



## CatalogCube

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### Brief Introduction

Catalog Services for the Web (CSW) is an [Open Geospatial Consortium](#) communications standard developed in the context of web metadata catalogs. It's latest version [2.0.2](#) was released in February 2007. CatalogCube is a metadata catalog compliant with this version 2.0.2 of OGC CSW specification, and it has been developed by [GeospatiumLab](#) in collaboration with the [Spanish Geographic Institute \(IGN\)](#).

CatalogCube can be downloaded from [SourceForge](#)

### Main Features

Its main features are the following:

- Multi-platform (Windows, Unix). As it has been developed with J2EE, the service can be deployed on any platform with the minimum requirements of having previously installed Tomcat and a Java virtual machine. On the client side users only need a web browser with Javascript support.
- Easy way of metadata loading. The storage of metadata records is managed directly through the file system.
- The server side of the product supports:
  - the compulsory operations GetCapabilities, DescribeRecord, GetRecords and GetRecordById;
  - plus the transactional operations to allow users to add, delete and modify the catalog's contents.
- With respect to metadata models, it implements both ISO19115 and DublinCore output schemas.
- Ranked searching. Metadata are indexed based on Lucene search engine <http://lucene.apache.org/java/docs/>, so best results are returned first.
- Tested compatibility with other catalog tools such as GI-Cat/GI-Go <http://zeus.pin.unifi.it/cgi-bin/wiki/view/GIcat/WebHome>, Geonetwork <http://geonetwork-opensource.org/> or CatalogConnector <http://sourceforge.net/projects/catalogconnector/>.
- Additionally, it integrates a Web Client application to test catalog services compliant with CSW 2.0.2. This client offers a guided interface to facilitate the definition of CSW requests (including maps and other graphic components for query filter expressions) using both KVP, XML and SOAP protocols. This client interface is multilingual (currently available in Spanish, English, French, Portuguese, Catalan, Galician and the Basque language; it can be customized for other languages) and can be configured to request other catalog services compliant with CSW 2.0.2 developed with different technologies like GI-Cat or GeoNetwork.

### Compilation Notes

The project includes the "build.xml" and "build.properties" files to be used with Ant. These files compile the source code and create the installer "CatalogCube.WAR". The steps to compile the source code with Ant are listed below:

- Download and install Ant (<http://ant.apache.org/>). In this web page there is a manual which explains in detail how to install Ant. You need to configure the following environment variables: ANT\_HOME, JAVA\_HOME and PATH, the last one should be set with the value:

```
PATH=%PATH%;%ANT_HOME%\bin
```

- Configure in the file "build.properties" the installer specific properties (\*).
- Open a command console and change to the root directory of the project (the directory which contains "build.xml", for example, E:\CatalogCube).
- Execute the following Ant command:

ant

- If everything has gone well, the installer "CatalogCube.WAR" should be created in the path "build" directory. Make sure that the WAR file has been created properly by installing it in Tomcat.

NOTE: If you want to compile the GWT source code on a MAC platform download the compiler from the Google web page  
<http://google-web-toolkit.googlecode.com/files/gwt-mac-1.4.62.tar.gz>  
and decompress it on the same path where directories gwt-windows-1.4.62 and gwt-linux-1.4.62 are located.

### Notes to generate a a customized CatalogCube war

Here is a brief map of parameters and the configuration files where they can be tuned:

File	Name	Use
build.properties	platformLib	accepts "windows" and "linux" indicates the platform on which the application is been compiled
src/resources/build.properties	deployment.serviceName	describes the name that the application is going to take, for example <i>CatalogCube</i>
src/resources/build.properties	deployment.tomcatWebAppsPath	describes the path of Tomcat's webapps directory
src/resources/build.properties	deployment.host	describes the name or the IP address of the machine/domain where the application is going to be deployed
src/resources/build.properties	deployment.port	port on which applications container will be listening
src/resources/build.properties	deployment.repository	path on which metadata will be stored
src/resources/build.properties	deployment.indexesdir	path on which indexes will be stored
src/resources/build.properties	deployment.logsdir	path on which logs will be stored
src/resources/build.properties	deployment.transactionsAllowed	boolean indicating whether transactional queries will be accepted or not <i>true/false</i>
src/resources/build.properties	capabilities.title	information that will be added to the capabilities title
src/resources/build.properties	capabilities.providerName	information that will be added to the capabilities provider name
src/resources/build.properties	capabilities.individualName	information that will be added to the capabilities individual name
src/resources/build.properties	capabilities.positionName	information that will be added to the capabilities position name
src/resources/build.properties	capabilities.deliveryPoint	information that will be added to the capabilities delivery point
src/resources/build.properties	capabilities.city	information that will be added to the capabilities city
src/resources/build.properties	capabilities.administrativeArea	information that will be added to the capabilities administrative area
src/resources/build.properties	capabilities.postalCode	information that will be added to the capabilities postal code
src/resources/build.properties	capabilities.country	information that will be added to the capabilities country
src/resources/build.properties	capabilities.emailAddress	information that will be added to the capabilities email address

### Tomcat Installation Notes

#### Windows environments

- Download and install the Java Development Kit (<http://java.sun.com/javase/downloads/index.jsp>) and set the JAVA\_HOME environment variable with the JDK installation path value.
- Download and install Tomcat (<http://tomcat.apache.org>), for example, in the path "C:/tomcat" (if you want to install it in other location you have to change this path in several application files). In the next steps we will refer to this path as TOMCAT\_HOME. Check that you have installed Tomcat properly starting it (one way to do it is running the TOMCAT\_HOME/bin/startup.bat file) and trying to load the URL "<http://localhost:8080/>" from the web browser, then shutdown Tomcat for the next steps (you can run the TOMCAT\_HOME/bin/shutdown.bat file).
- Create the directories where the catalog's metadata records will be stored (the default path is "C:/CatalogCube/repository") and include the metadata records desired to be loaded initially into the catalog, be sure that tomcat has privileges enough to create, modify and delete files in them.
- Create the directory where catalog's indexes are to be generated (the default path is "C:/CatalogCube/indexes"). Be sure that tomcat has privileges enough to create, modify and delete files in it.
- Create the directory where catalog's logs are to be generated (the default path is "C:/CatalogCube/logs"), be sure that tomcat has privileges enough to create, modify and delete files in it.
- Deploy the CatalogCube.war file in Tomcat. This task can be done in two ways:
  - Manual. Copy the war file into the directory TOMCAT\_HOME/webapps and start Tomcat (this can be achive by running the TOMCAT\_HOME/bin/startup.[bat/sh] file).
  - Tomcat Manager. Start Tomcat and log in Tomcat's Manager (<http://localhost:8080/manager/html>). Then Browse your filesystem and select the file CatalogCube.war in the "WAR or directory URL" and click "Deploy."
- If everything has gone well, you can load the application in the web browser with the URL:

<http://localhost:8080/CatalogCube/client.html>

#### Linux environments

- Download and install the Java Development Kit (<http://java.sun.com/javase/downloads/index.jsp>) and set the JAVA\_HOME environment variable with the JDK installation path value.
- Download and install Tomcat (<http://tomcat.apache.org>), for example, in the path "/usr/share/tomcat5.5/webapps" (if you want to install it in other location you have to change this path in several application files). In the next steps we will refer to this path as TOMCAT\_HOME. Check that you have installed Tomcat properly starting it (one way to do it is running the TOMCAT\_HOME/bin/startup.bat file) and trying to load the URL "<http://localhost:8080/>" from the web browser, then shutdown Tomcat for the next steps (you can run the TOMCAT\_HOME/bin/shutdown.bat file).
- Create a user named "spatiumcube" and make sure that its home dir exists ("/home/spatiumcube")
- Create the directories where the catalog's metadata records will be stored (the default path is "/home/spatiumcube/catalogcube/repository"), and include the metadata records desired to be loaded initially into the catalog. Be sure that tomcat has privileges enough to create, modify and delete files in them.
- Create the directory where catalog's indexes are to be generated (the default path is "/home/spatiumcube/catalogcube/indexes"). Be sure that tomcat has privileges enough to create, modify and delete files in it.
- Create the directory where catalog's logs are to be generated (the default path is "/home/spatiumcube/catalogcube/logs"), be sure that tomcat has privileges enough to create, modify and delete files in it.
- Deploy the CatalogCube.war file in Tomcat. This task can be done in two ways:
  - Manual. Copy the war file into the directory TOMCAT\_HOME/webapps and start Tomcat (this can be achive by running the TOMCAT\_HOME/bin/startup.[bat/sh] file).
  - Tomcat Manager. Start Tomcat and log in Tomcat's Manager (<http://localhost:8080/manager/html>). Browse your filesystem and select the file CatalogCube.war in the "WAR or directory URL" and click "Deploy."
- If everything has gone well, you can load the application in the web browser with the URL:

<http://localhost:8080/CatalogCube/client.html>

#### Notes to change default installation paths and properties

This project is preconfigured to work with default paths. The following lines explain in detail the modifications to be carried out depending on the path you want to change after the deployment of the web application in Tomcat. We refer to the path where the application is deployed (TOMCAT\_HOME/webapps/CatalogCube) as DEPLOYMENT\_DIR.

- METADATA REPOSITORY.

Default Windows value:

C:/CatalogCube/repository

Default Linux value:

/home/spatiumcube/catalogcube/repository

If you want to change this path you have to update it in the following file:

DEPLOYMENT\_DIR/WEB-INF/classes/sourceAccess.rdf

- METADATA INDEXES DIRECTORY.

Default Windows value:

C:/CatalogCube/indexes

Default Linux value:

/home/spatiumcube/catalogcube/indexes

If you want to change the path where indexes for search are stored you have to update it in the following file:

DEPLOYMENT\_DIR/WEB-INF/classes/sourceAccess.rdf

#### ■ LOGS DIRECTORY:

Default Windows value:

C:/CatalogCube/logs

Default Linux value:

/home/spatiumcube/catalogcube/logs

If you want to change the path where logs are stored, you have to update it in the following files:

DEPLOYMENT\_DIR/WEB-INF/classes/sourceAccess.rdf  
DEPLOYMENT\_DIR/WEB-INF/classes/log4j.properties

#### ■ LOG FILES:

Default Windows value:

DEPLOYMENT\_DIR/logs/

Default Linux value:

DEPLOYMENT\_DIR/logs/

If you want to change the path where the application logs are stored you have to update it in the following file:

DEPLOYMENT\_DIR/WEB-INF/classes/log4j.properties

## Common Errors

Make sure that repository, logs and indexes folders exists and tomcat user have permissions to read and write into them. Inside the indexes folder another subfolder will be created, in some environments this subfolders cannot be created, in this case, create it manually, its names is designed at the configuration file placed in:

DEPLOYMENT\_DIR/WEB-INF/classes/sourceAccess.rdf in XPATHS:

With the XPATH:

rdf:RDF/rdf:Description/iaaa:index/iaaa:Component[iaaa:class='iaaa.sourceAccess.connector.index.LuceneIndexer']/iaaa:params/iaaa:param[iaaa:paramName='PathWithInfo']/iaaa:value

In case you shutdown tomcat in an abnormal way (shutting down computer without shutting tomcat down first) indexes files might be corrupted and following executions of CatalogCube will not carry out any query, in this case, delete all the files in spatial and textual Indexes folders and restart tomcat.

