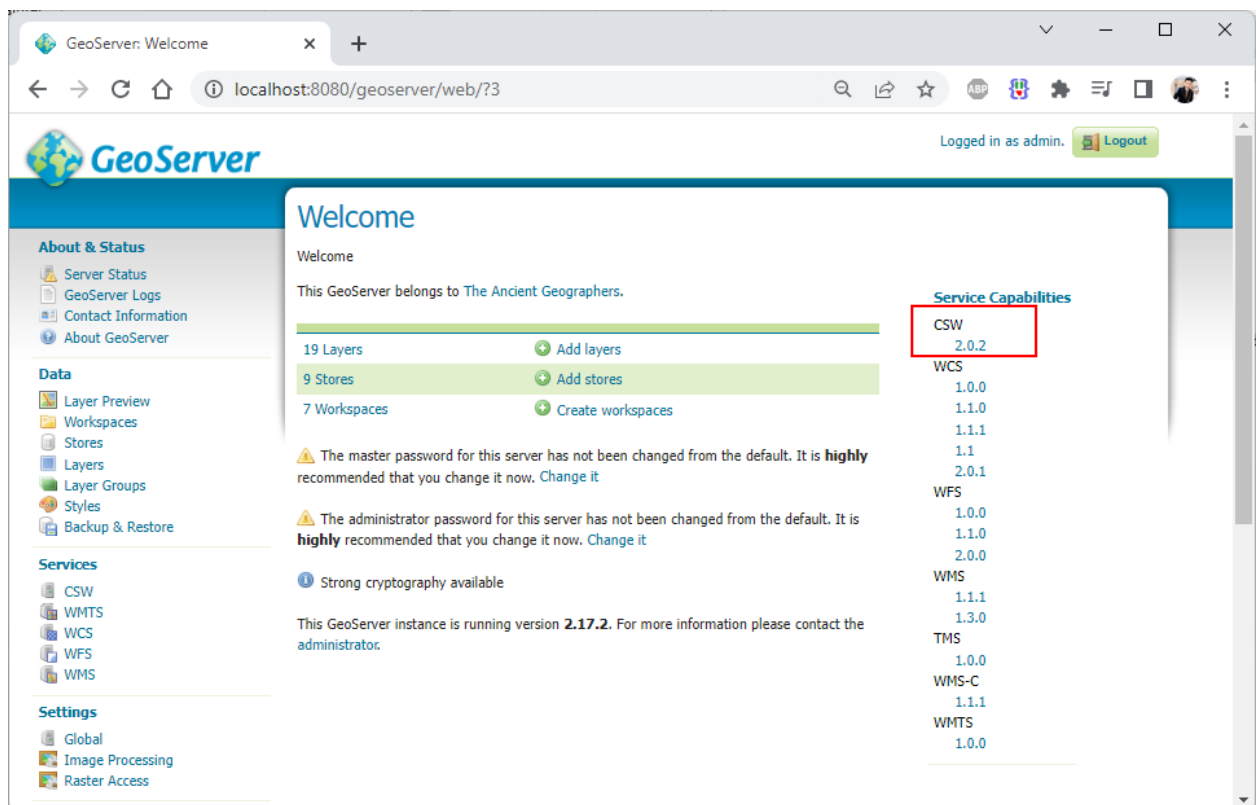


IMPLEMENTASI METADA ISO DI GEOSERVER

A. Install Plugin Geoserver

- Untuk menjalankan metadata ISO pada geoserver perlu di tambahkan plugin java yang di install pada folder "...\\geoserver\\WEB-INF\\lib\\"
- Pulign yang wajib di tambahkan adalah:
 - jackson-annotations-2.10.1.jar
 - jackson-annotations-2.10.1-sources.jar
 - geoserver-2.XX-SNAPSHOT-csw-plugin.zip
 - geoserver-2.XX-SNAPSHOT-csw-iso-plugin.zip
- Setelah semua file plugin tadi di ekstrak ke folder BIN, restart apace tomcat
- Untuk jika tiada ada kesalahan pada geoserver akan tampil service CSW



- Selanjutnya copy file dibawah ini ke folder CSW "...\\geoserver\\data\\csw"
- FC_FeatureCatalogue.properties
- MD_Metadata.properties

- metadata.properties
 - Record.properties
- Dan copy juga file dibawah ini ke folder “....\geoserver\data\metadata\
 - metadata.properties
 - metadata_nl.properties
 - metadata-geonetwork.yaml
 - metadata-mapping.yaml
 - metadata-namespaces.yaml
 - metadata-native-mapping.yaml
 - metadata-ui.yaml
 - keyword-gemet-concept.csv
 - keyword-inspire-theme.csv
 - reference-systems-epsg.csv
- Selanjutnya restart Apache tomcat

About & Status

Server Status

GeoServer Logs

Contact Information

About GeoServer

Data

Layer Preview

Workspaces

Stores

Layers

Layer Groups

Styles

Backup & Restore

Services

CSW

WMTS

WCS

WFS

WMS

Settings

Global

Image Processing

Raster Access

Tile Caching

Tile Layers

Caching Defaults

Gridsets

Disk Quota

BlobStores

Security

Settings

Authentication

Passwords

Users, Groups, Roles

Data

Services

Metadata

Templates

Bulk Operations

Demos

Tools

localhost:8080/geoserver/web/wicket/bookmarkable/org.geoserver.web.data.resource.ResourceConf...

GeoServer: Edit Layer

+

Edit layer data and publishing

tiger:giant_polygon

Configure the resource and publishing information for the current layer

Data

Publishing

Dimensions

Tile Caching

Security

Metadata

Import or Link fields

Import from Geonetwork

Link with Template

Copy from other layer

Metadata fields

Edit Metadata

Unique identifier for the metadata *

Unique identifier for the data *

Metadata language *

Data language *

Dates regarding data publication *

Temporal extent

Unique identifier of the parent datasetseries

dataser-url

Alternate title

Edition

Purpose

Topic category *

status

Update frequency

Maintenance Note

Extra coordinate reference system

Equivalent scale

denominator

GetMap-URL for preview

Supplemental information

Contact details for the metadata *

GeoServer: Edit Layer

localhost:8080/geoserver/web/wicket/bookmarkable/org.geoserver.web.data.resource.ResourceConf...

