



EMODnet Thematic Lot n° 4 - Chemistry

EMODnet Phase III

How to include information in the CDIs - guidelines

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How to include information in the CDIs - guidelines

Introduction

EMODnet Chemistry uses SeaDataNet Common Data Index (CDI) service (for the Data Discovery and Access). In particular, the CDI system connects the SeaDataNet portal and the databases of the SeaDataNet distributed data centres. In November 2013 the CDI V3 has been launched which makes use of the ISO 19139 Schema, is compliant to INSPIRE and is supported by the new version of the SeaDataNet Common Vocabularies. the latest versions of the XML formats of the following directories can be downloaded from SeadataNet portal:

- [CSR](#)
- [CDI](#)
- [EDMED](#)
- [EDMERP](#)
- [EDIOS](#)

A set of software tools is specifically developed for metadata and data formatting:

- MIKADO to prepare XML metadata files
- NEMO to enable conversion from any type of ASCII format to the SeaDataNet ODV and Medatlas ASCII formats as well as the SeaDataNet NetCDF (CF) format
- OCTOPUS to convert files in a given SeaDataNet format to another SeaDataNet format (e.g.: ODV to NetCDF, MedAtlas to NetCDF, MedAtlas to ODV) and to check the compliancy of SeaDataNet MedAtlas and ODV files format

Information on monitoring/research

The information regarding the type of activity ("research" or "monitoring") can be completed in the CDIs by including project references by means of EDMERP entries in the tag PROJECTS. See figure below.

CDI FIELD	MIKADO var	M = mandatory O = Optional	Comment	Occurrence	Field type and length
PROJECTS	var13	O	Use of EDMERP directory (multiple entries are possible by repeating this tag) Keyword = <sdm:SDN_EDMERPCode codeSpace="...> Type = project <thesaurusName> <Title> European Directory of Marine Environmental Research Projects <AlternateTitle>EDMERP <Date> revision date in ISO 8601 of used version of the list <code> URL of the SeaDataNet URNURL resolver for all vocabs and directories: http://www.seadatanet.org/urnurl/SDN-EDMERP	0-many	int

The EDMERP project should describe whether it concerns a structured monitoring activity whereby data are collected for long time series in a systematic way OR a scientific research project whereby data are collected more randomly and by individual scientists applying different techniques and methods.

The background of the data collection is described by EDMERP entries. These EDMERP entries can be prepared with MIKADO and forwarded to MARIS as EDMERP XML files and loaded into the EDMERP production database. Once included in EDMERP directory, EDMERP references can be included in the CDI XML entries.

MIKADO makes use of a web service to provide the published EDMERP references.

Implementation in the CDI using Mikado – Manual Mode

In the *Others* tab, add an entry and input:

Manual Automatic Options Tools ?

Identification Where When What How Who Where to find the data Cruise/Station Documentation Quality Others

EDMED Reference

EDMED Identifier

code list value

Projects

project	code list value
Monitoring of the coastal marine...	7869

Data format

format	code	version
* Ocean Data View AS...	ODV	0.4
Climate and Foreca...	CFPOINT	1.0

Revision date * 29/06/2017 dd/mm/yyyy (25/01/20

project

Country Italy

Name * sull'Ambiente Marino" country="Italy");

Code EDMERP * 7869

7744 - Geospatial Application Intelligence
 7870 - Guides for phytoplankton and zooplankton
 7856 - Hydrodynamic and Environmental Modelling
 7828 - Hydrodynamics and Geochemical Modelling
 4344 - Improved Microstructure Measurements
 3077 - Interactions of physical and biological processes
 7941 - Land sea Integrated Monitoring of the Mediterranean
 10714 - Line 3.1.3 Weather - Oceanography
 7835 - Line 3.1.5. Solid transport and circulation
 7831 - Line 3.5. Quantity and quality of exchange flows
 9745 - Local air-sea interaction processes
 11668 - Mapping of a Complete Glacial Database
 10715 - Mediterranean Forecasting System
 7865 - Mediterranean Forecasting System
 10717 - Mediterranean Forecasting System
 7840 - Mediterranean model networking and validation
 7850 - Mediterranean network to Assess the impact of climate change
 1006 - Mediterranean ocean forecasting system
 7841 - Mediterranean Oceanic Data Base
 9086 - MedSudMed {acronym="MedSudMed"}
 7563 - MFSP - Mediterranean Forecasting System
 7869 - Monitoring of the coastal marine environment
 11452 - MULIS, on behalf of Snamprogetti
 7849 - National SIMBIOS project (2000-2005)

