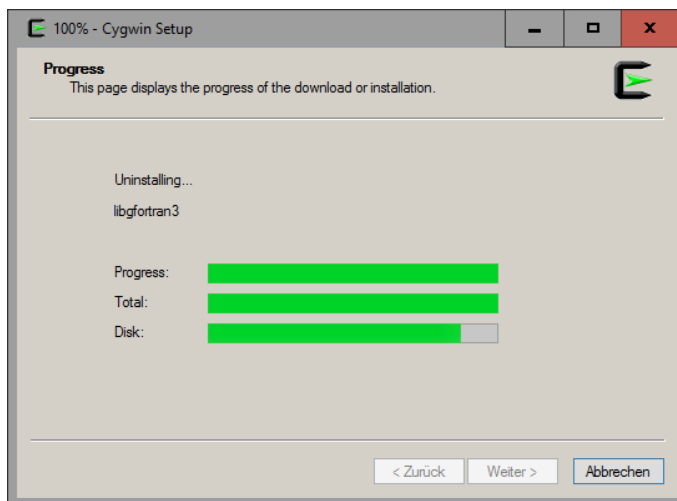
h. search for „make“> under Devel > select **make: The GNU version of the ,make' utility**



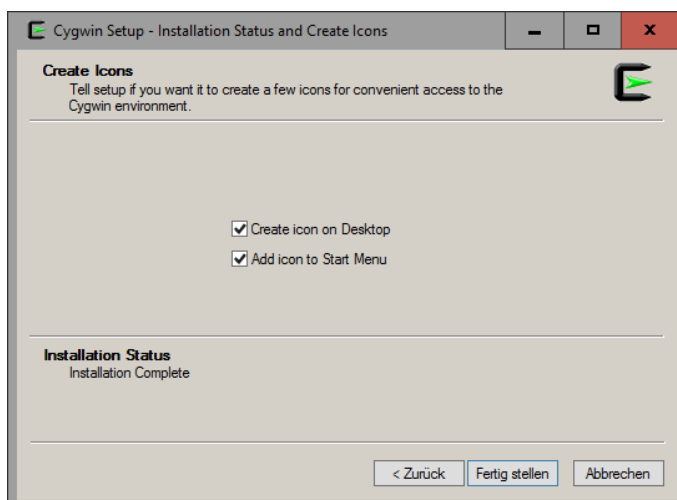
i. search for „gcc-core“> under Devel > select **gcc-core: GNU compiler Collection** > Next



j. required components and dependencies are listed here > Next



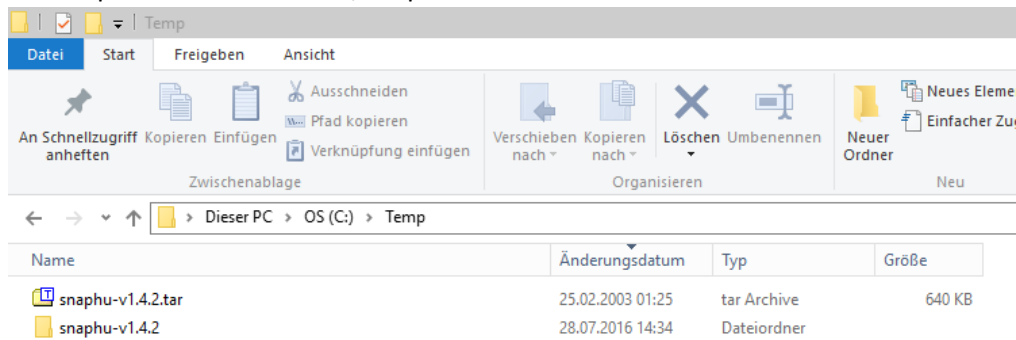
k. Data is downloaded, the installation is performed subsequently. This may take several minutes.



l. Shortcuts are generated > Finish.

2. Install SNAPHU

a. Unzip SNAPHU data to C:\Temp



b. Open Cygwin terminal (from shortcut on your desktop)



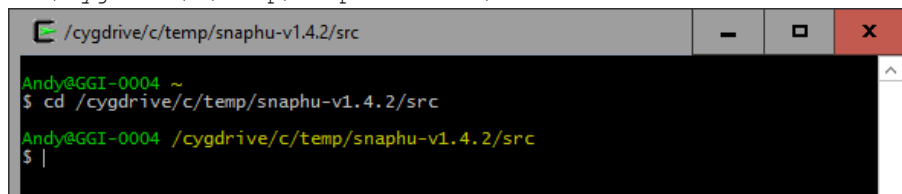
c. Move to your user directory and create sub folders (man/man1) by typing

```
cd /usr/local/  
mkdir man man/man1
```



