
Isogeo - XML Toolbelt Documentation

Release 1.0.0

Isogeo

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Source code <https://github.com/isogeo/xml-toolbelt-py/>

Issues <https://github.com/isogeo/xml-toolbelt-py/issues>

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1.1 Package modules

1.1.1 isogeo_xml_toolbelt

isogeo_xml_toolbelt package

This package is used to handle geographic metadata as XML in ISO 19139 and 19110.

Subpackages

isogeo_xml_toolbelt.enums package

isogeo_xml_toolbelt.models package

Submodules

isogeo_xml_toolbelt.models.xml_19139_fields module

Isogeo XML Fixer - Metadata

Purpose: Read a metadata stored into XML ISO 19110 as an object Authors: Isogeo, inspired by the work did by GeoBretagne on mdchecker Python: 3.6.x

class isogeo_xml_toolbelt.models.xml_19139_fields.**Contact** (*contact, namespaces*)
Bases: object

Contact in metadata XML 19139

Parameters

- **contact** (*lxml.etree._ElementTree*) – Element <http://www.isotc211.org/2005/gmd> CI_ResponsibleParty
- **namespaces** (*dict*) – XML namespaces like *lxml.etree.getroot().nsmap*

asDict () → dict

Return contact as a structured dictionary key: value.

isogeo_xml_toolbelt.readers package

Submodules

isogeo_xml_toolbelt.readers.reader_iso19110 module

Isogeo XML Fixer - Metadata

Purpose: Read a metadata stored into XML ISO 19110 as an object Authors: Isogeo, inspired by the work did by GeoBretagne on mdchecker Python: 3.6.x

class isogeo_xml_toolbelt.readers.reader_iso19110.**MetadataIso19110** (*xml: path-lib.Path*)

Bases: object

Object representation of a metadata stored into XML respecting ISO 19110.

asDict ()

Return the metadata object as a dict.

isogeo_xml_toolbelt.readers.reader_iso19139 module

Isogeo XML Fixer - Metadata

Purpose: Read a metadata stored into XML ISO 19139 as an object Authors: First work by GeoBretagne on mdchecker - updated by Isogeo Python: 3.6.x

class isogeo_xml_toolbelt.readers.reader_iso19139.**MetadataIso19139** (*xml: path-lib.Path*)

Bases: object

Object representation of a metadata stored into XML respecting ISO 19139.

asDict () → dict

Retrun object as a structured dictionary key: value.

get_md_contacts () → dict

get_md_keywords () → list

isogeo_xml_toolbelt.reporters package

Submodules

isogeo_xml_toolbelt.reporters.csv_reporter module

Sample module to manage CSV reporting

```
class isogeo_xml_toolbelt.reporters.csv_reporter.CsvReporter (csvpath:      path-  
lib.Path = Posix-  
Path('report.csv'),  
headers:      list  
=      ['header1',  
'header2'],    ex-  
trahead:      str =  
'ignore')
```

Bases: object

Produce CSV report. Inherits from standard 'csv.DictWriter' lib.

See:

- <https://docs.python.org/fr/3.6/library/csv.html#csv.DictWriter>
- <https://pymotw.com/3/csv/>

add_multiple (*in_data: list*)

Add a set of rows to the CSV from the input list of data dictionaries.

Parameters in_data (*list*) – list of dictionaries of data to be added. Expected structure:
[*{header1: valueA}, {header2: valueB}*]

add_unique (*in_data: dict*)

Add a single row to the CSV from the input data dictionary

Parameters in_data (*dict*) – Dictionary of data to be added. Expected structure: *{header: value}*

write_headers ()

Write headers to the CSV.

isogeo_xml_toolbelt.utils package

Submodules

isogeo_xml_toolbelt.utils.xml_utils module

Isogeo XML Fixer - Metadata

Purpose: Read a metadata stored into XML ISO 19110 as an object Authors: Isogeo, inspired by the work did by GeoBretagne on mdchecker Python: 3.6.x

```
class isogeo_xml_toolbelt.utils.xml_utils.XmlUtils  
    Bases: object
```

Common methods used to parse XML files.

parse_string_for_max_date (*dates_as_str: str*)

Parse string with multiple dates to extract the most recent one. Used to get the latest modification date.

Parameters **dates_as_str** (*str*) – string containing dates

xmlGetTextNodes (*doc: lxml.etree._ElementTree, xpath: str, namespaces: dict*)

Shorthand to retrieve serialized text nodes matching a specific xpath.

