ODVSDN2CFPOINT 1.0.7

USER MANUAL

seventh_framework_programme

Project Acronym :SeaDataNet II

Project Full Title :SeaDataNet II: Pan-European infrastructure for ocean and marine data management

Grant Agreement Number :283607

PAN-EUROPEAN INFRASTRUCTURE FOR OCEAN & MARINE DATA MANAGEMENT

|  |  |
| --- | --- |
| Deliverable number | Short Title |
|  | OdvSDN2CFPOINTUser Manual |
| Long title | |
| User Manual of OdvSDN2CFPOINT | |
| Short description | |
| User Manual of OdvSDN2CFPOINT software delivered in the frame of SeaDataNet European project. This software is used to convertSeaDataNetODV files of vertical profiles, time-series and trajectories to SeaDataNetNetCDF (CFPoint) | |
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***History***

|  |  |  |  |
| --- | --- | --- | --- |
| Version | Authors | Date | Comments |
| 1.0.0 | Capitaine D. | 02/01/2014 | Creation |
| 1.0.1 | Bregent S. | 16/01/2014 | Update version to match application version |
| 1.0.2 | Bregent S. | 20/01/2014 | Update version to match application version |
| 1.0.3 | Bregent S. | 24/02/2014 | Update version to match application version |
| 1.0.4 | Bregent S. | 10/07/2014 | Update version to match application version |
| 1.0.5 | Bregent S. | 25/02/2015 | §1.1 OdvSDN2CFPOINT compliance with the “SeaDataNet Datafile Formats” D8.5, version 1.6.  §1.1 OdvSDN2CFPOINT manages textual data  §1.2: java >=1.7 is required |
| 1.0.6 | Bregent S. | 15/06/2015 | §1.1 OdvSDN2CFPOINT compliance with the “SeaDataNet Datafile Formats” D8.5, version 1.16. |
| 1.0.7 | Bregent S. | 21/07/2015 | Update version to match application version |

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# Introduction

The CF metadata conventions (http://cf-pcmdi.llnl.gov/) are designed to promote the processing and sharing of files created with the NetCDF API. The conventions define metadata that provide a definitive description of what the data in each variable represents, and the spatial and temporal properties of the data. This enables users of data from different sources to decide which quantities are comparable, and facilitates building applications with powerful extraction, regridding, and display capabilities.

The approach taken with the development of the SeaDataNet profile based on CF 1.6 was to classify data on the basis of feature types and produce a SeaDataNet specification for storage of each of the following:

* Profile (x, y, t fixed; z variable). The specification given is for storage of a single profile such as a CTD cast or bottle profile. However, the design is such that very little change is required to facilitate the storage of multiple profiles in a single netCDF file.
* TimeSeries (x, y, z fixed; t variable). The specification given is for storage of a single time series, such as a current meter record. However, the design is such that very little change is required to facilitate the storage of multiple time series in a single netCDF file.
* Trajectory (x, y, z, t all variable). The specification given is for storage of a single trajectory, but this may be easily modified to store several trajectories in a single file.

The specification was then developed through discussions on a collaborative e-mail list involving participants in SeaDataNet, MyOcean, USNODC, NCAR and AODN. The working objective focussed on producing profiles with the following properties:

* CF 1.6 conformant
* Have maximum interoperability with CF 1.6 implementations in use by MyOcean (OceanSITES conventions), USNODC (USNODC NetCDF templates) and two contributors to AODN (IMOS and METOC)
* Include storage for all labels, metadata and standardised semantic markup that were included in the SeaDataNet ODV format files for the equivalent feature type.

Significant list discussion focussed on the version of NetCDF that should be used for SeaDataNet. The conclusion was that NetCDF 4 should be used wherever possible, but that NetCDF 3, although strongly discouraged, should not be totally forbidden.

## Main principles

OdvSDN2CFPOINTconverts SeaDataNetODV (SDN ODV) file(s) of vertical profiles, time series or trajectories to SeaDataNet NetCDF (CFPOINT).

OdvSDN2CFPOINTconverts is compliant with the “SeaDataNet Datafile Formats” D8.5, version 1.16.

It manages ODV files containing textual data.

User can convert one ODV file or one directory with one to n ODV files.

OdvSDN2CFPOINTis bilingual (English – French).

## Technical characteristics

OdvSDN2CFPOINT is portable software that can be downloaded from the SeaDataNet website <http://www.seadatanet.org>, free of charge, with its user manual.

