



SeaDataNet

MIKADO – Generation of ISO 19115 –
19139 SeaDataNet metadata files



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What's MIKADO ? (1/2)

MIKADO is used to generate XML catalogue descriptions, it creates XML files using **SDN common vocabularies** for metadata exchange of

- **CSR** - Cruise Summary Reports
- **EDMED** - Marine Environmental Data sets
- **CDI** - Common Data Index
- **EDMERP** - Marine Environmental Research Projects
- **EDIOS** – Permanent Ocean-observing System



Technical characteristics

- Written in **Java** Language (Version ≥ 1.7)
- Available under multiple environments : Windows, Unix – Solaris, Linux.
- Interactive and batch modes available
- Use of the **SeaDataNet common vocabularies** web services to update lists of values
 - needs network connection in order to have up to date lists of values.
 - but Mikado works offline once the lists are up-to-date



Current release

V 3.3.4 is freely available on SeaDataNet Web site

<https://www.seadatanet.org/software/mikado>

- Microsoft Office Excel 32 bits (JRE 1.7 included): [Mikado V3.3.4 for excel32](#)
- Microsoft Office Excel 64 bits (JRE 1.7 included): [Mikado V3.3.4 for excel64](#)
- No Excel (no JRE provided): [Mikado V3.3.4](#)

User manual is also provided:

[http://www.seadatanet.org/content/download/20278/140561/file/sdn Mikado User Manual V3.3.4.pdf](http://www.seadatanet.org/content/download/20278/140561/file/sdn_Mikado_User_Manual_V3.3.4.pdf)

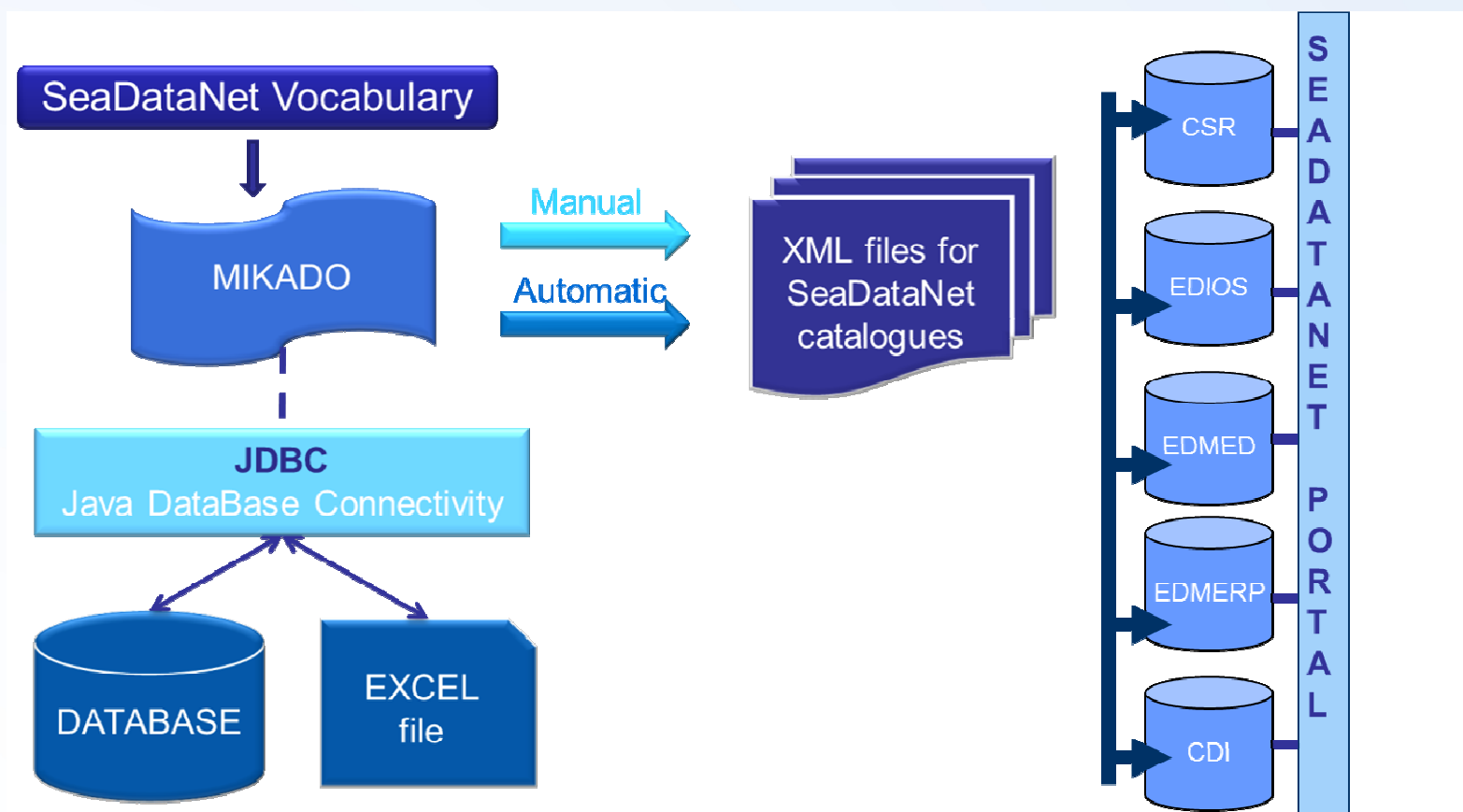


MIKADO main features (1/2)

- **MIKADO can be used in 2 different ways**
 - One manual way, to input manually information for the catalogues in order to generate XML files.
 - One automatic way, to generate XML descriptions automatically, from information catalogued in a relational database or in an Excel file. Automatic way is needed for those who have many entries referenced in a relational database

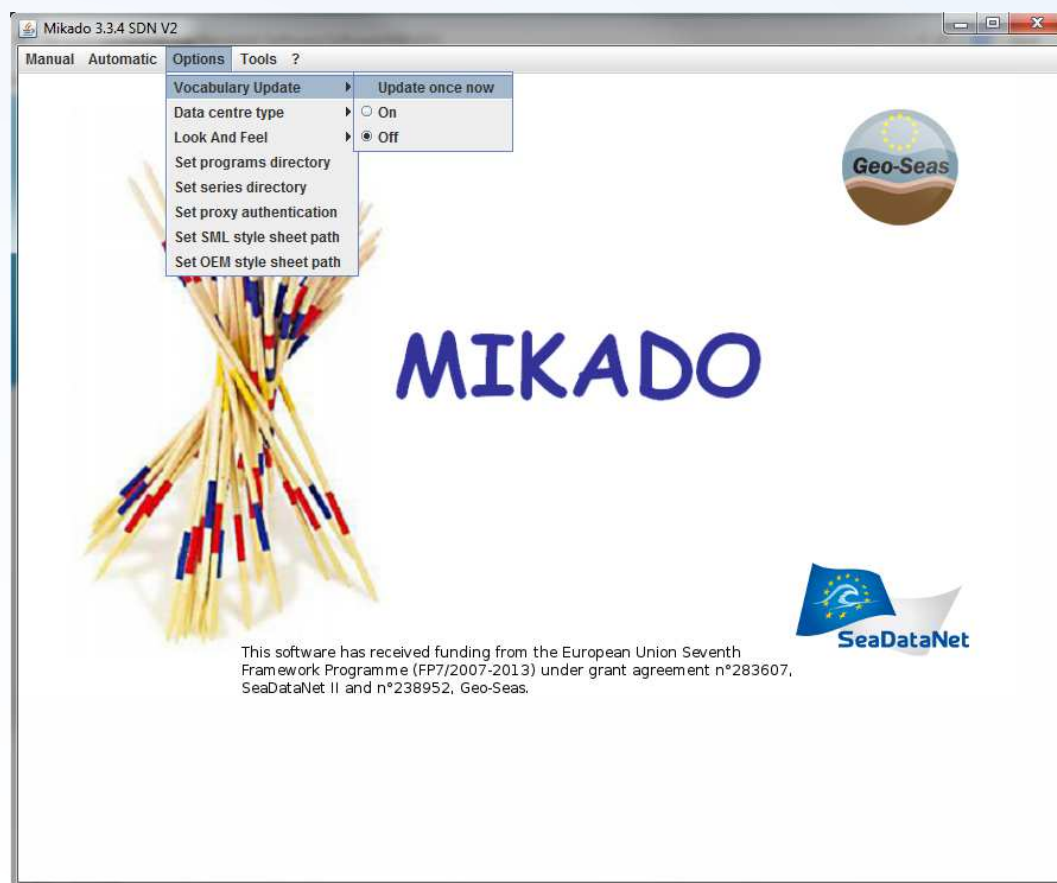


MIKADO main features (2/2)





