SeaDataNet

MIKADO – Generation of ISO 19115 – 19139 SeaDataNet metadata files

Michèle Fichaut - Ifremer

EMODnet Chemistry 3 Kick-off meeting, Trieste, Italy, 18-19 May 2017
sdn-userdesk@seadatanet.org – www.seadatanet.org

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

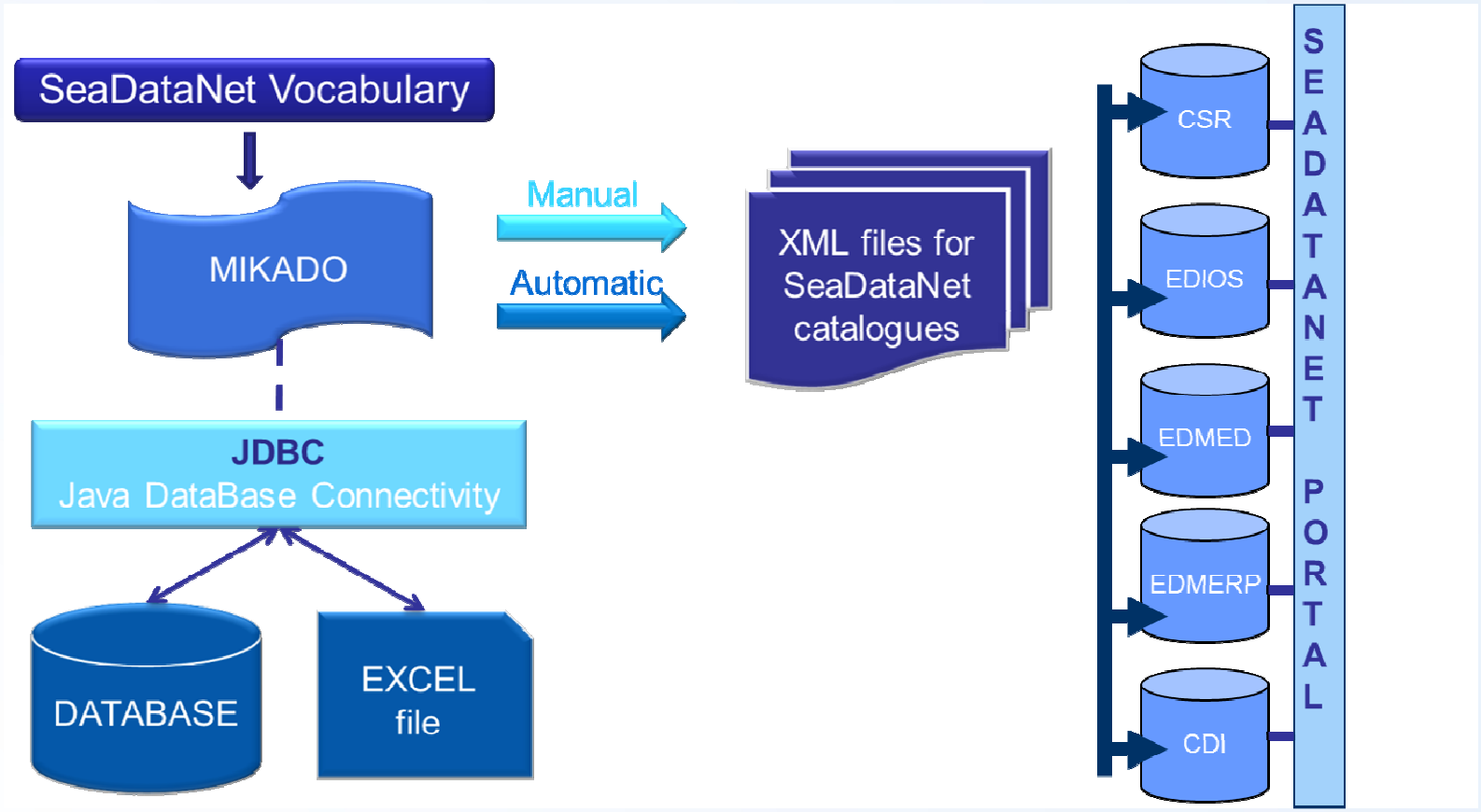
User manual is also provided:

http://www.seadatanet.org/content/download/20278/140561/file/sdn_Mikado_User Manual_V3.3.4.pdf

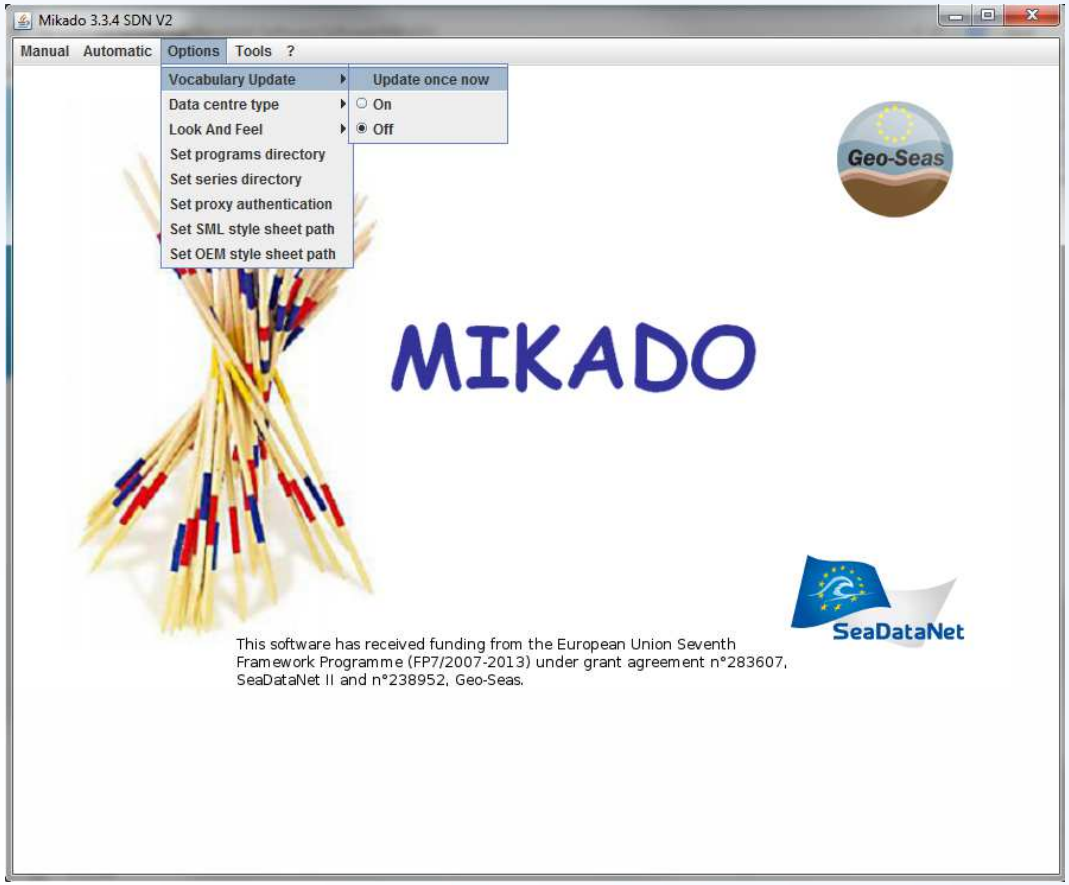
MIKADO main features (1/2)