It iswritten in Java Language (Version >= 1.7) and it is available under Microsoft 32/64 bits (tested with Windows XP, Seven), Linux 32/64 bits and Solaris (not tested). Log4j is used for error management.

OdvSDN2CFPOINT works offline; however as it uses the SeaDataNet common vocabularies web services to update its lists of values, network connection is needed only when update of these lists is necessary.

* To know if Java is available on your computer, in the right version, follow these steps:
  + - Open 'Start' menu, then 'Execute'
    - On the displayed window, enter: 'cmd', then click on 'OK' button
    - Enter 'java -version'
* Check if command has been executed:
  + - If not, download the last java version at

<http://java.com/en/download/index.jsp>.

* + - Else, check the version displayed. The version should be greater than or equal to 1.6.

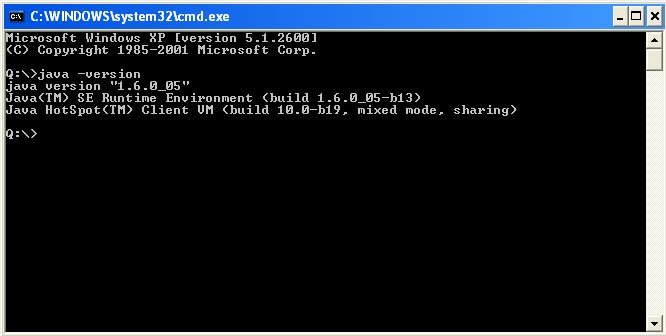


Figure 1 - Check Java version installed on your computer

## Links with others entities

OdvSDN2CFPOINT uses SeaDataNet vocabularies and EDMO for the data file conversion.

The following lists are used by OdvSDN2CFPOINT:

|  |  |
| --- | --- |
| List Code | List Name |
| Mapping P02-P01 | Mapping between P02 (SeaDataNet Parameter Discovery Vocabulary) and P01 (BODC Parameter Usage Vocabulary) |
| Mapping P02-P06 | Mapping between P02 (SeaDataNet Parameter Discovery Vocabulary) and P06 (BODC data storage units) |
| EDMO | European Directory of Marine Organizations |

These lists are available at:

<http://seadatanet.maris2.nl/v_bodc_vocab_v2/welcome.asp>

Up-to-date version of the vocabulary lists can be downloaded with OdvSDN2CFPOINT.

# OdvSDN2CFPOINT installation and uninstallation

## OdvSDN2CFPOINT installation

Get OdvSDN2CFPOINT software from SeaDataNet Web site:

[http://www.seadatanet.org/Standards-Software/Software/OdvSDN2CFPOINT](http://www.seadatanet.org/Standards-Software/Software/MedSDN2CFPOINT)

Copy the zip file on your computer, and unzip it.

You will get 2 files: install\_ OdvSDN2CFPOINT.jar and launcher\_OdvSDN2CFPOINT.bat

(launcher\_OdvSDN2CFPOINT.sh for Linux)

To install OdvSDN2CFPOINT double click on the file

launcher\_OdvSDN2CFPOINT.bat(launcher\_OdvSDN2CFPOINT.sh for Linux).

Then select your language and run the installation:

1. Accept the terms of the license agreement.
2. Select the installation path (default is C:\Program Files\OdvSDN2CFPOINT for windows), target directory is created if not exists.
3. If you want a shortcut on your Desktop check the box circled in red on the image below. You can create a shortcut for the current user or for all users of the computer (circled in blue); by default “all users” is checked.

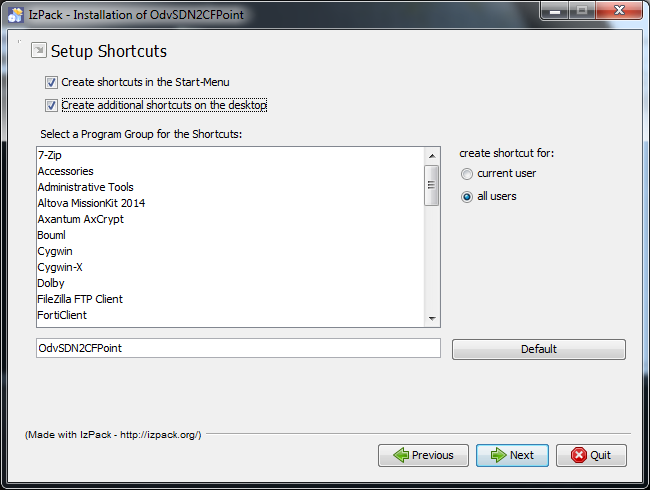


Figure 2 - Installation of OdvSDN2CFPOINT – definition of shortcuts.