MIKADO and SeaDataNet vocabularies



Automatic check of the version of the vocabulary lists : once when MIKADO starts

- If “On” is clicked in the Vocabulary Update Menu
- MIKADO downloads locally the latest version of each list

Possible to enable-disable the automatic check

- If “Off” is clicked

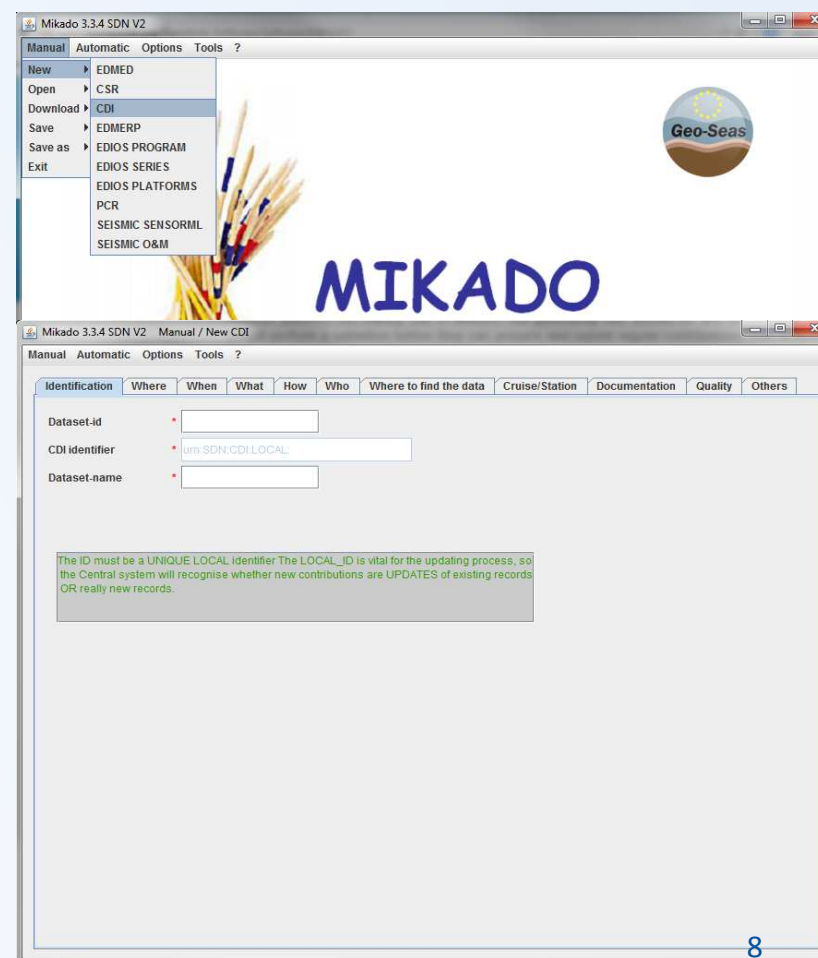
Manual check

- Update once now



MIKADO – Manual input

- Available for 5 catalogues : EDMED, CSR, CDI, EDMERP, EDIOS
- Each input generates one XML file
- For EDMERP and CSR : [EDMERP](#) CMS and [CSR](#) online can also be used, but MIKADO is useful
 - if you have problems with the NETWORK connection
 - if you want to keep locally an XML description of your catalogues
- For EDMED, EDIOS and CDI, there is no online input tools.

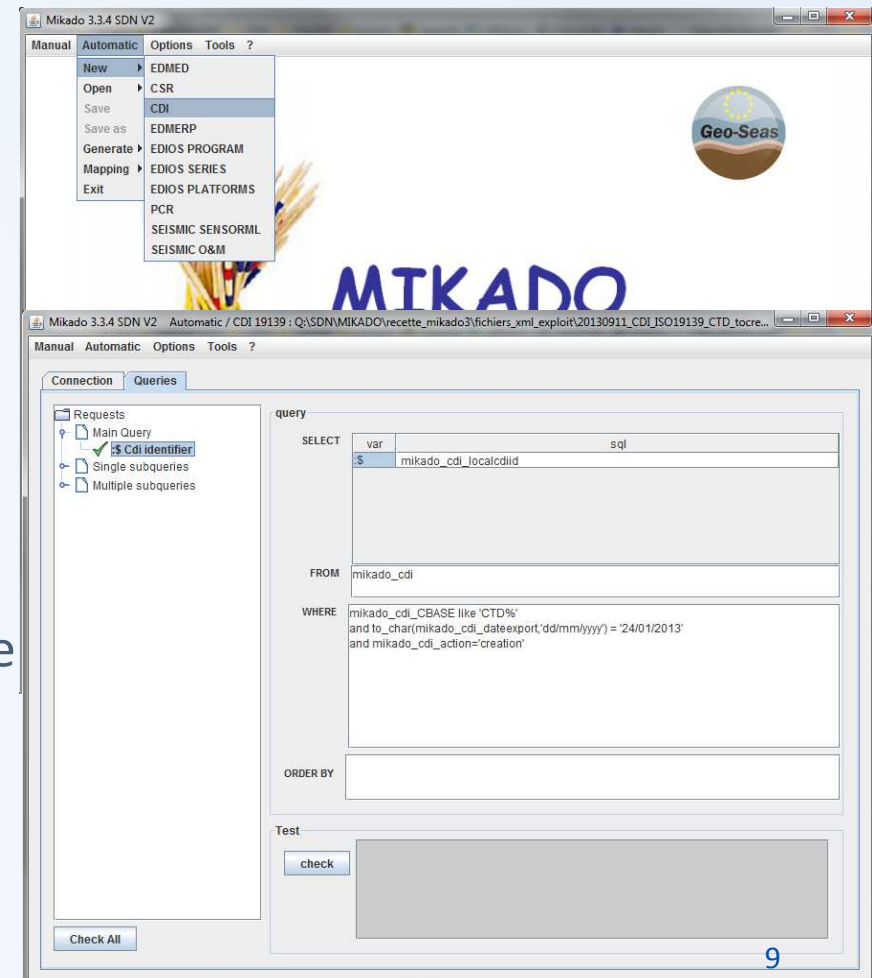




MIKADO – Automatic XML generation

Principle

- Read the information about CSR, EDMED, EDMERP, EDIOS or CDI in a database or a Excel (CSV) file
- MIKADO has predefined variables which correspond to the XML tags definition for each catalogues
- MIKADO helps user to write the SQL orders to fulfill these variables with the information available in the database or in the Excel file