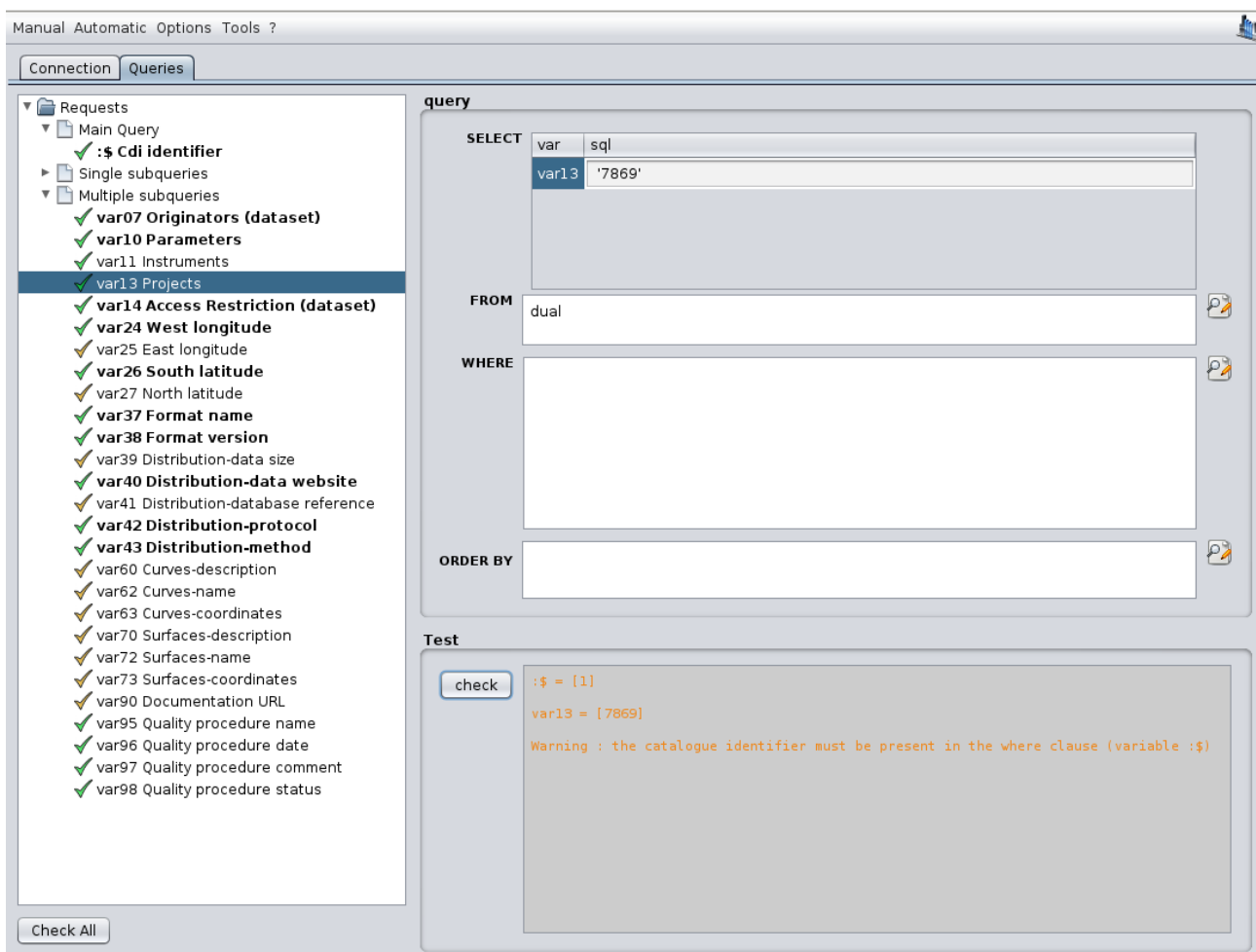
MONITORING

Add

Implementation in the CDI using Mikado – Automatic mode

Under the multiple subqueries folder define your SQL query under var13 to describe your selected datasets and the corresponding EDMERP entry given above.

The EDMERP entries are part of SDN list, under var13 is necessary to specify the EDMERP code.



The screenshot shows the Mikado software interface. On the left, a tree view under 'Requests' has 'var13 Projects' selected. The main window is titled 'query' and contains a SQL editor with the following text:

```
SELECT var sql
var13 '7869'

FROM dual

WHERE

ORDER BY
```

Below the query editor is a 'Test' section with a 'check' button. The output of the test is:

```
:$ = [1]
var13 = [7869]
Warning : the catalogue identifier must be present in the where clause (variable :$)
```

Note: the CDI tag PROJECT refers to the data collection framework and not to the data management framework. For this reason, all CDIs referring to the project EMODnet or EMODnet Chemistry should be modified to include the data collection activity at sea.