- **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

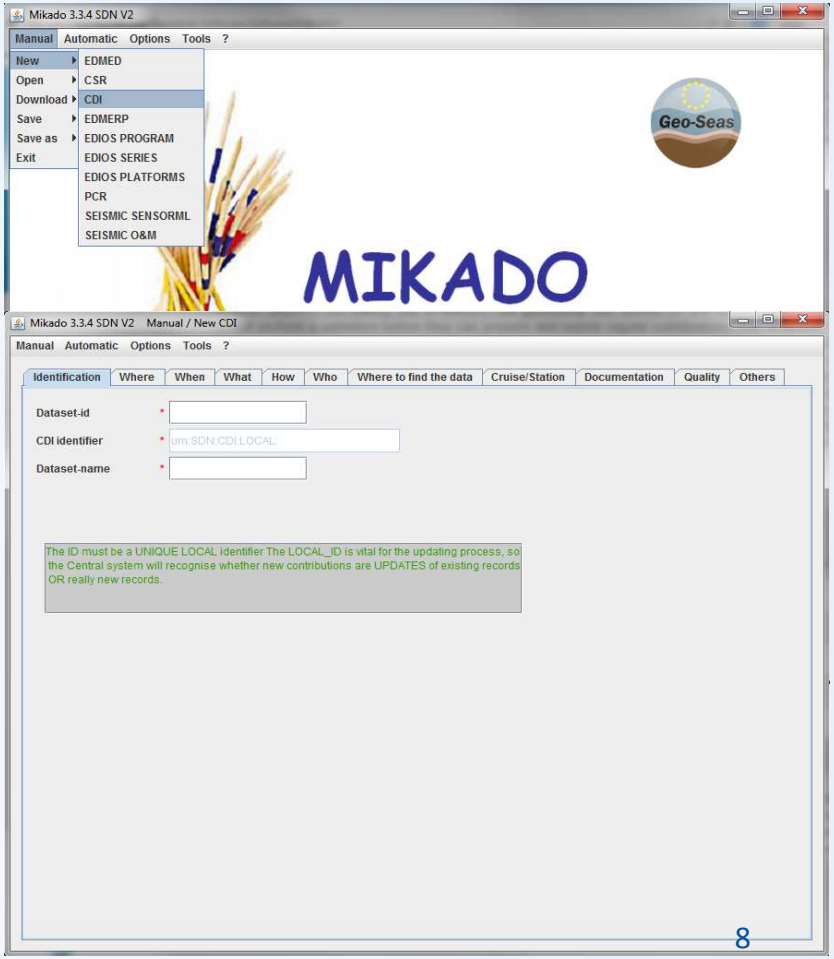
- If “Off” is clicked

Manual check

- Update once now

MIKADO – Manual input

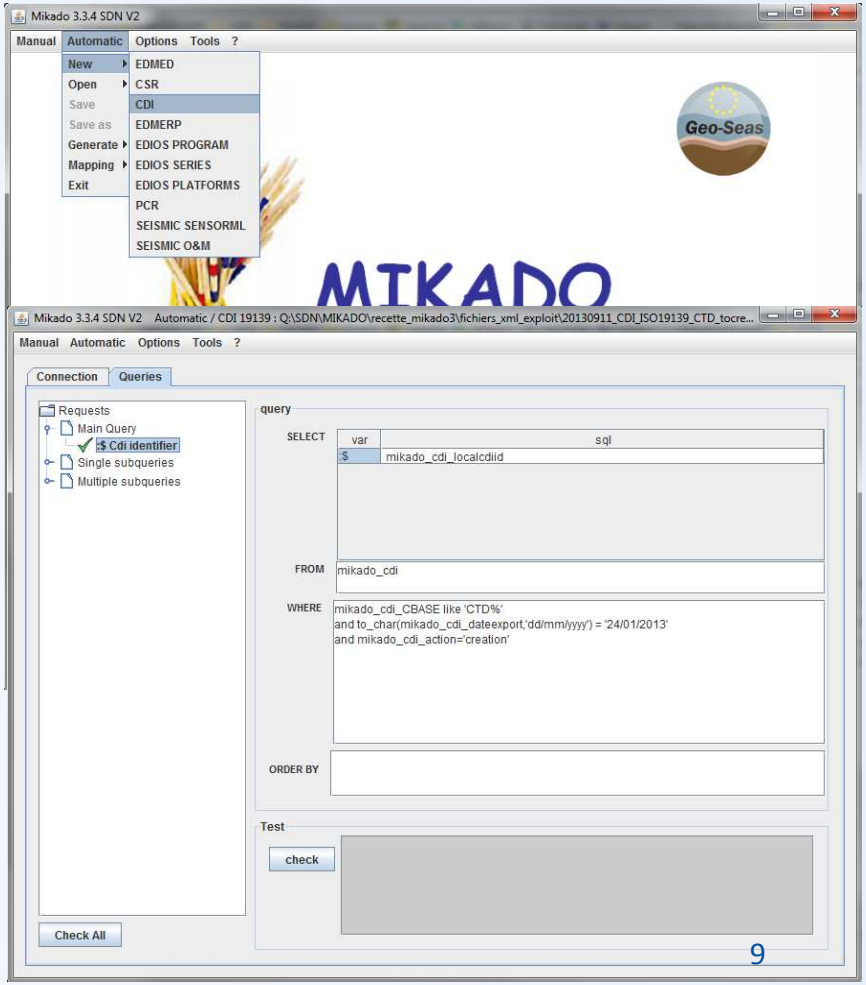
- Available for 5 catalogues : EDMED, CSR, CDI, EDMERP, EDIOS
- Each input generates one XML file
- For EDMERP and CSR : EDMERP CMS and CSR online can also be used, but MIKADO is useful
  - if you have problems with the NETWORK connection
  - if you want to keep locally an XML description of your catalogues
- 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”