MIKADO – Automatic XML generation

4 STEPS

- Connect to a database or an Excel file and test the connection
- Write the queries to retrieve information in the database or in the Excel file, test the queries
- Save the queries in a “Configuration file”
- Generate the XML files using the “Configuration file”



MIKADO automatic – Step 1 :connection

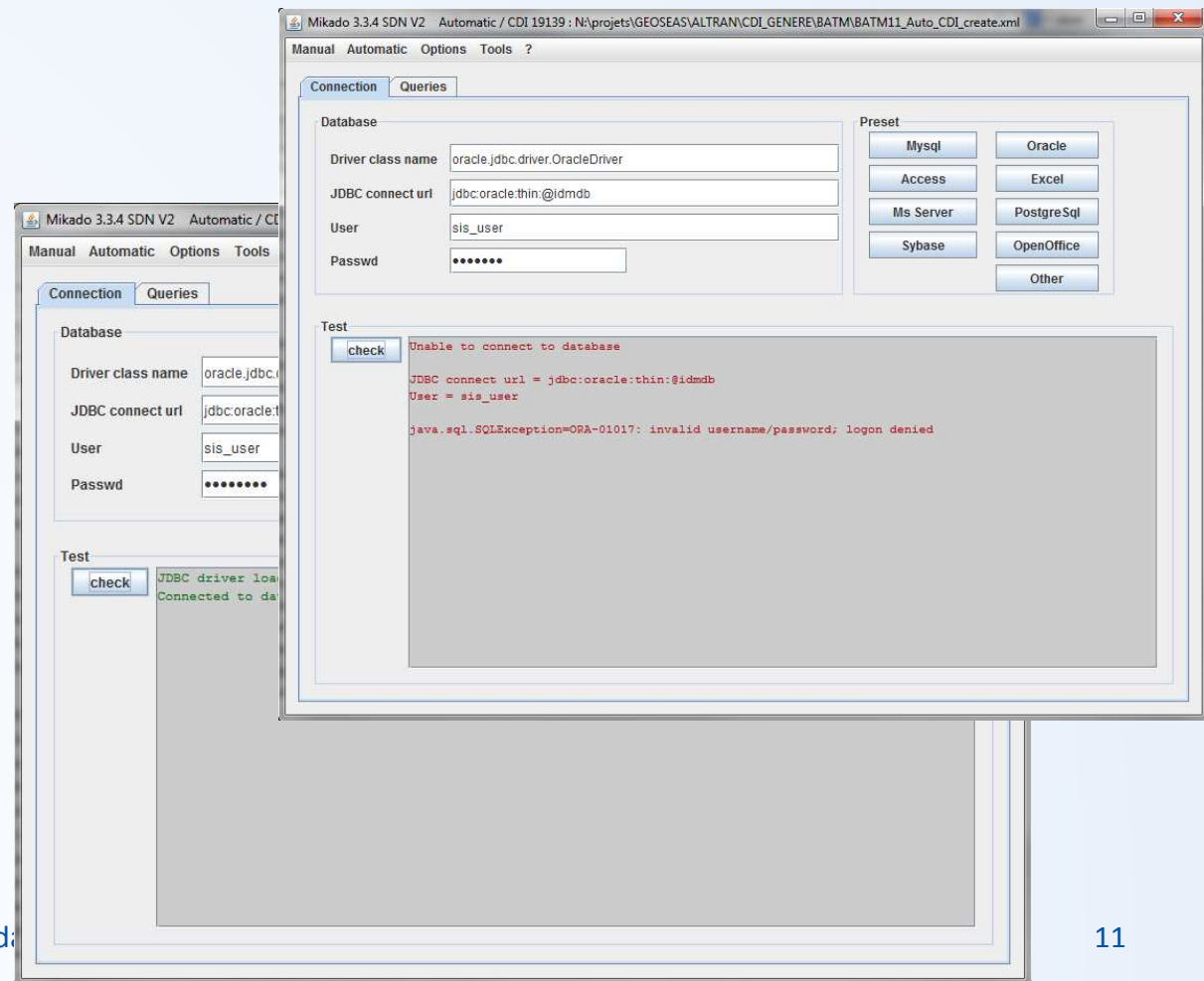
Help for the connection to the database

Pre-filled information for some databases

Check of the connection

Green OK

Red KO : read the error message





MIKADO automatic – Step 2 : queries (1/6)

Main query

Return the LOCAL ID

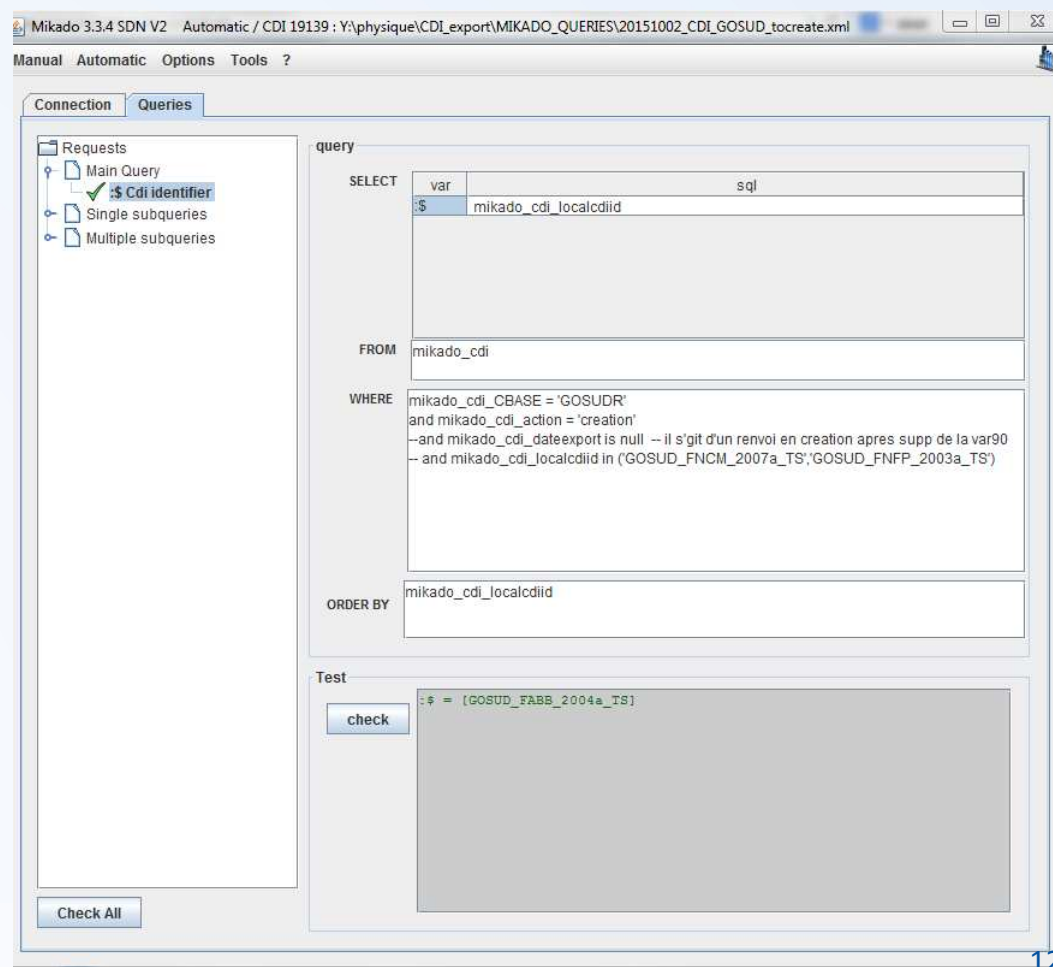
Single subqueries

Return 1 row

Multiple subqueries

Return 1 to n rows

Single and multiple queries related to each LOCAL ID returned by the main query.