Information on QA and QC procedures

The information regarding QA and QC procedures used in collecting data can also be completed in the CDIs by including references to the QA/QC Questionnaire. The provision of Quality Information about the data collection process and the further analysis processes are requested by our MSFD colleagues to get a better understanding of the applied analyses and quality control to the data in order to enable better assessment of the data fitness-for-purpose of MSFD. The QA/QC Questionnaire is composed of three sections:

1. General questions of laboratory QA/QC according to ISO Guide 17025:2005 (also requested by EQS EU Directive 2008/105)
2. General to all matrices
3. Specific to matrices

Sections 2. and 3. implies to fill tables contained into a separate excel file.

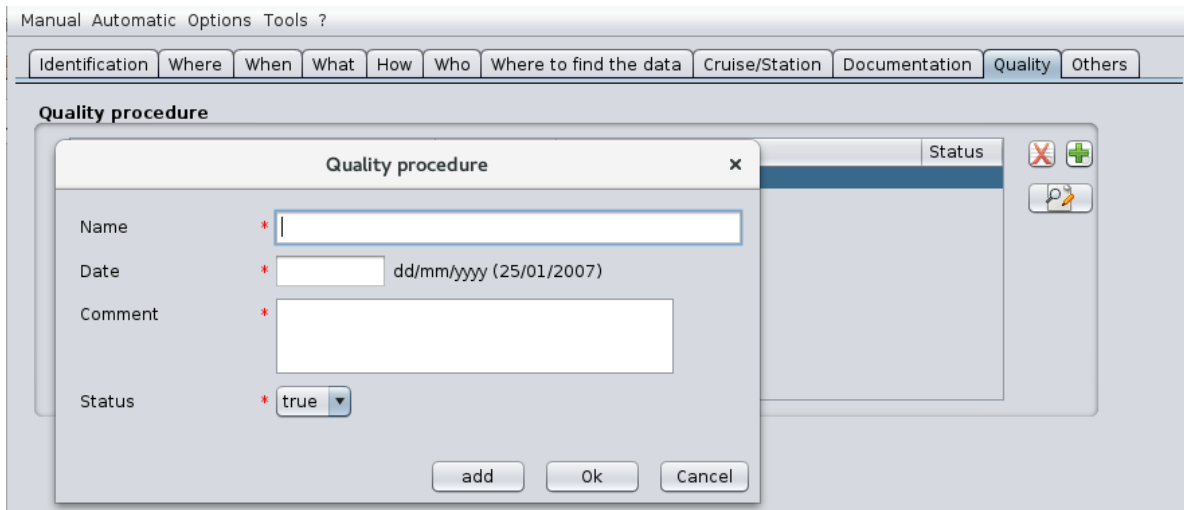
Most EMODnet Chemistry partners already filled the QA/QC questionnaires and it is available on the EMODnet Chemistry portal under the section Partners (linked to the related partner who filled it) on <http://www.emodnet-chemistry.eu/data/questionnaires>.

To include quality info, the CDI Schema will not change; the CDI XML format will change in the way that **three new indicators should be defined** as new fields and should be completed by the Data Center:

- Accreditation to ISO/IEC 17025:2005
- Use of certified reference materials
- Participation to intercalibration exercise

Implementation in the CDI using Mikado – Manual Mode

In the *Quality* tab, add an entry and input:



The screenshot shows the Mikado software interface with the 'Quality' tab selected. A 'Quality procedure' dialog box is open, allowing for the entry of a new quality procedure. The dialog contains the following fields:

- Name:** A text input field with a red asterisk indicating it is required.
- Date:** A date input field with a red asterisk, pre-filled with '25/01/2007' and a format hint 'dd/mm/yyyy (25/01/2007)'. It has a red asterisk.
- Comment:** A large text area with a red asterisk.
- Status:** A dropdown menu with a red asterisk, currently set to 'true'.

At the bottom of the dialog are three buttons: 'add', 'Ok', and 'Cancel'. In the background, a table with a 'Status' column is visible, along with icons for adding (+) and deleting (-) entries.

Name: **Accreditation to ISO/IEC 17025:2005**

Date: 2017-MM-DD (Publication Date of the referenced QA/QC questionnaire)

Comment: Link to excel table with analysis methods and limits. (e.g. http://www.emodnet-chemistry.eu/gaqc/OGS_QA_QC_Questionnaire_seawater_biota_sediment_May_2014.xlsx)

All questionnaires are available on .

You can use this link or keep a copy on own server, being sure that it doesn't change in the future.