## OGC-CSW\_CLIENT

CSW 2.0.2 Client is a web application developed with the purpose of querying any CSW 2.0.2 Server through the Internet. In next figure, application's home page can be seen.

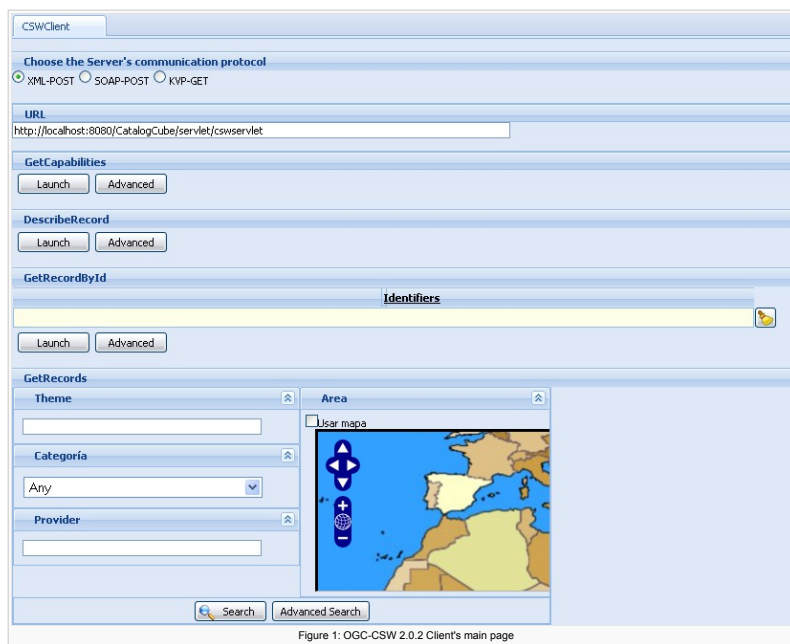


Figure 1: OGC-CSW 2.0.2 Client's main page

From top to bottom (as shown in previous figure), the main client's features are:

- Language selection
- Communication protocol selection: XML-POST / SOAP-POST / KVP-GET
- Dynamic CSW Server selection
- GetCapabilities operation
- DescribeRecord operation
- GetRecordById operation
- GetRecords operation

### Language selection

Language selection is made by the way client is invoked, languages supported and the way they are selected are:

Language	Invocation
Spanish	http://[host][:port]/CatalogCube/client.html?locale=sp
English	http://[host][:port]/CatalogCube/client.html?locale=en
French	http://[host][:port]/CatalogCube/client.html?locale=fr
Portuguese	http://[host][:port]/CatalogCube/client.html?locale=pt
Galician	http://[host][:port]/CatalogCube/client.html?locale=gl
Catalan	http://[host][:port]/CatalogCube/client.html?locale=ca
Basque	http://[host][:port]/CatalogCube/client.html?locale=eu

It has to be taken into account that metadata language does not depend on the client's language, their language depends on the language they are stored in the CSW Server.

### Communication Protocol selection

Communication protocol can be chosen among three options, a change in this protocol means changes at the client-server communication method, and also at the way queries are encoded.



Figure 2: Protocol selection detail

As it can be seen in previous image, there are three possible choices:

- XML-POST: XML message sent through POST protocol
- SOAP-POST: SOAP message sent through POST protocol
- KVP-GET: key-value pair message, sent through GET protocol

### Dynamic CSW Server selection

One of the most interesting features of this client application is that target server can be dynamically selected, it can be done using the URL text box (shown in Figure 3). By default, your localhost CSW Server will appear in the URL text box.

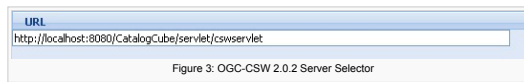


Figure 3: OGC-CSW 2.0.2 Server Selector

### GetCapabilities operation

In the "GetCapabilities" panel, any needed tool to write a GetCapabilities query can be found.

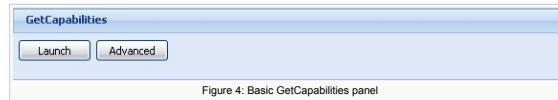


Figure 4: Basic GetCapabilities panel

By clicking on "Launch", a GetCapabilities query with the most popular values is launched. Nevertheless, if it is needed, "GetCapabilities" queries can be tuned by clicking on the "Advanced" button. By doing this, an advanced menu will appear. This menu is shown in Figure 5.

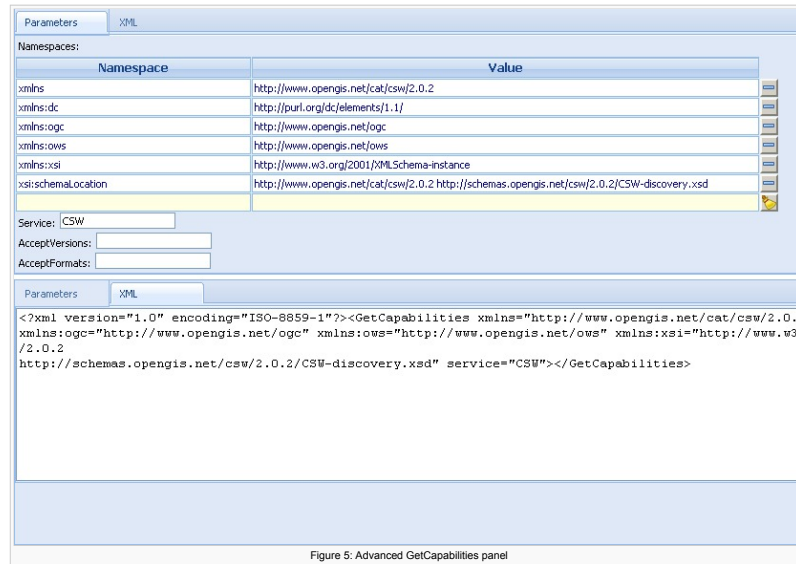


Figure 5: Advanced GetCapabilities panel

As it can be seen, the advanced menu has two tabs:

- Parameters tab (Top shot).
- XML tab (Bottom shot).

The information introduced in any of the tabs is reflected in the other. Once the desired parameters have been introduced, "GetCapabilities" query can be sent by clicking on "Launch". It is also possible to go back to the basic menu by clicking on "Hide".

### DescribeRecord operation

In the "DescribeRecord" panel, any needed tool to write a "DescribeRecord" query can be found.

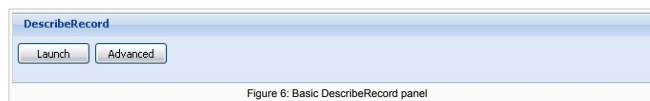


Figure 6: Basic DescribeRecord panel

By clicking on "Launch", a DescribeRecord query with the most popular values is launched (typeName="csw:Record"). Nevertheless, if it is needed, "DescribeRecord" queries can be tuned by clicking on the "Advanced" button. By doing this, an advanced menu will appear. This menu is shown in Figure 7

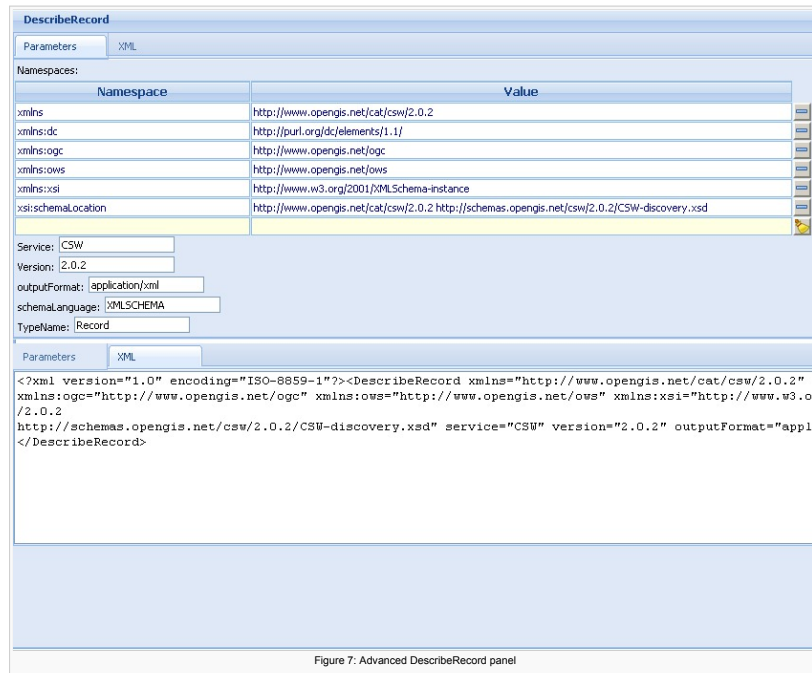


Figure 7: Advanced DescribeRecord panel

As it can be seen, the advanced menu has two tabs:

- Parameters tab (Top shot).
- XML tab (Bottom shot).

The information introduced in any of the tabs is reflected in the other. Once the desired parameters have been introduced, the "DescribeRecord" query can be launched by clicking on "Launch". It is also possible to go back to the basic menu by clicking on "Hide"

### GetRecordById operation

In the "GetRecordById" panel, any needed tool to write a "GetRecordById" query can be found.



Figure 8: Basic GetRecordById panel

In the case of "GetRecordById", it is needed to introduce, at least, one register identifier. The rest of the parameters are preconfigured, as well as in the rest of the operations described before.

If the "Advanced" button is pressed, the advanced view will appear. This menu can be seen in Figure 9.

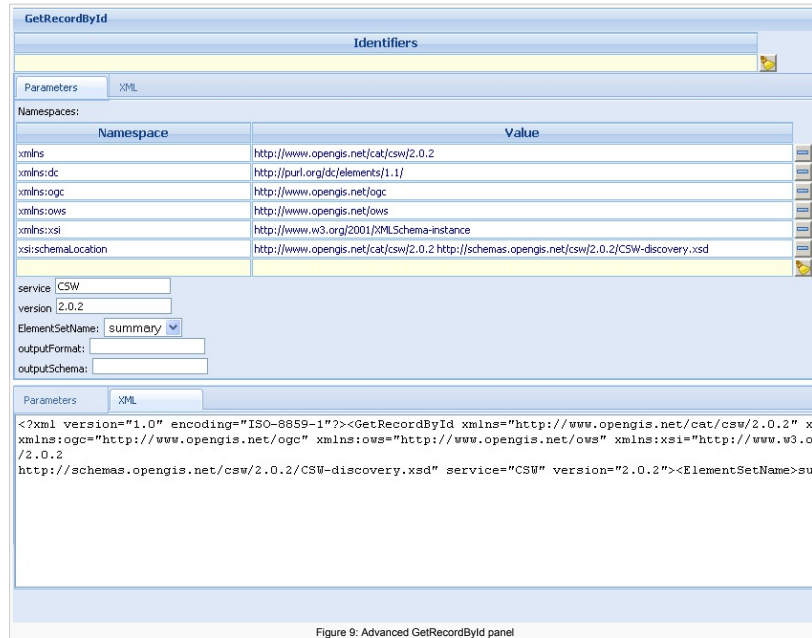


Figure 9: Advanced GetRecordById panel

As it can be seen, the advanced menu has two tabs:

- Parameters tab (Top shot).
- XML tab (Bottom shot).

