
MetaDataManager - User Manual

ISTAT

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CHAPTER ONE

HOME

To start the ‘Data & Meta Manager’ tool, the url must be retrieved through the internet browser.

The url is provided by the system administrator.

The first screen to be displayed is the **Welcome Mask**.

The Suite presents on the left the Application Menu that varies according to the user profile logged in or not.

The Welcome Screen shows the Suite header and the version of the application package; at the bottom there is the footer with the Istat logo.

This information is always fixed in the application graphics.

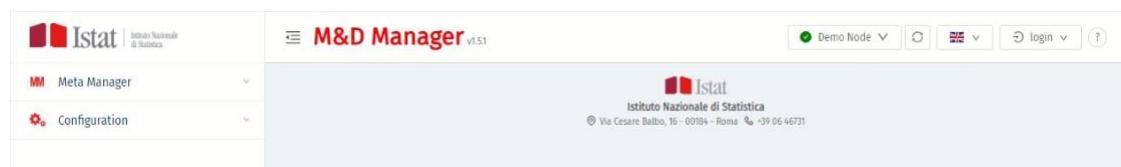
Through drop-down menus located in the upper right corner of the mask welcome mask, it is possible to set:

- Node
- Language
- Login

Starting from this mask the System is accessible by a profiled user or alternatively by an anonymous non-profiled user.

The System automatically sets the predefined language and defaults that allow an Anonymous User to access the connection.

The Application Menu is always present and it can be displayed in full or in compressed form (with icons only).



**CHAPTER
TWO**

ACRONYMS AND GLOSSARY

API - Application programming interface

Thanks to this interface, computer programs communicate with each other. It is comparable to the way a programmer sends instructions between programs.

Source: <http://schoolofdata.org/handbook/appendix/glossary>

Artefact

In order to describe and document data, the SDMX standard refers to entities that are called “artefacts” that are organized in such a way as to represent the data and reference it appropriately. The **Id**, **agency** and **version** are the three identifying elements of an SDMX **artefact**.

Source: https://www.istat.it/it/files/2013/07/Step_funz_client_SDMXWS1.pdf

DATABASE

A database is a set of structured data, i.e. homogeneous in content and format, stored in a computer, representing the digital version of a data archive or filing cabinet.

Source: https://it.wikipedia.org/wiki/Base_di_dati

Directive 96/9/EC[2] defines b.d. as: “a collection of works, data or other independent elements systematically or methodically arranged and individually accessible by electronic means or otherwise” (Art. 1. no. 2); and provides for legal protection of “databases which, by reason of the selection or arrangement of the material, constitute the author’s own intellectual creation” (Art. 3).

Source: <https://www.altalex.com/documents/news/2013/07/02/banche-dati-la-tutela-giuridica-nella-giurisprudenza-della-corte-di-giustizia>

Category Scheme

SDMX artefact, is a set of categories, hierarchically organised, that classify DataFlows.

Source: https://www.istat.it/it/files/2013/07/Step_funz_client_SDMXWS1.pdf

CKAN - Comprehensive knowledge archive network

A data management system that makes data accessible by providing tools to simplify its publication, sharing, retrieval and use. It is intended for data publishers (national and regional administrations, companies and organisations) who wish to make their data open and accessible.

Source: <http://ckan.org/>

Code List

SDMX artefact, is a list of codes associated with components (dimensions and coded attributes) of DSD.

Source: https://www.istat.it/it/files/2013/07/Step_funz_client_SDMXWS1.pdf

Concept Scheme

SDMX artefact, is a grouping of concepts referencing components (dimensions, attributes, measures) of DSD.

Source: https://www.istat.it/it/files/2013/07/Step_funz_client_SDMXWS1.pdf

CORDIS

The main public repository and portal of the European Commission, used to disseminate information on all EU-funded research projects and their results.

Source: http://cordis.europa.eu/home_it.html

CSV - Comma separated values

The “comma separated values” file format is often used for exchanging data between different applications of the same type. \ The “comma separated values” file format is compatible with KDE spreadsheets. It is compatible with KSpread, OpenOffice Calc and Microsoft Excel spreadsheets. Many other applications support the format for importing and exporting data.

Source: <http://edoceo.com/utilitas/csv-file-format>

DataFlow

SDMX artefact, is a structure that describes the content of a dataset that the producing organisation provides for different time periods.

Source: https://www.istat.it/it/files/2013/07/Step_funz_client_SDMXWS1.pdf

DDB - Dissemination Data Base

Dissemination database of statistical data.

Source: <https://ec.europa.eu/eurostat/web/sdmx-infospace/sdmx-it-tools/sdmx-ri>

DCAT - Data catalogue vocabulary

RDF vocabulary allowing interoperability of data catalogues.

See also: W3C - <http://www.w3.org/TR/vocab-dcat>

DCAT-AP - DCAT application profile

Common vocabulary, based on DCAT, to describe the hosted datasets of data portals in Europe.

See also:

https://joinup.ec.europa.eu/asset/dcat_application_profile/description

DSD - Data Structure Definitions

SDMX artefact, is the definition of a data structure in terms of its components, i.e. dimensions, attributes and measures.

Dimensions: components that identify and describe the observed phenomenon.

Attributes: components that only describe the observed phenomenon.

Measures: components that represent the observed phenomenon(s).

Source: https://www.istat.it/it/files/2013/07/Step_funz_client_SDMXWS1.pdf

ENDPOINT SPARQL

A service that accepts SPARQL queries and provides results in the form of SPARQL result sets. Data providers follow the good practice of indicating the URL address of their SPARQL endpoint to allow access to their data programmatically or through a web interface.

Source: W3C - <http://www.w3.org/TR/ld-glossary/#sparql-endpoint>

IIS - Internet Information Services

A set of Internet server services for Microsoft Windows operating systems.

Source: https://it.wikipedia.org/wiki/Internet_Information_Services

JSON

“JavaScript object notation” is an open-standard format that uses human-readable text to transmit data objects consisting of attribute-value pairs.

It is the most common data format used for asynchronous browser/server communication/navigation (AJAJ).

Source: <https://en.wikipedia.org/wiki/JSON>

Mapping Assistant

Application that facilitates the mapping between structural metadata provided by a DSD and data residing in the dissemination database of a dissemination environment.

The Mapping Assistant stores mappings between SDMX and the local data storage schema in the Mapping Store database, or MSDB.

Source: <https://ec.europa.eu/eurostat/web/sdmx-infospace/sdmx-it-tools/sdmx-ri>

METADATA

Metadata is structured information that describes, explains, positions or enables easier retrieval, use or management of an information resource.

They are often referred to as ‘data about data’.

Source: <http://www.niso.org/publications/press/UnderstandingMetadata.pdf>

MSD - Metadata Structure Definitions

SDMX artefact, is a model for reporting and disseminating reference metadata.

In addition to what is called “structural metadata” which mainly concerns the definition of the data structure, it may be useful to share other information such as, for example, information on methodology, data quality, sources, contact details.. This data in SDMX is called “referential metadata” and finds its framework in the Metadata Structure Definition and appropriate additional concepts.

Source: “Measuring the Data Universe: Data Integration Using Statistical Data and Metadata Exchange” by authors Reinhold Stahl and Patricia Staab.

MSDB - Mapping Store database

Database created by the Mapping Assistant application

Source: <https://ec.europa.eu/eurostat/web/sdmx-infospace/sdmx-it-tools/sdmx-ri>

NSI_WS

The NSI Web Service on SOAP or REST request collects the data from the DDB and the structural metadata from the MSDB, creates the SDMX-ML data and sends it to the client.

The NSI Web Service can be in Java or .NET.

Source: <https://ec.europa.eu/eurostat/web/sdmx-infospace/sdmx-it-tools/sdmx-ri>

OECD - Organization for Economic Co-operation and Development

The Organisation for Economic Co-operation and Development (OECD) is an international organisation for economic studies for its member countries, which are developed countries sharing a market economy.

Source: https://it.wikipedia.org/wiki/Organizzazione_per_la_cooperazione_e_lo_sviluppo_economico

ONTOLOGY

A formal model for representing knowledge in a specific field. An ontology describes the types of existing objects (classes), the relationships between them (properties) and the logical ways of using the classes and properties together (axioms).

Source: <http://www.w3.org/TR/ld-glossary/#ontology>

PDF

The ‘portable document format’ is a file format used to present and exchange documents independently of the available software, hardware or operating systems.

This open standard is managed by the International Organisation for Standardisation (ISO).

Source: <https://acrobat.adobe.com/be/en/products/about-adobe-pdf.html>

RDF - Resource description framework

A family of international standards for data exchange on the web. It is based on identifying objects using web identifiers or HTTP URIs and describing resources in terms of simple properties and property values.

Source: <http://www.w3.org/TR/ld-glossary/#rdf>

RDFa

“Resource description framework in attributes” is a W3C recommendation that adds a number of extensions in the category of attributes to XML, HTML and several types of XHTML-based documents to integrate rich metadata into web documents.

Source: <https://en.wikipedia.org/wiki/RDFa>

REPRESENTATION

The physical representation of a data set. Each resource can be a file of any type, a link to a file on the web or a link to an API. For example, if data is provided in various formats or split between different areas or time periods, each file is a “resource” that should be described separately.

Source: <https://data.europa.eu/euodp/it/glossary>

SDMX - Statistical data and metadata exchange

The Statistical Data and Metadata Exchange is an international initiative to standardise and modernise mechanisms and procedures for the exchange of statistical data and metadata between international organisations and Member States.

Source: <https://en.wikipedia.org/wiki/SDMX>

DATA SET

A collection of related data sets consisting of distinct elements, but which can be treated as a unit and accessed or downloaded in one or more formats.

Source: <https://data.europa.eu/euodp/it/glossary>

SPARQL

Query language for data represented using RDF, analogous to SQL (Structured Query Language) for relational databases.

Source: <http://www.w3.org/TR/ld-glossary/#sparql>

URI - Uniform resource identifier

A string that uniquely identifies virtually anything, from a building to more abstract concepts such as colours. It may or may not be resolvable on the web.

Source: <http://www.w3.org/TR/ld-glossary/#uniform-resource-identifier>

URL - Uniform resource locator

A global identifier generally called a ‘web address’. A URL is resolvable on the web. All HTTP URLs are URIs; however, not all URIs are URLs.

Source: <http://www.w3.org/TR/ld-glossary/#uniform-resource-locator>

URN - *Uniform resource name*

Historical definition of a unique resource identifier (URI).

Source: https://en.wikipedia.org/wiki/Uniform_Resource_Name

XML - *Extensible markup language*

A markup language that defines a set of standards for encoding documents in a machine-readable, human-readable format.

Source: <https://en.wikipedia.org/wiki/XML>

**CHAPTER
THREE**

ABOUT

The ‘Data & Meta Manager’ tool is a modern open source web-based SDMX application suite, fully integrated with the SDMX-RI released by Eurostat.

Based on a Loosely Coupled Architecture, ‘SDMX Data & Meta Manager’ allows the user to streamline the dissemination and reporting process, the management of metadata and to facilitate the publication of open (statistical) data according to the requirements detailed by the European and Italian Digital Agenda. With a few steps an organization can easily build a dissemination/reporting database driven by SDMX structural metadata, expose the datasets through an SDMX Web Service and disseminate the data catalogue using the W3C Recommendation “DCAT” and the CKAN v3 API.

The purpose of this guide is to provide a tutorial for the most frequent use cases of applications within the “Data & Meta Manager” tool, for the user with any kind of profiling.

To facilitate the description of the applications, images captured during the use of the application itself have been included.

These images may have graphic differences depending on the configuration used.

3.1 Licence

..... coming soon

3.2 Overview

The ‘Data & Meta Manager’ tool consists of 4 main sections which are comprehensively set out on the various pages.

The main sections can be summarised as follows:

- *Meta Manager*
Complete management of SDMX structural metadata (Codelist, Concept Schemes, Category Scheme, Data Streams, DSD, etc.), i.e. SDMX artefacts can, depending on user profiling, SDMX artefacts can be created, updated, archived, cloned and deleted.
- *Data Manager*
Data publication available in just 4 steps:
 - Builder: creation of a DDB schema (data cubes) from DSD and related artifacts
 - Mapping: creation of mappings between imported files and cubes
 - Loader: data loading from CSV/SDMX-ML files
 - Dataflow Builder: creation and publication of dataflows

- *Utility*

This section provides a series of tools that allow the quickest management and manipulation of the artefacts, for example the function Compare Item Scheme allows to compare two by two: Code Lists, Category Schemes and Concept Schemes.

- *Metadata Management*

- Full management of referential metadata: production and display
 - * Compilation of metadata reports
 - * Machine readable metadata in SDMX-JSON via REST API
 - * Human readable metadata in HTML via widgets, shareable or embeddable in another web-site
- Dedicated interface for the completion of standard DCAT-AP metadata.

In addition to these sections, two more are includable:

- *User and Permission Management*
- *Application Management*

3.3 Changelog

..... coming soon

CHAPTER
FOUR

BASIC INFORMATION ABOUT SDMX

What is SDMX?

SDMX (Statistical Data and Metadata eXchange) is a collaboration of some of the most important international organisations with the aim of encouraging and improving the exchange and sharing of statistical data and metadata.

SDMX is:

- A Logical Model used to describe statistical data and also providing guidelines on how to structure the content.
- An Architecture which enables efficient automated machine-to-machine exchange and sharing of data and metadata.
- A technology that supports standardised information and methodological tools that can be used by all those involved in data exchange and processing.

Which benefits does it bring?

By accepting the use of a common description of the data, it is then used as a parameter guiding the exchange and processing of the data.

Data descriptions are made available to all, so that those interested in a certain topic can understand and use the data for different purposes.

SDMX is the leap from diverse and complex exchange systems to a common, harmonised and standardised exchange system.

The Standard

SDMX provides a way to model statistical data, structural metadata and the data exchange process and also defines a model for further explanatory metadata, the so-called reference metadata, which are generally in textual format.

In order to describe and document data, the standard refers to entities (in SDMX “**artefacts**”) that are organised in such a way as to represent and refer to the data appropriately:

The **Id**, **agency** and **version** are the three identifying elements of an SDMX artefact.

The **Id** is the identification code of the artefact.

Agency is the name of the organisation that is the creator and/or owner of the artefact.

Version gives the version of the artefact. In particular, if the artefact is finalised, it is not possible to modify it unless a new version of the artefact is created.

The main artefacts used to describe data and statistical metadata are:

Dataflow: structure describing the content of a dataset that the producing organisation provides for different reference time periods.

The characterising element of Dataflow, is the **Data Structure Definition (DSD)** as it defines the constitutive structure in terms of components (dimensions, attributes, measures).

NOTE:

Remember that the **Dimensions** are qualitative characteristics of the statistical units (e.g. reference period, reporting country, frequency, gender, ...).

Attributes represent a qualitative characteristic of the observed data (confidentiality, status, version, decimals, unit of measure, table title, ...), while **Measures** are the values of the observations.

Concept Scheme: is a grouping of concepts that refer to the components (dimensions, attributes, measures) of the DSD.

Code List: is a list of codes associated to components (dimensions and coded attributes) of the DSD.

Category Scheme: is a set of categories, hierarchically organised, that classify Dataflows.

These and other artefacts will be the focus of the ‘**Data & Meta Manager**’ tool.

**CHAPTER
FIVE**

INSTALLATION

Check the **MetaDataManager - Installation manual** provided with this user manual.

ADMINISTRATION

This section of the guide will highlight the steps needed to properly configure the tool to the user's needs and the actions required to create and manage nodes containing SDMX resources and the profiling of users on these nodes.

6.1 How to configure the application

To manage the Configuration, the System provides an application interface which can be used by a profiled user with **SuperUser** permissions, also referred to in the guide as *superadmin*. The reference function can be found in the left-hand side menu under **Configuration**. The item of interest is *Application*.

After entering the credentials of *superadmin*, the System opens the management mask of the application configuration by positioning itself in the section “**User Interface**”.

The following configurations can be made for the Data and Meta Manager applications:

- *User Interface*
- *Agencies*
- *Data Management*
- *Structures default header submit*
- *Superuser credentials*
- *Endpoint Settings*

All application configurations are described in the dedicated sections.

6.1.1 User Interface

In this section the *SuperUser* has the possibility to set the parameters related to the standard of views:

- **Maximum tree nodes for allowing tree visualization**

This parameter represents the maximum display in tree representation of the elements (e.g. Item of a Code List).

The system manages vertical scrolling for the display of items and this also allows high values of the parameter.

- **Maximum showable tree nodes using ‘Show more’ in tree**

The parameter is linked to the value set in the previous point.

The system allows the loading of further elements for displaying them through the function Show Others.

The number of elements that are displayed is determined by this pagination parameter in the tree representation.

- **Minimum nodes number to enable tree pagination**

Indicates the minimum number of elements displayed in the tree view.

The minimum number is indicative and relative to the actual number of elements present in the system.

- **Maximum tree nodes for allowing tree total expansion**

Indicates the maximum number of elements that can be displayed with the tree fully expanded.

- **Tree page size**

Indicates the maximum number of siblings that are displayed by default.

- **Default sidebar collapsed**

The on/off checkbox allows the user to set as default the display of the left sidebar menu in extended (header) or compressed (icons only) mode.

- **Languages**

The Languages section allows the user to define the languages for the Suite.

The Add Language function opens an editing window where the user can set the language in character format.

By saving the configuration the user obtains at application level the language management for the graphic interface (labels, titles, etc.)

The languages are always represented by a pop-up list (combo).

- **Default language**

The System Administrator can define the default language, which is automatically set in all application sessions.

- **Anonymous pages**

In this session the Administrator can set the functionalities visible to an anonymous user who logs in without credentials.

The mask shows all the functions present in the Suite divided between the two main applications Data and Meta Manager.

By selecting the checkbox associated with the function, the anonymous user is authorised to have read access to the function itself.

6.1.2 Agencies

In this section the *SuperUser* can set the Agencies that will be used for the definition of the Artifacts when creating and/or editing.

Application

User Interface

Agencies

Agencies:

▼ Collapse

* ID: OECD	* Name: Organisation for Economic	EN
* ID: ESTAT	* Name: Eurostat	EN
* ID: ECB	* Name: European Central Bank	EN
* ID: WB	* Name: World Bank	EN
* ID: BIS	* Name: Bank for International Set	EN
* ID: IMF	* Name: International Monetary Fu	EN

These are the only ones that the administrator user will be able to assign to users in the ‘Set Permissions’ section, thus giving them the permissions to manage the relevant SDMX Artifacts: these agencies are independent from those defined in the SDMX artifacts of type Agency Schema. However, it is possible to explicitly add an Agency belonging to an Agency Schema to the current node configuration by clicking on the appropriate action in the row.