The shortcuts are created in the desktop and in the Start menu of the computer with the following icon:

on the desktop or  in the start menu under the group define in the circled in green field in Figure 2 - Installation of OdvSDN2CFPOINT – definition of shortcuts..

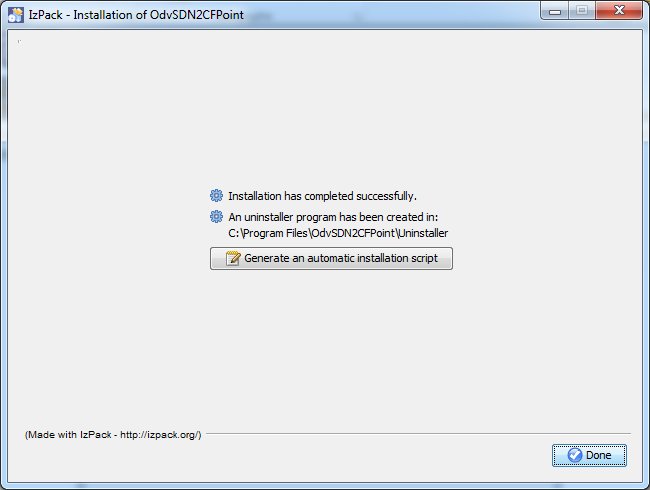


Figure 3 - Last screen of OdvSDN2CFPOINT installation

If OdvSDN2CFPOINT needs to be installed on several computers it is possible to “Generate an automatic installation script, by clicking on the appropriate button on the last screen of OdvSDN2CFPOINT installation (Figure 3 - Last screen of OdvSDN2CFPOINT installation).

## OdvSDN2CFPOINT uninstallation

If you want to remove OdvSDN2CFPOINT from your computer, run the uninstaller by selecting OdvSDN2CFPOINT Uninstaller in the start menu of your computer (cf. OdvSDN2CFPOINT installation).

If running the uninstaller generates the following message:

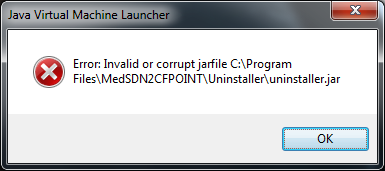


Figure 4 - error uninstaller message

Please run:

<OdvSDN2CFPOINT\_*Installation\_directory>*\Uninstaller\launcher\_uninstaller.bat(launcher\_uninstaller.sh for Linux).

The following window opens:

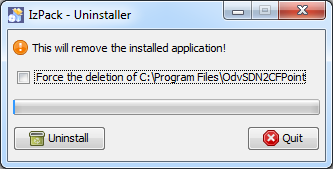


Figure 5 - uninstallation screen

Click on Force the deletion of C:\<OdvSDN2CFPOINT\_Installation\_directory> and then click on Uninstall.

# RUNNING OdvSDN2CFPOINT

## Main Menu

The main menu of OdvSDN2CFPOINT has 3 choices:

* Options/Settings
* Options/Vocabulary update
* ?/About OdvSDN2CFPOINT

### Settings

This screen is to:

* Choose the language of OdvSDN2CFPOINT. To take into account language change, user must exit and restart the software.
* Define a manual PROXY configuration: if box “Use manual Proxy configuration” is checked, HTTP Proxy address and Port are mandatory.

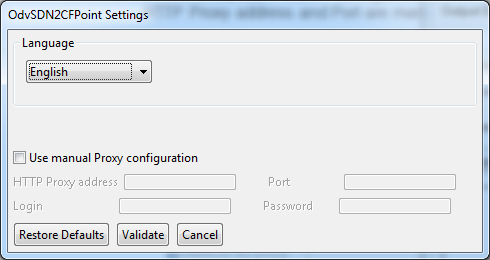


Figure 6 - Settings screen

The “Restore defaults” button restores the default values for all the fields of this screen. This action cannot be cancelled.