MIKADO automatic – Step 2 : queries (2/6)

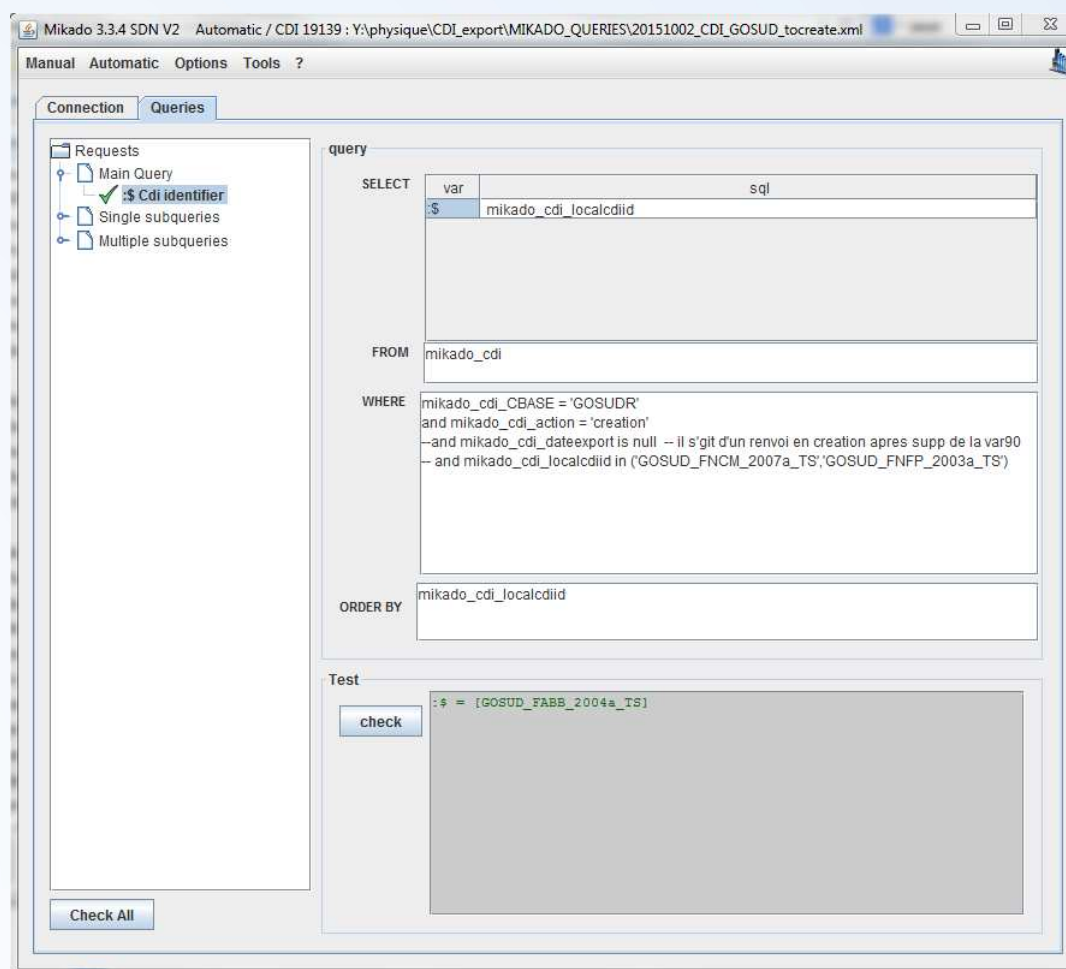
Write the queries

SQL syntax (for Oracle, Excel, MySQL, ...) and SQL variables must be adapted to your own data base

Check the Queries

Green OK

Red KO : read the error message



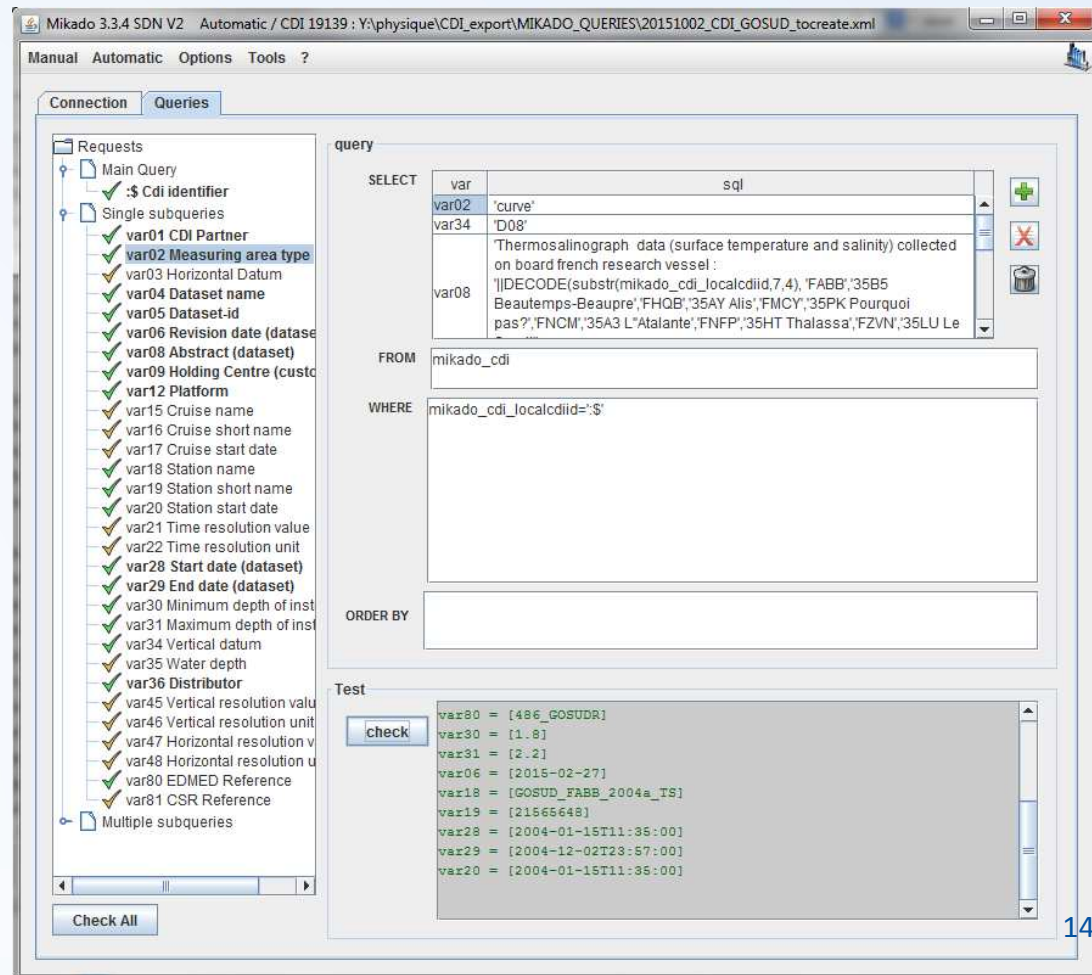


MIKADO automatic – Step 2 : queries (3/6)

Single queries

All the XML variables are listed in the expendable tree

- 1 to n single subquery can be written
- In **bold** : mandatory fields
- **Green** ticks: fields already fulfilled
- Add or delete variables in a query
- Delete a full query
- Check the query