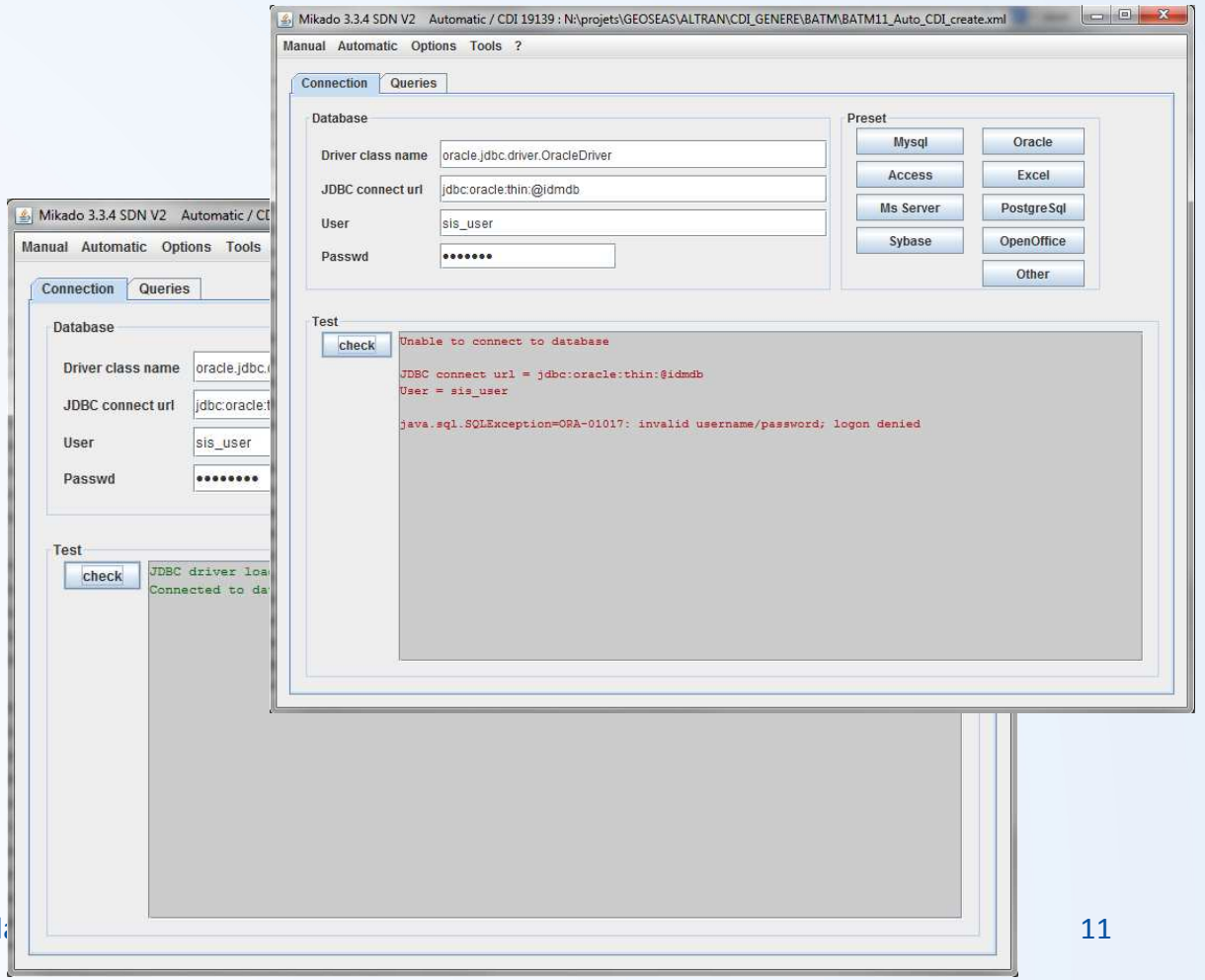
MIKADO automatic – Step 1 :connection

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

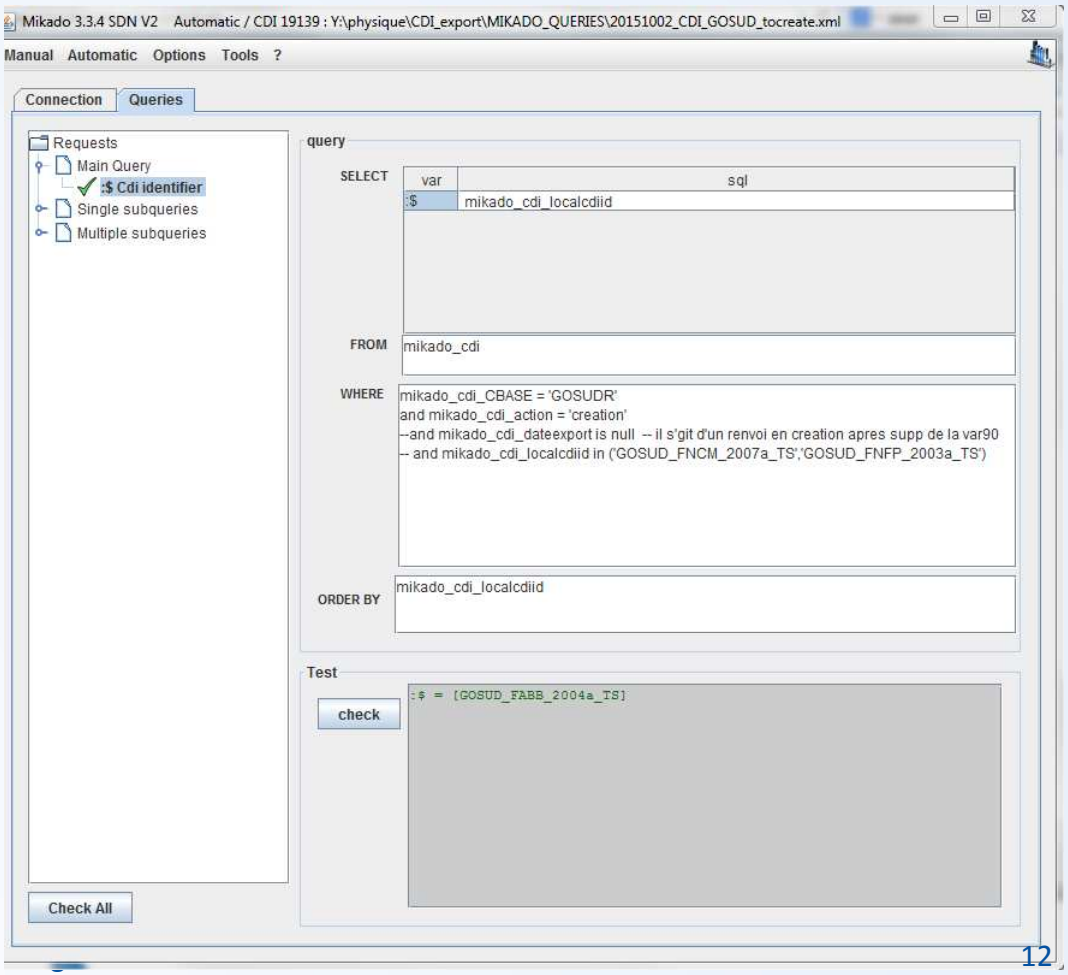
Single subqueries

- Return 1 row

Multiple subqueries

- Return 1 to n rows

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



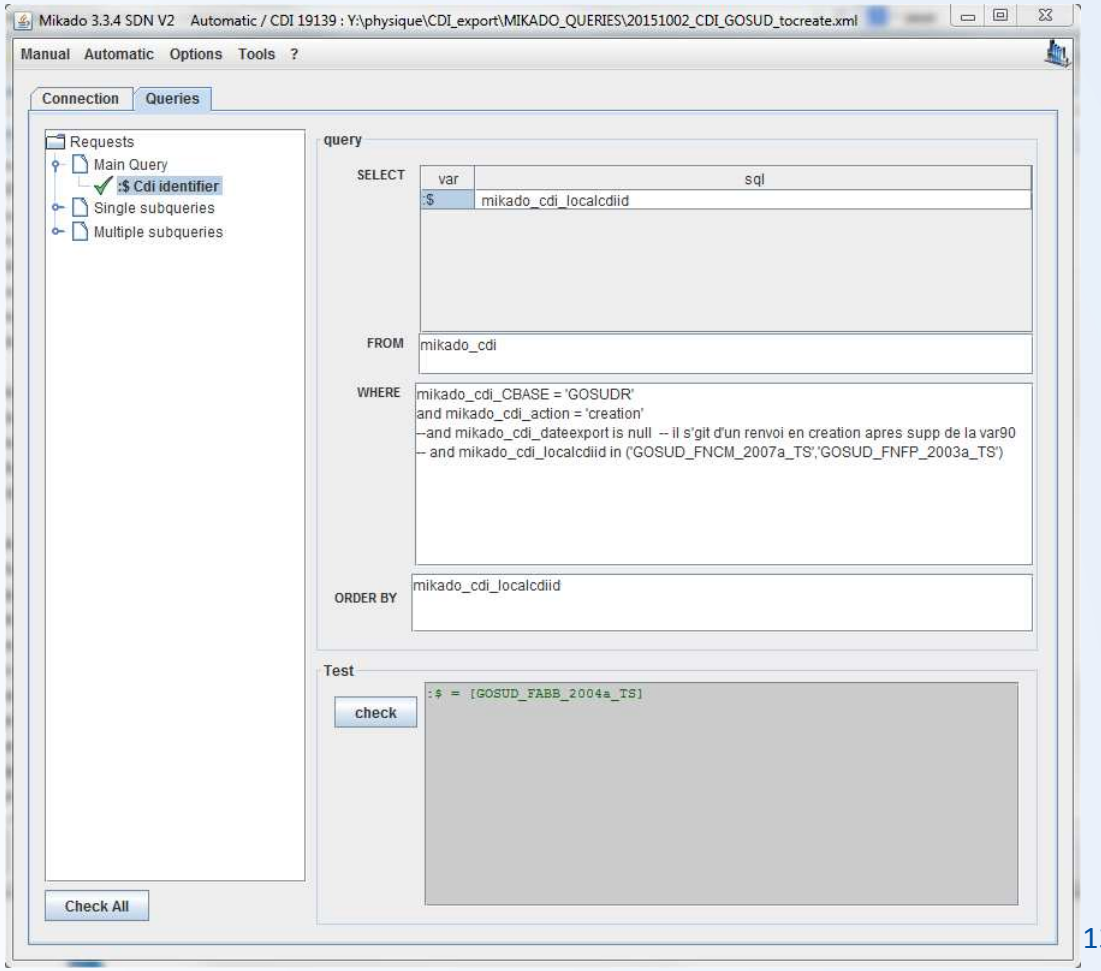
MIKADO automatic – Step 2 : queries (2/6)