### Vocabulary update

This function is to update the vocabulary lists described in paragraph Links with others entities; it needs an internet connection and makes use of the Web services defined in the settings of OdvSDN2CFPOINT

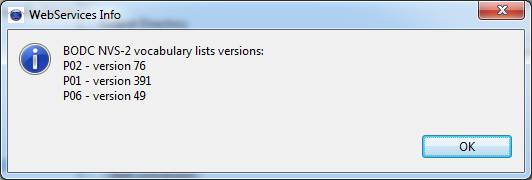


Figure 7–Result while updating vocabulary list

### About OdvSDN2CFPOINT

The version of the software is available on this screen.

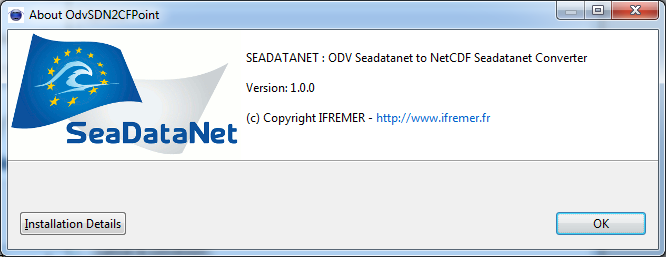


Figure 8 - About OdvSDN2CFPOINT

## Main screen

This screen is to input information necessary to data conversion, and also to run data conversion

### User Interface

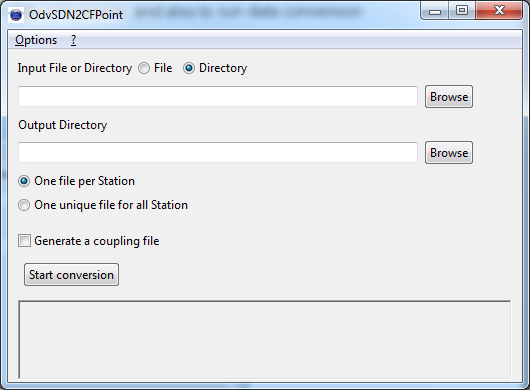


Figure 9 - Main screen of OdvSDN2CFPOINT

#### Input file or directory

User must tell OdvSDN2CFPOINT if he wants to convert one file or one directory (default value is directory).

Then the name of the file or of the directory can be input manually or selected through the “Browse” button.

If a directory is selected, OdvSDN2CFPOINT converts only the files in this directory, **not in the sub-directories if there are some.**

#### Output directory

This output directory, where converted files will be written,can be input manually or selected through the “Browse” button.

If this directory does not exist, OdvSDN2CFPOINT will create it.

The output directory must be different from the input one.

#### Mono or Multi Stations

User must tell OdvSDN2CFPOINT if he wants to convert in monostation (One file per Station) or in multistation (one to n multi-station file(s))

**In multistationmode** : the ouput file contains each Station of One input file.

Output filename is the same as input filename.

**In monstationmode** : the ouput file contains one Station of One input file.

Output filename is the LOCAL\_CDI\_ID +.nc

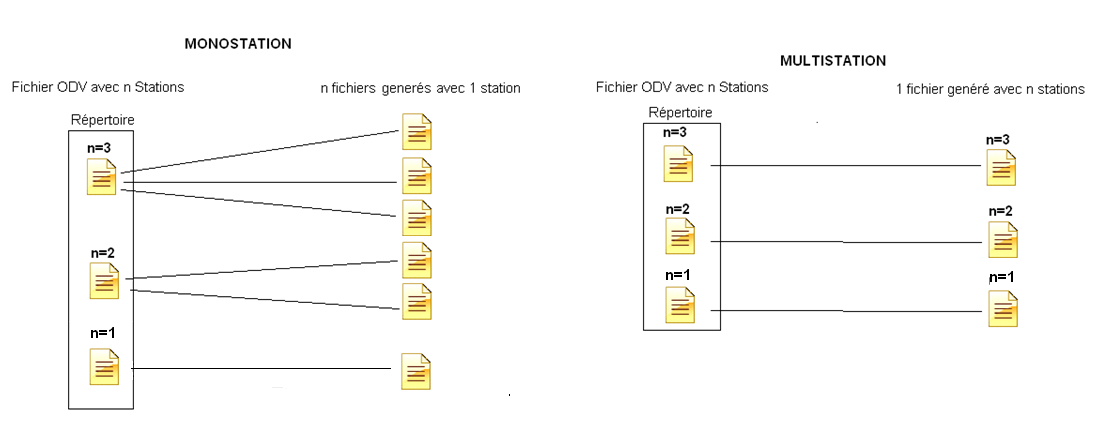


Figure 10- Directory conversion

#### Generation of a coupling table

If check box “Generate a coupling file” is checked, while reformatting files, OdvSDN2CFPOINT creates a coupling file (as a text file) which gives the mapping between a unique identifier of a CDI element (LOCAL\_CDI\_ID which is one station of vertical profiles, one time-series or one trajectory) and the file in which this element can be found. The coupling file is used by SeaDataNet download manager.