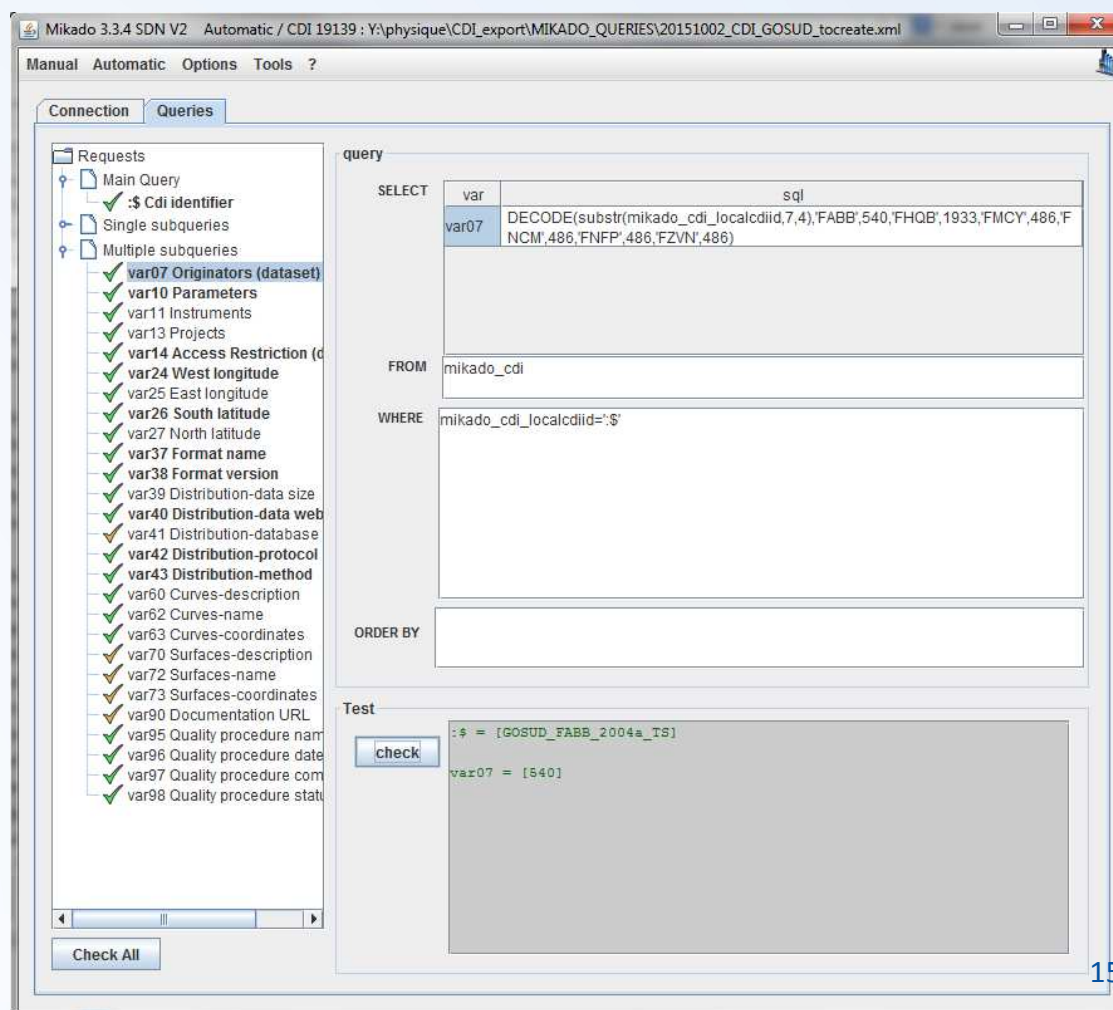


MIKADO automatic – Step 2 : queries (4/6)

Multiple queries

All the XML variables are listed in the expendable tree

- Number of queries is pre-defined
- The list of variables for each of these multiple queries is also pre-defined
- In bold : mandatory field
- Green ticks : fields already fulfilled

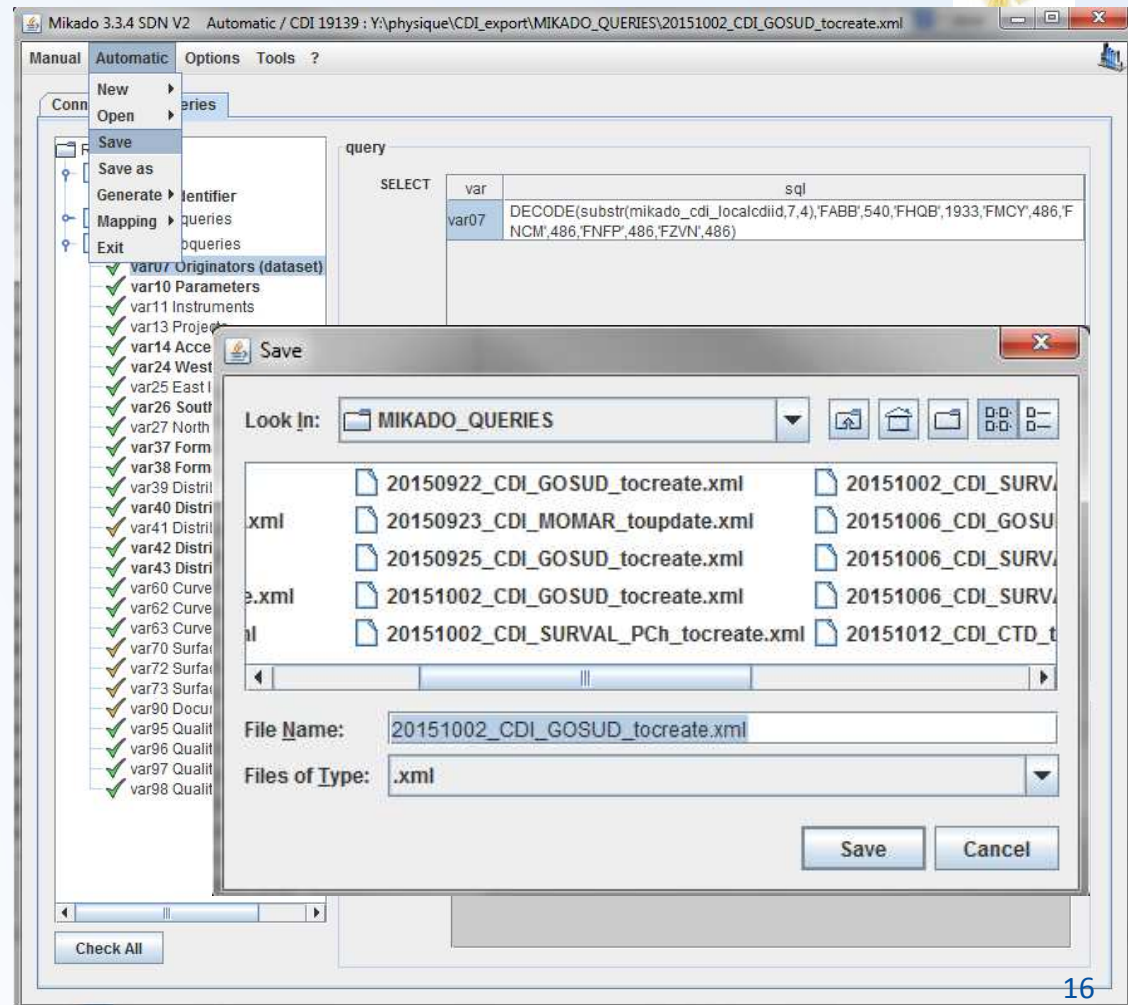




MIKADO automatic – Step 3 : Save (5/6)