Equivalent scale denominator

25000

GetMap-URL for preview

https://geoportal.kalselprov.go.id/

Supplemental information

Data untuk Publik

Contact details for the metadata *

individual-Name

INFRASTRUKTUR DAN KEWILAYAHAN

Organisation name *

BADAN PERENCANAAN PEMBANGUNAN DAERAH PROVINSI

contactinfo

position-Name

Banjarbaru

Telephone

08991280888

Fax

(0511) 6749644

Address

JL. Dharma Praja I Kawasan Perkantoran Pemprov Kalsel

City

Banjarbaru

administrative-Area

Kalimantan Selatan

Postal code

72123

Country

Indonesia

E-mail *

lh.bappedakalsel@gmail.com

Website *

https://geoportal.kalselprov.go.id/

Hours Of Service

Senin-Jumat, 8:00 am- 4:00 pm

Contact Instructions

Email/telepon

Role *

Point of contact

Add object

Contact details for the data *

No data to display, add an object.

Distributor

individual-Name

SEKRETARIAT SIMPUL JARINGAN INFORMASI GEOSPASIAL DAERAH

Organisation name *

BAPPEDA PROVINSI KALIMANTAN SELATAN

contactinfo

position-Name

Banjarbaru

Telephone

08991280888

Fax

(0511) 6749644

Address

JL. Dharma Praja I Kawasan Perkantoran Pemprov Kalsel

City

Banjarbaru

administrative-Area

Kalimantan Selatan

Postal code

72123

Country

Indonesia

E-mail *

lh.bappedakalsel@gmail.com

Website *

https://geoportal.kalselprov.go.id/

Hours Of Service

Senin-Jumat, 8:00 am- 4:00 pm

Contact Instructions

email/telepon

Role *

Distributor

Add object

Additional transfer option

Link URL

https://geoportal.kalselprov.go.id/

Protocol

WWW.LINK-1.0-http-link

Name of current resource

WebPortal

Description

Geoportal Kalsel

Function

Information

Add object

Limitation of usage (free text)

GOVERNMENT

Add value

Limitations on access (code) *

License

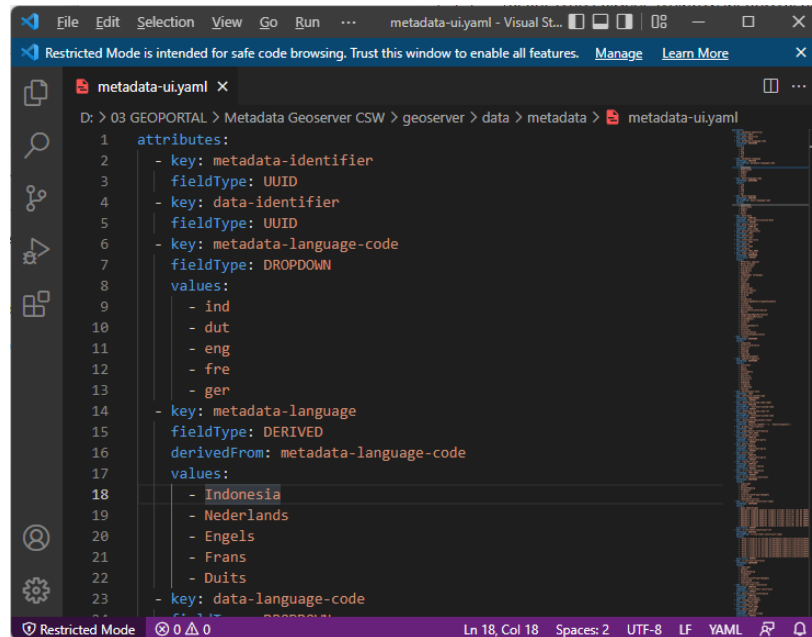
Save

Cancel

B. Modifikasi Konfigurasi Form Metadata

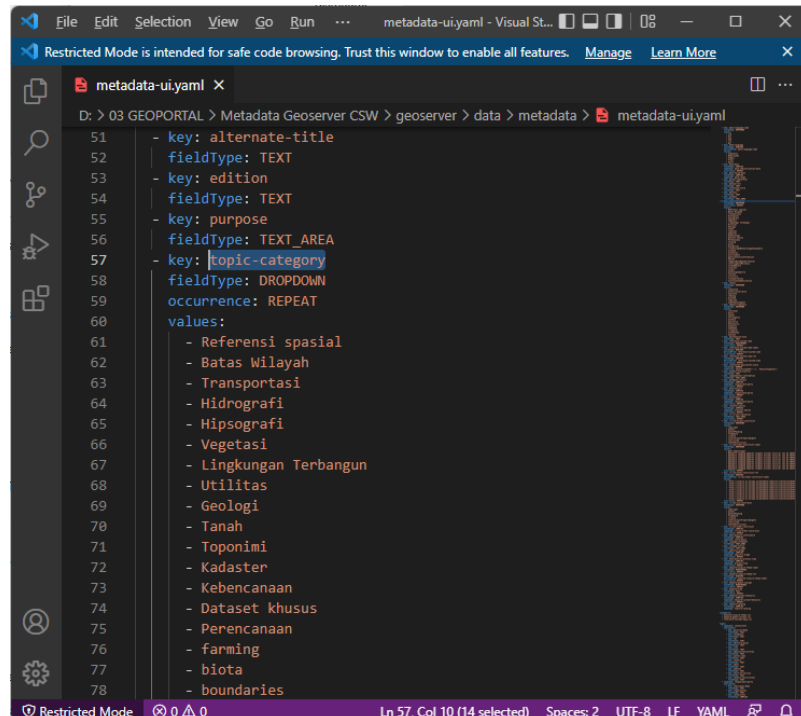
Untuk memodifikasi form metadata anda dapat merubahnya pada file **metadata-ui.yaml** sebagai contoh yang saya tambahkan seperti gambar di bawah ini:

1. Bahasa Metadata saya tambahkan Bahasa Indonesia



```
1 attributes:
2   - key: metadata-identifier
3     fieldType: UUID
4   - key: data-identifier
5     fieldType: UUID
6   - key: metadata-language-code
7     fieldType: DROPDOWN
8     values:
9       - ind
10      - dut
11      - eng
12      - fre
13      - ger
14   - key: metadata-language
15     fieldType: DERIVED
16     derivedFrom: metadata-language-code
17     values:
18       - Indonesia
19       - Nederlands
20       - Engels
21       - Frans
22       - Duits
23   - key: data-language-code
```

2. Pada bagian topik kategori kami tambahkan kategori sesuai KUGI



```
51   - key: alternate-title
52     fieldType: TEXT
53   - key: edition
54     fieldType: TEXT
55   - key: purpose
56     fieldType: TEXT_AREA
57   - key: topic-category
58     fieldType: DROPDOWN
59     occurrence: REPEAT
60     values:
61       - Referensi spasial
62       - Batas Wilayah
63       - Transportasi
64       - Hidrografi
65       - Hipsografi
66       - Vegetasi
67       - Lingkungan Terbangun
68       - Utilitas
69       - Geologi
70       - Tanah
71       - Toponimi
72       - Kadaster
73       - Kebencanaan
74       - Dataset khusus
75       - Perencanaan
76       - farming
77       - biota
78       - boundaries
```

3. Kami juga menambahkan field baru seperti :

- a. maintenance-note
- b. dataser-url
- c. individual-Name
- d. Fax
- e. administrative-Area
- f. Hours Of Service
- g. Contact Instructions

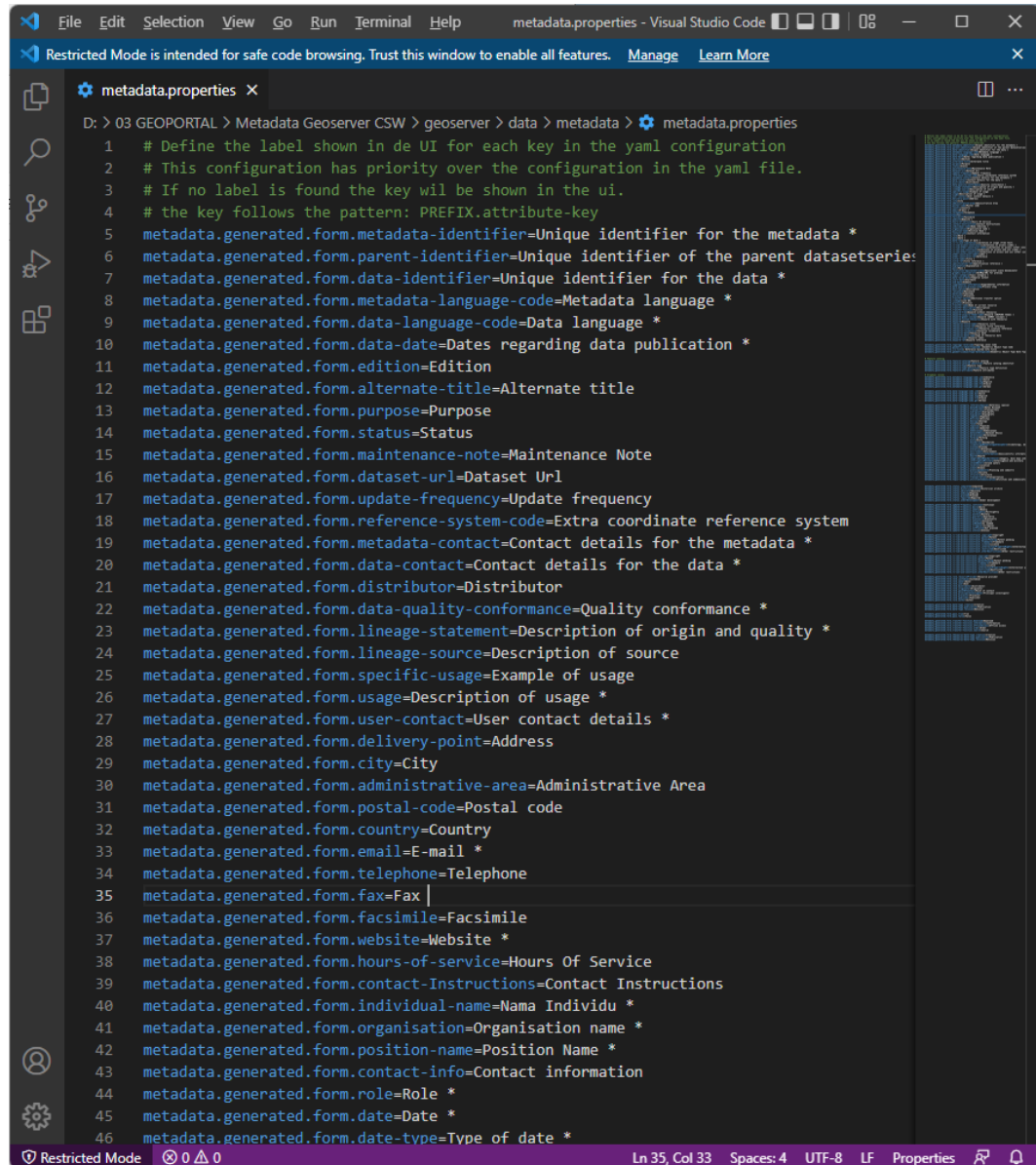
```
41  fieldType:
42  typename: url
43  occurrence: REPEAT
44  - key: data-valid-date
45    fieldType: COMPLEX
46    typename: date-range
47  - key: parent-identifier
48    fieldType: TEXT
49  - key: dataser-url
50    fieldType: TEXT
51  - key: alternate-title
52    fieldType: TEXT
53  - key: edition
54    fieldType: TEXT
```

```
252 types:
253   - typename: contactinfo
254     attributes:
255       - key: position-Name
256         fieldType: TEXT
257       - key: telephone
258         fieldType: TEXT
259       - key: fax
260         fieldType: TEXT
261       - key: delivery-point
262         fieldType: TEXT
263       - key: city
264         fieldType: TEXT
265       - key: administrative-Area
266         fieldType: TEXT
267       - key: postal-code
268         fieldType: TEXT
269       - key: country
270         fieldType: TEXT
271       - key: email
272         fieldType: TEXT
273       - key: website
274         fieldType: TEXT
275       - key: hours-of-service
276         fieldType: TEXT
277       - key: contact-Instructions
278         fieldType: TEXT
279   - typename: responsible-party
280     attributes:
281       - key: individual-Name
282         fieldType: TEXT
283       - key: organisation
284         fieldType: TEXT
285       - key: contactinfo
286         fieldType: COMPLEX
287         typename: contactinfo
288       - key: role
289         fieldType: DROPDOWN
290         values:
291           - resourceProvider
292           - custodian
293           - owner
294           - user
295           - distributor
296           - originator
297           - pointOfContact
298           - principalInvestigator
299           - processor
300           - publisher
301           - author
```