The coupling file contains the following information:

* LOCAl\_CDI\_ID,
* Modus = 1 (for mono-station file) or 3 (for multi-station file)
* Format (which is CFPOINT)
* File name

Example of a coupling file:

LOCAL\_CDI\_ID;MODUS;FORMAT;FILENAME

FI35200140070\_00040\_H10;3;CFPOINT;2001040070.nc

FI35200140070\_00050\_H10;3;CFPOINT;2001040070.nc

FI35200140070\_00060\_H10;3;CFPOINT;2001040070.nc

FI35200140070\_00070\_H10;3;CFPOINT;2001040070.nc

FI35200140070\_00080\_H10;3;CFPOINT;2001040070.nc

FI35200301012\_10239\_D01;1;CFPOINT;FI35200301012\_10239\_D01.nc

FI35200301012\_11943\_D01;1;CFPOINT;FI35200301012\_11943\_D01.nc

FI35200301012\_07160\_D01;1;CFPOINT;FI35200301012\_07160\_D01.nc

#### Start conversion button

A click on this button starts the validation of input parameters. Once the input parameters are checked and OK, conversion of files starts.

If a coupling file is asked, the first screen (Figure 11 - Name of the coupling file) that opens is to enter the name of the coupling file (by default this name is set to coupling .txt), then the user is asked to enter the “Output directory prefix” (Figure 10) which will be subtracted from the file name in the coupling file.

For example:

output file name = C:\username\NEMO\cruise\_name\file\_name

and output directory prefix = C:\username\NEMO

file name in the coupling file will be : cruise\_name\file\_name

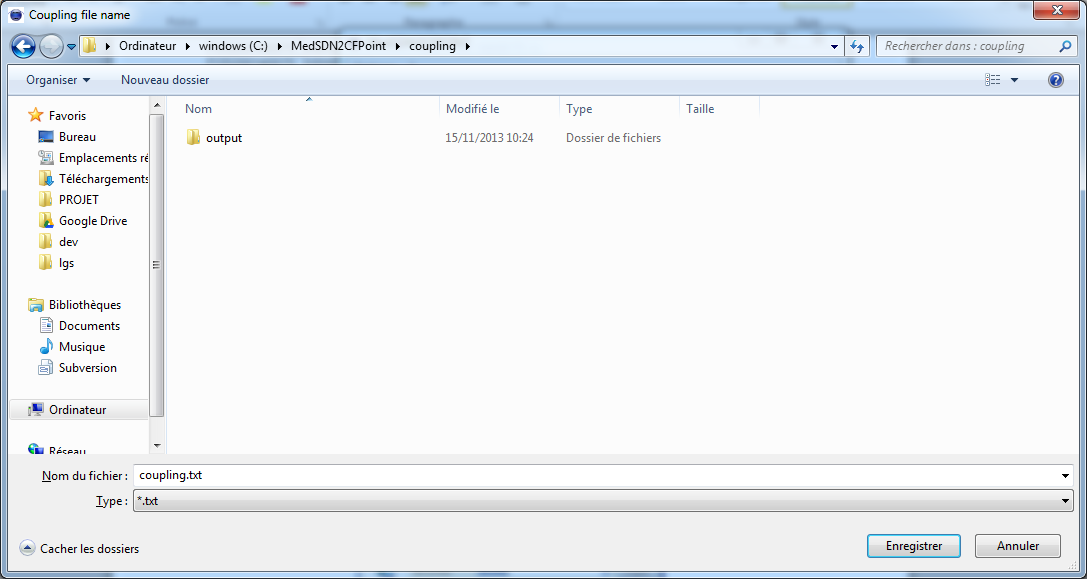


Figure 11 - Name of the coupling file

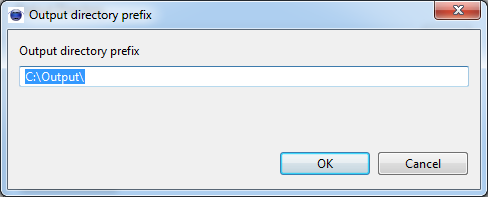


Figure 12 - Input of the Output directory prefix

#### Error messages

Error messages are written in the field under the “Start conversion” button.