When all the queries are written

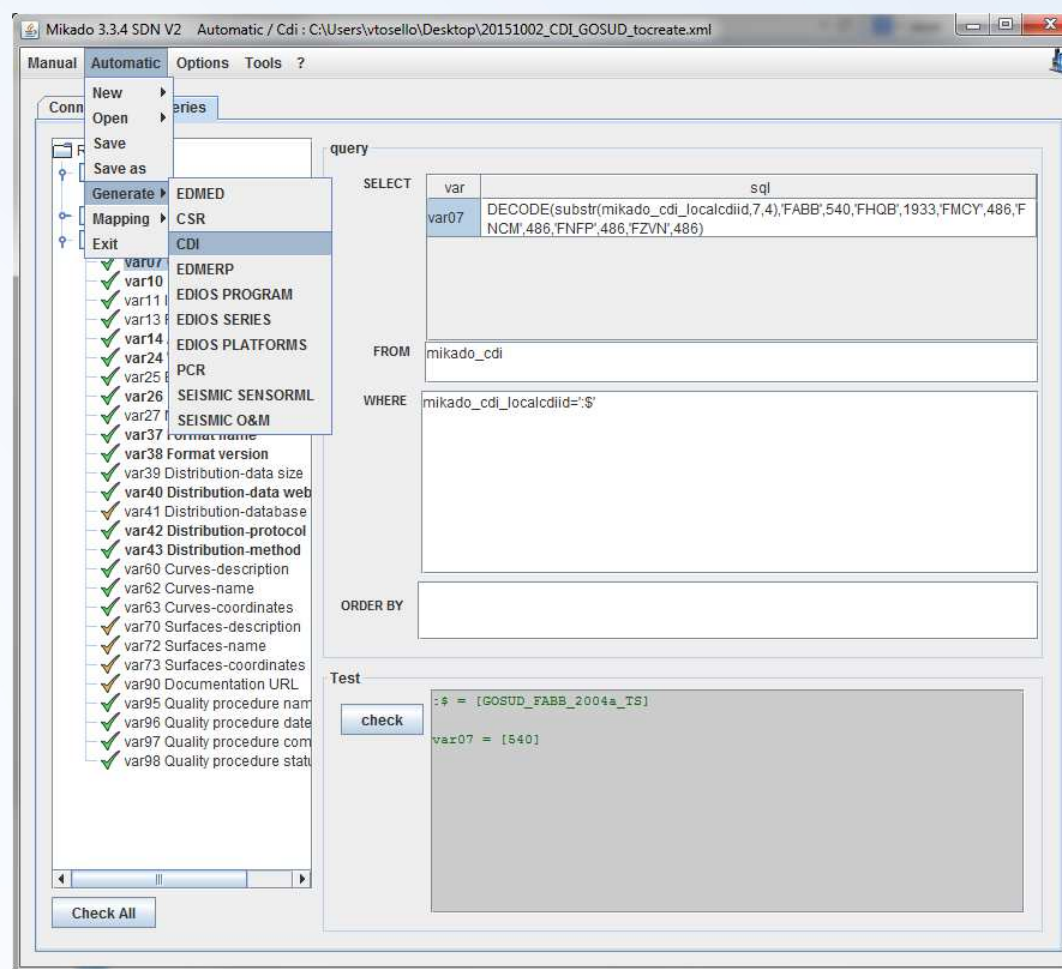
→ Saved in an XML file
(configuration file) to be re-used later on





MIKADO automatic – Step 4 : Generate (6/6)

1. Select the catalogue you want to generate
2. Choose the configuration file (queries)
3. Choose the output directory
4. Choose the type of export files (XML, ZIP or both)
5. Export the XML files
 - Progress bar
 - Cancel allowed



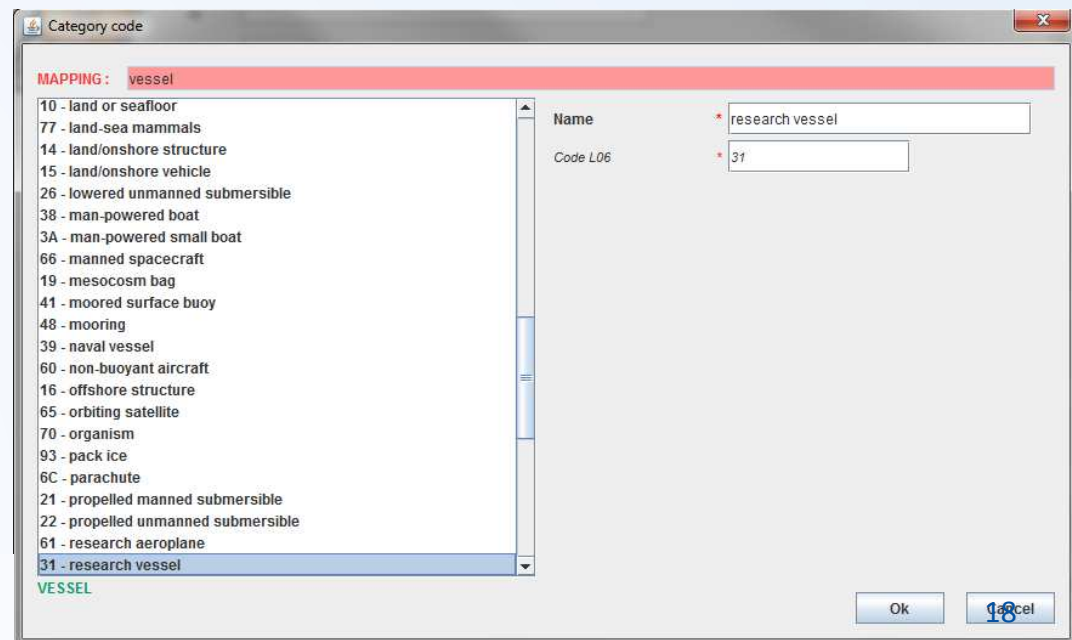


MIKADO automatic - local mapping (1/2)

- While generating the XML files for all the catalogues
- Each time that MIKADO does not recognize a value which should come from the common vocabulary, it asks the user for mapping

Example of CDI generation

- Mapping of the platform type



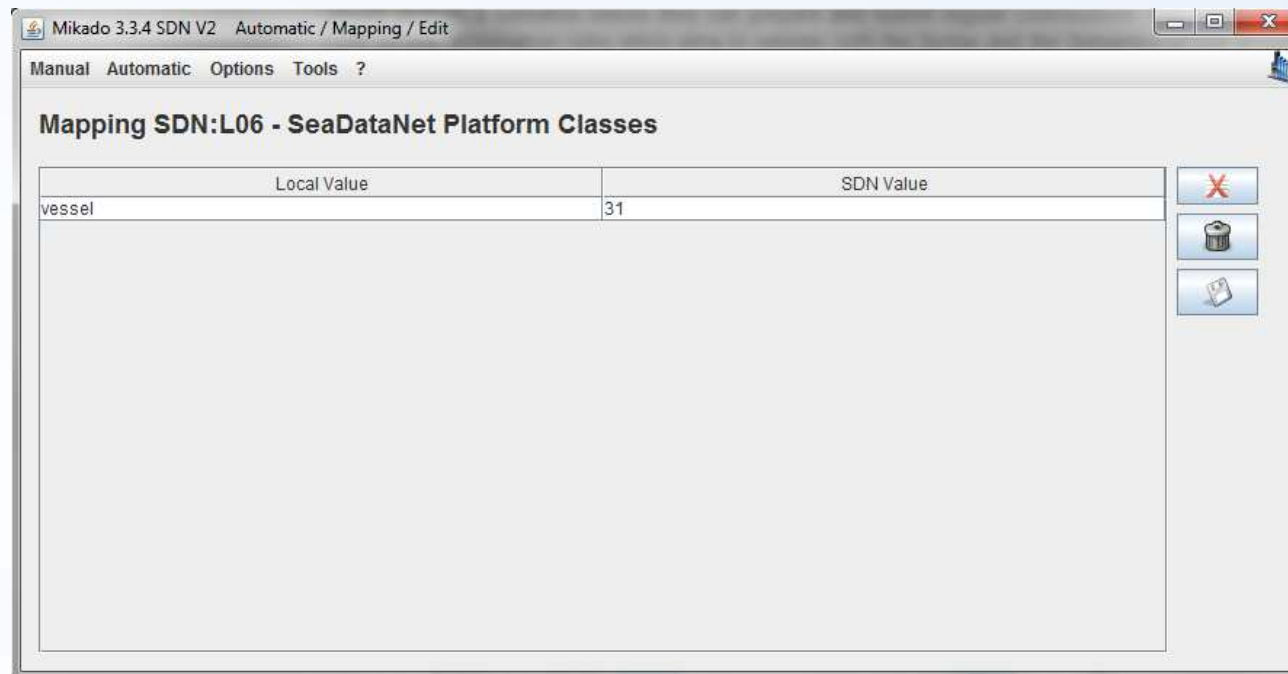
The screenshot shows a 'Category code' dialog box. On the left, a list of category codes and descriptions is shown, with '31 - research vessel' selected. Below the list, the word 'VESSEL' is displayed in green. On the right, the 'Name' field contains 'research vessel' and the 'Code L06' field contains '31'. At the bottom right, there are 'Ok' and 'Cancel' buttons.