4.

C. Defiinsi Record Metadata

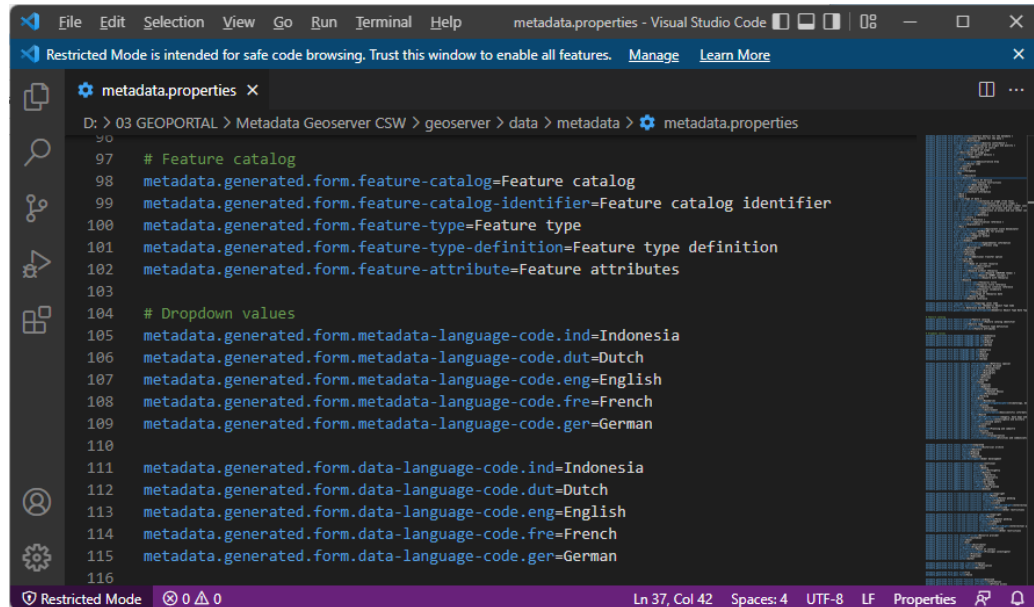
Untuk definisi record metadata pengaturanya terdapat pada file “metadata.properties” , untuk pengaturanya dapat di lihat pada contoh gambar berikut:



```
D: > 03 GEOPORTAL > Metadata Geoserver CSW > geoserver > data > metadata > metadata.properties
1  # Define the label shown in de UI for each key in the yaml configuration
2  # This configuration has priority over the configuration in the yaml file.
3  # If no label is found the key will be shown in the ui.
4  # the key follows the pattern: PREFIX.attribute-key
5  metadata.generated.form.metadata-identifier=Unique identifier for the metadata *
6  metadata.generated.form.parent-identifier=Unique identifier of the parent datasetserie
7  metadata.generated.form.data-identifier=Unique identifier for the data *
8  metadata.generated.form.metadata-language-code=Metadata language *
9  metadata.generated.form.data-language-code=Data language *
10 metadata.generated.form.data-date=Dates regarding data publication *
11 metadata.generated.form.edition=Edition
12 metadata.generated.form.alternate-title=Alternate title
13 metadata.generated.form.purpose=Purpose
14 metadata.generated.form.status=Status
15 metadata.generated.form.maintenance-note=Maintenance Note
16 metadata.generated.form.dataset-url=Dataset Url
17 metadata.generated.form.update-frequency=Update frequency
18 metadata.generated.form.reference-system-code=Extra coordinate reference system
19 metadata.generated.form.metadata-contact=Contact details for the metadata *
20 metadata.generated.form.data-contact=Contact details for the data *
21 metadata.generated.form.distributor=Distributor
22 metadata.generated.form.data-quality-conformance=Quality conformance *
23 metadata.generated.form.lineage-statement=Description of origin and quality *
24 metadata.generated.form.lineage-source=Description of source
25 metadata.generated.form.specific-usage=Example of usage
26 metadata.generated.form.usage=Description of usage *
27 metadata.generated.form.user-contact=User contact details *
28 metadata.generated.form.delivery-point=Address
29 metadata.generated.form.city=City
30 metadata.generated.form.administrative-area=Administrative Area
31 metadata.generated.form.postal-code=Postal code
32 metadata.generated.form.country=Country
33 metadata.generated.form.email=E-mail *
34 metadata.generated.form.telephone=Telephone
35 metadata.generated.form.fax=Fax
36 metadata.generated.form.facsimile=Facsimile
37 metadata.generated.form.website=Website *
38 metadata.generated.form.hours-of-service=Hours Of Service
39 metadata.generated.form.contact-instructions=Contact Instructions
40 metadata.generated.form.individual-name=Nama Individu *
41 metadata.generated.form.organisation=Organisation name *
42 metadata.generated.form.position-name=Position Name *
43 metadata.generated.form.contact-info=Contact information
44 metadata.generated.form.role=Role *
45 metadata.generated.form.date=Date *
46 metadata.generated.form.date-type=Type of date *
```