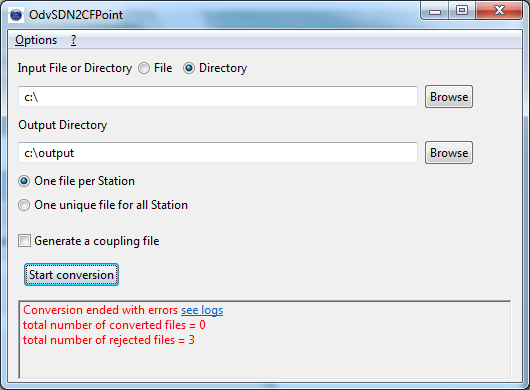


Figure 13 - Error message on EDMO Code

This message is reset to empty at each new file or directory conversion.

### Processing

#### File Conversion

During the file conversion a separate window opens. A progress bar, the name of the file being converted and its rank /Total number of files are displayed.

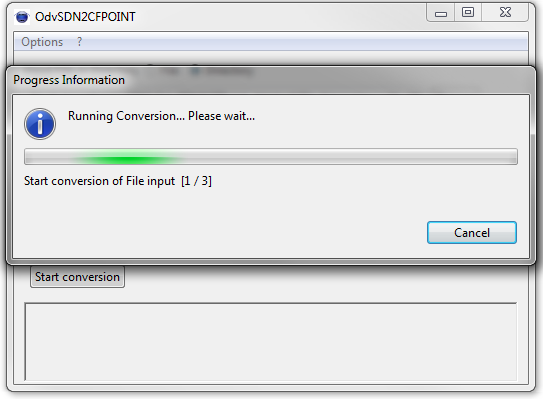


Figure 14 - Progress bar while conversion is running

Conversion can be cancelled at any time by clicking on the “Cancel” button.

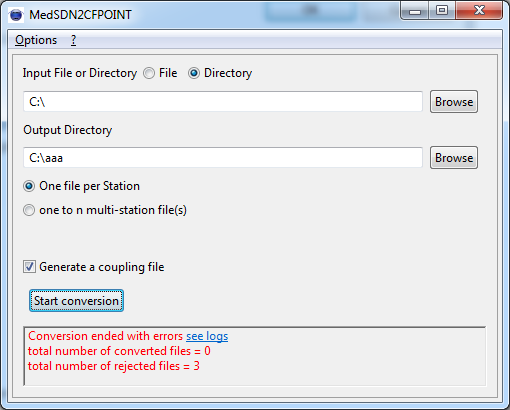
For each file being converted, OdvSDN2CFPOINT:

* Verifies the file format: conversion runs only if the file is at SDN ODV format otherwise an error is registered in the “Log file” and the software moves to the next file.
* Detect the type of file. Can be Profile, Trajectory or TimeSeries.
* Convert it to CFPOINT file(s).

OdvSDN2CFPOINT generates automatically CDI SDN references in the CFPOINT file for each station.

#### Errors management

Errors are registered in a log file which is located in OdvSDN2CFPOINT installation directory. It can be open through OdvSDN2CFPOINT main screen by clicking on “see log” in the error window.



