



SeaDataNet

MIKADO: USER MANUAL

version 3.8.2



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SeaDataNet - The pan-European infrastructure for marine and ocean data management

Deliverable number	Short title
	MIKADO User manual
Long title	
MIKADO User manual	
Short description	
MIKADO is a software which enables to generate XML descriptions of SeaDataNet and Geo-Seas catalogues either manually or automatically by reading information in a database or in a csv file. This document is the detailed user manual of MIKADO software.	
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Dissemination	Copyright terms
Public	

History

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2.4		30/07/2012	<p>Update for MIKADO 2.4</p> <ul style="list-style-type: none"> • Specific Instructions for seismic CDIs (§ 8.1.3.7) • ‘Shot Distance’ parameter added to SEISMIC SENSORML (§8.1.7)
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			New section: 8 CDI and CSR ISO 19139 schemas
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		19/06/2020	CDI/CSR publications are free links now ("Documentation URL", var 90 in CDI and var 50 in CSR), they were previously required as reference from a central catalogue of publications managed by MARIS.
			Replacement of Download Manager by Replication Manager
		02/09/2020	Update of Part 3 Requirements: information about screen resolution

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1. Introduction

In the framework of the FP5 European program SEA-SEARCH, IFREMER has designed the MIKADO tool for the generation of XML files that are entries for the following directories:

- the Marine Environmental Datasets (EDMED),
- the Cruise Summary Reports (CSR),
- the Common Data Index to individual datasets (CDI)

In the framework of the FP6 - European program SeaDataNet, IFREMER proposed to upgrade this tool to support new functionalities and to include the European Directory of Marine Environmental Research Projects (EDMERP) and the European Directory of the Ocean Observing System (EDIOS) in a later version. MIKADO V1 is compliant with the SeaDataNet V1 XML schemas and uses the SeaDataNet web services for standards and common vocabularies.

In the framework of the FP7 - European program Geo-Seas, IFREMER has had to upgrade the software to support new functionalities for describing geological and geophysical data and about SENSOR ML and O&M. This has resulted in an upgraded CDI V1.6 format with the following extensions:

- GML objects to support tracks and polygons next to points
- Service bindings for extra services (e.g. previewing)
- Resolution (spatial / temporal)
- Multiple instruments (to be able to include the positioning systems adjacent to the primary measuring device)

In addition to the CDI discovery metadata, specific O&M and Sensor ML extensions have been adopted in the framework of the Geo-Seas project to take into account needs specific to the description of seismic data and for accessing and for viewing them. These extensions are included in XML documents external to the CDI XML one. But they are linked to one another via URLs.

In order to produce a complete description of a seismic dataset, MIKADO has been updated to allow the production of the following XML documents when needed:

- a. the CDI (that includes the links to O&M, thumbnails, Distribution Website Services through DM/RSM and to the High Resolution Seismic Visualization Service - HRSVS),
- b. the O&M extension (that includes the links to SensorML, to UKOOA navigation file, and name of the seismic resource),
- c. the SensorML extension (that includes a link to O&M)

In addition, **MIKADO** has been upgraded for the generation of the coupling table which results of the specifications for the integration of the Downloading and Viewing services of seismic data – modus 1, 3, 4, 5 in the Geo-Seas portal.



In the framework of the FP7 - European program SeaDataNet II, IFREMER has had to upgrade the software to take into account the migration from ISO-19115 to ISO-19139 standard for Common Data Index (CDI) and Cruise Summary Report (CSR) and the compliancy with version 2 of BODC vocabularies.

The XML schemas used by MIKADO for EDMED, CSR, CDI and EDMERP, EDIOS are available on the SeaDataNet website at:

<https://www.seadatanet.org/Standards/Metadata-formats>

2. Technical characteristics

- Written in **Java** Language (Version >= 1.8)
- Available under multiple environments :
 - Microsoft : Windows 2000, XP, VISTA,
 - APPLE
 - Unix - Solaris
 - Linux
- Use of the **SeaDataNet common vocabularies** web services (V2)
 - to update lists of values of the SeaDataNet common vocabularies
 - need network connections in order to have up to date lists of values.
 - But Mikado works offline once the list are up-to-date



3. Requirements

3.1. Java version

- Make sure that the java version (*Java Runtime Environment (JRE)*) on your computer is ≥ 1.8
- 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.



```
ca C:\WINDOWS\system32\cmd.exe
Microsoft Windows XP [version 5.1.2600]
(C) Copyright 1985-2001 Microsoft Corp.

Q:\>java -version
java version "1.6.0_05"
Java(TM) SE Runtime Environment (build 1.6.0_05-b13)
Java HotSpot(TM) Client VM (build 10.0-b19, mixed mode, sharing)

Q:\>
```

Figure 1: Check Java version installed on your computer

3.2. Screen resolution

MIKADO works properly with screen resolution of 1400x1050 minimum, but it is possible to get around this problem by following these steps:

1. Open WINDOWS settings.
2. Select system, display
3. Change scale and layout up to 125%. Do not close the settings window. Wait until everything is resized.
4. Run MIKADO. There is no need to open any files.
5. Change scaling of the display back to 100%
6. Continue working with MIKADO; it may be necessary to increase the window of either moorings or parameters using the mouse to see all items.

4. FAQ

The Frequently Asked Questions about MIKADO software are available online and are regularly updated:

<http://www.seadatanet.org/Software/MIKADO/FAQ>

If you do not find the answer you need in this FAQ, do not hesitate to contact our helpdesk at sdn-userdesk@seadatanet.org.



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5. Installation

5.1. Download MIKADO software

The last version of MIKADO is available and downloadable on the SeaDataNet website:

<http://www.seadatanet.org/Software/MIKADO>

To install MIKADO, you have to download the MIKADO zip file, to unzip it and to copy the MIKADO directory on your computer.

To uninstall MIKADO, you have just to delete the MIKADO directory.

5.2. Run MIKADO software

To run MIKADO:

- **under Windows:** double click on the **mikado.bat** file in the MIKADO directory,
- **under Solaris or Mac:** run the mikado.csh file in the MIKADO directory.

In order to access MIKADO more easily under Windows, you can create a shortcut on your desktop (see 5.3).

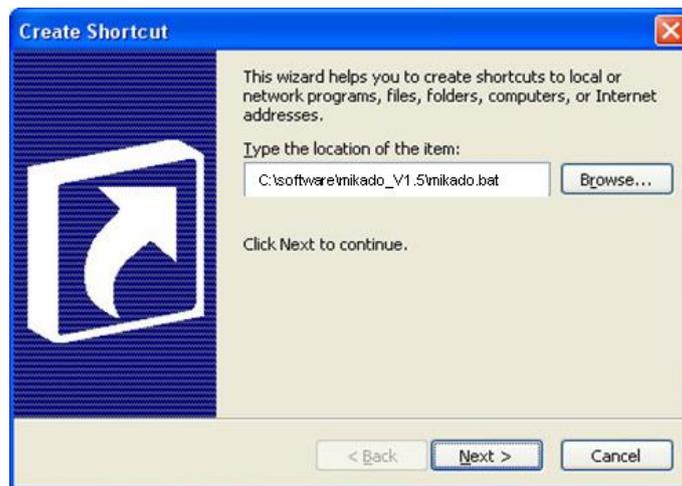
5.3. For Windows: Create a MIKADO shortcut on your desktop

The quickest method to access MIKADO is to create a shortcut on your desktop. To do so, proceed as follow:

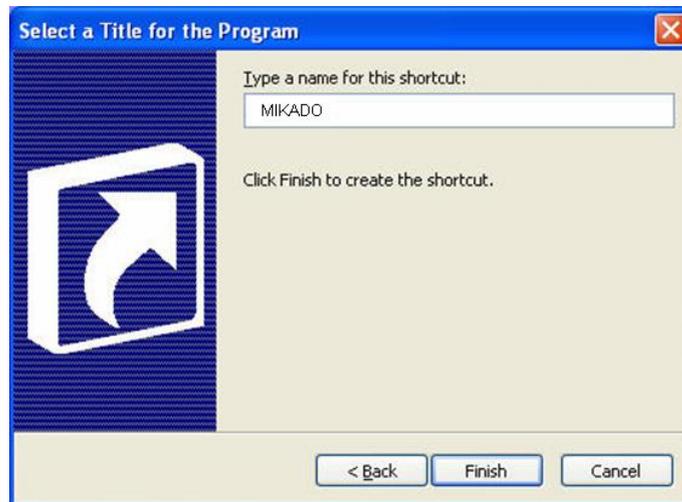
- 1- Right click on your desktop and select **New** and the **Shortcut** options. This window opens:



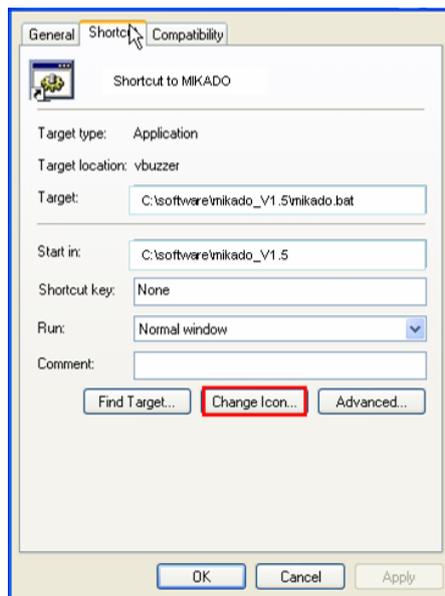
- 2- Select the Mikado.bat file in the MIKADO directory by clicking on the Browse button. Click on the Next button.



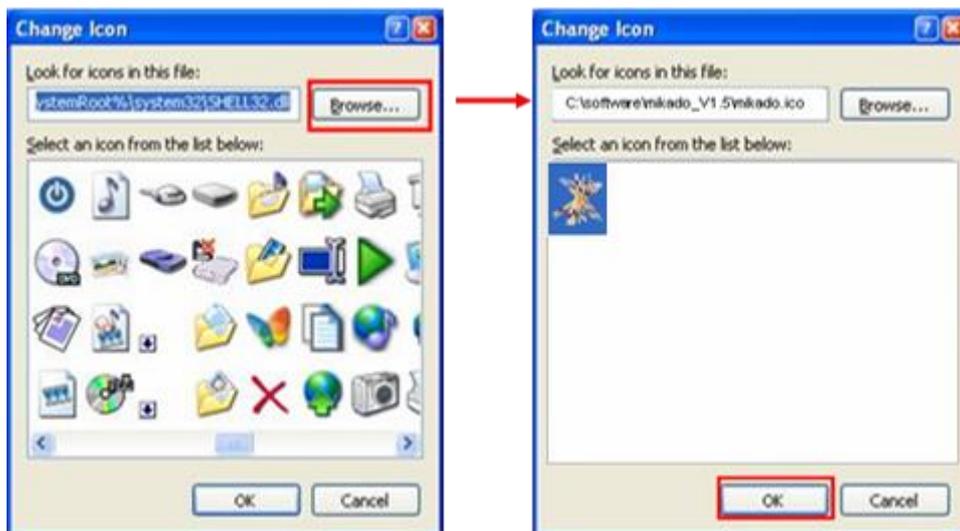
- 3- Select a title for this shortcut: MIKADO for example. Click on the Finish button.



- 4- The MIKADO shortcut will appear on your desktop: 
- 5- You can associate the MIKADO icon with the Mikado shortcut. To do so, right click on the Mikado shortcut and select **Properties**. Click on the **Change icon** button in the MIKADO Shortcut Properties window.



- 6- Click on the **Browse** button and select the Mikado.ico file provided in the MIKADO directory. And click on **OK** button.



- 7- The MIKADO icon will appear on your desktop:



6. Main menu of MIKADO

When you run MIKADO tool, you can access four different menus:

- “Manual” menu
- “Automatic” menu
- “Options” menu
- “Tools” menu
- “?” menu.

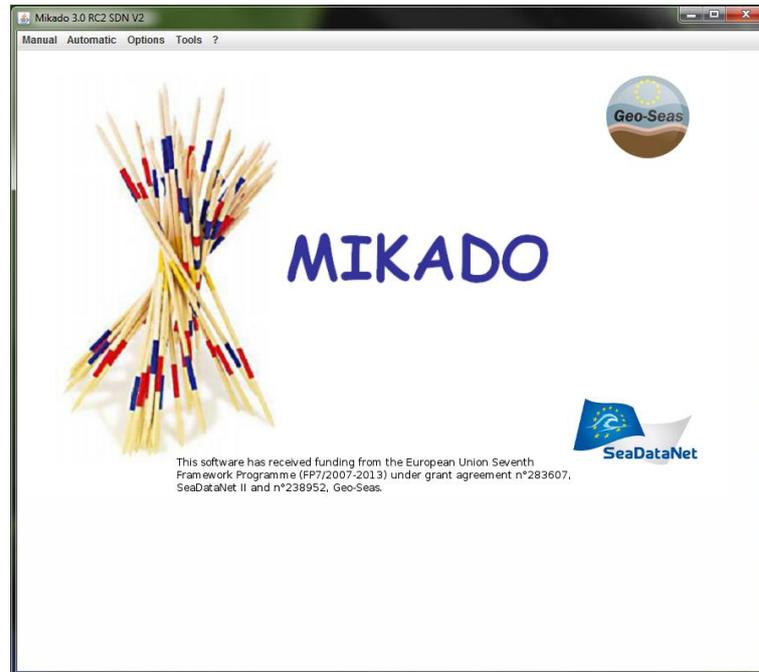


Figure 2: First screen of the Mikado tool

6.1. “Manual” menu

The first “Manual” menu (Figure 2) enables you to run the manual way of MIKADO which allows inputting manually the relevant information for all the fields in order to generate XML files for one directory.

6.2. “Automatic” menu

The second “Automatic” menu (Figure 2) enables you to run the automatic way of MIKADO which allows generating these descriptions automatically if information is catalogued in a relational database or in a csv file.

6.3. “Options” menu

The “Options” menu (Figure 3) allows you:

Vocabulary Update: To enable the automatic check and download of the controlled vocabularies (see 7).

- Data Centre Type: To select the data centre type:
 - SDN V2 is the type for the SeaDataNet partners
 - ECOOP V1 is the type for the ECOOP (European Coastal sea Operational observing and Forecasting system) partners.
 - Those two data centre types in MIKADO need to be identified in the CDI input: for ECOOP partners, the URL distribution website is free whereas for the SDN partners, the URL distribution website is fixed (see 10.1.3 for manual CDI and 11.5.1 for automatic CDI).
- Look and feel: To enable the NIMBUS mode of MIKADO
- Set programs directory: To select the directory where the XML description of EDIOS programs are stored. This is useful for having a list of values of the available local EDIOS programs when manually fulfilling the EDIOS series forms.
- Set series directory: To select the directory where the XML description of EDIOS series are stored. This is useful for having a list of values of the available local EDIOS series when manually fulfilling the EDIOS platforms forms.
- Set proxy authentication: To configure MIKADO if the connection for your PC to the internet is not direct but is established through a proxy



Figure 3: Options menu

6.4. “Tools” menu

The “Tools” menu (Figure 4) allows you to generate the Coupling table for the SeaDataNet Replication Manager.



Figure 4: Tools menu

6.5. “?” menu

The “?” menu (Figure 5) provides you information about the MIKADO tool (Version and corresponding updates).

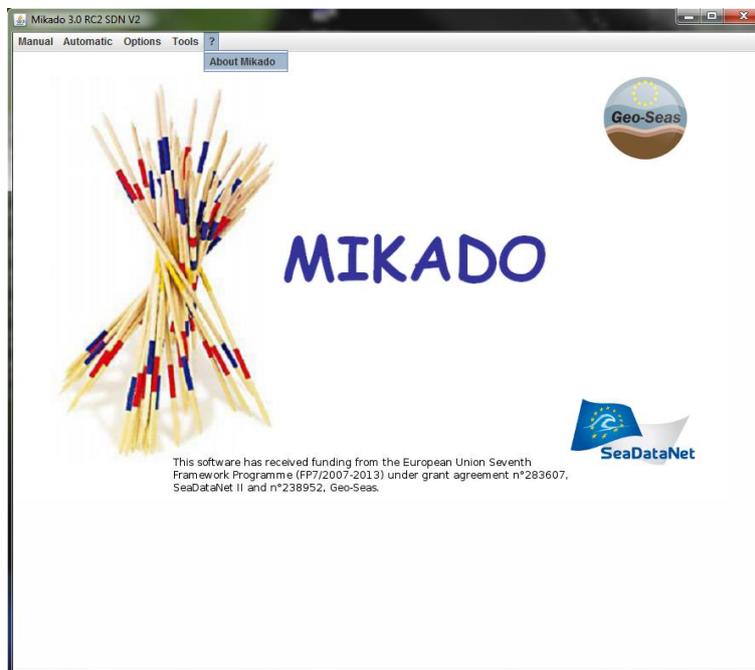


Figure 5: About Mikado menu (?)

7. Controlled vocabularies

7.1. Check and import the controlled vocabularies

As MIKADO includes functionality to import and use the SeaDataNet Common Vocabularies, it has been upgraded to make use of the new Version 2 Common Vocabularies (NVS 2.0) in all metadata directories (CDI, CSR, EDMED, EDMERP, EDIOS).

MIKADO uses the following SeaDataNet controlled vocabularies (NVS 2.0):

List code	List Name
C19	SeaVoX salt and fresh water body gazetteer
C77	ICES ROSCOP data types
C17	SeaDataNet CSR ship metadata
C32	ISO countries
C34	Monitoring activity rationale
C35	European Nature Information System Level 3 Habitats
C36	Monitoring activity legislative drivers
C37	Ten-degree Marsden Squares
C38	Ports Gazetteer
L05	SeaDataNet device categories
L02	SeaDataNet Geospatial Feature Types
L03	SeaDataNet Measurement Periodicity Classes
L05	SeaDataNet device categories
L06	SeaDataNet Platform Classes
L07	http://seadatanet.maris2.nl/v_bodc_vocab/search.asp?name=%28L071%29%20SeaDataNet+data+access+mechanisms&l=L071 SeaDataNet data access mechanisms
L08	SeaDataNet Data Access Restriction Policies, limited to RS (By Negotiation) and CB (CC-BY 4.0) in CDI
L10	SeaDataNet geographic co-ordinate reference frames
L11	Height and Depth Vertical Co-ordinate Reference Datum
L12	http://seadatanet.maris2.nl/v_bodc_vocab/search.asp?name=%28L121%29%20SeaDataNet+Parameter+Validation+Terms&l=L121 SeaDataNet Parameter Validation Terms
L13	http://seadatanet.maris2.nl/v_bodc_vocab/search.asp?name=%28L131%29%20SeaVoX+Vertical+Co-ordinate+Coverages&l=L131 SeaVoX Vertical Co-ordinate Coverages



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L14	http://seadatanet.maris2.nl/v_bodc_vocab/search.asp?name=%28L141%29%20SeaDataNet+Activity+Operational+Stati&l=L141 SeaDataNet Activity Operational Stati
L15	SeaDataNet quality management system accreditations
L18	ROSCOP sample quantification units
L22	SeaVoX Device Catalogue
L23	SeaDataNet metadata entities
L24	SeaDataNet data transport formats
L26	EDIOS permitted sampling interval units
P02	BODC Parameter Discovery Vocabulary
P06	BODC data storage units
P08	SeaDataNet Parameter Disciplines
CSR	Cruise Summary Report
EDMED	European Directory of Marine Environmental Data sets
EDMO	European marine organisations
EDMERP	European marine projects

The NVS 2.0 vocabulary lists are available at:

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

In MIKADO, the controlled vocabularies can be downloaded when using the menu **Options > Vocabulary update > Update once now**.

This functionality can be automated: when MIKADO starts, it checks automatically the version of the vocabulary lists and uploads locally the latest version of each list. To do so, use the **Options** main menu and select “On” in the **Vocabulary Update** sub-menu. After clicking on “Update once now”, it is not necessary to restart MIKADO: MIKADO checks directly the version of the vocabulary lists and uploads locally the latest version of each list.



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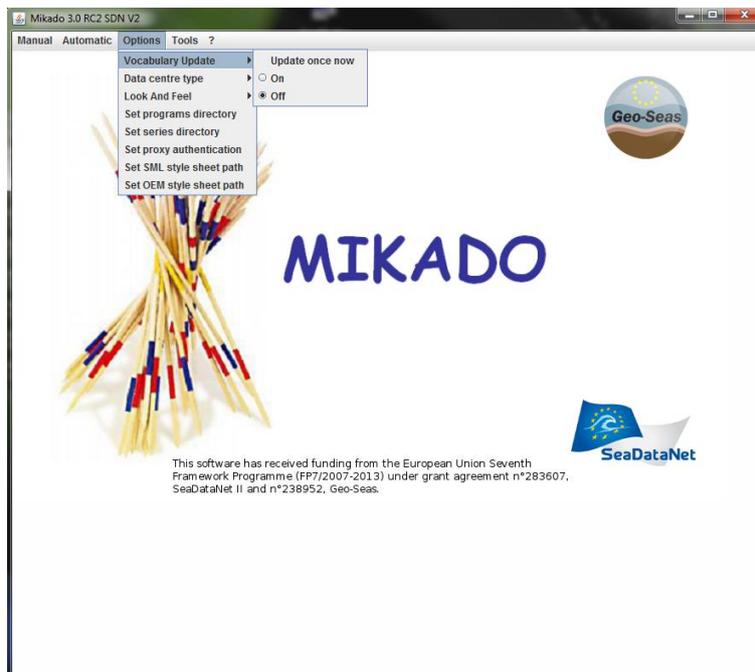


Figure 6: Vocabulary Update Menu

A window shows the progression of the update, where you can see the name of the list which is updated:



Figure 7: Download of the controlled vocabularies

If there are any network problems, MIKADO detects them and does not check the versions of controlled vocabularies. You will have an error message but it will be possible to work off line.

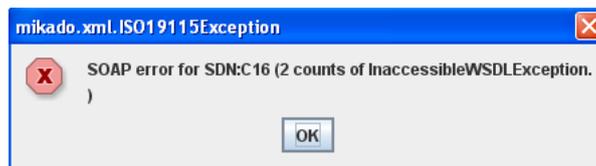


Figure 8: SOAP errors

These SOAP errors can arise when the web services provided by BODC (vocabularies) and/or Maris (EDMO, EDMERP) are not reachable from your computer.

That means alternatively:

1. The web services were down at the moment you launched Mikado update of vocabulary. Mikado is continuing with the latest version of the vocabularies and EDMO and EDMERP directories. It is not a real inconvenient except if new entries are necessary for you, since the local copy will be made next time by Mikado. However, even if BODC warned us that their web services will be down, it is pretty rare that BODC and Maris web services are down at the same time. That could mean there is a problem for Mikado to connect to the web services (please refer to point 2).
2. Mikado is not able to connect to BODC and Maris web services using Soap protocol (based on http protocol) :
 - no internet connection available on your PC at that moment,
 - the firewall of your organization prevents such connection (please contact your network and security team),
 - the connection for your PC to the internet is not direct but is established through a proxy. That is the IP address of your PC is not visible from the outside of your internal network (address mapped by the proxy in both directions from internal IP addresses (intranet addresses) to external IP addresses : often used when the number of computers on the intranet are more numerous than the allocated external IP addresses (time share of the available addresses): WIFI connexion in an hotel for example, but proxys could also been set up for other reasons. To support such indirect connections, MIKADO requires extra configuration (name of the proxy, ...):
 - In the mikado.bat file (for Windows) or the mikado.csh file (for Unix), you have to replace the command `java -Dcom.sun.xml.bind.v2.bytecode.ClassTailor.noOptimize=true -cp dist/*;dist/lib/* mikado.Mikado mikado-home=.` with :
 - `java -Dhttp.proxyHost=XXX.XXX.XXX.XXX -Dhttp.proxyPort=XXXX -Dcom.sun.xml.bind.v2.bytecode.ClassTailor.noOptimize=true -cp dist/*;dist/lib/* mikado.Mikado mikado-home=.` where xxx.xxx.xxx.xx is the IP address of your HTTP proxy server or the name of your HTTP proxy server and xxxx is the port of your proxy.

- If you have a HTTPS proxy, you may use: “**java -Dhttps.proxyPort=XXXX -Dcom.sun.xml.bind.v2.bytecode.ClassTailor.noOptimize=true -cp dist/*;dist/lib/* mikado.Mikado mikado-home=.**” where xxx.xxx.xxx.xx is the IP address of your HTTPS proxy server or the name of your HTTPS proxy server and xxx is the port of your proxy.
- You can combine HTTP and HTTPS parameters if needed: **java -Dhttp.proxyHost=XXX.XXX.XXX.XXX -Dhttp.proxyPort=XXXX -Dhttps.proxyHost=XXX.XXX.XXX.XXX -Dhttps.proxyPort=XXXX -Dcom.sun.xml.bind.v2.bytecode.ClassTailor.noOptimize=true -cp dist/*;dist/lib/* mikado.Mikado mikado-home=.**

7.2. Use of the controlled vocabularies

7.2.1. Manual input

The lists of values used by MIKADO Manual version are the SeaDataNet common vocabularies. For each field associated with a list of values, you have to choose the correct value in the corresponding common vocabulary list.

To do so, click on the  icon on the right of the field.

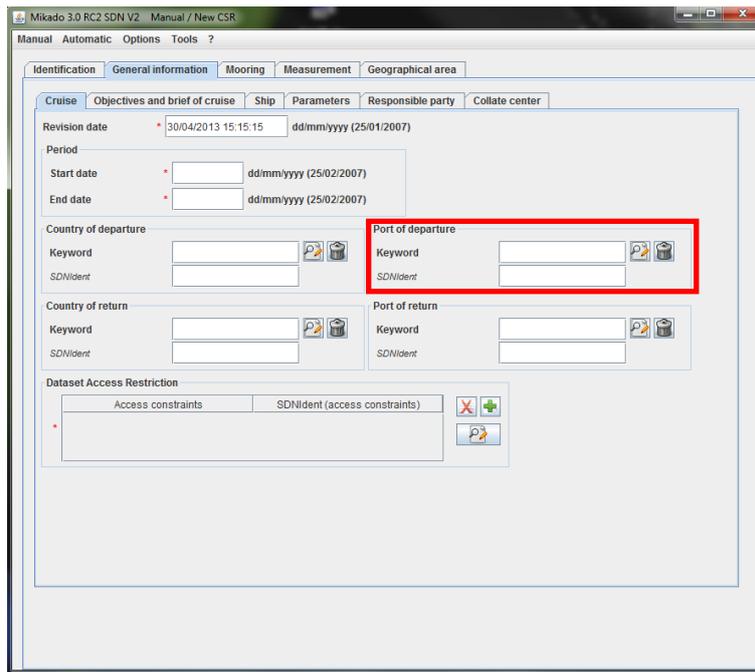


Figure 9: Empty field: Click on the  icon to fulfill it

A new window opens, allowing you to select a value in a list. Select the corresponding value and click on the **OK** button on the bottom of the window.

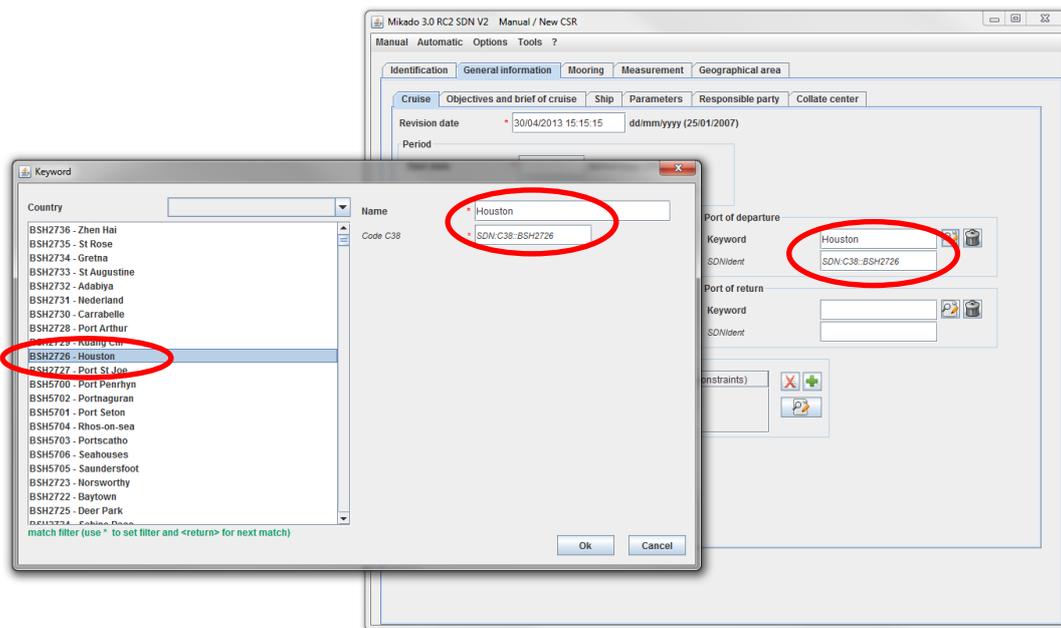


Figure 10: Select the corresponding value in the list

It is possible to set a filter in order to find a specific value in a vocabulary list. To do so, see 9.2.

7.2.2. Automatic generation – Incremental Mapping

7.2.2.1. Manual mapping

MIKADO V1 allows you to create an incremental local mapping between the information of your database and the common vocabularies. This mapping is done during the XML generation:

- Each time that MIKADO does not recognized a value (entrykey or entryterm) which should come from the common vocabulary, it asks the user for mapping.
- MIKADO manages a demand-driven continuous (incremental) extension of a local mapping: mapping of the local database to the common vocabulary.

In the mapping window, you will find in a red field at the top of the window, the value to map with the common vocabulary list. Select the corresponding value in the list and click on OK button at the bottom of the window.

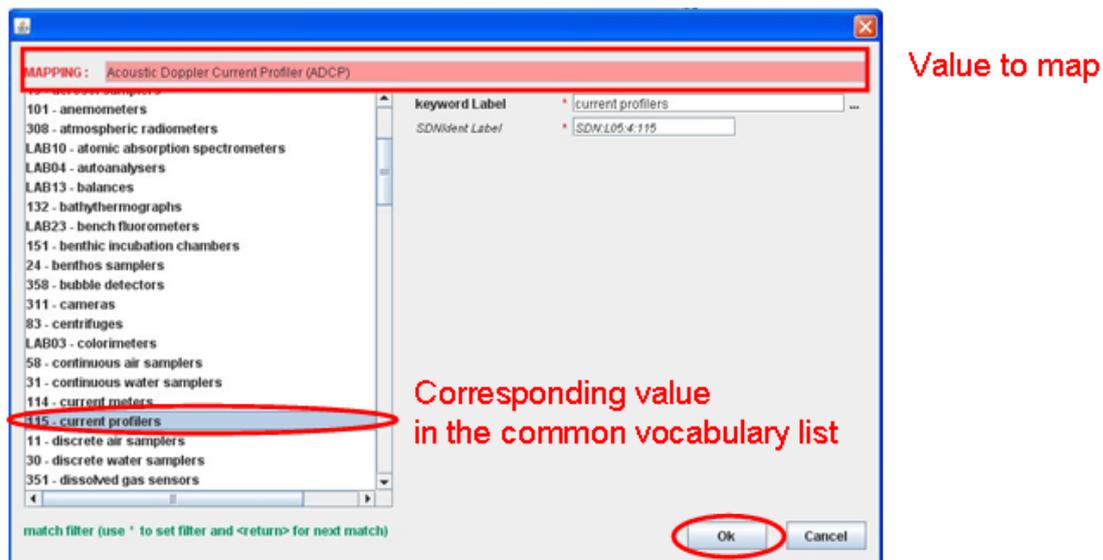


Figure 11: Mapping window for parameters

It is possible to set a filter in order to find a specific value in a vocabulary list. To do so, see 9.2.

7.2.2.2. Automatic mapping

MIKADO includes also a functionality to download automatically existing mappings between different vocabulary lists. The available mappings are provided by the BODC Vocabulary Server Mappings Index (C970):

[http://seadatanet.maris2.nl/v_bodc_vocab/search.asp?name=\(C970\)%20Vocabulary+Server+Mappings+Index&l=C970](http://seadatanet.maris2.nl/v_bodc_vocab/search.asp?name=(C970)%20Vocabulary+Server+Mappings+Index&l=C970)

In the available mappings, the SeaDataNet vocabulary lists are mapped with other vocabulary lists using only the exact and narrow matches defined by BODC as follows:

- If MIKADO finds an exact match for a local value in the Seadatanet vocabulary selected list, it maps the local value with this exact match.
- If MIKADO does not find an exact match but finds a narrow match, it maps the local value with the narrow match.
- If MIKADO finds neither exact match nor narrow match, it does not map the local value and then ask the user to define manually the mapping.
- If a local value can be mapped with several SDN values, MIKADO does not map it and ask the user to define manually the mapping.

To use this functionality, follow the different steps:

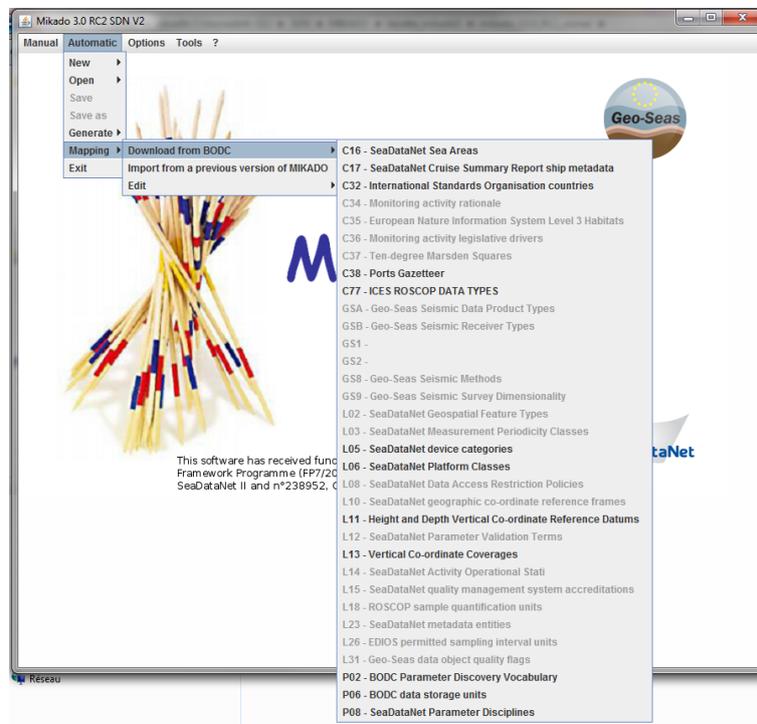


sdn-userdesk@seadatanet.org – www.seadatanet.org

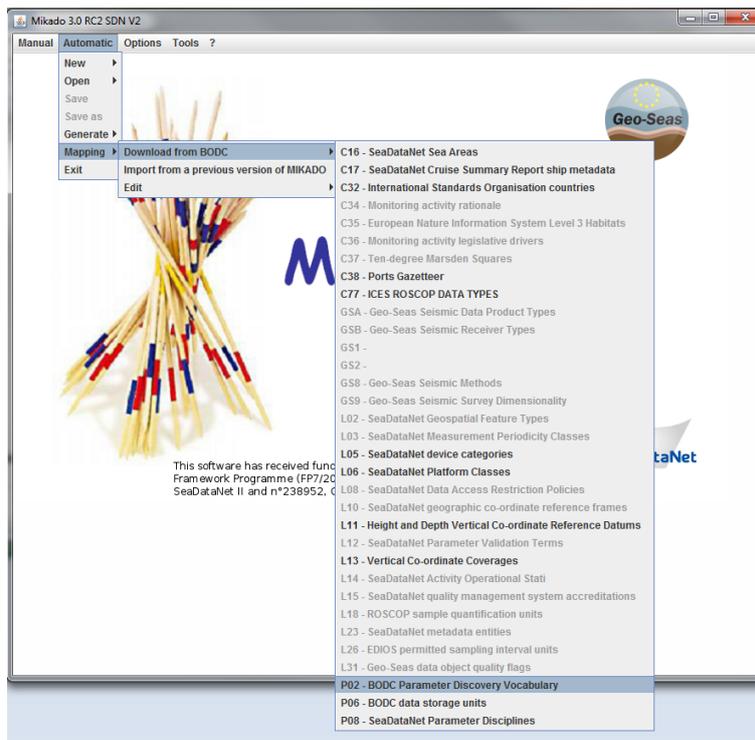
SeaDataNet - The pan-European infrastructure for marine and ocean data management

- 1- Select **Mapping > Download from BODC** in the **Automatic** main menu. The available vocabulary lists appear in a dropdown list.

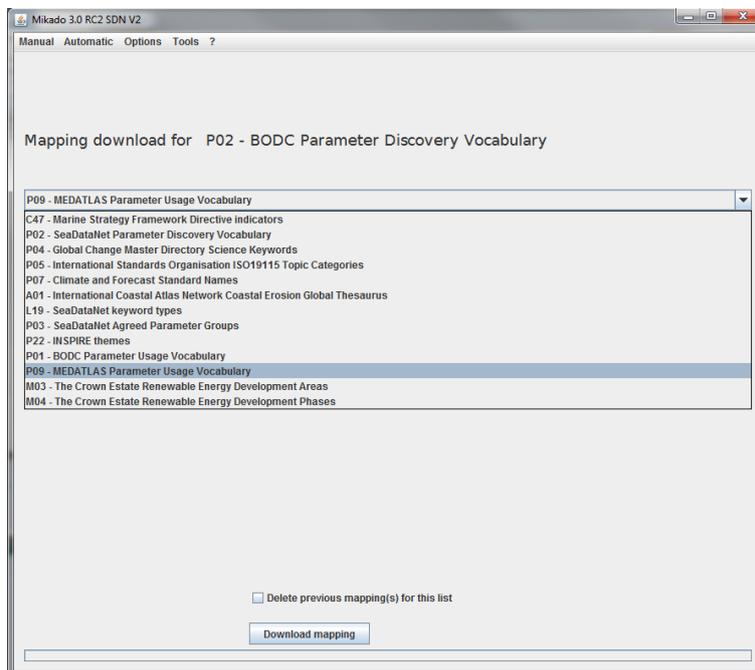
MIKADO checks the available mappings. If no mapping exist for a list, the vocabulary list will appear painted with grey in the dropdown list and the user can not select it.



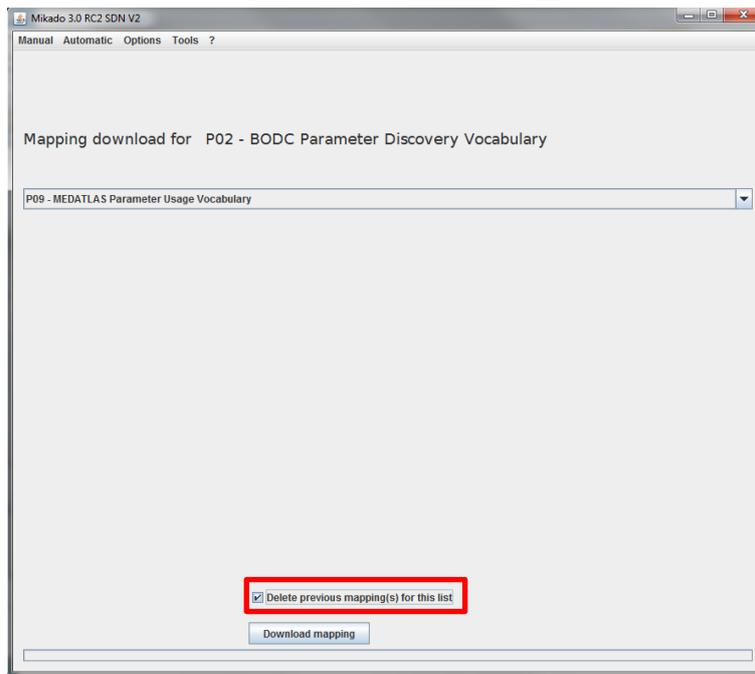
- 2- Select the vocabulary list you want to map automatically with an other one. For example, select the P02 list (BODC Parameter Discovery Vocabulary)



- 3- Select the mapping to upload in MIKADO. For example, select the mapping between the P021 list and the P09 list if P02 corresponds to your local data.

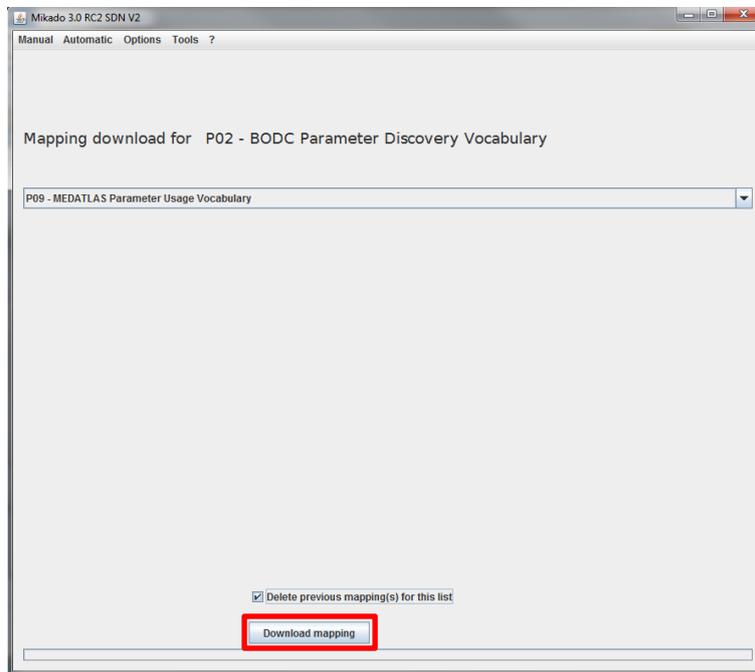


- 4- Tick the check box if you want to delete the previous mappings (manual or automatic) of the selected list.



Important: The manual and automatic mappings are saved in the same file. If you choose to delete the previous mappings, you can lose a previous manual mapping and you will have to make it again if you want to use it later. So, be careful using the check box!

5- Click on the **Download mapping** button. A progress bar indicates the upload progress.



6- It is possible to edit and to check the uploaded mapping by selecting **Mapping > Edit** in the **Automatic** main menu.

Mikado 3.0 RC6 SDN V2 Automatic / Mapping / Edit

Manual Automatic Options Tools ?

Mapping SDN:P02 - BODC Parameter Discovery Vocabulary

Local Value	SDN Value
PSAL	PSAL
PHTP	PHWC
SO4O	SPHT
NDRG	TDNT
HBAW	BNTX
DOCP	OCPW
DIPF	PCFX
PHTF	AXFX
MNTH	AYMD
CE3W	FR11
MYYS	RMIN
DEPH	AHGT
GDIR	EWSB
MSMP	SPGS
HCSS	RFVL
HCSP	RFVL
NEEW	HEXC
LSIC	TD00
MZRS	RMIN
CE2W	FR11
NT1P	NTOT
TICW	TCO2
SLEV	ASLV
DINW	PATX
PRES	AHGT
CNDC	CNDC
NTIW	NTRI
ZNTH	HEAD
HEEW	HEXC
VTPK	WWST
DENS	SIGT
NTIP	NTPW
TPHS	TPHS
LGHT	YSRW
CE1W	FR11
TPHP	PHWC
C13D	WSTB
MCLP	HLWC
DCAW	PPRD
MBRS	RMIN
DPSF	AHGT
HEDW	WSTB
LATX	ALAT

7.2.2.3. Edit the mapping

To edit the incremental mapping, select **Mapping > Edit** in the **Automatic** main menu and choose a vocabulary list. The different vocabulary lists appear in a dropdown list. If the mapping does not exist, the vocabulary list appears painted with grey in the dropdown list and the user can not select it.

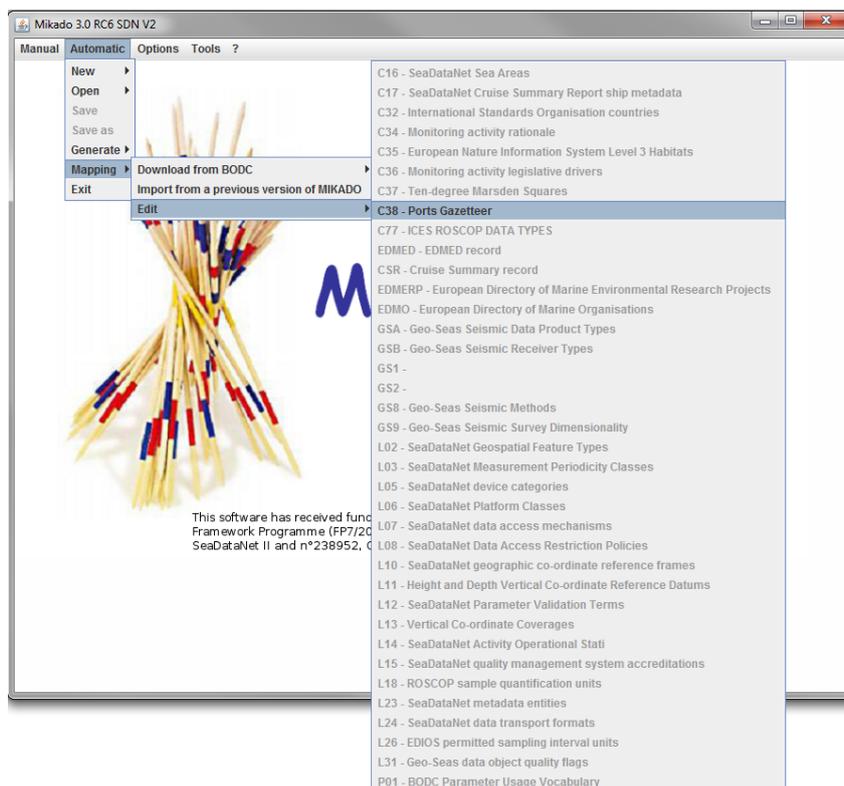


Figure 12: Edit local mapping

For each vocabulary list, you can access the mapping table and you can update it:

- modify the first column of the table (local value) by double clicking on the field you want to update,
- delete a row by selecting the row and by clicking on the  button,
- delete all the rows by clicking on the  button.

Important: Do not forget to press on “Return” when you update a field in the mapping table.

Once the mapping table is updated, you have to save it by clicking on the  button.