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

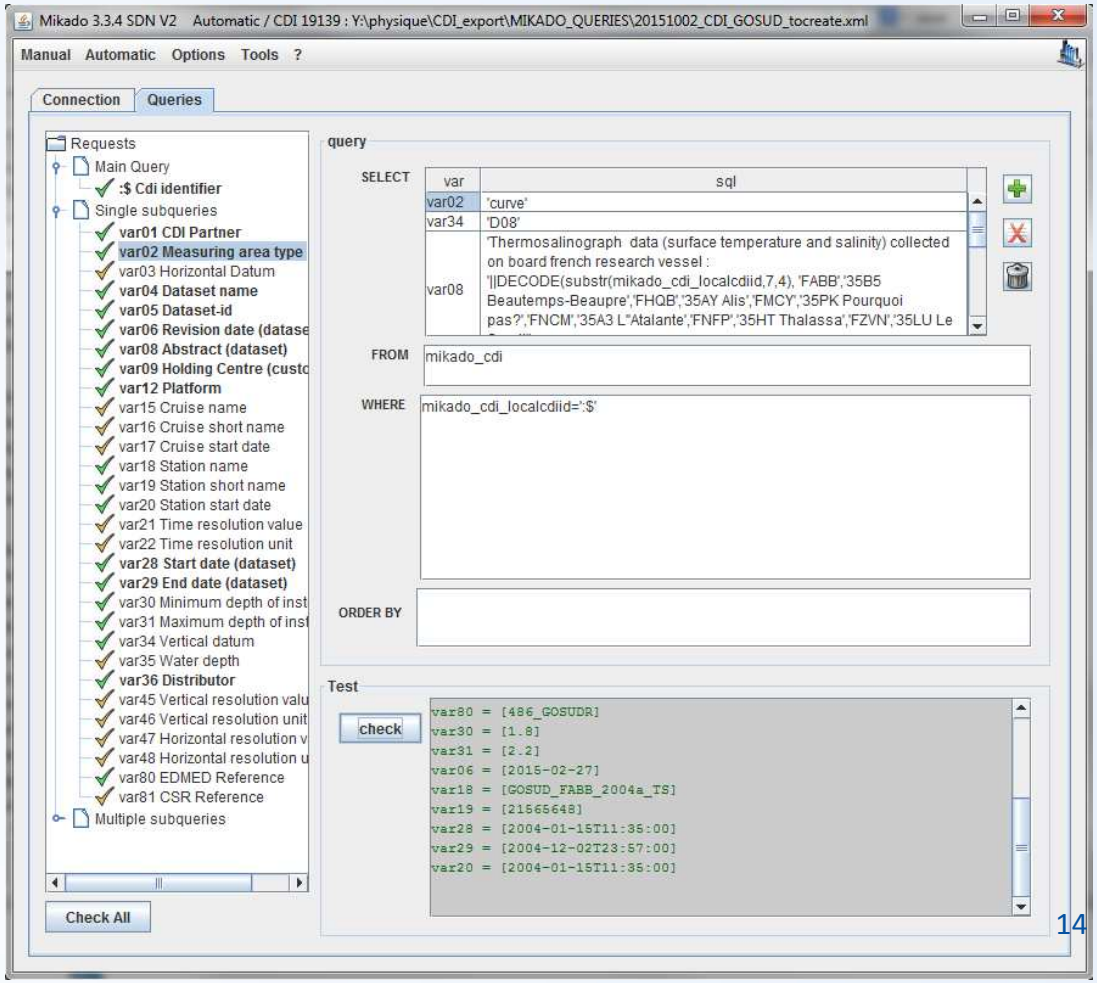


MIKADO automatic – Step 2 : queries (3/6)

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

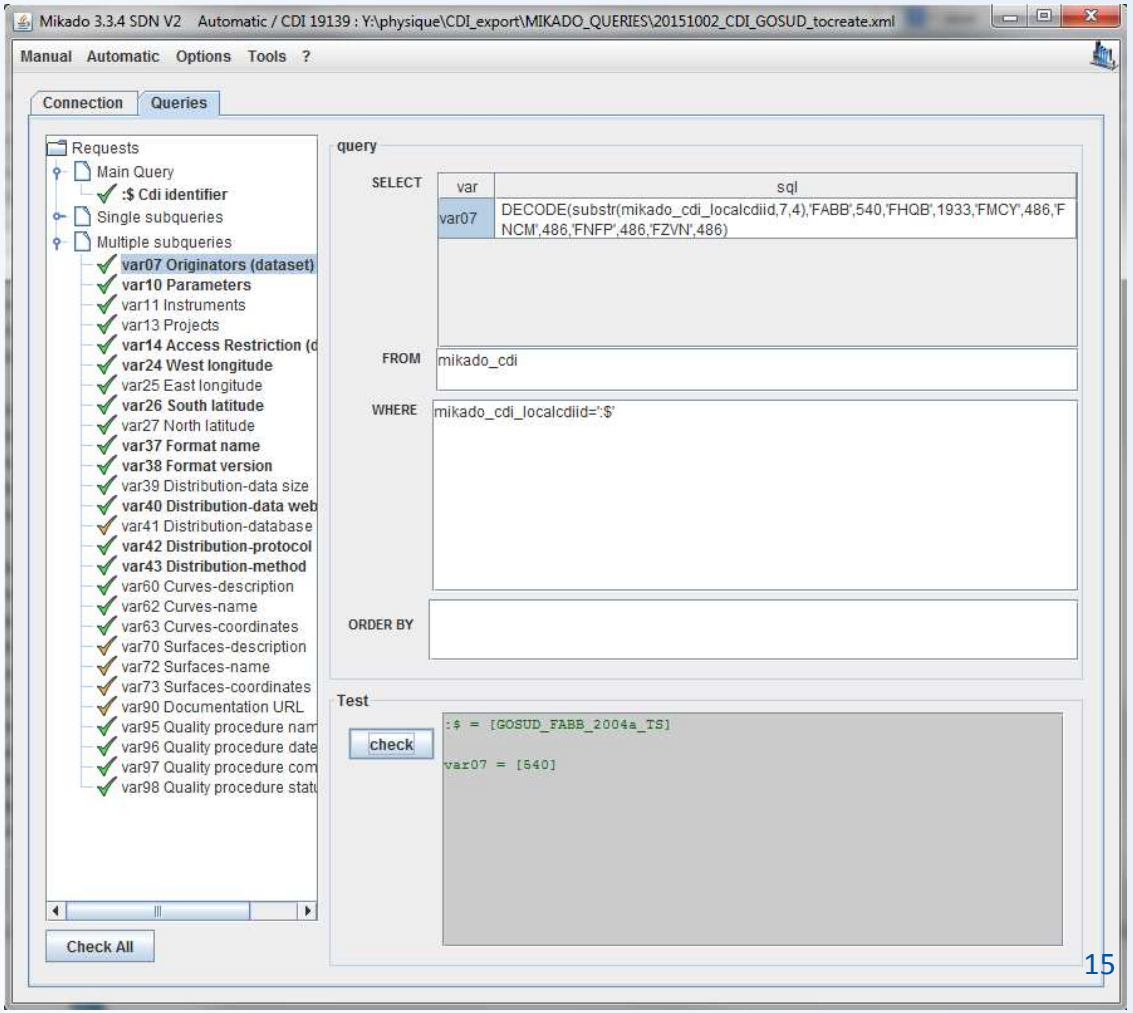


MIKADO automatic – Step 2 : queries (4/6)