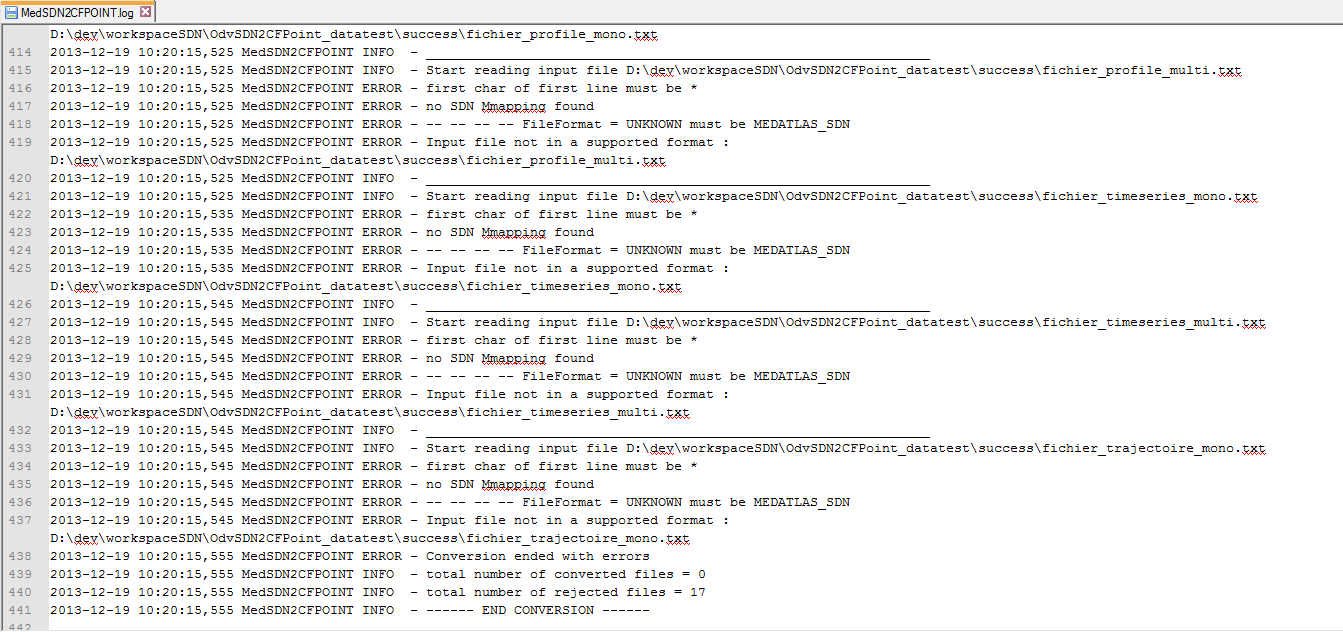


Figure 15 - Log file for errors

Maximum size of the error log file is 5 Mb. When this maximum size is reached, OdvSDN2CFPOINT saves it and opens a new log file. The software keeps 4 log files maximum and deletes the oldest log files.

One line in the log file is composed as following:

* Date (format ISO 8601)
* Name of the Software
* Error severity level
* Error message

The severity level is one of the four following values:

|  |  |
| --- | --- |
| INFO | Informative messages for starting of the conversion or successful conversion |
| WARN | Informative messages which does not stop the conversion of the current file but which may need recommended actions (example: if a file is at BODC vocabulary V1 a warning tell the user that it is recommended to move it to BODC vocabulary V2) |
| ERROR | For conversion errors : conversion is cancelled on the current file but continues on the other files |
| FATAL | For conversion errors which stop the processing of the files |

For example:

* If a mapping between P02 and P01 is missing an ERROR is detected and the file containing this parameter is not converted.