Bagian yang kami tambahkan dapat di lihat pada baris nomor 15,16,30,35,38,39

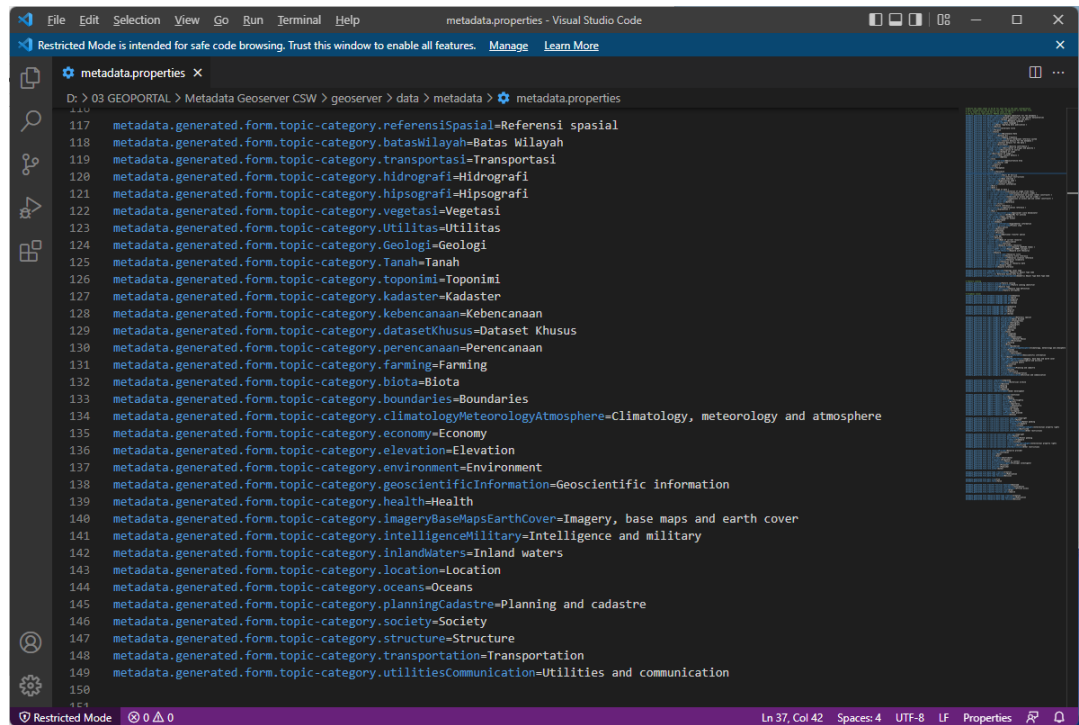
Untuk mendefinisikan list bahasa dapat dilihat pada baris berikut:



```
D:\> 03 GEOPORTAL > Metadata Geoserver CSW > geoserver > data > metadata > metadata.properties

97 # Feature catalog
98 metadata.generated.form.feature-catalog=Feature catalog
99 metadata.generated.form.feature-catalog-identifier=Feature catalog identifier
100 metadata.generated.form.feature-type=Feature type
101 metadata.generated.form.feature-type-definition=Feature type definition
102 metadata.generated.form.feature-attribute=Feature attributes
103
104 # Dropdown values
105 metadata.generated.form.metadata-language-code.ind=Indonesia
106 metadata.generated.form.metadata-language-code.dut=Dutch
107 metadata.generated.form.metadata-language-code.eng=English
108 metadata.generated.form.metadata-language-code.fre=French
109 metadata.generated.form.metadata-language-code.ger=German
110
111 metadata.generated.form.data-language-code.ind=Indonesia
112 metadata.generated.form.data-language-code.dut=Dutch
113 metadata.generated.form.data-language-code.eng=English
114 metadata.generated.form.data-language-code.fre=French
115 metadata.generated.form.data-language-code.ger=German
116
```