The information introduced in any of the tabs is reflected in the other. Once the desired parameters have been introduced, the "GetRecordById" query can be launched by clicking on "Launch". It is also possible to go back to the basic menu by clicking on "Hide"

### GetRecords operation

In the "GetRecords" panel, any needed tool to write a "GetRecords" query can be found.



Figure 10: Basic GetRecords panel

This operation is described in the CSW 2.0.2 Standard as the search operation. At the basic "GetRecords" panel, it is possible to use four different criteria:

- Theme
- Category
- Provider
- Geographic Extent

**Theme Criterion**

This criterion creates a complex query joining three fields: title, subject and description. It is possible to use '%' as a wildcard. If you want to use '%' literally, it must be escaped with '\'

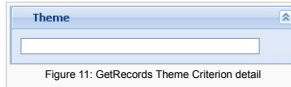


Figure 11: GetRecords Theme Criterion detail

**Category Criterion**

Category criterion consists of a controlled list containing some possible categories

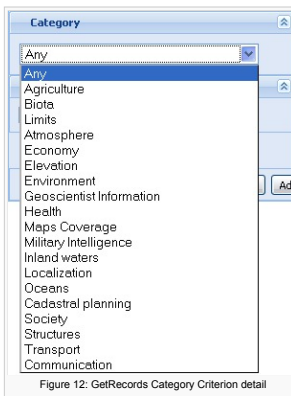


Figure 12: GetRecords Category Criterion detail

**Provider Criterion**

Provider criterion constructs queries about registers' provider.

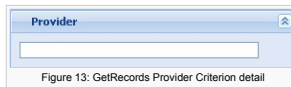


Figure 13: GetRecords Provider Criterion detail

**Geographic Extent**

This criterion enables the possibility of querying a CSW server using a geographic restriction (Bounding Box). In order to use this criterion, it is necessary to activate the "Use map" checkbox.



Figure 14: GetRecords Geographic Extent Criterion detail

Once the criterion is activated, it is possible to center or reduce/enlarge the map in order to zoom on the area you are willing to restrict your search.

**Advanced Search**

As well as in the rest of operations panels, "GetRecords" also has an advanced menu which is shown by clicking on "Advanced Search".

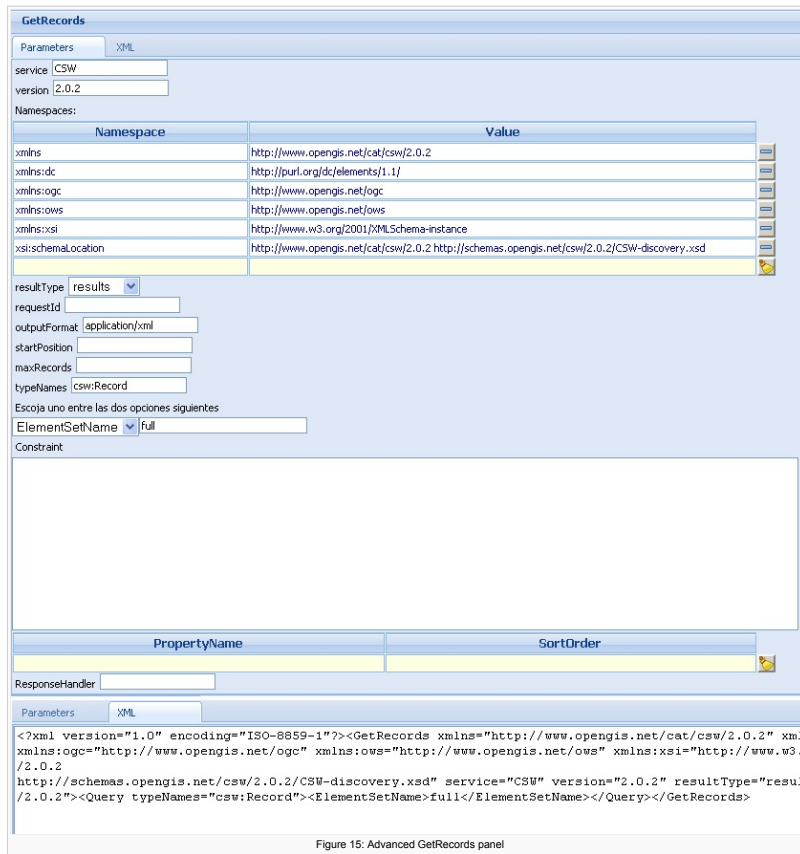


Figure 15: Advanced GetRecords panel

As it can be seen, the advanced menu has two tabs:

- Parameters tab(Top shot).
- XML tab(Botton shot).

The information introduced in any of the tabs is reflected in the other. Once the desired parameters have been introduced, the "GetRecordById" query can be launched by clicking on "Launch". It is also possible to go back to the basic menu by clicking on "Back to Criterions"

## Results Page

Once a query has been sent and solved, a new tab, containing the server response, will appear as shown in Figure 16.

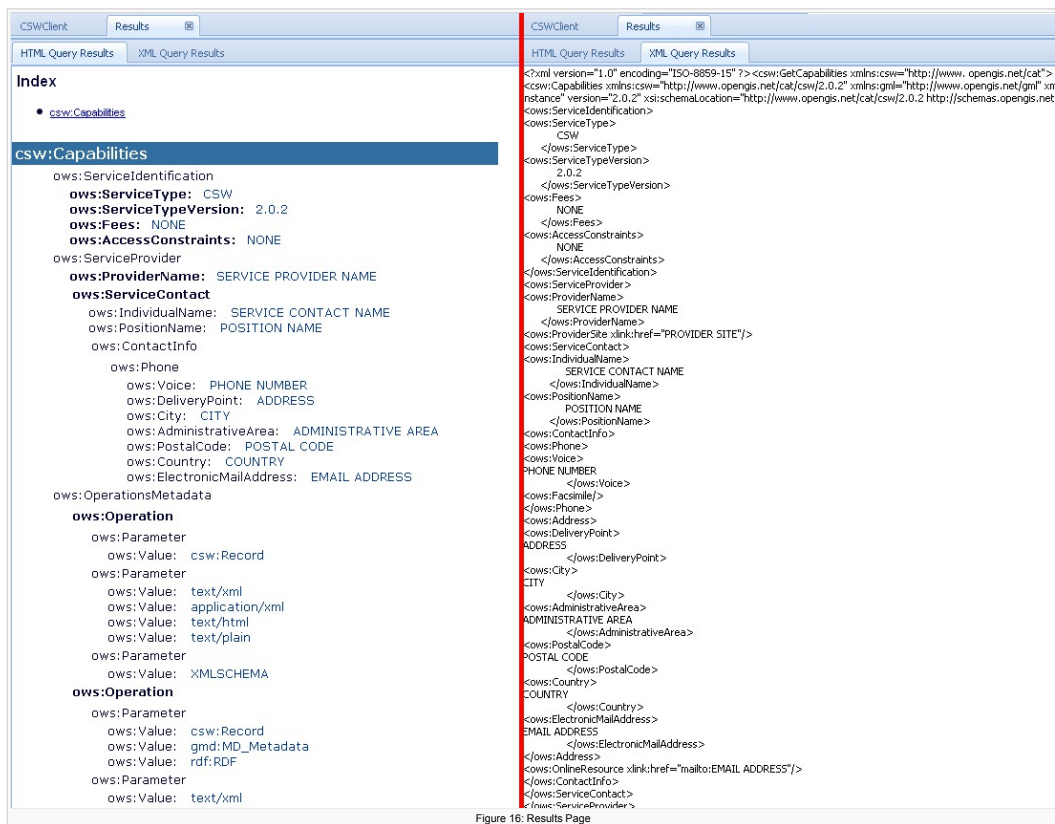


Figure 16: Results Page

Servers' responses are formatted y two different ways: HTML Results and XML Results, in both tabs the information is the same but not the format.

## Query Examples

Query operations:

1. [GetCapabilities](#)
2. [DescribeRecords](#)
3. [GetRecordsById](#)
4. [GetRecords](#)

Transactional operations:

1. [Insert](#)
2. [Update](#)
3. [Delete](#)

**GetCapabilities**

**POST query**

```
<?xml version="1.0" encoding="ISO-8859-1"?>
<GetCapabilities xmlns="http://www.opengis.net/cat/csw/2.0.2"
  xmlns:csw="http://www.opengis.net/cat/csw/2.0.2" xmlns:dc="http://purl.org/dc/elements/1.1/"
  xmlns:ogc="http://www.opengis.net/ogc" xmlns:ows="http://www.opengis.net/ows"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xmlns:schemaLocation="http://www.opengis.net/cat/csw/2.0.2 http://schemas.opengis.net/csw/2.0.2/CSW-discovery.xsd"
  service="CSW">
</GetCapabilities>
```

**GET query**

http://[host][:puerto]/CatalogCube/servlet/cswservlet?request=GetCapabilities&version=2.0.2