Status: true

Name: **Use of certified reference materials**

Date: 2017-MM-DD (Publication Date of the referenced QA/QC questionnaire)

Comment: Link to excel table with analysis methods and limits. (e.g. http://www.emodnet-chemistry.eu/gaqc/OGS_QA_QC_Questionnaire_seawater_biota_sediment_May_2014.xlsx)

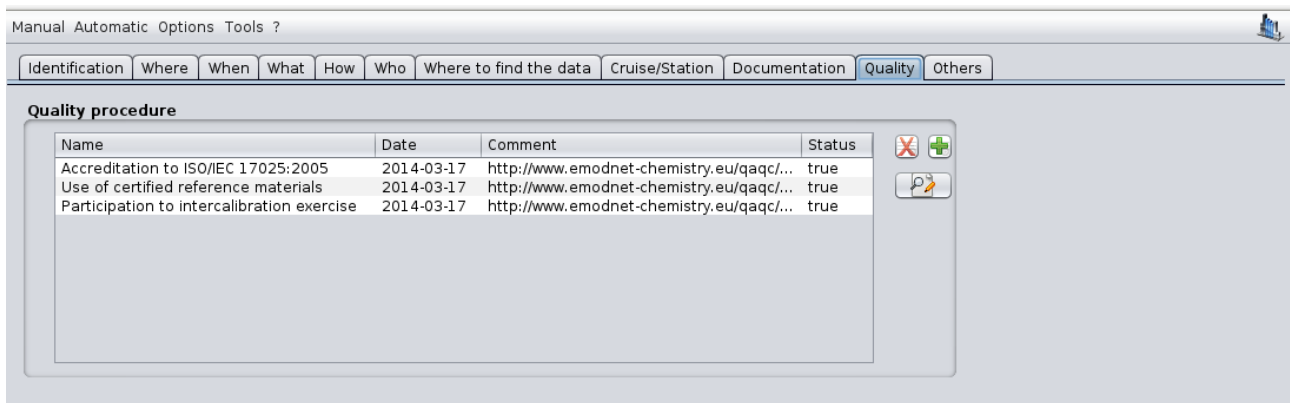
Status: true/false

Name: **Participation to intercalibration exercise**

Date: 2017-MM-DD (Publication Date of the referenced QA/QC questionnaire)

Comment: Link to excel table with analysis methods and limits. (e.g. http://www.emodnet-chemistry.eu/qaqc/OGS_QA_QC_Questionnaire_seawater_biota_sediment_May_2014.xlsx)




Status: true/false



Manual Automatic Options Tools ?

Identification Where When What How Who Where to find the data Cruise/Station Documentation **Quality** Others

Quality procedure

Name	Date	Comment	Status	
Accreditation to ISO/IEC 17025:2005	2014-03-17	http://www.emodnet-chemistry.eu/qaqc/...	true	
Use of certified reference materials	2014-03-17	http://www.emodnet-chemistry.eu/qaqc/...	true	
Participation to intercalibration exercise	2014-03-17	http://www.emodnet-chemistry.eu/qaqc/...	true	

Implementation in the CDI using Mikado – Automatic mode

Under the multiple subqueries folder define your SQL queries under var95 to var98 to describe your selected datasets and the corresponding quality indexes given above. None of these variables are part of any SDN list, they have to be written “in hard” in your SQL query.

An example of a possible SQL request is:

```
select col1, col2, col3, col4  
from
```

```
(select 'Accreditation to ISO/IEC 17025:2005' col1, '2014-03-17' col2,  
'http://www.emodnet-  
chemistry.eu/qaqc/OGS\_QA\_QC\_Questionnaire seawater biota sediment May 2014.xls  
x' col3, 'true' col4 from dual
```

```
union
```

```
select 'Use of certified reference materials' col1, '2014-03-17' col2, 'http://www.emod-  
net-  
chemistry.eu/qaqc/OGS\_QA\_QC\_Questionnaire seawater biota sediment May 2014.xls  
x' col3, 'true' col4 from dual
```

```
union
```

```
select 'Participation to intercalibration exercise' col1, '2014-03-17' col2, 'http://www.e-  
modnet-  
chemistry.eu/qaqc/OGS\_QA\_QC\_Questionnaire seawater biota sediment May 2014.xls  
x' col3, 'true' col4 from dual)
```

Manual Automatic Options Tools ?