Edit AgencyScheme - [AGENCIES]

English X

General Items Categorisations

Search...

ID	Name	Par.	Ord.
ESTAT_ECB	Joint Eurostat - ECB maintenance agency role		1
SDMX	SDMX		2
ESTAT	Item : ESTAT_MA		3
ECB	Item : ECB_MA		4
FAO	Food and Agriculture Organization of the United Nations		5
UIS	UNESCO Institute for Statistics		6
IMF	IMF		7

Add to config

from 1 to 7 of 7 rows

6.1.3 Data management

This section allows the user to define:

- **The standard prefix of the Cube's identifier (ID)**

This prefix will be set in the creation mask of the Cube and cannot be modified.

- **Data Languages**

Language of the data processed in the management phase of Names, Descriptions and Annotations.

- **Maximum length of multi-line fields**

Maximum number of editable characters of multi-line fields such as Descriptions and Annotations.

The screenshot shows the 'Application' configuration interface with the 'Data Management' tab selected. On the left, there is a sidebar with links: 'User Interface', 'Agencies', 'Data Management' (which is highlighted in red), 'Default header submit structure', 'Superuser credentials', and 'Endpoint settings'. The main area has a title 'Cube code prefix:' followed by an input field containing 'BL_'. Below it is a section titled 'Data languages:' with a 'Collapse' button. It contains two language entries: one for 'en' (ID) and 'gb' (Country code), and another for 'it' (ID) and 'it' (Country code). There is also a '+ Add language' button. At the bottom, there is a section titled 'Maximum length of multi-line fields:' with an input field containing '4000'.

6.1.4 Structures default header submit

This section allows the user to parameterize the information related to a submit operation with reference to the sender and receiver prefixes, submit id, data submit of a Dataflow Builder header.

The screenshot shows the 'Application' configuration page. On the left, there's a sidebar with several menu items: 'User Interface', 'Agencies', 'Data Management', 'Default header submit structure' (which is currently selected and highlighted in red), 'Superuser credentials', and 'Endpoint settings'. The main right-hand area contains several input fields. At the top, there's a field labeled 'ID:' with the value 'ID_SUBMIT'. Below it is a 'Test' checkbox. Underneath that is a 'Prepared' field containing the date '2018-11-08T15:07:14Z'. Further down are fields for 'Sender' (containing 'ISTAT') and 'Receiver' (also containing 'ISTAT'). At the very bottom of the right panel is a red 'Save' button.

6.1.5 Superadmin credentials

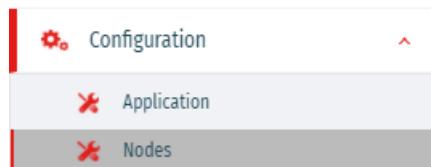
The SuperUser is configured from the configuration file with the value “**Superadmin**”.

This allows the SuperUser to access the System with predefined credentials and configure the Suite.

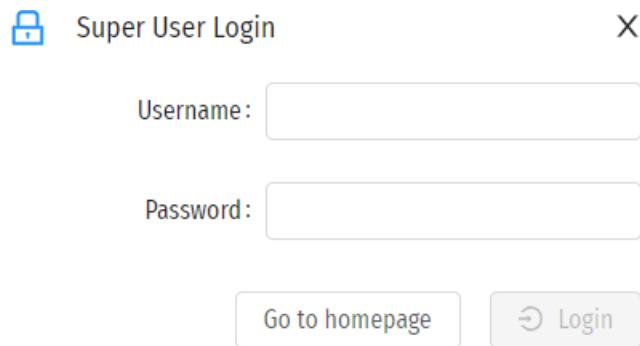
The SuperUser can modify his profile in terms of username and password or delete the default profile and generate a new one.

Login with the SuperUser profile.

Once the user enters the *Welcome Mask* of the Suite, he can access the *Application* item of interest in the left menu starting from the Configuration item.



Selecting the function Application, the system asks for authentication of the SuperUser who has the credentials which make him able to configure the application management.



The Super User Login form consists of the following fields:

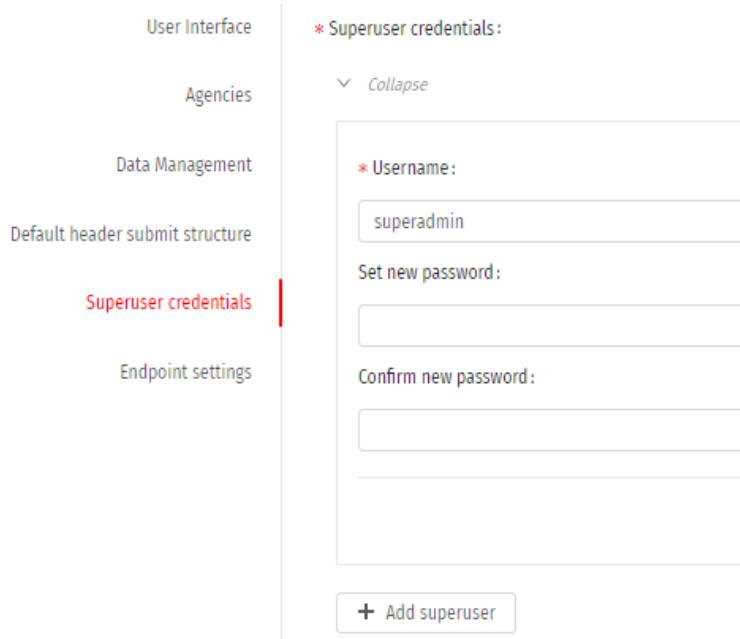
- A blue padlock icon followed by the text "Super User Login".
- A close button "X" in the top right corner.
- A "Username:" label with an input field.
- A "Password:" label with an input field.
- A "Go to homepage" button.
- A "Login" button with a circular arrow icon.

The user sets the SuperUser credentials and presses the **Login** button which is activated once the User and Password have been set in the appropriate edit fields.

Edit SuperUser profile.

After entering the credentials, the system will open the management mask of the application configuration by clicking on the section "**User interface**". By selecting the section "**SuperUser credentials**" it is possible to change the password and, if necessary, create an additional SuperUser, using the appropriate button. The need to add more than one SuperUser is subject to the organization within the institution or entity that uses the Suite.

Application



The management mask for SuperUser credentials includes the following sections:

- User Interface**: A collapsed section containing "Agencies", "Data Management", "Default header submit structure", and "Superuser credentials".
- Superuser credentials**: An expanded section containing:
 - * Superuser credentials:** A collapsed section containing "Username:" (set to "superadmin"), "Set new password:", and "Confirm new password:".
 - + Add superuser**: A button for adding a new SuperUser.
- Endpoint settings**: A collapsed section.

6.1.6 Endpoint Settings

This section allows you to define the timeout of the relevant WebServices in the node in seconds:

- **NSI WS timeout**
- **DM timeout**
- **MA timeout**

By default they are all set to 360 sec. in total.

The screenshot shows a configuration interface for an application. On the left, there's a sidebar with several sections: 'User Interface', 'Agencies', 'Data Management', 'Default header submit structure', 'Superuser credentials', and 'Endpoint settings'. The 'Endpoint settings' section is highlighted with a red border. On the right, there are three input fields with validation messages:

- * NSI WS timeout: 120
- * DM timeout: 120
- * MA timeout: 120

 Below these fields is a red 'Save' button.

6.2 Node management

- *Configuring a new node*
- *Other Node configurations*

6.2.1 Configuring a new node

To configure a Node, the user must access the function Configuration → Nodes. The system will request access as *SuperUser* and then select the “Add Node” button to launch the mask

The screenshot shows the 'Nodes' section of the MetaDataManager. At the top, there is a red button labeled '+ Add Node'. Below it, a tree view shows a 'MainNode' node with a child 'New Node' node. On the right, a configuration panel is open for the 'New Node' node. The panel has a sidebar with various tabs: 'General' (which is selected and highlighted in red), 'Agencies', 'Endpoint', 'Custom annotations', 'Annotations', 'Proxy', 'Search', 'DCAT-AP_IT', and 'Data Browser'. The 'General' tab contains several configuration fields:

- * ID: (text input field)
- * Name: (text input field)
- * Default items view mode: (dropdown menu set to 'Table')
- Show unallowed nodes in Builder: (checkbox)
- Hidden: (checkbox)

In the “General” section set the following fields (the values are indicative for example purposes):

- **ID** : Node1
- **Name** : Node1
- **Default items view mode**: Table as default
- **Show unallowed nodes in Builder**: Allows visualization (in grey) of nodes in the Builder tree on which the user has no permissions.
- **Hidden**: do not select the check as default otherwise the node will be hidden to users.

After setting the general data it can be seen that the “Save” button is not activated as the information is not sufficient to define the Node itself.

Go to the “**Agencies**” section.

This section contains the *Default Agencies* which are set during the initialisation of the database at the first application installation.

The agencies linked to the Node can be modified with respect to the application default and therefore additional agencies can be added or removed.

In this example the agencies are not modified.

Go to the “**Endpoints**” section to set the endpoints that will allow the true profiling of the Node.

The screenshot shows the 'New Node' configuration interface with the 'Endpoint' tab selected. The left sidebar lists various configuration sections: General, Agencies, Endpoint (selected), Custom annotations, Annotations, Proxy, Search, DCAT-AP_IT, Data Browser, and others. The main area contains the following fields:

- * SDMX WS Endpoint type: SOAP
- * SDMX WS Endpoint: https://localhost/NSI_WS/SdmxRegistryService
- Remote SDMX WS username: (empty)
- Remote SDMX WS password: (empty)
- Initial WSDL: (empty)
- * Ping Artefact: Concept Scheme
- MA Endpoint: https://localhost/MA_WS
- DM Endpoint: https://localhost/DM_API_WS/api/DMApi
- LDAP Endpoint: (empty)
- Active Directory Endpoint: (empty)
- Metadata API base url: https://localhost/METADATA_API

A 'Save' button is located at the bottom left of the form.

As can be seen in the figure above, some fields are set by default, others are not set

and the System provides an example of configuration with regard to the url needed to reach the WS internal/external to the System itself and thus allow at application level the connection to the databases managed by them.

Some WS allow read and write access to the database, others read only, regardless of User profiling.

The System requires mandatory configuration of the SDMX WS Endpoint. To configure it the user must set in the provided field:

- https://localhost/NSI_WS/SdmxRegistryService

where localhost identifies the host where the WS is present.

This can also be reached through a remote virtual machine and in this case the host-name or IP address or the address defined at IIS level during the system-application configuration phase must be set (e.g.: www.org.it - See *Installation Manual*).

After typing the field with the reference to the endpoint, press the “Ping” button to the right of the field itself.

After verification, the system will display the green button to indicate that the endpoint has been correctly defined and can be reached.

If the Ping function does not have a positive result, this may be due to several reasons that can be found in the application logs.

We list the most common errors:

- Incorrect url typed
- Non-reachability of the database due to incorrect definition of the connection string in the configuration files (see *Installation Manual*).

With this minimum configuration it is possible at application level to read the MSDB, Eurostat database, with access to the Meta Manager functions but it does not allow access to the System and writing.

To do this, and access the functions in read and write mode, the Endpoint fields must be set:

- Endpoint MA: https://localhost/MA_WS
- Endpoint DM: https://localhost/DM_API_WS/api/DMApi

and selecting the “Save” button, the Node is created.

Note By pressing the “Save” button the System requests the Administrator user name, if the Administrator user name (admin) is set and “OK” is pressed, the Node is saved.

Node Configuration Scenarios

The System allows the configuration of Nodes with different architectural scenarios in order to access WS and related databases.

There are mainly two scenarios:

The first scenario foresees access to INTERNAL Nodes (read/write) each configured to access WSs and related databases residing on different servers through NodeApi plugging. Each Node will have a different URL that identifies the connection to the WS.

The second scenario involves access to several EXTERNAL Nodes (read-only) with only access to the NSI_WS and the MSDB database.

6.2.2 Other Node configurations

To configure/edit a Node the user must access the function Configuration –> Nodes. The system requires access as SuperUser.

Once logged in and selected the node to be modified, it is possible to choose the section on which to take action:

- General
- Agency
- Endpoint

These first 3 sections are necessary for the *node creation*.

Let's look at the next ones:

- **Custom Annotations** This section allows the user to define the Annotation table for the Node in terms of Tab Annotation Name, Annotation Name, Annotation Visibility, Explosion or Collapse of multi-line texts.

After setting the required fields, the user saves the settings using the save function represented by the Save button.

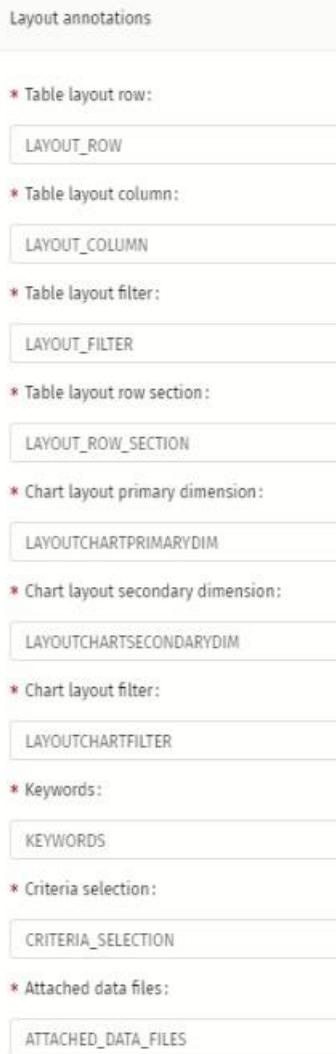
Multiple annotations can be configured using the Add Annotation function.

This section allows the configuration of Custom Annotations. To define annotations, the necessary elements are:

- Name
- List of custom annotations that can be acquired by typing in the annotation name.

The screenshot shows a configuration interface for 'Custom Annotations'. At the top, there are fields for 'Name' (set to 'Custom'), 'Label' (set to 'Custom Annotations'), and 'Visible' (checked). Below this, there is a section titled 'Annotation' with a 'Collapse' button. Under 'Annotation', there are two entries: 'Processing type' and 'Approximation type', each with its own 'Name', 'Label' (both set to 'Processing type' and 'Approximation type' respectively), and 'Visible' checkboxes (both checked). At the bottom left, there is a 'Add Annotation' button.

- **Annotatons** This section allows the user to view/edit standard annotations (also called working annotations), e.g. those of the OECD



These annotations have been configured in the node to give greater flexibility to the annotation itself.

The TYPE of an annotation, in fact, could theoretically change according to the Data Viewer external to the Suite that will be used (e.g. the type=LAYOUT_ROW could in a certain viewer be called TABLE_LAYOUT_ROW) so, for this reason, in each node, during configuration, the user has the possibility to redefine the TYPE of the Working Annotations as shown in the previous image.

The list of currently used annotations and their use is shown below:

Order annotations

- Concepts order - Annotation to manage the ordering of concepts in a concept scheme
- Categories order - Annotation to manage the ordering of the categories of a category scheme
- Codes order - Annotation for sorting the codes of a codelist
- Categorisations order - Annotation to manage the sorting between categorisations at the same hierarchical level

Layout annotations

- Table layout row - Dimensions to be shown in rows in the table layout
- Table layout column - Dimensions to be shown in columns in the table layout
- Table layout filter - Dimensions to be shown in filters in the table layout
- Table layout row section - Dimensions to be shown in section in the table layout
- Chart layout primary dimension - Dimension to show as primary in the chart layout
- Chart layout secondary dimension - Dimension to be shown as secondary in the chart layout
- Chart layout filter - Dimensions to be shown in filters in the chart layout
- Keywords - List of keywords associated to a dataflow
- Criteria selection - Default selection mode for the Data Browser
- Attached data files - file formats for which download is possible
- Default view - Default view of the dataflow in the Data Browser (table, graph or map)
- Decimal separator - Character to be used as decimal separator in the Data Browser
- Number of decimals - Number of decimals for the table representation in the Data Browser
- Metadata URL - Metadata url
- Empty cell placeholder - Characters to be used to replace any empty cells in the Data Browser
- Dataflow notes - Notes associated with the dataflow
- Geo ID - Id of the geographical dimension
- Dataflow source - Source of the dataflow (e.g. Eurostat)
- Hidden - Dataflow to be hidden in the Data Browser catalogue
- Not displayed - Dimension (or its values) to be hidden
- Full name - Full name of an item in an itemscheme
- Default - Default values for a dimension (they are used to initialise the Criteria in the Data Browser)

Working annotations

- Virtual Dataflow Node - Indicates that a dataflow type is linked and specify the node to which the dataflow is linked
- DDB dataflow - Indicates that a dataflow has its counterpart on the Dissemination Database (and therefore has associated data).
- Custom DSD - Indicates that the DSD has been built automatically after a dimensions reduction when building the data using the Dataflow Builder.
- Associated cube - Indicates that the DSD has an associated cube
- Changed - Indicates that the final codelist was subsequently changed

- Metadataset - Metadataset associated with the artefact
- Have metadata - Indicates that the dataflow has associated metadata
- Restricted for publication - Indicates that there are restrictions for publication
- Attached file path - Indicates the path of any attachments
- DCAT is multilingual - Indicates that a DCAT attribute is multilingual.
- Custom is presentational - Indicates that an attribute is 'Presentational'.
- Last update - Indicates the date of last modification of the dataflow data.
- Dataflow catalog type - Identify dataflow type (e.g. normal, virtual, linked).

Proxy

The section allows the user to define the Proxy for the Node in terms of Enabled, Address, Port, Username, Password. After having set the fields, the SuperUser saves the settings through the save function represented by the Save button. It is left to the System administrator to assess the need for the definition of a network proxy in the organisation.

The screenshot shows a configuration interface for a 'New Node'. On the left, a vertical sidebar lists several tabs: General, Agencies, Endpoint, Custom annotations, Annotations, **Proxy** (which is currently selected), Search, DCAT-AP_IT, and Data Browser. The main panel contains configuration fields for the selected 'Proxy' tab. The fields include:

- Enabled: A checked checkbox.
- * Address: An input field.
- * Port: An input field.
- Username: An input field.
- Password: An input field.

A 'Save' button is located at the bottom left of the main panel.