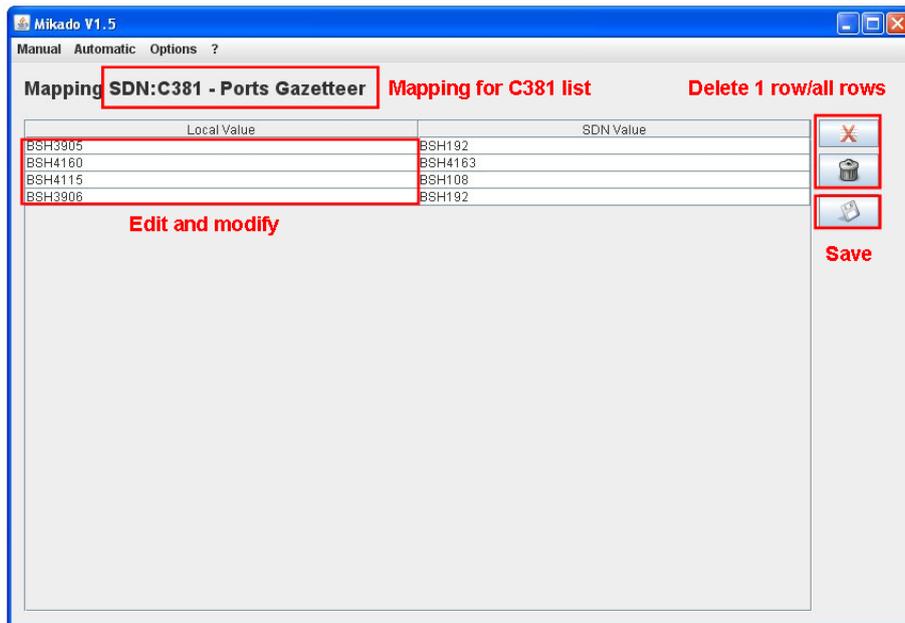


Figure 13: Update local mapping – C381 list

7.2.2.4. Import the mapping

For each release of MIKADO, the local mapping cannot be delivered with the software because it is a local mapping depending on each local database. So, it is possible to import the mapping already done with a previous release of MIKADO.

To do so, select **Mapping > Import from a previous version of MIKADO** in the **Automatic** main menu:



Figure 14: Import local mapping

This opens a window where you have to browse your directories to tell MIKADO where the path of the previous installation of MIKADO was:

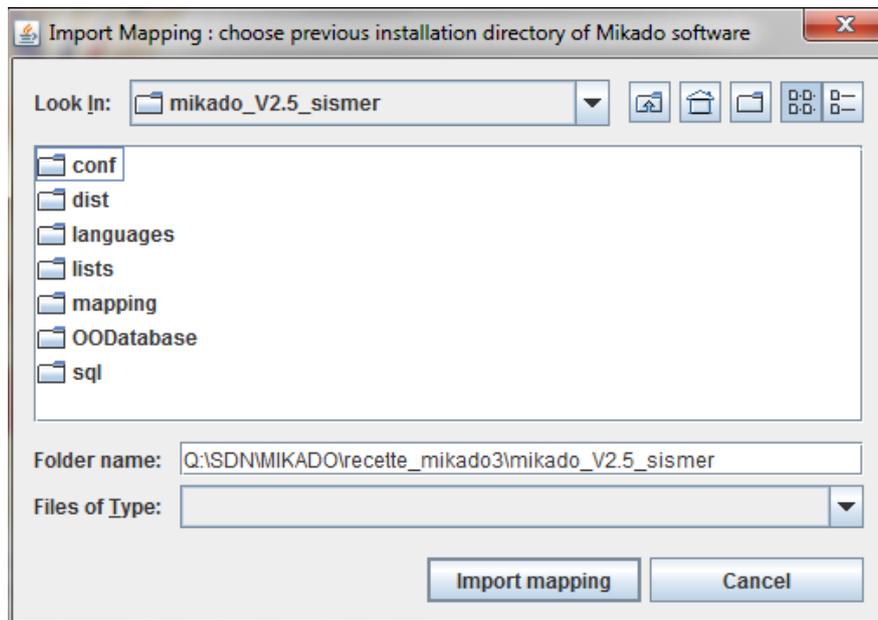


Figure 15: Select the path of the previous installation of MIKADO

Then click on “Import mapping” button and you will get all the mapping to your local database that you have already done.

7.3. Conversion V1 to V2 vocabulary lists

MIKADO is still able to read (import) V1 XML files and save these as V2 XML for data centres to upgrade their existing local XML files for all catalogs.

To do so, go to Manual > Open, then Save.

For more information about V2 vocabulary lists, please refer to:

- [Common vocabulary webpage](#)
- [Upgrading workshop \(Lucca, September 2013\) – How to use MIKADO?](#)

8. CDI and CSR ISO 19139 schemas

The **Common Data Index (CDI)** and **Cruise Summary Report (CSR)** metadata formats are based upon the ISO19115 content standard and both their content and XML coding have been upgraded in September 2013 to the ISO19139 schema and made INSPIRE compliant. The MIKADO software has been upgraded so that it can work with and produce CDI and CSR XML files that are following the upgraded CDI and CSR content and XML format.

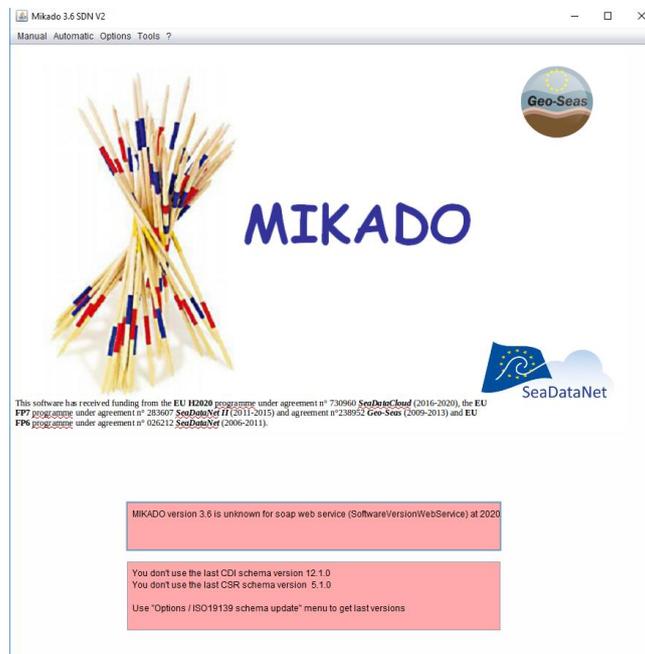


The different versions of CDI and CSR schemas are available at:

<http://schemas.seadatanet.org/Standards-Software/Metadata-formats/>

MIKADO makes use of the CDI and CSR xsd schemas. Since release 3.6, MIKADO includes functionality to check the CDI and CSR xsd schemas used in your MIKADO installation and to import the latest version of the CDI and CSR xsd schemas if needed.

If your MIKADO installation do not use the latest version of CDI and CSR schemas, you will be informed by the following red messages:



To update the CDI and CSR schemas version used by your MIKADO software, use “Options / ISO19139 schema update” menu.

If your MIKADO installation uses the latest version of CDI and CSR schemas, you will have the following green message:



sdn-userdesk@seadatanet.org – www.seadatanet.org

SeaDataNet - The pan-European infrastructure for marine and ocean data management

9. Common functionalities

9.1. Tables

9.1.1. Free text table

The following figure shows examples of free text tables that you will find in the MIKADO Manual interface:

The figure shows two examples of free text tables. The first is titled "Geographic coverage (bounding box)" and contains a table with four columns: "West longitude *", "East longitude", "South latitude *", and "North latitude". To the right of the table are two buttons: a red "X" and a green "+". The second is titled "Geographic-coverage (textual description)" and contains a single column with the text "Free text describing the geographic coverage". It also has a red "X" and a green "+" button to its right.

Figure 16: Free text table

9.1.1.1. Add a row

To add information in a free text table, click on the  button. A row will be added to the table. The new row appears in blue.

This screenshot shows the "Geographic coverage (bounding box)" table with a new row added. The new row is highlighted in blue and is currently empty. The table has four columns: "West longitude *", "East longitude *", "South latitude *", and "North latitude *". The red "X" and green "+" buttons are visible to the right.

To complete the added row, double click on the row or on the field you want to complete. The field to complete appears in white:

This screenshot shows the "Geographic coverage (bounding box)" table with the new row completed. The first cell of the new row, under "West longitude *", contains the value "50.2" and is now white. The other cells in the row are still blue. The red "X" and green "+" buttons are visible to the right.

Important: To validate your update, do not forget to press on “Return”. The updated field appears in blue.

West longitude *	East longitude *	South latitude *	North latitude *
50.2			

9.1.1.2. Delete a row

To delete a row in a table, select the row to delete by clicking on it and click on the  button. The row will be deleted.

9.1.1.3. Update a row/a field

To update a row/field, double click on it. The selected row/field will appear in white. Update it.

Important: To validate your update, do not forget to press on “Return”. The updated field appears in blue.

9.1.2. Common vocabularies content table

The following figure shows you examples of tables containing values from a vocabulary list:

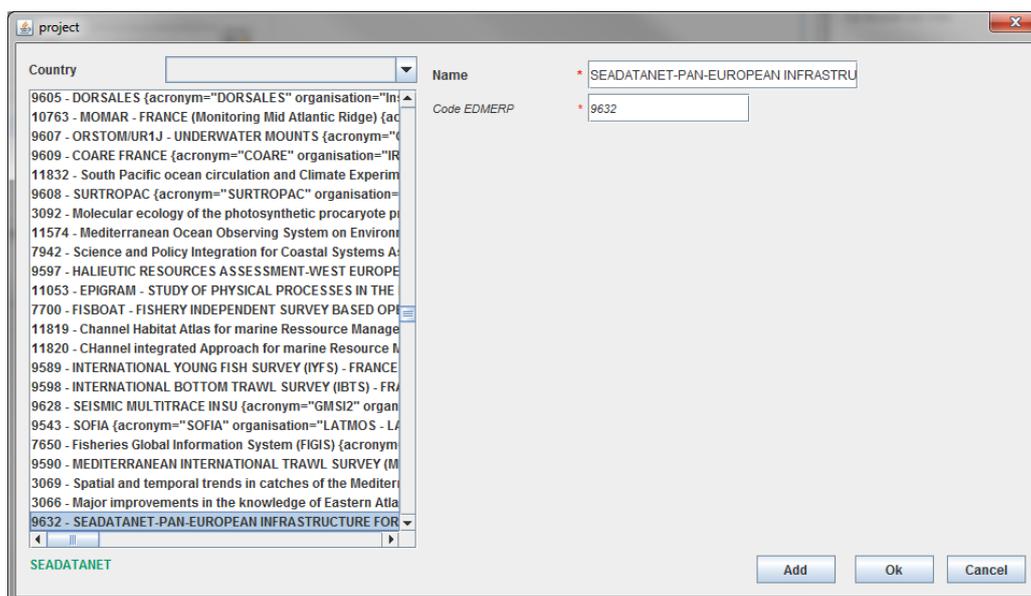
Projects	SDNident
----------	----------

9.1.2.1. Add a row/several rows

To add information in this kind of tables, click on the  button. A window which allows you to select a value in a vocabulary list opens.

- If you want to add only one value into the table, select the value and click on the **Ok** button.

- If you want to add several values into the table, select the value and click on the **Add** button and do it again to the last value. After selecting the last value, click on the **Ok** button.



The selected value(s) will appear in the table:

Projects	SDNIdent
SeaDataNet - Pan-European Infrastru...	SDN:EDMERP::9632

9.1.2.2. Delete a row

To delete a row in a table, select the row to delete by clicking on it and click on the  button. The row will be deleted.

9.1.2.3. Update a row

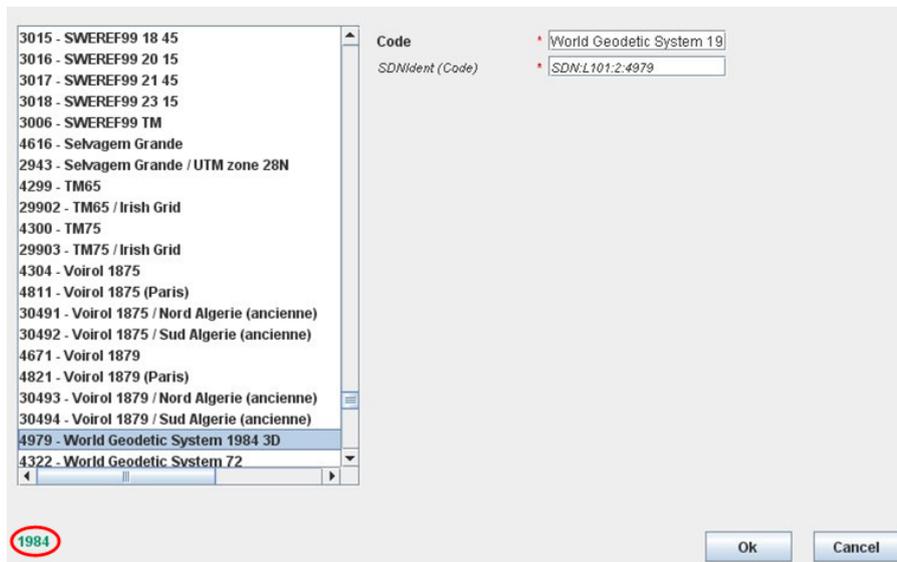
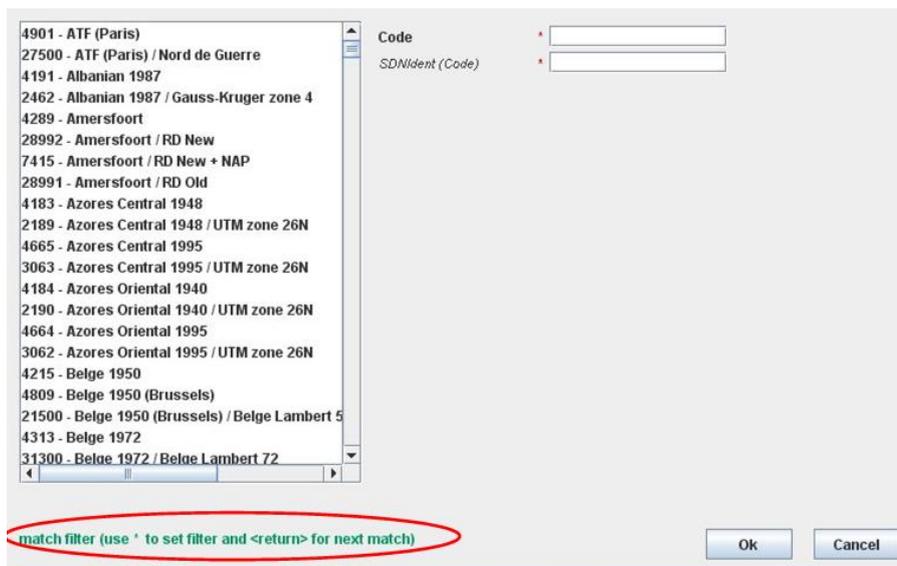
To update a row in a table, select the row to update by clicking on it and click on the  button. A window which allows you to select a value in a vocabulary list opens. Select the value and click on the OK button.

9.2. Vocabulary list

9.2.1. Find a specific value in a vocabulary list

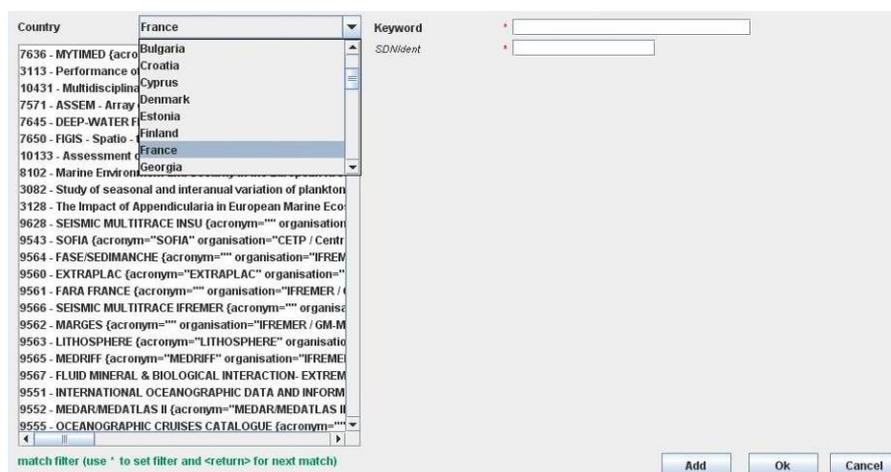
If you want to find a specific value in a vocabulary list, it is possible to match a filter:

- Select the list by clicking on any value,
- Use * to set filter. For example, if you want to find “World Geodetic System 1984” in the L101 vocabulary list, type ***1984**. The used filter appears in green at the left bottom of the window.
- Press “Return” to go to the next match.



9.2.2. Find EDMERP or EDMO values for a particular country

MIKADO allows to find the EDMERP or EDMO values for a particular country in the EDMERP or EDMO lists. To do so, select the country in the dropdown list as shown in the following figure:



The screenshot shows a software interface with a 'Country' dropdown menu. The dropdown is open, showing a list of countries: Bulgaria, Croatia, Cyprus, Denmark, Estonia, Finland, France (highlighted), and Georgia. To the right of the dropdown are two input fields labeled 'Keyword' and 'SDWident', each with a red asterisk indicating a mandatory field. Below the dropdown is a 'match filter' instruction: 'match filter (use * to set filter and <return> for next match)'. At the bottom right are three buttons: 'Add', 'Ok', and 'Cancel'.

The EDMERP (respectively EDMO) list will be shortened and will contain only the projects (respectively organizations) of the selected country.

After that, it is possible to match another filter to find a specific value in the EDMERP or EDMO lists (see 9.2.1).

9.3. Common screen characteristics for MIKADO manual input

9.3.1. Mandatory fields

In the different interfaces, the mandatory fields are highlighted with a red star:

The screenshot shows a web form with tabs for 'Dataset', 'Data holding centre', and 'Data contact'. Under the 'Identification' tab, there are three input fields: 'EDMED identifier', 'Dataset-id', and 'Dataset-name'. Each of these fields has a small red star icon to its left, indicating that they are mandatory.

Figure 17: Mandatory fields highlighted with a red star

9.3.2. Specific formats

9.3.2.1. MIKADO manual

Specific formats, like date, are given as comment on the windows when necessary:

The screenshot shows a web form with tabs for 'Dataset', 'Data holding centre', and 'Data contact'. Under the 'When' tab, there are several input fields: 'Description', 'Period', 'Start date', 'End date', and 'Revision date'. The 'Start date' field has a red star and the format 'yyyy (2007)'. The 'End date' field has a red star and the format 'yyyy (2008)'. The 'Revision date' field has a red star and the format 'dd/mm/yyyy hh:mm:ss -24 hr (25/01/2007 15:05:00)'. The 'Period' field is empty.

Figure 18: Specific formats

9.3.2.2. MIKADO automatic

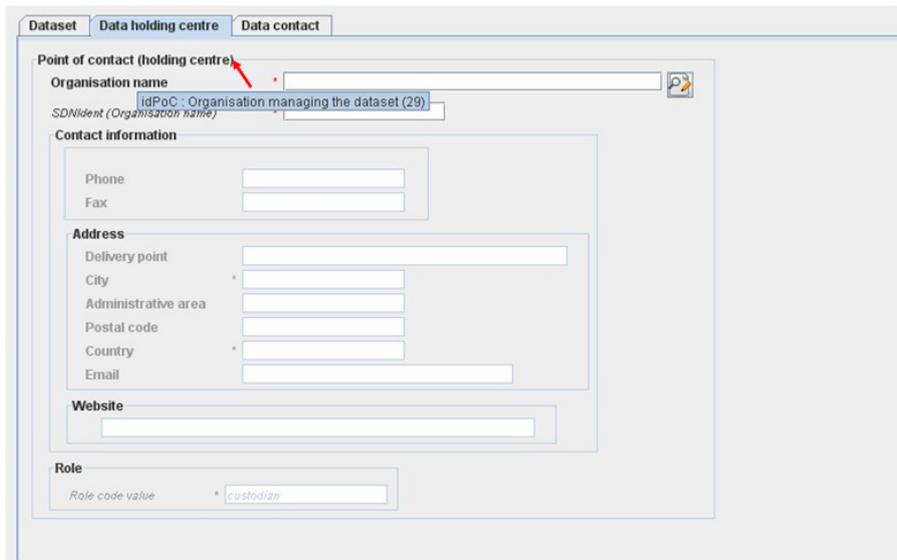
The dates must be extracted from the database (or csv file) at ISO 19115 format: yyyy-mm-ddThh:mm:ss (time is not mandatory).

9.3.3. Tooltips

MIKADO provides two kinds of tooltips:

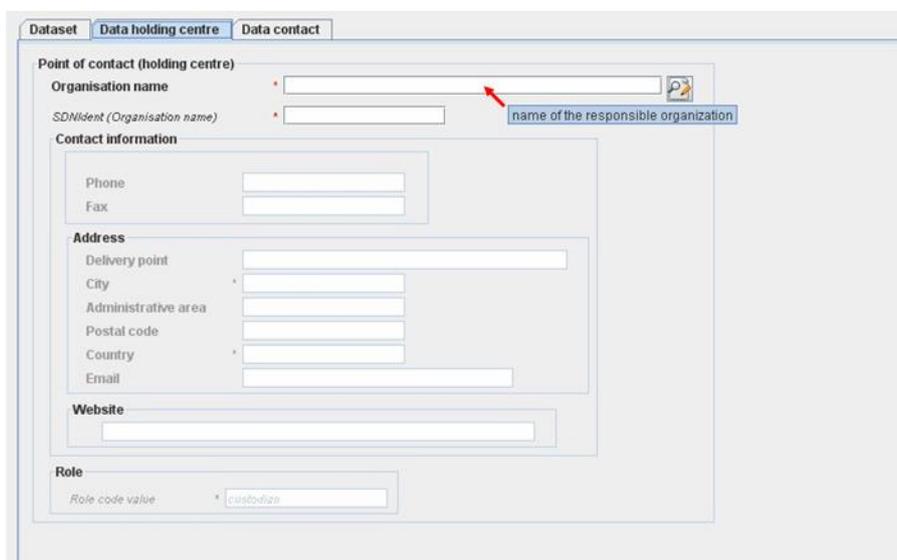
- Title tool tip which indicates the XML field associated with the selected title and its definition.
- Field tool tip which gives supplementary information in order to help to fulfill the field;

To access tool tips, put the mouse cursor over an item (title or empty field), without clicking it, and a small box will appear with supplementary information regarding the chosen item.



The screenshot shows the 'Data contact' form in the MIKADO system. The form is divided into several sections: 'Point of contact (holding centre)', 'Contact information', 'Address', 'Website', and 'Role'. The 'Organisation name' field is highlighted with a red arrow, and a tooltip box is visible above it containing the text 'idPoC : Organisation managing the dataset (29)'. The 'SDNident (Organisation name)' field is also visible below it. The 'Contact information' section includes fields for 'Phone' and 'Fax'. The 'Address' section includes fields for 'Delivery point', 'City', 'Administrative area', 'Postal code', 'Country', and 'Email'. The 'Website' section has a single text input field. The 'Role' section has a 'Role code value' field with the value 'custodian'.

Figure 19: Title tool tip



The screenshot shows the same 'Data contact' form as in Figure 19. In this instance, the mouse cursor is over the 'Organisation name' field, and a tooltip box is visible to its right containing the text 'name of the responsible organization'. The rest of the form structure and fields are identical to the previous screenshot.

Figure 20: Field tool tip

10. Manual entries of EDMED, CSR, CDI, EDMERP, EDIOS, SEISMIC SENSORML and SEISMIC O&M descriptions

The manual version of the software is well adapted if there is a small amount of EDMED, CSR, CDI, EDMERP, EDIOS, SEISMIC SENSORML or SEISMIC O&M entries.

The input screens have been updated to be compliant with the new XML schemas and the lists of values used by MIKADO Manual are the SeaDataNet common vocabularies (see 7).

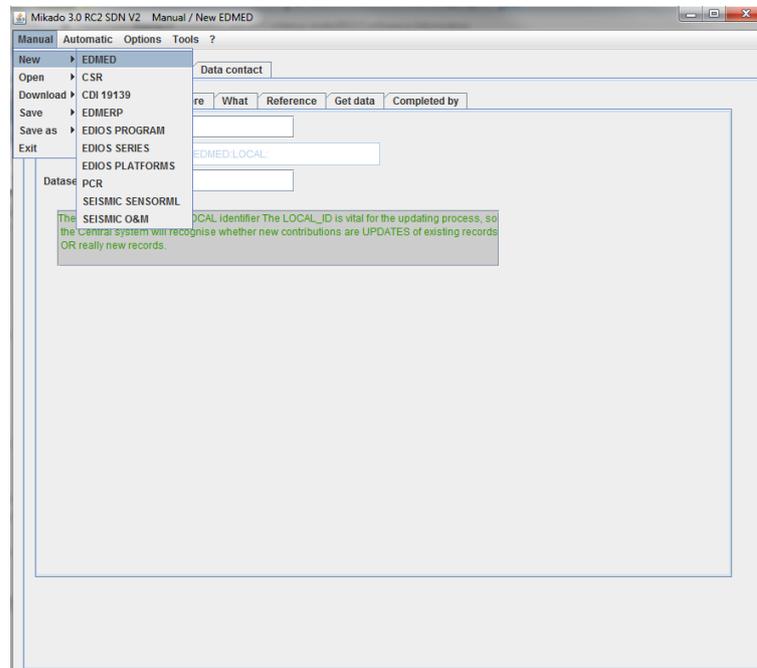


Figure 21: Manual menu

10.1. Create a new XML file

To create a new XML file, select **New** in the **Manual** main menu and choose EDMED, CSR, CDI, EDMERP, EDIOS, SEISMIC SENSORML or SEISMIC O&M.

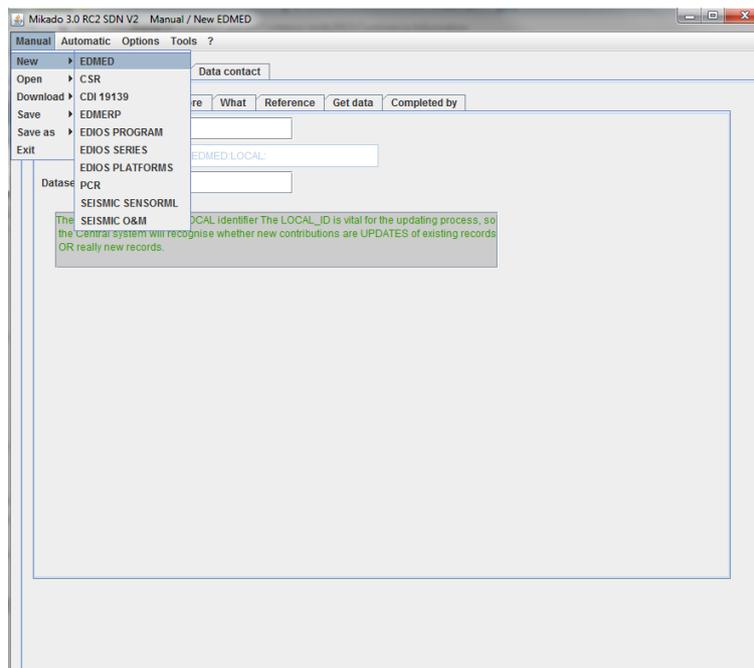


Figure 22: Create a new XML file with MIKADO

10.1.1. Manual EDMED input

There are 3 main tabs for the EDMED information: 'Dataset', 'Data holding centre' and 'Data contact'

The first tab gives the dataset description (Figure 23 to Figure 29) and is divided into 7 tabs which enable to enter information about:

- Identification of the dataset which is very important. **The ID must be a UNIQUE LOCAL identifier. Because the LOCAL_ID is vital for the updating process, it is through this LOCAL_ID than the central system will be able to recognise whether new contributions are updates of existing records or really new records.**
- When and where the dataset was collected.
- What are the data in the dataset (data themes, parameters, instruments, summary, related project).
- References on the data set (bibliography, web site).
- Where and how to get the dataset.
- Responsible of the dataset description.

Dataset		Data holding centre	Data contact
Identification	When	Where	What
Dataset-id	*	TEST01	
EDMED identifier	*	SDN.EDMED.LOCAL.TEST01	
Dataset-name	*	Jeu données TEST	
<p>The ID must be a UNIQUE LOCAL identifier The LOCAL_ID is vital for the updating process, so the Central system will recognise whether new contributions are UPDATES of existing records OR really new records.</p>			

Figure 23: Dataset information window – ‘Identification’

The identification of the dataset is the **unique** LOCAL dataset ID and the dataset name. Both fields are mandatory.

Dataset		Data holding centre	Data contact
Identification	When	Where	What
Description		Description du jeu de donnr	
Period			
Start date	*	1991	yyyy (2007)
End date			yyyy (2008)
Revision date	*	21/05/2008 00:00:00	dd/mm/yyyy hh:mm:ss -24 hr (25/01/2007 15:05:00)

Figure 24: Dataset information – ‘When’

Dataset | Data holding centre | Data contact

Identification | When | Where | What | Reference | Get data | Completed by

Geographic coverage (bounding box)

West longitude *	East longitude *	South latitude *	North latitude *
-180	179.9999	-90	90

Geographic coverage (textual description)

Free text describing the geographic coverage

World wide coverage

Sea-areas

Sea-area	SDNident
North Atlantic Ocean	SDN:C16:1:23
South Atlantic Ocean	SDN:C16:1:32
North Pacific Ocean	SDN:C16:1:57
South Pacific Ocean	SDN:C16:1:61

Figure 25: Dataset information window – ‘Where’

Dataset | Data holding centre | Data contact

Identification | When | Where | What | Reference | Get data | Completed by

Projects

Projects	SDNident
PREVIMER - COASTAL OBSERVATION..	SDN.EDMERP:9634

Parameters

Parameters	SDNident
Temperature of the water column	SDN.P021.26:TEMP
Salinity of the water column	SDN.P021.26:PSAL
Wave direction	SDN.P021.26:GWDR
Wave height and period statistics	SDN.P021.26:WVST

Instruments

Instruments	SDNident
CTD profilers	SDN.L05.4:130
satellite tracking system	SDN.L05.4:121
sea level recorders	SDN.L05.4:111
wave recorders	SDN.L05.4:110

Abstract

* Abstract of the dataset

Purpose

Figure 26: Dataset information window – ‘What’

Dataset | Data holding centre | Data contact

Identification | When | Where | What | Reference | Get data | Completed by

Title	Publication date	Author	Editor
Title of the paper	2008-01-01	R. Abcd	Name of the editor

Figure 27: Dataset information window – ‘Reference’

The screenshot shows the 'Reference' tab of a software window titled 'Dataset'. The window has three main tabs: 'Dataset', 'Data holding centre', and 'Data contact'. The 'Reference' sub-tab is active, showing fields for 'Organisation name' (IFREMER / IDM/SISMER), 'Dataset Access Restriction' (Access constraints: unrestricted, SDNident (access constraints): SDN:L081:1:UN), and 'Distribution website'. There are also icons for deleting, adding, and refreshing data.

Figure 28: Dataset information window – ‘Get data’

The screenshot shows the 'Completed by' tab of the same software window. It displays detailed contact information for the 'Collate-centre'. Fields include: 'Organisation name' (IFREMER / IDM/SISMER), 'SDNident (Organisation name)' (SDN:EDMO:436), 'Contact information' (Phone: +33 (0)2 98 22 49 16, Fax: +33 (0)2 98 22 46 44), 'Address' (Delivery point: Centre IFREMER de Brest BP 70, City: PLOUZANE, Administrative area, Postal code: 29280, Country: France, Email: sismar@ifremer.fr), 'Website' (http://www.ifremer.fr/sismar/), and 'Role' (Author value: author).

Figure 29: Dataset information window – ‘Completed by’

The second tab describes the data holding centre:

The screenshot shows a web form with three tabs: 'Dataset', 'Data holding centre', and 'Data contact'. The 'Data holding centre' tab is active. The form is titled 'Point of contact (holding centre)'. It contains the following fields:

- Organisation name:** IFREMER / IDM/SISMER
- SDNIdent (Organisation name):** SDN.EDMO:486
- Contact information:**
 - Phone:** +33 (0)2 98.22.49.16
 - Fax:** +33 (0)2 98.22.46.44
 - Address:**
 - Delivery point:** Centre IFREMER de Brest BP 70
 - City:** PLOUZANE
 - Administrative area:** (empty)
 - Postal code:** 29280
 - Country:** France
 - Email:** sismar@ifremer.fr
 - Website:** http://www.ifremer.fr/sismar/
- Role:** Role code value: * custodian

Figure 30: Data Holding centre information window

The last tab identifies the contact point within the data holding centre (defined in the previous window) able to deal with requests concerning the data sets held by the centre:

The screenshot shows the same web form with the 'Data contact' tab active. The form is titled 'Point of contact (data contact)'. It contains the following fields:

- Individual name:** Me
- Organisation name:** IFREMER / IDM/SISMER
- SDNIdent (Organisation name):** SDN.EDMO:486
- Person title:** (empty)
- Contact information:**
 - Phone:** +33 (0)2 98.22.49.16
 - Fax:** +33 (0)2 98.22.46.44
 - Address:**
 - Delivery point:** Centre IFREMER de Brest BP 70
 - City:** PLOUZANE
 - Administrative area:** (empty)
 - Postal code:** 29280
 - Country:** France
 - Email:** sismar@ifremer.fr
 - Website:** http://www.ifremer.fr/sismar/
- Role:** Role code value: * pointOfContact

Figure 31: Data Contact information window

Here the phone and fax which are related to the organisation name (retrieved from EDMO catalogue) may be modified to be related to the identified person, point of contact for the dataset.

Once all the information related to the EDMED dataset has been fulfilled, the xml file will be created by selecting **Save as** in the **Manual** main menu. The created XML file has a ".xml" extension.

10.1.2. Manual CSR input

Now, MIKADO is able to generate (manually or automatically) ISO 19139 CSR descriptions instead of ISO 19115 ones. MIKADO is also able to read (import) CSR ISO 19115 XML files and convert them as CSR ISO 19139 XML files for data centres to upgrade their existing local XML files (Manual > Open then Manual > Save as).

For more information about ISO 19139 CSR profile, please refer to:

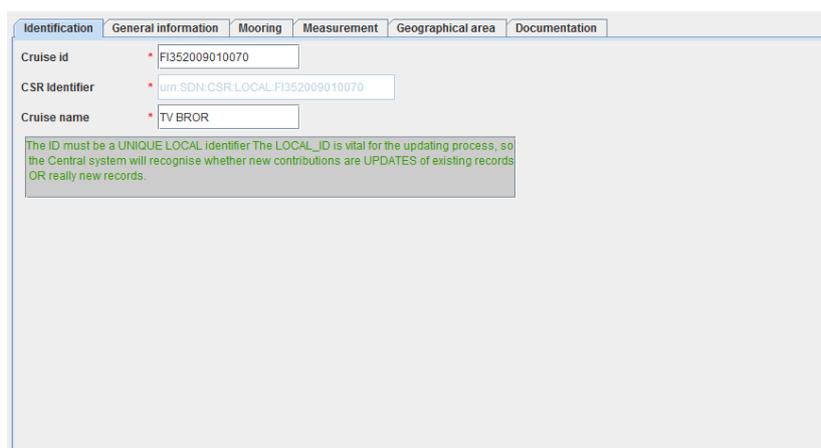
- [Metadata format - CSR webpage](#)
- [Upgrading workshop \(Lucca, Septembre 2013\) – How to use MIKADO?](#)

There are 6 main input tabs for the CSR information, which are directly inspired by the original ROSCOP form:

- Identification of the cruise which is **very important** and the ID must be a **UNIQUE LOCAL identifier**. Because the **LOCAL_ID** is vital for the updating process, it is through this **LOCAL_ID** that the central system will be able to recognise whether new contributions are **updates** of existing records or really **new records**.
- General information about the cruise.
- Information about the moorings.
- Information about the measurements done during the cruise.
- Information about the geographical areas of the cruise.
- Information about Documentation.

10.1.2.1. Identification of the cruise

The identification of the cruise is the **unique** LOCAL cruise ID and the cruise name. Both fields are mandatory.



Identification	General information	Mooring	Measurement	Geographical area	Documentation
Cruise id	F1352009010070				
CSR Identifier	urn:SDN:CSR:LOCAL:F1352009010070				
Cruise name	TV BROR				

The ID must be a UNIQUE LOCAL identifier The LOCAL_ID is vital for the updating process, so the Central system will recognise whether new contributions are UPDATES of existing records OR really new records.

Figure 32: Unique identification of a cruise

10.1.2.2. General information about the cruise

This window is divided into 6 tabs (Figure 33 to Figure 38) which enable to input information about:

- the cruise (identification, begin and end dates, ports of departure and return),
- the objectives of the cruise : purpose and nature of the cruise as to provide the context in which the data were collected and the projects related to the cruise,
- the ship : ship name and ship type (research, opportunity, naval survey vessel),
- the parameters measured during the cruise and the instruments used for these measurements,
- the responsible party : person(s) in charge of the scientific work (chief scientist) and laboratory responsible for coordinating the scientific planning of the cruise,
- the information about the collate centre.

Figure 33: General information window – Cruise

Figure 34: General information window – Objectives and brief of Cruise

Identification | General information | Mooring | Measurement | Geographical area | Documentation

Cruise | Objectives and brief of cruise | Ship | Parameters | Responsible party | Collate center

Platform code

Platform code	L'Atalante	
code list value	3543	

Platform class

Category code	research vessel	
code list value	31	

Figure 35: General information window – Ship

Identification | General information | Mooring | Measurement | Geographical area | Documentation

Cruise | Objectives and brief of cruise | Ship | Parameters | Responsible party | Collate center

Parameters

Parameter	code list value	
Temperature of the water column	TEMP	
Salinity of the water column	PSAL	

Instruments

Instrument	code list value	
CTD	130	

Figure 36: General information window – Parameters

Identification | General information | Mooring | Measurement | Geographical area | Documentation

Cruise | Objectives and brief of cruise | Ship | Parameters | Responsible party | Collate center

Chief scientist

Individual name	Organisation name	
LOSSOUARN Hubert	IFREMER / GENAVIR BREST	

Originator centre

Organisation name	
IFREMER / GENAVIR BREST	

Figure 37: General information window – Responsible party

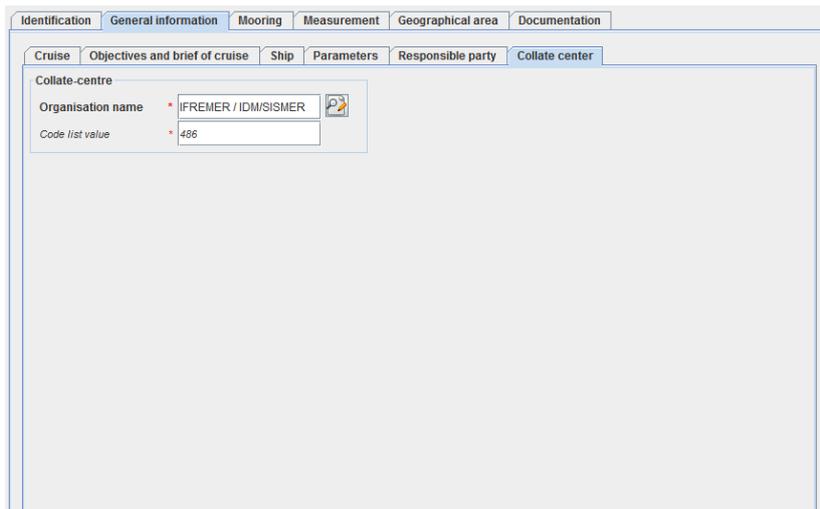


Figure 38: General information window – Collate centre

10.1.2.3. Moorings information

Information about moorings are not mandatory, the window enables to input the information about several moorings.

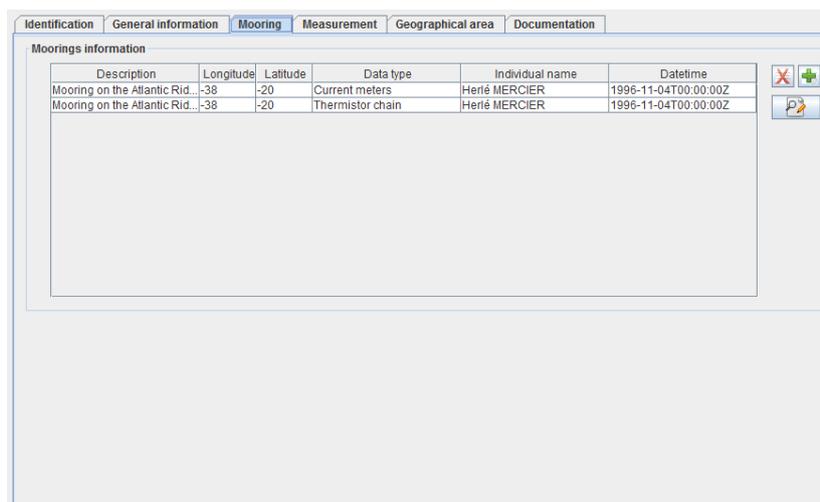


Figure 39: Mooring information window

10.1.2.4. Measurements information

Information about measurements are not mandatory, the window enables to input the information about several type of measurements.

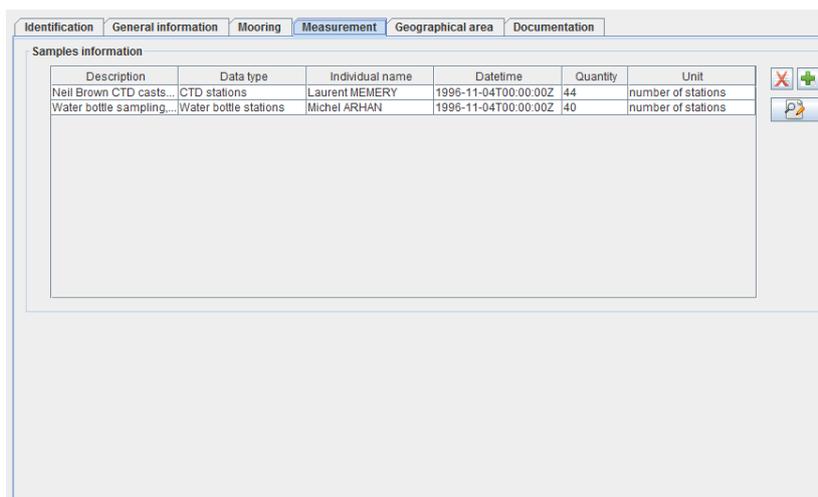


Figure 40: Measurement information window

10.1.2.5. Geographical area information

The “Geographical area” window enables to input information about the geographical area of the cruise.

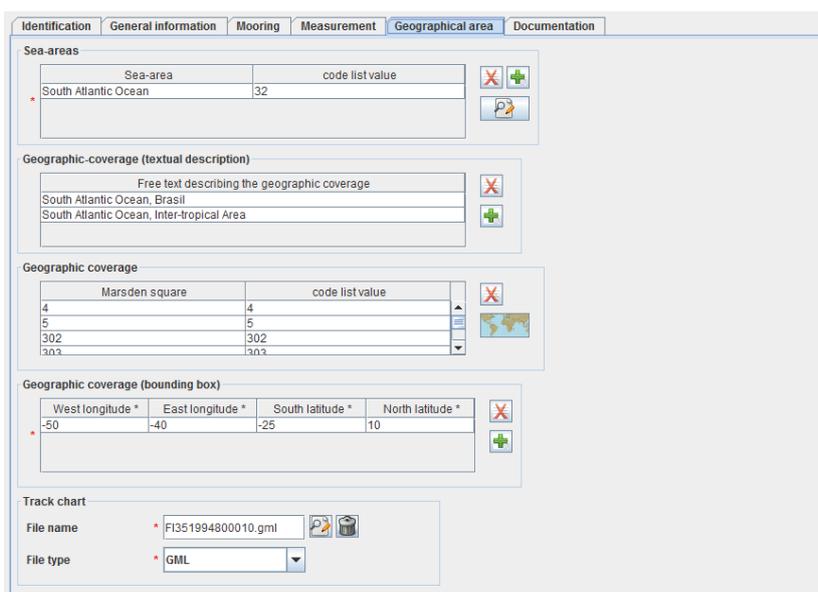


Figure 41: Geographical area window

If a track chart is available for the cruise, browse to select the file name, File description must be ‘track chart’, File type can be GML, 'GIF', 'PNG', 'JPEG' or 'PDF'.

In “Geographic coverage” frame, the  button opens a map with the Marsden squares. Clicking on one or several MARS DEN square(s) and clicking on Ok button add its (their) value(s) in the “Geographic coverage” table.

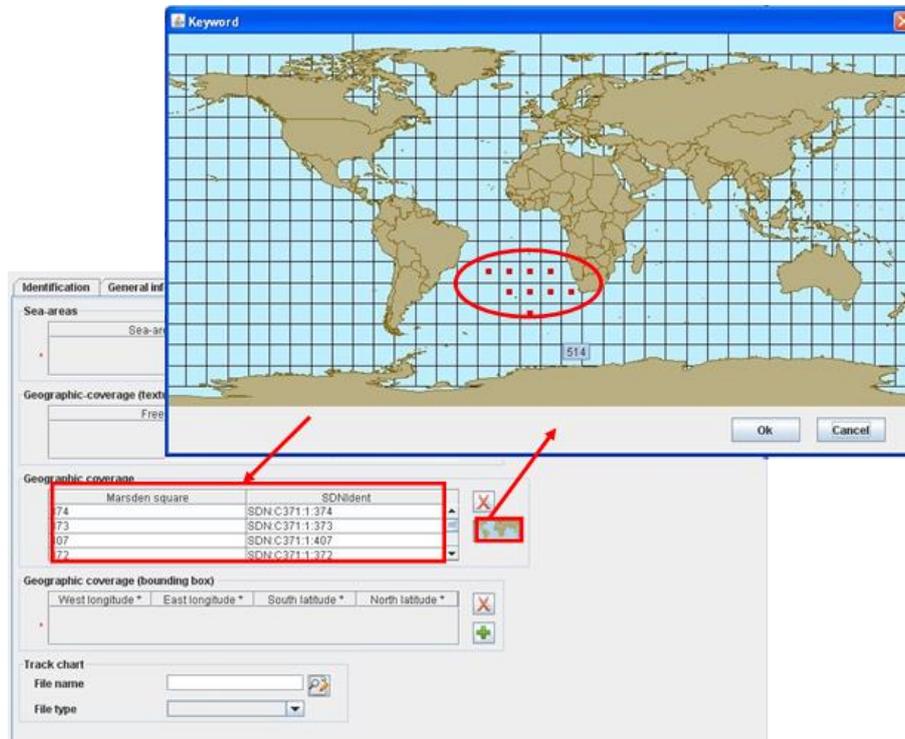


Figure 42: Geographical area – Marsden Squares

A “Documentation” tab allows including, in a CSR record, references to publications and documentations. Every CSR record can reference any number of publications. These publications will be referenced in the form of permanent URL. For the sake of homogeneity and stability, the publications included in the CDI must be stored and identified in a catalogue which provides an **digital object identifier (DOI)**, a permanent URL.