Connection Queries

Requests

- ▼ Main Query
 - ✓ **:\$ Cdi identifier**
- ▶ Single subqueries
- ▼ Multiple subqueries
 - ✓ **var07 Originators (dataset)**
 - ✓ **var10 Parameters**
 - ✓ var11 Instruments
 - ✓ var13 Projects
 - ✓ **var14 Access Restriction (dataset)**
 - ✓ **var24 West longitude**
 - ✓ var25 East longitude
 - ✓ **var26 South latitude**
 - ✓ var27 North latitude
 - ✓ **var37 Format name**
 - ✓ **var38 Format version**
 - ✓ var39 Distribution-data size
 - ✓ **var40 Distribution-data website**
 - ✓ var41 Distribution-database reference
 - ✓ **var42 Distribution-protocol**
 - ✓ **var43 Distribution-method**
 - ✓ var60 Curves-description
 - ✓ var62 Curves-name
 - ✓ var63 Curves-coordinates
 - ✓ var70 Surfaces-description
 - ✓ var72 Surfaces-name
 - ✓ var73 Surfaces-coordinates
 - ✓ var90 Documentation URL
 - ✓ **var95 Quality procedure name**
 - ✓ var96 Quality procedure date
 - ✓ var97 Quality procedure comment
 - ✓ var98 Quality procedure status

Check All

query

SELECT	var	sql
	var95	col1
	var96	col2
	var97	col3
	var98	col4

from clause

```
(select 'Accreditation to ISO/IEC 17025:2005' col1, '2014-03-17' col2, 'http://www.emodnet-chemistry.eu/qaqc/OGS_QA_QC_Questionnaire_seawater_biota_sediment_May_2014.xlsx' col3, 'true' col4 from dual union select 'Use of certified reference materials' col1, '2014-03-17' col2, 'http://www.emodnet-chemistry.eu/qaqc/OGS_QA_QC_Questionnaire_seawater_biota_sediment_May_2014.xlsx' col3, 'true' col4 from dual union select 'Participation to intercalibration exercise' col1, '2014-05-21' col2, 'http://www.emodnet-chemistry.eu/qaqc/OGS_QA_QC_Questionnaire_seawater_biota_sediment_May_2014.xlsx' col3, 'true' col4 from dual)
```

Ok Cancel

Test

check

```
:$ = [1]
var95 = [Accreditation to ISO/IEC 17025:2005]
var96 = [2014-03-17]
var97 = [http://www.emodnet-chemistry.eu/qaqc/OGS_QA_QC_Questionnaire_seawater_biota_sediment_May_2014.xlsx]
var98 = [true]

Warning : the catalogue identifier must be present in the where clause (variable :$)
```

Manual Automatic Options Tools ?

Connection Queries

Requests

- ▼ Main Query
 - ✓ **:\$ cdi identifier**
- ▶ Single subqueries
- ▼ Multiple subqueries
 - ✓ **var07 Originators (dataset)**
 - ✓ **var10 Parameters**
 - ✓ var11 Instruments
 - ✓ var13 Projects
 - ✓ **var14 Access Restriction (dataset)**
 - ✓ **var24 West longitude**
 - ✓ var25 East longitude
 - ✓ **var26 South latitude**
 - ✓ var27 North latitude
 - ✓ **var37 Format name**
 - ✓ **var38 Format version**
 - ✓ var39 Distribution-data size
 - ✓ **var40 Distribution-data website**
 - ✓ var41 Distribution-database reference
 - ✓ **var42 Distribution-protocol**
 - ✓ **var43 Distribution-method**
 - ✓ var60 Curves-description
 - ✓ var62 Curves-name
 - ✓ var63 Curves-coordinates
 - ✓ var70 Surfaces-description
 - ✓ var72 Surfaces-name
 - ✓ var73 Surfaces-coordinates
 - ✓ var90 Documentation URL
 - ✓ **var95 Quality procedure name**
 - ✓ var96 Quality procedure date
 - ✓ var97 Quality procedure comment
 - ✓ var98 Quality procedure status

Check All

query

SELECT	var	sql
	var95	col1
	var96	col2
	var97	col3
	var98	col4

FROM (select 'Accreditation to ISO/IEC 17025:2005' col1, '2014-03-17' col2,'http://www.emodnet-chemistry.eu/qaqc/OGS_QA_QC_Questionnaire_seawater_biota_sediment_May_2014.xlsx' col3, 'true' col4 from dual union select 'Use of certified reference materials' col1, '2014

WHERE

ORDER BY

Test

check :\$ = [1]

```

var95 = [Accreditation to ISO/IEC 17025:2005]
var96 = [2014-03-17]
var97 = [http://www.emodnet-chemistry.eu/qaqc/OGS_QA_QC_Questionnaire_seawater_biota_sediment_May_2014.xlsx]
var98 = [true]

Warning : the catalogue identifier must be present in the where clause (variable :$)

```