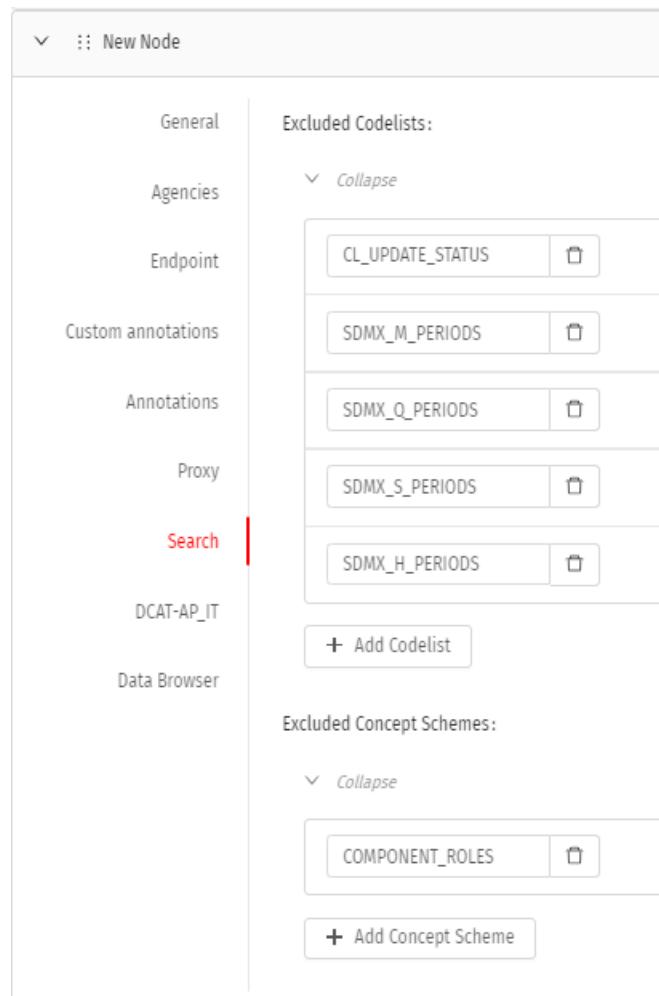
Search

This section allows the user to define the Search mode for the Node excluding Code Lists and Concept Schemes, set with Identifier, by means of the relative buttons **Add Code List** and **Add Concept Scheme**.

This function allows the Super User to insert an additional Code in the exclusion lists.

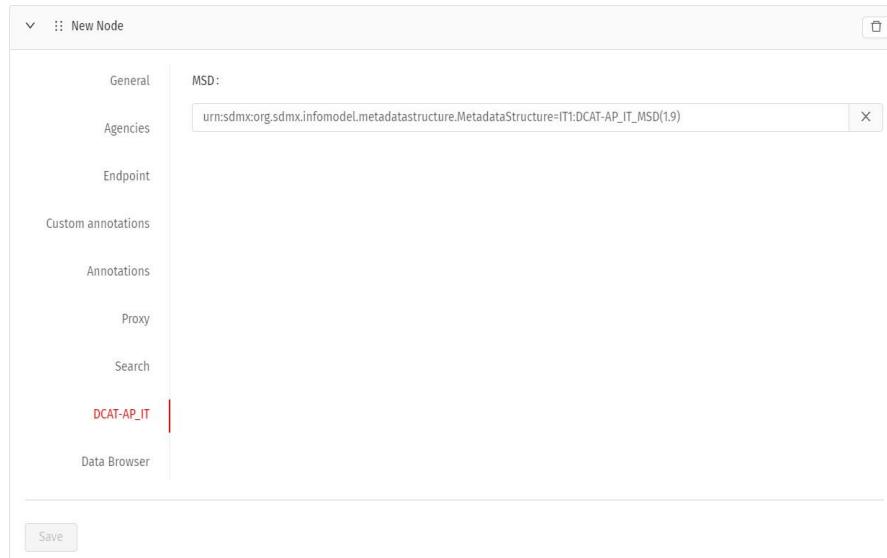
Alternatively a Code in exclusion can be deleted by means of the delete function represented by a trash can icon.

The SuperUser, after setting the information he needs, saves the configuration by clicking the Save button.



DCAT-AP_IT

The DCAT-AP_IT section allows the user to define the URN parameters for the MSD, the SuperUser can choose, through a drop-down menu, which is the suitable MSD and saves the choice through the Save button.



Data Browser

The Data Browser section allows the user to define the parameters related to the Data Browser platform to which the user can connect to:

- view the dataflows published (by clicking in the section ‘Data Manager’ - ‘Dataflow Builder’);
- allow the cleaning of the catalogue cache (by clicking in the section ‘Data Manager’ - ‘Update Data Browser Cache’);
- allow the cleaning of the dataflow cache at the moment of its publication in the section ‘Data Manager’ - ‘Dataflow builder’ .

In this section the user enters the Data Browser url (used to view the data), the ID of the node to manage and, if cache management is wanted, the user checks, the box ‘Allow cache refresh’ by entering also URL of the Data Browser API, authentication credentials of the node on the Data Browser, any credentials for authentication http or any proxy.

6.3 User and permission management

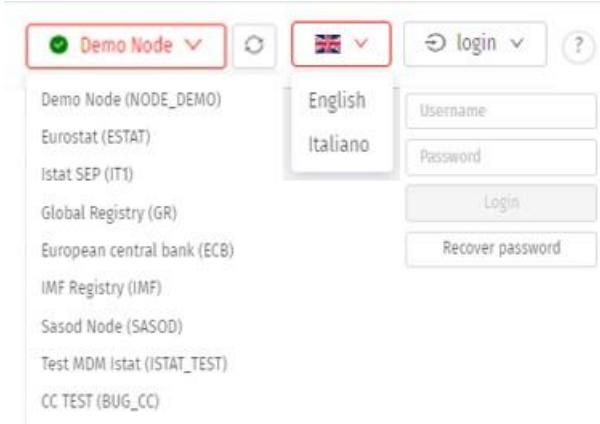
- *Login and User Types*
- *Creating a new user*
- *Creating an administrator user*
- *Creating a user dedicated to the Structural Metadata*
- *Creating a user dedicated to Data Upload*
- *Creating a user dedicated to Referential Metadata*

6.3.1 Login and User Types

Login

In order to access the application functions in read and write mode, the profiled user (administrator and/or user of the node) must choose the node for which he is profiled, the desired language and log in.

Selecting the **Login** button, located in the top right-hand corner of the *Welcome Mask*, the System asks the user to enter his username and password in order to login.

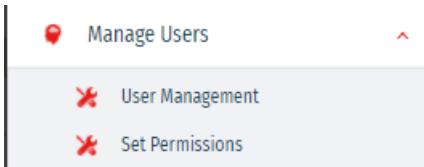


To access the application functions there are different **types of user**:

- **SUPERUSER**
User dedicated to the System initialisation, to Application Configuration management(e.g. connections to nodes) and to the definition of other super-users.
- **ADMINISTRATOR** User dedicated to the complete management of the Suite at node level.
If the administrator user has been set as user manager, he can also define new users (also administrators) and manage the users at single node level.
- **USER** Accesses the System through login (user and password).
Has read and write permissions to manage Artifacts relative to the Agency for which he has been profiled by the System Administrator at node level.
- **ANONYMOUS USER** Accesses the System without logging in and therefore no credentials are provided for this user.
It has only read permissions on the SDMX Artifacts for the various nodes with the possibility of downloading Artifacts in the Meta Manager.
It can perform read-only access (search and display) to DCAT modules.
Does not have access by default to the Data Manager application.

6.3.2 Creating a new user

For user management there is a function that can be activated from the menu on the left-hand side by the administrator user (admin) of the node once the login has been carried out.



Selecting the item User Management the list of users present in the system, if they exist, will be shown.

User Management		
Username	Email	
admin	admin@gmail.com	+ Create User
user1	user1@gmail.com	
utente1	utente1@mail.it	

The list of Users defined in the system provides a tabular representation and special features for each list item.

The table shows the columns:

1. **Username** with the user key

2. **E-mail** with the e-mail address associated with the user. For each element of the list there are management functions that can be displayed by positioning the mouse on the element itself.

The functions available to the Administrator are:

- *View/Edit* to access the detail screen
- *Delete* to delete a user

The list of users, if no users have been defined in the system, may be empty.

In this case the SuperUser must create an Administrator user.

Selecting the **Create User** button the form for the acquisition will be opened:

The form is titled "Create User". It contains four input fields with red asterisks indicating they are mandatory:

- * Username: A text input field.
- * Password: A text input field.
- * Confirm password: A text input field.
- * Email: A text input field.

At the bottom are two buttons: "Cancel" and "Save".

Mandatory fields are those provided for editing:

- *Username* for setting the user name (e.g.: Mario Rossi)
- *Password* for setting the password (e.g. pa\$\$word)
- *Password* to confirm the user password (e.g. pa\$\$word)
- *E-mail* to set the user's e-mail address (e.g. mariorossi@gmail.com).

At the end of the compilation, to confirm the creation of the new user, the Administrator must click on the Save button; alternatively click on the Cancel button to cancel the operation and not create the user.

The Save function closes the new user insertion mask and returns to the list of users updated with the new element created.

6.3.3 Creating an administrator user

Once the *Login* has been carried out, the Administrator is able to create a *new user* and then profile it.

To profile the new user the Administrator selects the side menu item “Set Permissions”.

The following screen is displayed:

Username	Email
admin	admin@gmail.com
antonia	a.palermo@sister.it
f.pitto	f@m
federica	f.sbrana@sister.it
Mario Rossi	m.rossi@libero.it
sgabbani	s.gabbani@sister.it

The Administrator has to position the mouse on the user's line (e.g. “Mario Rossi”) until he intercepts the “View/Edit” icon and press the left mouse button.

The System displays the user's details, in the mask there are buttons that allow the explosion or compression of the folder representation for the main applications (Data Manager, Meta Manager, etc.).

Set permissions - [Mario Rossi]

Functionality Rules Agencies Cubes

Search...

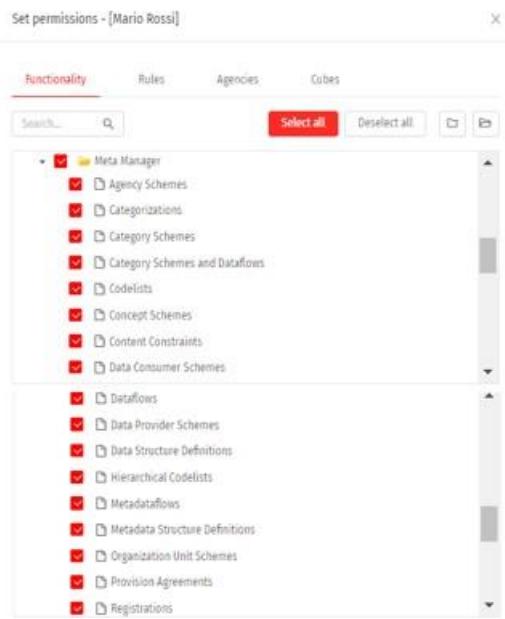
Select all Deselect all

Nodes count: 47

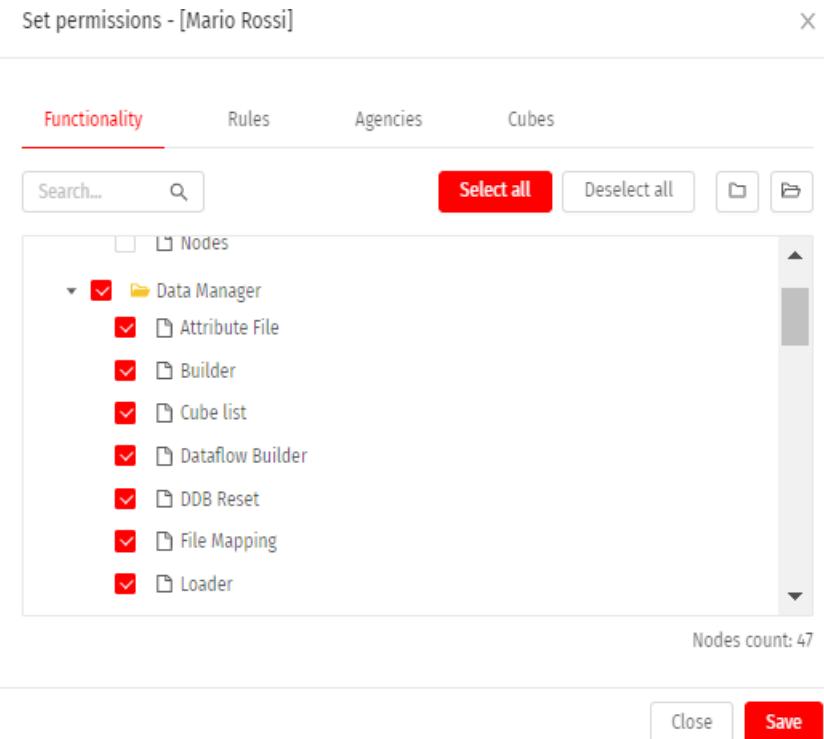
Close Save

- Meta Manager**
 - Agency Schemes
 - Categorizations
 - Category Schemes
 - Category Schemes and Dataflows
 - Codelists
 - Concept Schemes
 - Content Constraints
 - Data Consumer Schemes

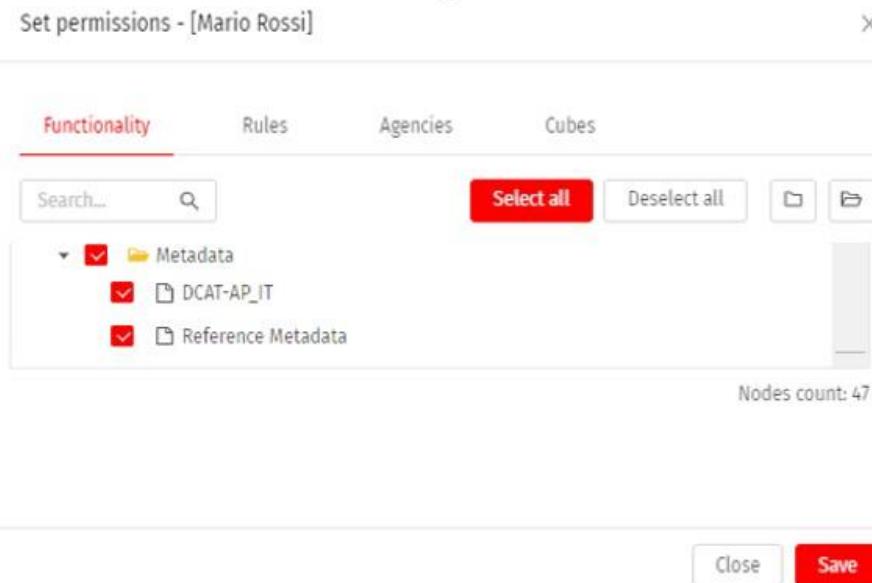
The Administrator who wants to profile the user as an administrator will select the checks with the Meta Manager functionalities as shown in the following figure:



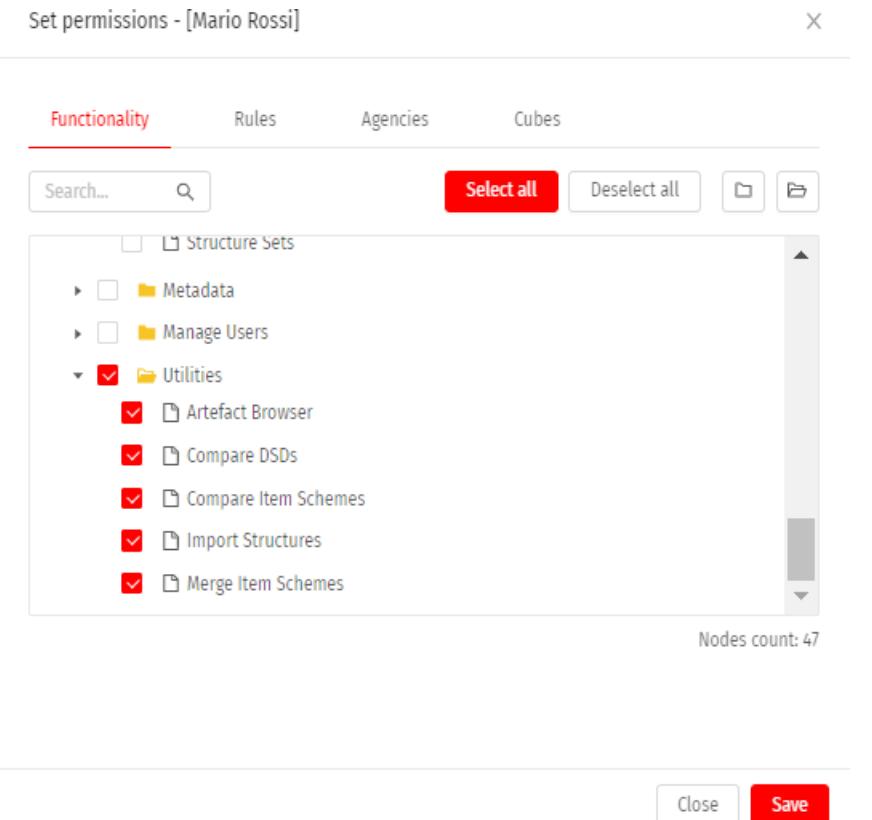
then similarly will select the functionalities of the Data Manager as shown in the following figure:



and moreover will select the Metadata functionalities as shown in the following figure:



and then will enable the user to use the tools useful for artifact management:



It is also possible to give permissions on user management, although it is advisable to have a single administrator user with user management functions for each node.

The “Rules” tab contains the list of actions that can be done on objects by the user.

Selecting the “Select All” button allows User Mario Rossi to perform all the functions

of creation, update, deletion, import, download, display for the whole Suite as Node Administrator.

In the “Agencies” tab, the Administrator can select the Agencies that will be visible to the user when processing an Artifact.

To profile a new administrator user it will be necessary to select them all.

Finally, in the “Cubes” tab, the Administrator can select the cubes or the categories of cubes on which the user can work.

To profile a new administrator user it will be necessary to select all the categories.

6.3.4 Creating a user dedicated to the Structural Metadata

Once the *Login* is done, the Administrator is able to create a *new user* and then profile it.