**Response**

```
<?xml version="1.0" encoding="ISO-8859-1"?>
<csw:Capabilities version="2.0.2"
  xmlns="http://www.opengis.net/cat/csw/2.0.2" xmlns:gmd="http://www.isotc211.org/2005/gmd"
  xmlns:gml="http://www.opengis.net/gml" xmlns:ogc="http://www.opengis.net/ogc"
  xmlns:ows="http://www.opengis.net/ows" xmlns:xlink="http://www.w3.org/1999/xlink"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xsi:schemaLocation="http://www.opengis.net/cat/csw/2.0.2 http://schemas.opengis.net/csw/2.0.2/CSW-discovery.xsd">
  <ows:ServiceIdentification>
    <ows:ServiceType>CSW</ows:ServiceType>
    <ows:ServiceTypeVersion>2.0.2</ows:ServiceTypeVersion>
    <ows:Fees>NONE</ows:Fees>
    <ows:AccessConstraints>NONE</ows:AccessConstraints>
  </ows:ServiceIdentification>
  <ows:ServiceProvider>
    <ows:ProviderName>providerName</ows:ProviderName>
    <ows:ProviderSite xlink:href="" />
    <ows:ServiceContact>
      <ows:IndividualName>individualName</ows:IndividualName>
      <ows:PositionName>Developer</ows:PositionName>
      <ows:ContactInfo>
        <ows:Phone>
          <ows:Voice></ows:Voice>
          <ows:Facsimile />
        </ows:Phone>
        <ows:Address>
          <ows:DeliveryPoint></ows:DeliveryPoint>
          <ows:City></ows:City>
          <ows:AdministrativeArea></ows:AdministrativeArea>
          <ows:PostalCode></ows:PostalCode>
          <ows:Country></ows:Country>
          <ows:ElectronicMailAddress></ows:ElectronicMailAddress>
        </ows:Address>
        <ows:OnlineResource xlink:href="mailto:@"/>
      </ows:ContactInfo>
    </ows:ServiceContact>
  </ows:ServiceProvider>
  <ows:OperationsMetadata>
    <ows:Operation name="GetCapabilities">
      <ows:DCP>
        <ows:HTTP>
          <ows:Get xlink:href="" />
          <ows:Post xlink:href="" />
        </ows:HTTP>
      </ows:DCP>
    </ows:Operation>
    <ows:Operation name="DescribeRecord">
      <ows:DCP>
        <ows:HTTP>
          <ows:Get xlink:href="" />
          <ows:Post xlink:href="" />
        </ows:HTTP>
      </ows:DCP>
      <ows:Parameter name="typeName">
        <ows:Value>csw:Record</ows:Value>
      </ows:Parameter>
      <ows:Parameter name="outputFormat">
        <ows:Value>text/xml</ows:Value>
        <ows:Value>application/xml</ows:Value>
        <ows:Value>text/html</ows:Value>
        <ows:Value>text/plain</ows:Value>
      </ows:Parameter>
      <ows:Parameter name="schemaLanguage">
        <ows:Value>XMLSCHEMA</ows:Value>
      </ows:Parameter>
    </ows:Operation>
    <ows:Operation name="GetRecords">
      <ows:DCP>
        <ows:HTTP>
          <ows:Get xlink:href="" />
          <ows:Post xlink:href="" />
        </ows:HTTP>
      </ows:DCP>
      <ows:Parameter name="TypeName">
        <ows:Value>Record</ows:Value>
      </ows:Parameter>
      <ows:Parameter name="outputFormat">
        <ows:Value>text/xml</ows:Value>
        <ows:Value>application/xml</ows:Value>
        <ows:Value>text/html</ows:Value>
        <ows:Value>text/plain</ows:Value>
      </ows:Parameter>
      <ows:Parameter name="outputSchema">
        <ows:Value>http://www.opengis.net/cat/csw/2.0.2</ows:Value>
      </ows:Parameter>
      <ows:Parameter name="resultType">
        <ows:Value>hits</ows:Value>
        <ows:Value>results</ows:Value>
        <ows:Value>validate</ows:Value>
      </ows:Parameter>
      <ows:Parameter name="ElementSetName">
        <ows:Value>brief</ows:Value>
        <ows:Value>summary</ows:Value>
        <ows:Value>full</ows:Value>
      </ows:Parameter>
      <ows:Parameter name="CONSTRAINTLANGUAGE">
        <ows:Value>Filter</ows:Value>
      </ows:Parameter>
    </ows:Operation>
    <ows:Operation name="GetRecordById">
      <ows:DCP>
        <ows:HTTP>
          <ows:Get xlink:href="" />
          <ows:Post xlink:href="" />
        </ows:HTTP>
      </ows:DCP>
      <ows:Parameter name="ElementSetName">
        <ows:Value>brief</ows:Value>
        <ows:Value>summary</ows:Value>
        <ows:Value>full</ows:Value>
      </ows:Parameter>
    </ows:Operation>
    <ows:Operation name="Transaction">
      <ows:DCP>
        <ows:HTTP>
          <ows:Post xlink:href="http://localhost:8080/EV-CSW/servlet/cswservlet" />
        </ows:HTTP>
      </ows:DCP>
    </ows:Operation>
  </ows:OperationsMetadata>
  <ows:Parameter name="service">
```



```

<ows:Value>CSW</ows:Value>
</ows:Parameter>
<ows:Parameter name="version">
  <ows:Value>2.0.2</ows:Value>
</ows:Parameter>
<ows:Constraint name="IsoProfiles">
  <ows:Value>http://www.isotc211.org/2005/gmd</ows:Value>
</ows:Constraint>
<ows:ExtendedCapabilities />
</ows:OperationsMetadata>
<ogc:Filter_Capabilities>
  <ogc:Spatial_Capabilities>
    <ogc:GeometryOperands>
      <ogc:GeometryOperand>gml:Envelope</ogc:GeometryOperand>
    </ogc:GeometryOperands>
    <ogc:SpatialOperators>
      <ogc:SpatialOperator name="BBOX" />
      <ogc:SpatialOperator name="Equals" />
      <ogc:SpatialOperator name="Intersects" />
      <ogc:SpatialOperator name="Touches" />
      <ogc:SpatialOperator name="Crosses" />
      <ogc:SpatialOperator name="Contains" />
      <ogc:SpatialOperator name="Overlaps" />
    </ogc:SpatialOperators>
    <ogc:Spatial_Capabilities>
      <ogc:Scalar_Capabilities>
        <ogc:LogicalOperators />
        <ogc:ComparisonOperators>
          <ogc:ComparisonOperator>Like</ogc:ComparisonOperator>
          <ogc:ComparisonOperator>Between</ogc:ComparisonOperator>
          <ogc:ComparisonOperator>NullCheck</ogc:ComparisonOperator>
        </ogc:ComparisonOperators>
        <ogc:ArithmeticOperators>
          <ogc:Functions>
            <ogc:FunctionNames>
              <ogc:FunctionName nArgs="1">COUNT</ogc:FunctionName>
              <ogc:FunctionName nArgs="1">DISTINCT
            </ogc:FunctionName>
              <ogc:FunctionName nArgs="1">MIN</ogc:FunctionName>
              <ogc:FunctionName nArgs="1">MAX</ogc:FunctionName>
              <ogc:FunctionName nArgs="1">UPPER</ogc:FunctionName>
            </ogc:FunctionNames>
          </ogc:Functions>
        </ogc:ArithmeticOperators>
      </ogc:Scalar_Capabilities>
    </ogc:Id_Capabilities>
      <ogc:EID />
    </ogc:Id_Capabilities>
  </ogc:Filter_Capabilities>
</ows:Capabilities>

```

## DescribeRecords

### POST query

```

<?xml version="1.0" encoding="ISO-8859-1"?>
<csw:DescribeRecord xmlns="http://www.opengis.net/cat/csw/2.0.2"
  xmlns:dcs="http://purl.org/dc/elements/1.1/" xmlns:ogc="http://www.opengis.net/ogc"
  xmlns:ows="http://www.opengis.net/ows" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xsi:schemaLocation="http://www.opengis.net/cat/csw/2.0.2//schemas.opengis.net/csw/2.0.2/CSW-discovery.xsd"
  xmlns:cs="http://www.opengis.net/cat/csw/2.0.2" service="CSW" version="2.0.2"
  outputFormat="application/xml" schemaLanguage="XMLSCHEMA">
  <csw:TypeName>Record</csw:TypeName>
</csw:DescribeRecord>

```

### GET query

http://[host]:[puerto]/CatalogCube/servlet/cswservlet?

request=DescribeRecord&version=2.0.2&outputFormat=application/xml&schemaLanguage=XMLSCHEMA&typeName=Record&namespace=xmns(csw=http://www.opengis.net/cat/csw/2.0.2)

### Response

```

<?xml version="1.0" encoding="ISO-8859-15"?>
<DescribeRecordResponse xmlns="http://www.opengis.net/cat/csw/2.0.2"
  xmlns:dcs="http://purl.org/dc/elements/1.1/" xmlns:ogc="http://www.opengis.net/ogc"
  xmlns:ows="http://www.opengis.net/ows" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xsi:schemaLocation="http://www.opengis.net/cat/csw/2.0.2//schemas.opengis.net/csw/2.0.2/CSW-discovery.xsd">
  <SchemaComponent targetNamespace="http://www.opengis.net/cat/csw/2.0.2/"
    schemaLanguage="XMLSCHEMA" parentSchema="http://www.opengis.net/cat/csw/2.0.2/record.xsd">
    <xsd:schema id="csw-record" targetNamespace="http://www.opengis.net/cat/csw/2.0.2"
      xmlns:csw="http://www.opengis.net/cat/csw/2.0.2" xmlns:xsd="http://www.w3.org/2001/XMLSchema"
      xmlns:dcs="http://purl.org/dc/elements/1.1/" xmlns:dct="http://purl.org/dc/terms/"
      xmlns:ows="http://www.opengis.net/ows" elementFormDefault="qualified"
      version="2.0.2">
      <xsd:element name="Record" type="csw:RecordType"
        substitutionGroup="csw:AbstractRecord" />
      <xsd:complexType name="RecordType" final="#all">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">
          This type extends DCMIRecordType to add ows:BoundingBox;
          it may be used to specify a spatial envelope for the
          catalogued resource.
        </xsd:documentation>
      </xsd:annotation>
      <xsd:complexContent>
        <xsd:extension base="csw:DCMIRecordType">
          <xsd:sequence>
            <xsd:element name="AnyText" type="csw:EmptyType"
              minOccurs="0" maxOccurs="unbounded" />
            <xsd:element ref="ows:BoundingBox" minOccurs="0"
              maxOccurs="unbounded" />
          </xsd:sequence>
        </xsd:extension>
      </xsd:complexContent>
    </xsd:complexType>
  </SchemaComponent>
</DescribeRecordResponse>

```

## GetRecordsById

### POST query

```

<?xml version="1.0" encoding="ISO-8859-1"?>
<GetRecordById xmlns="http://www.opengis.net/cat/csw/2.0.2"
  xmlns:dcs="http://purl.org/dc/elements/1.1/" xmlns:ogc="http://www.opengis.net/ogc"
  xmlns:ows="http://www.opengis.net/ows" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xsi:schemaLocation="http://www.opengis.net/cat/csw/2.0.2 http://schemas.opengis.net/csw/2.0.2/CSW-discovery.xsd"
  service="CSW" version="2.0.2">
  <Id>10000000_es</Id>
  <ElementSetName>full</ElementSetName>
</GetRecordById>

```

### GET query

http://[host]:[puerto]/CatalogCube/servlet/cswservlet?request=GetRecordById&id=10000000\_es&elementSetName=full