Multiple queries

All the XML variables are listed in the expendable tree

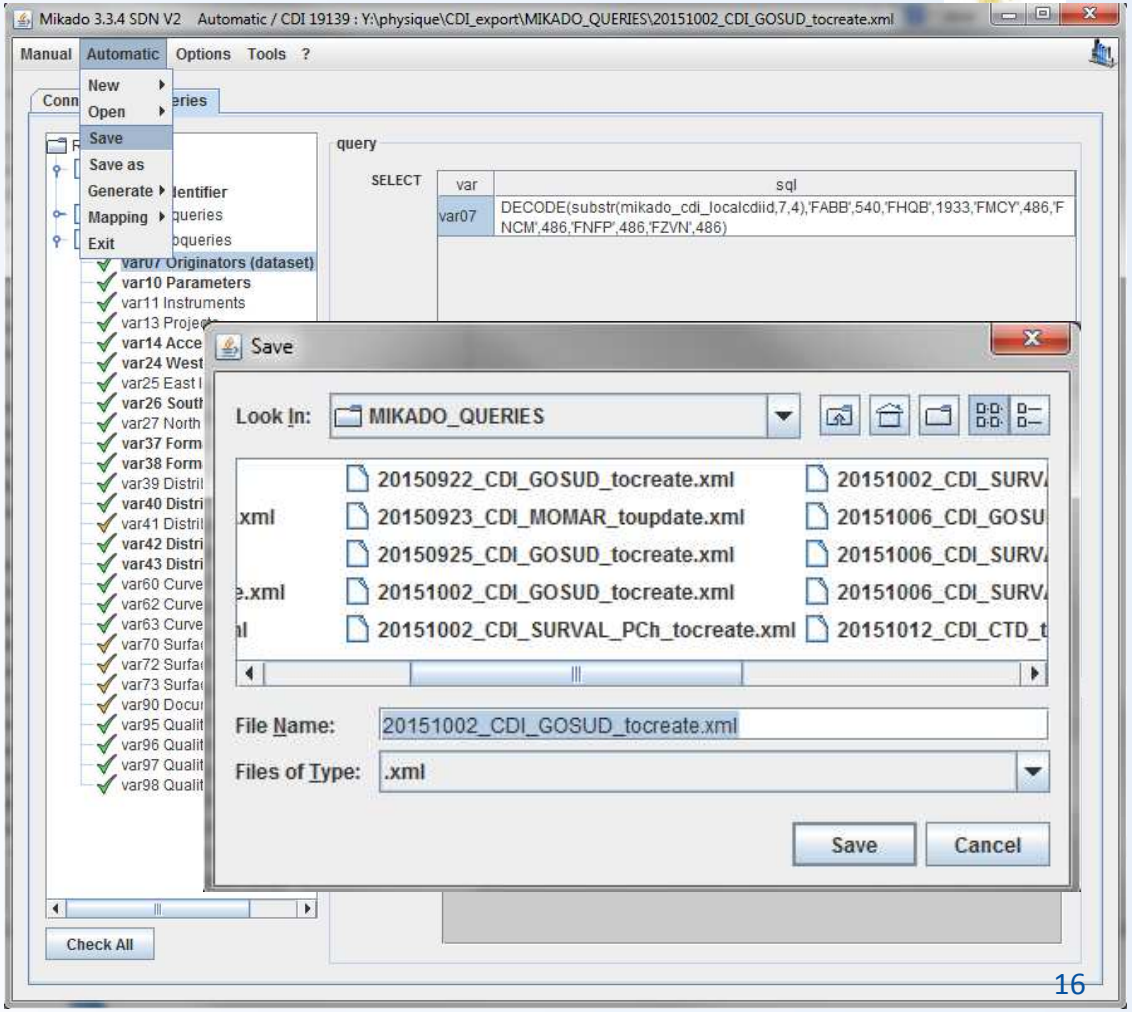
- Number of queries is pre-defined
- The list of variables for each of these multiple queries is also pre-defined
- In bold : mandatory field
- Green ticks : fields already fulfilled