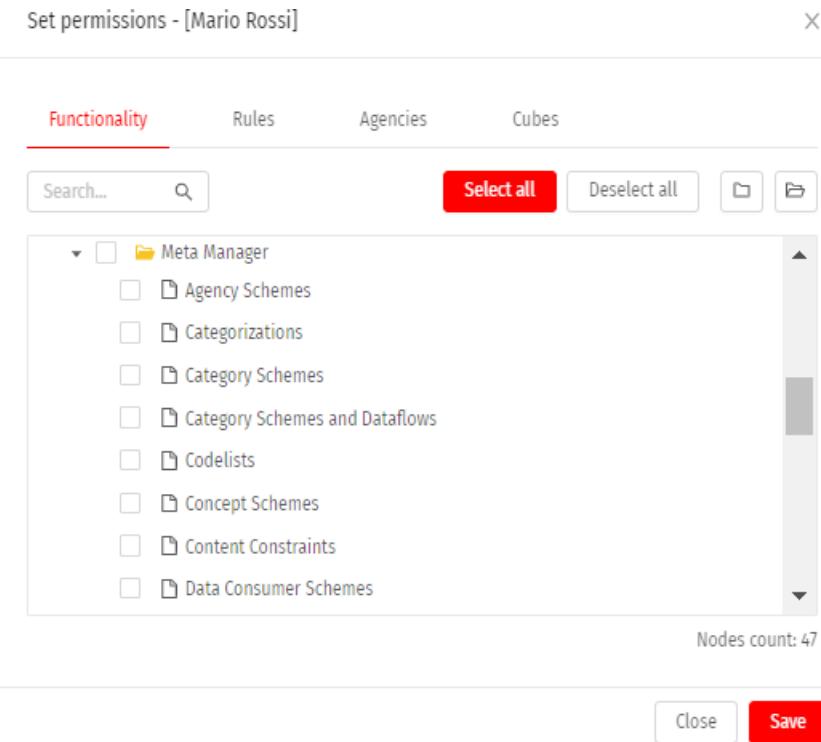
To profile the new user the Administrator selects the side menu item “Set Permissions”.

The following screen is displayed:

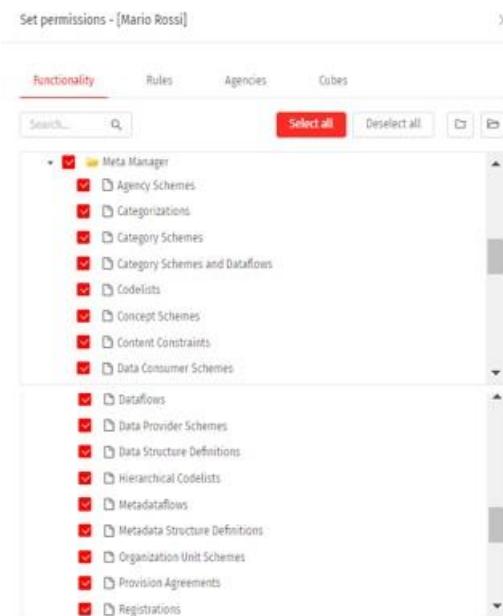
Username	Email
admin	admin@gmail.com
antonia	a.palermo@sister.it
fpitto	f@m
federica	f.brana@sister.it
Mario Rossi	m.rossi@libero.it
s.gabbani	s.gabbani@sister.it

The Administrator has to position the mouse on the user’s line (e.g. “Mario Rossi”) until he intercepts the “View/Edit” icon and press the left mouse button.

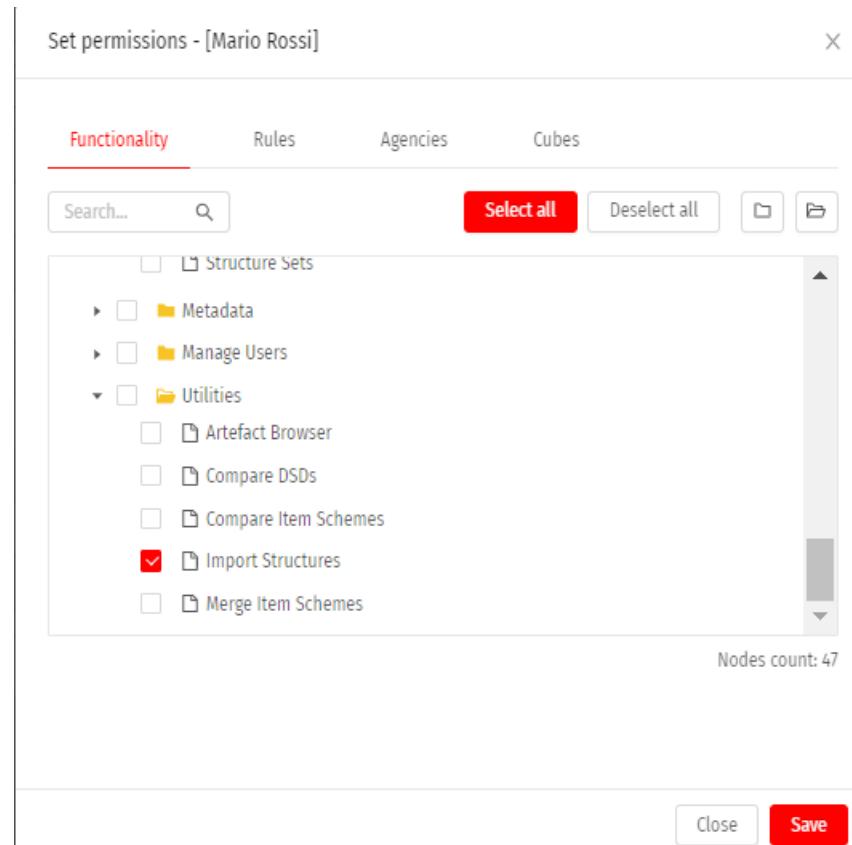
The System displays the user’s details, in the mask there are buttons that allow the explosion or compression of the folder representation for the main applications (Data Manager, Meta Manager, etc.).



The Administrator who wants to profile the user as dedicated to Structural Metadata only will select the checks with the Meta Manager functionalities as shown in the following figure:



and then will enable the user to use the tools for managing the artefacts:



The “Rules” tab contains the list of actions that can be done on objects by the user.

Selecting the “Select All” button and unchecking “AdminRole” allows the user Mario Rossi to perform create, update, delete, import, download, view functions for the Meta Manager application without being a System Administrator.

In the “Agencies” tab, the Administrator can select the Agencies to set those that will be managed by the user when processing an Artifact.

The selection of some Agencies means that in the General Data management mask of an Artifact, only the Agencies assigned to the user are present.

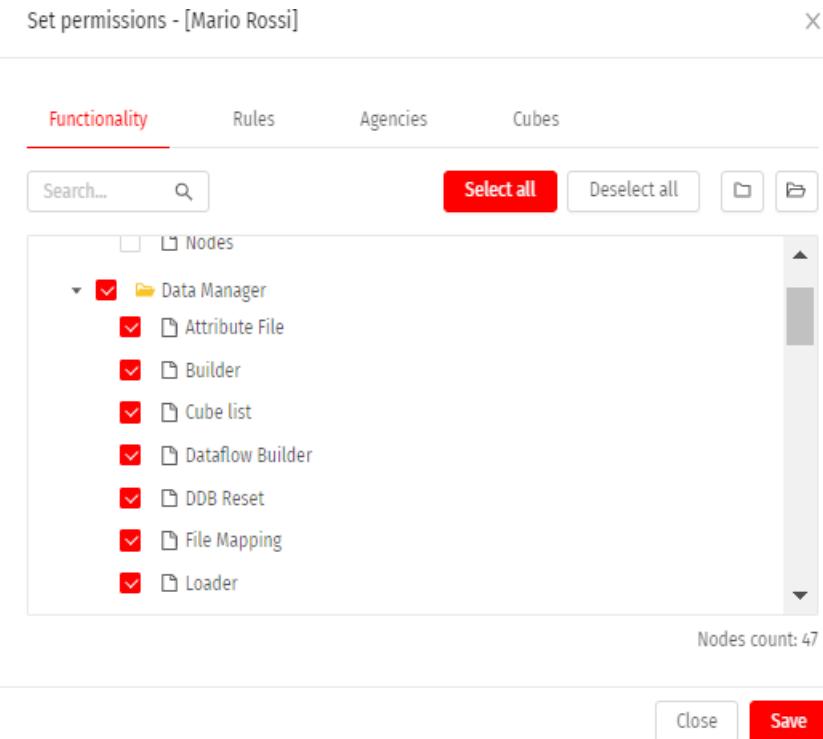
6.3.5 Creating a user dedicated to Data Upload

Once the [Login](#) has been carried out, the Administrator is able to create a [new user](#) and then profile it.

To profile the new user the Administrator selects the side menu item “Set Permissions”. The following screen is displayed:

The Administrator must position the mouse on the user's line (e.g. "Mario Rossi") until it intercepts the "View/Edit" icon and press the left mouse button.
 The System displays the user's details, in the mask there are buttons that allow the explosion or compression of the folder representation for the main applications (Data Manager, Meta Manager, etc.).

The Administrator who wants to profile the user as dedicated to loading data only will select the checkboxes with the Data Manager functions as shown in the following figure:



The “Rules” tab contains the list of actions that can be done on objects by the user.

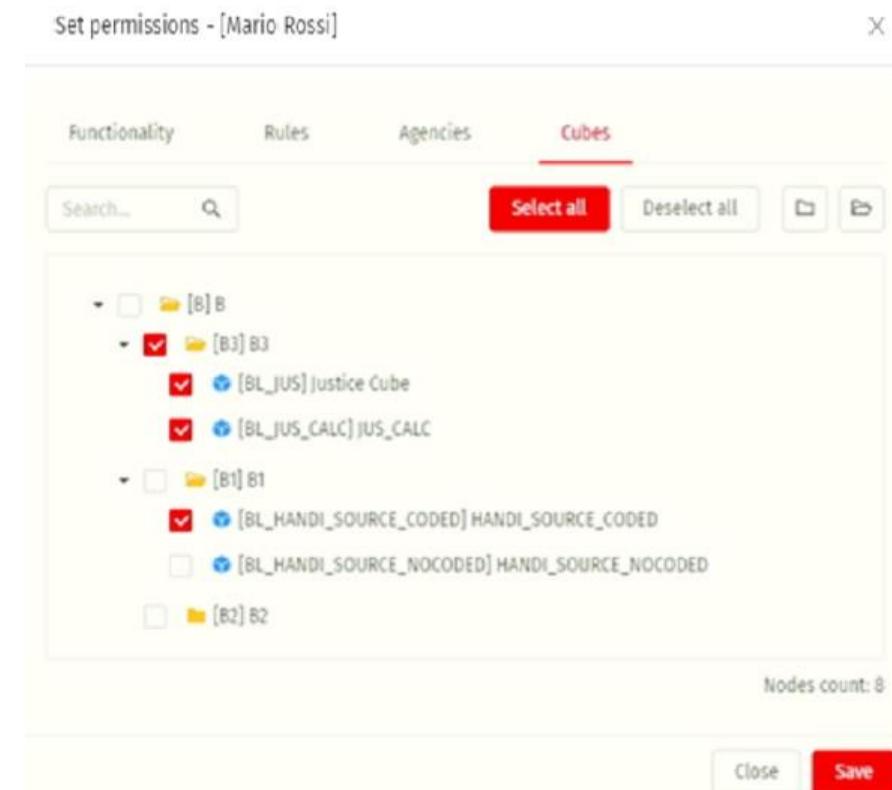
Selecting the “Select All” button and unchecking “AdminRole” allows the user Mario Rossi to perform create, update, delete, import, download, view functions for the Meta Manager application without being a System Administrator.

In the “Agencies” tab, the Administrator can select the Agencies that will be managed by the user when processing an Artifact.

The selection of some Agencies means that in the General Data management mask of an Artifact, only the Agencies assigned to the user are present.

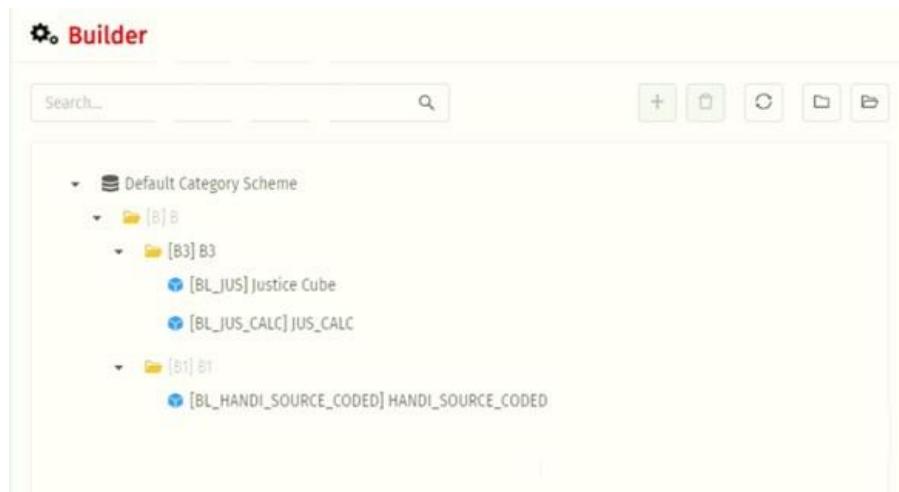
Finally, in the “Cubes” tab, the Administrator can select the cubes or the categories of cubes on which the user can work.

Choosing a category will allow the user to work with all the cubes that are or will be part of that category.



When displayed in the Builder, any folders required to reconstruct the top hierarchy of an object on which the user has permission or categories within which cubes on which the user has permission are categorised will be shown in grey.

By default, cubes that the user cannot work with and categories that the user is not allowed to work with (containing only cubes that the user must not work with) will not be visible.

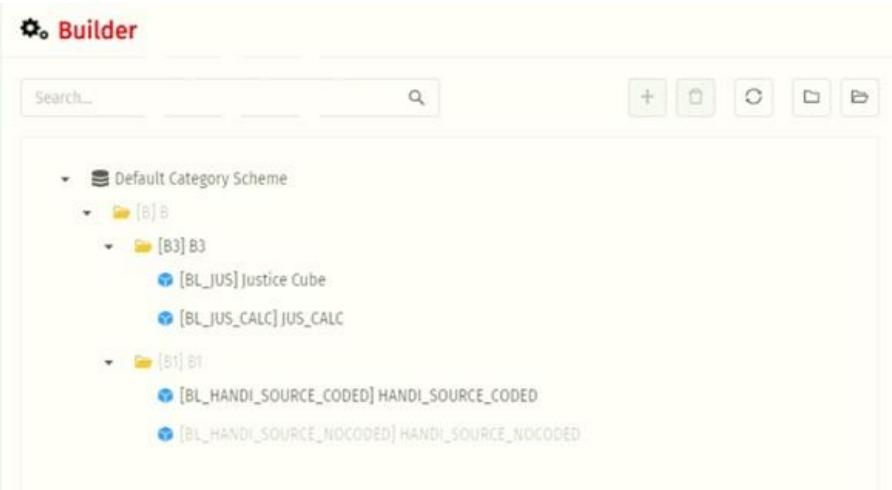


This is a mode that can be changed in the General section of the node configuration.

INSTALLATION TEST

General	* ID:	INSTALLATION_TEST
Agencies	* Name:	INSTALLATION TEST
Endpoint	INSTALLATION TEST	
Custom annotations	* Default items view mode.	Table
Annotations	Show unallowed nodes in Builder:	<input checked="" type="checkbox"/>
Proxy	Hidden:	
Search		

By changing the default option then:



Note

A user with AdminRole permission will not be able to see the category cubes on which he does not have permission but will always see the complete category hierarchy, with nothing greyed out.

This is to allow anyway to manage the Builder's Category Scheme by adding/removing child categories.

On categories on which the user with AdminRole has no permissions, the 'Create cube' option will be disabled.

6.3.6 Creating a user dedicated to Referential Metadata

Once the *Login* is done, the Administrator is able to create a *new user* and then profile it.

To profile the new user the Administrator selects the side menu item “Set Permissions”.

The following screen is displayed:

Username	Email
admin	admin@gmail.com
antonia	a.palermo@sister.it
fjotto	f@im
federica	f.sbrana@sister.it
Mario Rossi	m.rossi@libero.it
s.gabbani	s.gabbani@sister.it

The Administrator has to position the mouse on the user's line (e.g. "Mario Rossi") until he intercepts the "View/Edit" icon and left click on it.

The System displays the user's details; in the mask there are buttons that allow the explosion or compression of the folder representation for the main applications (Data Manager, Meta Manager, etc.).

Set permissions - [Mario Rossi]

Functionality Rules Agencies Cubes

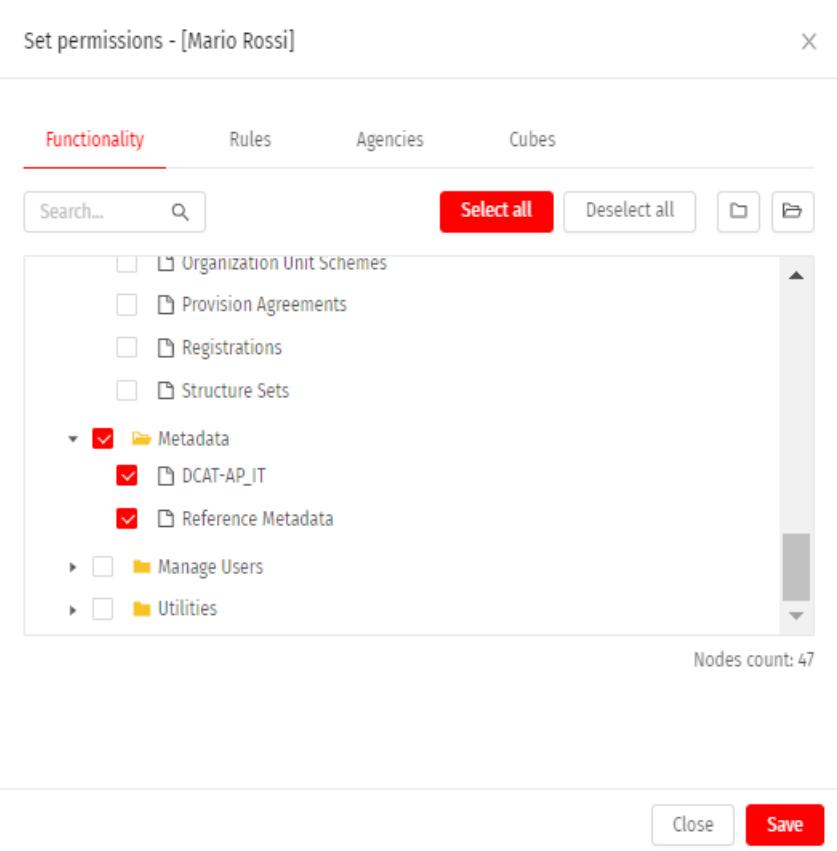
Search...