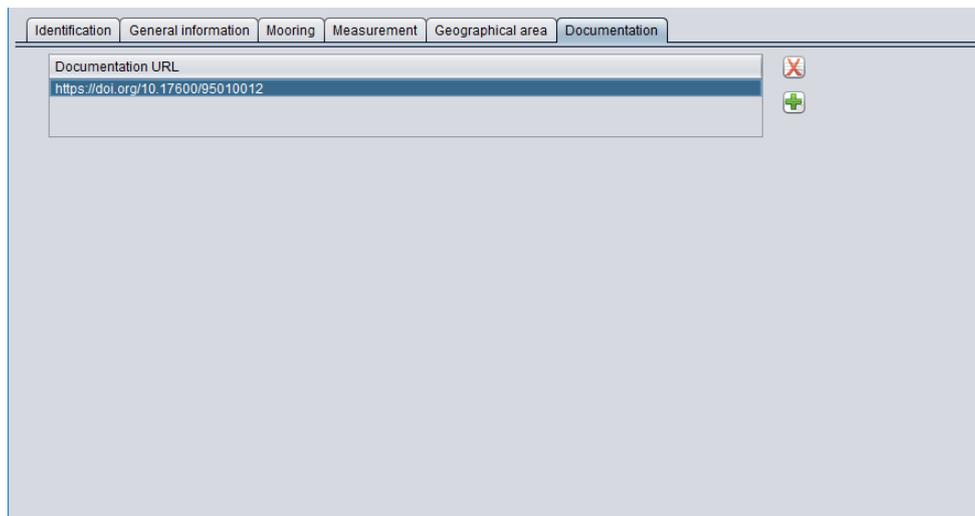


Figure 43 : Documentation window

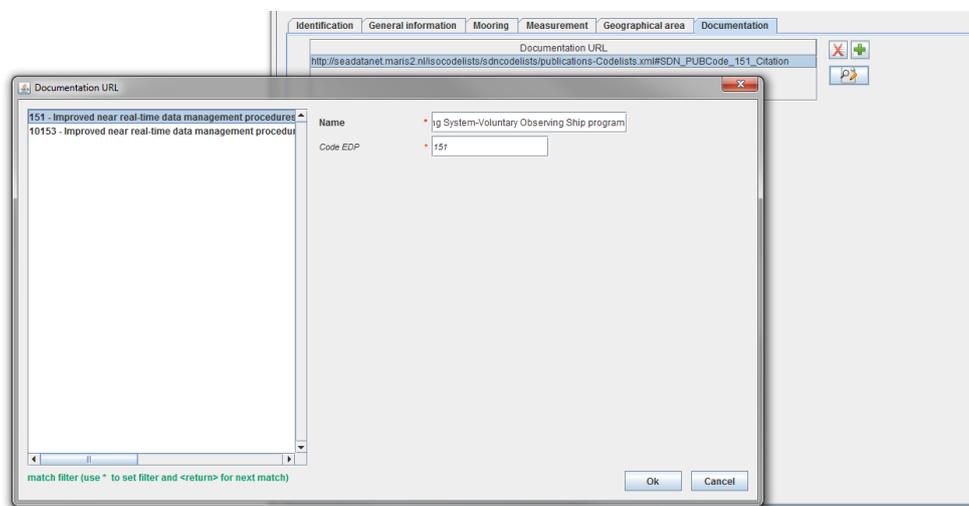


Figure 44 : Selection of a publication identified in the central catalogue

Once all the information related to the CSR has been fulfilled, the xml file will be created by selecting **Save as** in the **Manual** main menu. The created XML file has an “.xml” extension.

10.1.3. Manual CDI input

There are 11 tabs for the CDI information corresponding to the following basic questions defined in the CDI documentation:

10.1.3.1. Identification of the CDI record

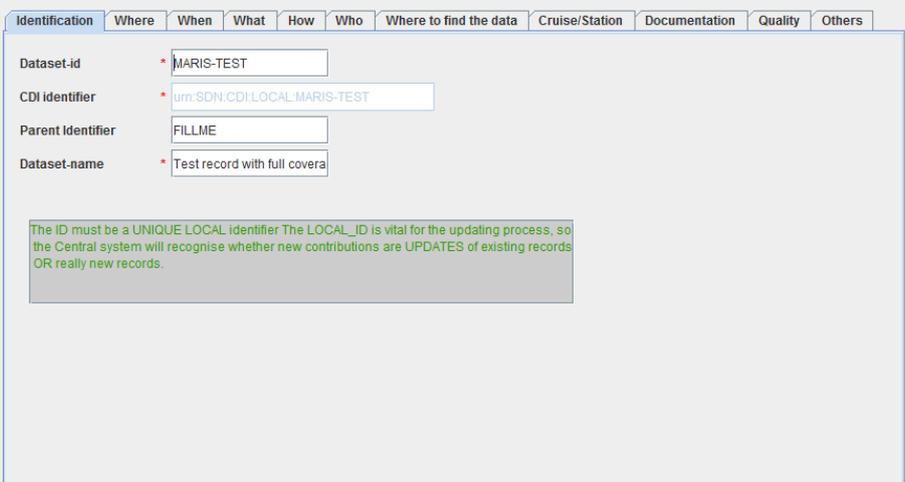


The identification of the CDI record is very important. The ID must be a **UNIQUE LOCAL** identifier. Because the LOCAL_ID is vital for the updating process, it is through this LOCAL_ID that the central system will be able to recognise whether new contributions are **updates** of existing records or really **new records**.

Now, MIKADO is able to generate (manually or automatically) ISO 19139 CDI descriptions instead of ISO 19115 ones. MIKADO is also able to read (import) CDI ISO 19115 XML files and convert them as CDI ISO 19139 XML files for data centres to upgrade their existing local XML files (Manual > Open then Manual > Save as).

For more information about ISO 19139 CSR profile, please refer to:

- [Metadata format - CDI webpage](#)
- [Upgrading workshop \(Lucca, September 2013\) – How to use MIKADO?](#)



The screenshot shows the 'Identification' window of the MIKADO software. The window has a tabbed interface with the following tabs: Identification, Where, When, What, How, Who, Where to find the data, Cruise/Station, Documentation, Quality, and Others. The 'Identification' tab is active. It contains four input fields with red asterisks indicating required fields:

- Dataset-id: * MARIS-TEST
- CDI identifier: * urn:SDN:CDI:LOCAL:MARIS-TEST
- Parent Identifier: FILLME
- Dataset-name: * Test record with full covera

Below the input fields, there is a green text box with the following text: "The ID must be a UNIQUE LOCAL identifier. The LOCAL_ID is vital for the updating process, so the Central system will recognise whether new contributions are UPDATES of existing records OR really new records."

Figure 45: CDI 'Identification' window

10.1.3.2. Where?

The screenshot shows the 'Where' window in the CDI software, which is used for defining the geographic coverage and resolution of data. The window is divided into several sections:

- Geographic coverage (bounding box):** A table with columns for West longitude, East longitude, South latitude, and North latitude. The values are: West longitude: -68.548849, East longitude: -49.007153, South latitude: 59.400296, North latitude: 73.889864. Below this, there are three rows of coordinates: 106.574831, 114.842479, 5.916728, 17.636232; -80.198605, -70.052045, -57.079131, -36.777203.
- Measuring area type:** A dropdown menu set to 'curve'.
- Horizontal Datum:** Name: World Geodetic System 84, code list value: 4326.
- Vertical datum:** name: sea level, identifier: http://www.seadatanet.org/.
- Horizontal resolution:** Value: 35, Unit: http://www.seadatanet.org/urn.
- Vertical resolution:** Value and Unit fields are empty.
- Depth observation:** Minimum depth: 0, Maximum depth: 100, Water depth: 150, Unit: metres.
- Polygon:** Radio buttons for None, Curves (selected), and Surface. Below is a table for waypoints:

Description	name	Coordinates
This is lin...	line1	-68.548849 73.889...
This is lin...	line2	112.963503 17.636...
This is lin...	line3	-76.816333 -36.77...

Figure 46: CDI 'Where' window

- **Resolution**

Especially for geophysical and bathymetric data, resolution for the measurements in time or spatial domain (frequency or grid size) is an important parameter during discovery because it directly defines the extent of possible use of the data. It has been added as an alternative to the spatial representation information and can be specified by domain name (horizontal or vertical), a value and a unit for the resolution.

- **GML extension**

A GML extension ("Polygon section") has been made in the CDI format in the framework of the Geoseas project: it enables to detail the geographical features of tracks and polygons in conformity with the real geographical coverage. This enables to describe in CDI V1 format also hydrographical and seismic surveys. Thanks to this GML extension, the CDI can contain a collection of tracks or of surfaces to describe the geographical features (it is not possible to mix Multicurves and Multisurfaces). This information can be used next to the existing and mandatory "bounding box". Some fields of the GML extension could be used to add name, descriptions and possibly other metadata (it is useful for seismic tracks for example).

Example for points



sdn-userdesk@seadatanet.org – www.seadatanet.org

SeaDataNet - The pan-European infrastructure for marine and ocean data management

In CDI practice multiple points will not be used, because each point measurement is considered as object for an individual CDI record. The location of a single measurement point is then already described by filling in only the west longitude and the south latitude of the Bounding Box section and there is no need to fill in also the “Polygon” section.

Example for tracks

In CDI practice measurements might be undertaken as tracks or as areas. In those cases, the Bounding Box section can be used to describe the geographical rectangle that covers or surrounds the track(s) or area(s) of the measurement. In those cases, the uttermost latitude and longitudes of the Bounding Box are filled in, entering first the most left and lower point (west longitude and south latitude) and as second the most right and upper point (east longitude and north latitude).

A more detailed description of the geographical location of each measurement track or area can then be given by using the “Polygon” section. In the case of single or multiple tracks, the “Polygon” section must be used with one line for one track (see Figure 47):

- 1 - Select “Curves” using the radio button
- 2 - Click on the  button to create a new line (=a new track) in the “Multiples curves” table. A window opens.
- 3 - Fill in the different fields (Description, Name, Longitude, Latitude). Eastern longitudes (from 0.0000 to 180.0000) and Northern latitudes (from 0.0000 to 90.0000) are entered as positive and Western longitudes (from 0.0000 to -180.0000) and Southern latitudes (from 0.0000 to -90.0000) are entered as negative.
- 4 - Create as many as lines (tracks) as you need.
- 5 – Click on the OK button to validate.



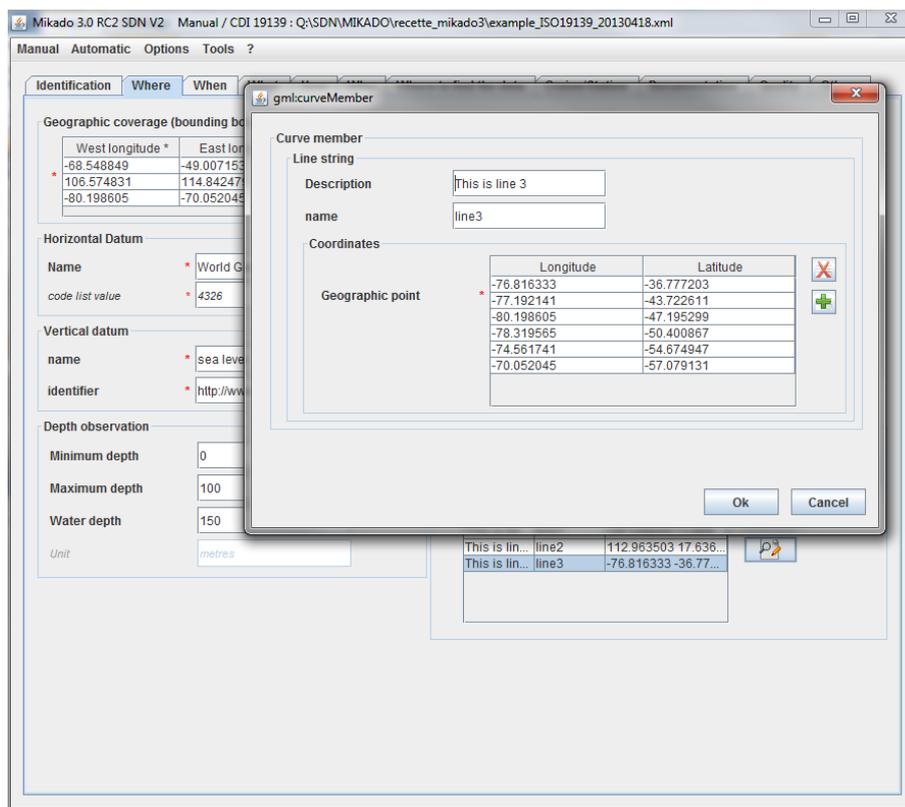


Figure 47: How to fill in the Position List for single or multiple track

Example for surfaces

In case the measurement location is a polygon-shaped area (not rectangular) or multiple set of polygon-shaped areas, then the “Polygon” section can be used to describe the locations in detail. In the case of single or multiple areas (= surfaces), the “Polygon” section must be used with one line for one surface (see Figure 47):

- 1 - Select “Surfaces” using the radio button
- 2 - Click on the  button to create a new line (= a new surface) in the “Multiples curves” table. A window opens.
- 3 - Fill in the different fields (Description, Name, Longitude, Latitude). Eastern longitudes (from 0.0000 to 180.0000) and Northern latitudes (from 0.0000 to 90.0000) are entered as positive and Western longitudes (from 0.0000 to -180.0000) and Southern latitudes (from 0.0000 to -90.0000) are entered as negative. The coordinate pairs should describe the polygon in a direction against the clock and the first coordinate pair must be repeated as last coordinate pair! Only convex polygons are to be described.
- 4 – Create as many as lines (surfaces) as you need.
- 5 – Click on the OK button to validate.

10.1.3.3. When?

The screenshot shows the 'When' tab of the CDI interface. It features a 'Period' section with 'Start date' and 'End date' fields, each with a dropdown menu and a help icon. Below this is a 'Time resolution' section with a 'Value' input field and a 'Unit' dropdown menu.

Field	Value	Format
Start date	01/01/2009 00:00:00	dd/mm/yyyy hh:mm:ss -24 hr (25/01/2007 15:05:00)
End date	24/06/2009 17:36:01	dd/mm/yyyy hh:mm:ss -24 hr (25/02/2007 12:00:00)
Value	5	
Unit	net.org/urn:SDN:P06:UTAA	

Figure 48: CDI 'When' window

10.1.3.4. What?

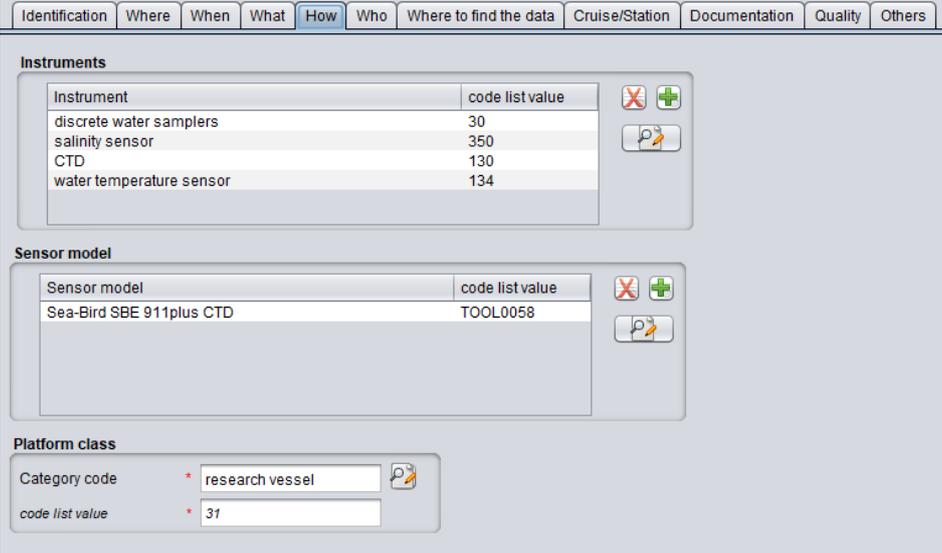
The screenshot shows the 'What' tab of the CDI interface. It features a 'Parameters' section with a table of parameter names and code list values, and an 'Abstract' section with a text input field.

Parameter	code list value
Atmospheric visibility and transparency	ATVS
Ammonium concentration parameters in the water column	AMON
Atmospheric humidity	CHUM

Abstract: This record is meant for test purposes. It contains a value for every field and multiple values.

Figure 49: CDI 'What' window

10.1.3.5. How?



The screenshot shows the 'How' tab of a CDI window. It contains three main sections: 'Instruments', 'Sensor model', and 'Platform class'. Each section has a table with columns for the instrument/sensor name and its code list value. There are also icons for deleting, adding, and editing entries.

Instrument	code list value
discrete water samplers	30
salinity sensor	350
CTD	130
water temperature sensor	134

Sensor model	code list value
Sea-Bird SBE 911plus CTD	TOOL0058

Platform class

Category code	* research vessel
code list value	* 31

Figure 50: CDI 'How' window

Nowadays, there are various instruments with multiple sensors in use, provide multiple parameter observations in single data files. That is why the occurrence of instruments in the CDI has been modified from 0-1 to 0-many.

In the frame of ENVRI-FAIR project, a new optional field "Sensor model" has been added to include L22 (Seavox Device Catalogue) information (CDI \geq v13.0.0, MIKADO \geq 3.7) in complement of "Instruments" - L05 (SeaDataNet device categories) information. If L22 information is provided by the user, L05 information is automatically added by MIKADO using BODC mapping L05/L22.

10.1.3.6. Who?

The screenshot shows the 'Who' tab in the CDI interface. It is divided into three main sections:

- Point of contact (holding centre):**
 - Organisation name: Marine Information Service
 - Code list value: 634
 - Contact information:
 - voice: +31 70 3004710
 - fax: +31 70 3903546
 - Address:
 - Delivery Point: Koningin Julianalaan 345A
 - City: Voorburg
 - Postal code: 2273JJ
 - country: Netherlands
 - Email: maris@xs4all.nl
 - Web site: http://www.maris.nl
- Originator centre:** A list of organisations including Scott Polar Research Institute (SPRI), Midland and Scottish Resources Plc, County Administration of Vasterbotten, and Buques del Estado. The first option, Scott Polar Research Institute (SPRI), is selected.

Figure 51: CDI 'Who' window

10.1.3.7. Where to find the data?

The screenshot shows the 'Where to find the data' tab in the CDI interface. It contains several sections:

- Distributor:**
 - Organisation name: WL/Delft Hydraulics
 - Code list value: 637
- Collate-centre:**
 - Organisation name: University of Birmingham, Department of Geological S...
 - Code list value: 1
- Distribution Websites and services:** A table with columns for data size, URL, protocol, database, Distribution..., and code list va...

data size	URL	protocol	database	Distribution...	code list va...
123	http://www....	HTTP-DO...	DBTEST	manual int...	download...
	http://exam....	urn:ogc:ser...	WMS exam...	direct acce...	downloadUrl
- Dataset Access Restriction:** A list of anchors including SeaDataNet licence, licence, and SeaDataNet licence.

Figure 52: CDI 'Where to find data' window

The content of the “Where to find the data” tab will depend on the selected options in **Data centre type** in the **Options** main menu:



sdn-userdesk@seadatanet.org – www.seadatanet.org

SeaDataNet - The pan-European infrastructure for marine and ocean data management

- If the selected data centre type is SDN V2 (in the 'Options' > 'Data centre type' Menu), the first distribution Web site is fixed and the user cannot remove it, he can just add information about data size and database reference. The linkage address, the protocol and the distribution method are fixed to :
 - Linkage = 'http://www.sdn-taskmanager.org/',
 - Protocol = 'HTTP-DOWNLOAD'
 - Distribution method = 'downloadRegistration'
- If the selected data centre type is ECOOP V1, the URL distribution website is free.

An extension of the CDI format for service bindings has been made. These service bindings are links (URLs) to online services, embedded in the metadata, that allow a user or machine to get more information on the data, e.g download data, view the data in an interactive viewer or retrieve the data using a service such as OGC WMS or WFS. In the previous CDI format, it was only allowed to include one online resource under Distribution section. In the new version, it is allowed to include additional service bindings. The "protocol" field indicates the protocol to be used for retrieving the information; the content of this field is free text but there exists a policy to format this protocol definition at

<http://www.opengeospatial.org/ogcUrnPolicy>.

For seismic data, a High Resolution Seismic Viewing Service (**HRSVS**) has been built to allow visualization of data. If you want to add this service binding to the seismic CDIs, click on the add button, then select 'hrsvsRegistration' in the 'Data access Mechanism' field. The linkage address, the protocol and the distribution method are then automatically fixed to:

- Linkage = 'http://www.sdn-taskmanager.org/',
- Protocol = 'HRSVS'
- Distribution method = ' hrsvsRegistration'

Figure 53: Distribution Websites for HRSVS access

10.1.3.8. Dataset information (Cruise, Station)

Figure 54: 'Cruise/Station' window for the CDI

In the Cruise/Station tab, at least cruise information or station information is mandatory, The 3 fields (for cruise or for station) are mandatory. Furthermore, a reference to a CSR record is now possible using the “CSR Reference” field.

10.1.3.9. Documentation

A “Documentation” tab allows including, in a CDI record, references to publications and documentations. Every CDI record can reference any number of publications. These publications will be referenced in the form of permanent URL. For the sake of homogeneity and stability, it is preferred that the URLs included in the CDI are persistent (including a **digital object identifier – DOI**, when possible).

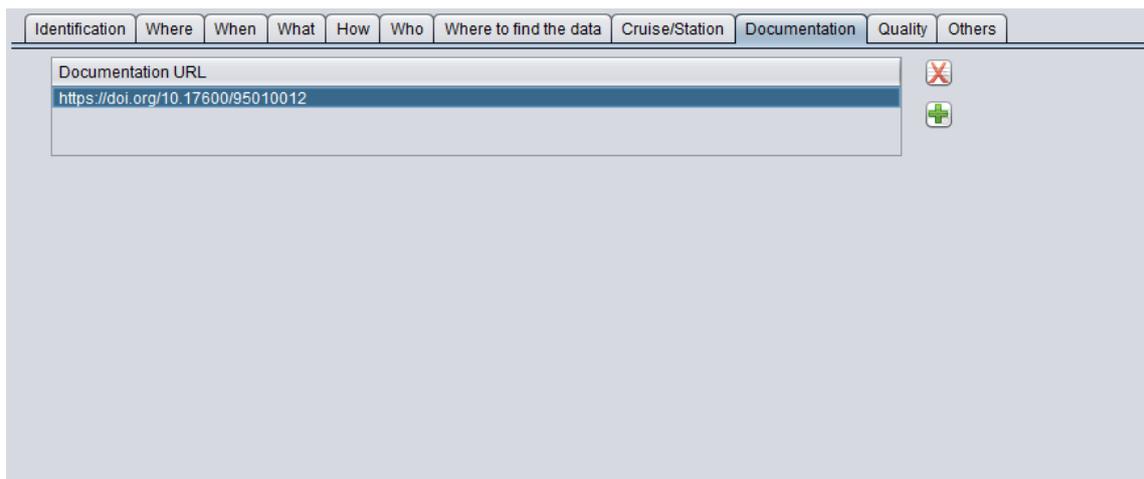


Figure 55 : Documentation tab

10.1.3.10. Data Quality

A principle goal of CDI metadata is to ensure that the data they describe can be independently understood and used efficiently. Data quality tests and reports play a critical role in achieving this goal. Connecting these to the CDI record is clearly important.

That is why data quality information has been added in CDI ISO 19139 profile and MIKADO has been updated to integrate the following new fields:

- Name: name of the QC standards applied to the data,
- Date: reference date of the cited QC standards (dd/mm/yyyy),
- Comment: comment or explanation about the QC evaluation and its result,
- Status: indication of the conformance result (True/False).

For example, the data quality information could refer to the Manual of Quality Control Procedures for Validation of Oceanographic Data, IOC Manuals and guides No. 26, published on 01/01/1993:

- Name = Manual of Quality Control Procedures for Validation of Oceanographic Data, IOC Manuals and guides No. 26
- Date = 01/01/1993



- Comment = See the referenced specification
- Status = true

For compliancy with INSPIRE, the following reference must appear in the CDI XML file in Data Quality Information section (hard coded in MIKADO):

Name="COMMISSION REGULATION (EC) No 1205/2008 of 3 December 2008 implementing Directive 2007/2/EC of the European Parliament and of the Council as regards "

Date="2008-12-04"

Comment="See the referenced specification"

Status="True"

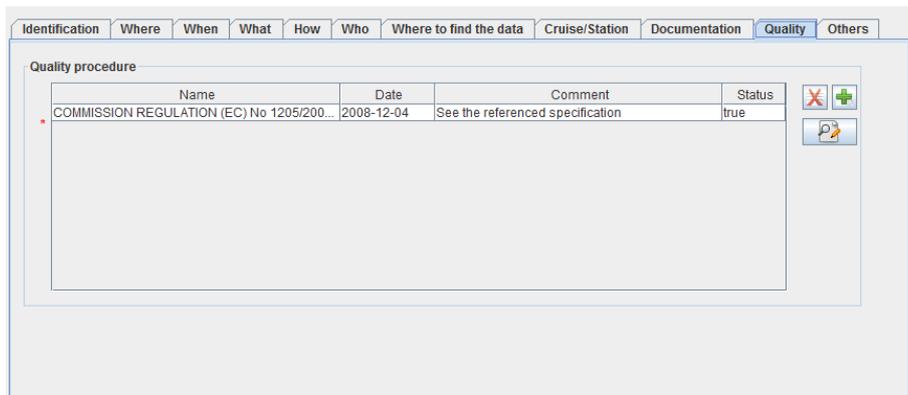


Figure 56 : Data Quality tab

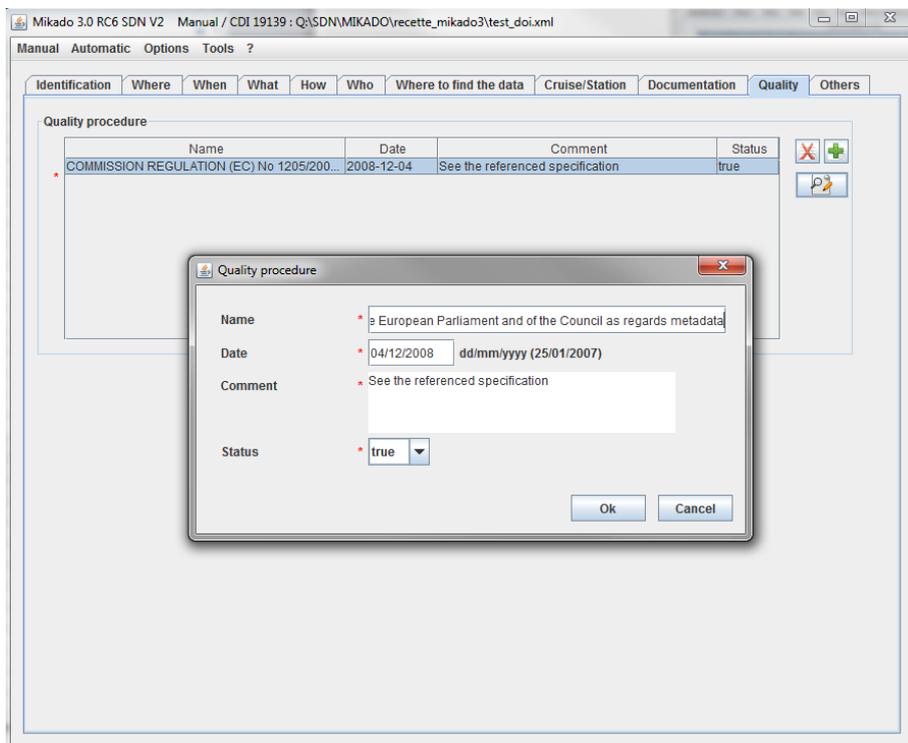


Figure 57 : Fulfilled data quality information

10.1.3.11. Other relevant information

Figure 58: 'Others' window for the CDI

In this tab, a reference to an EDMED record is now possible using the “EDMED Reference” field.

Figure 59 : Selection of an EDMED reference

Once all the information related to the CDI has been fulfilled, the xml file will be created by selecting **Save as** in the **Manual** main menu. The created XML file has a '.xml' extension.

10.1.4. Manual EDMERP input

There are 7 tabs (Figure 60 to Figure 66) for the EDMERP information which enable to input information about:

- General information
- Geographical area
- Data themes
- Reference
- Coordinator
- Partners
- Collate Centre.

The screenshot shows the 'General information' window of the EDMERP system. It features a tabbed interface with the following tabs: General information, Geographical area, Data themes, Reference, Coordinator, Partners, and Collate-centre. The 'General information' tab is selected. The form contains several input fields and sections:

- EDMERP identifier:** TEST
- Revision date:** 21/05/2008 00:00 (format: dd/mm/yyyy hh:mm:ss -24 hr (25/01/2007 15:05:00))
- Project name:** PROJECT TEST
- Project reference:** reference_project TEST
- Project acronym:** ACRONYM TEST
- Associated programme:** A sub-form with fields for Title, Programme-id, and Revision date (format: dd/mm/yyyy (25/01/2007)).
- Abstract:** Abstract of TEST
- Period:** A sub-form with Start date (01/01/2007 00:00:00) and End date (31/12/2009 00:00:00), both in the same format as the revision date.
- Project website:** An empty text input field.

Figure 60 : EDMERP – ‘General information’ window

The screenshot shows the 'Geographical area' window of the EDMERP system. It features a tabbed interface with the following tabs: General information, Geographical area, Data themes, Reference, Coordinator, Partners, and Collate-centre. The 'Geographical area' tab is selected. The form contains a table and a text input field:

- Sea-areas:** A table with columns 'Sea-area' and 'SDNident'. One entry is visible: 'Indian Ocean' with 'SDN:C16:1:45'. There are 'X' and '+' icons to the right of the table, and a 'p' icon below it.
- Geographic-coverage (textual description):** A text input field containing 'Free text describing the geographic coverage' and 'description of the geographic coverage'. There are 'X' and '+' icons to the right of the field.

Figure 61: EDMERP – ‘Geographical area’ window

Data Themes	SDNident
Cross-discipline	SDN.P081:3.DS06

Figure 62: EDMERP – ‘Data themes’ window

Title	Publication date	Author	Editor
-------	------------------	--------	--------

Figure 63: EDMERP – ‘Reference’ window

Project coordinator

Individual name * MAILLARD Catherine

Organisation name * IFREMER / IDMSISMER

SDNident (Organisation name) * SDN:EDMO:486

Contact information

Phone +33 (0)2 98 22.49.16

Fax +33 (0)2 98 22.46.44

Address

Delivery point Centre IFREMER de Brest BP 70

City * PLOUZANE

Administrative area

Postal code 29280

Country * France

Email isismer@ifremer.fr

Website

http://www.ifremer.fr/isismer/

Role

Role code value * jointCOCentrat

Figure 64: EDMERP – ‘Coordinator’ window

Here the phone, fax and email which are related to the organisation name (retrieved from EDMO catalogue) may be modified to be related to the identified person, the project coordinator.

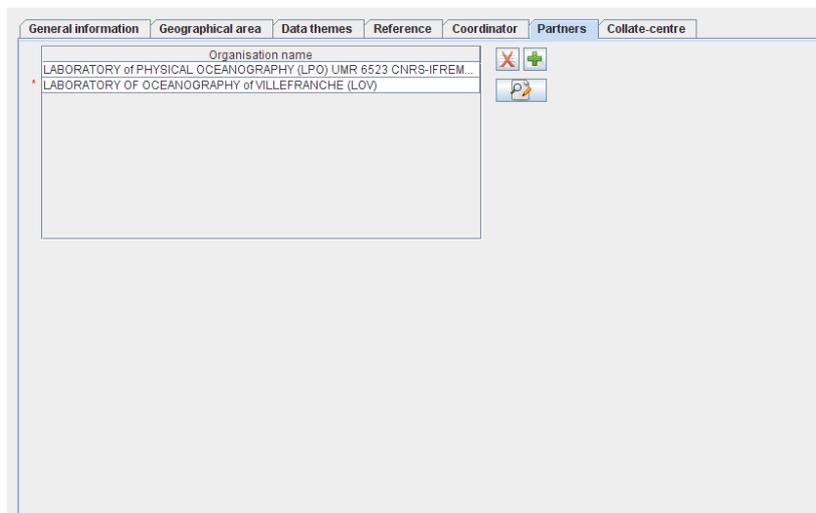


Figure 65: EDMERP - 'Partners' window

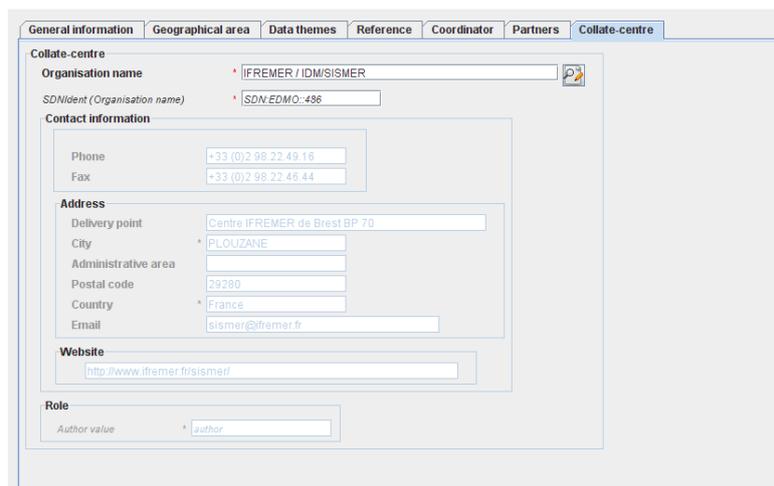


Figure 66: EDMERP – 'Collate centre' window

Once all the information related to the EDMERP has been fulfilled, the xml file will be created by selecting **Save as** in the **Manual** main menu. The created XML file has a “.xml” extension.

10.1.5. Manual EDIOS input

EDIOS is the catalogue of permanent ocean observing system which has 3 levels : Programs, series and platforms.

The relations between the 3 levels are the following :

- One program has 1 to many series, and one series is attached to 1 program.
- One series as 0 to many platforms, one platform is attached to 1 to many series.

The user has to create first the programs, then the series and finally the platforms. When he has created one or several programs, he must generate a list of the program codes which will be used in the series input form, and when he has created one or several series, he must generate a list of series codes which will be used in the platform input.

To do so follow these 3 steps :

- Open the “Options > Set programs directory” or the “Options > Set series directory” menu
- Select the directory where stays the XML programs or series descriptions
- Click on the “Set program directory” or ”Set series directory” button

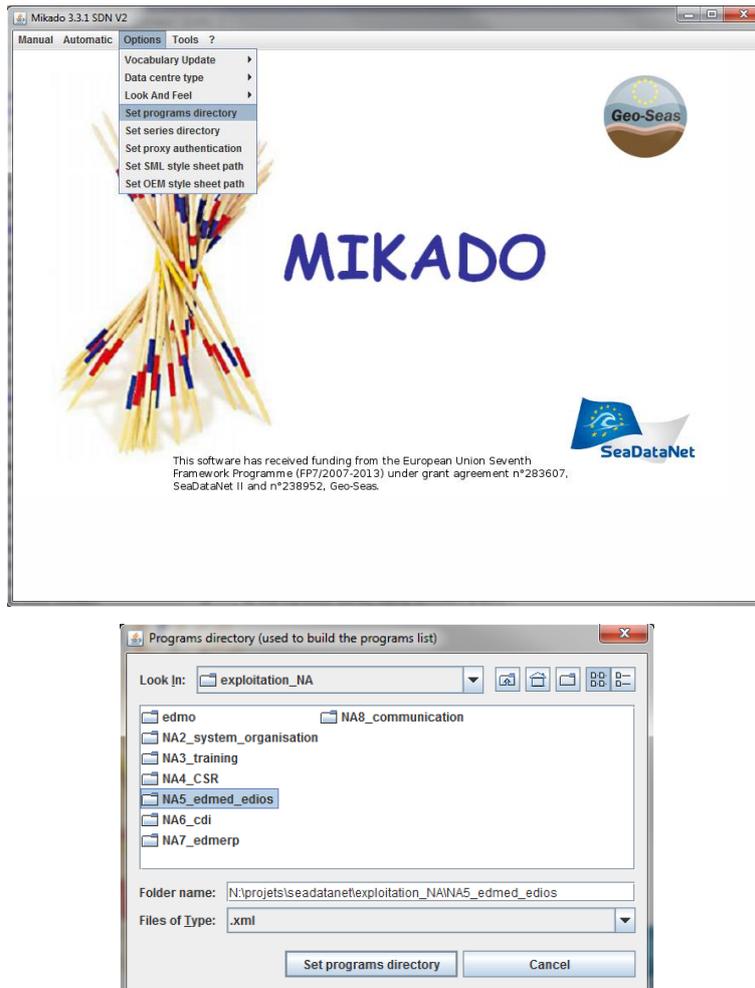


Figure 67 - Selection of the directory of XML description of programs

For each of these EDIOS catalogues MIKADO has a manual input user interface, which is described in the next paragraphs.

10.1.5.1. EDIOS program input

There are 4 main tabs for the EDIOS program information: 'Program', 'Chief scientist', 'Coordinating institute' and 'Point of contact'.

The first tab 'Program' gives the program description (Figure 68 to Figure 74) and is divided into 7 sub-tabs which enable to input information about:

- Identification of the program which is very important. **The ID must be a UNIQUE LOCAL identifier. Because the LOCAL_ID is vital for the updating process, it is through this LOCAL_ID than the central system will be able to recognise whether new contributions are updates of existing records or really new records.**
- When the program starts and ends
- Where does the observation program take place
- What is the observation program about : abstract, concerned habitat, related projects (EDMERP) and data set descriptions (EDMED)
- Information about the continuity status, the rationale, the quality accreditation and the legislative framework of the program.
- Where and how to get access to the data collected in the framework of the program
- The author of the program description.

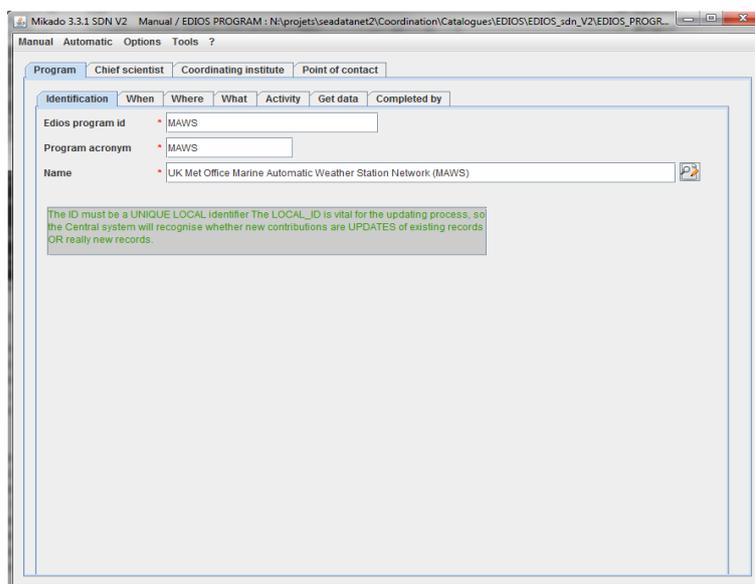


Figure 68 - EDIOS Program information window 'Identification'

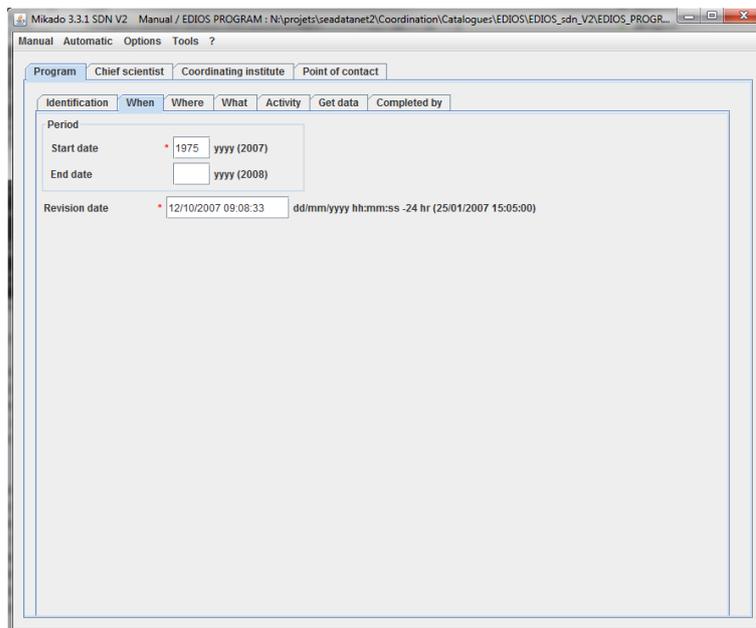


Figure 69- EDIOS Program information window 'When'

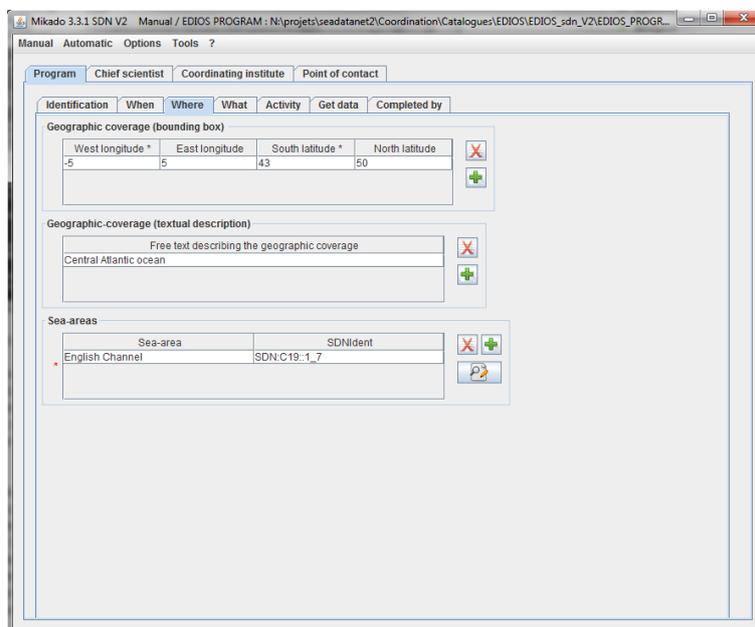


Figure 70- EDIOS Program information window 'Where'

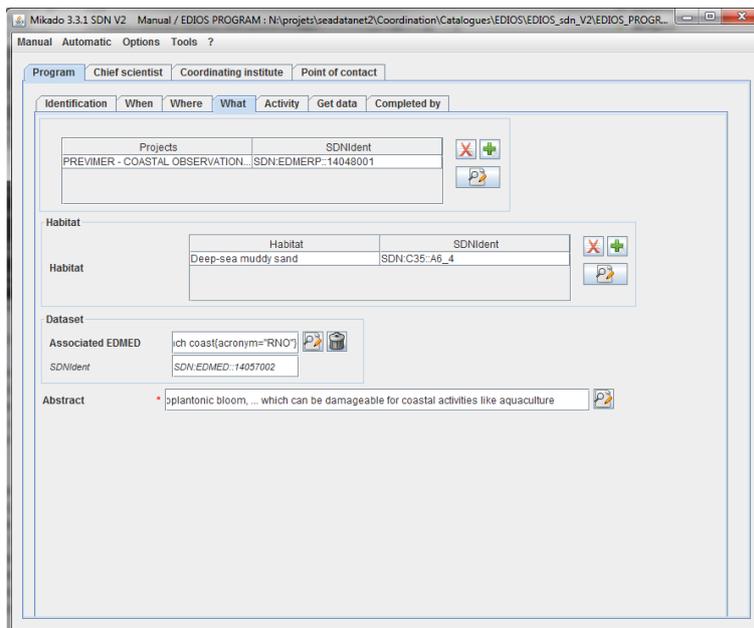


Figure 71- EDIOS Program information window 'What'

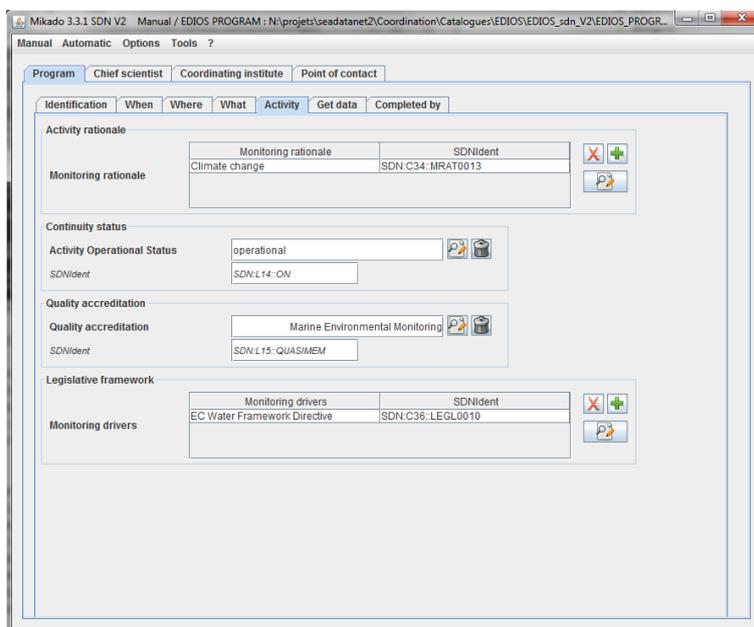


Figure 72- EDIOS Program information window 'Activity'

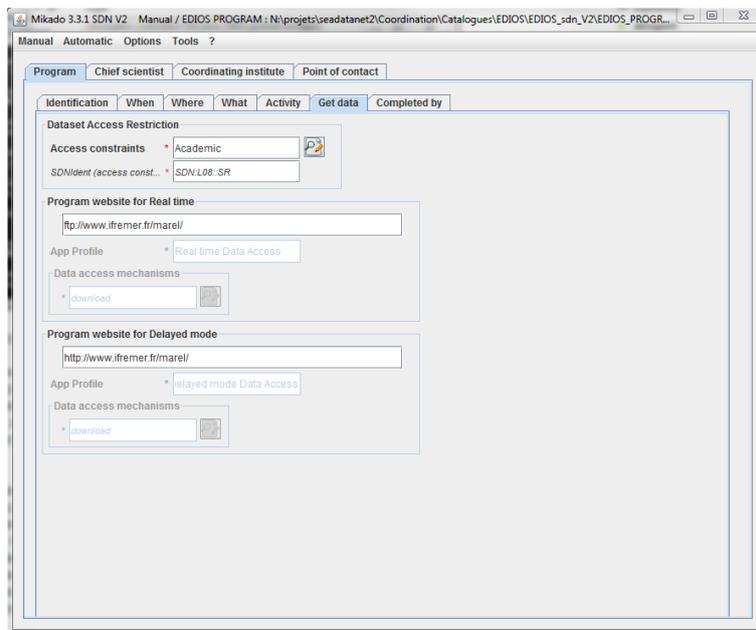


Figure 73- EDIOS Program information window 'Get data'

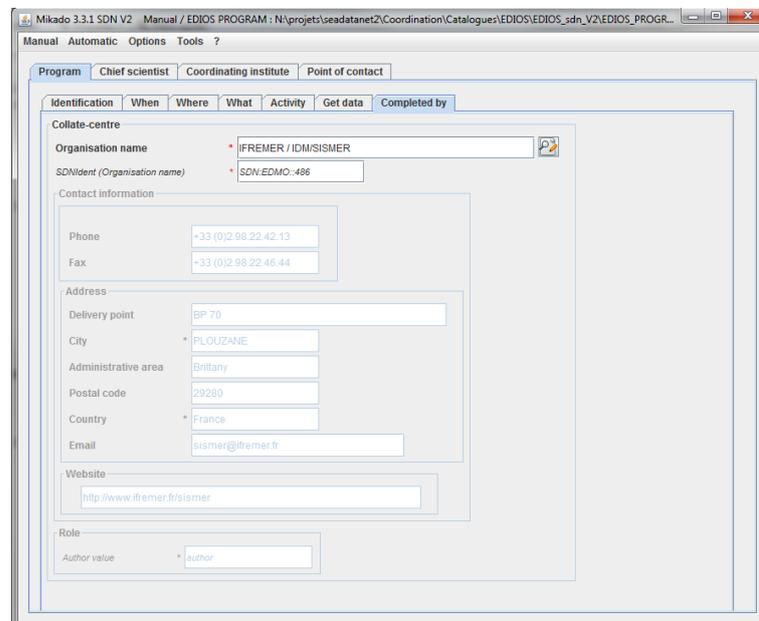


Figure 74- EDIOS Program information window 'Completed by'

The second tab 'Chief scientist' gives information on the principal investigator of the EDIOS program:

The screenshot shows the 'Chief scientist' tab in the EDIOS program. The 'Point of contact (principal investigator)' section contains the following fields:

- Individual name: Michel Larour
- Organisation name: / TSI-DPT TECHNOLOGIE DES SYSTEMES INSTRUMENTAUX
- SDNIdent (Organisation name): SDN.EDMO:795
- Contact information:
 - Phone: +33 (0)2 98 22 40 40
 - Fax: +33 (0)2 98 22 45 45
- Address:
 - Delivery point: BP 70
 - City: PLOUZANE
 - Administrative area: Brittany
 - Postal code: 29280
 - Country: France
 - Email: (empty)
- Website: http://www.ifremer.fr/brest/
- Role:
 - Role code value: principal/investigator

Figure 75- EDIOS program window 'Chief scientist'

For the chief scientist, phone, fax, address and email which are related to the organisation name (retrieved from EDMO catalogue) may be modified to be related to the chief scientist.