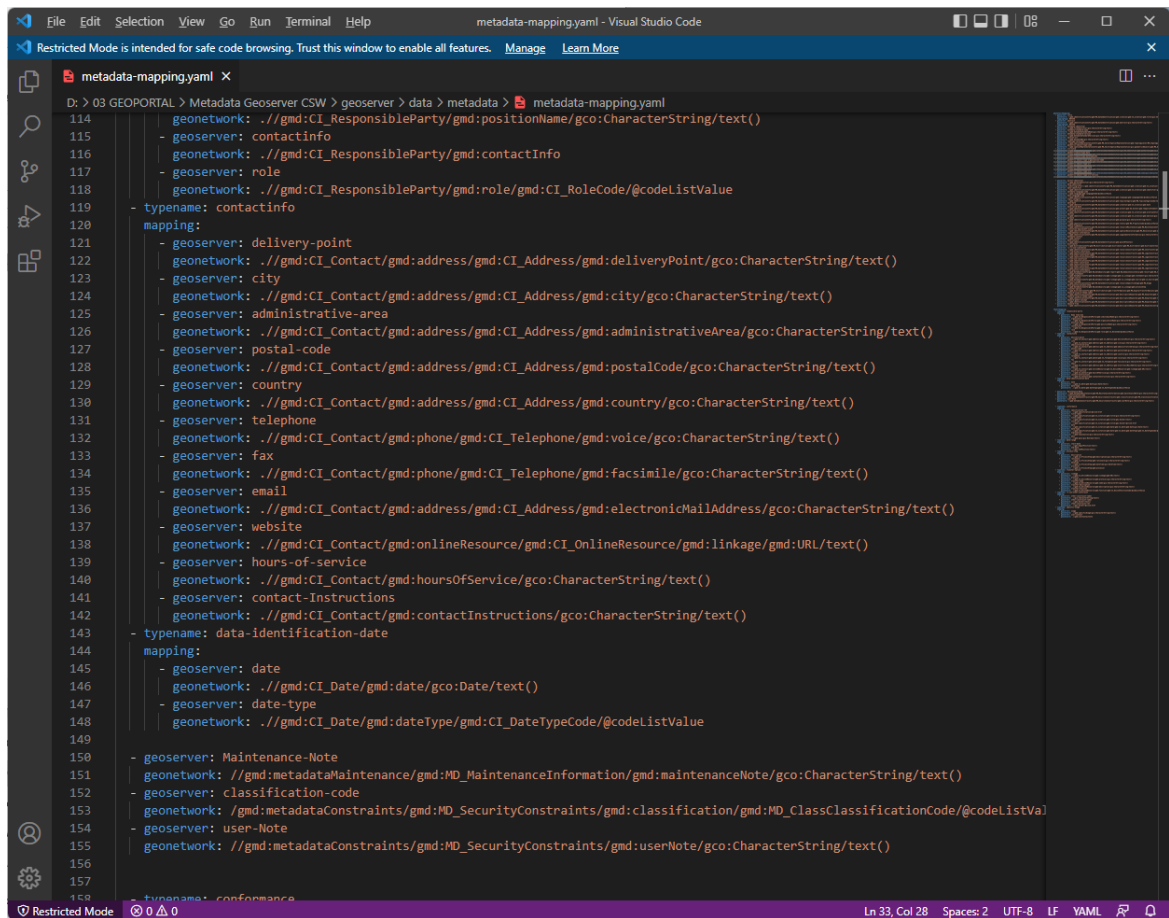
Untuk mendefinisikan kategori kugi dapat dilihat pada gambar di bawah in



```
D:\> 03 GEOPORTAL > Metadata Geoserver CSW > geoserver > data > metadata > metadata.properties

117 metadata.generated.form.topic-category.referensiSpasial-Referensi spasial
118 metadata.generated.form.topic-category.bataswilayah-Batas Wilayah
119 metadata.generated.form.topic-category.transportasi-Transportasi
120 metadata.generated.form.topic-category.hidrografi-Hidrografi
121 metadata.generated.form.topic-category.hipsografi-Hipsografi
122 metadata.generated.form.topic-category.vegetasi-Vegetasi
123 metadata.generated.form.topic-category.Utilitas-Utilitas
124 metadata.generated.form.topic-category.Geologi-Geologi
125 metadata.generated.form.topic-category.Tanah-Tanah
126 metadata.generated.form.topic-category.toponimi-Toponimi
127 metadata.generated.form.topic-category.kadaster-Kadaster
128 metadata.generated.form.topic-category.kebencanaan-Kebencanaan
129 metadata.generated.form.topic-category.datasetKhusus-Dataset Khusus
130 metadata.generated.form.topic-category.perencanaan-Perencanaan
131 metadata.generated.form.topic-category.farming-Farming
132 metadata.generated.form.topic-category.biota-Biota
133 metadata.generated.form.topic-category.boundaries-Boundaries
134 metadata.generated.form.topic-category.climatologyMeteorologyAtmosphere=Climatology, meteorology and atmosphere
135 metadata.generated.form.topic-category.economy-Economy
136 metadata.generated.form.topic-category.elevation-Elevation
137 metadata.generated.form.topic-category.environment-Environment
138 metadata.generated.form.topic-category.geoscientificInformation-Geoscientific information
139 metadata.generated.form.topic-category.health-Health
140 metadata.generated.form.topic-category.imageryBaseMapsEarthCover=Imagery, base maps and earth cover
141 metadata.generated.form.topic-category.intelligenceMilitary=Intelligence and military
142 metadata.generated.form.topic-category.inlandWaters-Inland waters
143 metadata.generated.form.topic-category.location-Location
144 metadata.generated.form.topic-category.oceans-Oceans
145 metadata.generated.form.topic-category.planningCadastrre-Planning and cadastre
146 metadata.generated.form.topic-category.society-Society
147 metadata.generated.form.topic-category.structure-Structure
148 metadata.generated.form.topic-category.transportation=Transportation
149 metadata.generated.form.topic-category.utilitiesCommunication=Utilities and communication
150
```

Memetakan Struktu XML Metadata (**geonetworkmapping**) dapat di modifikasi pada file “metadata-mapping.yaml”, sebagai contoh lihat gambar berikut:



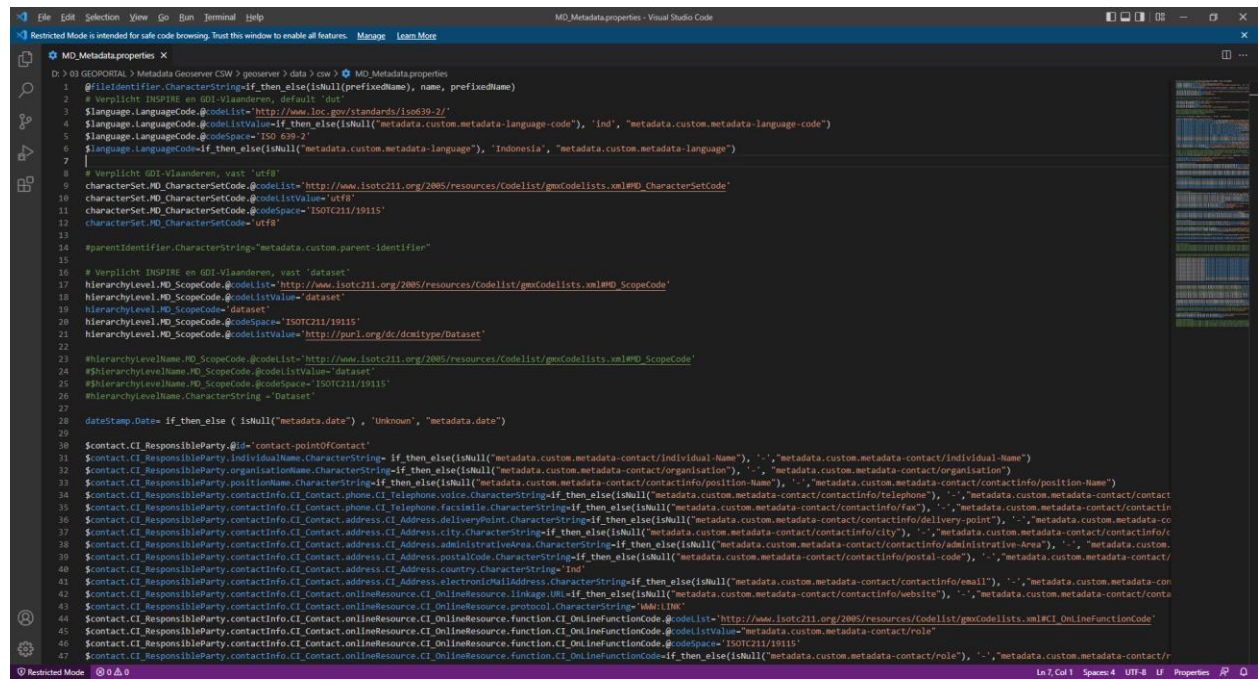
```
114 | geonetwork: //gmd:CI_ResponsibleParty/gmd:positionName/gco:CharacterString/text()
115 | - geoserver: contactinfo
116 |   geonetwork: //gmd:CI_ResponsibleParty/gmd:contactInfo
117 | - geoserver: role
118 |   geonetwork: //gmd:CI_ResponsibleParty/gmd:role/gmd:CI_RoleCode/@codeListValue
119 | - typename: contactinfo
120 |   mapping:
121 |     - geoserver: delivery-point
122 |       geonetwork: //gmd:CI_Contact/gmd:address/gmd:CI_Address/gmd:deliveryPoint/gco:CharacterString/text()
123 |     - geoserver: city
124 |       geonetwork: //gmd:CI_Contact/gmd:address/gmd:CI_Address/gmd:city/gco:CharacterString/text()
125 |     - geoserver: administrative-area
126 |       geonetwork: //gmd:CI_Contact/gmd:address/gmd:CI_Address/gmd:administrativeArea/gco:CharacterString/text()
127 |     - geoserver: postal-code
128 |       geonetwork: //gmd:CI_Contact/gmd:address/gmd:CI_Address/gmd:postalCode/gco:CharacterString/text()
129 |     - geoserver: country
130 |       geonetwork: //gmd:CI_Contact/gmd:address/gmd:CI_Address/gmd:country/gco:CharacterString/text()
131 |     - geoserver: telephone
132 |       geonetwork: //gmd:CI_Contact/gmd:phone/gmd:CI_Telephone/gmd:voice/gco:CharacterString/text()
133 |     - geoserver: fax
134 |       geonetwork: //gmd:CI_Contact/gmd:phone/gmd:CI_Telephone/gmd:facsimile/gco:CharacterString/text()
135 |     - geoserver: email
136 |       geonetwork: //gmd:CI_Contact/gmd:address/gmd:CI_Address/gmd:electronicMailAddress/gco:CharacterString/text()
137 |     - geoserver: website
138 |       geonetwork: //gmd:CI_Contact/gmd:onlineResource/gmd:CI_OnlineResource/gmd:linkage/gmd:URL/text()
139 |     - geoserver: hours-of-service
140 |       geonetwork: //gmd:CI_Contact/gmd:hoursOfService/gco:CharacterString/text()
141 |     - geoserver: contact-Instructions
142 |       geonetwork: //gmd:CI_Contact/gmd:contactInstructions/gco:CharacterString/text()
143 | - typename: data-identification-date
144 |   mapping:
145 |     - geoserver: date
146 |       geonetwork: //gmd:CI_Date/gmd:date/gco:Date/text()
147 |     - geoserver: date-type
148 |       geonetwork: //gmd:CI_Date/gmd:dateType/gmd:CI_DateTypeCode/@codeListValue
149 |
150 | - geoserver: Maintenance-Note
151 |   geonetwork: //gmd:metadataMaintenance/gmd:MD_MaintenanceInformation/gmd:maintenanceNote/gco:CharacterString/text()
152 | - geoserver: classification-code
153 |   geonetwork: //gmd:metadataConstraints/gmd:MD_SecurityConstraints/gmd:classification/gmd:MD_ClassClassificationCode/@codeListValue
154 | - geoserver: user-Note
155 |   geonetwork: //gmd:metadataConstraints/gmd:MD_SecurityConstraints/gmd:userNote/gco:CharacterString/text()
156 |
157 | - typename: conformance
```

Kami menambahkan beberapa defnisi XML yang harus ada dalam metadata ISO19115 sesuai stndar JIGN, dapat dilihat pada baris 133, 139, 141, 150