Select all Deselect all

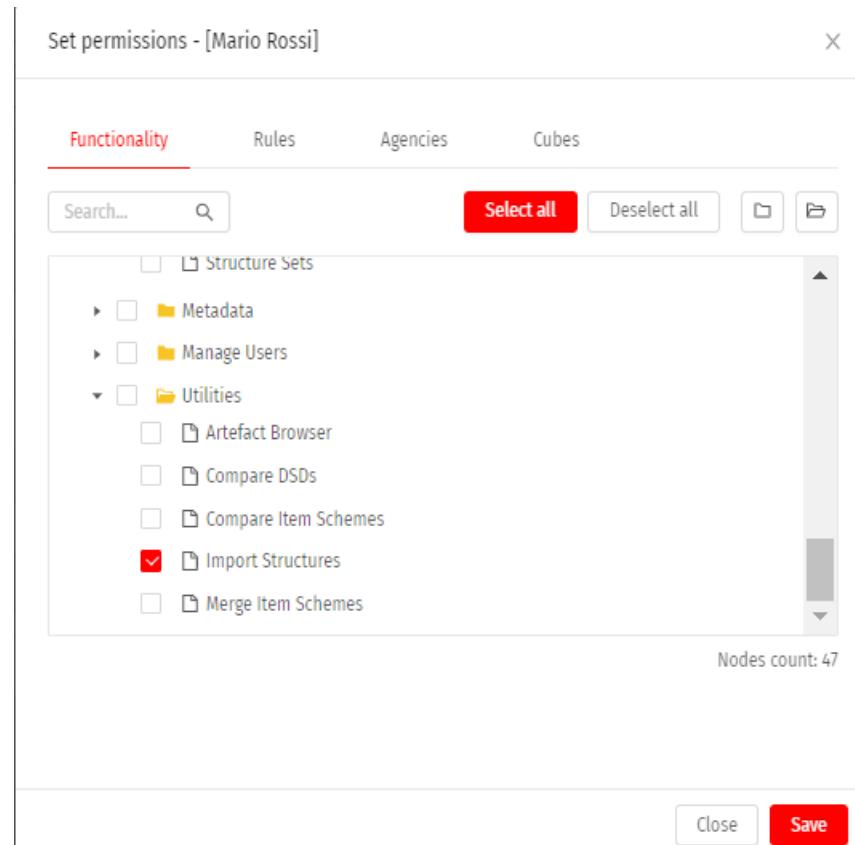
- ▼ Meta Manager
 - Agency Schemes
 - Categorizations
 - Category Schemes
 - Category Schemes and Dataflows
 - Codelists
 - Concept Schemes
 - Content Constraints
 - Data Consumer Schemes

Nodes count: 47

The Administrator who wants to profile the user as dedicated to Referential Metadata will only select the checkboxes of some Meta Manager functionalities and all the Metadata functionalities as shown in the following figure:



and then will enable the user to use the ‘Import Structures’ tool:



The “Rules” tab contains the list of actions that can be done on objects by the user.

Selecting the “Select All” button and unchecking “AdminRole” allows the user Mario Rossi to perform create, update, delete, import, download, view functions for the Meta Manager application without being a System Administrator.

In the “Agencies” tab, the Administrator can select the Agencies that will be managed by the user when processing an Artifact.

The selection of some Agencies means that in the General Data management mask of an Artifact, only the Agencies assigned to the user are present.

**CHAPTER
SEVEN**

METAMANAGER

Complete management module for SDMX structural metadata (Codelist, Concept Schemes, Category Scheme, Data Streams, DSD, etc.), i.e. how SDMX artefacts, depending on user's profiling, can be created, updated, archived, cloned and deleted.

7.1 Artefact Management

The Meta Manager application is aimed at browsing and managing Structural Metadata according to the SDMX standard.

The main functions are related to the creation and modification, search, navigation, display, import, download of Structural Metadata, called **Artefacts**, through connection to a specific Node.

The **Id**, **agency** and **version** are the three elements identifying an SDMX **Artifact**, independently from the type of artefact we are dealing with.

The **Id** is the identification code of the Artefact.

Agency is the name of the organization that is the creator and/or owner of the Artefact.

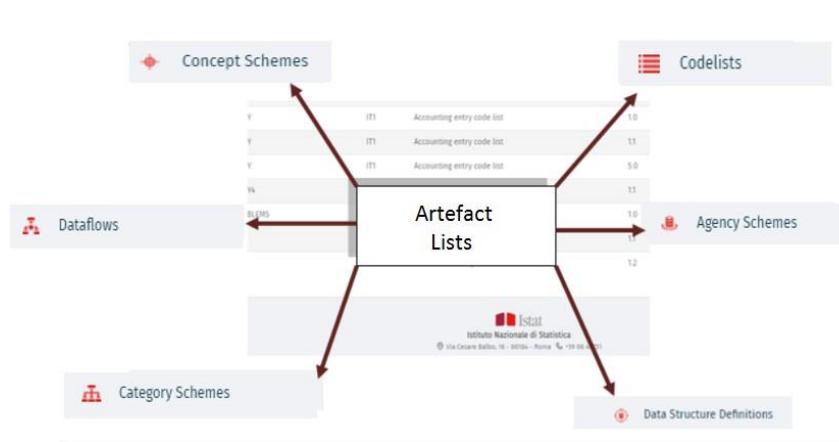
Version gives the version of the Artefact.

As they are defined and to favour the usability of the Suite, it has been chosen to standardise some functionalities common to several artefacts:

- *Artifact Lists*
- *Search an existing Artefact*
- *Creating a new Artefact*
- *Edit, duplicate and delete an existing Artefact*
- *Import an Artefact*
- *Item Management - Upload CSV file*
- *Download or export an Artefact*
- *Annotations*
- *Sorting Management*

7.1.1 Artefact Lists

From the MetaManager menu, you can select the lists of available artefacts:



The list accessed by selecting an artefact always has the same characteristics. The lists of artefacts (one for each type of artefact) have a tabular (grid) representation that allows the sorting of elements, the single or multiple selection and the ability to activate elementary functions.

ID	Ag.	Name	Vers.	Final
C_UNIT_MEASURE	ITI	Unit measure very longing description bla blaammasmasmasmasmas asiklsahsalasalsa	2.0	✓
CL_ABITAZ_TITGOO	ITI	Tenure status	1.1	✓
CL_ACCOUNT_ENTRY	IMF	Accounting entry code list	1.0	
CL_ACCOUNT_ENTRY	IMF	Accounting entry code list	1.1	
CL_ACCOUNTS_ITEM	IMF	Item classification code list	1.0	
CL_ACTIVITY	ESTAT	Industrial activity code list	1.4	✓
FI_ACTIVITY	ITI	Economic activity	1.0	✓

from 1 to 8 of 339 rows

The rows of the list, in “grid” representation, show the list of artefacts while the columns show fields values identifiable through labels inserted in the header of the table.

For each record there are the columns identifying the artefact (ID, Agency, Version and Name) as well as the indication of the finalisation status of the artefact itself.

The system sets a default alphabetical sorting starting from the artefact ID with the possibility to reorder the table according to the sorting buttons provided at column level, the arrows placed next to the column name, in fact, they allow the user to change the sorting from ascending to descending and vice versa.

7.1.2 Search an existing Artefact

The search function is necessary for the management of Artefact lists with a high number of elements.

Once the desired *list of artefacts* has been chosen, the search for an artefact in the list can be done in two ways:

ID	Name	Agency	Version	Final
CL_ABITAZ_TIRGOO	Tenure status	IMF	1.1	✓
CL_ACCOUNT_ENTRY	Accounting entry		1.0	
CL_ACCOUNT_ENTRY	Accounting entry code list	IMF	1.1	
CL_ACCOUNT_ENTRY	Accounting entry code list	IMF	1.2	✓
CL_ACCOUNTS_ITEM	Item classification code list	IMF	1.0	
CL_ACTIVITY	Industrial activity code list	ESTAT	1.4	✓
CL_ACTIVITY	Economic activity	ITI	1.0	✓

- using the centralised mode within the mask: the function is present in the masks of the Artefacts list management and is represented by an editable field that applies, already in the typing phase, in dynamic mode, the result of the search on the Artefacts list.

- at column level, activating the provided search filters.

For the columns Agency, Version and Final, the filter shows the list of possible values.

For the ID and Name columns the filter allows the user to edit a subset of characters to apply the selection to the Artifacts.

Once the filter value(s) has been chosen, where applicable, select the Apply function to make the selection valid.

The coloured filter symbol indicates that a filter is active.

To remove it, select the filter and then select Reset.



7.1.3 Creating a new Artefact

Once the *list of artefacts* desired has been chosen, to create a new Artefact, the user must select the **New** button in the top right corner.

Regardless of the chosen Artifact type, the management mask of the *General Data* of the Artifact will be opened.

The screenshot shows a 'New' management mask for creating a new Artefact. At the top right is a language selector set to 'English'. Below it are several input fields: 'ID' (mandatory), 'Agency' (mandatory dropdown), 'Version' (mandatory numeric), 'Finalized' (checkbox), 'URI' and 'URN' (text fields), and date pickers for 'Valid from' and 'Valid to'. Below these is a section for 'Name' and 'Description'. At the bottom is a 'Annotations' panel with a 'General' tab selected, showing 'No data to display'. A 'Custom Annotations' tab is also present. At the very bottom are 'Close' and 'Save' buttons.

Once the user has filled in the fields of the mask, the System verifies the presence of the compulsory data and the correctness of the data entered while setting them.

Only after completion of the minimum and mandatory information, the System activates the save function using the **Save** button.

Section “General”

Independently from the chosen artefact type, the “General” section of the artefact contains the following fields:

- **ID:** Mandatory alphanumeric field that follows the nomenclature constraints for some artefacts according to SDMX standard.
- **Agency:** Mandatory field which will contain the user’s choice from the list containing all the Agencies.
- **Version:** Mandatory numeric field with a standard 9.9.9 format.
- **Finalized:** Represented by a checkbox that allows the user to set the artefact as finalized.

Finalised artefacts are recognisable by the check mark in the ‘Final’ field. The behaviour of such artefacts depends on the version of the NsiWebService. If the System is connected to the NSI WS endpoint with a version prior to 6.12. modification is not allowed.

In case of connection to web services with version higher than 6.12, it is possible also for the finalised artefacts to modify the general and detailed textual information (e.g. Name and description of the artefact, name and

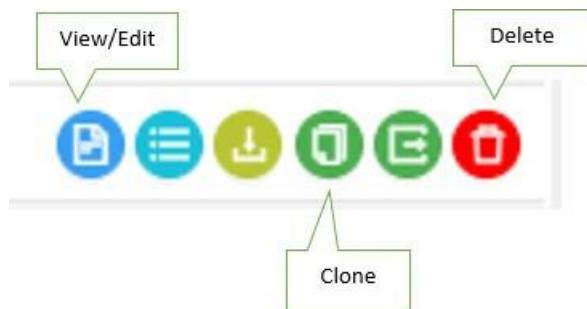
description of the single Items, Annotations at artefact and/or Item level, etc.) and the other general information as provided for by the SDMX ver. 2.1 standard (e.g. Valid from, Valid at, etc.).

Moreover, in case of connection to NsiWebService with version 6.14 or higher, it is possible to add new Items to finalised artefacts but it is not possible to delete them.

- **URI:** Optional alphabetical editable field.
- **URN:** Non-editable field. Automatically set by the System, it is presented in read-only format.
- **Start validity date:** Represented with editing field and calendar for date selection (day, month, year).
- **Final Validity Date:** Represented with editing field and calendar for date selection (day, month, year).
- **Language:** Mandatory field, allows the user to select the language for the insertion of the Name and the Description of the artefact.
It is possible to enter a different Name and Description for each selected language.
At least for one language the name must be entered.
- **Name:** Mandatory multilingual field, identifies the name of the artefact.
- **Description:** Multilingual field for the description of the artefact in multi-line format.
- **Annotations:** Both general and custom, available for all artefacts and Items.
This construct allows information to be added to the metadata.

7.1.4 Edit, duplicate and delete an existing Artefact

Once the *list of artefacts* has been chosen and the desired *search artefact* has been performed, the user has a series of functions at line level, according to his profiling.



If the user does not have permissions to perform a certain action, the icon is not displayed.

View/Edit

This button allows the user to view the Artifact Detail and update it if the user has write privileges.

Regardless of the type of artifact chosen, the data management mask *General* of the artifact will be opened.

In addition to the **General** tab, which is the same for all Artifacts, each Artifact will

show other sections that must be filled in/edited according to the peculiarity of the Artifact.

The screenshot shows the 'Edit Concept Scheme' dialog for the artifact 'AGRI_FISH_MSD_CONCEPTS'. The 'General' tab is active. Identification information is displayed in read-only fields: ID (AGRI_FISH_MSD_CONCEPTS), Agency (ESTAT - ESTAT), Version (1.5), Finalized (checked), URI (empty), and URN (urn:sdmx:org.sdmx.infomodel.conceptscheme.C). A description box contains text about the concepts being defined for Agriculture and Fishery statistics MSDs, mentioning unit E1 and various statistics like Landings of fishery products, Aquaculture statistics, Orchard survey, Crops Balance sheets, and EAA Quality Reports. The 'Annotations' tab is also visible at the bottom.

In the **General** tab, the identification information of the Artifact that should not be modified will be displayed in read-only format.

Duplicate

This button activates the function of duplication of an Artifact (it is present both at row level and in the various Artifact management masks).

The system opens a pop-up with the data of the source Artifact and of the destination Artifact:

- *Type* (mandatory, by default equal to the source type, not modifiable)
- *Id* (mandatory, the one of the Origin Artifact is proposed but can be modified)
- *Agency* (mandatory, the one of the Artifact of origin is proposed but can be modified)
- *Version* (mandatory, the version of the Artifact of origin is proposed increased but can be modified)

If the user considers the data correct, he can duplicate them using the Duplicate button

The dialog box is titled "Clone artifact". It has two main sections: "Source" and "Destination".

Source:

- * Type: DSD
- * ID: AGRI
- * Agency: IT1
- * Version: 1.1

Destination:

- * Type: DSD
- * ID: AGRI
- * Agency: IT1 - IT1
- * Version: 1.2

Buttons at the bottom: Close (grey), Clone (red).

Duplicating a finalized Artifact generates an unfinalized Artifact.

Delete

This button activates a pop-up message for user confirmation.

If the user wants to continue with item deletion he will select the confirmation button, otherwise he will select the cancel button.

② Are you sure you want to delete this Artefact?

Cancel OK

Following confirmation the System will display the list of Artifacts updated and sorted alphabetically according to the default sorting or to the sorting carried out by the user.

7.1.5 Import an Artefact

The **Import Structures** function is present in the left-hand side menu under “Tools” and also in the list of artefacts.

A table listing artifacts with columns: ID, Agency, Name, Vers., Final. A yellow circle highlights the "Import" button in the header row, and another highlights the "New" button.

ID	Agency	Name	Vers.	Final
C_UNIT_MEASURE	ITI	Unit measure very long description bla blamammasmasmasmasma adsalsalsalsalsalsa askisksalsalaskisa	2.0	✓
CL_ABITAZ_TITGO	ITI	Tenure status	1.1	✓
CL_ACCOUNT_ENTRY	IMF	Accounting entry code list	1.0	
CL_ACCOUNT_ENTRY	IMF	Accounting entry code list	1.1	

This function allows the user to import structures of SDMX-ML type into the system.



The user selects a file with data to load from *filesystem*.

During the upload function, activated by the selection of the **Load XML** button, the System checks the correct format of the file and the consistency of the information. In case of anomaly a blocking message is displayed to the user that will not allow the file to be uploaded.

Otherwise the list of artefacts to be uploaded is shown on screen. Those already present in the system cannot be selected.

Import Structures					
<input type="text" value="VARIAB_ALL_ITI_219-v21.it.xml"/> <input type="button" value="Upload XML"/> <input type="button" value="Rush"/>					
<input type="text" value="Search..."/> <input type="button" value="Q"/> <input checked="" type="checkbox" value="Imports"/>					
Type	ID	Ag.	Name	Vers.	Final
conceptscheme	VARIAB_ALL	ITI	All Variables - All Concepts	219	✓

The user can choose which artefacts to import by selecting the line.

By pressing the import button, import ooperation is done and the list of imported artefacts is shown.

Imported Artefacts	
codelist [CL_ACCOUNTS_ITEM+IMF+1.0] not final	Success ✓
codelist [CL_ACCOUNT_ENTRY+IMF+1.0] not final	Success ✓
codelist [CL_ADJUSTMENT+IMF+1.0] not final	Success ✓
codelist [CL_AREA+IMF+1.0] not final	Success ✓
codelist [CL_COMP_METHOD+IMF+1.0] not final	Success ✓
codelist [CL_CONF_STATUS+IMF+1.0] not final	Success ✓
codelist [CL_DECIMALS+IMF+1.0] not final	Success ✓
codelist [CL_FREQ+IMF+1.0] not final	Success ✓
codelist [CL_FSENTRY+IMF+1.0] not final	Success ✓
codelist [CL_FUNCTIONAL_CAT+IMF+1.0] not final	Success ✓
codelist [CL_INSTR_ASSET+IMF+1.0] not final	Success ✓
codelist [CL_MATURITY+IMF+1.0] not final	Success ✓

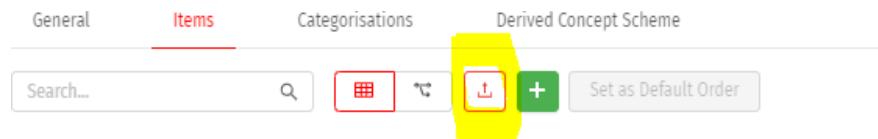
7.1.6 Item Management - Upload CSV file

For artefacts **Concept Schemes**, **Code Lists** and **Category Schemes** it is possible to import new Items from CSV files.

The following example concerns the loading of Items from a Code List.

The technique can also be extended to Concept Schemes and Category Schemes.

From the Item tab the user has to select the Load csv file button.



The system opens a pop-up dialogue window in which the user sets the data required to load the CSV file from the filesystem.

The upload mask contains checks to ensure that the file is imported correctly.

* File:	<input type="file"/>	* Language:	<input type="button" value="▼"/>
* Separator:	<input type="text" value=";"/>	Delimiter:	<input type="text"/>
Has header: <input checked="" type="checkbox"/>			
CSV columns ID: <input checked="" type="checkbox"/> Name: <input checked="" type="checkbox"/> Description: <input checked="" type="checkbox"/> ParentCode: <input checked="" type="checkbox"/> Order: <input checked="" type="checkbox"/> FullName: <input type="checkbox"/> IsDefault: <input type="checkbox"/>			
<input type="button" value="Upload file"/> <input type="button" value="Import Items"/>			

The user selects the csv file and completes the insertion of the required data, setting all the information that corresponds to the content of the file itself in order to avoid errors during import phase.