The screenshot shows the 'Coordinating institute' tab in the EDIOS program. The 'Point of contact (coordinator)' section contains the following fields:

- Organisation name: / TSI-DPT TECHNOLOGIE DES SYSTEMES INSTRUMENTAUX
- SDNIdent (Organisation name): SDN.EDMO:795
- Contact information:
 - Phone: +33 (0)2 98 22 40 40
 - Fax: +33 (0)2 98 22 45 45
- Address:
 - Delivery point: BP 70
 - City: PLOUZANE
 - Administrative area: Brittany
 - Postal code: 29280
 - Country: France
 - Email: (empty)
- Website: http://www.ifremer.fr/brest/
- Role:
 - Role code value: coordinator

Figure 76- EDIOS program window 'Coordinating institute'

The screenshot shows a software window titled 'Mikado 3.3.1 SDN V2' with a menu bar (Manual, Automatic, Options, Tools, ?) and several tabs (Program, Chief scientist, Coordinating institute, Point of contact). The 'Point of contact' tab is active, displaying a form for 'Point of contact (data contact)'. The form includes the following fields:

- Individual name: Michel Gauffier
- Organisation name: TSI - DPT TECHNOLOGIE DES SYSTEMES INSTRUMENTAUX
- SDNIdent (Organisation name): SDN-EDMO-795
- Person title: Dr
- Contact information:
 - Phone: +33 (0)2 98 22 41 76
 - Fax: +33 (0)2 98 22 41 35
- Address:
 - Delivery point: BP70
 - City: PLOUZANE
 - Administrative area: Brittany
 - Postal code: 29280
 - Country: France
 - Email: Michel.Gautier@ifremer.fr
 - Website: (empty field)
- Role: (empty field)
- Role code value: pointOfContact

Figure 77- EDIOS program window 'Point of contact'

For the point of contact phone, fax, address and email which are related to the organisation name (retrieved from EDMO catalogue) may be modified to be related to the identified person, the EDIOS program point of contact for related data.

10.1.5.2. EDIOS series input

There are 5 tabs for the EDIOS series information: 'Identification', 'Where', 'When', 'What' and 'Completed by' (Figure 78 to Figure 83):

- Identification of the series which is very important. **The ID must be a UNIQUE LOCAL identifier. Because the LOCAL_ID is vital for the updating process, it is through this LOCAL_ID than the central system will be able to recognise whether new contributions are updates of existing records or really new records.**
- Where does the series have been measured
- When the series starts end ends, and what was the sampling rate
- What is the series about: abstract, measured parameters
- The author of the series description

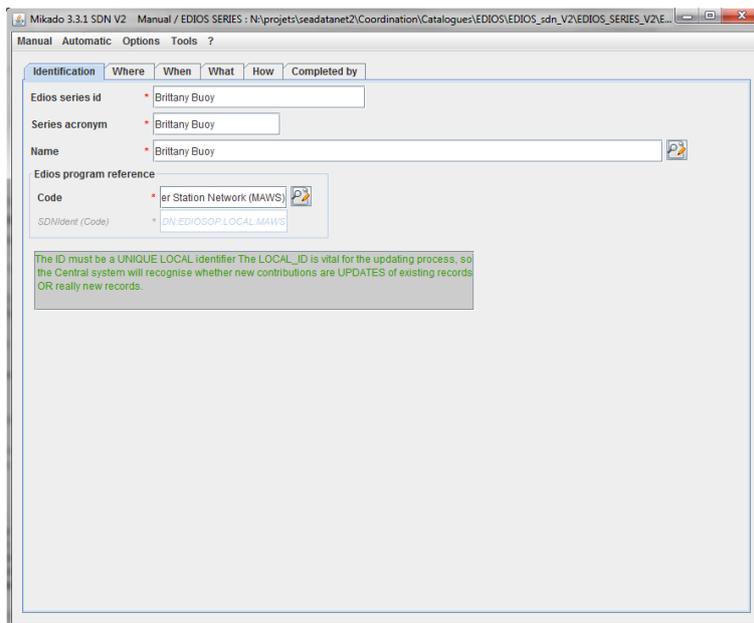


Figure 78 - EDIOS series window 'Identification'

The EDIOS program reference is the LOCAL_ID of the program to which the series is related.

If the user inputs *PROG1* for the program code, then the SDNIdent will be *SDN:EDIOSOP:LOCAL:PROG1*.

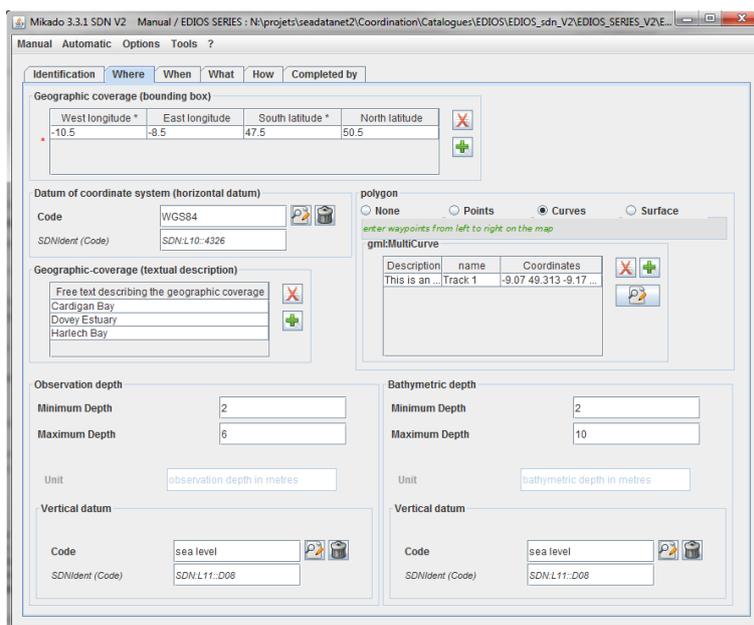


Figure 79 - EDIOS series window 'Where'

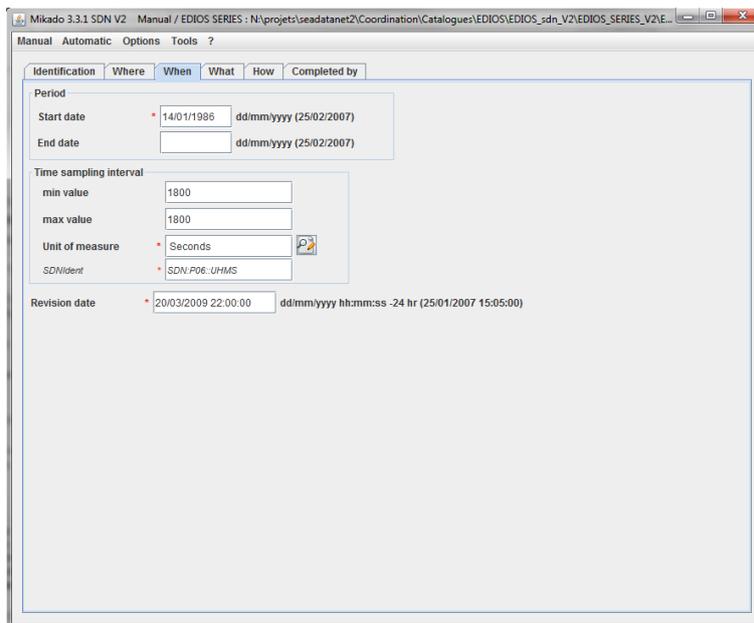


Figure 80 - EDIOS series window 'When'

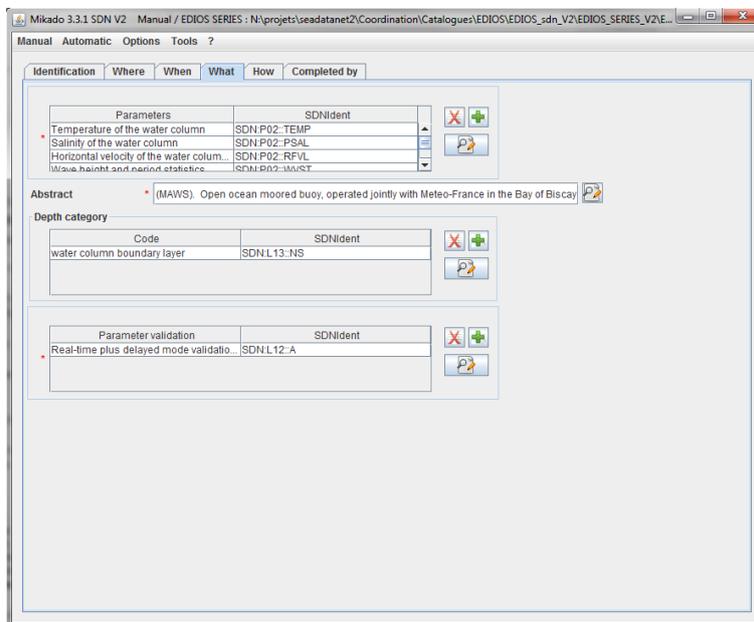


Figure 81 - EDIOS series window 'What'

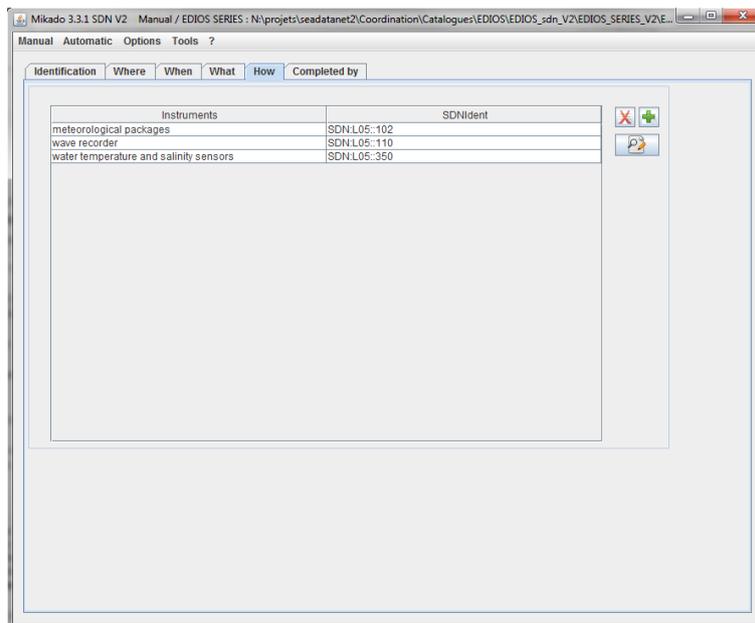


Figure 82-EDIOS Series window 'How'

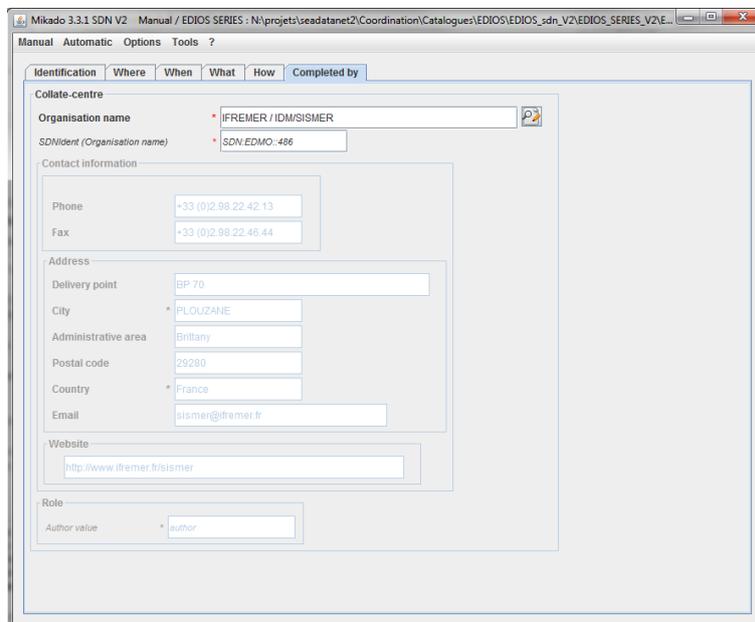


Figure 83 - EDIOS series window 'Completed by'

10.1.5.3. EDIOS platform input

There are 4 tabs for the EDIOS platform information: 'Identification', 'How', 'Who' and 'Completed by' (Figure 84 to Figure 87):

- Identification of the platform which is very important. **The ID must be a UNIQUE LOCAL identifier. Because the LOCAL_ID is vital for the updating process, it is through this LOCAL_ID than the central system will be able to recognise whether new contributions are updates of existing records or really new records.**
- Information about the instrument(s) available on the platform
- Information about the owner(s) and operator(s) of the platform
- The author of the platform description

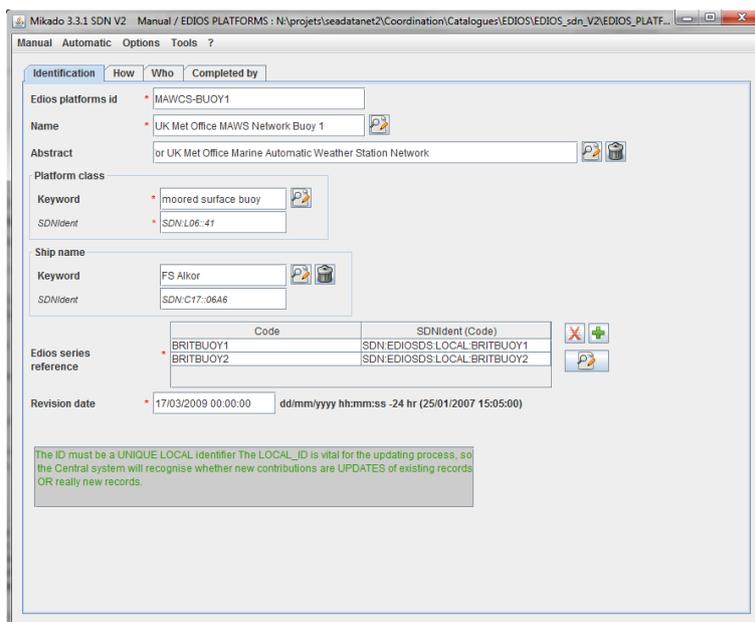


Figure 84 - EDIOS platform window 'Identification'

The EDIOS series references are the LOCAL_ID of the series to which the platform is related.

If the user inputs *SERIES1* for the series code, then the SDNident will be *SDN:EDIOSDS:LOCAL:SERIES1*.

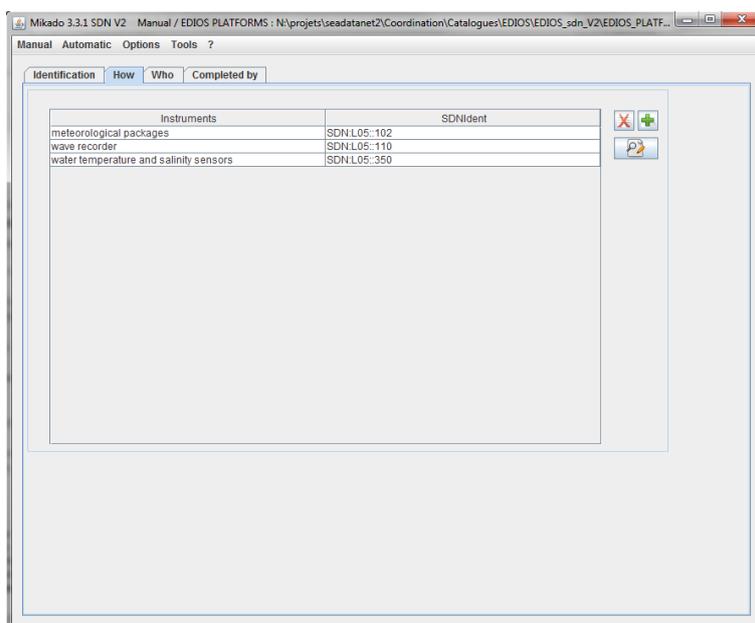


Figure 85 - EDIOS platform window 'How'

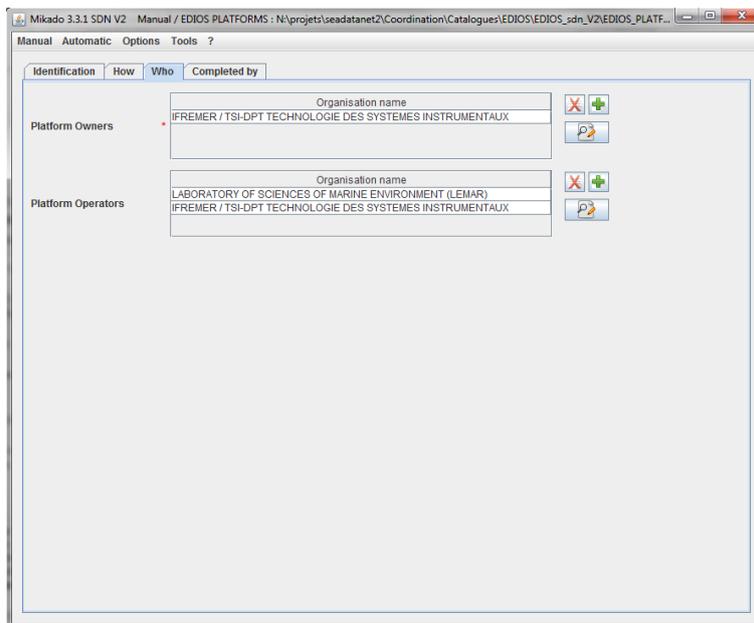


Figure 86 - EDIOS platform window 'Who'

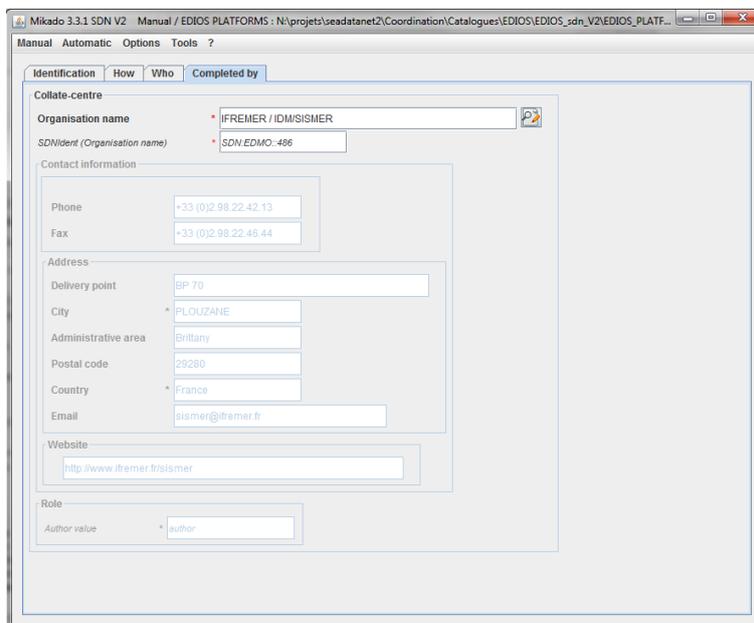


Figure 87 - EDIOS platform window 'Completed by'

10.1.6. Manual PCR input

There are 3 main input tabs for the PCR (Planned Cruise Report) information:

- Identification of the planned cruise which is **very important** and the ID must be a **UNIQUE LOCAL** identifier. Because the LOCAL_ID is vital for the updating process, it is through this LOCAL_ID than the central system will be able to recognise whether new contributions are **updates** of existing records or really **new records**.

- General information about the planned cruise.
- Information about the geographical areas of the planned cruise.

10.1.6.1. Identification of the planned cruise

The identification of the planned cruise is the **unique** LOCAL cruise ID and the cruise name. Both fields are mandatory.

Figure 88 - PCR identification window

10.1.6.2. General information about the planned cruise

This window is divided into 9 tabs (Figure 89 to Figure 97) which enable to input information about:

- the planned cruise (begin and end dates, ports of departure and return),
- the objectives of the planned cruise : purpose of the cruise as to provide the context in which the data were collected and the projects related to the cruise,
- the ship name
- the disciplines related to the planned cruise,
- the chief scientist responsible of the cruise
- the responsible party which is the laboratory responsible for coordinating the scientific planning of the cruise,
- the ship operator,
- the cruise funding agency and
- the information about the collate centre which collect and generate the PCR information.

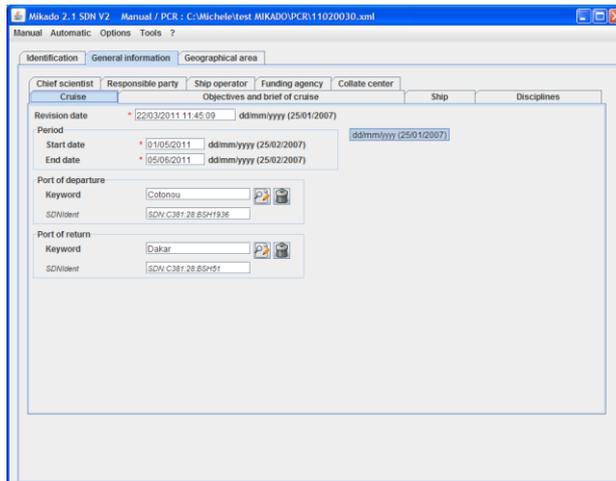


Figure 89 - PCR - General information - Cruise window

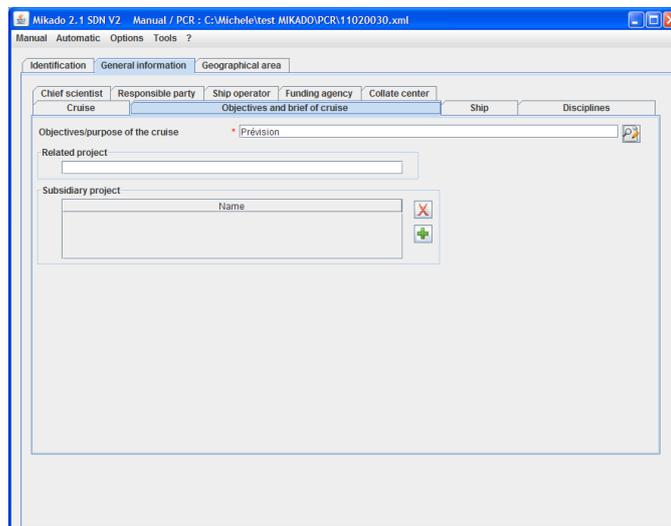


Figure 90 - PCR - General information - Objectives of the cruise window

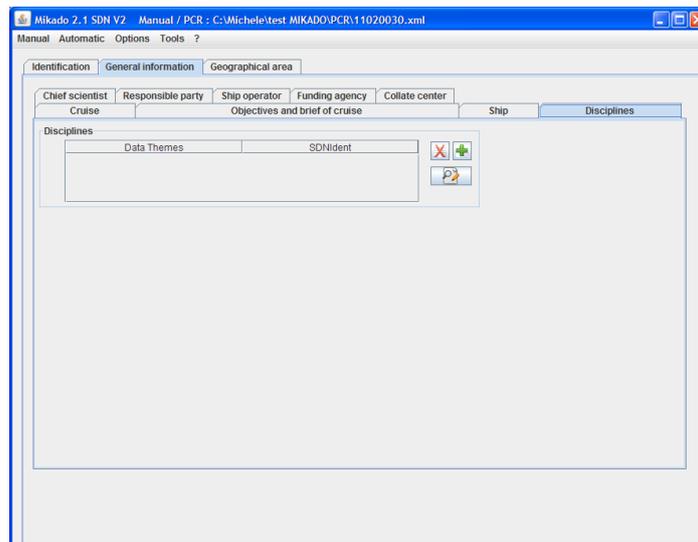


Figure 91 - PCR - General information - Ship window

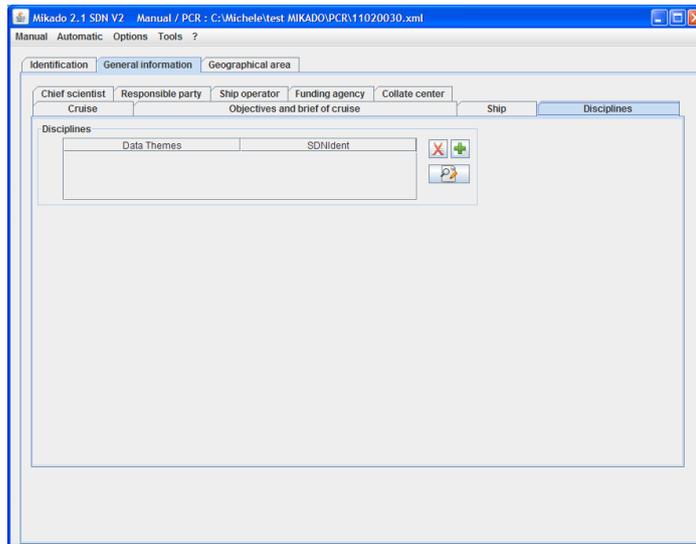


Figure 92 - PCR - General information - Disciplines window

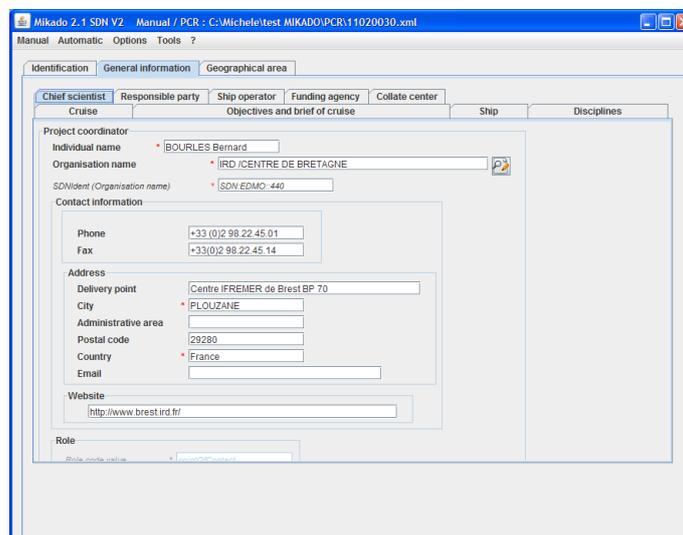


Figure 93 - PCR - General information - Chief scientist window

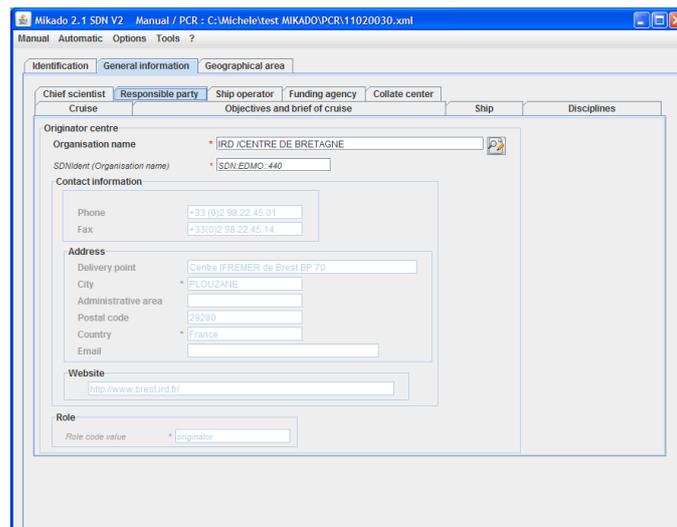


Figure 94 - PCR - General information - Responsible party window

Mikado 2.1 SDN V2 Manual / PCR : C:\Michele\test_MIKADO\PCR\11020030.xml

Manual Automatic Options Tools ?

Identification General information Geographical area

Chief scientist Responsible party Ship operator Funding agency Collate center

Cruise Objectives and brief of cruise Ship Disciplines

Operator

Organisation name * IFREMER / DIRECTION DE LA COMMUNICATION - SIEGE

SDWIdent (Organisation name) * SDN_EDMO : 547

Contact information

Phone +33(0)1 46 48 21 00

Fax +33(0)1 46 48 22 96

Address

Delivery point Technopole 40 155 rue Jean-Jacques Rousseau

City * ISSY-LES-MOULINEAUX

Administrative area rpCnInfo : address of the organization or individual which may be contacted (389)

Postal code 92138

Country * France

Email communication@ifremer.fr

Website http://www.ifremer.fr/francais/for/index.htm

Role

Role code value * operator

Figure 95 - PCR - General information - Ship operator window

Mikado 2.1 SDN V2 Manual / PCR : C:\Michele\test_MIKADO\PCR\11020030.xml

Manual Automatic Options Tools ?

Identification General information Geographical area

Chief scientist Responsible party Ship operator Funding agency Collate center

Cruise Objectives and brief of cruise Ship Disciplines

Funding agency

Organisation name

Figure 96 - PCR - General information - Funding agency window

Mikado 2.1 SDN V2 Manual / PCR : C:\Michele\test_MIKADO\PCR\11020030.xml

Manual Automatic Options Tools ?

Identification General information Geographical area

Chief scientist Responsible party Ship operator Funding agency Collate center

Cruise Objectives and brief of cruise Ship Disciplines

Collate-centre

Organisation name * IFREMER / IDM/SISMER

SDWIdent (Organisation name) * SDN_EDMO : 486

Contact information

Phone +33 (0)2 98 22 49 16

Fax +33 (0)2 98 22 46 44

Address

Delivery point Centre IFREMER de Brest BP 70

City * PLOUZANE

Administrative area rpCnInfo : address of the responsible party (378)

Postal code 29280

Country * France

Email sismer@ifremer.fr

Website http://www.ifremer.fr/sismer/

Role

Author value * author

Figure 97 - PCR - General information - Collate centre window

10.1.6.3. Geographical information

This window is used to input geographical information such as sea areas (mandatory), textual description of the geographical location and/or geographical limits of the area.

Sea-area	SDNident
North East Atlantic Ocean (limit 40W)	SDN: C16.8.23a

Figure 98- PCR - Geographical location of the planned cruise

10.1.7. Manual SEISMIC SENSORML input

Specific CDI extensions (SensorML and O&M) have been adopted for seismic data that needs specific consideration (such as external viewing services, seismic line segmentation).

There are 7 main input tabs for the SensorML (Sensor Model Language) information:

- Overall infos about the seismic dataset
- Source type of the seismic dataset.
- Receiver type of the seismic dataset.
- Acquisitor.
- Capabilities of the seismic dataset.
- Documentation.
- Observation of the seismic dataset which is very important: it relates to the **SEISMIC O&M description**.

10.1.7.1. Overall information

The screenshot shows the 'Overall info' tab in the Mikado 2.3 SDN V2 software. The interface is organized into four sections, each with a 'Term URI' field, a 'Value' dropdown menu, and a 'definition' text area. The sections are: 'Seismic method' (Value: Seismic reflection), 'Dimensionality' (Value: Two-dimensional seismic), 'Data product' (Value: Field data: single-fold cor), and 'Overall quality' (Value: No quality control). All fields are marked with a red asterisk, indicating they are mandatory.

Figure 99: Overall information

This tab gives the main characteristics of the seismic dataset:

- Seismic method specifies if it is reflexion or refraction seismic data
- Dimensionality indicates if the dataset concerns 2D, 3D or 4D seismic data.
- Data product and Overall quality inform about the level of processing of the dataset.

All the parameters are mandatory.

10.1.7.2. Source of the seismic equipment

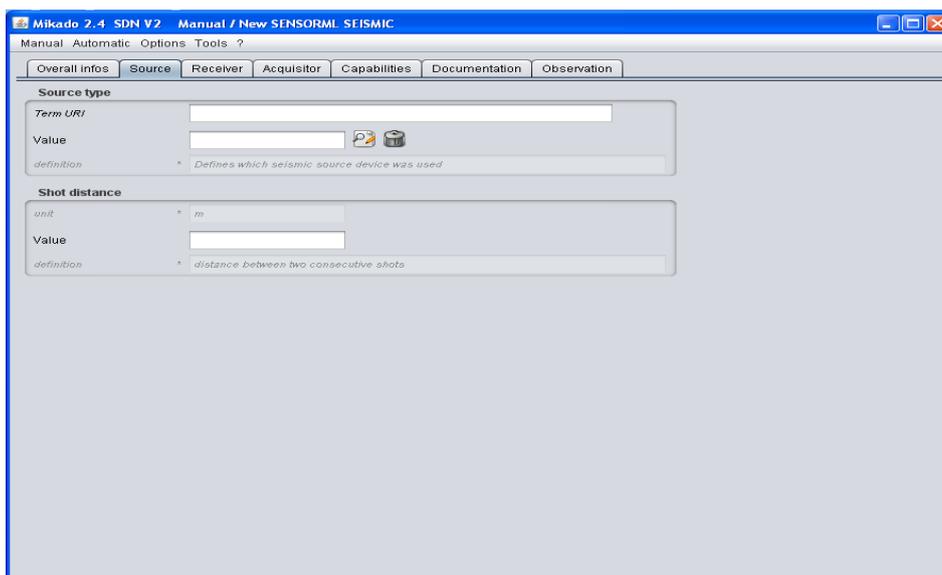


Figure 100: Source

This tab contains two recommended parameters regarding the source type of the seismic equipment and the shot distance.

10.1.7.3. Receiver of the seismic equipment

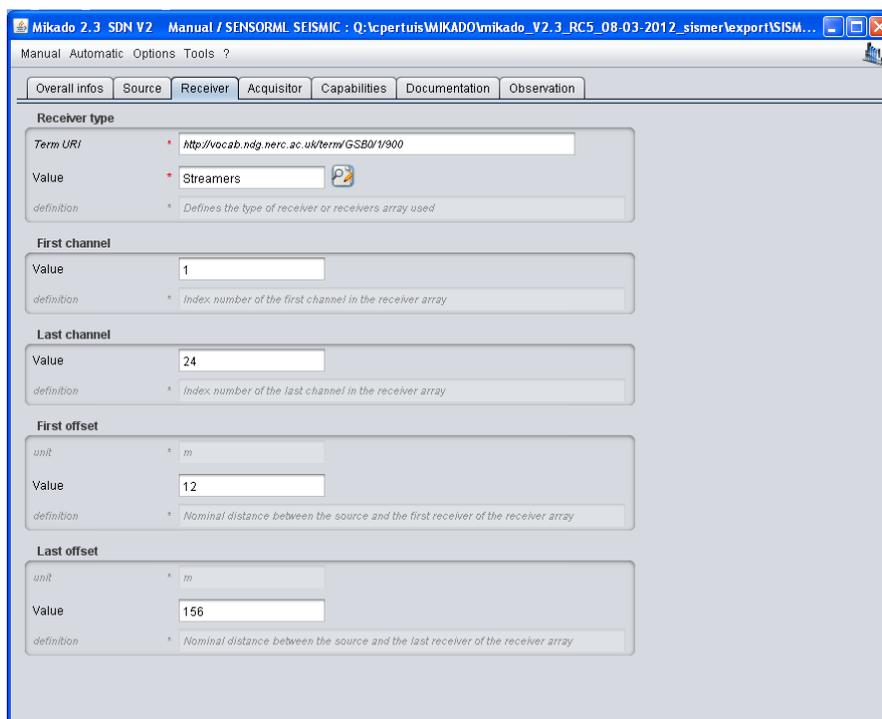


Figure 101: Receiver

Information about the first and last channel, and first and last offset are optional. A precise definition is indicated for each parameter in grey.

10.1.7.4. Acquisitor of the dataset

The screenshot shows the 'Acquisitor' tab in the Mikado 2.3 SDN V2 software. The window title is 'Mikado 2.3 SDN V2 Manual / SENSORML SEISMIC : Q:\cpertuis\MIKADO\mikado_V2.3_RC5_08-03-2012_sismer\export\SISM...'. The interface has a menu bar with 'Manual', 'Automatic', 'Options', and 'Tools'. Below the menu bar are tabs for 'Overall info', 'Source', 'Receiver', 'Acquisitor', 'Capabilities', 'Documentation', and 'Observation'. The 'Acquisitor' tab is active and contains three sections: 'Sampling interval', 'Samples per trace', and 'Recording delay'. Each section has a 'unit' label (microseconds), a 'Value' input field, and a 'definition' label. The 'Sampling interval' value is 1, 'Samples per trace' value is 4, and 'Recording delay' value is 1.

Figure 102: Acquisitor

This tab concerns information about the technical parameters during the acquisition of the seismic dataset. The recording delay parameter is not mandatory but recommended.

10.1.7.5. Capabilities of the dataset

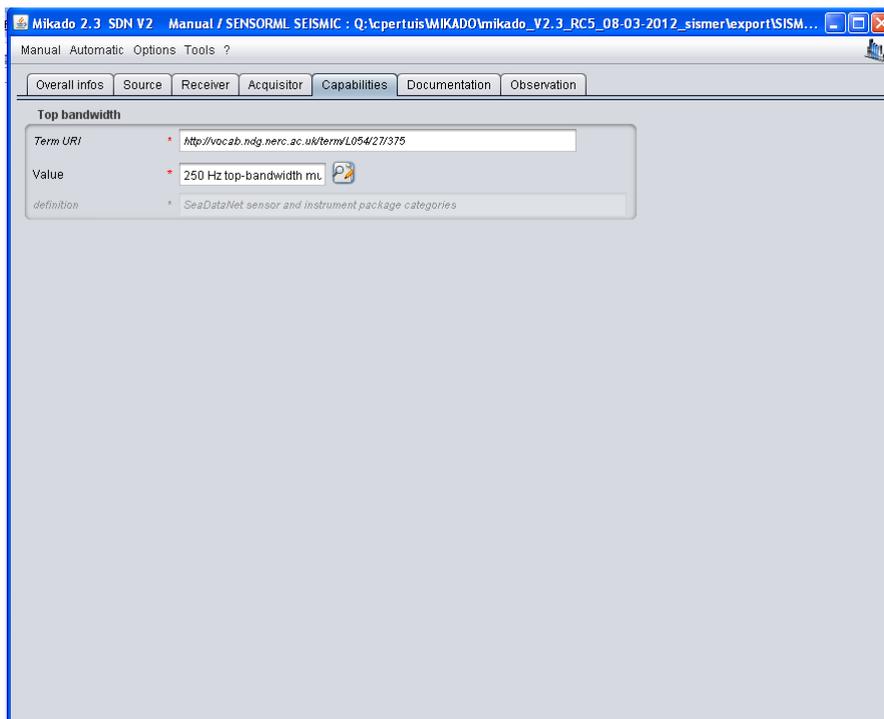


Figure 103: Capabilities

This mandatory parameter reports on the top bandwidth of the dataset and therefore on the resolution of the data.

10.1.7.6. Documentation

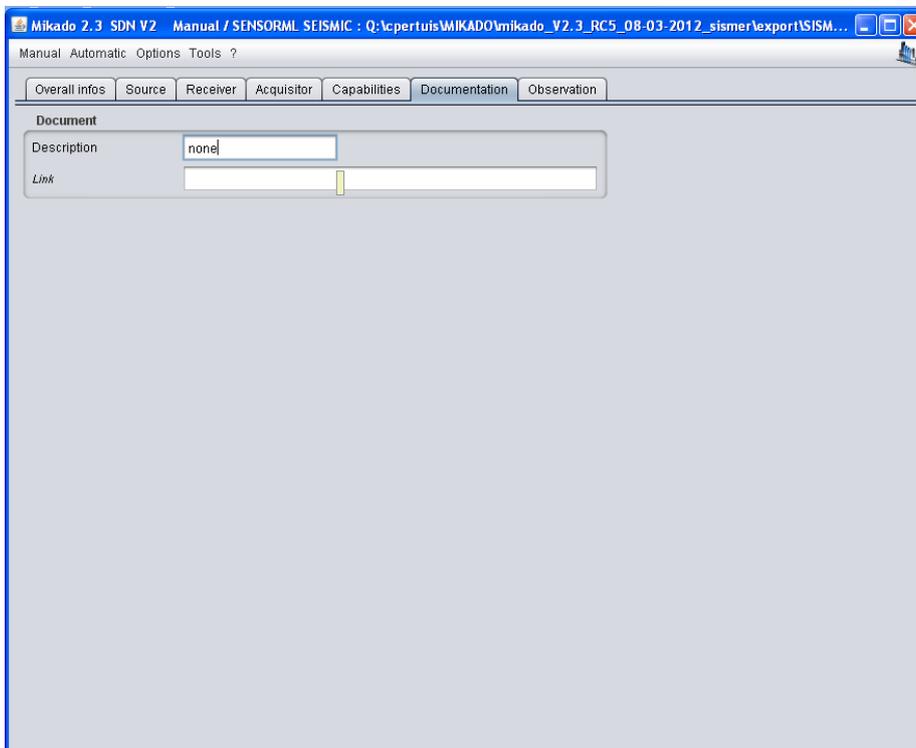


Figure 104: Documentation

Any available documentation about the dataset is welcome but not mandatory.

10.1.7.7. Observation

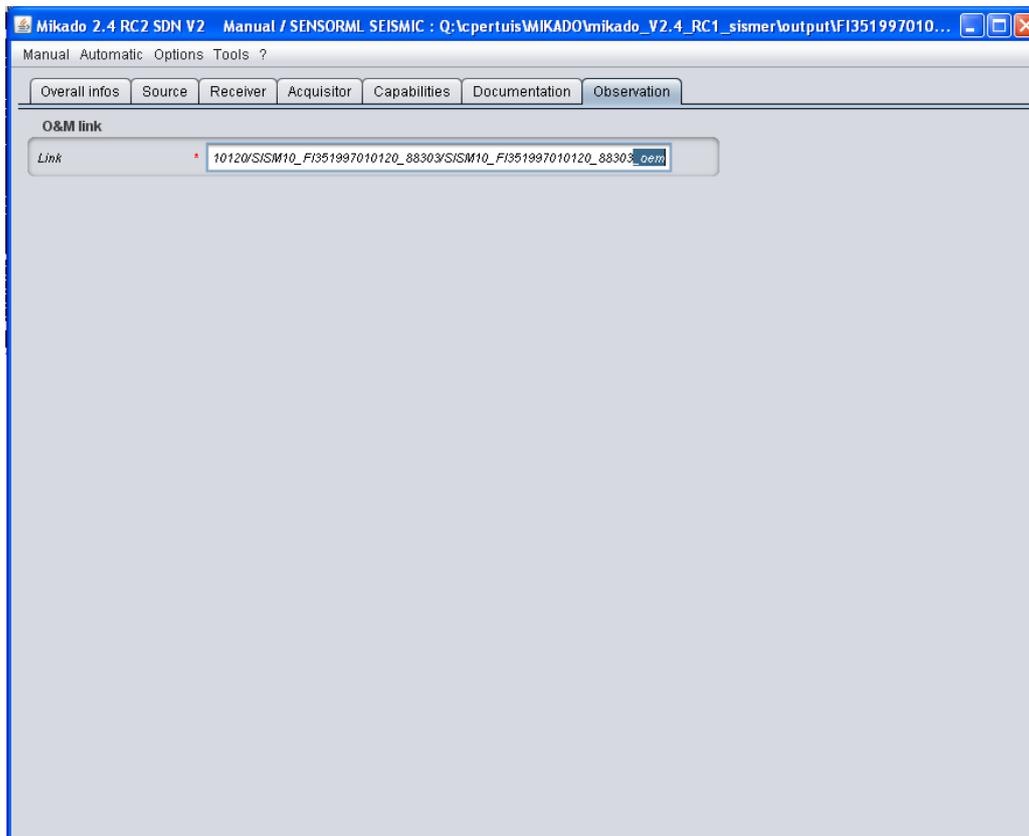


Figure 105: Observation

The observation is very important: it indicates the link to the SEISMIC O&M extension (external XML document). **This O&M file must end with ‘_oem’ for the good working of the High Resolution Seismic Viewing Service.**

10.1.7.8. SensorML style sheet path configuration

By default, Mikado generates the SensorML style sheet path in the root directory of the same website as where the xml can be retrieved, thus as follow: «../SMLtoHtml.xml».

If that path doesn't suit your file organisation, you can configure it by clicking on the Options tool bar and selecting the SML style sheet path option. You can either enter a relative path (../SMLtoHtml.xml) or a non-relative path (<http://diskABCD/SMLtoHtml.xml>).