#### Error table

|  |  |  |
| --- | --- | --- |
| N° | Error | Analyse |
| 01 | The output folder must be different from the input folder | change output directory path |
| 02 | 'Input File or Directory' parameter is mandatory | choose an input file or a directory to convert |
| 03 | 'Output Directory' parameter is mandatory. | choose an output directory path |
| 04 | Input file / directory not accessible or readable | check if the Input file / directory is accessible |
| 05 | Output Directory not writeable | check if output directory is accessible |
| 06 | No file found | check the input directory |
| 07 | Input file not accessible or readable | check if the Input file / directory is accessible |
| 08 | Input file isn't a file | Click on directory radio |
| 09 | Error reading input file | If you get this message, send an email to sdn-userdesk@seadatanet.org |
| 10 | Output Directory can't be create | check if output directory parent is accessible |
| 11 | 'Output Directory' parameter must be a folder | choose an output directory path |
| 12 | Error closing file | Checkiffile / directory is accessible |
| 13 | Variable XXXX is not SDN Compliant | If you get this message, send an email to sdn-userdesk@seadatanet.org |
| 14 | Minimum number of station should be more than 0 | If you get this message, send an email to sdn-userdesk@seadatanet.org |
| 15 | Minimum number of station should be more than 0 | If you get this message, send an email to sdn-userdesk@seadatanet.org |
| 16 | Invalid input Type value | If you get this message, send an email to sdn-userdesk@seadatanet.org |
| 17 | CFPoint dimensions list can’t be empty | If you get this message, send an email to sdn-userdesk@seadatanet.org |
| 18 | Error creating netCDF global attributes | If you get this message, send an email to sdn-userdesk@seadatanet.org |
| 19 | Error creating CFPoint metadata | If you get this message, send an email to sdn-userdesk@seadatanet.org |
| 20 | Variable XXX not found | If you get this message, send an email to sdn-userdesk@seadatanet.org |
| 21 | Error setting variable XXXX value | If you get this message, send an email to sdn-userdesk@seadatanet.org |
| 22 | Z Variable name not found | If you get this message, send an email to sdn-userdesk@seadatanet.org |
| 23 | Z standard name not found | If you get this message, send an email to sdn-userdesk@seadatanet.org |
| 24 | PXX to PXX vocab mapping not found | Try to update the vocabulary |
| 25 | Error loading Vocab List | Try to update the vocabulary |
| 26 | Error parsing semantic header, line X | Check Semantic Header line X |
| 27 | Error parsing SDN parameter subject | Check SDN Parameter values |
| 28 | Error parsing SDN parameter object | Check SDN Parameter values |
| 29 | Error detecting vertical reference | profile : the first Parameter must be an AHGT parameter, trajectory, timeseries : an AHGT DEPTH parameter must be set |
| 30 | SDN parameter object XXXX not found in BODC list | the code XXXX is not found in P01 list, try to update list by execute update vocabulary |
| 31 | Error parsing SDN parameter unit | Check if SDN parameter mapping lines |
| 32 | SDN parameter unit XXXX not found in BODC list | the code XXXX is not found in P06 list, try to update list by execute update vocabulary |
| 33 | SDN parameter mapping start, expected data, line X | Check if SDN parameter mapping is at the good place in file, it must be set before data |
| 34 | Error parsing Column header row, line X | Check Column Header |
| 35 | Error detected line X, expected SDN parameter mapping | Check if SDN parameter mapping is at the good place in file |
| 36 | Error parsing input file, line X | Check if file is valid |
| 37 | Error parsing data, line X | Check data line X |
| 38 | Bad values number | Number of value in line not valid check line |
| 39 | Parse format X not yet implemented | If you get this message, send an email to sdn-userdesk@seadatanet.org |
| 40 | Impossible to detect type of file, error occurred, line X | The type of file (vertical profile, time series or trajectory) does not match the data typetype (see page 6 of [http://www.seadatanet.org/content/download/16251/106283/file/SDN2\_D85\_WP8\_Datafile\_formats.pdf](http://www.seadatanet.org/content/download/16251/106283/file/SDN2_D85_WP8_Datafile_formats.pdf))) |
| 41 | max size X of Y exceeded | If you get this message, send an email to sdn-userdesk@seadatanet.org |
| 42 | Time-series with Depth parameter not constant | Check first DEPTH variable constante for TIMESERIES |

## Batch mode

OdvSDN2CFPOINT can be run in batch mode.

You must set the EDMO code, this is necessary before using OdvSDN2CFPOINT in batch mode.

Launch OdvSDN2CFPOINT with the -batch options and useful options as explained below:

OdvSDN2CFPOINT -batch [-append] [-batch] [-ctFilename<arg>] [-i<arg>] [-o <arg>] [-outputPrefix<arg>] [-replace] [-mono] [-multi]

Options:

-batch launch OdvSDN2CFPOINT in batch mode

-i<arg> Input file / directory

-o <arg> Output directory

-append append data in an existing coupling table file (replace must not be present)

-replace replace an existing coupling table file (append must not be present)

-outputPrefix<arg> Output prefix (coupling table filename must be present)

-ctFilename<arg> coupling table filename (outputPrefix must be present)

-mono/multi launch conversion in Mono or multi Station Mode

Example under windows:

|  |
| --- |
| C:\Program Files\OdvSDN2CFPOINT>OdvSDN2CFPOINT.exe -batch -i "C: \fooDirIn" -o "C: \fooDirOut"  -ctFilename "C:\fooDirOut\fooCoupling.txt" -outputPrefix "C:\fooDirOut" –replace -mono |

Example under linux:

|  |
| --- |
| /home/user/OdvSDN2CFPOINT>OdvSDN2CFPOINT -batch -i "/home/user/fooDirIn" -o "/home/user/fooDirOut" –ctFilename"/home/user/fooDirOut/fooCoupling.txt" -outputPrefix "/home/user/fooDirOut" –replace -mono |