| Category code | Name | Code L06 |
|-------------------------------------|-----------------|----------|
| 10 - land or seafloor | | |
| 77 - land-sea mammals | | |
| 14 - land/onshore structure | | |
| 15 - land/onshore vehicle | | |
| 26 - lowered unmanned submersible | | |
| 38 - man-powered boat | | |
| 3A - man-powered small boat | | |
| 66 - manned spacecraft | | |
| 19 - mesocosm bag | | |
| 41 - moored surface buoy | | |
| 48 - mooring | | |
| 39 - naval vessel | | |
| 60 - non-buoyant aircraft | | |
| 16 - offshore structure | | |
| 65 - orbiting satellite | | |
| 70 - organism | | |
| 93 - pack ice | | |
| 6C - parachute | | |
| 21 - propelled manned submersible | | |
| 22 - propelled unmanned submersible | | |
| 61 - research aeroplane | | |
| 31 - research vessel | research vessel | 31 |



MIKADO automatic - local mapping (2/2)

- MIKADO manages a demand-driven continuous (incremental) extension of a local mapping : mapping of the local database to the common vocabulary
 - Mapping tables can be modified (Menu Automatic > Mapping > Edit)





MIKADO in batch mode

- MIKADO can be run in batch mode using existing configuration files
- Several arguments can be added on the command line

Java -Djava.endorsed.dirs="dist/lib" -jar dist/Mikado.jar
mikado-home=[path] argument2= ... argumentn=

- Log file to register the errors



Coupling file for Download manager

The coupling file is used by SeaDataNet download manager to make the mapping between a LOCAL_CDI_ID (one profile, one time-series or one trajectory) and

- the name of the associated data file if the metadata is in a database and the data in files (MODUS 1 and 3)

or

- the SQL Query to retrieve the meta data and the data of this LOCAL_CDI_ID in the local database (MODUS 2)

→ MIKADO is able to generate this coupling file



Coupling file for Download manager

The principle to create this coupling file is the same way than to create XML files for catalogue descriptions

User has to:

- create a configuration file that will be used for the generation of the coupling file.
- write the queries to retrieve the filename or the data for each LOCAL_CDI_ID
 - Retrieve the filename: if the data are stored as files
 - Retrieve the data: if the data are stored in a database



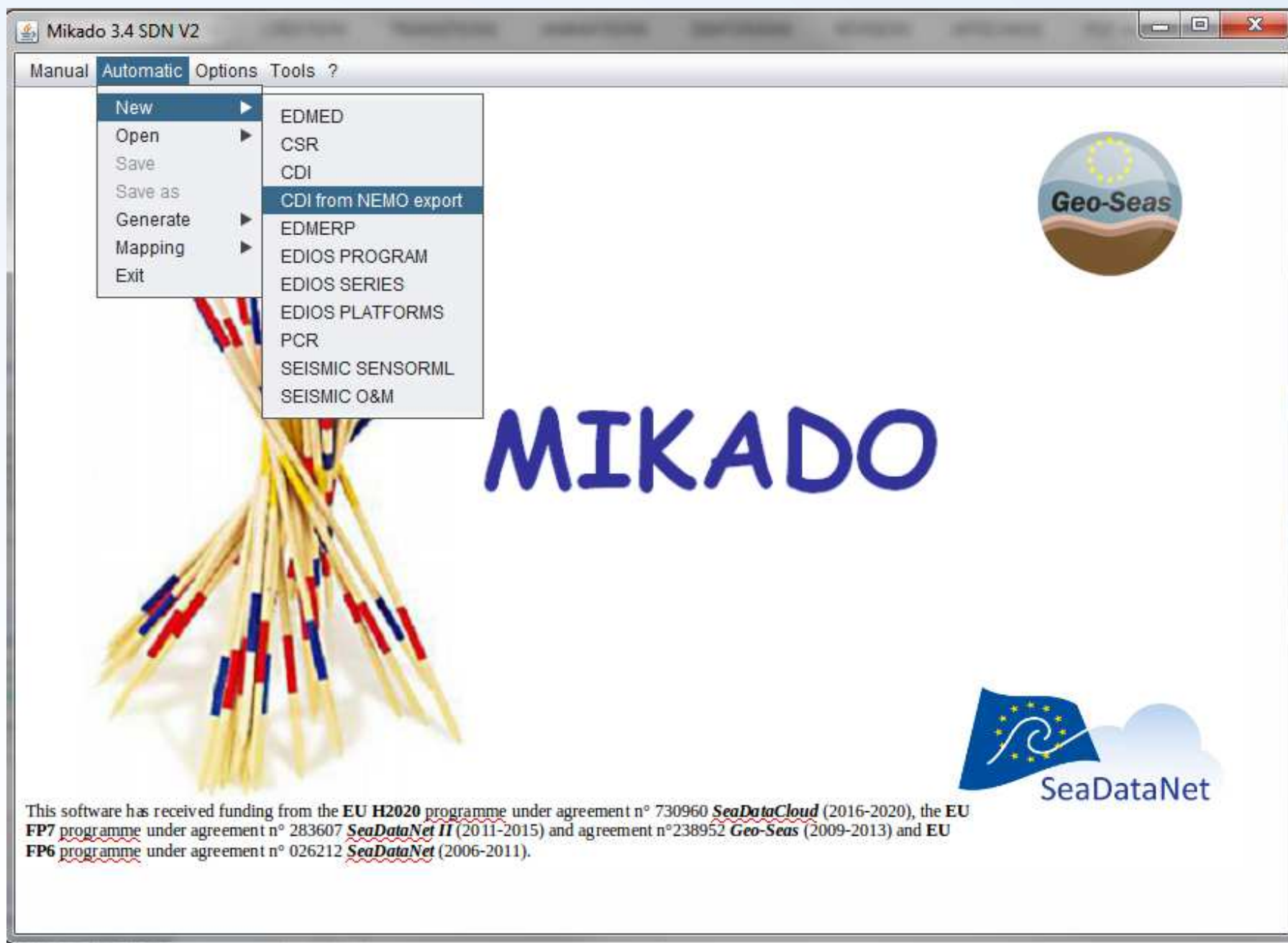
MIKADO – User manual

- User manual is provided on line on SeaDataNet website:
 - <https://www.seadatanet.org/Software/MIKADO>
 - Very detailed, lots of snapshots
- Available also on this page
 - FAQ
 - One detailed presentation of MIKADO



Next release of MIKADO

- Last release v3.3.5 (28/11/2016)
- In preparation : next release **v3.4** with
 - Upgraded database drivers
 - Already problem with ORACLE 12
 - New CsvJdbc driver added to configure csv files
 - New facilities to import directly the NEMO CDI_summary_file in MIKADO **without the Excel STEP** and generate automatically the corresponding SQL queries
 - Planned release date : June 2017





NEMO
CDI_summary
file imported

Mikado 3.4 SDN V2 Automatic / CDI19139 : C:\test_logiciels\NEMO\ovide 3 CTD\CDI_summary.txt.xml

Manual Automatic Options Tools ?