When the required data has been entered, the **Upload CSV** button becomes active.

Import Items from CSV

* File: CL_STELLE+IT1+1.0_IT.csv * Language: English

* Separator: ; Delimiter: , Has header: ✓

CSV columns

ID: ✓ Name: ✓ Description: ✓ ParentCode: ✓ Order: ✓ FullName: IsDefault:

Upload file

Selecting the **Load CSV** button, the System checks the settings and if it does not find a match, it raises an application exception with an error message; otherwise, if it does find a match, the contents of the Code List is previewed in a synthetic table format with a subset of elements.

User can choose to preview the complete contents of the file by selecting the **Full Preview** button or he can select the **Import Items** button to perform the Items import. At the end of the operation, the system notifies the successful import, closes the pop-up dialogue window and updates the list of Items in the Items section of the artefact.

7.1.7 Download or export an Artefact

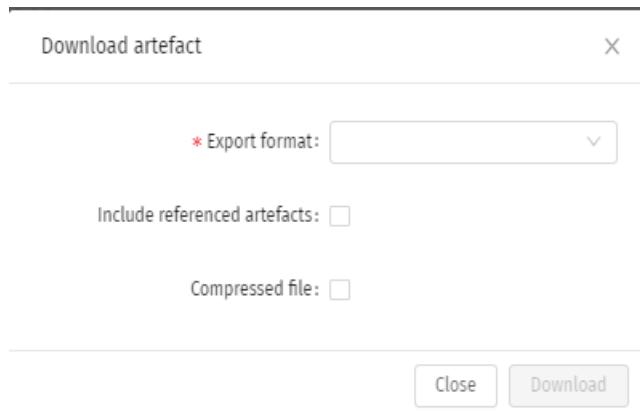


DOWNLOAD

The Download function is provided for all artefact types.

It is a centralised function that allows the user to download an artefact to file in a specific output format.

The function is activated through a button in the artefact List mask on each single row or from the single artefacts details.



The system opens a pop-up window where necessary data for downloading the selected artefact is set.

The user chooses the **export format** from a list.

The possible output formats are:

- SDMX-ML 2.1
- SDMX-ML 2.0
- CSV
- JSON
- RDF
- RTF

but depending on the type of artefact selected they may not all be available.

The user can download one or more artefacts in compressed format by selecting the **Compressed file** flag (the flag is preset not selected) and depending on the type of artefact it is possible to choose also the referenced artefacts by using the **Include referenced artefacts** flag (the flag is preset not selected).

If the user chooses the **CSV** export format, the System opens a form to request further information.

The fields required by the form are:

- Language (mandatory)
- Separator (mandatory, default is ';')
- Delimiter (optional)

The system checks that at least the mandatory information has been entered and activates the Download button.

EXPORT TO ANOTHER WS

The function is activated through the button present in the mask of artefacts list on each single line or from the detail of the single artefacts.

The system opens a pop-up window with the data of the source and destination artefacts:

- Node (mandatory)
- Username (required)
- Password (mandatory)
- Type (mandatory, by default the same as the source type, not modifiable)

- Id (mandatory, the one of the source Artefact is proposed but can be modified)
- Agency (mandatory, the one of the source artefact is proposed but can be modified)
- Version (mandatory, the version of the source artefact is proposed increased but can be modified)

The screenshot shows a modal dialog titled "Export artefact". It is divided into two main sections: "Source" and "Target".

Source Section:

- * Type: Codelist
- * ID: C_UNIT_MEASURE
- * Agency: IT1 - IT1
- * Version: 2.0

Target Section:

- * Node: (dropdown menu)
- * Username: (text input)
- * Password: (text input)
- * Type: Codelist
- * ID: C_UNIT_MEASURE
- * Agency: IT1 - IT1
- * Version: 2.0

At the bottom right of the dialog are two buttons: "Close" and "Export".

If the user considers that the data is correct, he can export it with the Export button.

7.1.8 Annotations

Annotations are available for all artefacts and items within artefacts.

This construct allows information to be added to metadata.

Individual organisations are free to use them in any way and with any combination as desired, using the field Type as “key” to the type of Annotation.

They can be divided into three major groups:

- **General:**

They are not configured, their presence is not displayed in the List of artefacts and/or List of Items, but to see them and/or insert them the user must access the detail of the artefact or item. During insertion the user must fill in the following items to comply with the sdmx standard:

- id (mandatory)
- title (not mandatory)
- type (mandatory)

- text (not mandatory)

The screenshot shows a 'General' tab for annotations. It has input fields for 'ID', 'Title', 'Type', and 'Text'. Below the 'Text' field is a small icon.

The insertion of these annotations presupposes the existence, outside the Suite, of an application (Data Viewer) capable of interpreting these annotations, with their specific TYPE, according to the needs of the user who inserted them.

- **Custom:**

These Annotations are configured at Node level and allow the operator to acquire a collection of different Annotations in a more complex form.

This type of Annotation, for example, can be used to group together annotations already defined for some specific purpose in order to guide the user in their compilation.

The screenshot shows a 'Custom Annotations' tab. It has input fields for 'Processing type' and 'Approximation type'. Below each field is a small icon.

- **Working:**

This type of annotations are used internally by the system, such as those that define the order of items (e.g. in a codelist).

Others, e.g. some of those defined by OECD, are used to give indications on the presentation layout of the tabular display of data in an external viewer.

The screenshot shows a 'Default table layout' tab. It includes sections for 'Filters' (with 'FREQ'), 'Row sections' (with 'TIME_PERIOD'), 'Rows' (with 'ITTER107' and 'TIPO_ISTITUZIONI'), and 'Columns' (with 'INDICATORI'). To the right is a preview area for 'Data Browser' and 'Data Explorer' showing a table structure with columns for 'INDICATORI', 'TIPO_ISTITUZIONI', and three empty columns labeled 'XXX'. At the bottom are 'Close' and 'Save' buttons.

As shown in the above example figure we are not explicitly giving annotation types,

it is the System that interprets the (layout) choices made by the operator and adds them to the artefact involved:

Layout annotations: DF_SERE+IT1+I.0			
ID	Title	Type	Text
LAYOUT_ROW	TIME_PERIOD	LAYOUT_ROW	
LAYOUT_COLUMN	MARKET	LAYOUT_COLUMN	
LAYOUT_ROW_SECTION	FREQ,REF_AREA,ADJUSTMENT,INDICATOR ,ACTIVITY,BASE_PER	LAYOUT_ROW_SECTION	

the correct annotations among those predefined by the SuperUser at the level of this Node during configuration.

Layout annotations

* Table layout row:
LAYOUT_ROW

* Table layout column:
LAYOUT_COLUMN

* Table layout filter:
LAYOUT_FILTER

* Table layout row section:
LAYOUT_ROW_SECTION

* Chart layout primary dimension:
LAYOUTCHARTPRIMARYDIM

* Chart layout secondary dimension:
LAYOUTCHARTSECONDARYDIM

* Chart layout filter:
LAYOUTCHARTFILTER

* Keywords:
KEYWORDS

* Criteria selection:
CRITERIA_SELECTION

* Attached data files:
ATTACHED_DATA_FILES

NOTE

Unlike **General** annotations which are not visible in the artefact lists, **Custom** and **Work** annotations defined for an artefact are shown in the artefact list management mask at row level, with white symbol for Custom Annotation and orange symbol for

OECD type annotation:



7.1.9 Sorting management

The ORDER annotation (which can be properly configured) is used for managing the sorting of Code Lists, Concept Schemes and Category Schemes, and is multilingual. However, to optimise performance, the software behaves as follows:

- the annotation is not added for non-final artefacts, where the order in which the items are returned by the ws (i.e. the order in which they are stored in the database) will be used. For this reason, the order for non-final artefacts will coincide with the order of the language in which it was last modified and it will not be possible to differentiate it for different languages.
- for final artefacts, the ORDER annotation will only be added when the current sort is changed
- the order annotation in a given language will only be added when the order in that language is changed.
- when the ORDER annotation is added for a language it will be added for all items in the related itemscheme.

7.2 Artefacts in detail

Each artefact has its own peculiarities according to its type, let's see which ones.

- *Concepts Schema*
- *Code List*
- *Data Structure Definitions*
- *Dataflows*
- *Category Schema*
- *Categorizations*
- *Hierarchical Code Lists*
- *Agency Schema*
- *Data Provier Schemes*

- *Data Consumer Schemes*
- *Organization Unit Schemes*
- *Content Constraints*
- *Structure Sets*
- *Provision Agreements*
- *Registrations*
- *Category Sets and Dataflows*
- *Metadata Structure Definitions*
- *Metadataflows*

7.2.1 Concept Schemes

Selecting **Concept Schemes** from the “Meta Manager” module, the application displays the list of Concept Schemes of the Node similarly to the lists of all artefacts present, as explained in [artefact list](#).

Selecting an item in the list with the mouse and pressing the View/Edit button, the system displays the Detail mask.

Edit Concept Scheme - [AGRI_FISH_MSD_CONCEPTS]

English X

General Items Categorisations Derived Concept Scheme

ID: AGRI_FISH_MSD_CONCEPTS Agency: ESTAT - ESTAT

Version: 1.5 Finalized:

URI: URN: urn:sdmxorg.sdmx.infomodel.conceptscheme.C

Valid from: Select date Valid to: Select date

* Name: Concepts for Agriculture and Fishery statistics MSDs

Description: These concepts are defined in order to be used in customized MSDs for Agriculture and Fishery statistics (unit E1) and contains common concepts and domain specific concepts. Currently Landings of fishery products, Aquaculture statistics, Orchard survey, Crops Balance sheets and EAA Quality Reports are covered.

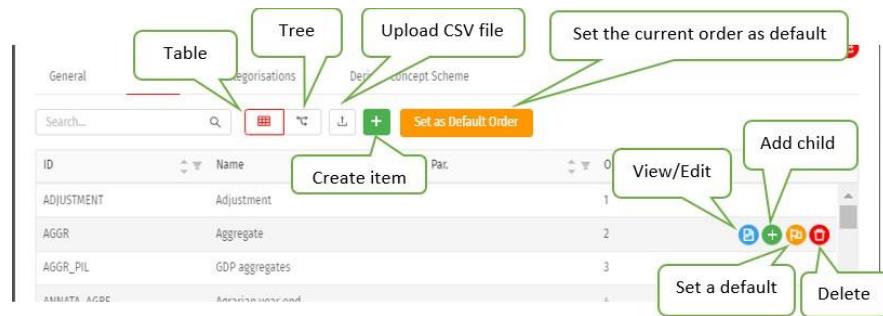
Annotations

General Custom Annotations

Close Save

The main section of “Concept Schemes” detail mask contains the following tabs:

- *General*
- **Items:** Items can be displayed in grid or tree mode. By default the grid view is proposed.



As an alternative to the insertion of the single items, it is possible to *import a CSV file* in order to insert them in bulk, otherwise the management functions of the single items are the following:

- **Create Item**

To create a new Item, the user must use the *Create Item* button at the top.
The System presents the data acquisition mask.

The fields to be populated are the following:

- **Identifier Item** (mandatory - alphanumeric)
- **Language** (mandatory - alphanumeric)
- **Item name** (required - alphanumeric)
- **Description** (optional - alphanumeric)
- **Fullname** (optional - alphanumeric)
- **Order** (optional - numeric)
- **Parent** (optional - from a list of items already present)
- *Annotations* (optional - alphanumeric)

The new Item is displayed as a record of the grid table and the possible information related to the “Parent Code” is valorized in a column of the grid view.

- **Add Child**

The *Add Child* button is activated on the “Parent” row and opens a mask with the fields indicated in **Create Item** where obviously the *Parent* field will be preset with the value of the selected parent.

The new Item is inserted with indentation under the parent code in the “folder” representation.

The mask contains the buttons for system acquisition: **Save:** to save and close the mask and **Close:** to close the mask without saving.

In the folder view, the order and the parentship of an item can be determined by drag-and-drop operations of the item itself.

The user can switch to the folder view by clicking on the “Tree” button.

Nodes count: 370

Close **Save**

- **Categorization**

(not yet implemented)

- **Derived Concept Scheme**

This tab allows the creation of a new Concept Scheme from a subset of items of the starting scheme, hence the adjective “derived”.

In choosing the elements of interest in table view mode, the user is helped by tools that allow him to take into account or not the hierarchies between parent elements, child elements, etc.

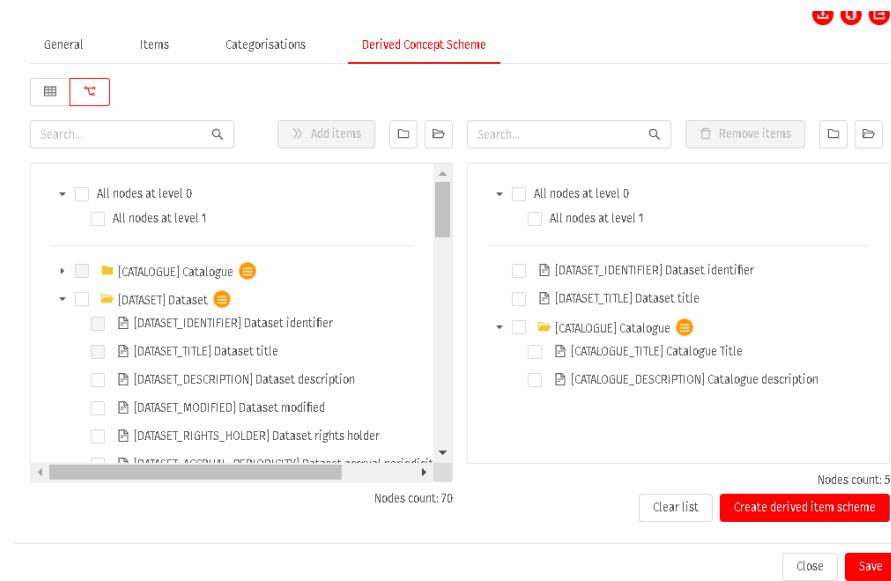
Add items preserving hierarchy: Automatically import: Parents: Children: Descendants:

Create derived item scheme

If tree mode is used it will be possible to select:

- a specific node
- a specific sub-level
- all children of a specific node

in addition, the zoom functionality will display the two artefacts in a full screen popup (left and right of the screen) allowing selection.



7.2.2 Code Lists

Selecting **Code Lists** from the “Meta Manager” form, the application displays the list of Node Code Lists similar to the lists of all artefacts present, as explained in [artefact list](#).

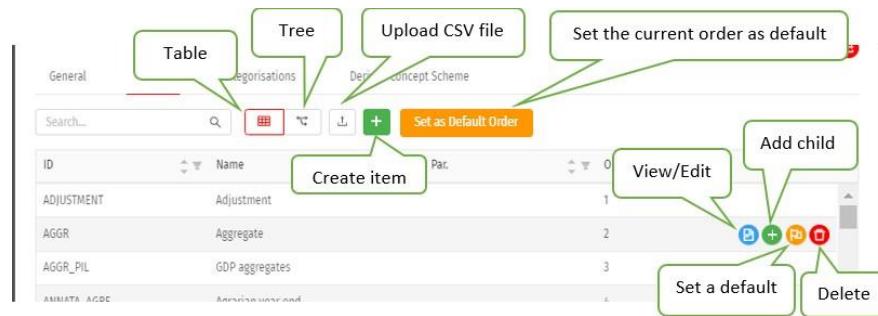
Selecting an item in the list with the mouse and pressing the View/Edit button, the system displays the Detail mask.

The main section of the Code List detail mask contains the following tabs:

- **General**

- **Items**

Items can be displayed in grid or tree mode. The default is the grid view.



As an alternative to the insertion of individual items, it is possible to *import a CSV file* in order to insert them in bulk, otherwise the management functions of the individual items are the following:

- **Create Item**

To create a new Item, the user must use the *Create Item* button at the top.

The System presents the data acquisition mask.

The fields to be populated are:

- **Identifier Item** (mandatory - alphanumeric)
- **Language** (mandatory - alphanumeric)
- **Item name** (required - alphanumeric)
- **Description** (optional - alphanumeric)
- **Fullname** (optional - alphanumeric)
- **Order** (optional - numeric)
- **Parent** (optional - from a list of items already present)
- *Annotations* (optional - alphanumeric)

The new Item is displayed as a record of the grid table and the possible information related to the “Parent Code” is valorized in a column of the grid view.

- **Add Child**

The *Add Child* button is activated on the “Parent” row and opens a mask with the fields indicated in **Create Item** where obviously the *Parent* field will be preset with the value of the selected parent.

The new Item is inserted with indentation under the Parent code in the “folder” representation.

The mask contains the buttons for system acquisition: **Save:** to save and close the mask and **Close:** to close the mask without saving.

In the folder view, the order and the parentship of an item can be determined by drag-and-drop operations of the item itself.

The user can switch to the folder view by clicking on the **Tree** button.

The screenshot shows the 'Edit Concept Scheme' window for the 'AGRI_FISH_MSD_CONCEPTS' scheme. The 'Items' tab is selected. The main area displays a list of code items with checkboxes and descriptions. A toolbar at the top includes search, filter, sort, and save buttons. A status bar at the bottom shows 'Nodes count: 370'.

Note:

During the Capture or Modification phase of a Code List Item, the System is set with **Automatic Save**.

The user can in any case set the saving as manual through an ON/OFF button.

If the user disables the automatic saving, he has to save the inserted or modified Items with the Save button otherwise he loses the modifications made.

- **Categorization**

(not yet implemented)

- **Derived Codelist**

This tab allows the creation of a new Code List from a subset of items of the starting list, hence the adjective “derived”.

In choosing the elements of interest in table view mode, the user is helped by tools that allow him to take into account or not the hierarchies between parent elements, child elements, etc.

Edit Codelist - [CL_ITTER107]

General Items Categorisations Derived Codelist

Add items preserving hierarchy: Automatically import: Parents: Children: Descendants:

ID	Name	Par.
ITN13	altri stati membri	ITN11
ITN12	Province diverse	ITN11
IT	Italy	
SLL_2011_116	Fossano	IT
SLL_393	Sessa Aurunca	IT
SLL_276	Siena	IT
SLL_642	Alghero	IT
SLL_2011_1910	Cefalù	IT

from 3 to 10 of 11413 rows

Search... Search...

ID Name Par.

IT Italy

SLL_2011_116 Fossano IT

SLL_276 Siena IT

Clear list Close

If tree mode is used it will be possible to select:

- a specific node
- a specific sub-level
- all children of a specific node

in addition, the zoom functionality will display the two artefacts in a full screen popup (left and right of the screen) allowing selection.