Parameters

- **doc** (*lxml.etree._ElementTree*) – XML element to parse
- **xpath** (*str*) – Xpath to reach
- **namespaces** (*dict*) – XML namespaces like *lxml.etree.getroot().nsmap*

xmlGetTextTag (*doc: lxml.etree._ElementTree, xpath: str, namespaces: dict, key: str*)

Function to get information in tag when information isn't in nodes matching a specific xpath.

Parameters

- **doc** (*lxml.etree._ElementTree*) – XML element to parse
- **xpath** (*str*) – Xpath to reach
- **namespaces** (*dict*) – XML namespaces like 'lxml.etree.getroot().nsmap'

:param key : XML key to find like 'codeListValue'

Submodules

isogeo_xml_toolbelt.md_xml_fixer module

class `isogeo_xml_toolbelt.md_xml_fixer.MetadataXML19139Fixer`

Bases: `object`

ISO 19139 XML fixer.

add_ds_creation_date ()

Add metadata creation date into metadata XML.

Under /MD_Metadata/identificationInfo/MD_DataIdentification/citation/CI_Citation/date <date>

<CI_Date>

<date> <gco:Date>2010-07-07Z</gco:Date>

</date> <dateType>

<CI_DateTypeCode codeList="http://standards.iso.org/ittf/
PubliclyAvailableStandards/ISO_19139_Schemas/resources/
codelist/ML_gmxCodellists.xml#CI_DateTypeCode" codeList-
Value="creation">creation</CI_DateTypeCode>

</dateType>

</CI_Date>

</date>

add_md_character_set ()

Add metadata creation date into metadata XML.

Under /MD_Metadata/characterSet AND /MD_Metadata/identificationInfo/MD_DataIdentification/characterSet
<characterSet>

```

    <MD_CharacterSetCode    codeList="http://standards.iso.org/ittf/PubliclyAvailableStandards/
ISO_19139_Schemas/resources/codelist/ML_gmxCodelists.xml#MD_CharacterSetCode"
    codeListValue="utf8">utf-8</MD_CharacterSetCode>

</characterSet>

add_namespaces ()
    Add ISO19139 namespaces.

check_folders ()
    Check prerequisites.

fix_cgus ()
    Add dataset usage conditions and limitations into metadata XML.

    Under /MD_Metadata/identificationInfo/MD_DataIdentification/resourceConstraints

    <resourceConstraints>

        <MD_Constraints>

            <useLimitation> <gmx:Anchor    xl:href="http://www.etalab.gouv.fr/licence-ouverte-open-
licence" xl:title="Licence ouverte ETALAB 1.0" />

            </useLimitation> <useLimitation>

                <gco:CharacterString>Conditions    sur    [geopaysdebrest.fr    &gt;    Usage    des
données](https://geo.pays-de-brest.fr/usages/Pages/default.aspx).</gco:CharacterString>

            </useLimitation>

        </MD_Constraints>

    </resourceConstraints> <resourceConstraints>

        <MD_LegalConstraints>

            <useLimitation> <gco:CharacterString>Pas de restriction d'accès public selon IN-
SPIRE</gco:CharacterString>

            </useLimitation> <useLimitation>

                <gco:CharacterString>Conditions    sur    [geopaysdebrest.fr    &gt;    Usage    des
données](https://geo.pays-de-brest.fr/usages/Pages/default.aspx).</gco:CharacterString>

            </useLimitation> <accessConstraints>

                <MD_RestrictionCode                                codeList="http://standards.iso.org/ittf/
PubliclyAvailableStandards/ISO_19139_Schemas/resources/codelist/gmxCodelists.
xml#MD_RestrictionCode" codeListValue="license">license</MD_RestrictionCode>

            </accessConstraints>

        </MD_LegalConstraints>

    </resourceConstraints>

fix_srs ()
    Fix Spatial Reference System.

    Under /MD_Metadata/referenceSystemInfo/MD_ReferenceSystem/referenceSystemIdentifier/RS_Identifier
    <referenceSystemInfo>

        <MD_ReferenceSystem>

            <referenceSystemIdentifier>

```

```
<RS_Identifier>
  <code> <gco:CharacterString>urn:ogc:def:crs:EPSG:2154</gco:CharacterString>
</code>
</RS_Identifier>
</referenceSystemIdentifier>
</MD_ReferenceSystem>
</referenceSystemInfo>
get_md_ci_citation ()
  Get CI_Citation level items.
get_md_data_identification ()
  Get Character_set level items.
get_rs_constraints ()
  Get resourceConstraints level items.
get_rs_identifier ()
  Get RS_Identifier level items.
prettify (elem)
  Return a pretty-printed XML string for the Element.
```

isogeo_xml_toolbelt.switch_from_geosource module

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