### Response

```

<?xml version="1.0" encoding="ISO-8859-1"?>
<GetRecordByIdResponse xmlns="http://www.opengis.net/cat/csw/2.0.2"
  xmlns:dcs="http://purl.org/dc/elements/1.1/" xmlns:ogc="http://www.opengis.net/ogc"
  xmlns:ows="http://www.opengis.net/ows" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xsi:schemaLocation="http://www.opengis.net/cat/csw/2.0.2 http://schemas.opengis.net/csw/2.0.2/CSW-discovery.xsd">
  <cs:Record xmlns:csw="http://www.opengis.net/cat/csw/2.0.2"
    xmlns:dcs="http://purl.org/dc/elements/1.1/" xmlns:dct="http://purl.org/dc/terms/"
    xmlns:ows="http://www.opengis.net/ows"
    xmlns:dcterms="http://purl.org/dc/terms/" xmlns:dct="http://purl.org/dc/terms/1.1/">
    <dc:language>es</dc:language>
    <dc:identifier>10000000_es</dc:identifier>
    <dc:description>Localització sobre el territori d'equipaments i
      serveis tals com Ensenyament, Polígons Industrials, Museus,

```

```
    Biblioteques, Sanitat, Oficines de turisme, Policia Local i
    Ajuntament.</dc:description>
    <dc:language>Catalan</dc:language>
    <dc:subject />
    <dc:subject />
    <dc:type />
  </csw:Record>
</GetRecordByIdResponse>
```

## GetRecords

### DublinCore format response

#### POST query

```
<?xml version="1.0" encoding="ISO-8859-1"?>
<GetRecords xmlns="http://www.opengis.net/cat/csw/2.0.2"
  xmlns:dcs="http://purl.org/dc/elements/1.1/" xmlns:ogc="http://www.opengis.net/ogc"
  xmlns:ows="http://www.opengis.net/ows" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xmlns:schemaLocation="http://www.opengis.net/cat/csw/2.0.2://schemas.opengis.net/csw/2.0.2/CSW-discovery.xsd"
  service="CSW" version="2.0.2" resultType="results" outputFormat="application/xml"
  outputSchema="http://www.opengis.net/cat/csw/2.0.2">
  <Query typeNames="csw:Record">
    <ElementSetName>full</ElementSetName>
    <Constraint version="1.1.0">
      <Filter>
        <Or>
          <Or>
            <PropertyIsLike>
              <PropertyName>description</PropertyName>
              <Literal>Madrid</Literal>
            </PropertyIsLike>
            <PropertyIsLike>
              <PropertyName>subject</PropertyName>
              <Literal>Madrid</Literal>
            </PropertyIsLike>
          </Or>
          <PropertyIsLike>
            <PropertyName>title</PropertyName>
            <Literal>Madrid</Literal>
          </PropertyIsLike>
        </Or>
      </Filter>
    </Constraint>
  </Query>
</GetRecords>
```

#### GET query

http://[host]/puerto/CatalogCube/servlet/cswservlet?

request=GetRecords&version=2.0.2&outputFormat=application/xml&outputSchema=http://www.opengis.net/cat/csw/2.0.2&typeNames=csw:Record&elementSetName=full&resultType=results&constraintLanguage=Filter&constraint= <Filter><Or><Or><PropertyIsLike><PropertyName>description</PropertyName><Literal>Madrid</Literal></PropertyIsLike><PropertyIsLike><PropertyName>subject</PropertyName><Literal>Madrid</Literal></PropertyIsLike></Or><PropertyIsLike><PropertyName>title</PropertyName><Literal>Madrid</Literal></PropertyIsLike></Or></Filter>

#### Response

```
<?xml version="1.0" encoding="ISO-8859-1"?>
<GetRecordsResponse xmlns="http://www.opengis.net/cat/csw/2.0.2"
  xmlns:dcs="http://purl.org/dc/elements/1.1/" xmlns:ogc="http://www.opengis.net/ogc"
  xmlns:ows="http://www.opengis.net/ows" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xmlns:schemaLocation="http://www.opengis.net/cat/csw/2.0.2://schemas.opengis.net/csw/2.0.2/CSW-discovery.xsd">
  <RequestID>155.210.155.167</RequestID>
  <SearchStatus timestamp="2008-8-19T10:6:10+01:00" />
  <SearchResults resultSetId="identificador" elementSet="brief"
    recordSchema="csw:Record" numberOfRecordsMatched="13"
    numberOfRecordsReturned="10" nextRecord="11">
    <csw:BriefRecord xmlns:csw="http://www.opengis.net/cat/csw/2.0.2"
      xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns:ows="http://www.openeospatial.net/ows"
      xmlns:dcterms="http://purl.org/dc/terms/" xmlns:dc="http://purl.org/dc/elements/1.1/"
      <dc:identifier>ESIGNBCN200SERIE200606010000</dc:identifier>
      <dc:title>Base Cartográfica Numérica 1:200.000</dc:title>
      <dc:type>series</dc:type>
    </csw:BriefRecord>
    <csw:BriefRecord xmlns:csw="http://www.opengis.net/cat/csw/2.0.2"
      xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns:ows="http://www.openeospatial.net/ows"
      xmlns:dcterms="http://purl.org/dc/terms/" xmlns:dc="http://purl.org/dc/elements/1.1/"
      <dc:identifier>ESIGNBCN25SERIE200607040000</dc:identifier>
      <dc:title>Base Cartográfica Numérica 1:25.000</dc:title>
      <dc:type>series</dc:type>
    </csw:BriefRecord>
    <csw:BriefRecord xmlns:csw="http://www.opengis.net/cat/csw/2.0.2"
      xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns:ows="http://www.openeospatial.net/ows"
      xmlns:dcterms="http://purl.org/dc/terms/" xmlns:dc="http://purl.org/dc/elements/1.1/"
      <dc:identifier>ESIGNBDLL25SERIE200606010000</dc:identifier>
      <dc:title>Base de Datos de Líneas Límite 1:25.000 (Provincias)
      </dc:title>
      <dc:type>series</dc:type>
    </csw:BriefRecord>
    <csw:BriefRecord xmlns:csw="http://www.opengis.net/cat/csw/2.0.2"
      xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns:ows="http://www.openeospatial.net/ows"
      xmlns:dcterms="http://purl.org/dc/terms/" xmlns:dc="http://purl.org/dc/elements/1.1/"
      <dc:identifier>ESIGNMAPASERIE200701180000</dc:identifier>
      <dc:title>Mapas en Relieve</dc:title>
      <dc:type>dataset</dc:type>
    </csw:BriefRecord>
    <csw:BriefRecord xmlns:csw="http://www.opengis.net/cat/csw/2.0.2"
      xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns:ows="http://www.openeospatial.net/ows"
      xmlns:dcterms="http://purl.org/dc/terms/" xmlns:dc="http://purl.org/dc/elements/1.1/"
      <dc:identifier>ESIGNMDT200SERIE200606010000</dc:identifier>
      <dc:title>Modelo Digital del Terreno 1:200.000</dc:title>
      <dc:type>series</dc:type>
    </csw:BriefRecord>
    <csw:BriefRecord xmlns:csw="http://www.opengis.net/cat/csw/2.0.2"
      xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns:ows="http://www.openeospatial.net/ows"
      xmlns:dcterms="http://purl.org/dc/terms/" xmlns:dc="http://purl.org/dc/elements/1.1/"
      <dc:identifier>ESIGNMDT200SERIE200606010000</dc:identifier>
      <dc:title>Modelo Digital del Terreno 1:25.000</dc:title>
      <dc:type>series</dc:type>
    </csw:BriefRecord>
    <csw:BriefRecord xmlns:csw="http://www.opengis.net/cat/csw/2.0.2"
      xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns:ows="http://www.openeospatial.net/ows"
      xmlns:dcterms="http://purl.org/dc/terms/" xmlns:dc="http://purl.org/dc/elements/1.1/"
      <dc:identifier>ESIGNMP200SERIE200605270000</dc:identifier>
      <dc:title>Mapa Provincial de España 1:200.000</dc:title>
      <dc:type>series</dc:type>
    </csw:BriefRecord>
    <csw:BriefRecord xmlns:csw="http://www.opengis.net/cat/csw/2.0.2"
      xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns:ows="http://www.openeospatial.net/ows"
      xmlns:dcterms="http://purl.org/dc/terms/" xmlns:dc="http://purl.org/dc/elements/1.1/"
      <dc:identifier>ESIGNMTN25PAPELIERIE200612260000</dc:identifier>
      <dc:title>Mapa Topográfico Nacional 1:25.000 (papel)</dc:title>
      <dc:type>series</dc:type>
    </csw:BriefRecord>
    <csw:BriefRecord xmlns:csw="http://www.opengis.net/cat/csw/2.0.2"
      xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns:ows="http://www.openeospatial.net/ows"
      xmlns:dcterms="http://purl.org/dc/terms/" xmlns:dc="http://purl.org/dc/elements/1.1/"
      <dc:identifier>ESIGNMTN25RASTERIERIE200605300000</dc:identifier>
      <dc:title>Mapa Topográfico Nacional 1:25000 (raster)</dc:title>
      <dc:type>series</dc:type>
    </csw:BriefRecord>
    <csw:BriefRecord xmlns:csw="http://www.opengis.net/cat/csw/2.0.2"
      xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns:ows="http://www.openeospatial.net/ows"
      xmlns:dcterms="http://purl.org/dc/terms/" xmlns:dc="http://purl.org/dc/elements/1.1/"
      <dc:identifier>ESIGNMTN25VECTORSERIE200612260000</dc:identifier>
      <dc:title>Mapa Topográfico Nacional 1:25.000 (digital-vector)
      </dc:title>
      <dc:type>series</dc:type>
    </csw:BriefRecord>
  </SearchResults>
</GetRecordsResponse>
```

#### ISO format response

#### POST query

```

<?xml version="1.0" encoding="ISO-8859-1"?>
<GetRecords xmlns="http://www.opengis.net/cat/csw/2.0.2"
  xmlns:dcs="http://purl.org/dc/elements/1.1/" xmlns:ogc="http://www.opengis.net/ogc"
  xmlns:ows="http://www.opengis.net/ows" xmlns:gmd="http://www.isotc211.org/2005/gmd"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xmlns:schemaLocation="http://www.opengis.net/cat/csw/2.0.2://schemas.opengis.net/csw/2.0.2/CSW-discovery.xsd"
  service="CSW" version="2.0.2" resultType="results" outputFormat="application/xml"
  outputSchema="http://www.isotc211.org/2005/gmd">
  <Query typeNames="gmd:MD_Metadata">
    <ElementSetName>Full</ElementSetName>
    <Constraint version="1.1.0">
      <Filter>
        <Or>
          <PropertyIsLike>
            <PropertyName>description</PropertyName>
            <Literal>Madrid</Literal>
          </PropertyIsLike>
          <PropertyIsLike>
            <PropertyName>subject</PropertyName>
            <Literal>Madrid</Literal>
          </PropertyIsLike>
        </Or>
        <PropertyIsLike>
          <PropertyName>title</PropertyName>
          <Literal>Madrid</Literal>
        </PropertyIsLike>
      </Filter>
    </Constraint>
  </Query>
</GetRecords>