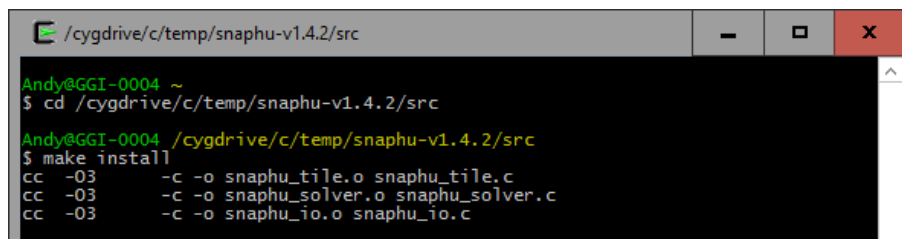
d. Move to the unzipped folder by typing

```
cd /cygdrive/c/temp/snaphu-v1.4.2/src
```



e. Prepare the compiler by typing

```
make install
```



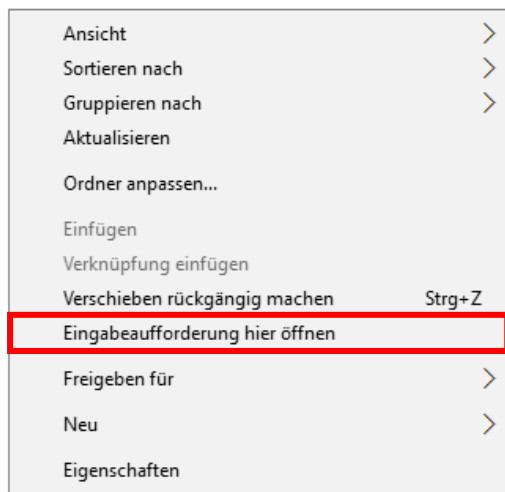
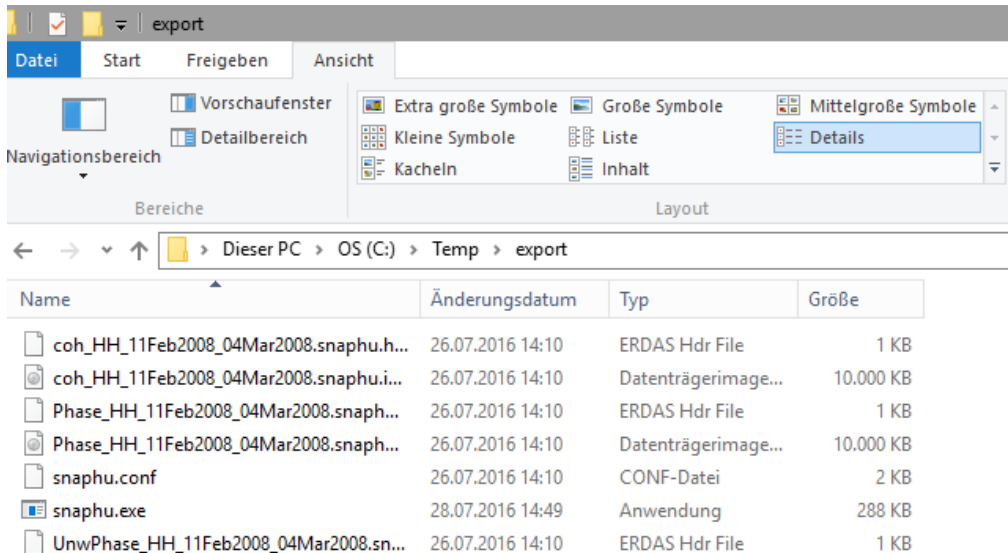
SNAPHU.exe was now created and can be found in snaphu-v1.4.2\bin.

To make use of it copy snaphu.exe to the directory where your unwrapped data is located **or** place it in a folder which is listed in your system's PATH variable² to be able to execute it from anywhere.