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

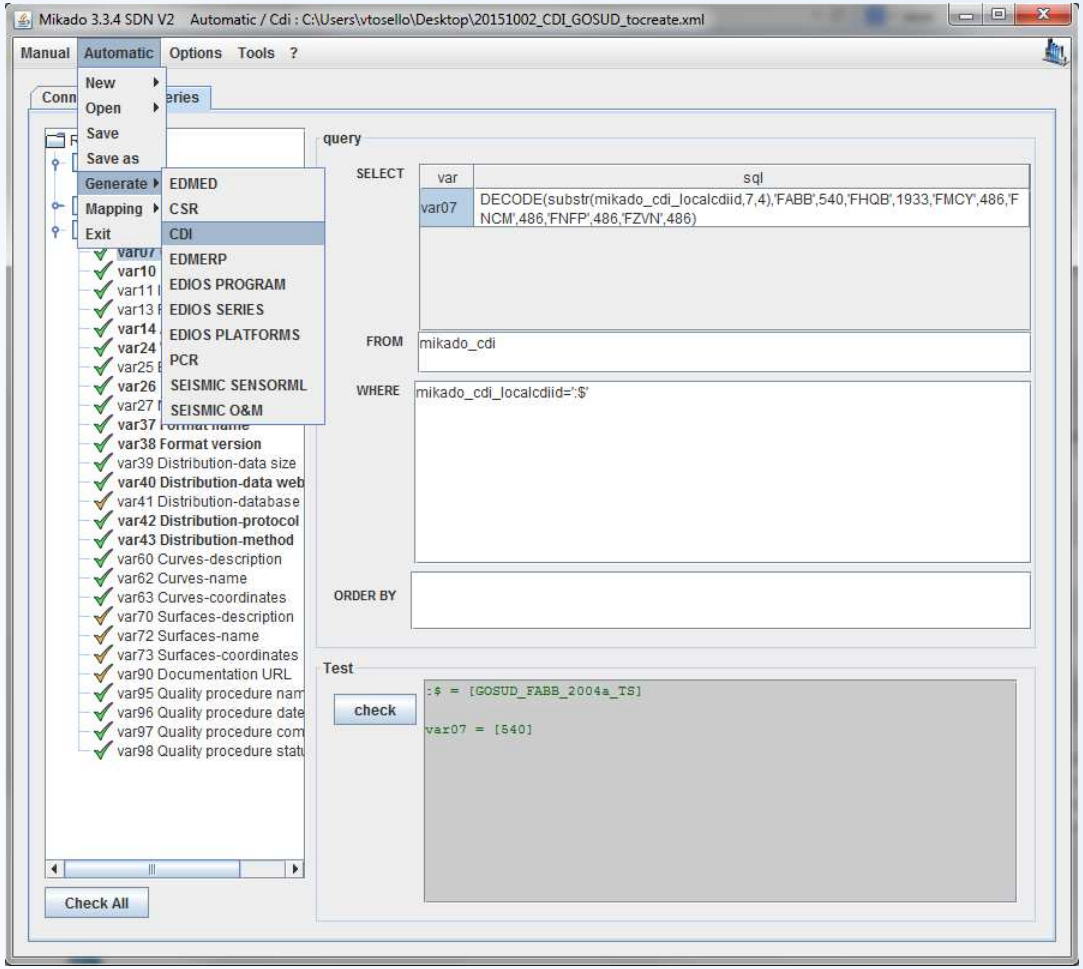
When all the queries are written

→ 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

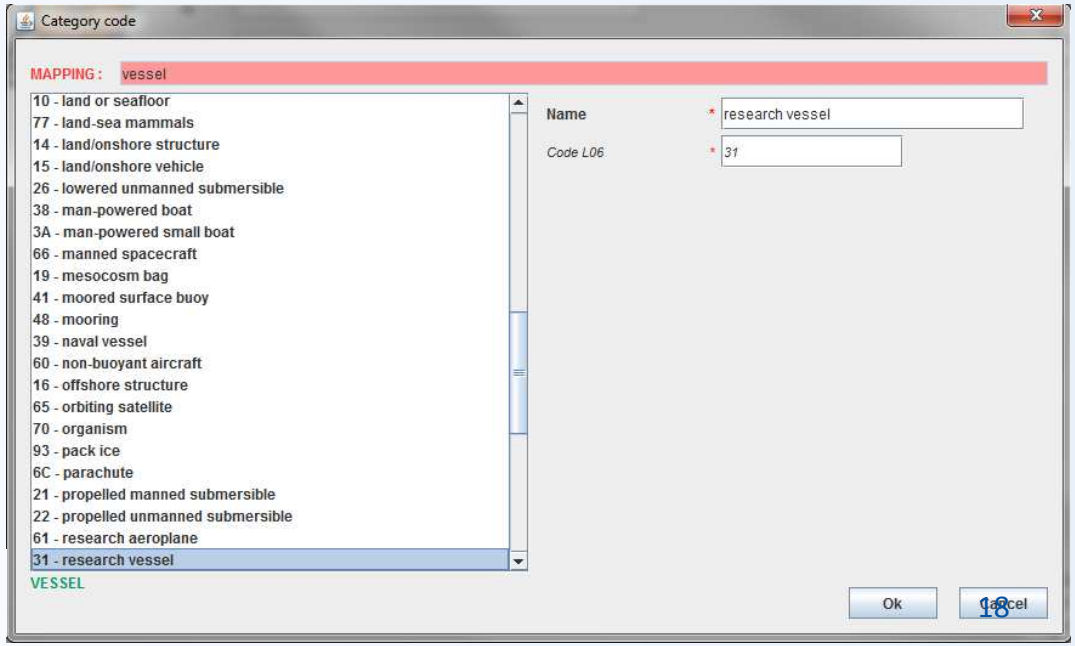


MIKADO automatic - local mapping (1/2)

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

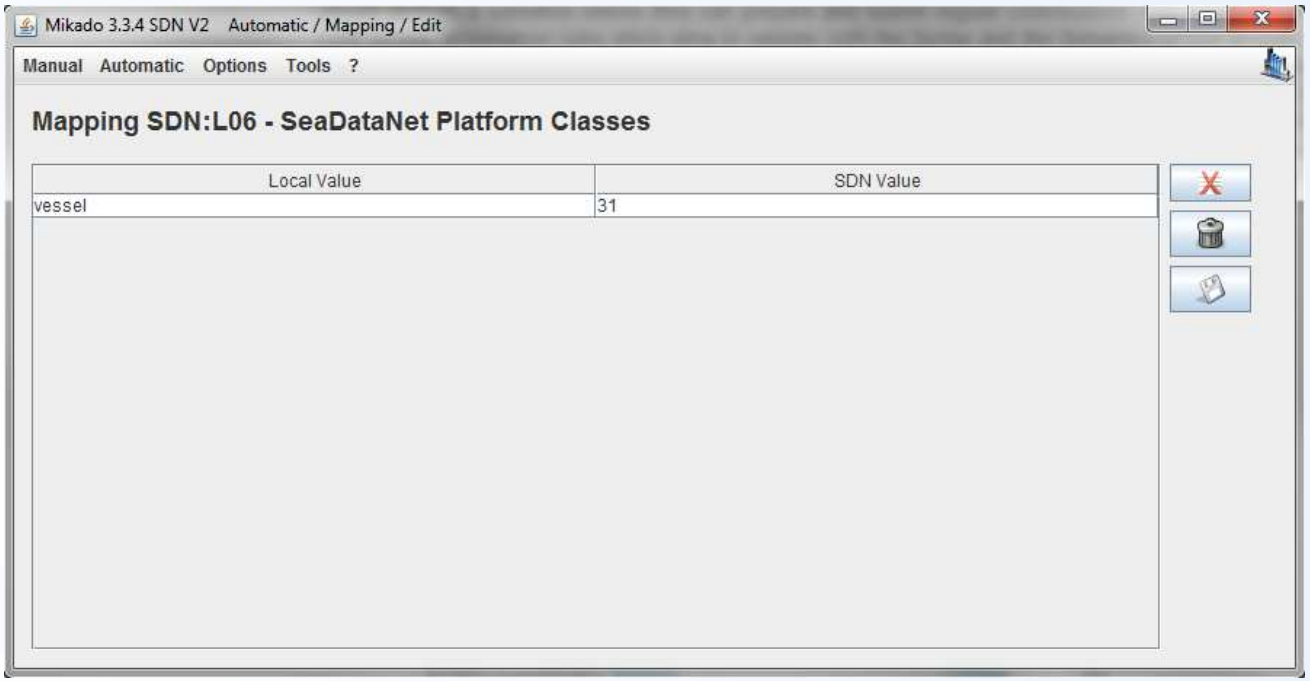
Example of CDI generation

- Mapping of the platform type



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:

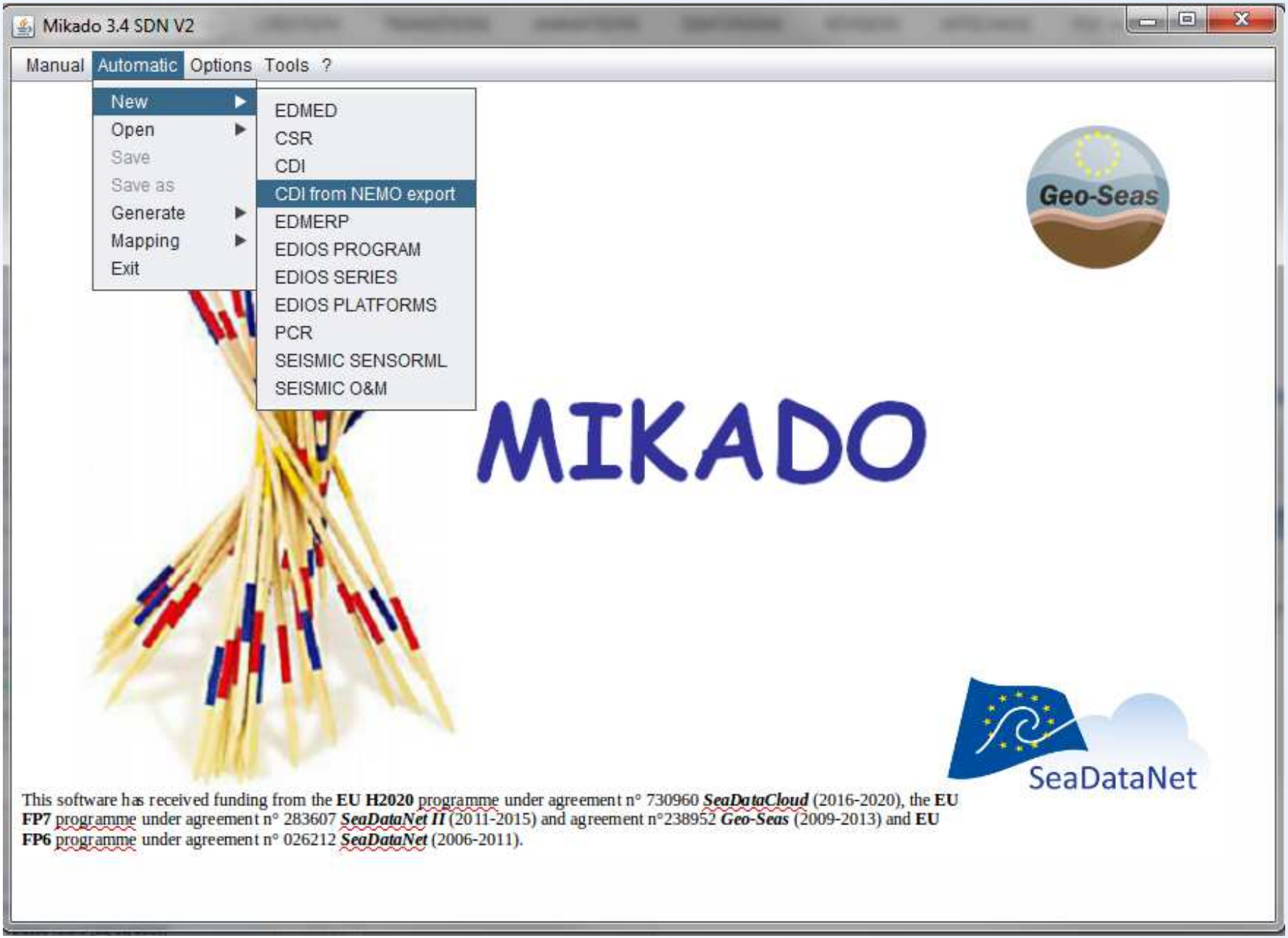
- create a configuration file that will be used for the generation of the coupling file.
- write the queries to retrieve the filename or the data for each LOCAL_CDI_ID
  - Retrieve the filename: if the data are stored as files
  - Retrieve the data: if the data are stored in a database

MIKADO – User manual

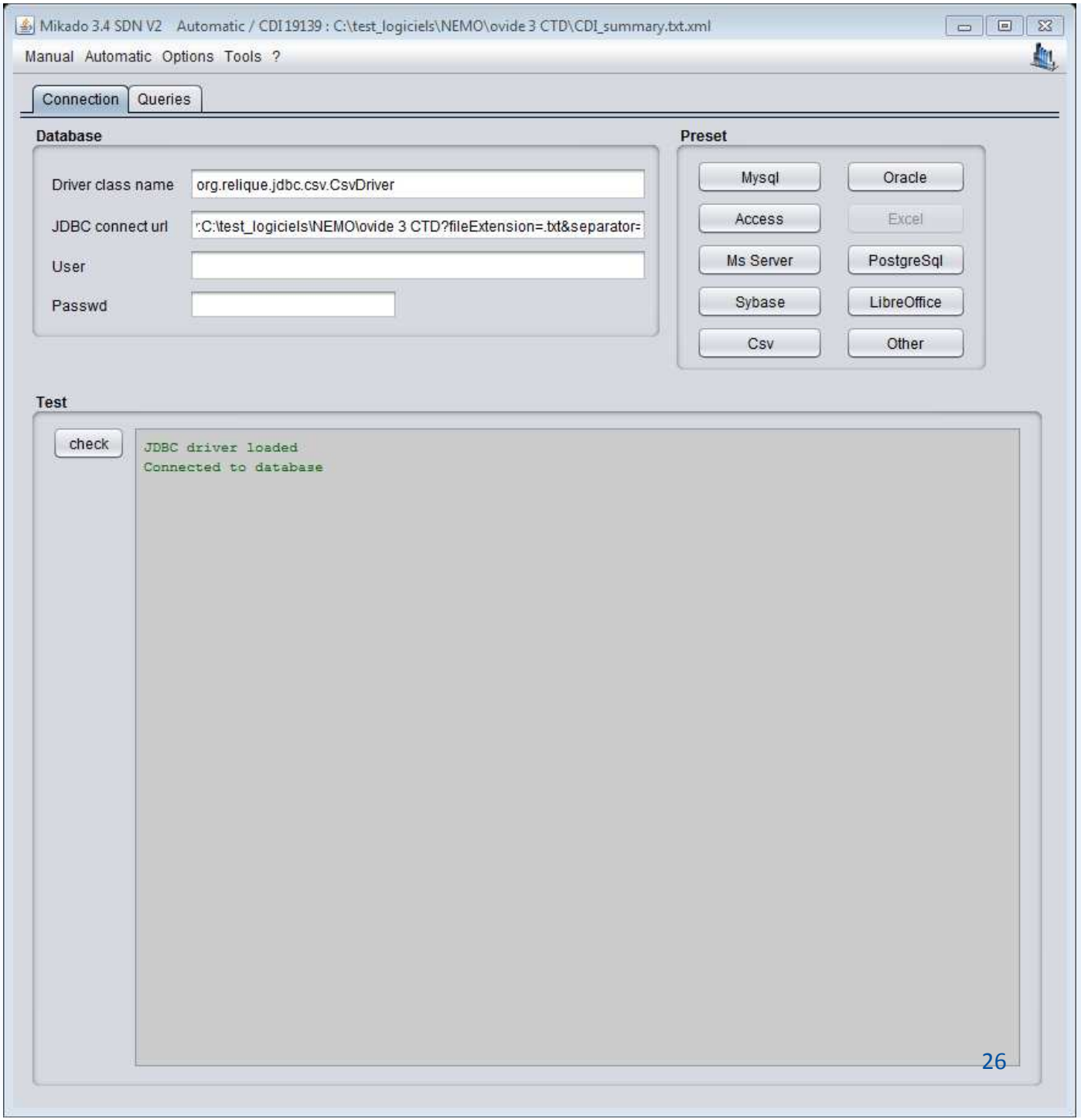
- User manual is provided on line on SeaDataNet website:
  - https://www.seadatanet.org/Software/MIKADO
  - Very detailed, lots of snapshots
- Available also on this page
  - FAQ
  - One detailed presentation of MIKADO