General Items Categorisations Derived Codelist

Toscana

All nodes at level 0
<input type="checkbox"/> [IT] Italy
<input type="checkbox"/> [ITE] Centro ()
<input type="checkbox"/> [ITE1] Toscana
<input type="checkbox"/> [T09002] Distretto Casentino
<input type="checkbox"/> [T09016] Distretto Bassa Val di Cecina
<input type="checkbox"/> [T09019] Distretto Val di Cornia
<input type="checkbox"/> [T09011] Distretto Valdarno Inferiore
<input type="checkbox"/> [ITE1_NC] Toscana (not administrative center)
<input type="checkbox"/> [T09030] Distretto Pratese
<input type="checkbox"/> [T09003] Distretto Val di Chiana Areteina
<input type="checkbox"/> [ITE19] Siena

Nodes count: 368

All nodes at level 1
<input type="checkbox"/> All nodes at level 0
<input type="checkbox"/> All nodes at level 1
<input type="checkbox"/> All nodes at level 2
<input type="checkbox"/> All nodes at level 3

Nodes count: 5

7.2.3 Data Structure Definitions

Selecting Data Structures Definitions from the “Meta Manager” module the application will show the list of DSDs present in the system similarly to the lists of all artefacts present, as explained in [artefact list](#).

The View/Edit function allows the user to view the detail of the DSD and update it if the user has write privileges.

The main section of the DSD detail mask contains the following tabs :

- ***General***

In the “General” window user can configure annotations, among them it is possible to edit annotations for the “Table layout”, the “Chart layout” and the “Map layout”. Other annotations at dimension level (e.g. not displayed) can be edited directly in the dimension definition window. For the meaning of these annotations please refer to [Other node configurations](#).

- **Primary measure**

The fields for both editing and insertion are:

- *ID* (mandatory alphanumeric): OBS_VALUE (not modifiable)
- *Concept* (mandatory alphanumeric)

The System allows the selection of a Concept Scheme by means of an interface that allows selection among the concepts present.

- *Code List* (alphanumeric not mandatory).

The System allows the selection of a List of Codes by means of an interface that allows selection from the list of codes present.

- *Annotations*

The screenshot shows the 'Edit DSD - [AGRI]' window with the 'Primary measure' tab selected. The interface includes tabs for General, Primary measure, Dimensions, Groups, Attributes, and Categorisations. Under 'Primary measure', fields include 'ID' (OBS_VALUE), 'Concept' ((CROSS_DOMAIN_UK+UK1+1.0) OBS_VALUE), and 'Codelist'. The 'Annotations' section has a 'General' tab and a 'Custom Annotations' tab, both showing 'No data to display'. A '+ Add annotation' button is available. At the bottom right are 'Close' and 'Save' buttons.

Note:

the definition of a unique measure complies with the SDMX standard, if it is necessary to display indicators, the measure will remain unique, what needs to be done is to define a dimension that expresses the name of the indicators.

Filtering on this dimension, the value of the chosen indicator will be obtained in obs_value.

- **Dimensions**

The fields in insertion and modification are:

- *Type Size*: The System allows the choice between the following Size types: Normal, Frequency, Time, Measure
- *ID* : (alphanumeric mandatory)
- *Order*: (numeric optional)
- *Concept*:(alphanumeric mandatory)

The System allows the selection of a Concept Scheme by means of an interface that allows selection among the concepts present.

- *Code List* (alphanumeric not mandatory).

The System allows the selection of a List of Codes by means of an interface that allows selection from the list of codes present.

- *Annotations*

Dimension detail

English X

* Dimension: Frequency

* ID: FREQ

Order: 1

* Concept: (CROSS_DOMAIN_UK+UK1+1.0) FREQ

Codelist: CL_FREQ+UK1+1.0

Not displayed:

Default:

Annotations

General Custom Annotations

No data to display

+ Add annotation

Close Save

Note:

What are “Normal” dimensions? They are all non-special classifications such as: gender, age, economic sector etc...

A “Measure” dimension is a special dimension that contains the names of several indicators so it will certainly be necessary to filter this dimension to show the values correctly.

A “Frequency” dimension is a special dimension that in some way is linked, for example, to update time of data and therefore contains items such as: annual, semi-annual etc..

A “Time” dimension is a special dimension that expresses the historical series so if the frequency is, for example, annual it will contain years.

- **Groups**

The fields in insertion and modification are:

- *Group ID*: (alphanumeric mandatory)
- *Dimensions*: The list of dimensions defining the group is built on the basis of the user’s choice of one or more DSD Dimensions.

At least one dimension must be selected for the definition of a group.

- *Annotations*: (alphanumeric not mandatory)

Note:

Groups are nothing more than groupings of dimensions to which an ID is associated in order to refer to those dimensions in a simpler way.

- **Attributes**

The fields in insertion and modification are:

- *ID*: (mandatory alphanumeric)
- *Order*: (numeric optional)
- *Concept*: (alphanumeric mandatory)

The System allows the selection of a Concept Scheme by means of an interface that allows selection among the concepts present.

- *Code List*: (alphanumeric not mandatory)

The System allows the selection of a List of Codes by means of an interface that allows selection from the list of codes present.

- *Assignment Status*: (alphanumeric mandatory)

Possible values are: Mandatory, Optional

- *Attachment Level*: (alphanumeric mandatory)

Possible values are: Observation, Dataset, Size Group, Group

- *Annotations*: (alphanumeric not mandatory)

The screenshot shows the 'Attribute detail' dialog box. At the top right is a language selector set to 'English' and a close button. The main area contains several input fields: '* ID:' (mandatory), 'Order:', '* Concept:' (with a '+' button to add more), 'Codelist:' (with a '+' button), '* Assignment Status:' (dropdown menu), '* Attachment Level:' (dropdown menu), and 'Not displayed:' (checkbox). Below this is a 'Annotations' section with a 'General' tab selected. The 'General' tab has a note 'No data to display' and a '+ Add annotation' button. At the bottom are 'Close' and 'Save' buttons.

Note:

Attributes are additional information that, although not modelled as dimensions, are equally fundamental to understand and use data that will later be associated with the DSD.

It is easy to understand, for example, that if the measure expresses payments, it is necessary to know: the currency, the number of decimal places or whether it is ex-

pressed in thousands or millions etc..

For all this information it is necessary to define an attribute and where it must be applied, if to the whole dataset, if to groups of dimensions or to single observations.

- **Categorisations**

Not yet implemented.

7.2.4 Dataflows

Selecting **Dataflows** from the “Meta Manager” form the application will show the list of the Node’s Dataflows similar to the lists of all artefacts present, as explained in *list of artefacts*.

- **Creation of a Dataflow**

From MetaManager it is possible to create 3 types of Dataflow:

- Normal: Standard Dataflow

The screenshot shows the 'New Dataflow' creation interface. At the top right is a language selector set to 'English'. Below are several input fields: 'ID' (mandatory), 'Agency' (dropdown), 'Version' (mandatory), 'Finalized' (checkbox), 'DSD' (mandatory), 'Dataflow type' (dropdown set to 'Normal'), 'URI', 'URN', 'Valid from' (date picker), 'Valid to' (date picker), 'Name' (mandatory), and 'Description' (with a placeholder icon). At the bottom left is a 'Annotations' section with tabs for 'General' (selected), 'Custom Annotations', and 'Layout'.

- Linked: Linked Dataflow, i.e. Dataflow that are present in other nodes on which only read access is granted and that are “referenced” by the work node. A linked Dataflow is not physically present in the work node (ID, Agency and Version cannot be edited), moreover there is a specific annotation for them.

The screenshot shows the 'New Dataflow' dialog box. At the top right is a language selector for 'English'. Below it are several input fields: 'ID' (mandatory), 'Agency' (dropdown), 'Version' (mandatory), 'Finalized' (checkbox checked), 'Dataflow type' (dropdown set to 'Linked'), 'Node' (mandatory), 'Dataflow' (mandatory), 'URI' (text input), 'URN' (text input), 'Valid from' (date picker), 'Valid to' (date picker), 'Name' (mandatory), and 'Description' (text input). A 'Annotations' section is present at the bottom. At the bottom right are 'Close' and 'Save' buttons.

- Virtual: Dataflow for which there are only one (or more) files that can be directly downloaded

This screenshot is identical to the previous one, but the 'Dataflow type' dropdown has been changed to 'Virtual', which is highlighted with a red border. All other fields and sections remain the same.

and can be inserted from the Layout section:

Layout annotations

Include these annotations in artefact:

Keywords: EN

Dataflow notes: EN

Metadata URL: EN

Dataflow source: EN

Attached data files:

Collapse

* URL: * Format:

+ Add

English

Close Save

In the Dataflow creation window it is possible to edit the annotations; there is a section to insert the *Layout Annotations* among which there are annotations to not display dimensions (or dimension items) or annotations that set the graphic structure of the table, the chart or the map.

Other annotations can also be set (such as decimal separator, value for empty table cells, etc.).

For their meaning please refer to the paragraph *Other node configurations*.

Compared to the other artefacts on each Dataflows element, there are extra functions:



- **Show Content Constraints**

By selecting a Dataflow from the list with the mouse and pressing the *Show Content Constraints* button, the System shows the list of Content Constraints related to the selected Dataflow.

Content Constraints

ID	Ag.	Name	Vers.	Final	Status
CONS_DFB_POP_TEST	SDMX	Autogenerated for dataflow urn:sdmxorg.sdmx.informodel.Datastructure.Dataflow=5...	1.0		1 selected rows

Download Delete Import New

- **Manage owners**

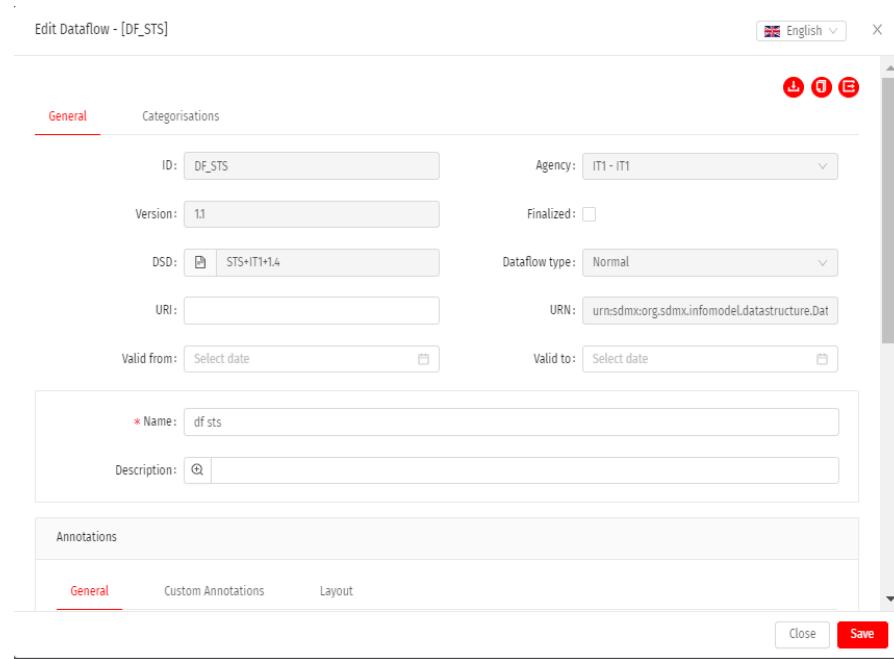
A user owning a Dataflow can assign the rights on this Dataflow to another user using the *Manage owners* button.

The user owner of the Dataflow chooses from the list of users present in the node



and clicking on the Save button gives the selected user rights on the Dataflow.

By selecting an item from the list with the mouse and pressing the View/Edit button, the system displays the Detail mask.



The main section of the Dataflows detail mask contains the following tabs:

- *General*

NOTE:

in addition to the entries present in common with all the other artefacts, in the General section, we also find the DSD field in which the reference to an existing DSD in the System must be inserted.

Many Dataflows can be created referring to the same DSD, for example reflecting different time intervals or geographical areas.

- **Categorisations**

Not yet implemented.

7.2.5 Category Schemes

Selecting **Category Schemes** from the “Meta Manager” module the application displays the list of the Node’s Category Schemes similar to the lists of all artefacts present, as explained in [list of artefacts](#).

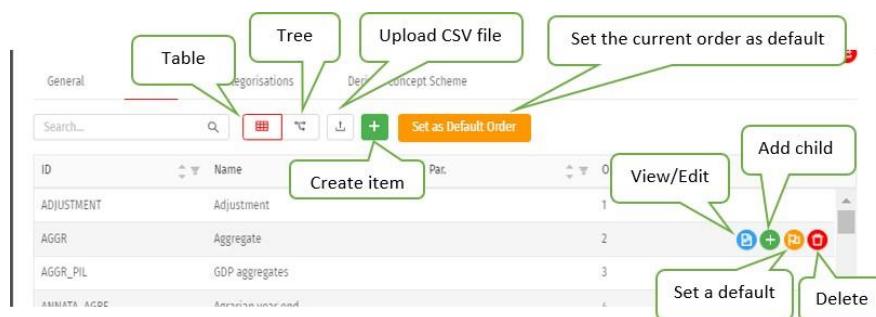
By selecting an item from the list with the mouse and pressing the View/Edit button, the system displays the Detail mask.

The main section of the Category Scheme detail mask contains the following tabs:

- **General**

- **Items**

Items can be displayed in grid or tree mode. By default the grid view is proposed.



As an alternative to the insertion of the single items, it is possible to [import a CSV file](#) in order to insert them in bulk, otherwise the management functions of the single items are the following:

- **Create Item**

To create a new Item, the user must use the *Create Item* button at the top.

The System presents the data acquisition mask.

The fields to be populated are the following:

- **Identifier Item** (mandatory - alphanumeric)

- **Language** (mandatory - alphanumeric)
- **Item name** (required - alphanumeric)
- **Description** (optional - alphanumeric)
- **Fullname** (optional - alphanumeric)
- **Order** (optional - numeric)
- **Parent** (optional - from a list of items already present)
- **Annotations** (optional - alphanumeric)

The new Item is displayed as a record of the grid table and the possible information related to the “Parent Code” is valorized in a column of the grid view.

- **Add Child**

The *Add Child* button is activated on the “Parent” row and opens a mask with the fields indicated in **Create Item** where obviously the *Parent* field will be preset with the value of the selected parent.

The new Item is inserted with indentation under the Parent code in the “folder” representation.

The mask contains the buttons for system acquisition: **Save:** to save and close the mask and **Close:** to close the mask without saving.

In the folder view, the order and the parentship of an item can be determined by drag-and-drop operations of the item itself.

The user can switch to the folder view by clicking on the “Tree” button.

Edit Category Scheme - [DDB_TEST]

General Items Categorisations Derived Category Scheme

Search... Set as Default Order

[DDB_DOM_1] Demographic and social statistics

- [DDB_DOM_12] Labour
- [DDB_DOM_14] Health
- [DDB_DOM_15] Income and consumption
- [DDB_DOM_16] Social protection
- [DDB_DOM_17] Human settlements and housing
- [DDB_DOM_18] Justice and crime
- [DDB_DOM_19] Culture
- [DDB_DOM_110] Political and other community activities
- [DDB_DOM_111] Time use
- [DDB_DOM_11] Population and migration

Nodes count: 36

Close Save

- **Categorization**

(not yet implemented)

- **Derived Category Schema**

This tab allows the creation of a new Category Scheme from a subset of items of the starting scheme, hence the adjective “derived”.

In choosing the elements of interest in table view mode, the user is helped by tools that allow him to take into account or not the hierarchies between parent elements, child elements, etc.

ID	Name	Par.
DDB_DOM_1	Demographic and social statistics	
DDB_DOM_1_13	Education	DDB_DOM_1
DDB_DOM_1_14	Health	DDB_DOM_1
DDB_DOM_1_15	Income and consumption	DDB_DOM_1
DDB_DOM_1_16	Social protection	DDB_DOM_1
DDB_DOM_1_17	Human settlements and housing	DDB_DOM_1
DDB_DOM_1_18	Justice and crime	DDB_DOM_1

ID	Name	Par.
DDB_DOM_1	Demographic and social statistics	
DDB_DOM_1_13	Education	DDB_DOM_1
DDB_DOM_1_15	Income and consumption	DDB_DOM_1
DDB_DOM_1_17	Human settlements and housing	DDB_DOM_1

from 1 to 7 of 33 rows

If tree mode is used it will be possible to select:

- a specific node
- a specific sub-level
- all children of a specific node

in addition, the zoom functionality will display the two artefacts in a full screen popup (left and right of the screen) allowing selection.

All nodes at level 0

- [DDB_DOM_1] Demographic and social statistics
- [DDB_DOM_1_13] Education
- [DDB_DOM_1_14] Health
- [DDB_DOM_1_15] Income and consumption
- [DDB_DOM_1_16] Social protection
- [DDB_DOM_1_17] Human settlements and housing

All nodes at level 1

- [DDB_DOM_1] Demographic and social statistics
- [DDB_DOM_1_13] Education
- [DDB_DOM_1_15] Income and consumption
- [DDB_DOM_1_17] Human settlements and housing

All nodes at level 2

- [DDB_DOM_1_13] Education
- [DDB_DOM_1_14] Health
- [DDB_DOM_1_15] Income and consumption
- [DDB_DOM_1_16] Social protection
- [DDB_DOM_1_17] Human settlements and housing

Nodes count: 33

Nodes count: 4

7.2.6 Categorisations

..... coming soon

7.2.7 Hierarchical Code Lists

Hierarchical code lists are used to model non-exclusive hierarchies (where a child can have more than one parent).

At the moment Hierarchical code lists cannot be duplicated or created, but only the import from external structures import is admitted.

7.2.8 Agency Schemes

Selecting **Agency Schemes** from the “Meta Manager” module, the application displays the list of the Node’s Agency Schemes similar to the lists of all artefacts present, as explained in [list of artefacts](#).

Selecting an element of the list with the mouse and pressing the View/Edit button, the System shows the Detail mask.