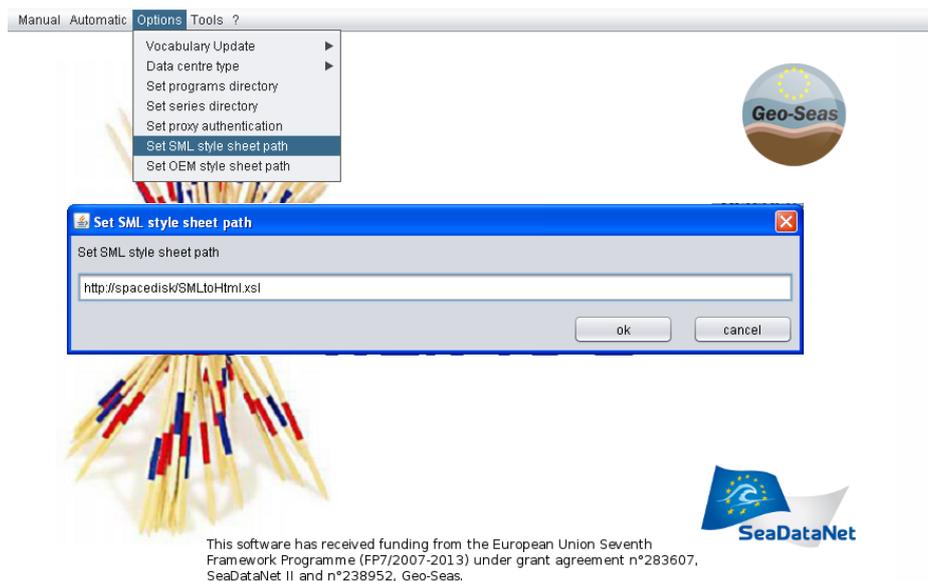


Figure 106: SensorML style sheet path configuration

10.1.8. Manual SESMIC O&M input

10.1.8.1. O&M fields

Specific CDI extensions (SensorML and O&M) have been adopted for seismic data that needs specific consideration (such as external viewing services, seismic line segmentation).

There is one main input for the SEISMIC O&M information (Figure 100):

- Section id of the the O&M which is **very important and the ID must be a UNIQUE LOCAL identifier. Because the LOCAL_ID is vital for the updating process, it is through this LOCAL_ID that the central system will be able to recognise whether new contributions are updates of existing records or really new records.**

This O&M file must end with ‘_oem’ for the good working of the High Resolution Seismic Viewing Service.

- Description of the dataset
- Envelope: indicates the lower and upper corner of the dataset. Definition is given in comment
- Related observation (Figure 102)
- UKOOA Link is not mandatory but very important as this is the seismic navigation file that will be used by the seismic viewer.

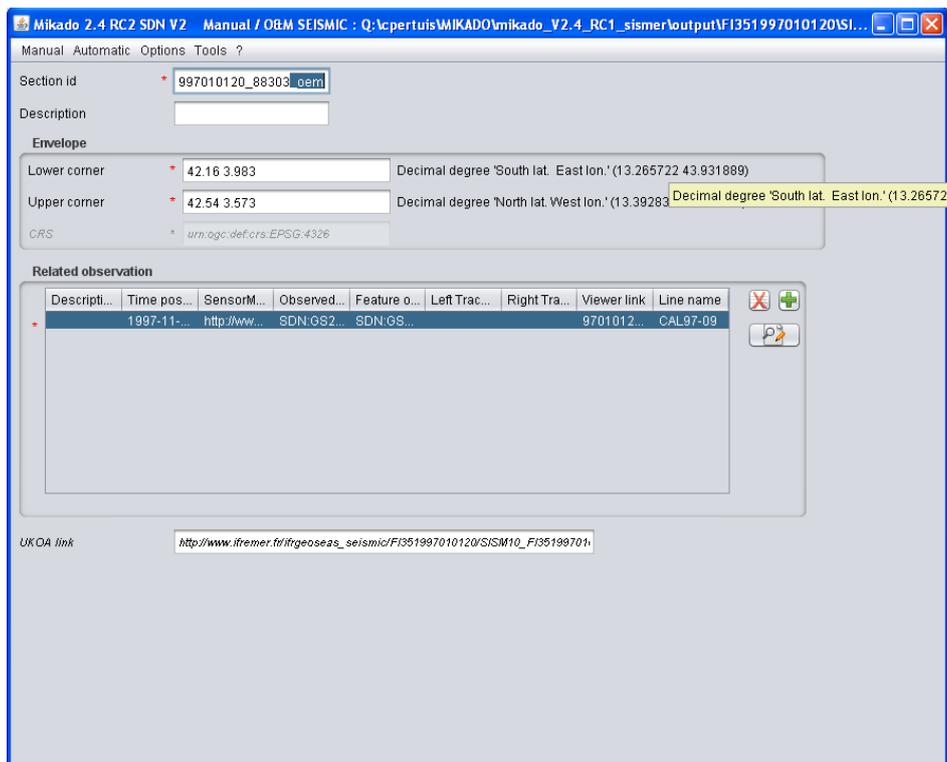


Figure 107 : SEISMIC O&M

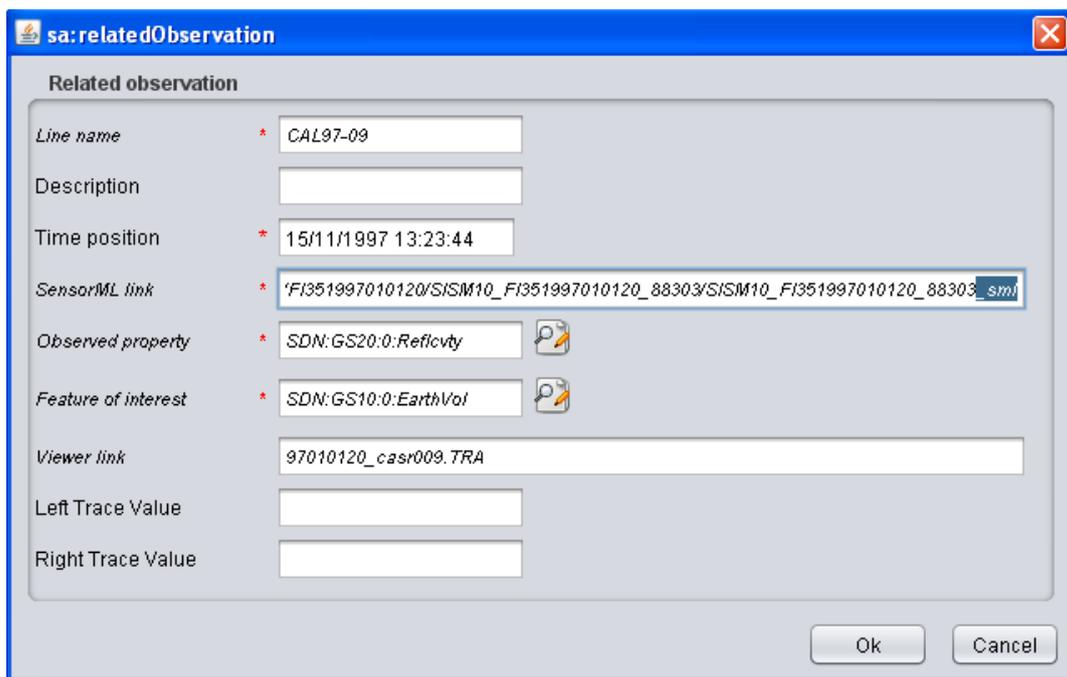


Figure 108: Related Observation

For more coherence between O&M and SensorML files, it is recommended to end the SensorML file with '_sml'.

Observed property* (GS10): put EarthVol (waiting for BODC update)

Feature of interest* (GS20): put Reflcvty (waiting for BODC update)



sdn-userdesk@seadatanet.org – www.seadatanet.org

SeaDataNet - The pan-European infrastructure for marine and ocean data management

Viewer link: put the name of your file (segy or image) without any URL. The extension of the file name can be anything (but has to be in SEG-Y standard format)

Left trace value: trace number of the left of the segment

Right trace value: trace number of the right of the segment

These 2 values are used by the HRSVS to link a segment made of an image and the navigation. **These values don't need to be set in case of a SEG-Y file**

10.1.8.2. OEM style sheet path configuration

By default, Mikado generates the O&M style sheet path in the root directory of the same website as where the xml can be retrieved, thus as follow: «../OeMtoHtml.xml».

If that path doesn't suit your file organisation, you can configure it by clicking on the Options tool bar and selecting the OEM style sheet path option. You can either enter a relative path (../OeMtoHtml.xml) or a non-relative path (<http://diskABCD/OeMtoHtml.xml>).

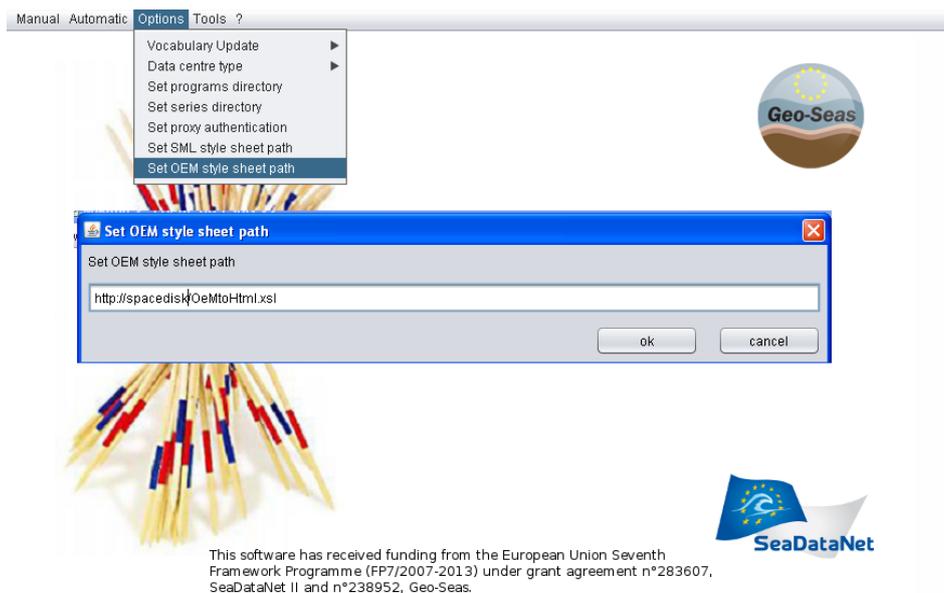


Figure 109: OEM style sheet path configuration

10.2. Open and save an existing XML description

10.2.1. Existing XML file

It is possible to open an existing XML file using MIKADO. To do so, select **Open** in the **Manual** main menu then choose **file** and then EDMED, CSR, CDI or EDMERP. Then, select the XML file to open.

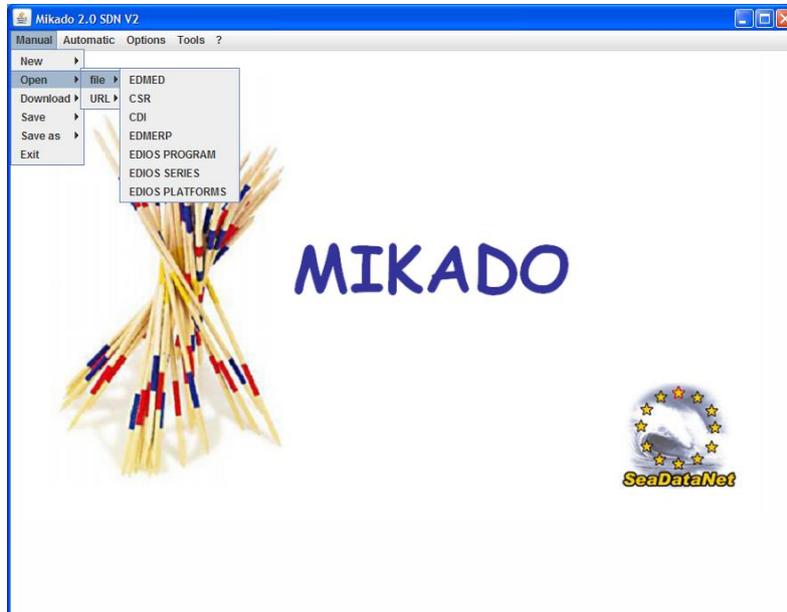


Figure 110: Open an XML file with MIKADO

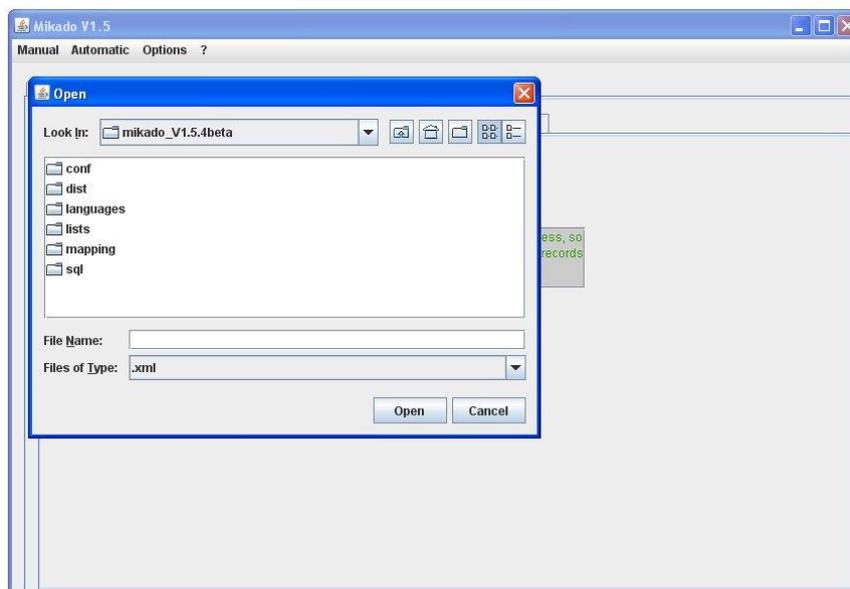


Figure 111 : Select the XML file to open

Update your information using the MIKADO interface and save your modifications by selecting **Save/file** or **Save as/file** in the **Manual** main menu.

Note: under MIKADO V1.8, you could open an existing XML file created with a previous version MIKADO (without GML extension for exemple) without problem. You will just have to complete some fields (as “protocol” in Where to find data tab).

10.2.2. Working with XML URL

10.2.2.1. Open the URL

It is possible to open an existing XML URL using MIKADO. To do so, select **Open** in the **Manual** main menu then choose **URL** and then EDMED, CSR, CDI or EDMERP.

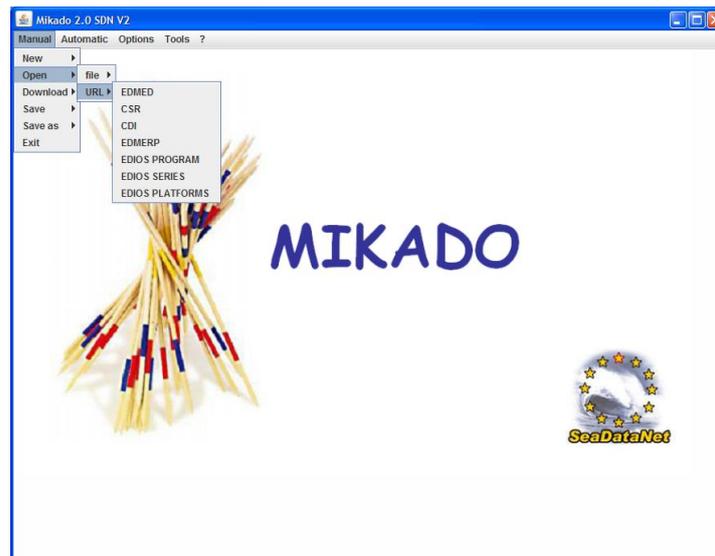


Figure 112- Open an URL with MIKADO

Then, type the URL (static or on the fly) of and XML description of the chosen catalogue.



Figure 113- Enter the URL of the XML description

10.2.2.2. Save on the URL

Update your information using the MIKADO interface and save your modifications by selecting **Save/URL stream for Web service** or **Save as/ URL stream for web service** in the **Manual** main menu.

When you activate the “Manual / Save as / URL stream for Web Service” menu item, you get a popup window in which you enter the restful web service URL.



Figure 114- Enter the URL of the restful web-service

When you activate the Send button, the XML stream is sent to the restful web service as input stream.

Mikado software expect an answer stream from the restful web service, this answer string will be displayed in a popup window to inform the user about the restful web service end of execution.

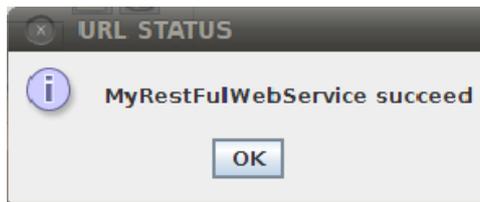


Figure 115- Message returned by the restful Web-service

10.2.2.3. Example of Java servlet

This servelt implements a web-service able to read the XML metadata flow sent by MIKADO:

```
package my.restfull.webservice;

import java.io.BufferedReader;
import java.io.IOException;
import java.io.InputStreamReader;
import java.io.PrintWriter;
import javax.servlet.ServletException;
import javax.servlet.http.HttpServlet;
import javax.servlet.http.HttpServletRequest;
import javax.servlet.http.HttpServletResponse;

/** JAVA restfull web service sample for mikado.
 * You can use the menu Mikado/Save/URL Stream for Web Service
 * with an URL like http://www.myserver:8080/MyRestFulWebService/MyRestFulWebService
 *
 * @author Michel.Larour@ifremer.fr
 */
public class MyRestFulWebService extends HttpServlet {

    /**
     * Processes requests for both HTTP <code>GET</code> and <code>POST</code>
     methods.
     * @param request servlet request

```



```

    * @param response servlet response
    * @throws ServletException if a servlet-specific error occurs
    * @throws IOException if an I/O error occurs
    */
    protected void processRequest(HttpServletRequest request, HttpServletResponse
response)
        throws ServletException, IOException {

        try
        {
            // open xml stream sent by mikado
            BufferedReader in = new BufferedReader(
                new InputStreamReader(
                    request.getInputStream()));

            // read xml stream sent by mikado line per line
            String inputLine;
            while ((inputLine = in.readLine()) != null)
            {
                // TO DO
                // work with stream
                log(inputLine); // eg : write stream to tomcat log file
            }
            // close xml stream sent by mikado
            in.close();

            // send an execution report to mikado
            PrintWriter out = response.getWriter();
            out.println("MyRestFulWebService succeed");
            out.close();
        }
        catch(Exception ex)
        {
            // send an execution error report to mikado
            PrintWriter out = response.getWriter();
            out.println("MyRestFulWebService failed : "+ex.getMessage());
            out.close();
        }
    }
    /**
    * Handles the HTTP <code>GET</code> method.
    * @param request servlet request

```

```

    * @param response servlet response
    * @throws ServletException if a servlet-specific error occurs
    * @throws IOException if an I/O error occurs
    */
    @Override
    protected void doGet(HttpServletRequest request, HttpServletResponse response)
    throws ServletException, IOException {
        processRequest(request, response);
    }

    /**
     * Handles the HTTP <code>POST</code> method.
     * @param request servlet request
     * @param response servlet response
     * @throws ServletException if a servlet-specific error occurs
     * @throws IOException if an I/O error occurs
     */
    @Override
    protected void doPost(HttpServletRequest request, HttpServletResponse response)
    throws ServletException, IOException {
        processRequest(request, response);
    }

    /**
     * Returns a short description of the servlet.
     * @return a String containing servlet description
     */
    @Override
    public String getServletInfo() {
        return "My restful Web Service";
    }
}

```

10.3. Download EDMED record from BODC

MIKADO V1.5 includes a functionality to download EDMED records from the EDMED central catalogue managed by BODC. This functionality allows you to download one of your EDMED records and to update it before sending it again to the EDMED central catalogue.

To download an EDMED record:

- 1- Select **Download > EDMED from BODC** in the **Manual** main menu.





Figure 116: Download EDMED from BODC

- 2- Fill in the local Dataset-id and the Collate centre fields for the EDMED entry you want to download and click on **Download** button.

Manual / Download / EDMED from BODC

Dataset-id * ADCP01

EDMED identifier * SDN:EDMED:LOCAL:ADCP01

Collate-centre

Organisation name * IFREMER / IDM/SISMER

SDN:Ident (Organisation name) * SDN:EDMO:486

Contact information:

Phone +33 (0)2 98.22.49.16

Fax +33 (0)2 98.22.46.44

Address

Delivery point Centre IFREMER de Brest BP 70

City * PLOUZANE

Administrative area

Postal code 29280

Country * France

Email sismer@ifremer.fr

Website

http://www.ifremer.fr/sismer/

Role

Author value * author

Download Cancel

Figure 117: Select the EDMED entry to download

- 3- MIKADO will open the downloaded EDMED record in its EDMED manual interface. It is now possible to update it and save it (see 10.1.1) before sending it again to the EDMED central catalogue.

Note that when downloading from BODC the LOCAL EDMED identifier has been replaced by the CENTRAL EDMED identifier (*in the example SDN:EDMED:LOCAL:ADCP01 us replaced by SDN:EDMED::3025*), so that BODC is able to recognize and updated record from a new one when the XML is sent back to BODC.

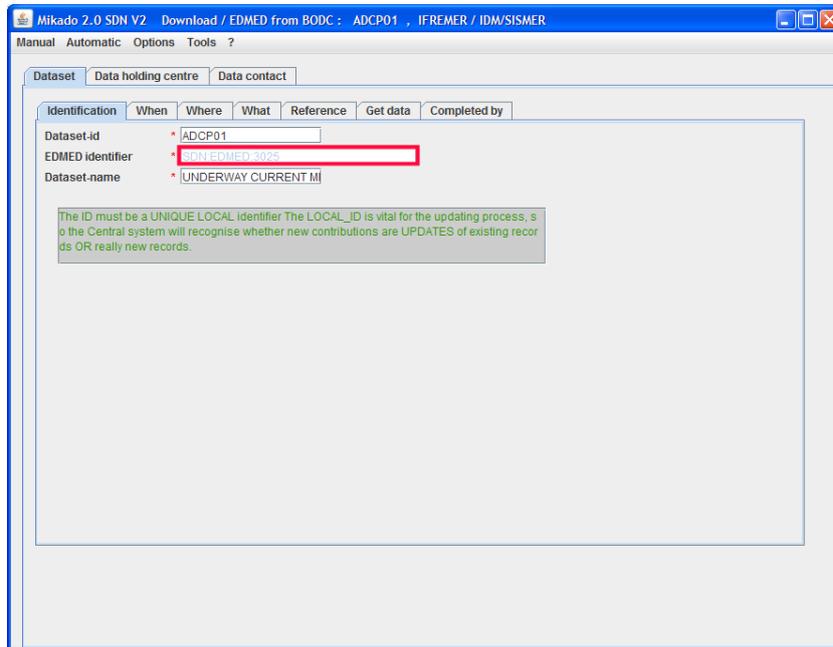


Figure 118: Downloaded EDMED record

10.4. Download CSR record from BSH

MIKADO includes a functionality to download CRS records from the CSR central catalogue managed by BSH. This functionality allows you to download one of your CSR records and to update it before sending it again to the CSR central catalogue.

To download a CSR record:

1. Select **Download > CSF from BSH** in the **Manual** main menu.



Figure 119: Download CSR from BSH

- Fill in the local CSR-id and the Collate centre fields for the CSR record you want to download and click on **Download** button.

Manual / Download / CSR from BSH

CSR-id * FI352009010010

CSR Identifier * SDN:EDMED.LOCAL:FI352009010010

Collate-centre

Organisation name * IFREMER / IDM/SISMER

SDN:ent (Organisation name) * SDN:EDMO:486

Contact information

Phone +33 (0)2 98.22.49.16

Fax +33 (0)2 98.22.46.44

Address

Delivery point Centre IFREMER de Brest BP 70

City * PLOUZANE

Administrative area

Postal code 29280

Country * France

Email sismar@ifremer.fr

Website http://www.ifremer.fr/sismar/

Role

Author value * author

Download Cancel

Figure 120: Select the CSR entry to download

- MIKADO will open the downloaded CSR entry in its CSR manual interface. It is now possible to update it and save it (see 10.1.2) before sending it again to the CSR central catalogue.

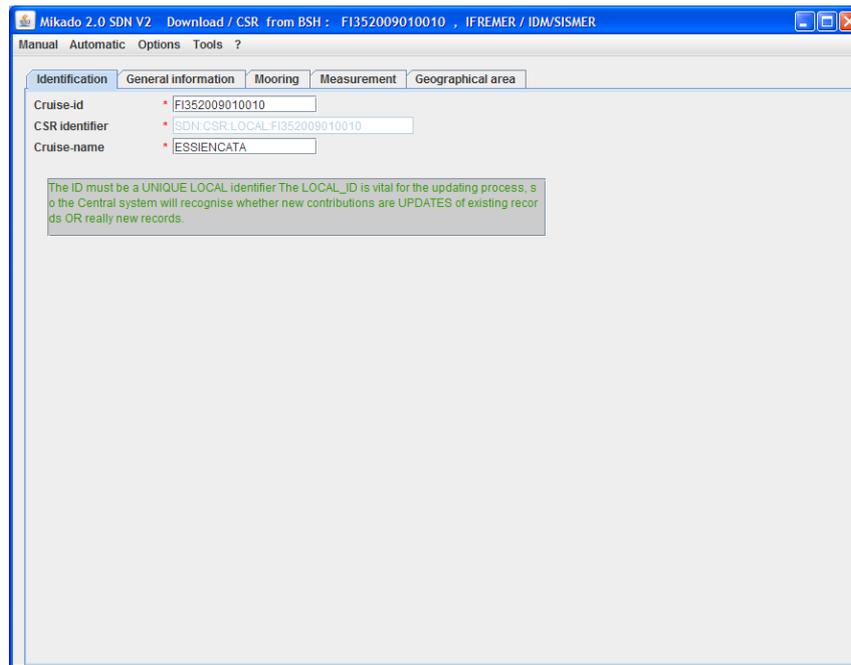


Figure 121: Downloaded CSR record

10.5. Conversion ISO19115 to ISO19139 XML files

MIKADO is still able to read (import) CDI/CSR ISO 19115 files and save them as ISO 19139 XML files for data centres to upgrade their existing local XML files. To do so, go to Manual > Open (CDI or CSR), then Save.

In CDI ISO 19139, the “Sampling interval” or “Time resolution” field uses now P06 “BODC data storage units” vocabulary list instead of L031 “SDN Measurement Periodicity Categories » previously used in CDI ISO 19115. So, to convert CDI ISO 19115 to CDI ISO 19139, MIKADO uses a mapping matrix that has been defined in the SeaDataNet CDI profile document available at: <https://www.seadatanet.org/Standards/Metadata-formats/CDI>

11. Automatic generation of EDMED, CSR, CDI, EDMERP, EDIOS, SESIMIC SENSORML and SEISMIC O&M XML files

11.1. General principle

Instead of manually typing information using the forms provided by the tool, in order to describe EDMED, CSR, CDI, EDMERP, EDIOS, SESIMIC SENSORML or SEISMIC O&M, the Mikado software is also able to generate these descriptions automatically if elementary information are catalogued in a relational database which can be queried with SQL language through a JDBC driver (Java Data Base Connectivity).

JDBC drivers are available for most popular relational database management system: ORACLE, Microsoft Access, Open Office (base), Microsoft SQLServer, MySQL, POSTGRES, Sybase... Please refer to the web site <http://developers.sun.com/product/jdbc/drivers> for more information.

If the driver you want to use is not released in MIKADO, you can download it from ad hoc websites and copy it in the `dist/lib MIKADO` directory.

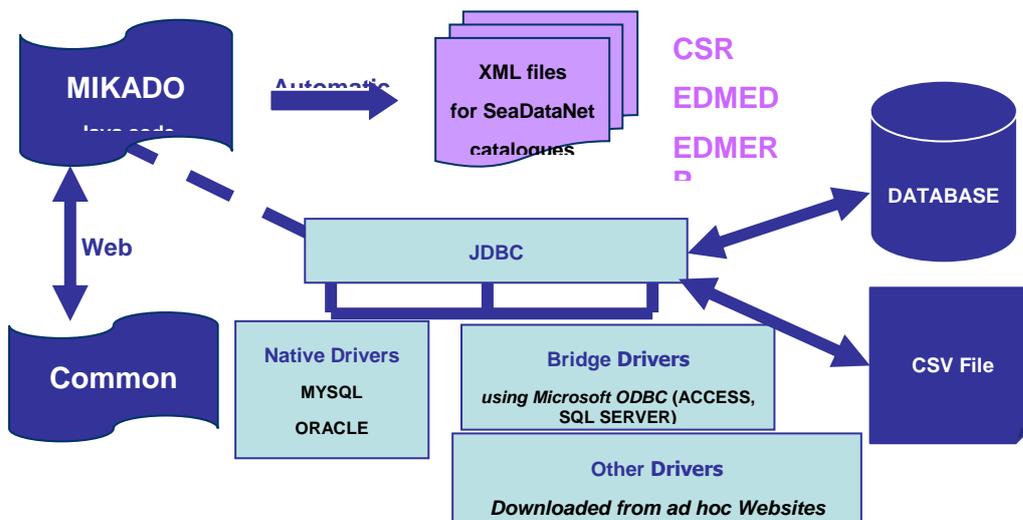


Figure 122: MIKADO - Automatic way

The different steps of MIKADO automatic version are:

- Configuration of the tool:
 - o Definition of the connection parameters to access the local database
 - o Definition of the queries to retrieve the information in the local database.

- Saving of the configuration and the queries.
- Generation of the XML files.

11.2. Configuration of the tool

MIKADO provides a help for JDBC connection – connection checking and SQL query writing – query checking.

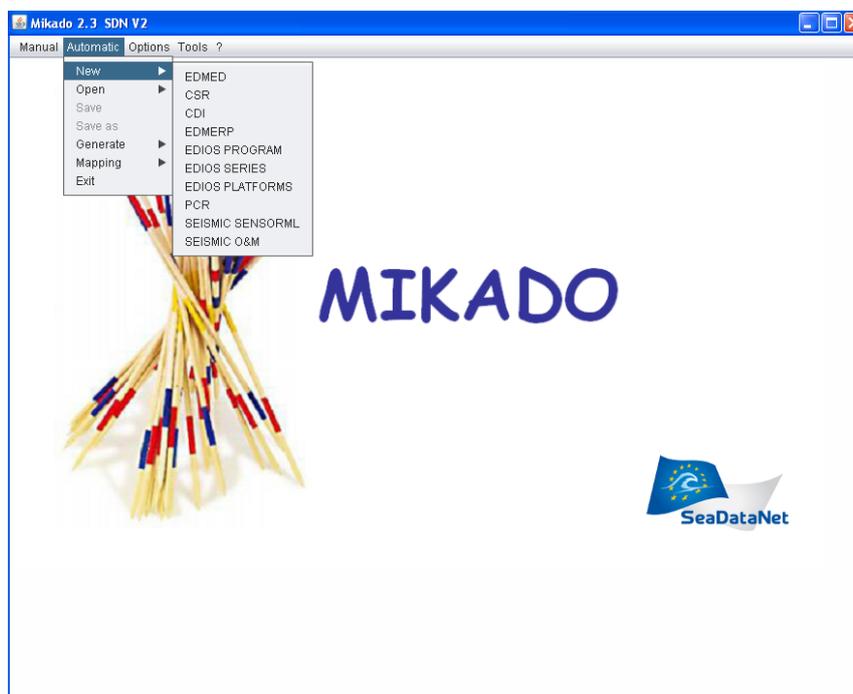


Figure 123: Automatic menu

11.2.1. Create a new configuration

To create a new configuration (connection to the database + queries), select **New** in the **Automatic** main menu and choose EDMED, CSR, CDI EDMERP, EDIOS PROGRAM, EDIOS SERIES, EDIOS PLATFORM, SEISMIC SENSORML or SEISMIC O&M.

There are 2 tabs which enable to input information about:

- Connection to the database
- Queries.

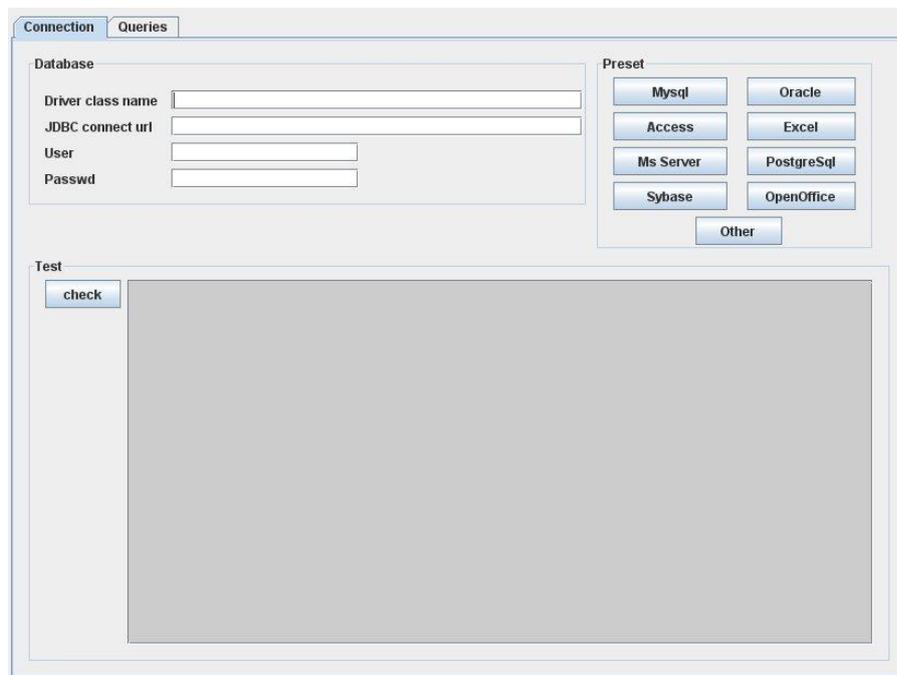


Figure 124: New configuration

11.2.1.1. Define the JDBC connection parameter

- 1 - Choose the database management system by clicking on the corresponding button.

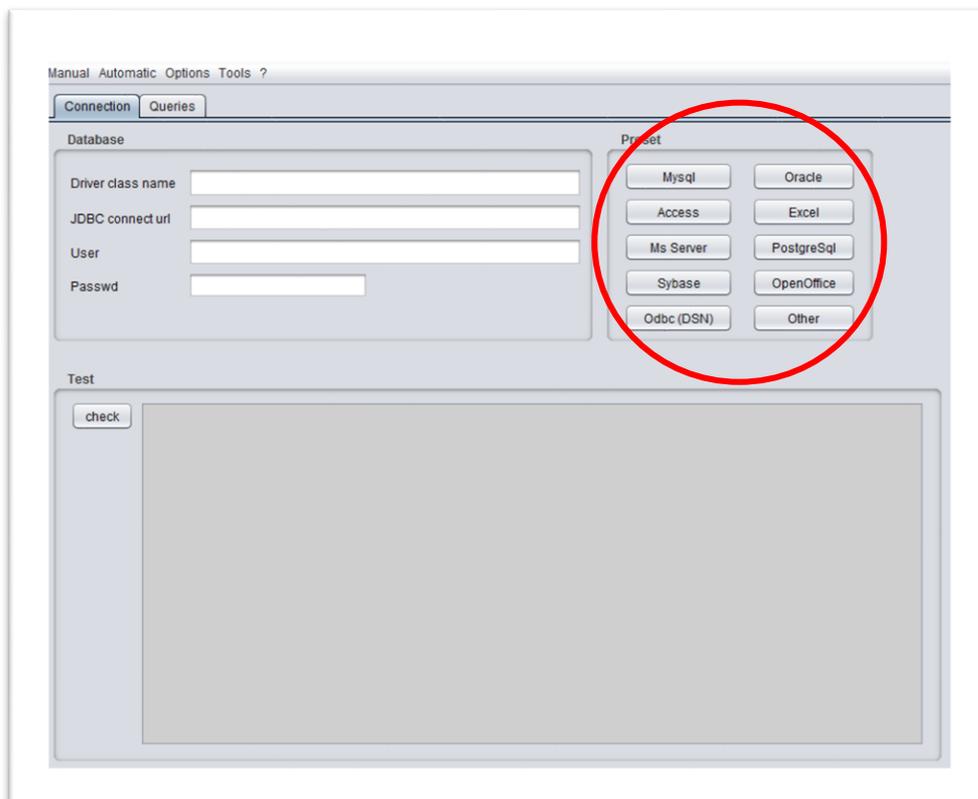


Figure 125: Connection interface- Select the database management system

2 - Complete or replace the pre-filled JDBC connect URL field (URL of database, user name and password if required by your database). **Please, do not modify the driver class name field.**

If you have chosen the “Other” button to define another database management system, you will have to fulfill the **JDBC connect URL** field and also the driver class name field to connect to your database (make sure that the driver file is saved in the **dist/lib** MIKADO directory).

Database	
Driver class name	<input type="text" value="com.mysql.jdbc.Driver"/>
JDBC connect url	<input type="text" value="jdbc:mysql://localhost/database"/>
User	<input type="text"/>
Passwd	<input type="text"/>

Figure 126: Pre-filled connection parameters for MySQL

Database	
Driver class name	<input type="text" value="oracle.jdbc.driver.OracleDriver"/>
JDBC connect url	<input type="text" value="jdbc:oracle:thin:@server:port:instance"/>
User	<input type="text"/>
Passwd	<input type="text"/>

Figure 127: Pre-filled connection parameters for Oracle

Database	
Driver class name	<input type="text" value="com.microsoft.jdbc.sqlserver.SQLServerDriver"/>
JDBC connect url	<input type="text" value="jdbc:sqlserver://serverName;instanceName:portNumber;property=va"/>
User	<input type="text"/>
Passwd	<input type="text"/>

Figure 128: Pre-filled connection parameters for SQLServer

Database	
Driver class name	<input type="text" value="org.postgresql.Driver"/>
JDBC connect url	<input type="text" value="jdbc:postgresql://server/instance"/>
User	<input type="text"/>
Passwd	<input type="text"/>

Figure 129: Pre-filled connection parameters for PostgreSQL

Database	
Driver class name	com.sybase.jdbc3.jdbc.SybDriver
JDBC connect url	jdbc:sybase:Tds:server:port/instance[?charset=]
User	
Passwd	

Figure 130 : Pre-filled connection parameters for Sybase

For Sybase database connection, the part [?charset=] of the **JDBC connect URL** is optional and allows to choose the right set of characters.

Ex : jdbc:sybase:Tds:wallis:7545/quadrige?charset=iso_1

Database	
Driver class name	org.hsqldb.jdbcDriver
JDBC connect url	jdbc:hsqldb:mem:example_database;cdi_bathymetry.odb
User	SA
Passwd	

Figure 131: Pre-filled connection parameters for Open Office Base

Figure 132: Access: select the database file

Database	
Driver class name	sun.jdbc.odbc.JdbcOdbcDriver
JDBC connect url	jdbc:odbc:example_database;cdi_training_course_2.mdb
User	
Passwd	

Figure 133: Pre-filled connection parameters for Access

3- Check the database connection using the **Check** button.

If MIKADO cannot connect to the database: check connection parameters, user and password. For Microsoft Access, check ODBC parameters too. Refer to your database and JDBC driver documentation.

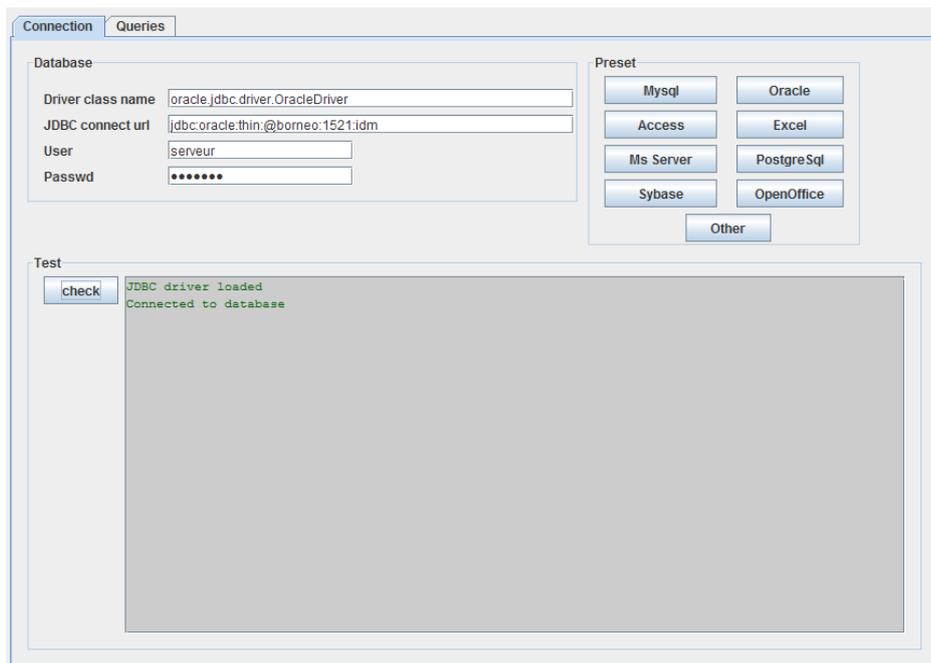


Figure 134: Successful connection to the database- Green message

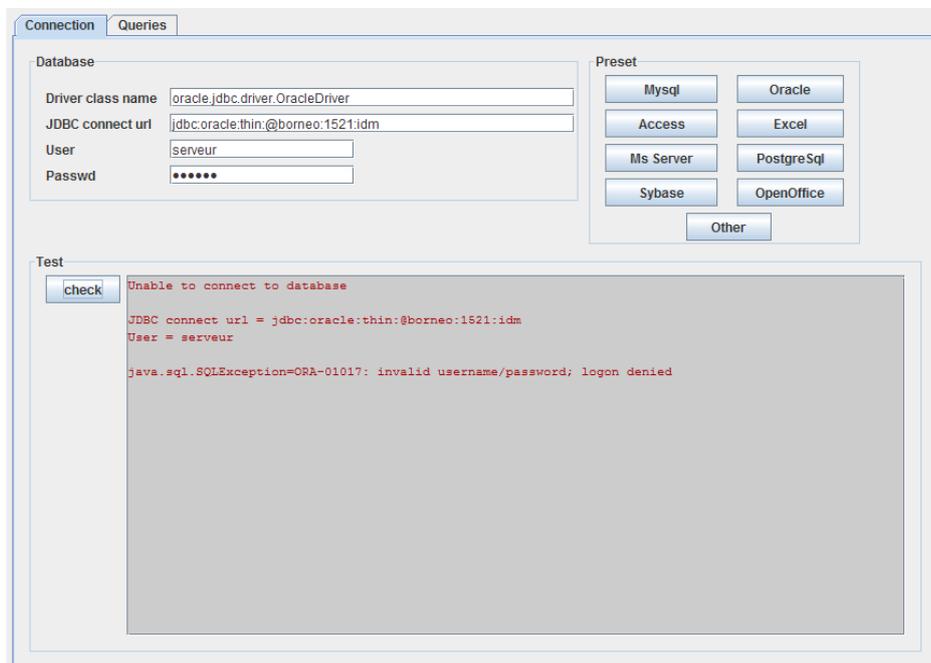


Figure 135: Unable to connect the database – Red message

11.2.1.2. Define the queries

The MIKADO interface for writing queries is divided into 3 parts:

- An expandable tree
- A frame for query writing
- A frame for query checking.

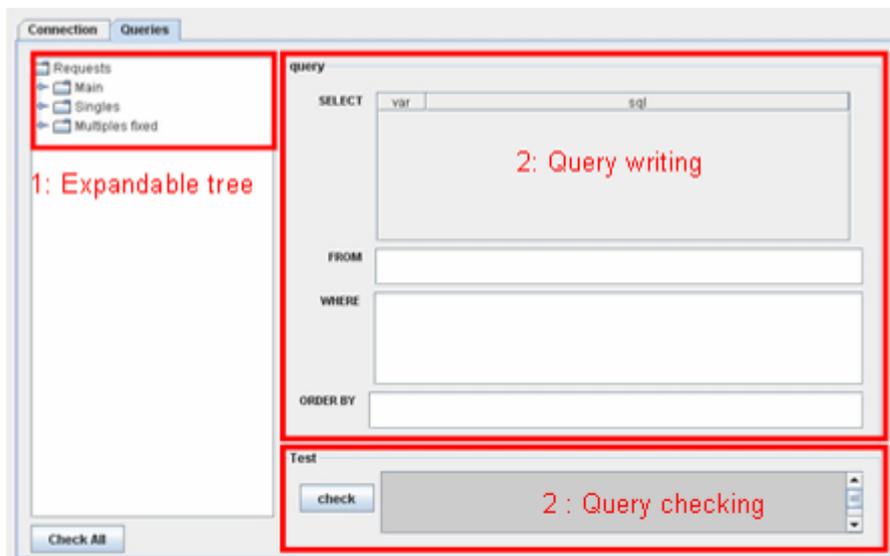


Figure 136 : Queries interface



Figure 137: Query frame: SELECT, FROM, WHERE, ORDER BY frames

The query frame can be divided into 4 sub-frames: SELECT, FROM, WHERE, ORDER BY. The free text frames (FROM, WHERE, ORDER BY) can be completed directly by typing in them. The SELECT frame works as in a free text table (see 9.1.1).

The expandable tree on the left part of the interface makes it possible to explore the different variables by expanding the tree. In order to navigate in this tree, you have to click on the names of the nodes. After clicking, the corresponding query appears in the right part of the interface, in the 'Query' frame. And these queries can be checked using the query checking frame.

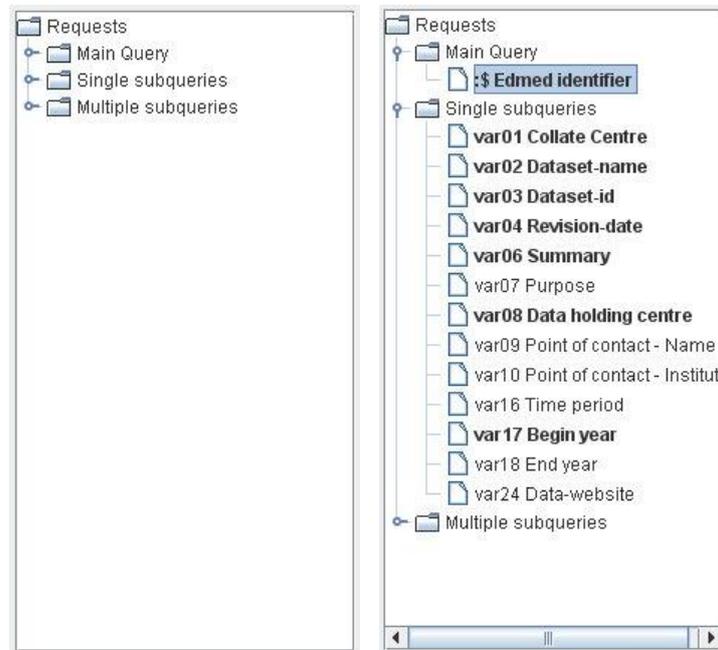


Figure 138: Expandable tree

MIKADO distinguishes different kinds of queries:

- the **main query**: It is the query which identifies all EDMED, CSR, CDI or EDMERP entries that must be exported. This request must return only one column which is the identifier (primary key) of each entry and that will be used for sub-queries. The returned identifiers could be numerical or textual.
- the **single subqueries**: These queries return **only one** row for one identifier returned in the main query.
- the **multiple subqueries**: These queries return **1 to n** rows for one identifier returned in the main query.