Next release of MIKADO

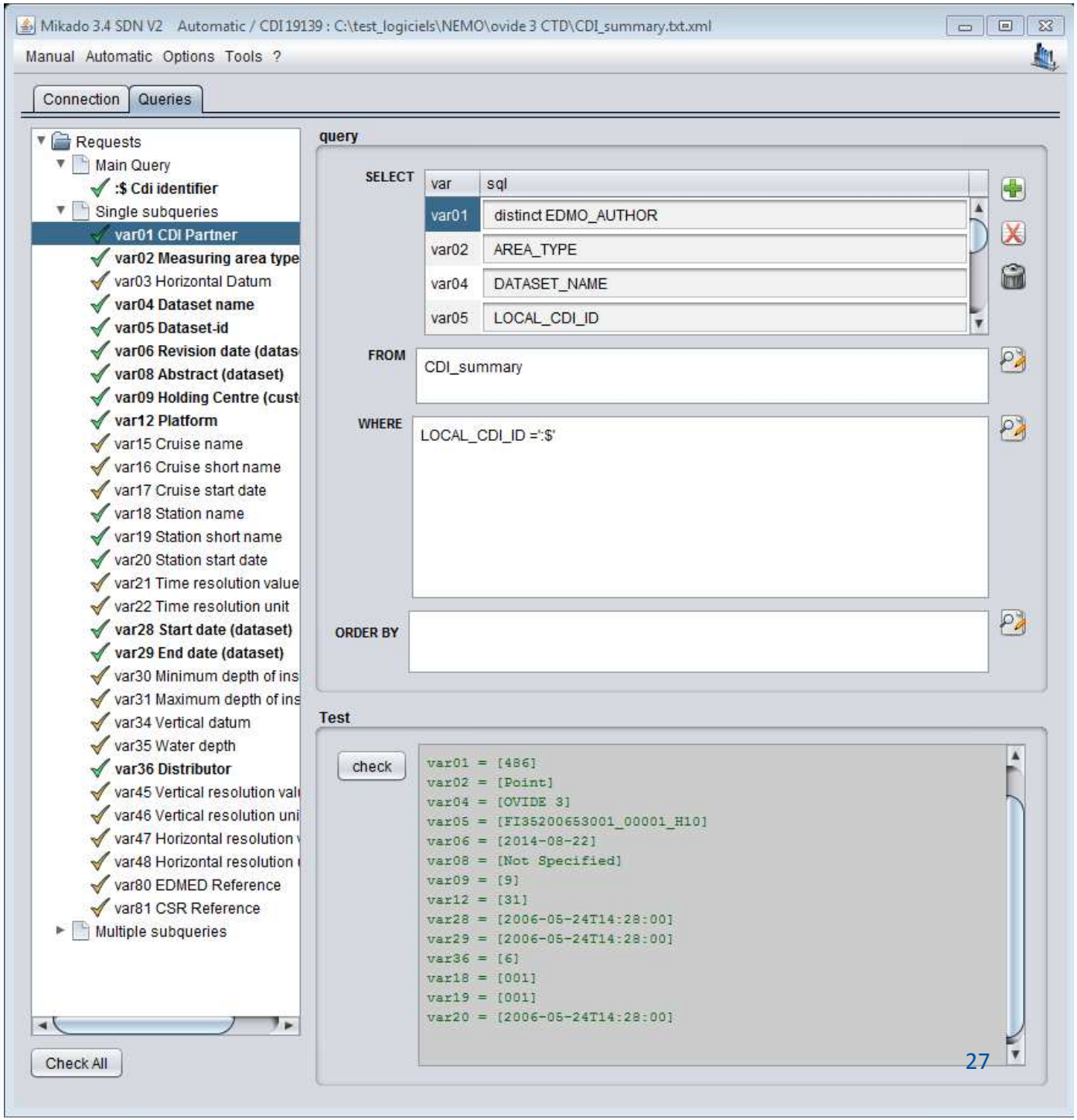
- Last release v3.3.5 (28/11/2016)
- In preparation : next release **v3.4** with
  - Upgraded database drivers
    - Already problem with ORACLE 12
    - New CsvJdbc driver added to configure csv files
  - New facilities to import directly the NEMO CDI_summary_file in MIKADO **without the Excel STEP**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


Mikado 3.4 SDN V2
Manual
Automatic
Options
Tools
?
New
Open
Save
Save as
Generate
Mapping
Exit
EDMED
CSR
CDI
CDI from NEMO export
EDMERP
EDIOS PROGRAM
EDIOS SERIES
EDIOS PLATFORMS
PCR
SEISMIC SENSORML
SEISMIC O&M
MIKADO
Geo-Seas
SeaDataNet
This software has received funding from the EU H2020 programme under agreement n° 730960 SeaDataCloud (2016-2020), the EU FP7 programme under agreement n° 283607 SeaDataNet II (2011-2015) and agreement n°238952 Geo-Seas (2009-2013) and EU FP6 programme under agreement n° 026212 SeaDataNet (2006-2011).

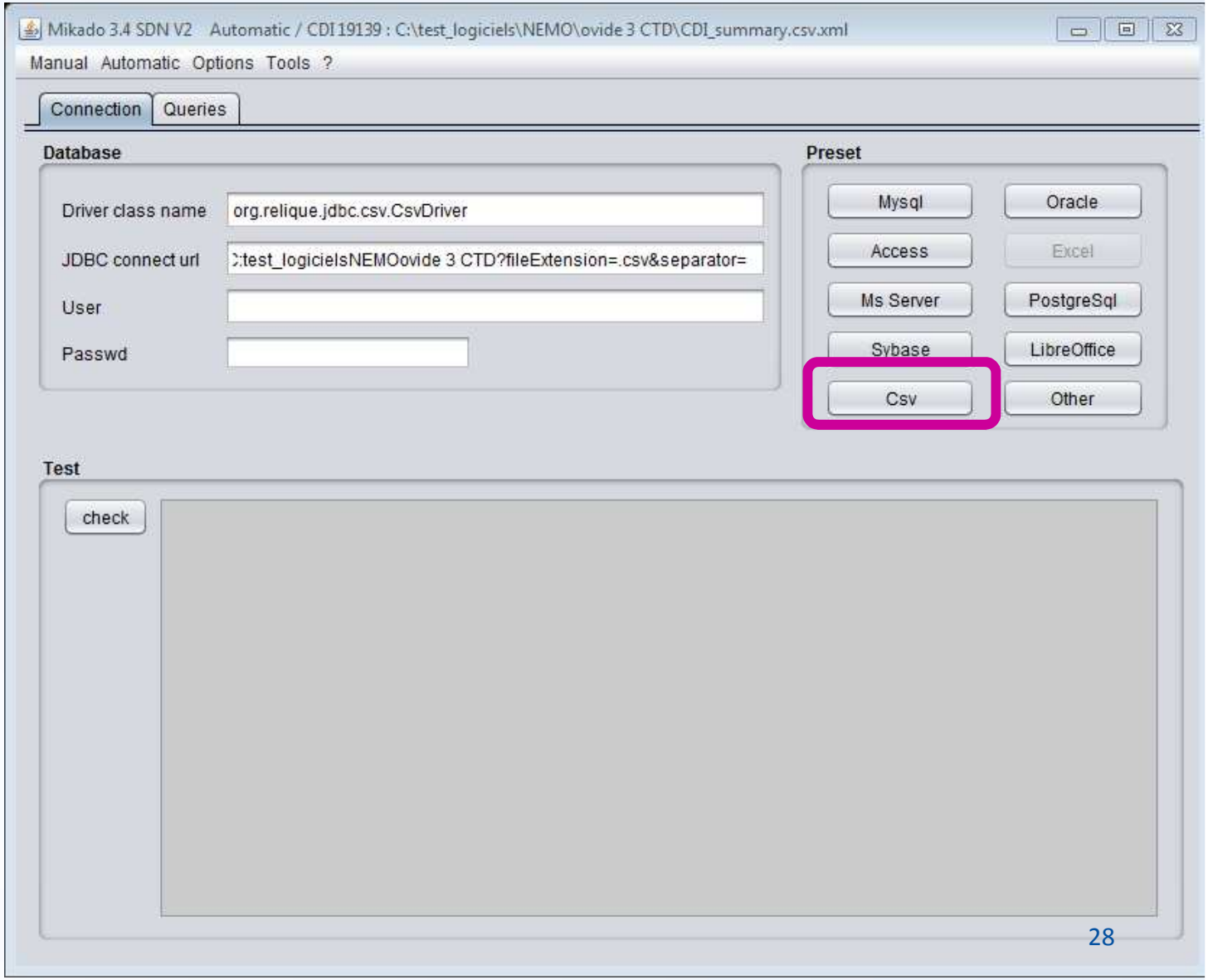
NEMO CDI_summary file imported



Corresponding SQL queries automatically generated



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



Any questions?