```

#### GET query

http://[host]:[puerto]/CatalogCube/servlet/cswservlet?

request=GetRecords&version=2.0.2&outputFormat=application/xml&outputSchema=http://www.isotc211.org/2005/gmd&TypeNames=gmd:MD\_Metadata&elementSetName=full&resultType=results&constraintLanguage=Filter&constraint=

<Filter><Or><PropertyIsLike><PropertyName>description</PropertyName><Literal>madrid</Literal></PropertyIsLike><PropertyIsLike><PropertyName>subject</PropertyName><Literal>madrid</Literal></PropertyIsLike></Or></Filter></PropertyIsLike><PropertyName>title</PropertyName><Literal>madrid</Literal></PropertyIsLike></Or></Filter>

#### Response

```

<?xml version="1.0" encoding="ISO-8859-1"?>
<GetRecordsResponse xmlns="http://www.opengis.net/cat/csw/2.0.2"
  xmlns:dcs="http://purl.org/dc/elements/1.1/" xmlns:ogc="http://www.opengis.net/ogc"
  xmlns:ows="http://www.opengis.net/ows" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xsi:schemaLocation="http://www.opengis.net/cat/csw/2.0.2://schemas.opengis.net/csw/2.0.2/CSW-discovery.xsd">
  <RequestId>155.210.155.131</RequestId>
  <SearchStatus timestamp="2009-10-16T9:39:10+01:00" />
  <SearchResults resultSetId="identificador" elementSet="gmd:md_metadata"
    recordsSchema="gmd:MD_Metadata" numberOfRecordsMatched="15"
    numberOfRecordsReturned="10" nextRecords="11">
    <gmd:MD_Metadata xmlns:gmd="http://www.isotc211.org/2005/gmd"
      xmlns:xlink="http://www.w3.org/1999/xlink" xmlns:gml="http://www.opengis.net/gml"
      xmlns:gco="http://www.isotc211.org/2005/gco">
      <gmd:fileIdentifier>
        <gco:CharacterString>ESIGNMAPASRELIEVESERIE200701180000
        </gco:CharacterString>
      </gmd:fileIdentifier>
      <gmd:language>
        <gco:CharacterString></gco:CharacterString>
      </gmd:language>
      <gmd:characterSet>
        <gmd:MD_CharacterSetCode
          codeList="./resources/codeList.xml#MD_CharacterSetCode"
          codeListValue="utf8">utf8</gmd:MD_CharacterSetCode>
      </gmd:characterSet>
      <gmd:hierarchyLevel>
        <gmd:MD_ScopeCode codeList="./resources/codeList.xml#MD_ScopeCode"
          codeListValue="dataset">dataset</gmd:MD_ScopeCode>
      </gmd:hierarchyLevel>
      <gmd:contact>
        <gmd:CI_ResponsibleParty>
          <gmd:organisationName>
            <gco:CharacterString></gco:CharacterString>
          </gmd:organisationName>
          <gmd:positionName>
            <gco:CharacterString></gco:CharacterString>
          </gmd:positionName>
          <gmd:contactInfo>
            <gmd:CI_Contact>
              <gmd:phone>
                <gmd:CI_Telephone>
                  <gmd:voice>
                    <gco:CharacterString>...</gco:CharacterString>
                  </gmd:voice>
                  <gmd:facsimile>
                    <gco:CharacterString>...</gco:CharacterString>
                  </gmd:facsimile>
                </gmd:CI_Telephone>
              </gmd:phone>
              <gco:CharacterString>...</gco:CharacterString>
            </gmd:positionName>
              ...
          </gmd:CI_ResponsibleParty>
        </gmd:contact>
      </gmd:MD_Metadata>
      <gmd:MD_Metadata xmlns:gmd="http://www.isotc211.org/2005/gmd"
        xmlns:xlink="http://www.w3.org/1999/xlink" xmlns:gml="http://www.opengis.net/gml"
        xmlns:gco="http://www.isotc211.org/2005/gco">
        <gmd:fileIdentifier>
          <gco:CharacterString>ESIGNMTN25VECTORSERIE200612260000
          </gco:CharacterString>
        </gmd:fileIdentifier>
        <gmd:language>
          <gco:CharacterString></gco:CharacterString>
        </gmd:language>
        <gmd:characterSet>
          <gmd:MD_CharacterSetCode
            codeList="./resources/codeList.xml#MD_CharacterSetCode"
            codeListValue="utf8">utf8</gmd:MD_CharacterSetCode>
        </gmd:characterSet>
        <gmd:hierarchyLevel>
          <gmd:MD_ScopeCode codeList="./resources/codeList.xml#MD_ScopeCode"
            codeListValue="series">series</gmd:MD_ScopeCode>
        </gmd:hierarchyLevel>
        <gmd:contact>
          <gmd:CI_ResponsibleParty>
            <gmd:individualName>
              <gco:CharacterString>...</gco:CharacterString>
            </gmd:individualName>
            <gmd:organisationName>
              <gco:CharacterString>...</gco:CharacterString>
            </gmd:organisationName>
            <gmd:positionName>
              <gco:CharacterString>...</gco:CharacterString>
            </gmd:positionName>
            <gmd:contactInfo>
              <gmd:CI_Contact>
                <gmd:phone>
                  <gmd:CI_Telephone>
                    <gmd:voice>
                      <gco:CharacterString>...</gco:CharacterString>
                    </gmd:voice>
                    <gmd:facsimile>
                      <gco:CharacterString>...</gco:CharacterString>
                    </gmd:facsimile>
                  </gmd:CI_Telephone>
                </gmd:phone>
                <gmd:address>
                  <gmd:CI_Address>
                    <gmd:deliveryPoint>
                      <gco:CharacterString>...</gco:CharacterString>
                    </gmd:deliveryPoint>
                    <gmd:city>
                      <gco:CharacterString>...</gco:CharacterString>
                    </gmd:city>
                    <gmd:administrativeArea>
                      <gco:CharacterString>...</gco:CharacterString>
                    </gmd:administrativeArea>
                    <gmd:postalCode>
                      <gco:CharacterString>...</gco:CharacterString>
                    </gmd:postalCode>
                    <gmd:country>

```

```
</gmd:contactInfo>
</gmd:role>
</gmd:CI_Contact>
</gmd:CI_ResponsibleParty>
</gmd:contact>
</gmd:contact>
</gmd:CI_ResponsibleParty>
</gmd:individualName>
</gmd:individualName>
</gmd:organisationName>
</gmd:organisationName>
</gmd:positionName>
</gmd:positionName>
</gmd:positionName>
</gmd:positionName>
</gmd:MD_Metadata>
</gmd:MD_Metadata xmlns:gmd="http://www.isotc211.org/2005/gmd"
xmlns:xlink="http://www.w3.org/1999/xlink" xmlns:gml="http://www.opengis.net/gml"
xmlns:gco="http://www.isotc211.org/2005/gco">
</gmd:fileIdentifier>
</gmd:fileIdentifier>
</gmd:language>
</gmd:language>
</gmd:languageSet>
</gmd:languageSet>
</gmd:MD_CharacterSetCode
codeList="/resources/codeList.xml#MD_CharacterSetCode"
codeListValue="utf8">utf8</gmd:MD_CharacterSetCode>
</gmd:characterSet>
</gmd:characterSet>
</gmd:hierarchyLevel>
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codeListValue="series">series</gmd:MD_ScopeCode>
</gmd:hierarchyLevel>
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</gmd:individualName>
</gmd:individualName>
</gmd:organisationName>
</gmd:organisationName>
</gmd:positionName>
</gmd:positionName>
</gmd:positionName>
</gmd:positionName>
</gmd:contactInfo>
</gmd:contactInfo>
</gmd:CI_Contact>
</gmd:CI_Contact>
</gmd:CI_Telephone>
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</gmd:positionName>
</gmd:positionName>
</gmd:positionName>
</gmd:contactInfo>
</gmd:contactInfo>
</gmd:CI_Contact>
</gmd:CI_Contact>
</gmd:CI_Telephone>
</gmd:voice>
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</gmd:voice>
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</gmd:administrativeArea>
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</gmd:administrativeArea>
</gmd:administrativeArea>
</gmd:postalCode>
</gmd:postalCode>
</gmd:postalCode>
</gmd:postalCode>
</gmd:country>
</gmd:country>
```

```
</gmd:contactInfo>
  <gmd:role>
    <gmd:CI_RoleCode codeList="./resources/codeList.xml#CI_RoleCode"
      codeListValue="pointOfContact">pointOfContact</gmd:CI_RoleCode>
  </gmd:role>
</gmd:CI_ResponsibleParty>
</gmd:contact>
<gmd:contact>
  <gmd:CI_ResponsibleParty>
    <gmd:organisationName>
      <gco:CharacterString>...</gco:CharacterString>
    </gmd:organisationName>
    <gmd:positionName>
      <gco:CharacterString>...</gco:CharacterString>
    </gmd:positionName>
    <gmd:contactInfo>
      <gmd:CI_Contact>
        <gmd:phone>
          <gmd:CI_Telephone>
            <gmd:voice>
              <gco:CharacterString>...</gco:CharacterString>
            </gmd:voice>
            <gmd:facsimile>
              <gco:CharacterString>...</gco:CharacterString>
            </gmd:facsimile>
          </gmd:CI_Telephone>
        </gmd:phone>
        <gmd:address>
          <gmd:CI_Address>
            <gmd:deliveryPoint>
              <gco:CharacterString>...</gco:CharacterString>
            </gmd:deliveryPoint>
            <gmd:city>
              <gco:CharacterString>...</gco:CharacterString>
            </gmd:city>
            <gmd:administrativeArea>
              <gco:CharacterString>...</gco:CharacterString>
            </gmd:administrativeArea>
            <gmd:postalCode>
              <gco:CharacterString>...</gco:CharacterString>
            </gmd:postalCode>
            <gmd:country>
              <gco:CharacterString>...</gco:CharacterString>
            </gmd:country>
            <gmd:electronicMailAddress>
              <gco:CharacterString>...</gco:CharacterString>
            </gmd:electronicMailAddress>
          </gmd:CI_Address>
        </gmd:address>
        <gmd:onlineResource>
          <gmd:CI_OnlineResource>
            <gmd:linkage>
              <gmd:URL>...</gmd:URL>
            </gmd:linkage>
          </gmd:CI_OnlineResource>
        </gmd:onlineResource>
        <gmd:contactInstructions>
          <gco:CharacterString>...</gco:CharacterString>
        </gmd:contactInstructions>
      </gmd:CI_Contact>
    </gmd:contactInfo>
  </gmd:role>
  <gmd:CI_RoleCode codeList="./resources/codeList.xml#CI_RoleCode"
    codeListValue="originator">originator</gmd:CI_RoleCode>
</gmd:CI_ResponsibleParty>
</gmd:contact>
<gmd:dateStamp>
  <gco:Date>2007-01-18</gco:Date>
  ...
</gmd:MD_Metadata>
<gmd:MD_Metadata xmlns:gmd="http://www.isotc211.org/2005/gmd"
  xmlns:xlink="http://www.w3.org/1999/xlink" xmlns:gml="http://www.opengis.net/gml"
  xmlns:gco="http://www.isotc211.org/2005/gco">
  <gmd:fileIdentifier>
    <gco:CharacterString>ESIGNMNTN50vectorSERIE200701180000
  </gmd:fileIdentifier>
  <gmd:language>
    <gco:CharacterString>es</gco:CharacterString>
  </gmd:language>
  <gmd:characterSet>
    <gmd:MD_CharacterSetCode
      codeList="./resources/codeList.xml#MD_CharacterSetCode"
      codeListValue="utf8">utf8</gmd:MD_CharacterSetCode>
  </gmd:characterSet>
  <gmd:hierarchyLevel>
    <gmd:MD_ScopeCode codeList="./resources/codeList.xml#MD_ScopeCode"
      codeListValue="series">series</gmd:MD_ScopeCode>
  </gmd:hierarchyLevel>
  <gmd:contact>
    <gmd:CI_ResponsibleParty>
      <gmd:individualName>
        <gco:CharacterString>...</gco:CharacterString>
      </gmd:individualName>
      <gmd:organisationName>
        <gco:CharacterString>...</gco:CharacterString>
      </gmd:organisationName>
      <gmd:positionName>
        <gco:CharacterString>...</gco:CharacterString>
      </gmd:positionName>
      <gmd:contactInfo>
        <gmd:CI_Contact>
          <gmd:phone>
            <gmd:CI_Telephone>
              <gmd:voice>
                <gco:CharacterString>...</gco:CharacterString>
              </gmd:voice>
              <gmd:facsimile>
                <gco:CharacterString>...</gco:CharacterString>
              </gmd:facsimile>
            </gmd:CI_Telephone>
          </gmd:phone>
          <gmd:address>
            <gmd:CI_Address>
              <gmd:deliveryPoint>
                <gco:CharacterString>...</gco:CharacterString>
              </gmd:deliveryPoint>
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              </gmd:city>
              <gmd:administrativeArea>
                <gco:CharacterString>...</gco:CharacterString>
              </gmd:administrativeArea>
              <gmd:postalCode>
                <gco:CharacterString>...</gco:CharacterString>
              </gmd:postalCode>
              <gmd:country>
                <gco:CharacterString>...</gco:CharacterString>
              </gmd:country>
              <gmd:electronicMailAddress>
                <gco:CharacterString>...</gco:CharacterString>
              </gmd:electronicMailAddress>
            </gmd:CI_Address>
          </gmd:address>
          <gmd:onlineResource>
            <gmd:CI_OnlineResource>
              <gmd:linkage>
                <gmd:URL>...</gmd:URL>
              </gmd:linkage>
            </gmd:CI_OnlineResource>
          </gmd:onlineResource>
        </gmd:CI_Contact>
      </gmd:contactInfo>
    </gmd:CI_ResponsibleParty>
  </gmd:contact>