The character '\$' indicates the identifier of the entry as it as been returned by the main query. **One identifier symbol must be used in each sub-query WHERE condition to identify the entry within the**

list. It will be automatically replaced by the current identifier in the list. If identifiers are non numerical, :\$ must be enclosed by quotes (':\$')

```
select station_name from mikafdo_station
where station_id = :$ (or ':'$' if non numerical)
```

For all these queries, the SQL syntax (for Oracle, MySQL ...) and SQL variables must be adapted to your own data base.

11.2.1.3. Main query

- 1- Click on the main variable in the expandable tree.
- 2- Fulfil the main query in the query frame.
- 3- Check the query using the check button (see 11.2.1.4).

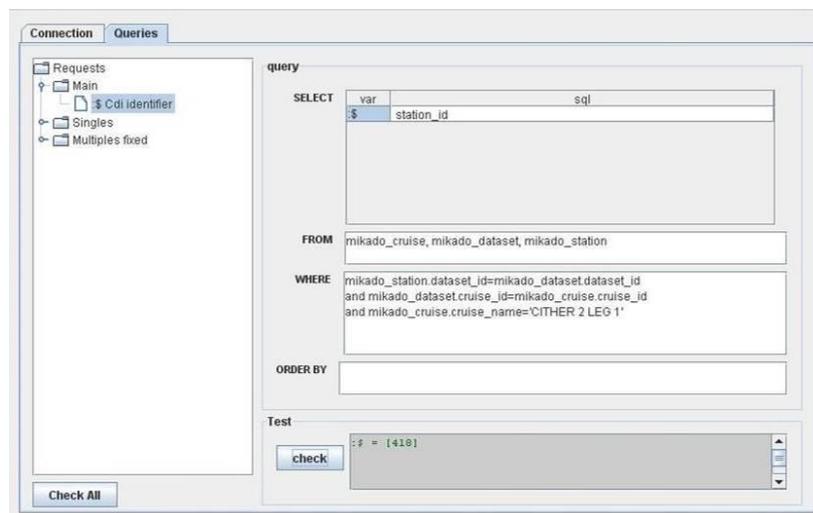


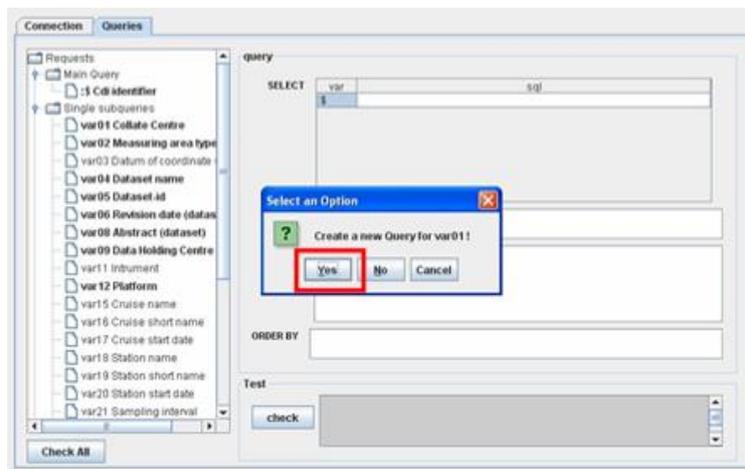
Figure 139 : Main query

11.2.1.3.1. Single subqueries

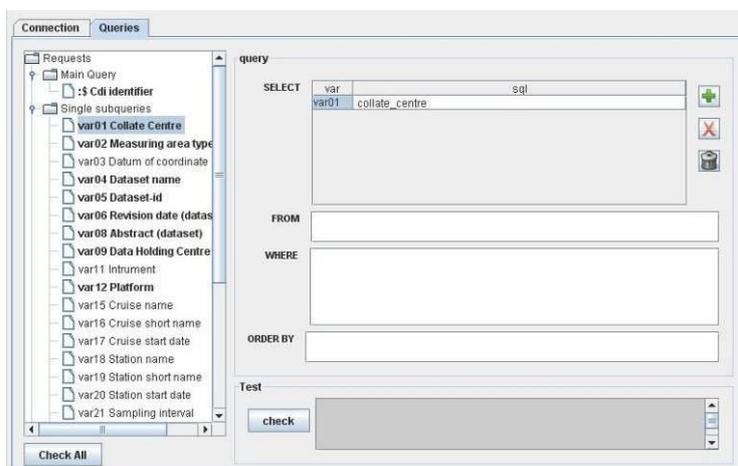
All the XML variables are listed in the expandable tree. The mandatory ones are written in bold characters: they must be fulfilled, null values are not allowed for mandatory variables. One to n single subqueries can be written, each of which can contain as many variables as necessary. Once a variable has been fulfilled, it is highlighted in green in the expandable tree.

To create a single query:

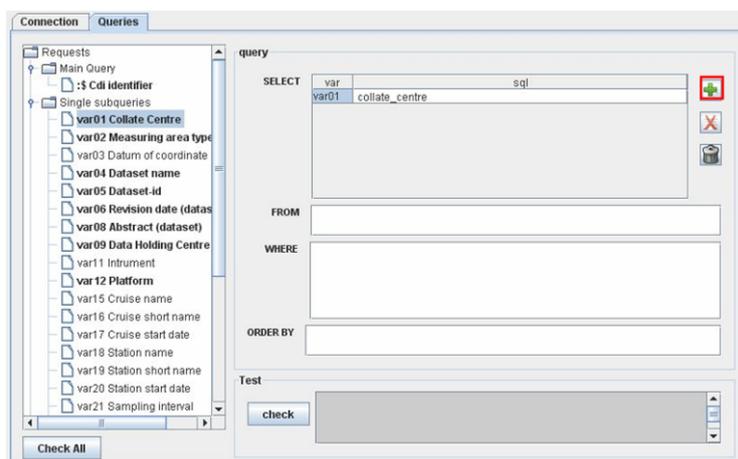
- 1- Select the first variable in the expandable tree to create a new query,



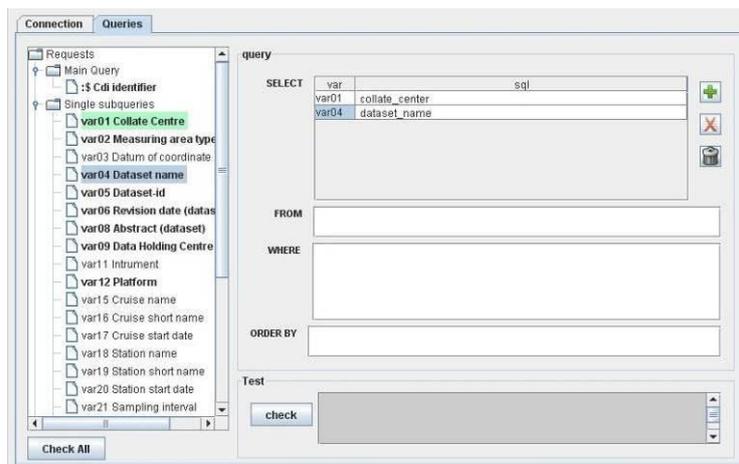
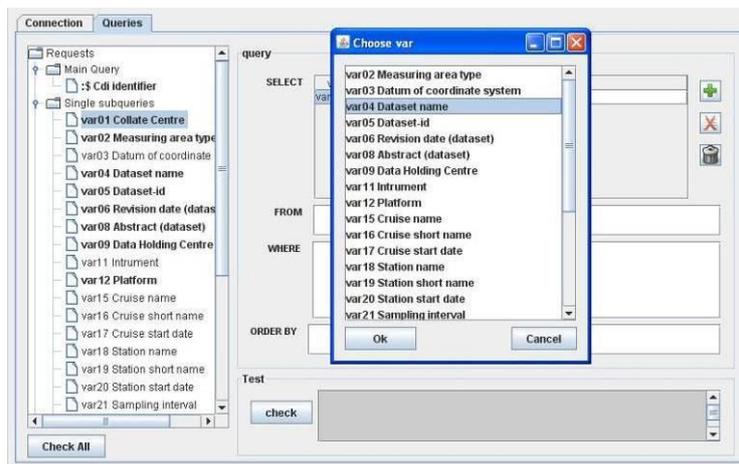
2- Complete the corresponding SELECT for this variable in the query frame,



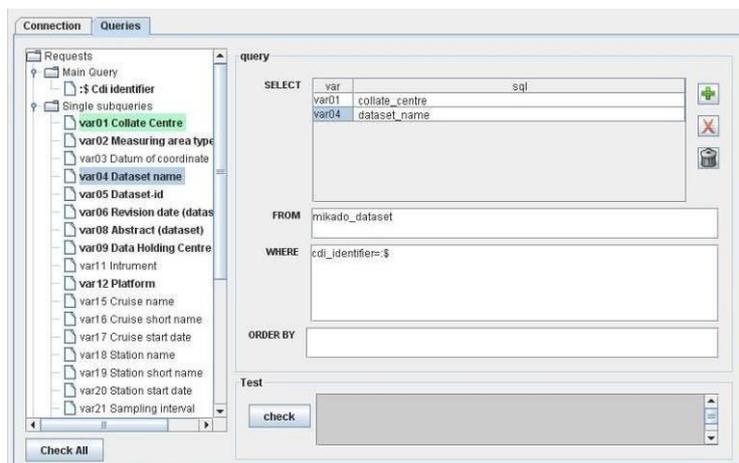
3- If needed, add another variable by clicking on the  button



4- Choose the second variable in the list then press OK and complete the SELECT clause for this variable and so on, as many time as you need to add variable in the query,



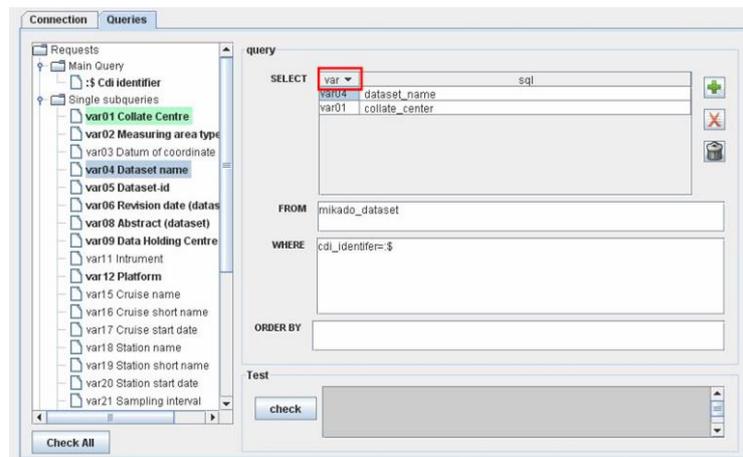
5- Fulfil the FROM, WHERE and ORDER BY clauses of the query.



Don't forget that one identifier symbol ('\$') must be used in each sub-query WHERE condition to identify the entry within the list. It will be automatically replaced by the current identifier in the list.



It is possible to sort the different variables of a particular query. To do so, click on the 'var' column; an arrow will appear allowing you to sort the variables by clicking on it:



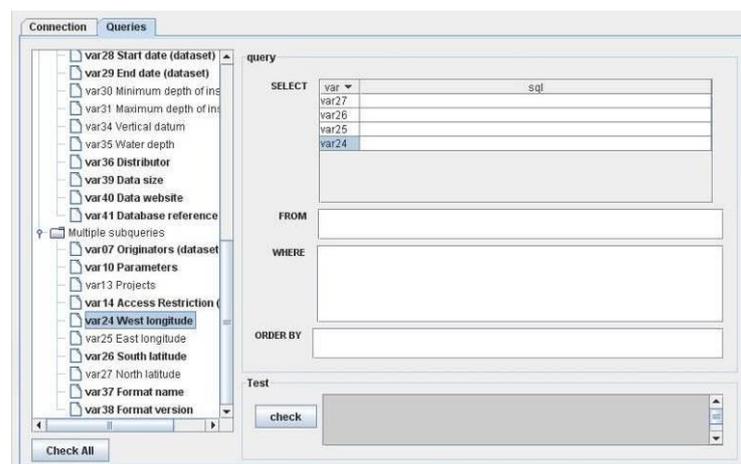
6- Check the query using the checking frame (see 11.2.1.4).

11.2.1.3.2. Multiple subqueries

All the XML variables are listed in the expendable tree. The mandatory ones are written in bold characters: they must be fulfilled, null values are not allowed for mandatory variables. The number of multiple queries and the list of variables per queries are pre-defined. Once a variable has been fulfilled, it is highlighted in green in the expendable tree.

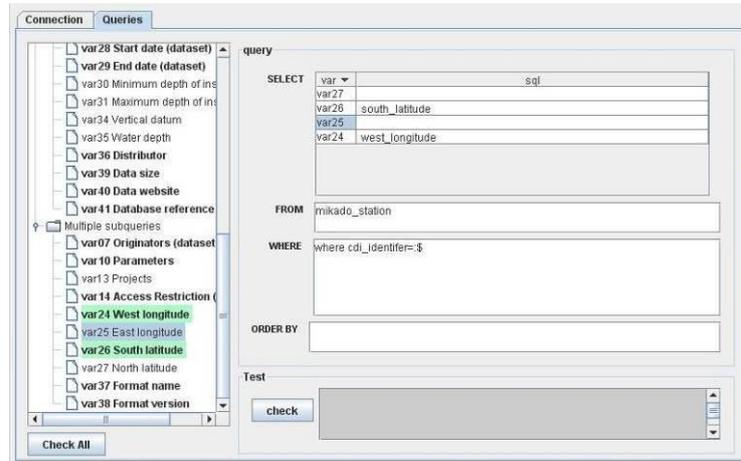
To fulfil a multiple query:

- 1- Select the first variable in the expendable tree to fulfil the corresponding multiple query,



- 2- Complete the corresponding SELECT, FROM, WHERE, ORDER BY clauses for this variable (and associated variables) in the query frame,

Don't forget that one identifier symbol ('\$') must be used in each sub-query WHERE condition to identify the entry within the list. It will be automatically replaced by the current identifier in the list.



If your database does not contain information for some non mandatory variables, let them empty in the SELECT clause.

- 3- Check the query using the checking frame (see 11.2.1.4).
- 4- Fulfil another multiple query by clicking on an empty variable.

11.2.1.4. Queries checking

MIKADO allows to check:

- Each query one by one. To do so, use the **Check** button in the query checking frame.
- All queries at the same time. To do so, use the **Check All** button above the expandable tree. All queries will be checked one after one. Use this button before generating the XML files.

The results of the query checking appear in the query checking frame. A **green** message informs that the query is correct; an **orange** message is a warning to tell the user that a reference to the IDs returned by the main query is missing and a **red** message informs that the query is wrong and gives information about the error.

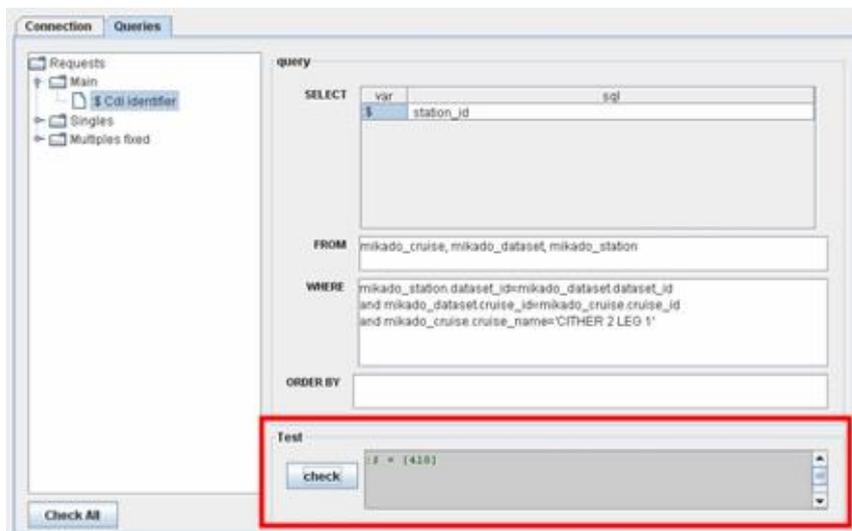


Figure 140: Right query – Green message

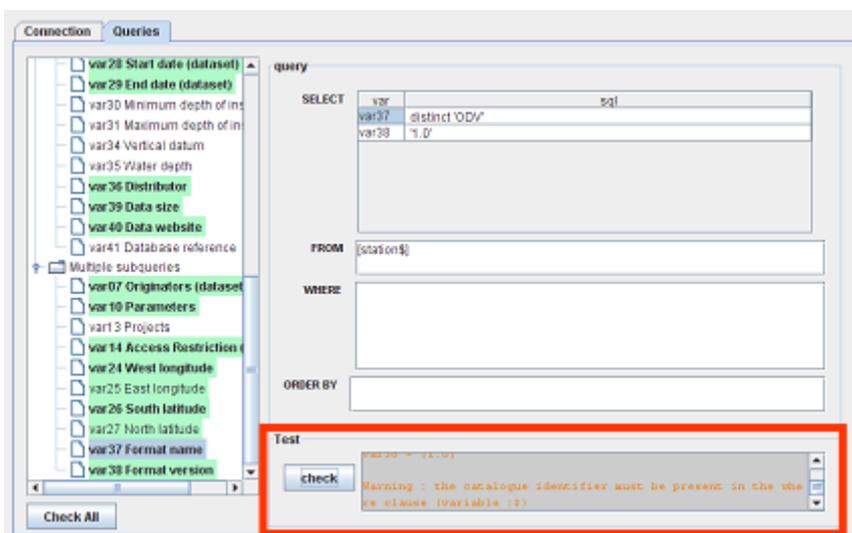


Figure 141: Missing reference to ID - Orange message

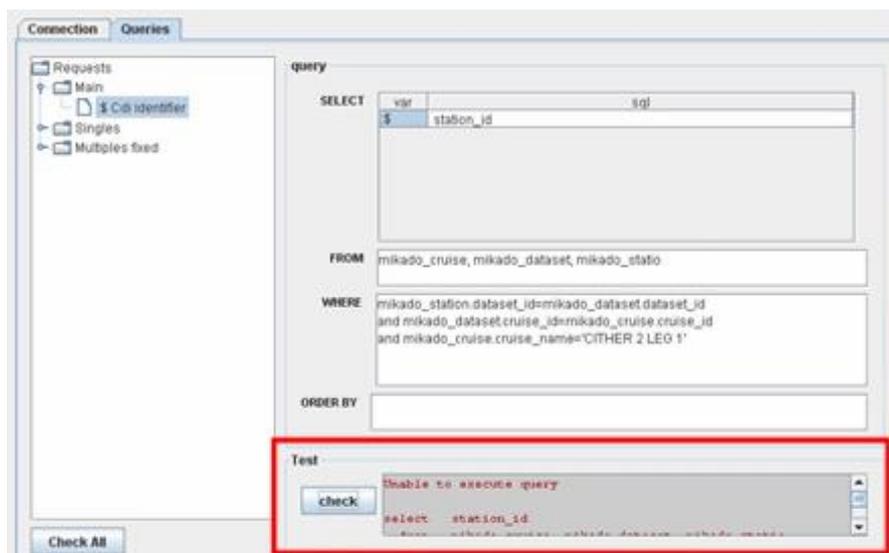


Figure 142: Wrong query – Red message

11.2.2. Save the configuration file

Once the connection parameters and the queries have been fulfilled and checked, you can save the configuration file by selecting **Save** or **Save as** in the **Automatic** menu. The configuration file has an “.xml” extension.

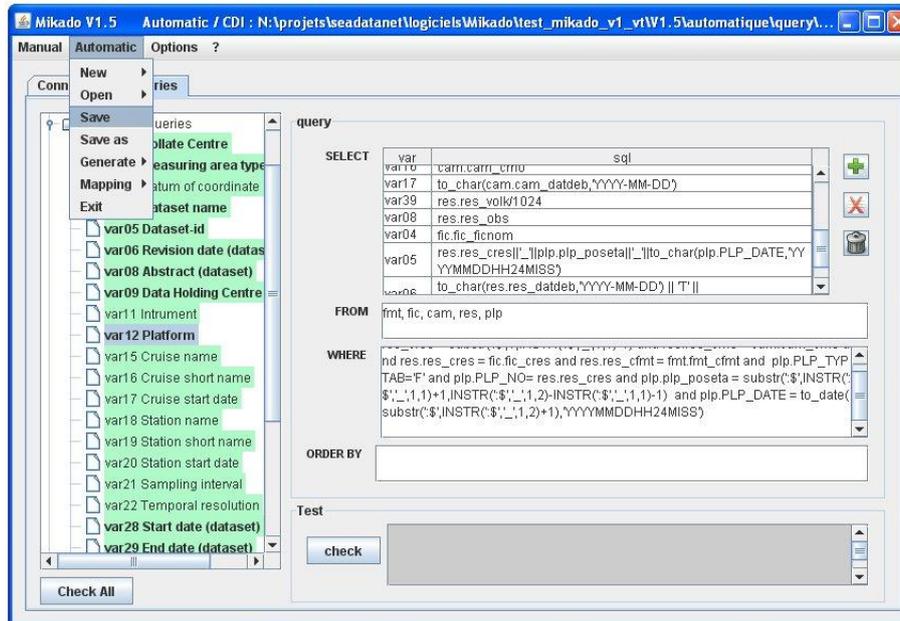
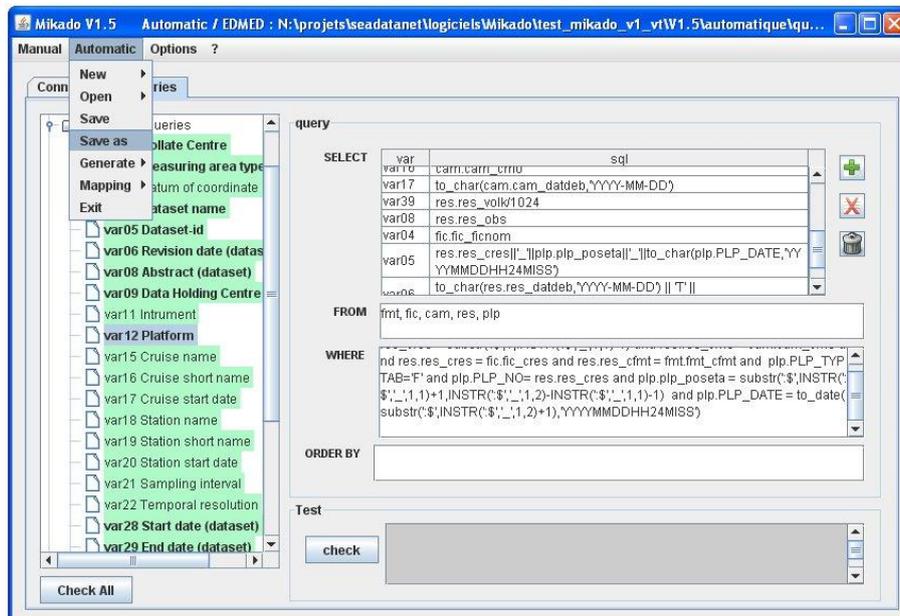


Figure 143: Save the configuration file



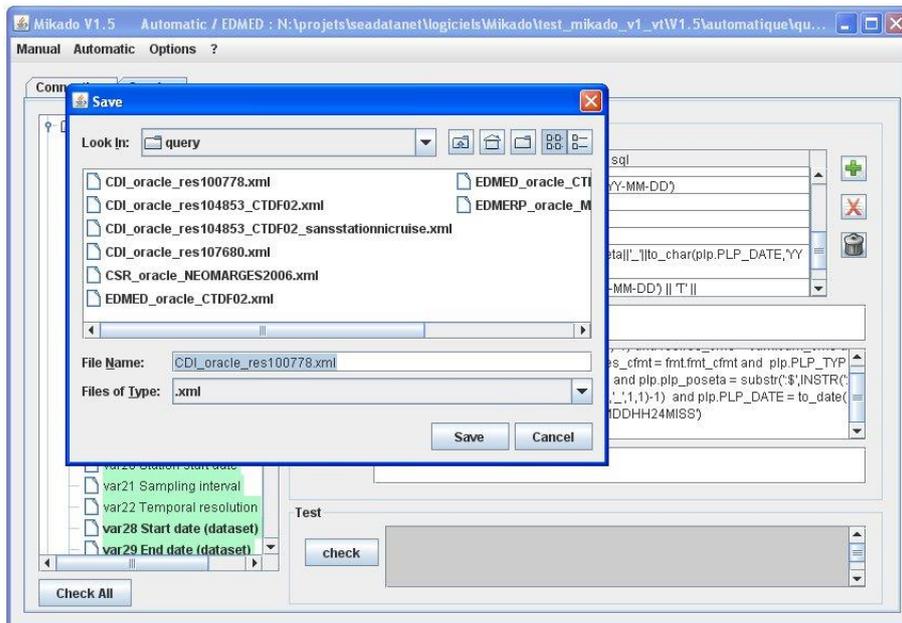


Figure 144: “Save As” the configuration file- Steps 1 and 2

11.2.3. Open an existing configuration

It is possible to open an existing configuration file using MIKADO. To do so, select **Open** in the **Automatic** main menu and choose EDMED, CSR, CDI or EDMERP. Next, select the configuration file to open.

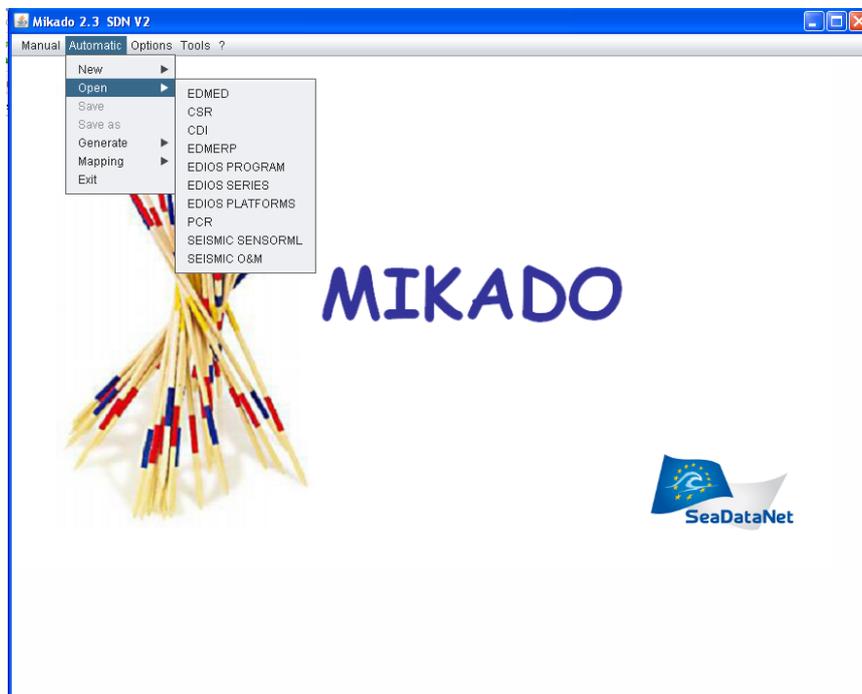


Figure 145: Open a configuration file with MIKADO

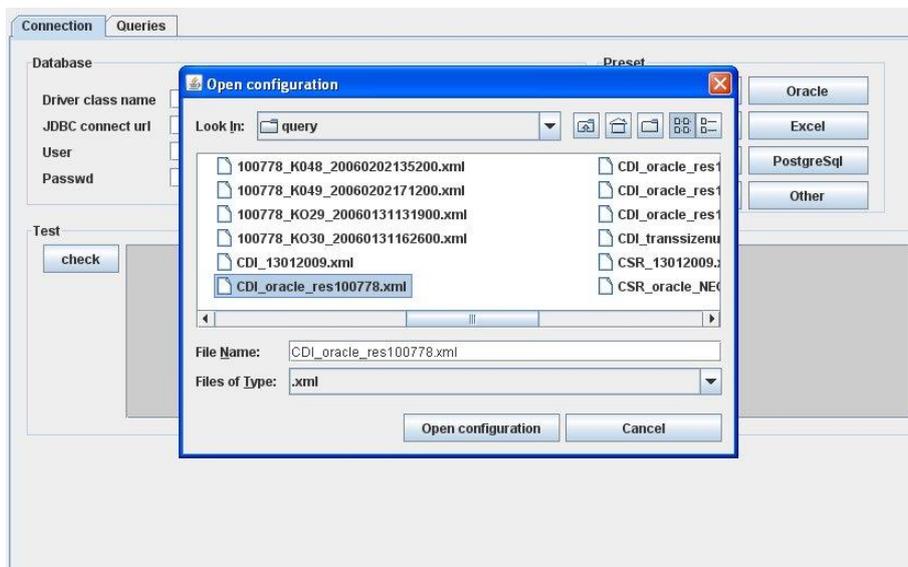


Figure 146: Select the configuration file to open

If there is incoherence between the selected catalogue and the file opened (for example: the user has click on open, CDI and then has selected an XML file related to EDMED) the following message will appear:

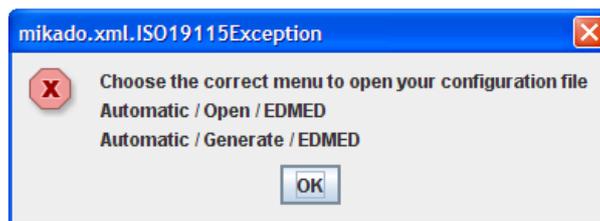


Figure 147: Error message – Wrong selected menu

Important: Due to the modifications of CDI made in the framework of Geoseas project, some single variables have become multiple variables since MİKADO V1.8 (var11, var39, var40, var41) or are no longer used (var50, var51, var53).

So, if the user try to open an existing configuration created with a previous version of MİKADO, he will encounter some difficulties: the queries associated with the concerned variables will be deprecated by MİKADO (see Figure 148). The user will have to rewrite the queries for var11, var39, var40 and var51; the queries are detailed in the MİKADO message and the user could copy and paste them in the multiple queries.

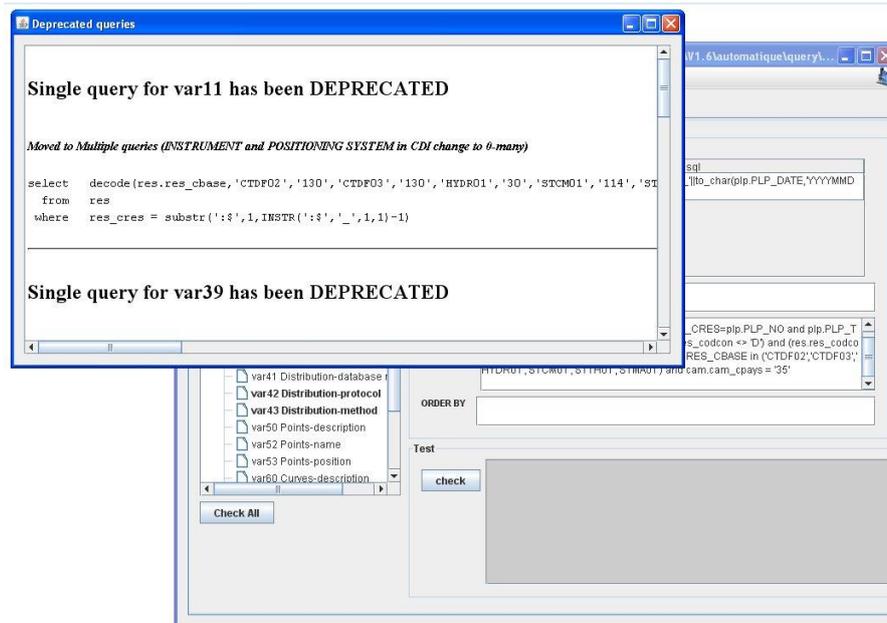


Figure 148 : Queries deprecated by MIKADO V1.8

11.3. MIKADO and NEMO interactions

NEMO was designed to be linked to MIKADO through the generation of a text file (NEMO summary).

The principle (Figure 152) is that while NEMO converts one file or a collection of files (like for example a collection of XBT files in a specific geographical area), it also generates a “CDI summary txt file” which contains all the minimum information necessary to create CDI records in the SeaDataNet catalogue. The content of the summary file for CDI is described in the NEMO user manual.

This summary file can be read by MIKADO (automatic generation) using a JDBC driver and then XML CDI files are generated using predefined queries delivered by MIKADO and can be directly exported to the central SeaDataNet catalogue.

To use the summary file with MIKADO to generate export of XML CDI records:

- Open the summary file created with NEMO by using the **Automatic menu : New > CDI from NEMO export**.

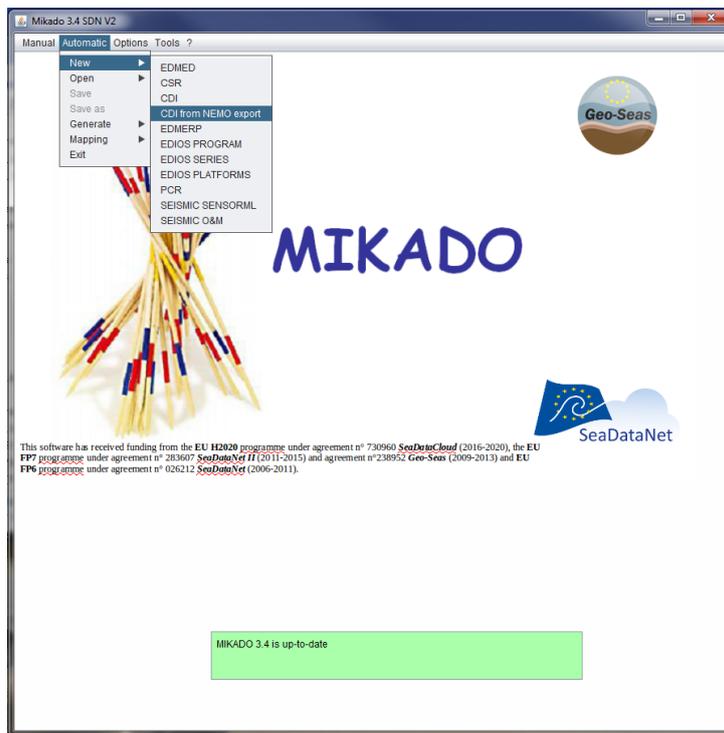


Figure 149 : Automatic menu : New > CDI from NEMO export

- MIKADO creates automatically a configuration file, with all queries on the NEMO export file as presented in Figure 150 (If a configuration already exists, MIKADO ask the user if he wants to override the existing configuration file).

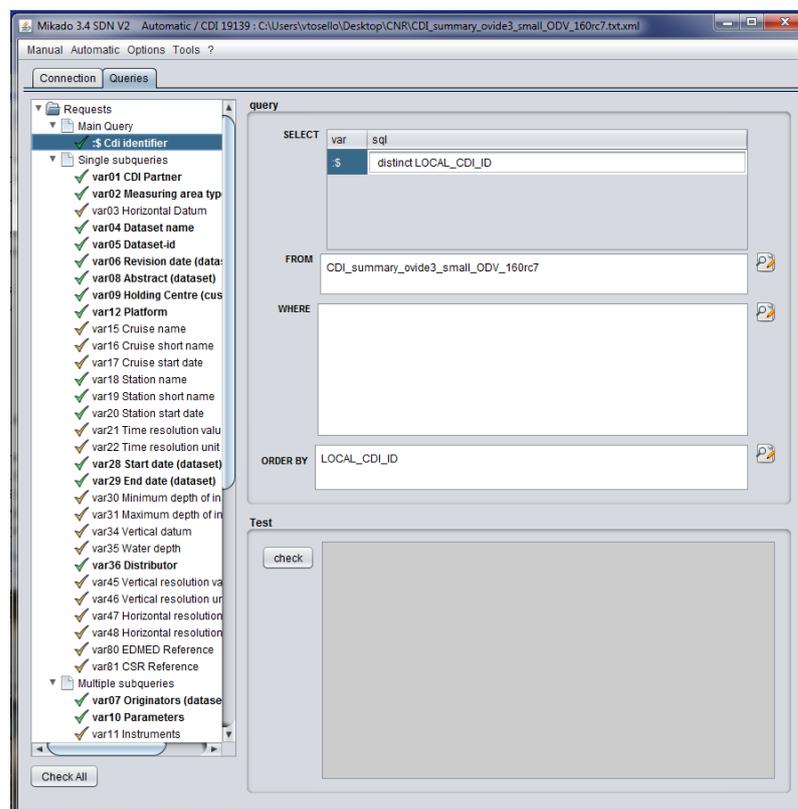


Figure 150 : Queries automatically fulfilled by MIKADO

This configuration is automatically saved at the same place than the summary file. If these 2 files need to be moved in another directory, as the path to the summary file is hard coded in the configuration file, the user needs to make use of the “Relocate NEMO export” button (Figure 151), in the connection tab, to give the new path to the CDI summary file.

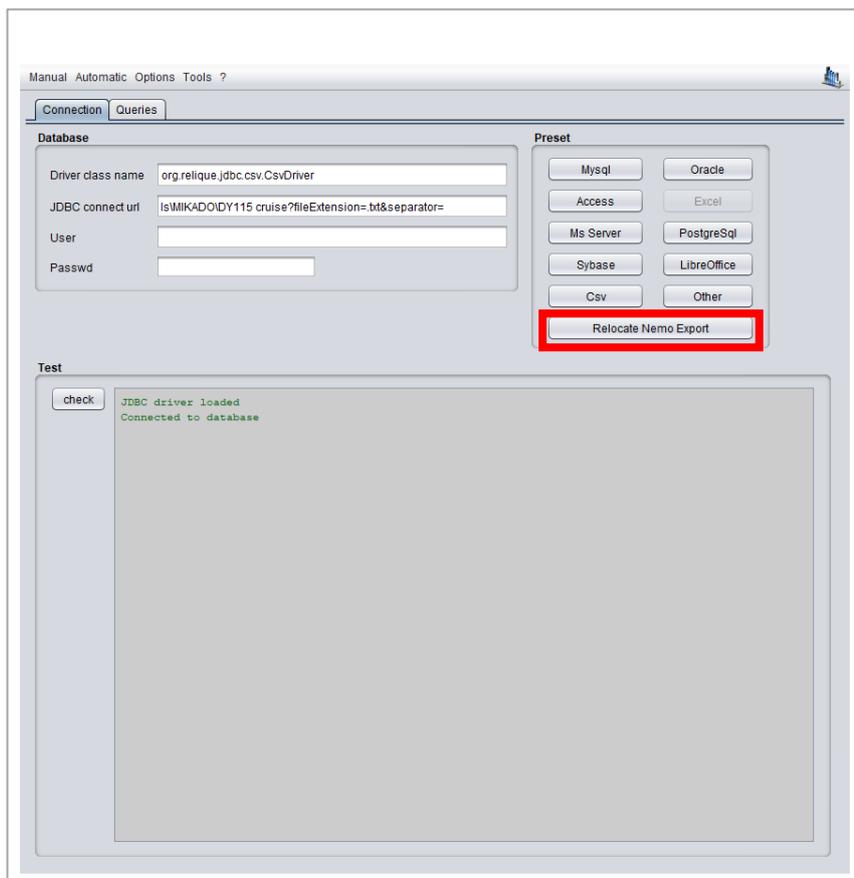


Figure 151 : Relocation of the NEMO export file

- Check all the queries
- Generate the XML files by using the **Automatic menu : Generate > CDI** , using the configuration file created by MIKADO (see 11.6)

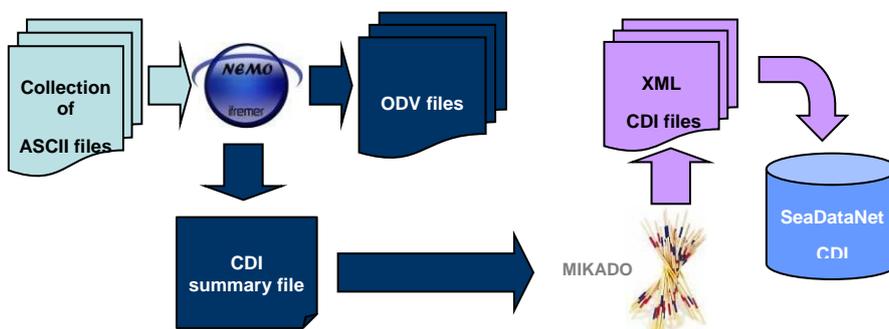


Figure 152: From « raw » data files to SeaDataNet CDI catalogue

To provide more detailed CDIs to the central catalogue, users can add information in their summary file (information about the project, the cruise, the instruments...). To do so, they have to add column in the summary file and write the corresponding queries in the configuration file created by MIKADO. Save the configuration file and generate the CDI records.

Recommendation: To add columns in the summary file, users will certainly use Excel or Open Office. Note that sometimes, Excel or Open Office changes the date format when opening the summary file and this could be a problem for MIKADO when it will generate the CDI records. To avoid this problem, users must define in the Text import Wizard (pop-up window in Excel when opening the summary file, see Figure Figure 153) the dates of the summary file as **Text** when they open their file in Excel.

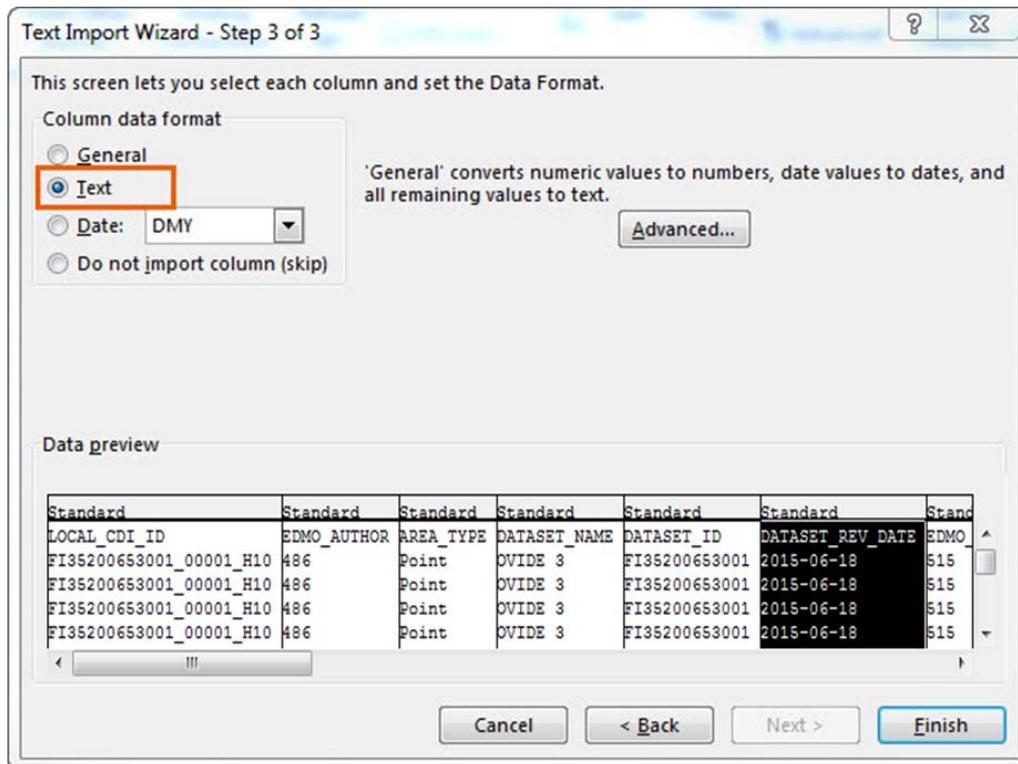


Figure 153 : Text import wizard in Excel

11.4. Users of EXCEL

IMPORTANT: As ODBC driver for Excel is no more maintained in java, we cannot provide them in the MIKADO release anymore. So, the connections to Excel files are not possible anymore in MIKADO (since 3.4 release).

Here are suggested alternatives to get round this problem.

11.4.1. Excel file with only one sheet

Your excel file can be converted into csv file to be connected with MIKADO.

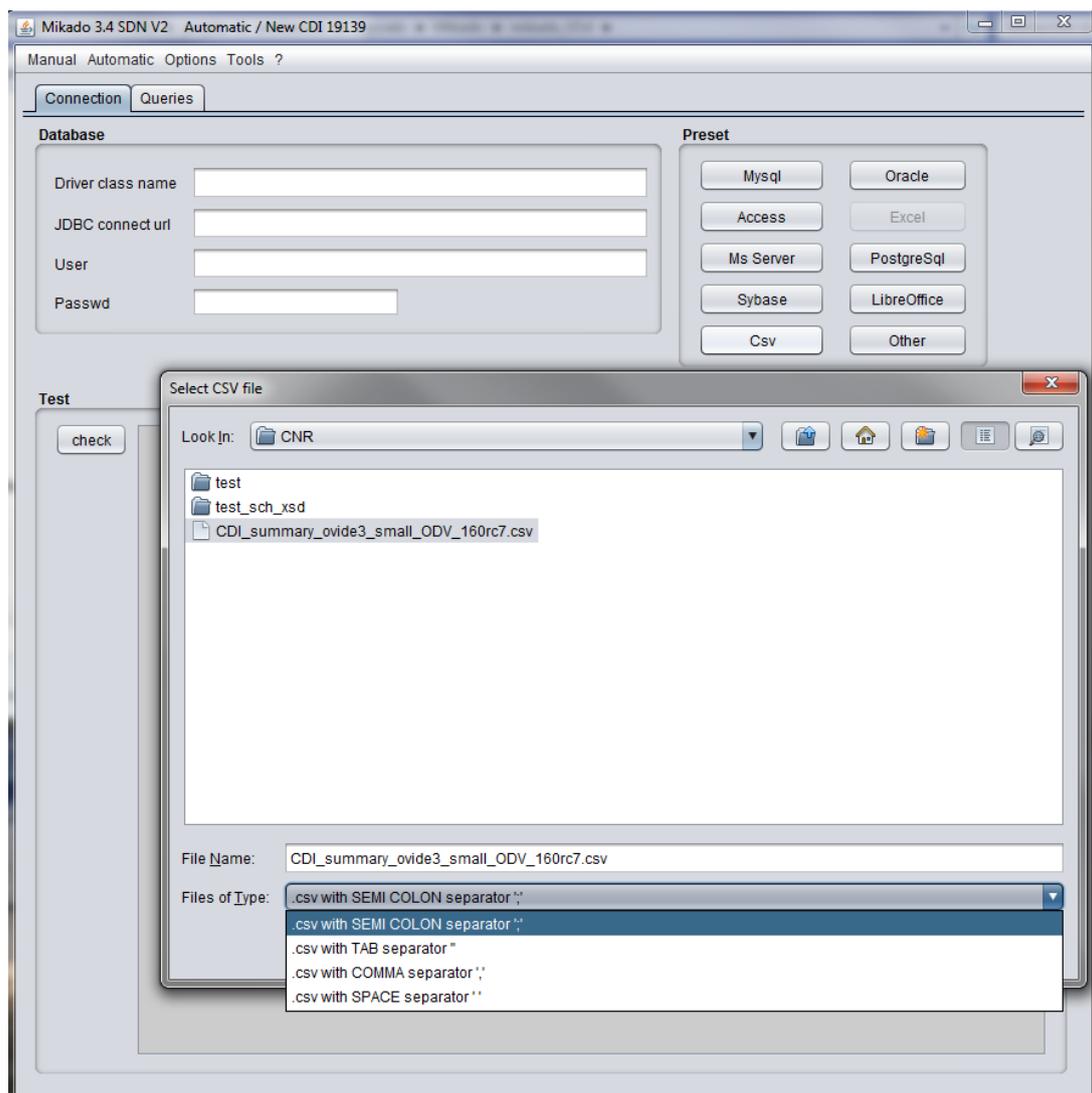
To do so:

- Open your excel file in Excel
- Save your file as csv file (possible separators: coma, semi-colon, tabulation, space)

- Run MIKADO, go to Automatic menu > New or Open (your existing configuration file can be re-used with minor updates)
- Define the connection to your csv file clicking on “Csv” button



- Select your csv file and select the type of separator



- Check the connection using the “Check” button
- The syntax for querying csv file is a little bit different from Excel:
 - o in “From” clause : instead of using [sheet_name\$] , you have to use directly the filename (without .csv extension)

11.4.2. Excel file with several sheets

Excel file with few sheets

Your excel file can be converted into several csv files (1 csv files for 1 Excel sheet) to be connected with MIKADO. MIKADO will see the different csv files as different tables as long as the csv files are saved in the same folder.