D. Membuat Struktur CSW

Untuk menyusun struktur CSW agar sesuai format JIGN dapat dilihat pada file

“MD_Metadata.properties” yang berada pada folder “csw”



```
D:\GEOPORTAL> metadata Geoserver CSW > geoserver > data > csw > MD_Metadata.properties
1 #Identifier:CharacterString-If then else(isNull(prefixName), name, prefixName)
2 # Verplicht INSPIRE en GDI-Vlaanderen, default 'dut'
3 $language.LanguageCode.@codeList="http://www.loc.gov/standards/iso639-2/"
4 $language.LanguageCode.@codeListValue-If then else(isNull("metadata.custom.metadata-language-code"), 'ind', "metadata.custom.metadata-language-code")
5 $language.LanguageCode.@codeSpace="ISO 639-2"
6 $language.LanguageCode-If then else(isNull("metadata.custom.metadata-language"), 'Indonesia', "metadata.custom.metadata-language")
7
8 # Verplicht GDI-Vlaanderen, vast 'utf8'
9 characterSet.MD_CharacterSetCode.@codeList="http://www.iso211.org/2005/resources/CodeList/gmxCodeLists.xml#MD_CharacterSetCode"
10 characterSet.MD_CharacterSetCode.@codeListValue="utf8"
11 characterSet.MD_CharacterSetCode.@codeSpace="ISO211/19115"
12 characterSet.MD_CharacterSetCode="utf8"
13
14 #parentIdentifier.CharacterString="metadata.custom.parent-identifier"
15
16 # Verplicht INSPIRE en GDI-Vlaanderen, vast 'dataset'
17 hierarchyLevel.MD_ScopeCode.@codeList="http://www.iso211.org/2005/resources/CodeList/gmxCodeLists.xml#MD_ScopeCode"
18 hierarchyLevel.MD_ScopeCode.@codeListValue="dataset"
19 hierarchyLevel.MD_ScopeCode="dataset"
20 hierarchyLevel.MD_ScopeCode.@codeSpace="ISO211/19115"
21 hierarchyLevel.MD_ScopeCode.@codeListValue="http://purl.org/dc/dcmitype/Dataset"
22
23 #hierarchyLevelName.MD_ScopeCode.@codeList="http://www.iso211.org/2005/resources/CodeList/gmxCodeLists.xml#MD_ScopeCode"
24 #hierarchyLevelName.MD_ScopeCode.@codeListValue="dataset"
25 #hierarchyLevelName.MD_ScopeCode.@codeSpace="ISO211/19115"
26 #hierarchyLevelName.CharacterString="Dataset"
27
28 dateTimeStamp.Date-If then else ( isNull("metadata.data"), 'Unknown', "metadata.data")
29
30 $contact.CI_ResponsibileParty.@id="contact-pointOfContact"
31 $contact.CI_ResponsibileParty.IndividualName.CharacterString-If then else(isNull("metadata.custom.metadata-contact/individualName"), '-', "metadata.custom.metadata-contact/individualName")
32 $contact.CI_ResponsibileParty.organisationName.CharacterString-If then else(isNull("metadata.custom.metadata-contact/organisation"), '-', "metadata.custom.metadata-contact/organisation")
33 $contact.CI_ResponsibileParty.positionName.CharacterString-If then else(isNull("metadata.custom.metadata-contact/contactInfo/positionName"), '-', "metadata.custom.metadata-contact/contactInfo/positionName")
34 $contact.CI_ResponsibileParty.contactInfo.CI_Contact.phone.CI_Telephone.voice.CharacterString-If then else(isNull("metadata.custom.metadata-contact/contactInfo/telephone"), '-', "metadata.custom.metadata-contact/contactInfo/telephone")
35 $contact.CI_ResponsibileParty.contactInfo.CI_Contact.phone.CI_Telephone.facsimile.CharacterString-If then else(isNull("metadata.custom.metadata-contact/contactInfo/fax"), '-', "metadata.custom.metadata-contact/contactInfo/fax")
36 $contact.CI_ResponsibileParty.contactInfo.CI_Contact.address.CI_Address.deliveryPoint.CharacterString-If then else(isNull("metadata.custom.metadata-contact/contactInfo/delivery-point"), '-', "metadata.custom.metadata-contact/contactInfo/delivery-point")
37 $contact.CI_ResponsibileParty.contactInfo.CI_Contact.address.CI_Address.city.CharacterString-If then else(isNull("metadata.custom.metadata-contact/contactInfo/city"), '-', "metadata.custom.metadata-contact/contactInfo/city")
38 $contact.CI_ResponsibileParty.contactInfo.CI_Contact.address.CI_Address.administrativeArea.CharacterString-If then else(isNull("metadata.custom.metadata-contact/contactInfo/administrative-Area"), '-', "metadata.custom.metadata-contact/contactInfo/administrative-Area")
39 $contact.CI_ResponsibileParty.contactInfo.CI_Contact.address.CI_Address.postalCode.CharacterString-If then else(isNull("metadata.custom.metadata-contact/contactInfo/postal-code"), '-', "metadata.custom.metadata-contact/contactInfo/postal-code")
40 $contact.CI_ResponsibileParty.contactInfo.CI_Contact.address.CI_Address.country.CharacterString="ind"
41 $contact.CI_ResponsibileParty.contactInfo.CI_Contact.address.CI_Address.electronicMailAddress.CharacterString-If then else(isNull("metadata.custom.metadata-contact/contactInfo/email"), '-', "metadata.custom.metadata-contact/contactInfo/email")
42 $contact.CI_ResponsibileParty.contactInfo.CI_Contact.onlineResource.CI_OnlineResource.linkage.URI-If then else(isNull("metadata.custom.metadata-contact/contactInfo/website"), '-', "metadata.custom.metadata-contact/contactInfo/website")
43 $contact.CI_ResponsibileParty.contactInfo.CI_Contact.onlineResource.CI_OnlineResource.protocol.CharacterString="WWW:LINK"
44 $contact.CI_ResponsibileParty.contactInfo.CI_Contact.onlineResource.CI_OnlineResource.function.CI_OnlineFunctionCode.@codeList="http://www.iso211.org/2005/resources/CodeList/gmxCodeLists.xml#CI_OnlineFunctionCode"
45 $contact.CI_ResponsibileParty.contactInfo.CI_Contact.onlineResource.CI_OnlineResource.function.CI_OnlineFunctionCode.@codeListValue="metadata.custom.metadata-contact/role"
46 $contact.CI_ResponsibileParty.contactInfo.CI_Contact.onlineResource.CI_OnlineResource.function.CI_OnlineFunctionCode.@codeSpace="ISO211/19115"
47 $contact.CI_ResponsibileParty.contactInfo.CI_Contact.onlineResource.CI_OnlineResource.function.CI_OnlineFunctionCode-If then else(isNull("metadata.custom.metadata-contact/role"), '-', "metadata.custom.metadata-contact/role")
```