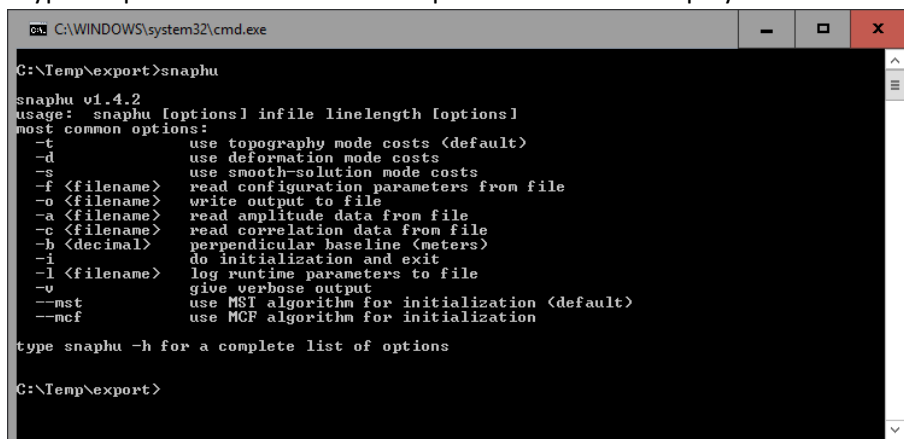
² <http://www.computerhope.com/issues/ch000549.htm>

Example

- The interferogram exported from SNAP is located in C:\Temp\export
If snaphu.exe is not in your system's PATH variable: Copy it in there as well.
- Open the windows command terminal by holding the Shift key and right-clicking > Open Command Window Here



- Type snaphu and hit Enter. The help menu should be displayed.



- d. The command to start the unwrapping is shown in the file `snaphu.conf`. Open it with a text editor.

```

1 # CONFIG FOR SNAPHU
2 # -----
3 # Created by SNAP software on: 14:10:46 26/07/2016
4 #
5 # Command to call snaphu:
6 #
7 # snaphu -f snaphu.conf Phase_HH_11Feb2008_04Mar2008.snaphu.img 1600
8 #
9 #####
10 # Unwrapping parameters #
11 #####
12
13 STATCOSTMODE     DEFO
14 INITMETHOD       MCF
15 VERBOSE          TRUE
16
17 #####
18 # Input files #
19 #####
20
21 CORRFILE         coh_HH_11Feb2008_04Mar2008.snaphu.img
22
23 #####
24 # Output files #
25 #####
26
27 OUTFILE          UnwPhase_HH_11Feb2008_04Mar2008.snaphu.img
    
```

- e. Copy the highlighted line and enter it in your system's shell.

```
snaphu -f snaphu.conf Phase_HH_11Feb2008_04Mar2008.snaphu.img 1600
```

- f. Hit enter to start the unwrapping.

```

C:\Temp\export>snaphu -f snaphu.conf Phase_HH_11Feb2008_04Mar2008.snaphu.img 1600

snaphu v1.4.2
27 parameters input from file snaphu.conf (84 lines total)
Logging run-time parameters to file snaphu.log
Creating temporary directory snaphu_tiles_22064
Unwrapping tile at row 0, column 0 (pid 19684)
Unwrapping tile at row 0, column 1 (pid 8472)
Unwrapping tile at row 0, column 2 (pid 21284)
Unwrapping tile at row 0, column 3 (pid 29060)
Unwrapping tile at row 0, column 4 (pid 28104)
Unwrapping tile at row 0, column 5 (pid 13584)
Unwrapping tile at row 0, column 6 (pid 23680)
Unwrapping tile at row 0, column 7 (pid 29996)
Unwrapping tile at row 0, column 8 (pid 28968)
Unwrapping tile at row 0, column 9 (pid 2496)
Unwrapping tile at row 1, column 0 (pid 2836)
Unwrapping tile at row 1, column 1 (pid 7836)
Unwrapping tile at row 1, column 2 (pid 14812)
Unwrapping tile at row 1, column 3 (pid 18584)
Unwrapping tile at row 1, column 4 (pid 2100)
Unwrapping tile at row 1, column 5 (pid 22552)
Unwrapping tile at row 1, column 6 (pid 28600)
Unwrapping tile at row 1, column 7 (pid 22280)
Unwrapping tile at row 1, column 8 (pid 18252)
Unwrapping tile at row 1, column 9 (pid 3568)
    
```

- g. After completion a new file `UnwPhase_[...].snaphu.img` was created. It can be opened in SNAP by selecting the corresponding `*.hdr` file. Use the menu `> Radar > Interferometric > Unwrapping > Snaphu Import`.

snaphu.exe	28.07.2016 14:49	Anwendung	288 KB
snaphu.log	28.07.2016 15:02	Textdokument	4 KB
UnwPhase_HH_11Feb2008_04Mar2008.snaphu.hdr	26.07.2016 14:10	ERDAS Hdr File	1 KB
UnwPhase_HH_11Feb2008_04Mar2008.snaphu.img	28.07.2016 15:02	Datenträgerimage...	10.000 KB