```

```

        </gmd:CI_OnlineResource>
    </gmd:onlineResource>
    <gmd:contactInstructions>
        <gco:CharacterString>...</gco:CharacterString>
    </gmd:contactInstructions>
    </gmd:contactInfo>
    <gmd:role>
        <gmd:CI_RoleCode codeList="./resources/codeList.xml#CI_RoleCode"
            codeListValue="pointOfContact">pointOfContact</gmd:CI_RoleCode>
    </gmd:role>
    </gmd:CI_ResponsibleParty>
</gmd:contact>
</gmd:contact>
<gmd:CI_ResponsibleParty>
    <gmd:individualName>
        <gco:CharacterString>...</gco:CharacterString>
    </gmd:individualName>
    <gmd:organisationName>
        <gco:CharacterString>...</gco:CharacterString>
    </gmd:organisationName>
    <gmd:positionName>
        <gco:CharacterString>...</gco:CharacterString>
    </gmd:positionName>
    <gmd:contactInfo>
        <gmd:CI_Contact>
            <gmd:phone>
                <gmd:CI_Telephone>
                    <gmd:voice>
                        <gco:CharacterString>...</gco:CharacterString>
                    </gmd:voice>
                    <gmd:facsimile>
                        <gco:CharacterString>...</gco:CharacterString>
                    </gmd:facsimile>
                </gmd:CI_Telephone>
            </gmd:phone>
            <gmd:address>
                <gmd:CI_Address>
                    <gmd:deliveryPoint>
                        <gco:CharacterString>...</gco:CharacterString>
                    </gmd:deliveryPoint>
                    <gmd:city>
                        <gco:CharacterString>...</gco:CharacterString>
                    </gmd:city>
                    <gmd:administrativeArea>
                        <gco:CharacterString>...</gco:CharacterString>
                    </gmd:administrativeArea>
                    <gmd:postalCode>
                        <gco:CharacterString>...</gco:CharacterString>
                    </gmd:postalCode>
                    <gmd:country>
                        <gco:CharacterString>...</gco:CharacterString>
                    </gmd:country>
                    <gmd:electronicMailAddress>
                        <gco:CharacterString>...</gco:CharacterString>
                    </gmd:electronicMailAddress>
                </gmd:CI_Address>
            </gmd:address>
            <gmd:onlineResource>
                <gmd:CI_OnlineResource>
                    <gmd:linkage>
                        <gmd:URL>...</gmd:URL>
                    </gmd:linkage>
                </gmd:CI_OnlineResource>
            </gmd:onlineResource>
            <gmd:contactInstructions>
                <gco:CharacterString>...</gco:CharacterString>
            </gmd:contactInstructions>
        </gmd:CI_Contact>
    </gmd:contactInfo>
    ...
</gmd:MD_Metadata>
</SearchResults>
</GetRecordsResponse>

```

## Transaction

### Insert

#### POST query

```

<?xml version="1.0" encoding="UTF-8"?>
<Transaction xmlns="http://www.opengis.net/cat/csw/2.0.2"
    xmlns:dcs="http://purl.org/dc/elements/1.1/" xmlns:ogc="http://www.opengis.net/ogc"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xsi:schemaLocation="http://www.opengis.net/cat/csw/2.0.2 http://schemas.opengis.net/csw/2.0.2/CSW-publication.xsd"
    service="CSW" version="2.0.2">
    <Insert>
        <gmd:MD_Metadata xmlns:xlink="http://www.w3.org/1999/xlink"
            xmlns:gmd="http://www.isotc211.org/2005/gmd" xmlns:gco="http://www.isotc211.org/2005/gco"
            xmlns:gml="http://www.opengis.net/gml">
            <gmd:fileIdentifier>
                <gco:CharacterString>a028211a-74e4-4c11-8554-a12735100521
            </gco:CharacterString>
            </gmd:fileIdentifier>
            <gmd:language>
                <gco:CharacterString>es</gco:CharacterString>
            </gmd:language>
            <gmd:characterSet>
                <gmd:MD_CharacterSetCode
                    codeList="./resources/codeList.xml#MD_CharacterSetCode"
                    codeListValue="utf8">utf8</gmd:MD_CharacterSetCode>
            </gmd:characterSet>
            <gmd:parentIdentifier>
                <gco:CharacterString>BCN25</gco:CharacterString>
            </gmd:parentIdentifier>
            <gmd:hierarchyLevel>
                <gmd:MD_ScopeCode codeList="./resources/codeList.xml#MD_ScopeCode"
                    codeListValue="dataset">dataset</gmd:MD_ScopeCode>
            </gmd:hierarchyLevel>
            <gmd:contact>
                <gmd:CI_ResponsibleParty>
                    <gmd:individualName>
                        <gco:CharacterString>...</gco:CharacterString>
                    </gmd:individualName>
                    <gmd:organisationName>
                        <gco:CharacterString>...</gco:CharacterString>
                    </gmd:organisationName>
                    <gmd:positionName>
                        <gco:CharacterString>...</gco:CharacterString>
                    </gmd:positionName>
                    <gmd:role>
                        <gmd:CI_RoleCode codeList="./resources/codeList.xml#CI_RoleCode"
                            codeListValue="originator">originator</gmd:CI_RoleCode>
                    </gmd:role>
                </gmd:CI_ResponsibleParty>
            </gmd:contact>
            ...
            <gmd:EX_Extent>
                <gmd:verticalElement>
                    <gmd:EX_VerticalExtent>
                        <gmd:minimumValue>
                            <gco:Real>0.0</gco:Real>
                        </gmd:minimumValue>
                        <gmd:maximumValue>
                            <gco:Real>0.0</gco:Real>
                        </gmd:maximumValue>
                        <gmd:verticalCRS>
                            <gml:VerticalCRS gml:id="verticalCRSN65862">
                                <gml:identifier codeSpace="
" />
                                <gml:scope />
                                <gml:verticalCS>
                                    <gml:VerticalCS gml:id="verticalCSN65862">
                                        <gml:identifier codeSpace="
" />
                                        <gml:axis>
                                            <gml:CoordinateSystemAxis gml:uom="
"
                                            gml:id="coordinateSystemAxisN65862">

```



```

</gmd:organisationName>
<gmd:contactInfo>
  <gmd:CI_Contact>
    <gmd:phone>
      <gmd:CI_Telephone />
    </gmd:phone>
    <gmd:address>
      <gmd:CI_Address />
    </gmd:address>
    <gmd:onlineResource>
      <gmd:CI_OnlineResource>
        <gmd:linkage />
      </gmd:CI_OnlineResource>
    </gmd:onlineResource>
  </gmd:CI_Contact>
</gmd:contactInfo>
<gmd:role>
  <gmd:CI_RoleCode codeList="/resources/codeList.xml#CI_RoleCode"
    codeListValue="" />
</gmd:role>
</gmd:CI_ResponsibleParty>
</gmd:processor>
<gmd:source>
  <gmd:LI_Source>
    <gmd:scaleDenominator>
      <gmd:MD_RepresentativeFraction>
        <gmd:denominator>0</gmd:denominator>
      </gmd:MD_RepresentativeFraction>
    </gmd:scaleDenominator>
    <gmd:sourceCitation>
      <gmd:CI_Citation>
        <gmd:title>
          <gco:CharacterString>...</gco:CharacterString>
        </gmd:title>
        <gmd:date />
        <gmd:identifier>
          <gmd:MD_Identifier>
            <gmd:authority>
              <gmd:CI_Citation>
                <gmd:title />
                <gmd:date />
              </gmd:CI_Citation>
            </gmd:authority>
            <gmd:code />
          </gmd:MD_Identifier>
        </gmd:identifier>
      </gmd:CI_Citation>
    </gmd:sourceCitation>
  </gmd:LI_Source>
</gmd:LI_ProcessStep>
</gmd:processStep>
...
</gmd:LI_Lineage>
</gmd:DQ_DataQuality>
</gmd:dataQualityInfo>
<gmd:metadataConstraints>
  <gmd:MD_LegalConstraints />
</gmd:metadataConstraints>
<gmd:metadataConstraints>
  <gmd:MD_SecurityConstraints>
    <gmd:classification>
      <gmd:MD_ClassificationCode>
        <codeList="/resources/codeList.xml#MD_ClassificationCode"
          codeListValue="" />
      </gmd:classification>
    </gmd:MD_SecurityConstraints>
  </gmd:metadataConstraints>
</gmd:applicationSchemaInfo>
<gmd:MD_ApplicationSchemaInformation>
  <gmd:name>
    <gmd:CI_Citation>
      <gmd:title />
      <gmd:date />
      <gmd:identifier>
        <gmd:MD_Identifier>
          <gmd:authority>
            <gmd:CI_Citation>
              <gmd:title />
              <gmd:date />
            </gmd:CI_Citation>
          </gmd:authority>
          <gmd:code />
        </gmd:MD_Identifier>
      </gmd:identifier>
    </gmd:CI_Citation>
  </gmd:name>
  <gmd:schemaLanguage />
  <gmd:constraintLanguage />
  <gmd:schemaAscii>
    <gco:CharacterString><?xml version="1.0"
      encoding="ISO-8859-1"?>#13;
    </gco:CharacterString>
  </gmd:schemaAscii>
</gmd:MD_ApplicationSchemaInformation>
</gmd:applicationSchemaInfo>
</gmd:MD_Metadata>
</Insert>
</Transaction>