Connection Queries

Database

Driver class name:

JDBC connect url:

User:

Passwd:

Preset

Test

JDBC driver loaded
Connected to database

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Corresponding
SQL queries
automatically
generated

Mikado 3.4 SDN V2 Automatic / CDI19139 : C:\test_logiciels\NEMO\ovide 3 CTD\CDI_summary.txt.xml

Manual Automatic Options Tools ?

Connection Queries

Requests

- Main Query
- Single subqueries
 - var01 CDI Partner
 - var02 Measuring area type
 - var03 Horizontal Datum
 - var04 Dataset name
 - var05 Dataset-id
 - var06 Revision date (dataset)
 - var08 Abstract (dataset)
 - var09 Holding Centre (customer)
 - var12 Platform
 - var15 Cruise name
 - var16 Cruise short name
 - var17 Cruise start date
 - var18 Station name
 - var19 Station short name
 - var20 Station start date
 - var21 Time resolution value
 - var22 Time resolution unit
 - var28 Start date (dataset)
 - var29 End date (dataset)
 - var30 Minimum depth of inspection
 - var31 Maximum depth of inspection
 - var34 Vertical datum
 - var35 Water depth
 - var36 Distributor
 - var45 Vertical resolution value
 - var46 Vertical resolution unit
 - var47 Horizontal resolution value
 - var48 Horizontal resolution unit
 - var80 EDMED Reference
 - var81 CSR Reference
- Multiple subqueries

Check All

query

SELECT

| var | sql |
|-------|----------------------|
| var01 | distinct EDMO_AUTHOR |
| var02 | AREA_TYPE |
| var04 | DATASET_NAME |
| var05 | LOCAL_CDI_ID |

FROM

CDI_summary

WHERE

LOCAL_CDI_ID =: '\$'

ORDER BY

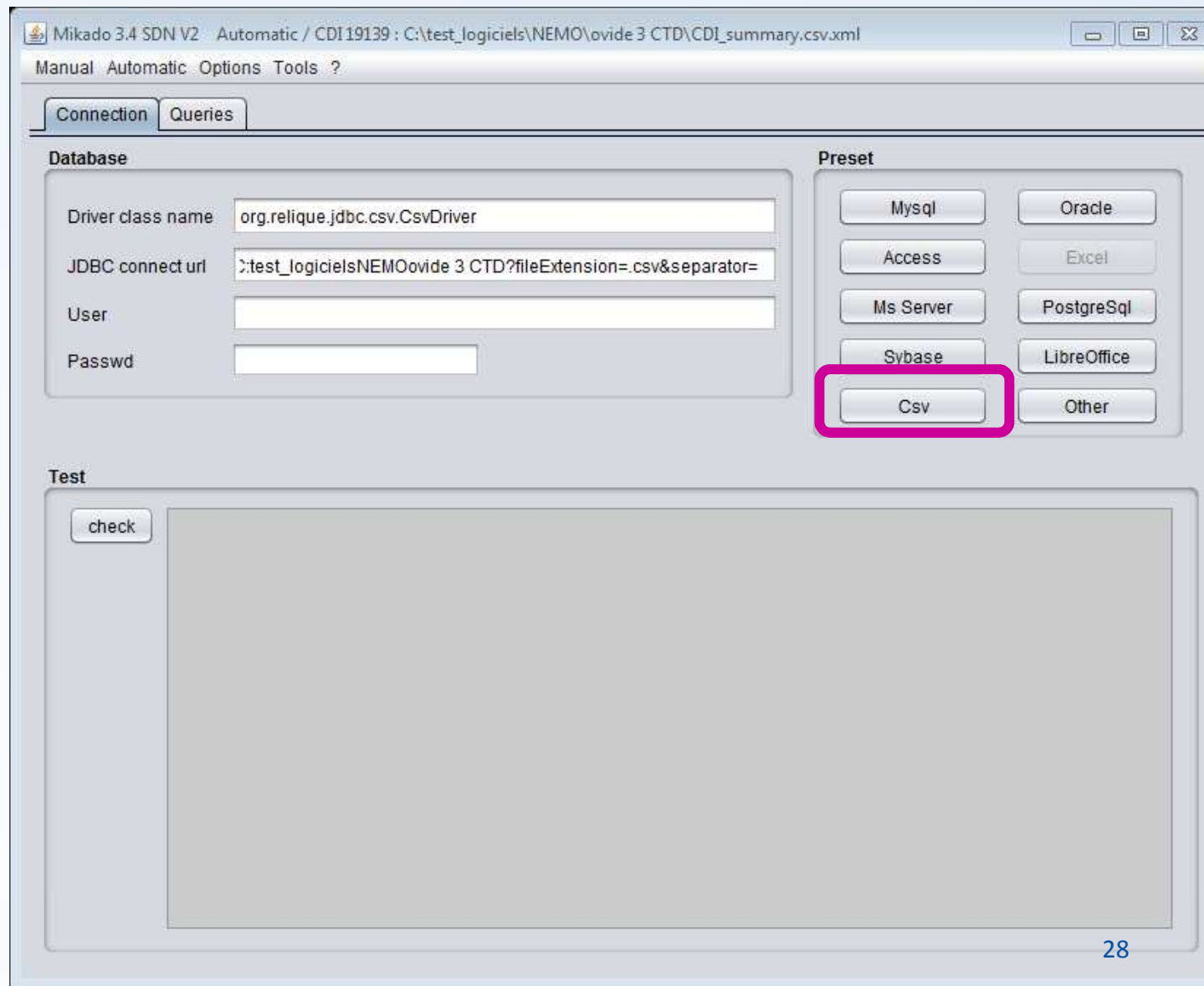
Test

check

```
var01 = [486]
var02 = [Point]
var04 = [OVIDE 3]
var05 = [FI35200653001_00001_H10]
var06 = [2014-08-22]
var08 = [Not Specified]
var09 = [9]
var12 = [31]
var28 = [2006-05-24T14:28:00]
var29 = [2006-05-24T14:28:00]
var36 = [6]
var18 = [001]
var19 = [001]
var20 = [2006-05-24T14:28:00]
```

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New CsvJdbc
driver added
to configure
other csv files
containing the
metadata



Mikado 3.4 SDN V2 Automatic / CDI19139 : C:\test_logiciels\NEMO\ovide 3 CTD\CDI_summary.csv.xml

Manual Automatic Options Tools ?

Connection Queries

Database

Driver class name: org.relique.jdbc.csv.CsvDriver

JDBC connect url: C:\test_logiciels\NEMO\ovide 3 CTD\CDI_summary.csv.xml

User:

Passwd:

Preset

Mysql Oracle

Access Excel

Ms Server PostgreSQL

Sybase LibreOffice

Csv Other

Test

check

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Any questions?