To do so:

- Open your excel file in Excel
- Save each Excel sheet as csv file. **Important: All the csv files must be saved in the same folder.**
- Run MIKADO, go to Automatic menu > New or Open (your existing configuration file can be re-used with minor updates)
- Define the connection to the first csv file clicking on “Csv” button



- Check the connection using the “Check” button
- The syntax for querying csv file is a little bit different from Excel:
 - o in “From” clause : instead of using [sheet_name\$], you have to use directly the filename of your different csv files (without .csv extension).

11.4.3. Excel file with many sheets

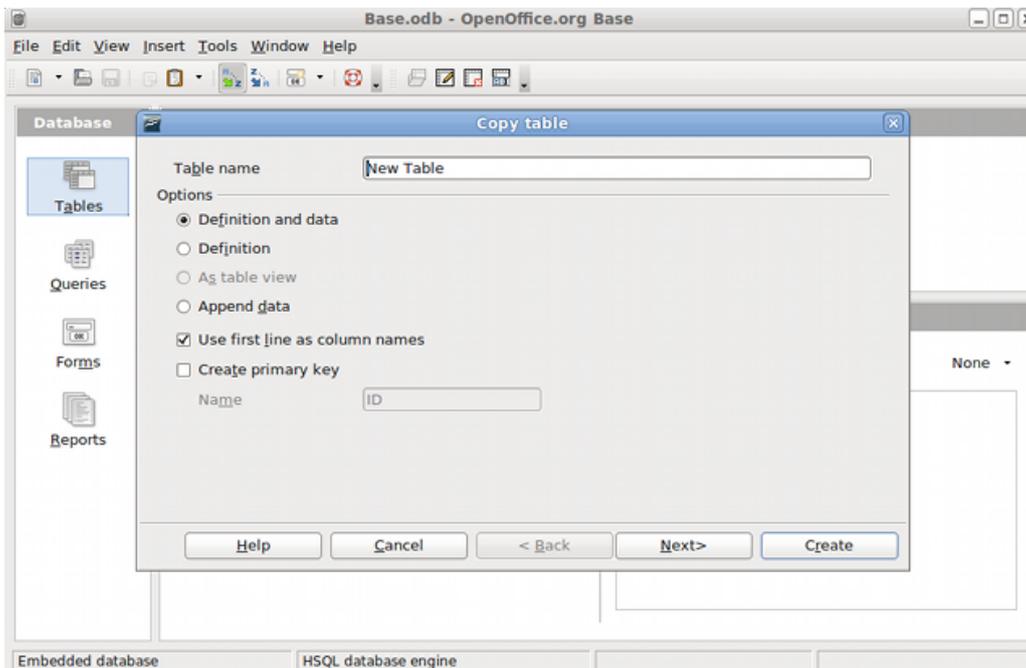
If you use Excel files with many sheets, you have to convert your Excel file into an Open Office database (.odb).

To do so:

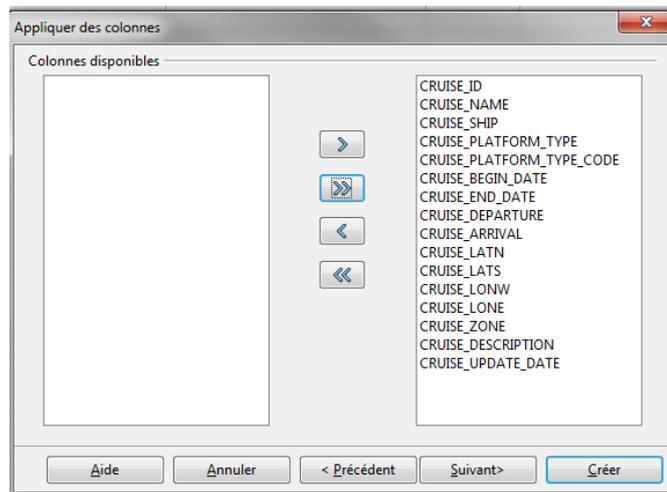
- 1) Convert your Excel file into an Open Office base

IMPORTANT: This procedure could take time if you have a lot of sheets and a lot of columns in your Excel file. Then, in the future, we recommend you to work directly with your new Open Office base instead of Excel.

- Open your Excel file in Open Office Calc
- Open a new Open Office base
- Drag and drop the different sheets from Open Office Calc to Open Office base: a table will be created for each Excel sheet
 - o Choose the name of your table (could be the same as Excel sheet name)
 - o Tick the “Use first line as column name” box
 - o Tick the “Create primary key” box if necessary



- Select the columns to create



- Define the format of each column if necessary
- Create the table

2) Connect your Open Office base to MIKADO

- Run MIKADO, go to Automatic menu > New or Open (your existing configuration file can be re-used with minor updates)
- Define the connection to your odb file clicking on “Libre Office” button
- Select your odb file
- Check the connection using the “Check” button
- The syntax for querying odb file is a little bit different from Excel:
 - in “From” clause : instead of using [sheet_name\$] , you have to use directly the table name defined in the Open Office dabatase

If you need help to follow this procedure, do not hesitate to contact sdn-userdesk@seadatanet.org.

11.5. Specific topics for CDI

11.5.1. Distribution Web site (var39 to var43)

The content of the variables related to the distribution Website depends on the selected options in **Data centre type** in the **Options** main menu:

11.5.1.1. Data centre type = SDN V2

If the selected data centre type is SDN V2 (in the 'Options' > 'Data centre type' Menu), the first distribution Web site must be fixed to specific address for SeaDataNet.

The linkage address, the protocol and the distribution method are fixed to :

- Var40 : Distribution-data website =
'http://www.sdn-taskmanager.org/',
- Var 42 : Distribution-protocol = 'HTTP-DOWNLOAD'
- Var43 : Distribution-method = 'downloadRegistration'

Example of SQL query for one Distribution Website :

```
Select table2.col5 as var39,  
      'http://www.sdn-taskmanager.org/' as var40,  
      'Database' as var41,  
      'HTTP-DOWNLOAD' as var42,  
      'downloadRegistration' as var43  
from table1, table2  
where table1.localcdiid = '$'  
and table1.col1 = table2.col2
```

Example of SQL query for several Distribution Websites :

```
(select " as var39,  
      Col1 as var40, Col2 as var41, Col3 as var42, Col4 as var43  
from (Select 'http://www.sdn-taskmanager.org/' Col1, 'database' Col2, 'HTTP-DOWNLOAD'  
Col3,'downloadRegistration' Col4 From Dual) )  
Union  
(Select 'http://www.distribution_website/' || table2.colx Col1, 'database' Col2, 'HTTP-DOWNLOAD'  
Col3,'URL' Col4  
From table1, table2
```



```
where table1.localcdiid = ':$'  
and table1.Col1 = table2.col2))  
order by 1 desc
```

Where:

- The 1st select returns mandatory information for CDI SeaDataNet web site
- The 2nd select returns the information about another website where you can have information about the data
- The order by returns SeaDataNet web site as 1st record

Important : The first record returned by this query must be the SDN web site, so be careful when writing the order by clause.

11.5.1.2. Data centre type = ECOOP V1

If the selected data centre type ECOOP V1 (in the 'Options' > 'Data centre type' Menu), there are no restriction about the first distribution Web site.

11.5.2. GML extension for CDI

11.5.2.1. General principle

A GML extension has been made in the CDI format in the framework of the Geoseas project: it enables to detail the geographical features of tracks and polygons in conformity with the real geographical coverage. This enables to describe in CDI V1 format also hydrographical and seismic surveys. Thanks to this GML extension, the CDI can contain a collection of points, of tracks or of surfaces to describe the geographical features (it is not possible to mix Multicurves and Multisurfaces). This information can be used next to the existing and mandatory bounding box. Some fields of the GML extension could be used to add name, descriptions and possibly other metadata (it is useful for seismic tracks for example). This GML extension is represented by the variables (60, 62, 63) for Multicurves and (70, 72, 73) for Multisurfaces. (multiple queries).

Mikado supports 2 ways of fetching the geometry:

- using an Oracle SDO_geometry data type
- using wkt syntax (Well-Known Text markup language)

11.5.2.2. Example for points

In CDI practice multiple points will not be used, because each point measurement is considered as object for an individual CDI record. The location of a single measurement point is then already described by filling in only the west longitude and the south latitude of the Bounding Box (variables 24 and 26).



11.5.2.3. Example for tracks

In CDI practice measurements might be undertaken as tracks or as areas. In those cases, the Bounding Box (variables 24 to 27) can be used to describe the geographical rectangle that covers or surrounds the track(s) or area(s) of the measurement. In those cases, the uttermost latitude and longitudes of the Bounding Box are filled in, entering first the most left and lower point (west longitude and south latitude) and as second the most right and upper point (east longitude and north latitude).

A more detailed description of the geographical location of each measurement track or area can then be given by using the variables corresponding to Multicurves (60, 62, 63). In the case of single or multiples tracks, these variables must be used with one line for one track and the **coordinates of the curve position (variable 63) must be filled in as Longitude1 Latitude1 Longitude2 Latitude2 (coordinates separated by spaces and not by commas)**. Eastern longitudes (from 0.0000 to 180.0000) and Northern latitudes (from 0.0000 to 90.0000) are entered as positive and Western longitudes (from 0.0000 to -180.0000) and Southern latitudes (from 0.0000 to -90.0000) are entered as negative.

11.5.2.4. Example for surfaces

In case the measurement location is a polygon-shaped area (not rectangular) or multiple set of polygon-shaped areas, then the variables corresponding to Multisurfaces (70, 72, 73), can be used to describe the locations in detail. In the case of single or multiple areas (= surfaces), these variables must be used with one line for one surface and the **surface coordinates (variable 73) are filled in as Longitude1 Latitude1 Longitude2 Latitude2 (coordinates separated by spaces and not by commas)**. Eastern longitudes (from 0.0000 to 180.0000) and Northern latitudes (from 0.0000 to 90.0000) are entered as positive and Western longitudes (from 0.0000 to -180.0000) and Southern latitudes (from 0.0000 to -90.0000) are entered as negative. The coordinate pairs should describe the polygon in a direction against the clock and the first coordinate pair must be repeated as last coordinate pair! Only convex polygons are to be described.

11.5.2.5. Well-Known Text markup language (WKT)

WKT (Well-Known Text) markup language is supported by MIKADO automatic mode for simple geometries such as POINT, LINESTRING and POLYGON and for multiple geometries such as MULTIPOINT, MULTILINESTRING and MULTIPOLYGON. Two options are possible: free text string and WKT text string (MIKADO detects automatically if position list is returned as free text or as WKT). The functions to use for WKT in MIKADO SQL queries are:

- In Oracle (version 10g or greater): SDO_UTIL.TO_WKTGEOMETRY(<geometrycolumn>)
- In PostGIS: asewkt(<geometrycolumn>)
- In MySQL: AsText(<geometrycolumn>).

11.5.3. SensorML and O&M extensions for seismic CDI

Specific CDI extensions (SensorML and O&M) have been adopted for seismic data in the framework of the Geoseas project. Seismic data need specific considerations such as external viewing services, seismic line segmentation.

The fundamental criteria adopted were:

- What pertains to data discovery is restricted to the CDI



- What pertains to data access is hosted by the O&M document
- What pertains to domain specific parameters is hosted by the SensorML document

11.6. Run the automatic generation

The second step in MIKADO Automatic version is the XML generation. The tool must have been configured before generating the XML files (see 11.2).

1- Select Generate in the Automatic Menu.

2- Select the catalogue you want to generate: EDMED, CSR, CDI, EDMERP, SESIMIC SENSORML or SEISMIC O&M.

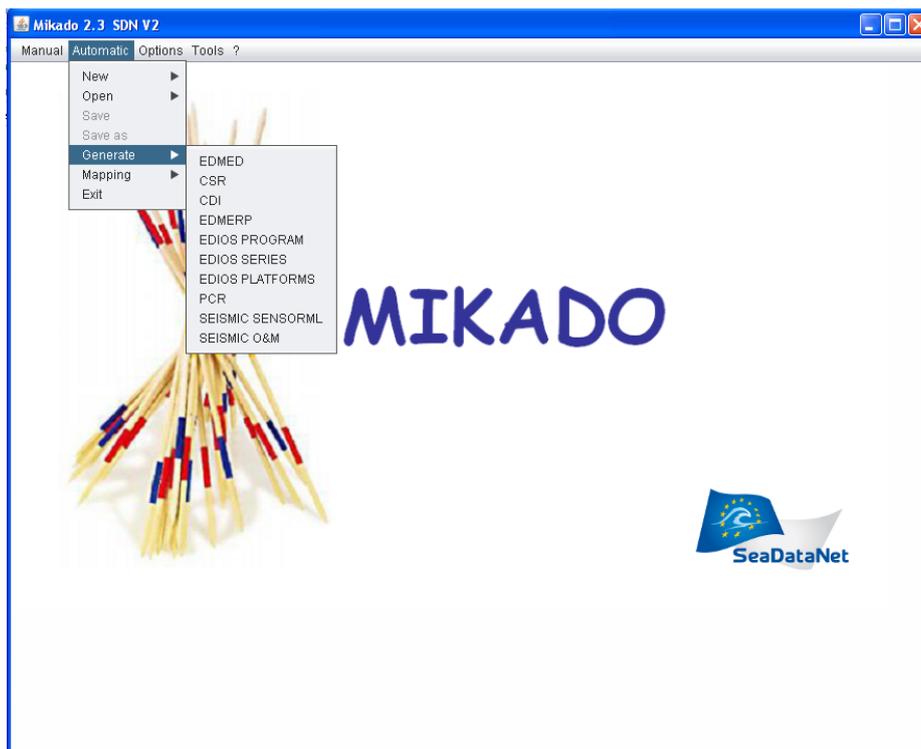


Figure 154: Automatic generation of XML files

3-Select the configuration file.

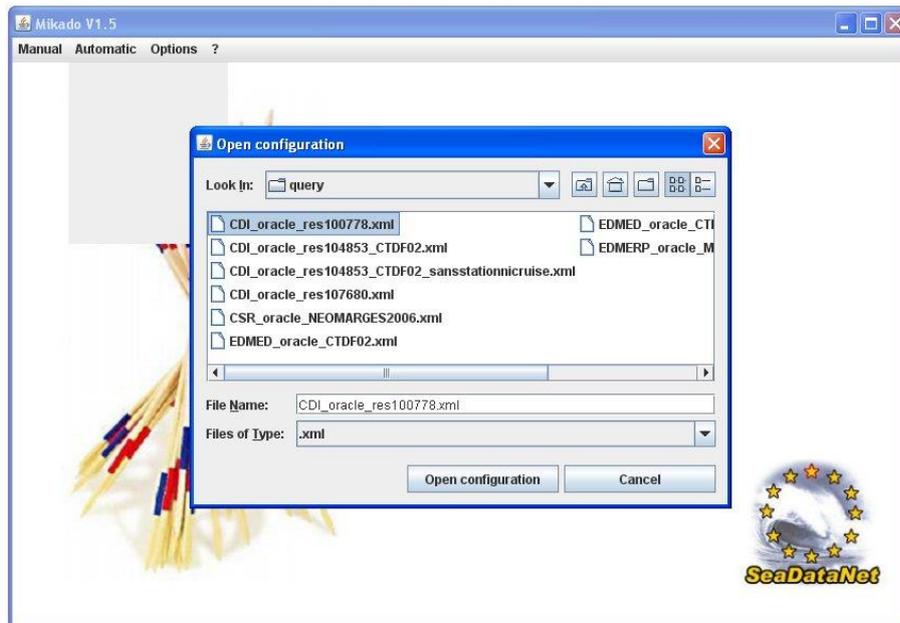


Figure 155: Select the configuration file

If there is incoherence between the selected catalogue and the file opened (for example: the user has click on open, CDI and then has selected an XML file related to EDMED) the following message will appear:

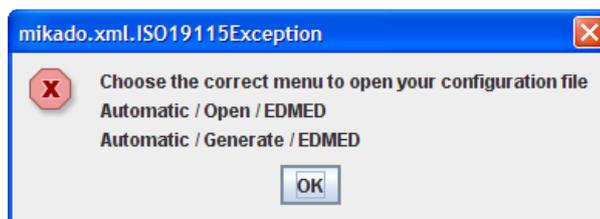
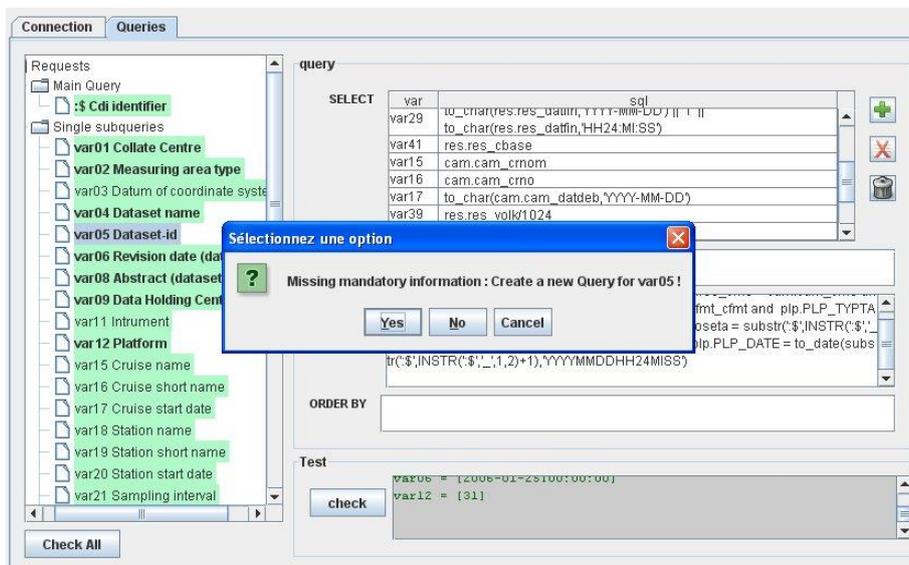


Figure 156: Error message – Wrong selected menu

MIKADO checks if all the mandatory variables had been filled in in the configuration file. If a mandatory variable is missing, MIKADO asks the user to complete it in the configuration file. After that, the user has to save the updated configuration file by selecting **Save** in the **Automatic Menu** and has to run again the generation by selecting **Generate** in the **Automatic Menu**.



4- Select the directory in which you want to create the export XML files.

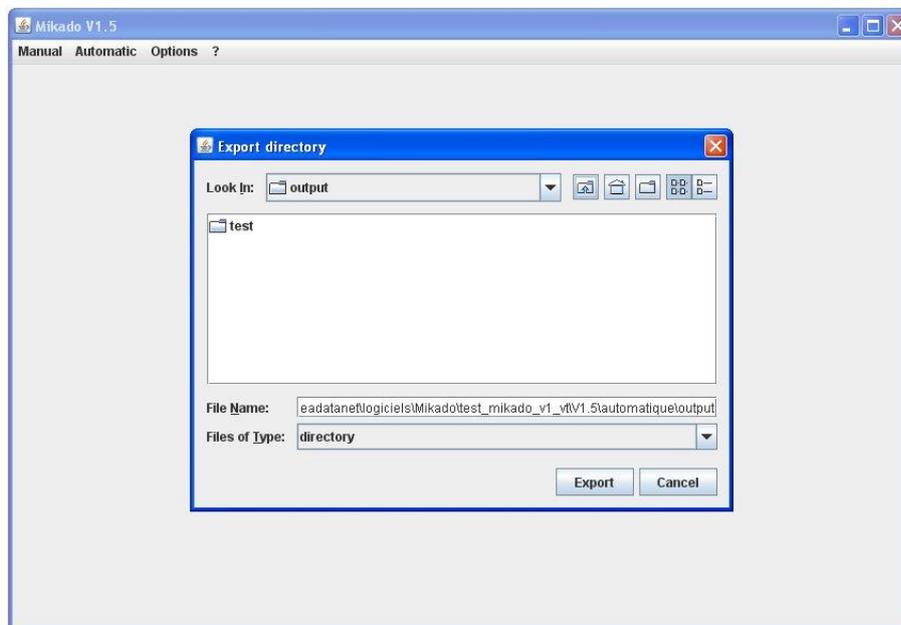


Figure 157: Choose the output directory

5- Select the export format in which you want to generate:

- XML files,
- ZIP file containing the XML files
- both XML and ZIP files.

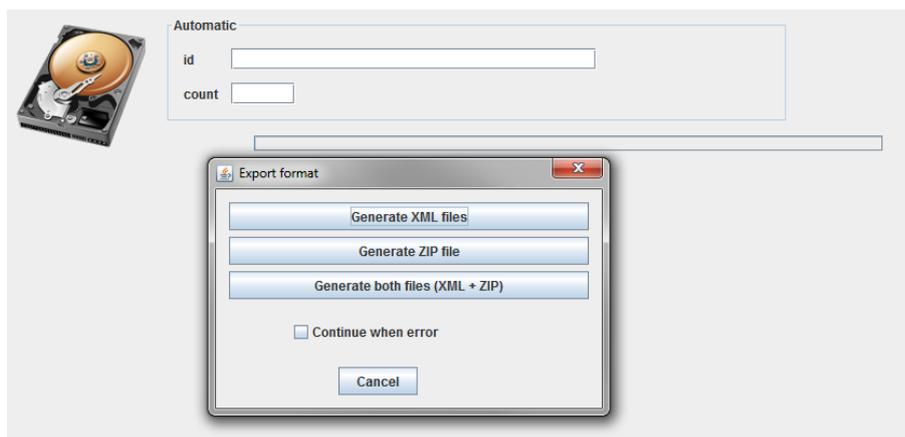


Figure 158: Select the export format

A new functionality has been added in MIKADO 3. Now, MIKADO users can choose between two options for the automatic generation of XML files:

- Option 1 “Continue when error”: if MIKADO finds one record with mapping missing, or one record with error (mandatory fields null in the database for example), it writes a warning for this record in MIKADO screen, and continues to process next records. So, only the XML file of the records with warning will be missing in the output directory. **To choose this option, you have to select the check box “Continue when error”.**

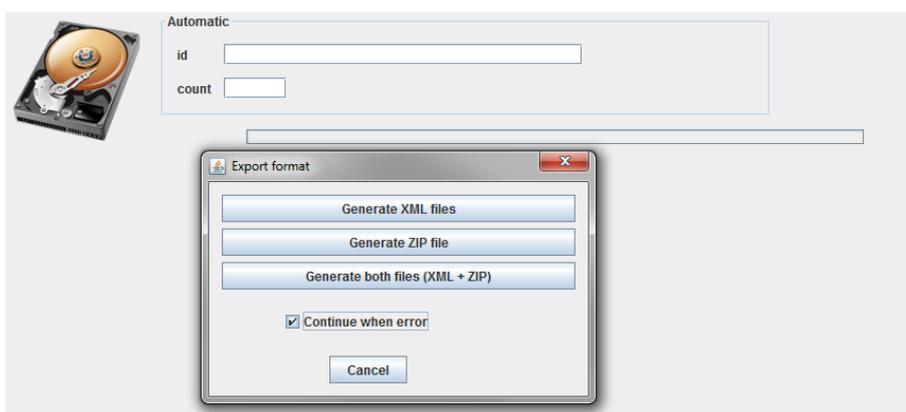


Figure 159 : « Continue when error » option is activated

- Option 2: if MIKADO finds one record with mapping missing, or one record with error (mandatory fields null in the database for example), it writes a severe error in the logfile, and stops. In the output directory, the files generated before the detection of the error are available.

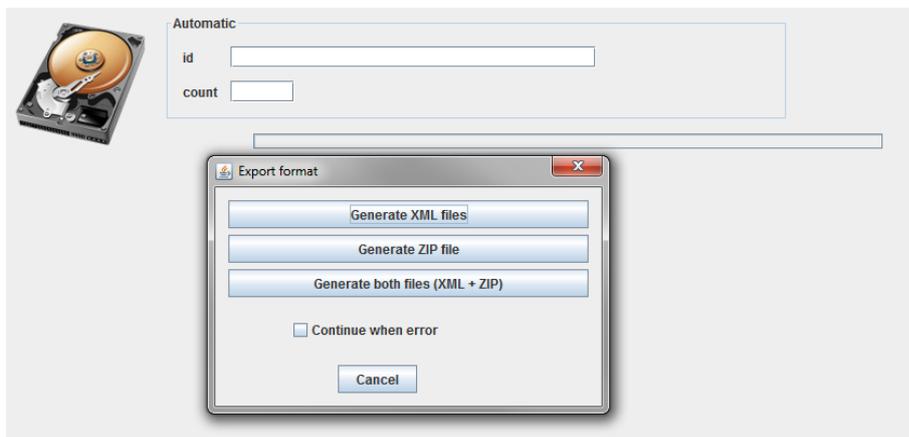


Figure 160 : « Continue when error » option is not activated

- 6- Control the XML generation (SQL error, XML error). A progress bar and a percentage indicate the progress of the generation and a Cancel button allows cancelling the generation.

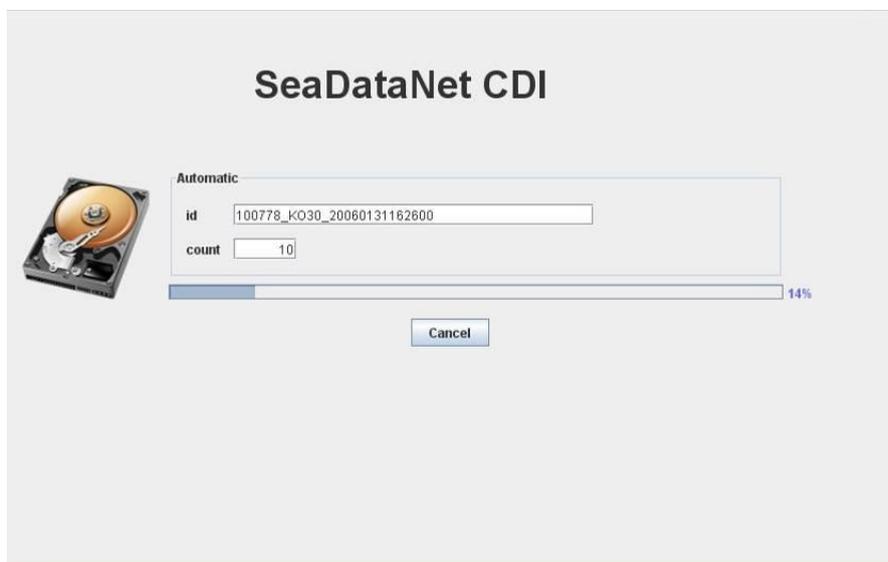


Figure 161: XML generation: Ongoing work

- 6- During the generation, complete the mapping (if necessary see 7.2.2 for more details).

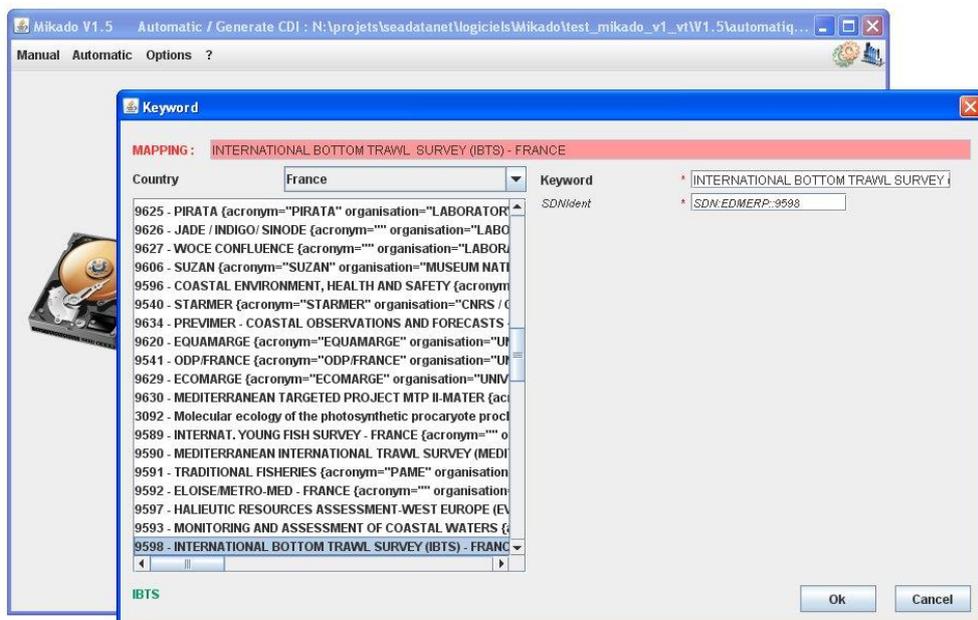


Figure 162: Do the mapping

All the XML files (extension .xml) will be then created in the chosen directory.

12. Coupling table for Replication Manager

12.1. General principle

The coupling table is used to create a coupling file used by SeaDataNet Replication Manager to make the mapping between a LOCAL_CDI_ID (one profile, one time-series or one trajectory) and the name of the file containing this LOCAL_CDI_ID.

The coupling table contains the following information:

- LOCAL_CDI_ID: the CDI local identifier, as included in the central CDI directory at the SeaDataNet portal,
- Management modus:
 - Value equals to 1 or 3 if it concerns a pre-processed data file
 - 1 for mono-station files,
 - 3 for multi-station files,
 - Value equals to 2 if data have to be retrieved from a local database
 - Value equals to 4 if it concerns seismic data stored on an accessible space disk for access to the High Resolution Seismic Visualization Service
 - Value equals to 4 and 5 if it concerns seismic data stored on a non-accessible space disk (typically magnetic bands) for access to the High Resolution Seismic Visualization Service
- Format (see L24 vocabulary list),
- For modus 1 or 3:
 - File name.
- For modus 2:
 - SQL query which allows to retrieve from local database all metadata and data necessary for creating the ODV data file,
 - Database connection parameters (protocol, ip address, port, name, login, password),
 - Mapping configuration XML file for the conversion of the original datasets to the SeaDataNet ODV format.
- For modus 4 :
 - Format for accessible data by High Resolution Seismic Visualization Service : HRSVS
- For modus 4 and 5:
 - Format for non-accessible data (typically magnetic bands) by High Resolution Seismic Visualization Service: HRSVS, SensorML, OEM, UKOAP190, SEGY
 - File: to each format should correspond the associated file

12.2. Configuration of the tool

12.2.1. Create a new configuration

To create a new configuration (connection to the database + queries), select **New** in the **Tools** main menu and choose **Coupling Table for Replication Manager** (*this menu will be renamed «Coupling table for Replication Manager» in the next MIKADO release v3.6.3*).

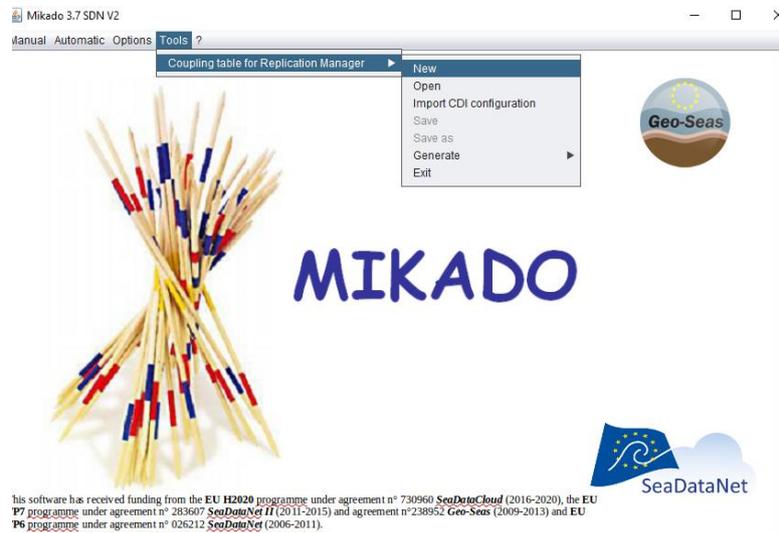


Figure 163: Create a new configuration

There are 6 tabs which enable to input information about:

- Connection to the database,
- Main query,
- Query for Modus 2,
- Query for Modus 1 or Modus 3
- Query for Modus 4
- Query for modus 4 and 5

Figure 164: Coupling table - New configuration

12.2.1.1. Connection to the database

To define the JDBC connection parameter, please refer to the part 11.2.1.1 of this document.

12.2.1.2. Main query

1. Select the **Main Query** tab.
2. Fulfil the main query which identifies all the CDI local identifier (LOCAL_CDI_ID), as included in the central CDI directory at the SeaDataNet portal. This query must return only one column which is the LOCAL_CDI_ID of each CDI entry and that will be used for the Modus 2 query, the Modus 1 or 3 query, the Modus 4 query or the Modus 4 and 5 query
3. Check the main query by clicking on the **Check SQL** button (see 12.2.1.7).

Manual Automatic Options Tools ?

Connection Main query Modus 2 Modus 1 or Modus 3 Modus 4 Modus 4 and 5

query

SELECT res.res_cres (CDI identifier)

FROM cam, res, plp

WHERE cam.cam_cmo=res.res_cmo
and res.res_cres=plp.plp_no
and plp.plp_lyptab='F'

ORDER BY

Test

Check SQL

Figure 165 : Coupling table - Main query

12.2.1.3. “Modus 1 or 3” query

1. Select the **Modus 1 or 3** tab.
2. Select the format of the CDI files using the dropdown menu (L24 vocabulary list)
3. Fulfil the “Modus 1 or 3” query which returns the local filename for each LOCAL_CDI_ID returned in the main query. The character ‘:\$’ indicates the LOCAL_CDI_ID returned by the main query. **One identifier symbol (‘:\$’) must be used in the WHERE condition of the “Modus 1 or 3” query to identify the entry within the list. It will be automatically replaced by the current identifier in the list (see 11.2.1.2).**
4. Check the query by clicking on the **Check SQL** button (see 12.2.1.7).
5. Preview the coupling table by clicking on the **Preview coupling table** button (see 12.2.1.8).

Manual Automatic Options Tools ?

Connection Main query Modus 2 Modus 1 or Modus 3 Modus 4 Modus 4 and 5

File format
CFPOINT - Climate and Forecast Point Data NetCDF

query

SELECT CRES||\$|SM10_||CAM.CAM_CAMREF||_||RES.RES_CRES||'.zip' (Local filename)

FROM res, fic, cam

WHERE and fic.fic_cres=res.res_cres
and fic_cfmt like ('SE0Y%')
and res_cres=substr('\$', 1+instr('\$', '_'-1, 1))

ORDER BY

Test

Check SQL Preview coupling table

Figure 166: Query for modus 1 or 3

12.2.1.4. “Modus 2” query

1. Select the **Modus 2** tab.
2. Select the mapping configuration file which allows the conversion of the original datasets to the SeaDataNet ODV format.
3. Fulfil the Modus 2 query which retrieves from the local database all metadata and data necessary for creating the ODV data file, for each LOCAL_CDI_ID returned in the main query. The character ‘:\$’ indicates the LOCAL_CDI_ID returned by the main query. **One identifier symbol (‘:\$’) must be used in the WHERE condition of the “Modus 2” query to identify the entry within the list. It will be automatically replaced by the current identifier in the list (see 11.2.1.2).**
4. Check the query by clicking on the **Check SQL** button (see 12.2.1.7).
5. Preview the coupling table by clicking on the **Preview coupling table** button (see 12.2.1.8).

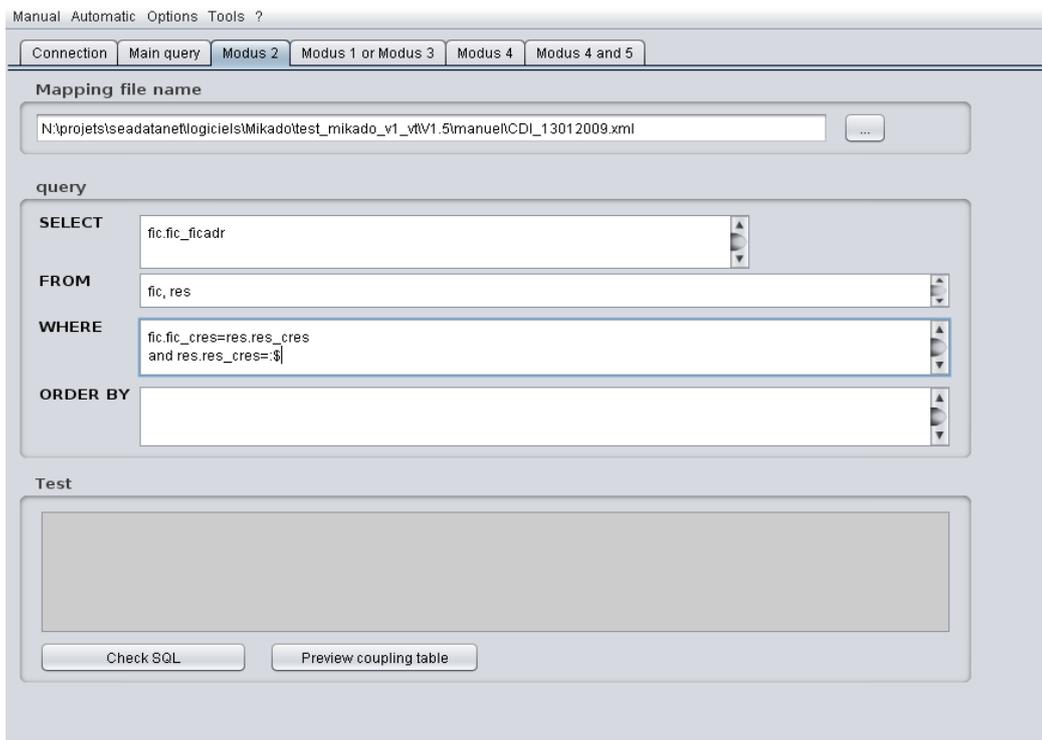
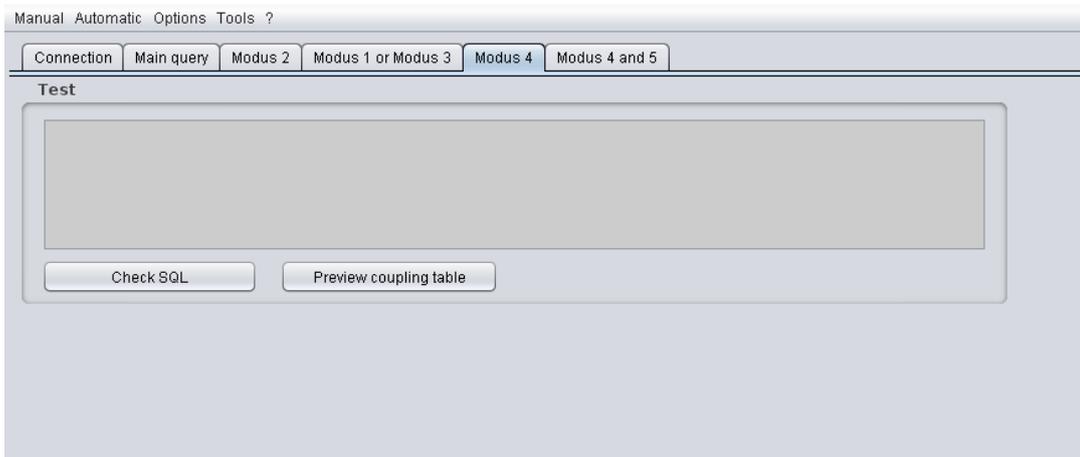


Figure 167: Query for modus 2

12.2.1.5. “Modus 4” query

1. Select the **Modus 4** tab.
2. There is no query to fulfil. Mikado will automatically create one line for each LOCAL_CDI_ID returned in the main query. The syntax is: Local_cdi_id; modus; format. Check the query by clicking on the **Check SQL** button (see 12.2.1.7).
3. Preview the coupling table by clicking on the **Preview coupling table** button (see 12.2.1.8).



12.2.1.6. “Modus 4 and 5” query

1. Select the **Modus 4 and 5** tab.

2. Fulfil the Modus 4 and 5 query which retrieves from the local database all metadata and data necessary for each LOCAL_CDI_ID returned in the main query. Each file that needs to be retrieved by the Replication Manager for the HRSVS has to appear as follow :

Local_cdi_id ; modus ; format ; file

```

ABCDEF ; 4 ; HRSVS
ABCDEF ; 5 ; OEM ; http://www.host.com/some/path/ABCDEF_oem.xml
ABCDEF ; 5 ; SEGY ; http://www.webService.com/web_service/ABCDEF_1
ABCDEF ; 5 ; SEGY ; http://www.webService.com/web_service/ABCDEF_2
ABCDEF ; 5 ; SEGY ; http://www.webService.com/web_service/ABCDEF_3
ABCDEF ; 5 ; SML ; http://www.host.com/some/path/ABCDEF_fic1_sml.xml
ABCDEF ; 5 ; SML ; http://www.host.com/some/path/ABCDEF_fic2_sml.xml
ABCDEF ; 5 ; SML ; http://www.host.com/some/path/ABCDEF_fic3_sml.xml
ABCDEF ; 5 ; UKOAP190 ; http://www.host.com/some/path/ABCDEF.uko

```

The character '\$' indicates the LOCAL_CDI_ID returned by the main query. **One identifier symbol ('\$')** should be used in the WHERE condition of the “Modus 4 and 5” query to identify the entry within the list. It will be automatically replaced by the current identifier in the list (see 11.2.1.2). But you can also adapt the SQL query showed in 9.4.4.1 to get the right syntax in the coupling table for the Replication Manager.

3. Check the query by clicking on the **Check SQL** button (see 12.2.1.77).
4. Preview the coupling table by clicking on the **Preview coupling table** button (see 12.2.1.88).

Manual Automatic Options Tools ?

Connection Main query Modus 2 Modus 1 or Modus 3 Modus 4 Modus 4 and 5

query

SELECT col1 (format)

col2 (file)

FROM ((select 'OEM' col1, http://www.ifremer.fr/ifremerseas_seismic/[CAM.CAM_CAMREF]/[SISM10_[CAM.CAM_CAMREF]_]1

WHERE

ORDER BY

Test

Check SQL Preview coupling table

12.2.1.7. Queries checking

Before generating the coupling table, MIKADO allows to check:

- the database connection,
- the main query,



sdn-userdesk@seadatanet.org – www.seadatanet.org

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- the query in the **Modus 2, Modus 1 or 3, Modus 4 or Modus 4 and 5** tabs.

The results of the query checking appear in the **Test** frame. A **green** message informs that the query is correct; an **orange** message is a warning to tell the user that a reference to the IDs returned by the main query is missing and a **red** message informs that the query is wrong and gives information about the error.