```

#### GET query

Not permitted

#### Response

```

<?xml version="1.0" encoding="UTF-8"?>
<TransactionResponse xmlns="http://www.opengis.net/cat/csw/2.0.2"
  xmlns:dcs="http://purl.org/dc/elements/1.1/" xmlns:ogc="http://www.opengis.net/ogc"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xsi:schemaLocation="http://www.opengis.net/cat/csw/2.0.2 http://schemas.opengis.net/csw/2.0.2/CSW-publication.xsd"
  version="2.0.2">
  <TransactionSummary>
    <totalInserted>1</totalInserted>
    <totalUpdated>0</totalUpdated>
    <totalDeleted>0</totalDeleted>
  </TransactionSummary>
  <InsertResult>
    <csw:BriefRecord xmlns:csw="http://www.opengis.net/cat/csw/2.0.2"
      xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns:ows="http://www.opengis.net/ows"
      xmlns:dterms="http://purl.org/dc/terms/" xmlns:dcs="http://purl.org/dc/elements/1.1/">
      <dc:identifier>
        a028211a-74e4-4c11-8554-a12735100521
      </dc:identifier>
      <dc:title>Cultivos y Vegetación</dc:title>
      <dc:type>dataset</dc:type>
    </csw:BriefRecord>
  </InsertResult>
</TransactionResponse>

```

#### Update

##### POST query

```

<?xml version="1.0" encoding="UTF-8"?>
<Transaction xmlns="http://www.opengis.net/cat/csw/2.0.2"
  xmlns:dcs="http://purl.org/dc/elements/1.1/" xmlns:ogc="http://www.opengis.net/ogc"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xsi:schemaLocation="http://www.opengis.net/cat/csw/2.0.2\SCHEMAS_OPENGIS_NET\Csw\2.0.2\CSW-publication.xsd"
  service="CSW" version="2.0.2">
  <Update>
    <gmd:MD_Metadata xmlns:xlink="http://www.w3.org/1999/xlink"
      xmlns:gmd="http://www.isotc211.org/2005/gmd" xmlns:gco="http://www.isotc211.org/2005/gco"
      xmlns:gml="http://www.opengis.net/gml">
      <gmd:fileIdentifier>
        <gco:CharacterString>a028211a-74e4-4c11-8554-a12735100521
        </gco:CharacterString>
      </gmd:fileIdentifier>
      <gmd:language>

```



```

    <gco:CharacterString>es</gco:CharacterString>
  </gmd:language>
  <gmd:characterSet>
    <gmd:MD_CharacterSetCode
      codeList="./resources/codeList.xml#MD_CharacterSetCode"
      codeListValue="utf8">utf8</gmd:MD_CharacterSetCode>
  </gmd:characterSet>
  <gmd:parentIdentifier>
    <gco:CharacterString>BCN25</gco:CharacterString>
  </gmd:parentIdentifier>
  <gmd:hierarchyLevel>
    <gmd:MD_ScopeCode codeList="./resources/codeList.xml#MD_ScopeCode"
      codeListValue="dataset">dataset</gmd:MD_ScopeCode>
  </gmd:hierarchyLevel>
  <gmd:contact>
    <gmd:CI_ResponsibleParty>
      <gmd:individualName>
        <gco:CharacterString>...</gco:CharacterString>
      </gmd:individualName>
      <gmd:organisationName>
        <gco:CharacterString>...</gco:CharacterString>
      </gmd:organisationName>
      <gmd:positionName>
        <gco:CharacterString>...</gco:CharacterString>
      </gmd:positionName>
      <gmd:role>
        <gmd:CI_RoleCode codeList="./resources/codeList.xml#CI_RoleCode"
          codeListValue="originator">originator</gmd:CI_RoleCode>
      </gmd:role>
    </gmd:CI_ResponsibleParty>
  </gmd:contact>
  ...
  <gmd:extent>
    <gmd:EX_Extent>
      <gmd:verticalElement>
        <gmd:EX_VerticalExtent>
          <gmd:minimumValue>
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```

```

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                            hidrografía, cultivos y vegetación, edificaciones y
                            construcciones, vías de comunicación, conducciones y
                            transmisiones: proporcionar una infraestructura básica de
                            datos geográficos al sector SIG español:
                            1º Selección de geometría que representa entes del mundo real,
                            desechando símbolos puntuales, lineales, superficiales y todo
                            aquello cuyo fin exclusivo es el trazado del mapa:
                            cuadrícula, leyenda, etc
                            2º Tratamiento geométrico:
                            - eliminación de puntos superfluos y repetidos;
                            - eliminación de bucles y vueltas atrás;
                            - eliminación de líneas repetidas, incluidas y solapadas;
                            - resolución de intersecciones entre elementos;
                            - resolución de anclajes; detección y resolución, si procee,
                            de extremos libres;
                            - unificación de elementos del mismo código y nombre dentro de
                            tolerancia;
                            - tratamiento de elementos perimétrales: creación de los
                            contornos relativos a casos de población;
                            - y case geométrico entre hojas
                            4º Tratamiento semántico: codificación y asignación de nombres
                            5º Cases entre hojas limítrofes</gco:CharacterString>
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</Update>
</Transaction>

```

#### GET query

Not permitted

#### Response

```
<?xml version="1.0" encoding="UTF-8"?>
<TransactionResponse xmlns="http://www.opengis.net/cat/csw/2.0.2"
  xmlns:dc="http://purl.org/dc/elements/1.1/" xmlns:ogc="http://www.opengis.net/ogc"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xsi:schemaLocation="http://www.opengis.net/cat/csw/2.0.2 http://schemas.opengis.net/csw/2.0.2/CSW-publication.xsd"
  version="2.0.2">
  <TransactionSummary>
    <totalInserted>0</totalInserted>
    <totalUpdated>1</totalUpdated>
    <totalDeleted>0</totalDeleted>
  </TransactionSummary>
</TransactionResponse>
```

#### Delete

#### POST query

```
<?xml version="1.0" encoding="UTF-8"?>
<Transaction xmlns="http://www.opengis.net/cat/csw/2.0.2"
  xmlns:dc="http://purl.org/dc/elements/1.1/" xmlns:ogc="http://www.opengis.net/ogc"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xsi:schemaLocation="http://www.opengis.net/cat/csw/2.0.2 http://schemas.opengis.net/csw/2.0.2/CSW-publication.xsd"
  service="CSW" version="2.0.2">
  <Delete>
    <Constraint version="">
      <ogc:Filter>
        <ogc:PropertyIsLike wildCard="*" singleChar="_"
          escapeChar="/">
          <ogc:PropertyName>title</ogc:PropertyName>
          <ogc:Literal>*</ogc:Literal>
        </ogc:PropertyIsLike>
      </ogc:Filter>
    </Constraint>
  </Delete>
</Transaction>
```

#### GET query

Not permitted

#### Response

```
<?xml version="1.0" encoding="UTF-8"?>
<TransactionResponse xmlns="http://www.opengis.net/cat/csw/2.0.2"
  xmlns:dc="http://purl.org/dc/elements/1.1/" xmlns:ogc="http://www.opengis.net/ogc"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xsi:schemaLocation="http://www.opengis.net/cat/csw/2.0.2 http://schemas.opengis.net/csw/2.0.2/CSW-publication.xsd"
  version="2.0.2">
  <TransactionSummary>
    <totalInserted>0</totalInserted>
    <totalUpdated>0</totalUpdated>
    <totalDeleted>1</totalDeleted>
  </TransactionSummary>
</TransactionResponse>
```

#### External links

- [OGC Catalogue Service specification version 2.0.2](#)
- [OpenGIS Catalogue Service Implementation Specification version 2.0.2](#)

#### F.A.Q

##### How do I append metadata registers to my CatalogCube installation?

There are 2 possible ways to append metadata registers to CatalogCube, you can either use CatalogCube transactional interface or you can add them directly to the repository folder

- In order to append metadata registers using CatalogCube transactional interface you can go to the [transactional section](#), basically what you have to do is to introduce metadata register contents into an insert query :

```
<?xml version="1.0" encoding="UTF-8"?>
<Transaction xmlns="http://www.opengis.net/cat/csw/2.0.2"
  xmlns:dc="http://purl.org/dc/elements/1.1/" xmlns:ogc="http://www.opengis.net/ogc"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xsi:schemaLocation="http://www.opengis.net/cat/csw/2.0.2 http://schemas.opengis.net/csw/2.0.2/CSW-publication.xsd"
  service="CSW" version="2.0.2">
  <Insert>
    <!-- metadata contents -->
  </Insert>
</Transaction>
```

Using Transactional Interface, new registers will be indexed automatically.

**WARNING:** In order to use transactional mode it is required to activate this interface. To do that, go to the WEB-INF/web.xml file and change the value of the 'transactionsAllowed' variable to true.

- If you wanted to add metadata registers directly to the repository folder, what you would have to do is to follow those steps:

- 1.- Stop CatalogCube
- 2.- Append metadata registers to the repository folder (by default it is located at c:/CatalogCube/repository in windows installations and at /home/spatiumcube/catalogcube/repository in a linux installation)
- 3.- Delete CatalogCube indexes folder (by default it is located at c:/CatalogCube/indexes in a windows installation and at /home/spatiumcube/catalogcube/indexes in linux installations)
- 4.- Finitely CatalogCube service has to be re-started