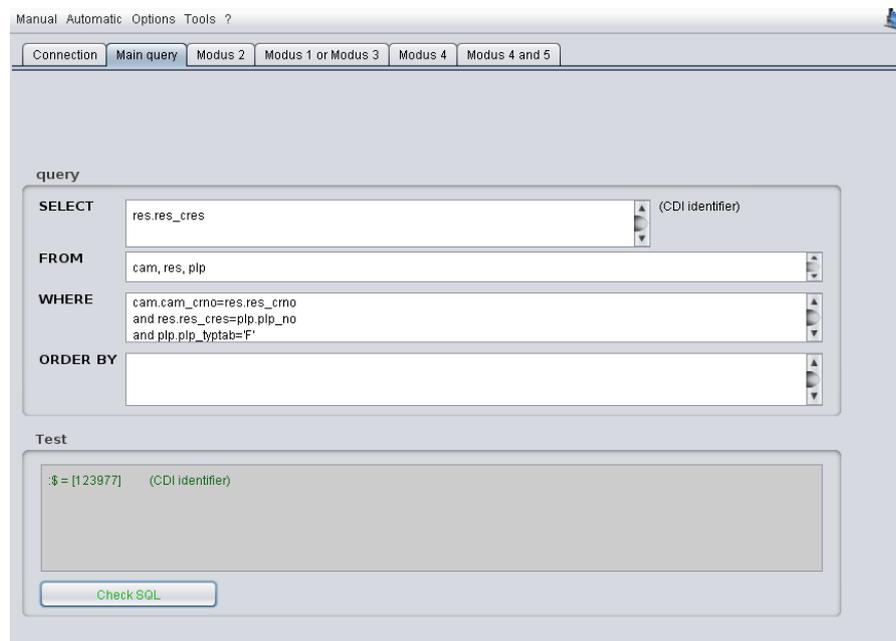


Figure 168: Right query – Green message

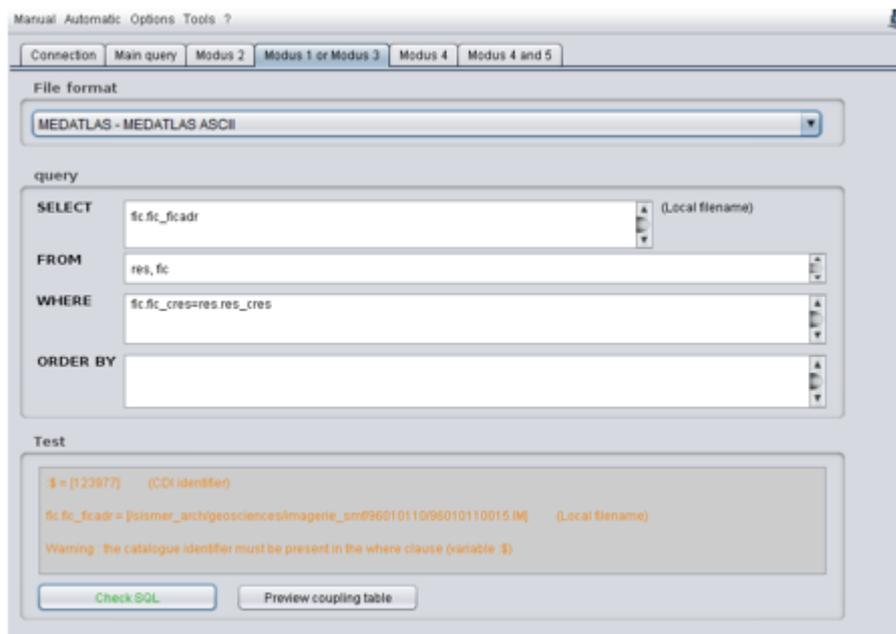


Figure 169: Missing reference to ID - Orange message

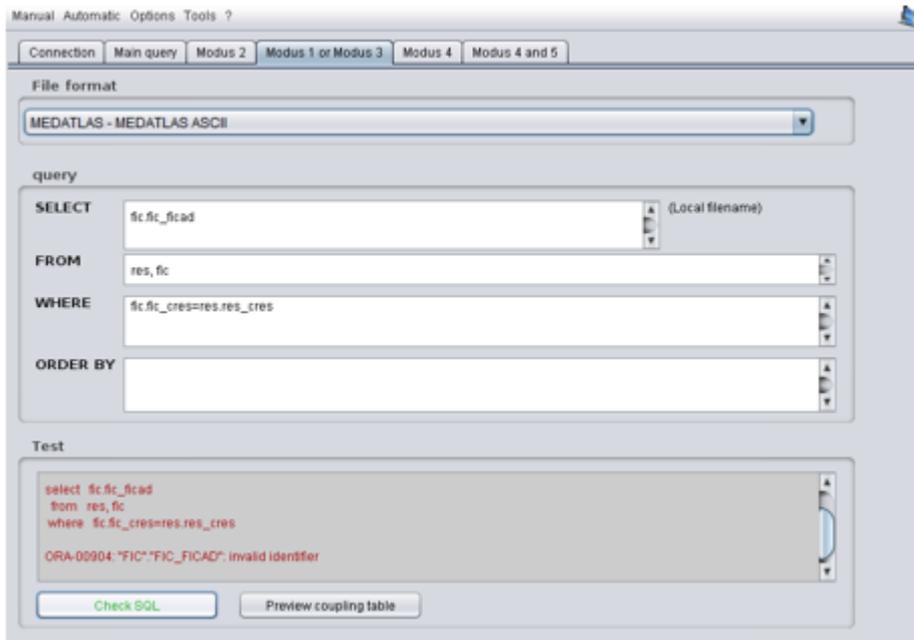


Figure 170: Wrong query – Red message

12.2.1.8. Coupling table preview

In the **Modus 2**, **Modus 1 or 3**, **Modus 4** and **Modus 4 and 5** tabs, MİKADO allows to preview the coupling table which will be created during the generation. To do so, click on the **Preview coupling table** button and the preview will appear in the **Test** frame.

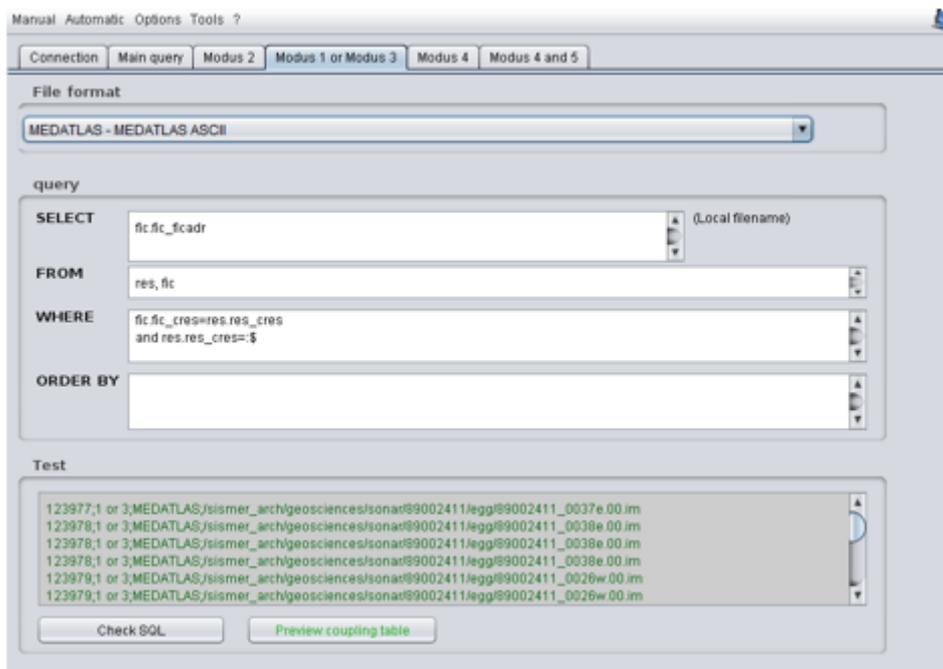


Figure 171: Preview the coupling table

12.2.2. Save the configuration file

Once the connection parameters and the queries have been fulfilled and checked, you can save the configuration file by selecting **Save** or **Save as** in the **Tools > Coupling table for Replication Manager** menu (*this menu will be renamed «Coupling table for Replication Manager» in the next MIKADO release v3.6.3*). The configuration file has an “.xml” extension.

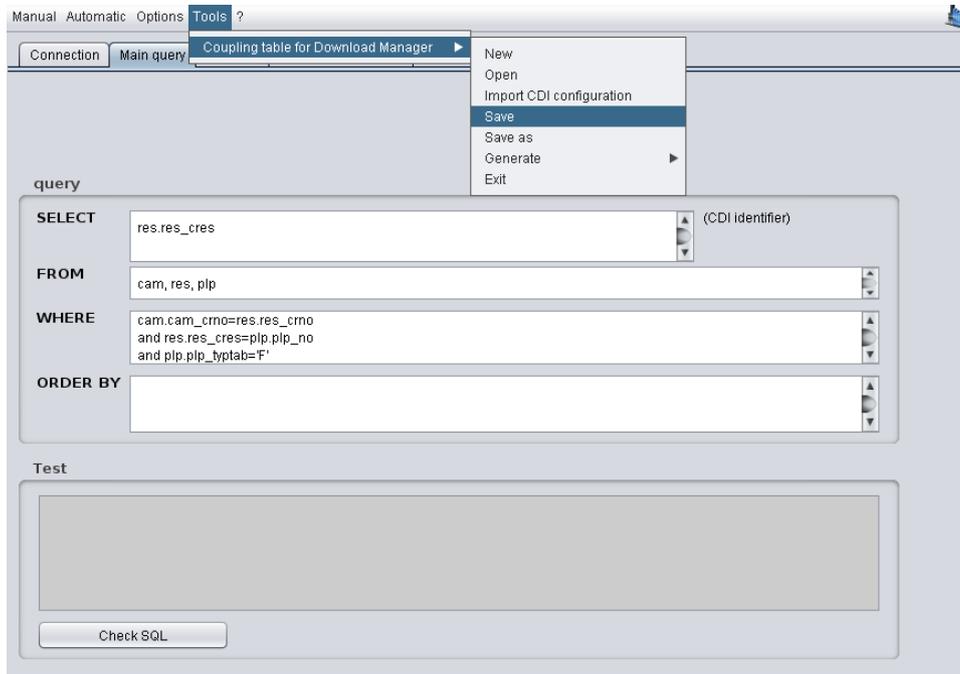
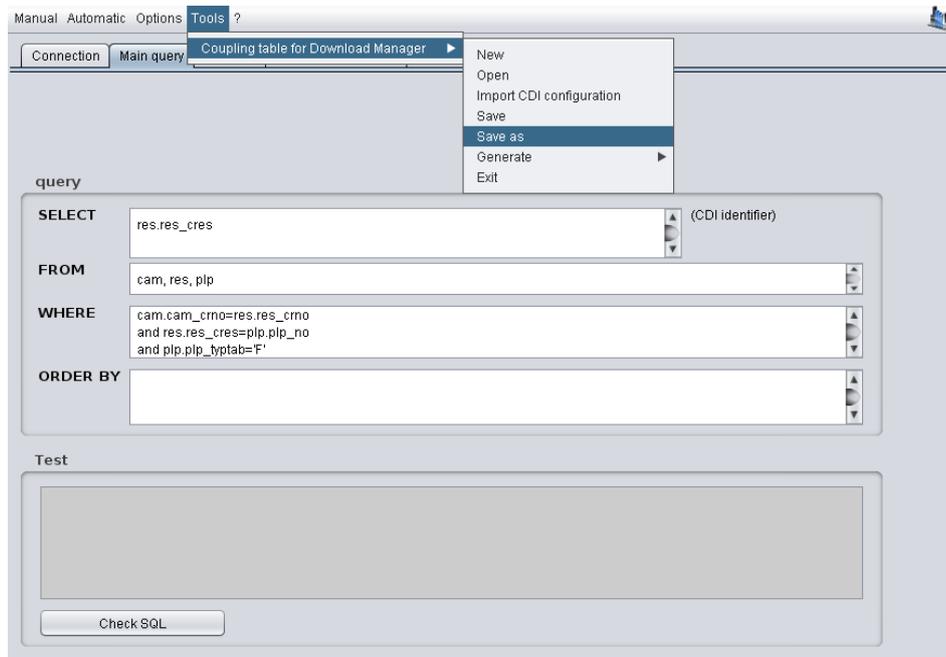


Figure 172: Save the configuration file



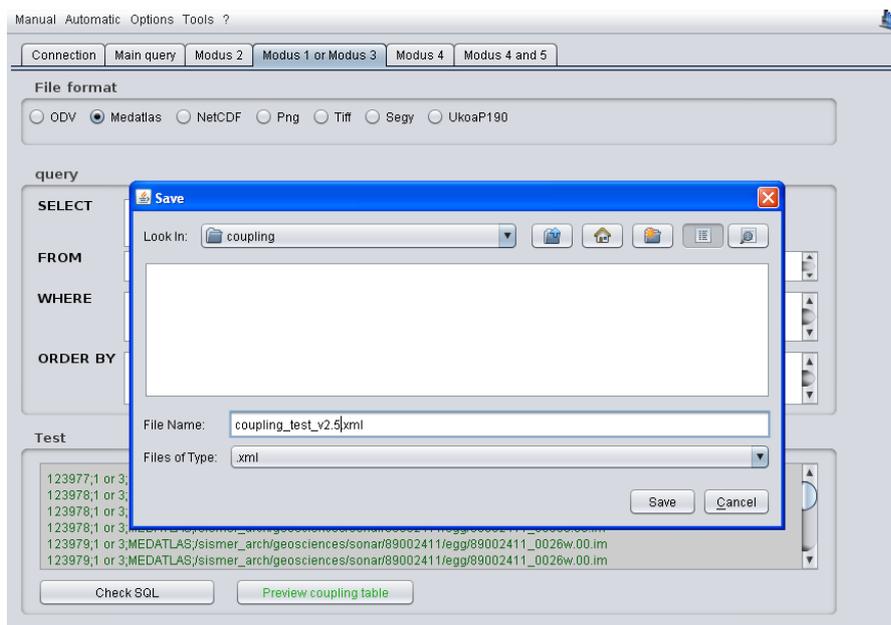


Figure 173: “Save As” the configuration file- Steps 1 and 2

12.2.3. Open an existing configuration

It is possible to open an existing configuration file using MIKADO. To do so, select **Open** in the **Tools** main menu and choose **Coupling Table for Replication Manager** (*this menu will be renamed «Coupling table for Replication Manager» in the next MIKADO release v3.6.3*). Next, select the configuration file to open.

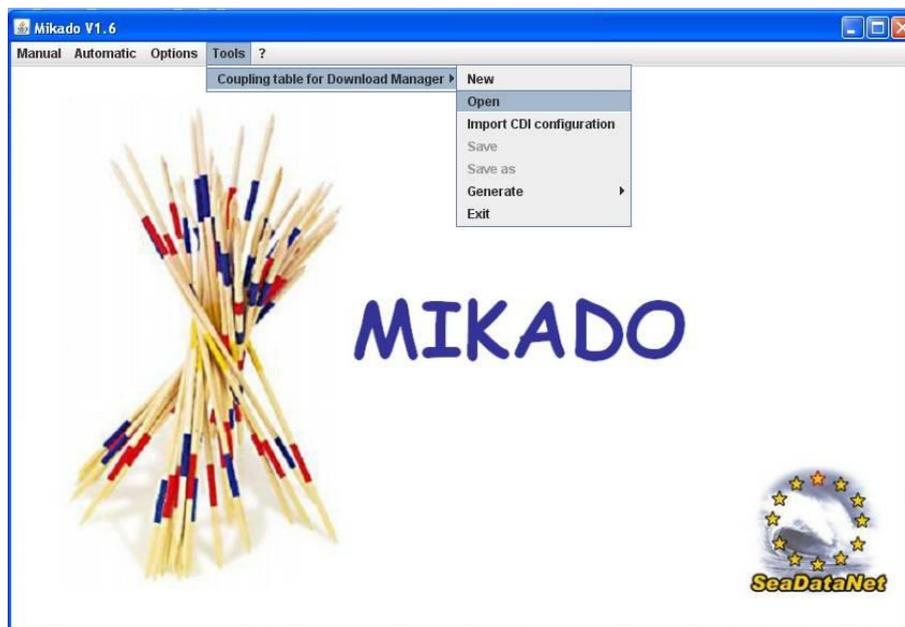


Figure 174: Open a configuration file with MIKADO of L05

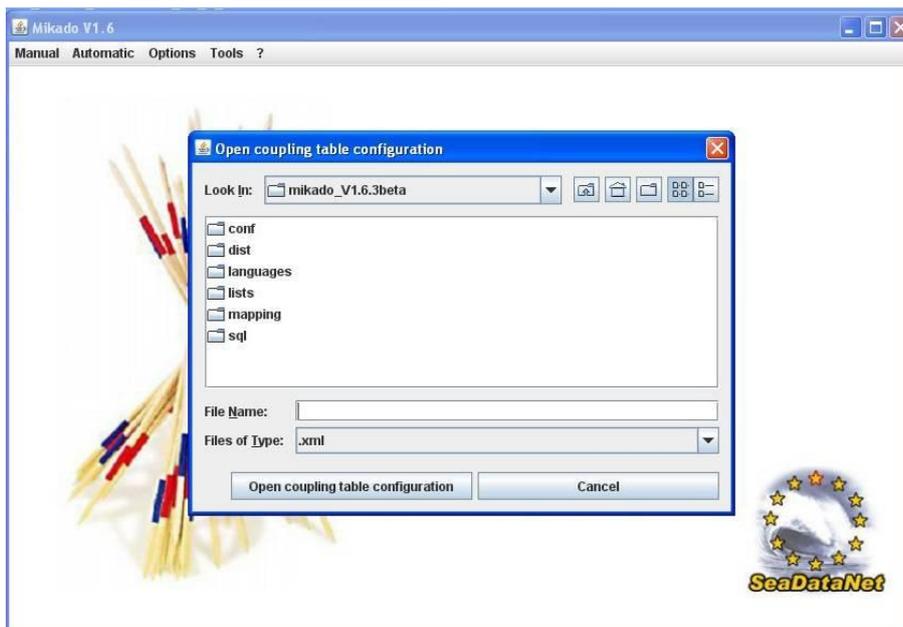


Figure 175: Select the configuration file to open

12.2.4. Import a CDI configuration (MIKADO automatic)

It is possible to import an existing CDI configuration file created with MIKADO automatic. It allows to pre-fill the **Connection** and **Main query** tabs of the Coupling Table configuration. To do so, select **Open** in the **Tools** main menu and choose **Coupling Table for Replication Manager** (*this menu will be renamed «Coupling table for Replication Manager» in the next MIKADO release v3.6.3*). Next, select the configuration file to open. After that, it is possible to complete the Modus 1, 2 or 3 tabs.

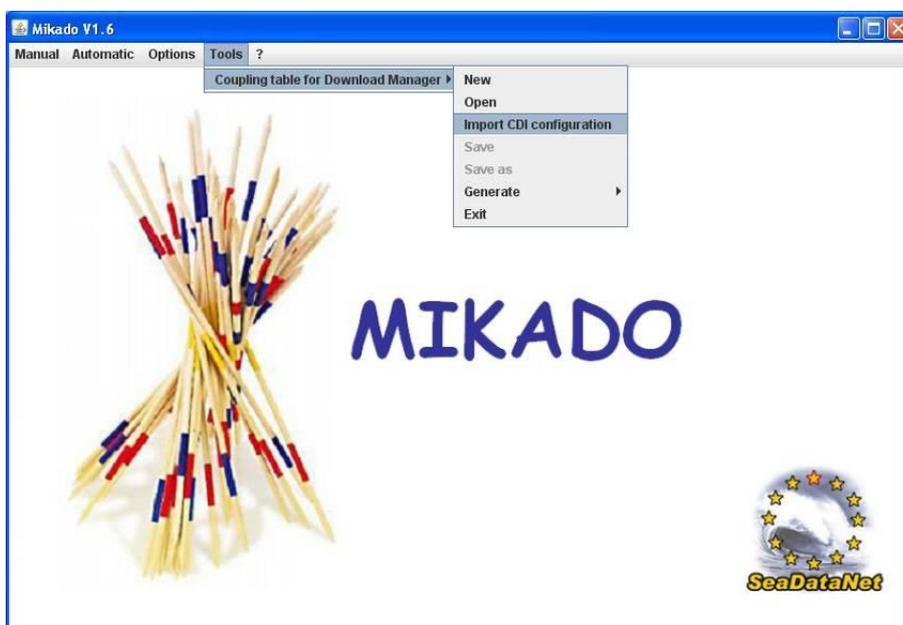


Figure 176: Import a CDI configuration file

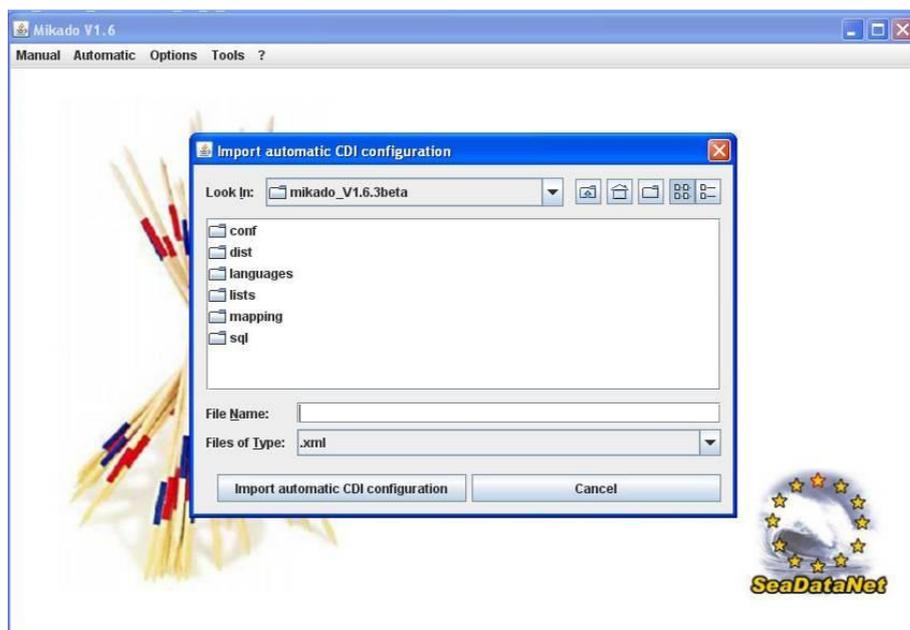


Figure 177: Select the configuration file to import

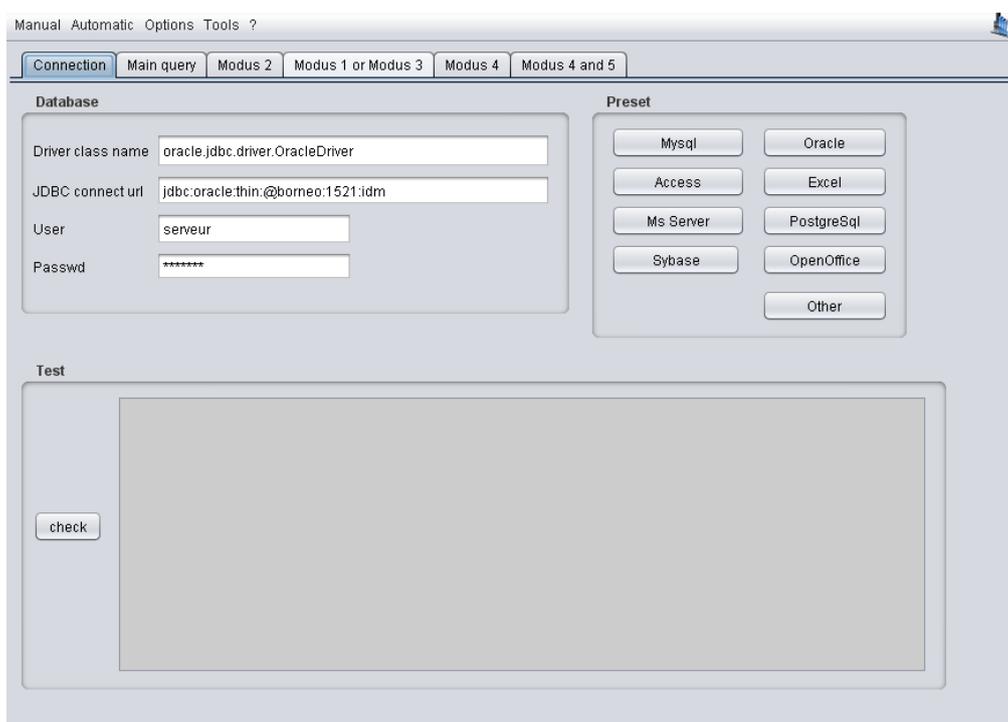


Figure 178: Imported CDI configuration

12.3. Run the automatic generation

The second step is the generation of the Coupling table. The tool must have been configured before generating the XML files (see 12.2).

- 1- Select **Generate** in the **Tools > Coupling Table for Replication Manager** Menu (*this menu will be renamed «Coupling table for Replication Manager» in the next MIKADO release v3.6.3*).
- 2- Select the modus you want to generate: Modus1, Modus 2, Modus 3, Modus 4 or Modus 4 and 5.

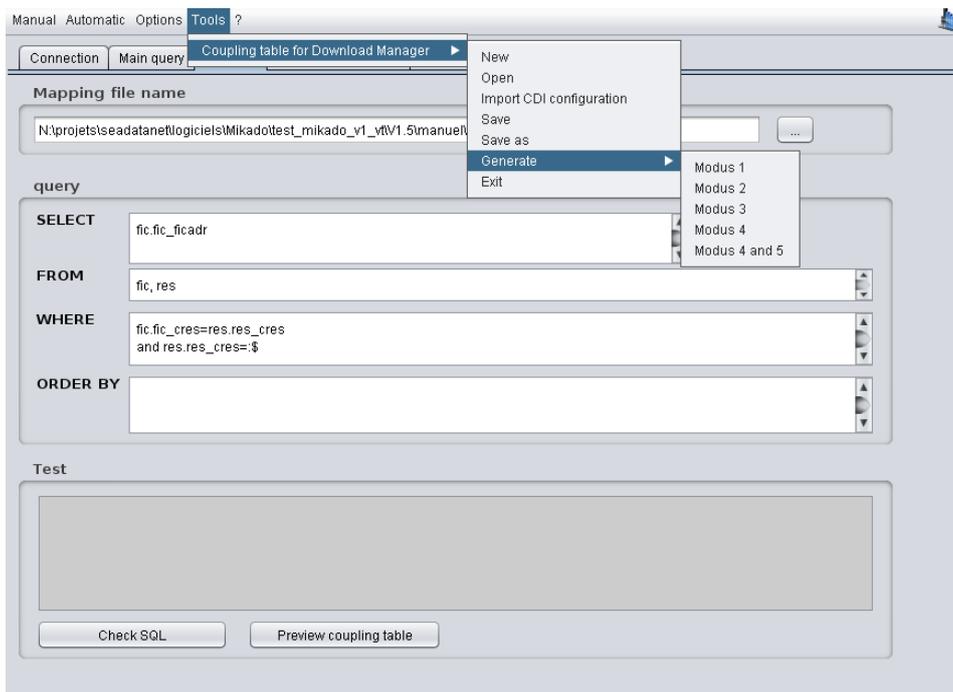


Figure 179: Automatic generation of XML files

- 3- Select the configuration file and the directory in which you want to create the coupling file.

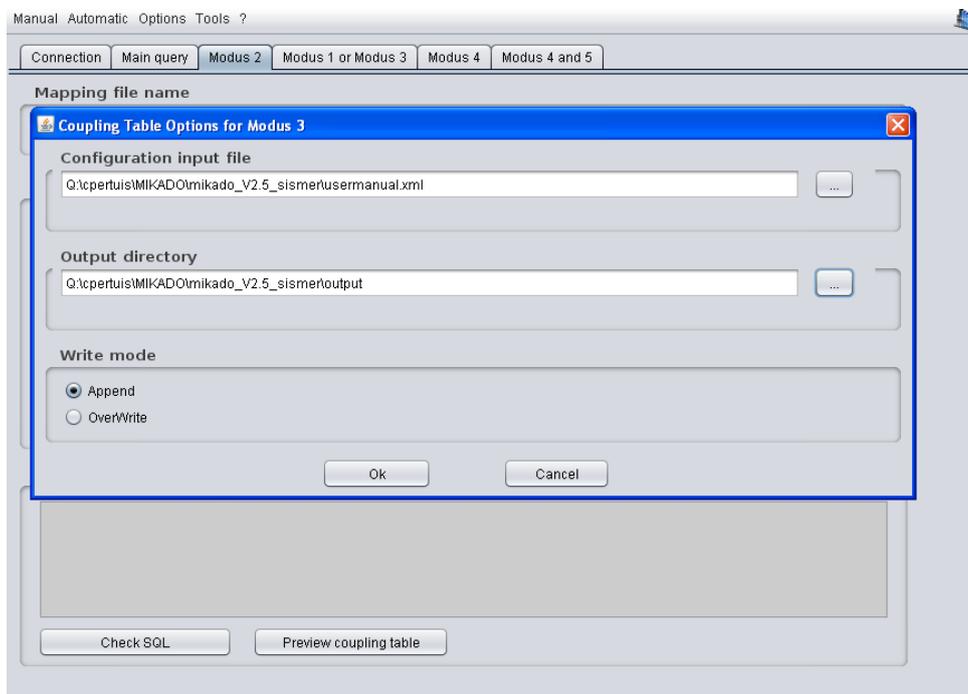


Figure 180: Select the configuration file

- 4- Control the coupling table generation. A progress bar and a percentage indicate the progress of the generation and a **Cancel** button allows to cancel the generation.

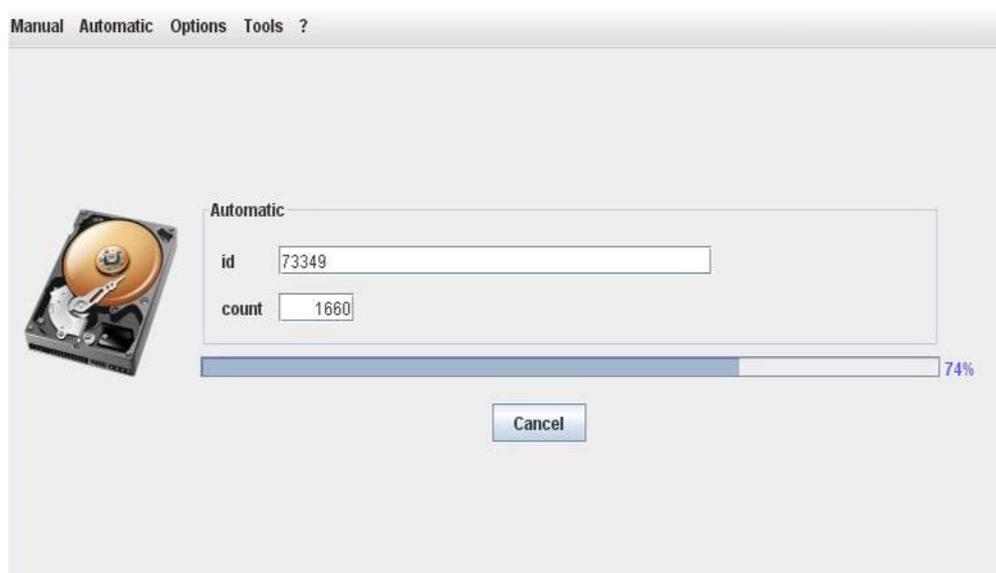


Figure 181: Coupling table generation: Ongoing work

13. Batch mode

Since version 1.7 MIKADO can be run in batch mode.

The batch mode works under Windows and UNIX environments, with a small restriction if used by crontab under UNIX (see paragraph 13.3)

If severe errors occur the batch stops and errors are listed in the log file of Mikado. Fatal severe can be :

- SQL errors,
- Missing argument in the command line,
- Wrong configuration file,
- Writing rights missing in the output directory, ...

If argument “continue-on-error” is false, warnings are processed as severe errors, so they also interrupt the batch and are listed in the log file of Mikado (see paragraph 13.1.7).

13.1. Arguments for the command line

By default when MIKADO is run in interactive mode, the command line is :

```
java -Dcom.sun.xml.bind.v2.bytecode.ClassTailor.noOptimize=true -cp dist\*;dist\lib\* mikado.Mikado mikado-home=.
```

For the batch mode a number of arguments can be added in the command line with the following syntax :

```
java -Dcom.sun.xml.bind.v2.bytecode.ClassTailor.noOptimize=true -cp “[Mikado-home-path]\dist\*” “[Mikado-home-path]\dist\lib\*” mikado.Mikado mikado-home=“[Mikado-home-path]” argument2= ... argument n=
```

OR

```
set MIKADO_FOLDER=“path to your mikado installation folder”
```

```
java -Dcom.sun.xml.bind.v2.bytecode.ClassTailor.noOptimize=true -cp %MIKADO_FOLDER%\dist\*;%MIKADO_FOLDER%\dist\lib\* mikado.Mikado mikado-home=%MIKADO_FOLDER% argument2= ... argument n=
```

If the previous command line does not work, please try the following one:

```
Java -Djava.endorsed.dirs=“dist\lib” -jar “[Mikado-home-path]\dist\Mikado.jar” mikado-home=“[Mikado-home-path]” argument2= ... argument n=
```

The available arguments are described hereafter.

13.1.1. Argument mikado-home

This argument is mandatory ; it is the path of the home directory of Mikado. It can be equal to ‘.’ if the batch is launched from the same directory than the home directory of Mikado.

Example:

```
mikado-home=“N:\SeaDataNet\software\Mikado\mikado_V1.7”
```

or if you use the *set MIKADO_FOLDER=“path to mikado installation folder”* command line

```
mikado-home=%MIKADO_FOLDER%
```



13.1.2. Argument batch-type

This argument is mandatory ; it defines the type of output of Mikado.

3 values are allowed :

- XmlFiles : the output of Mikado will be individual XML files (one per LOCAL_CDI_ID)
- ZipFile : the output of Mikado will be zip files containing individual XML files (one per LOCAL_CDI_ID)
- Both : the output of Mikado will be individual XML files (one per LOCAL_CDI_ID) and zip files containing the same individual XML files.

Example : *batch-type=ZipFile*

13.1.3. Argument batch-mode

This argument is mandatory ; it defines which catalogue is concerned by the XML generation. 7 values are allowed : CDI19139, EDMED, CSR19139, EDMERP, EDIOSOP, EDIOSDS, EDIOSPL, SENSORMLSEISMIC, OEMSEISMIC

Example : *batch-mode=CDI19139*

13.1.4. Argument conf-file

This argument is the path and name of the XML configuration file to be used for the automatic generation of the XML catalogue files. This configuration xml file must have been firstly created with MIKADO automatic mode. **This argument is mandatory, except if you use the “nemo-export” argument** (see 13.1.5) **for CDI generation** (batch-mode=CDI19139).

Example : *conf-file="X:\my_folder\my_configuration_file.xml"*

13.1.5. Argument nemo-export

An alternative for CDI generation (batch-mode=CDI19139) is to replace the “conf-file” argument by the “nemo-export” argument to include the path of the CDI summary txt file generated by NEMO software (see 13.1.4). MIKADO will create automatically the corresponding configuration file including predefined queries as described in 11.3. This configuration is automatically saved at the same place than the summary file.

Example: *nemo-export="X:\my_folder\my_CDI_SUMMARY.txt"*

Using the argument *nemo-export = "X:\my_folder\my_CDI_SUMMARY.txt"* in the batch command will generate a configuration file : *X:\my_folder\my_CDI_summary.xml*.

13.1.6. Argument output-dir

This argument is mandatory ; it defines the output directory of MIKADO which is the directory where the zip files and/or the xml files are written by MIKADO.

Example : *output-dir="X:\my_folder\"*



13.1.7. Argument continue-when-error

This argument is mandatory ; 2 values are allowed:

- true : if MIKADO finds one record with mapping missing, or one record with mandatory field(s) null in the database, it writes a warning for this record in the logfile, and continues to process next records. So, only the XML file of the records with warning will be missing in the output directory.
- false : if MIKADO finds one record with mapping missing, or one record with mandatory field(s) null in the database, it writes a severe error in the logfile, and stops. In the output directory, the files generated before the detection of the error are available.

Example : `continue-when-error=true`

13.1.8. Argument log-file

By default the log file of Mikado is created in Mikado-home and it is named Mikado.log.

User can choose another Path and Name by using the log-file argument in the command line.

Example : `log-file="X:\my_folder\my_log_file.log"`

13.1.9. Argument trace

By default the trace argument is set to false.

This argument is for tuning the SQL time response of SQL queries written in the configuration file. 2 values are allowed :

- sql : a tuning of the SQL request is generated on the standard output, this tuning can be redirected to a text file, using the character '>'
- false : no tuning of the SQL queries.

Example :

`trace = sql /* trace is written on the standard output */`

`trace=sql > x:\my_folder\traces\CTDF02_trace.txt /* trace is written in a text file*/`

The trace file contains the elapsed time for each query of MIKADO's configuration file (main query, single queries and multiple queries). At the end of the trace file, there is a summary giving the time response of the SQL main query, the SQL query with the maximum elapsed time and the average elapsed time of all queries.

Example of trace file :

```
+=====+
| MAIN QUERY ==> 2 milliseconds |
+=====+
select mikado_cdi_localcdiid
from mikado_cdi_temp
where mikado_cdi_CBASE = 'HYDR01'
and mikado_cdi_localcdiid like 'FI35198600141%'
```



```

+=====+
| :$ = FI35198600141_00270_H09 |
+=====+
++
| SINGLE QUERY ==> 3 milliseconds |
++
select '486' as var01, '486' as var36, '486' as var09
from dual

etc ...
++
| MULTIPLE QUERY ==> 3 milliseconds |
++
select dpt.dpt_edmo_code as var07
from dpt, mis, cam, res, mikado_cdi_temp
where mikado_cdi_localcdiid = 'FI35198600141_00270_H09'
and mikado_cdi_cres=res.res_cres
and res.res_crno = cam.cam_crno
and mis.mis_crno = cam.cam_crno
and mis.mis_norang = 1 and mis.mis_cdpt = dpt.dpt_cdpt

etc ...
+=====+
| MAIN QUERY TIME ==> 2 milliseconds |
+=====+
select mikado_cdi_localcdiid
from mikado_cdi_temp
where mikado_cdi_CBASE = 'HYDR01'
and mikado_cdi_localcdiid like 'FI35198600141%'

+=====+
| MAXIMUM SUBQUERY TIME ==> 10 milliseconds |
+=====+
select cod.cod_libel as var03
from cod, res , mikado_cdi_temp
where mikado_cdi_localcdiid = 'FI35198600141_00560_H09'

```



```

and mikado_cdi_cres=res.res_cres and cod.cod_nolist = 811 and
cod.cod_langue = 'E'
and res.res_ellips
= cod.cod_code
+=====+
| AVERAGED SUBQUERY TIME ==> 2.23 milliseconds |
+=====+

```

13.1.10. Argument max-files-in-zip

By default the number of XML files in a MIKADO zip file is 1000. User can changes this number of files per zip file by using the argument max-files-in-zip.

Example : `max-files-in-zip=3000`

13.1.11. Argument zip-prefix

By default there is no prefix on the zip file filename, and, by default, they are called SeaDataNet_[catalogue]_[x].zip (x starting with 1). Users can add a prefix to the zip file by using the zip-prefix argument.

Example : `zip-prefix=CTDF02`

For the CDI catalogue, the zip files will be called :

`CTDF02_SEADATANET_CDI_1.zip`, `CTDF02_SEADATANET_CDI_2.zip`,...

13.1.12. Argument UpdateCenter

This argument, set to on, allows to automatically update the vocabulary lists when running MIKADO in batch mode (by default, it is set to on).

Example : `UpdateCenter=off`

13.2. Example of Mikado.bat file for windows

```

REM #####
REM # Mikado 1.7 #
REM #####
REM # endorsed for java < JDK 6 Update 4 release #
REM # (JAX-WS 2.1 and JAXB 2.1 is available in JDK 6 Update 4 release) #
REM#####

REM #####
REM # Mikado with user interface #
REM #####

```



```

REM # mikado-home=mikado directory #
REM # optional : log-file=name of logfile (default Mikado.log) #
REM # optional : trace=false(default) or sql #
REM # optional : max-files-in-zip=1000 (default) #
REM # optional : zip-prefix= (no prefix by default) #
REM #####
REM#java -Djava.endorsed.dirs="dist/lib" -jar dist/mikado.jar mikado-home=.

REM #####
REM # Mikado batch #
REM #####
REM # mikado-home=mikado directory #
REM # batch-type=XmlFiles,ZipFile or Both #
REM # batch-mode=CDI,EDMED,CSR or EDMERP #
REM # conf-file=path of xml automatic configuration file #
REM # output-dir=output directory for generation #
REM # continue-when-error=true or false #
REM # optional : log-file=name of logfile (default Mikado.log) #
REM # optional : trace=false(default) or sql #
REM # optional : max-files-in-zip=1000 (default) #
REM # optional : zip-prefix= (no prefix by default) #
REM # optional : UpdateCenter=on or off (default on for vocabulary update) #
REM #####
java -Djava.endorsed.dirs="dist/lib" -jar c:\program\mikado\dist\mikado.jar mikado-home=C:\program\mikado batch-
type=ZipFile
batch-mode=CDI conf-file=X:\my_folder\CDI_CTDF02_all_V1.6.1.xml
output-dir=X:\my_folder continue-when-error=true
log-file=X:\my_folder\CDI_CTDF02.log
trace=sql > X:\my_folder\trace_CTDF02.txt
max-files-in-zip=3000 zip-prefix=CTDF02

```

13.3. Crontab for Unix.

Under UNIX environment, if the user launches batch mode of MIKADO by crontab, there is no DISPLAY opened. So MIKADO in batch mode will stop with a fatal error “cannot open DISPLAY”.

To bypass this, user needs to install a virtual display, like Xvfb.

For example, for Solaris a software for virtual display installation and tutorial can be downloaded from :

http://www.idevelopment.info/data/Unix/General_UNIX/GENERAL_XvfbforSolaris.shtml.



14. Validation of XML files created by MIKADO

IMPORTANT: The Validation Service (www.seadatanet.org/validator) is not maintained anymore.

14.1. CDI and CSR ISO 19139

CDI and CSR ISO19139 XML Schemas are dynamically supported by ISO XML lists for EDMED, EDMO, EDMERP, CSR, Vocabs, ISO through Schematron. This allows to validate CDI and CSR XML entries using a XML editor (XML Spy or Oxygen or other XML editors).

To validate your CDI and CSR WML files created by MIKADO using Oxygen Software for example:

- Open your XML file : File > Open
 - o The file is display on the screen
- Run the validation : Document > Validate > Reset cache and validate
 - o Errors and warnings are displayed
 - o Warning are not obstacles for XML delivery
 - o Errors must be corrected

⇒ Green validation: your XML file is valid (see Figure 182)

⇒ Red validation: your XML file is not valid and must be corrected (see Figure 183)

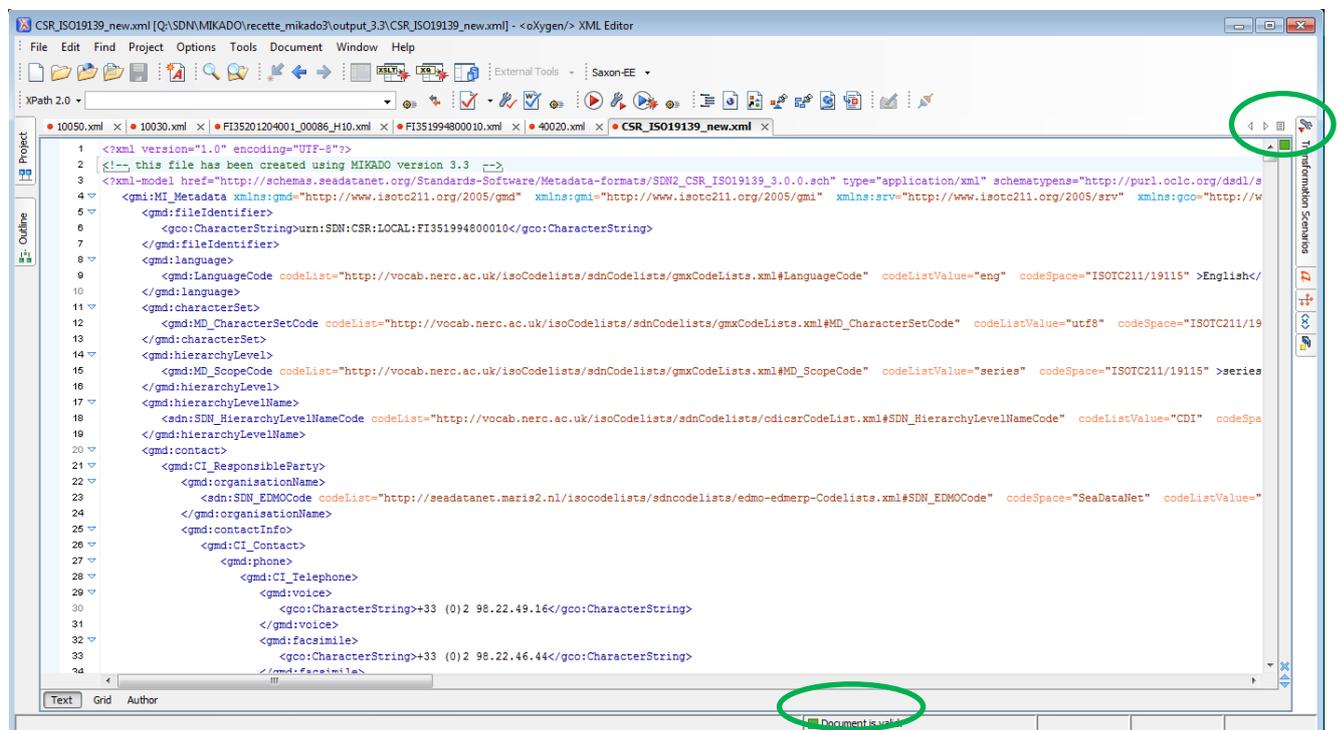


Figure 182 : Green validation : Document is valid

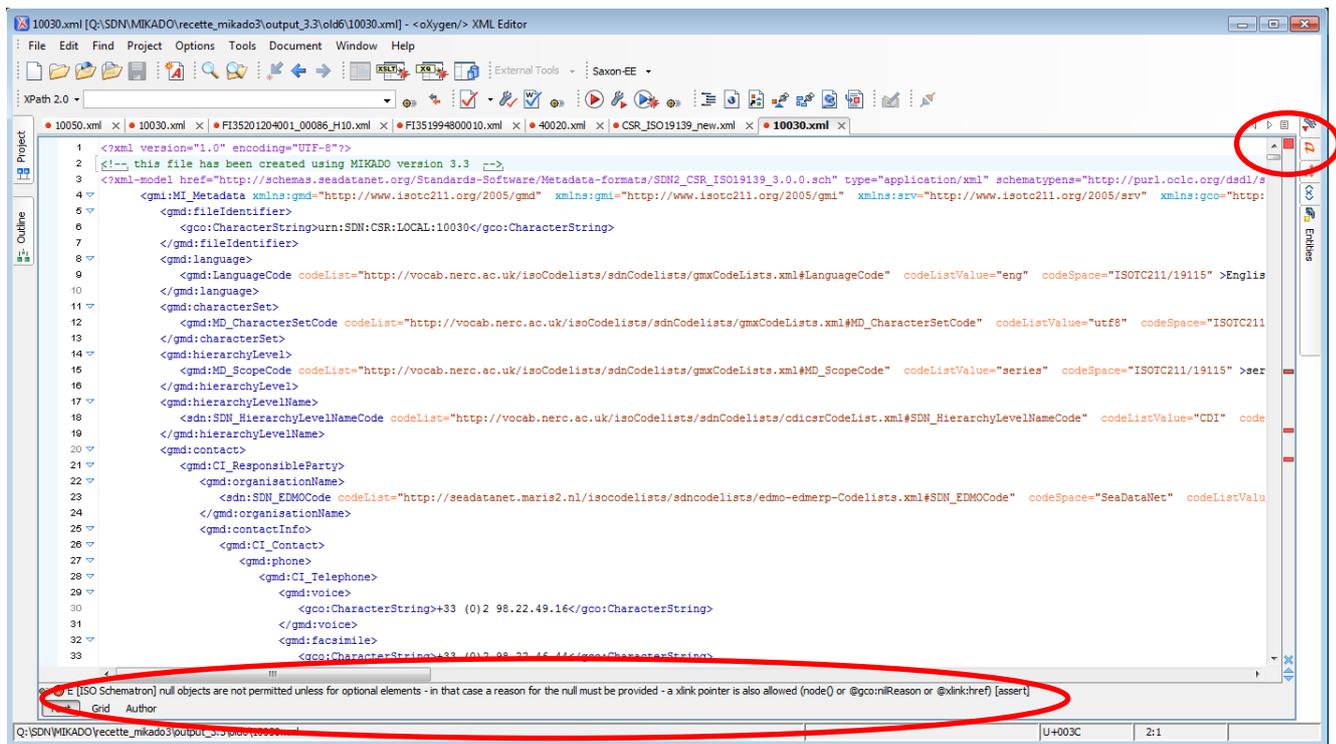


Figure 183 : Red validation : Document is not valid and must be corrected

14.2. EDMED, EDMERP, EDIOS

EDMED, EDMERP and EDIOS XML Schemas will be upgraded soon (schematron) in a comparable way allowing to validate these also with XML editors.