The screenshot shows the 'Edit AgencyScheme - [AGENCIES]' dialog box. The 'General' tab is selected. The 'Items' and 'Categorisations' tabs are also present. The 'General' tab contains the following fields:

- ID: AGENCIES
- Agency: ESTAT - ESTAT
- Version: 1.0
- Finalized:
- URI: (empty)
- URN: urn:sdmx-org.sdmx.infomodel.base.AgencySche
- Valid from: Select date
- Valid to: Select date
- * Name: SDMX
- Description: (empty)

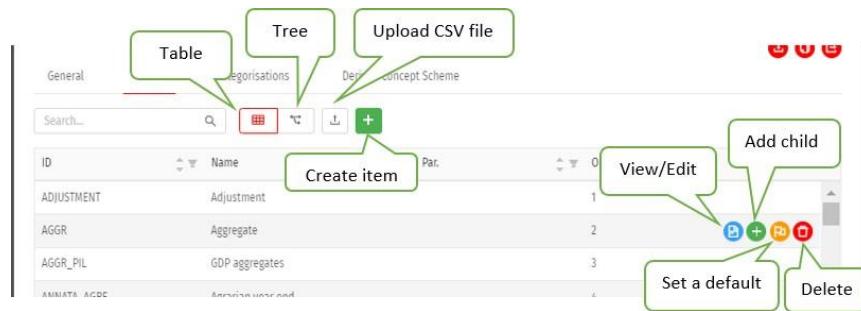
The 'Items' and 'Categorisations' tabs are shown as empty panels. At the bottom right are 'Close' and 'Save' buttons.

The main section of the Agencies Scheme detail mask contains the following tabs:

- *General*

- **Items**

The Items can be displayed in grid or tree mode. By default the grid view is proposed.



As an alternative to the insertion of the single items, it is possible to *import a CSV file* in order to insert them in bulk, otherwise the management functions of the single items are the following:

- **Create Item**

To create a new Item, the user must use the *Create Item* button at the top.

The System presents the data acquisition mask.

The fields to be populated are the following:

- **Identifier Item** (mandatory - alphanumeric)
- **Language** (mandatory - alphanumeric)
- **Item name** (required - alphanumeric)
- **Description** (optional - alphanumeric)
- **Fullname** (optional - alphanumeric)
- **Order** (optional - numeric)
- **Parent** (optional - from a list of items already present)
- *Annotations* (optional - alphanumeric)

The new Item is displayed as a record of the grid table and the possible information related to the “Parent Code” is valorized in a column of the grid view.

- **Add Child**

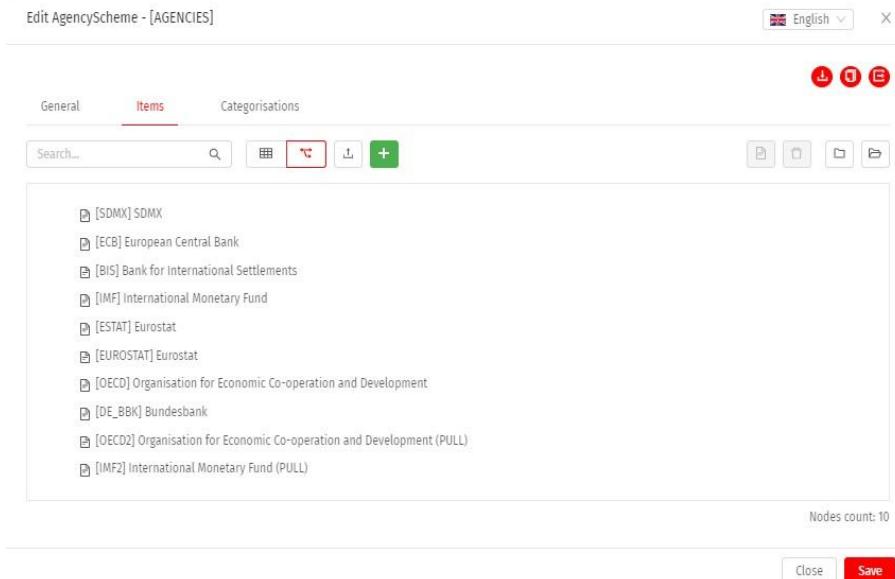
The *Add Child* button is activated on the “Parent” row and opens a mask with the fields indicated in **Create Item** where obviously the *Parent* field will be preset with the value of the selected parent.

The new Item is inserted with indentation under the Parent code in the “folder” representation.

The mask contains the buttons for system acquisition: **Save:** to save and close the mask and **Close:** to close the mask without saving.

In the folder view, the order and the parentship of an item can be determined by drag-and-drop operations of the item itself.

The user can switch to the folder view by clicking on the “Tree” button.



- **Categorization**
(not yet implemented)

7.2.9 Data Provider Schemes

..... coming soon

7.2.10 Data Consumer Schemes

..... coming soon

7.2.11 Organization Unit Schemes

..... coming soon

7.2.12 Content Constraints

Selecting **Content Constraints** from the “Meta Manager” module, the application displays the list of Content Constraints of the Node similarly to the lists of all artefacts present, as explained in [list of artefacts](#).

Selecting an item in the list with the mouse and pressing the View/Edit button, the system displays the Detail mask.

Edit Content Constraint - [CONS_DF_JUS_TEST]

General Constraint items Release calendar

ID: CONS_DF_JUS_TEST Agency: SDMX - SDMX

Version: 1.0 Finalized:

URI: URN: urn:sdmx-org.sdmx.infomodel.registry.ContentC

Valid from: Select date Valid to: Select date

* Name: Autogenerated for dataflow urn:sdmx-org.sdmx.infomodel.datastructure.Dataflow=SDMX-DF_JUS_TEST(1.0)

Description:

Annotations

General Custom Annotations

No data to display

The main section of the Content Constraints detail mask contains the following tabs:

- *General*
- **Constraint Elements**

In this tab it is possible to insert/edit the type of artefact to which the CC is associated (DSD or Dataflow) and to choose the desired artefact from a dynamic list that will show all those available for use in the System.

Edit Content Constraint - [CONS_DFB_POP_TEST]

General Constraint items Release calendar

* Artefact type: Dataflow * Artefact: DFB_POP_TEST+SDMX+1.0

FREQ ETA ITTER107 SESSO STATO_CIV TIPO_INDDEM OBS_STATUS

Search...

All nodes at level 0

[A] annual

Nodes count: 1

Once the artefact to be associated with the CC has been determined, the System will display a series of tabs below (one for each dimension or attribute present in the selected artefact).

In each tab from left to right the user will find the possible values of the dimension or

attribute linked to that tab and will be able to add filters according to his needs.
Keep in mind that the choices made in one tab affect the items shown in the following tabs, so for example it may happen that, according to the choices made in the previous tabs, only one item can be chosen for the Sex dimension (e.g. Male).
This implementation choice has been made to avoid the creation of inconsistent filter combinations.

- **Release Calendar**

Edit Content Constraint - [CONS_DFB_POP_TEST]

General Constraint items Release calendar

Not supported by the SdmxSource library: data will be discarded

Periodicity:

Offset:

Tolerant:

Close Save

7.2.13 Structure Sets

..... coming soon

7.2.14 Provision Agreements

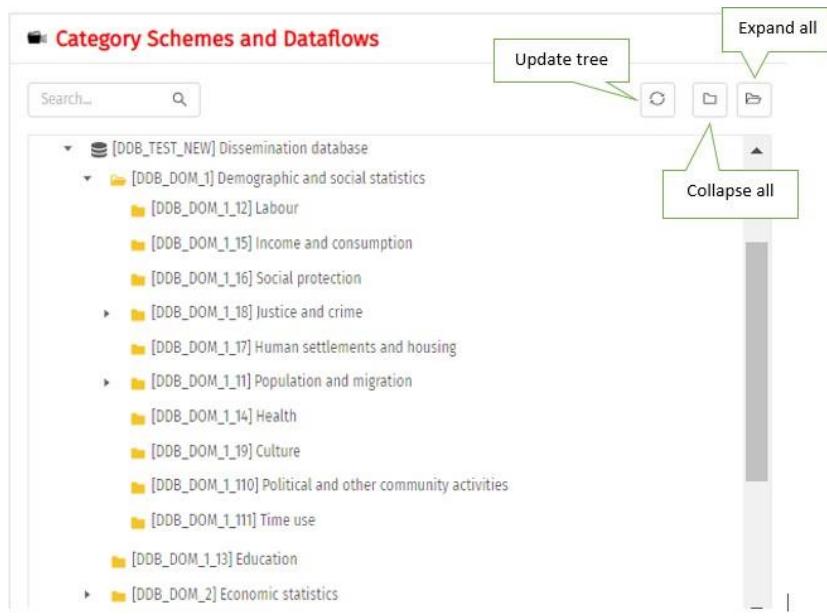
..... coming soon

7.2.15 Registrations

..... coming soon

7.2.16 Category and Dataflow Schemes

The Category and Dataflow Schemes management function is present in the left side menu starting from the “Meta Manager” item.



The screen shows Categorisations and Dataflows in a tree view.

The user can expand a Category Schema by clicking on the arrow next to its name.

In the upper right part of the screen there is an **Update category tree** button.

This function allows the user to update the tree by reloading the list that may contain new Categories and/or Dataflow components created by other users within the same System and Node connection.

Further functions available to the user are those related to the exploded view of Categories Schemes tree or the reduced view.

By selecting a Dataflow and right clicking the mouse button it is possible to activate the **Delete Categorization** button,

The screenshot shows a software interface titled "Category Schemes and Dataflows". At the top, there is a search bar with the placeholder "Search..." and a magnifying glass icon. Below the search bar is a list of items. The first item is "[DF_BL_POP_RES_TEST_ND] DF_BL_POP_RES_TEST_ND", which has a yellow sticky note icon with a red circle containing a white symbol attached to it. This item is expanded, showing a hierarchical list of categories: [DDB_DOM_1_14] Health, [DDB_DOM_1_19] Culture, [DDB_DOM_1_110] Political and other community activities, [DDB_DOM_1_111] Time use, [DDB_DOM_1_13] Education, [DDB_DOM_2] Economic statistics, [DDB_DOM_3] Environment and multi-domain statistics, [DDB_DOM_4] Sustainable Development Goals, [PROVA] prova, [ISTAT_DW_TEST_EXP] ISTAT, [TEST_MDF] NOWSTAT, [PERUGINI_SCHEMA] test 1, and finally "Uncategorized". The "Uncategorized" item is highlighted with a yellow box.

and the Dataflow removed from the categorization is moved to the **Uncategorized** folder.

It is possible to change Dataflow categorisation with the drag&drop tool or during the “Categorisation” phase of the Dataflow Builder.

7.2.17 Metadata Structure Definitions

Selecting **Metadata Structure Definitions** from the “Meta Manager” module the application displays the list of Metadata Structure Definitions of the Node similar to the lists of all artefacts present, as explained in [list of artefacts](#).

Selecting an item in the list with the mouse and pressing the View/Edit button, the system displays the Detail mask.

Edit MSD - [TEST_MSD]

ID: TEST_MSD Agency: IT1 - IT1

Version: 1.0 Finalized:

URI: urn:sdmx.org.sdmx.infomodel.metadatastructure

Valid from: Select date Valid to: Select date

* Name: MSD Test

Description:

Treat all attributes with children as "presentational":

Annotations

General Custom Annotations

No data to display

This is a particular SDMX artefact and represents a template for reporting and dissemination of reference metadata.

The Suite does not provide the creation of new artefacts of this type, so user can only *import an external MSD* through the import button in the top right corner of the MSD List.

Metadata Structure Definitions						
	ID	Ag.	Name	Vers.	Final	
<input type="checkbox"/>	DCAT-AP_IT_MSD	IT1	DCAT-AP IT MSD	1.5	<input checked="" type="checkbox"/>	
<input type="checkbox"/>	DCAT-AP_IT_MSD	IT1	MSD DCAT-AP_IT	1.9	<input checked="" type="checkbox"/>	
<input type="checkbox"/>	ESQRS_MSD	ESTAT	ESS Standard for Quality Report Structure (ESQRS)	1.0	<input checked="" type="checkbox"/>	
<input type="checkbox"/>	TEST_MSD	IT1	MSD Test	1.0	<input checked="" type="checkbox"/>	

7.2.18 Metaflows

Selecting **Metaflows** from the “Meta Manager” form will show the list of Metaflows of the Node similarly to the lists of all artefacts present, as explained in *list of artefacts*.

By selecting an item from the list with the mouse and pressing the View/Edit button, the system displays the Detail mask.

Edit Metadataflow - [METADATAFLOW_MSD_TEST]

English X

General Categorisations

ID: METADATAFLOW_MSD_TEST Agency: IT1 - IT1

Version: 1.0 Finalized:

MSD: TEST_MSD+IT1+1.0

URI: URN: urn:sdmx:org.sdmx.infomodel.metadatastructure

Valid from: Select date Valid to: Select date

* Name: METADATAFLOW_MSD_TEST

Description:

Annotations

General Custom Annotations

Close **Save**

The main section of the Metaflows detail mask contains the following tabs:

- *General*

NOTE:
in addition to the entries common to all other artefacts, in the General section, we also find the MSD field in which the reference to an existing MSD in the System must be entered.

Several Metaflows can be created referring to the same MSD.

- **Categorizations**
Not yet implemented.

DATA MANAGER

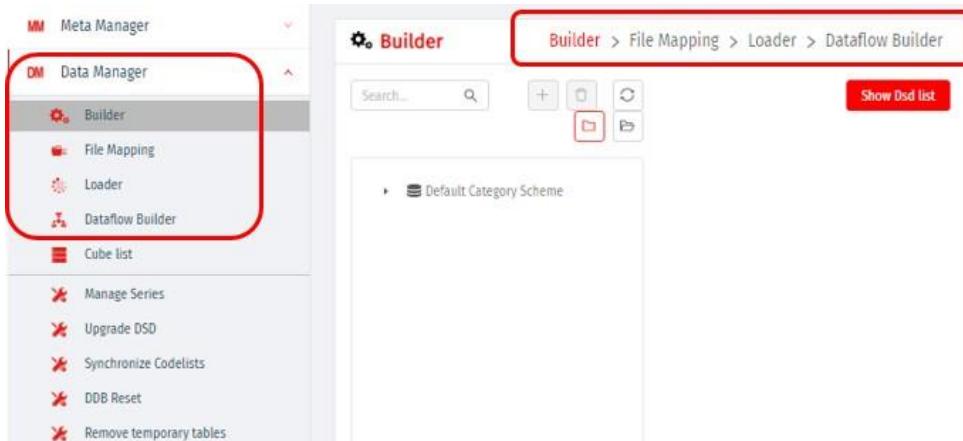
This section of the guide explains the steps needed to create a Dataflow and all the functions available to manage it.

8.1 How to load a new Dataflow

The loading of a new Dataflow is done in 4 sequential steps:

- **Builder:** creation of a Cube associated with a DSD
- **File Mapping:** creation of a mapping between Cube and data
- **Loader:** loading data
- **Dataflow Builder:** Dataflow creation and publication.

can be activated from the menu on the left or from the list in the upper right of the masks used.



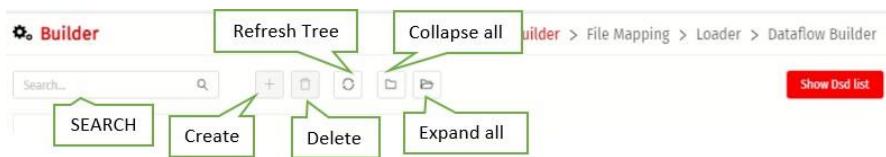
- *Builder*
- *File Mapping*
- *Loader*
- *Dataflow Builder*

8.1.1 Builder

The Builder window displays the Category Work Scheme with a tree structure.

The leaves of the tree are the registered cubes. To manage the list of cubes the following functions are provided:

- **Create Cube \ Create Category**
- **Delete Cube \Delete Category.**
- **Update Tree**
- **Collect all**
- **Expand all**
- **Search**



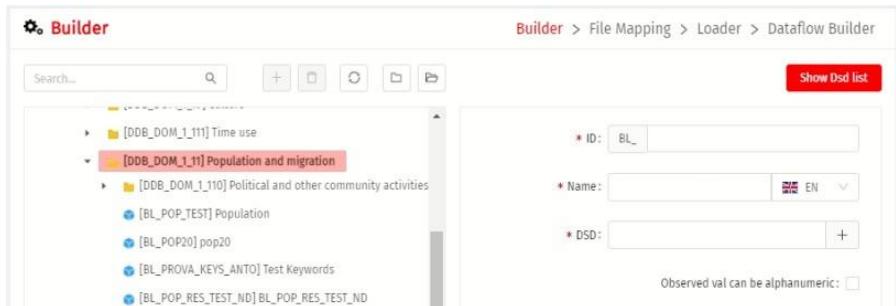
Some functions are active or not depending on the selected element (e.g. the “Create Cube” function is active if an element of the Category Diagram is selected, “Delete Cube” is active if a Cube is selected).

Create Cube

By clicking on the icon, a window appears allowing the user to choose whether to create a new cube or to create a new sub-category with reference to the one that has been selected.

Clicking on create cube opens the mask for entering the necessary fields:

- *Cube ID* (alphabetical type, mandatory)
- *Name of the Cube* (alphabetic type, mandatory)
- *Language*
- *DSD identifier* (set by selection function, mandatory)
- *Flag “Observed value may be alphanumeric”* (optional)



The non-editable prefix of the ID field is set during configuration.

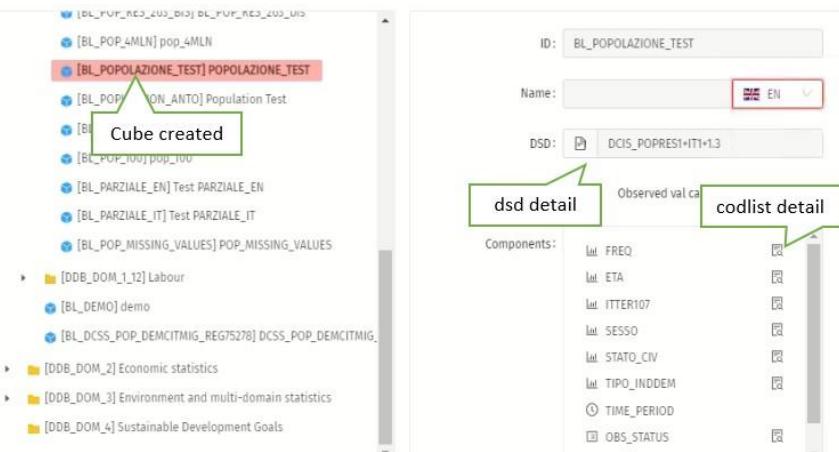
In the “Name” field the user enters the name of the Cube for each language available in the Node.

Selecting the “+” next to the DSD field opens a pop-up window that allows the user to view the DSDs present in the System and to choose the one to be used to create the

Cube.

The “List DSD” button, in the upper right corner, shows the same list of DSD present in the System.

Once selected the DSD the mask shows the list of Dimensions and Attributes: by default will be selected and not deselectable the Dimensions and Attributes that in the DSD are defined as mandatory, while the optional attributes by default will not be selected, but can be chosen at this stage.

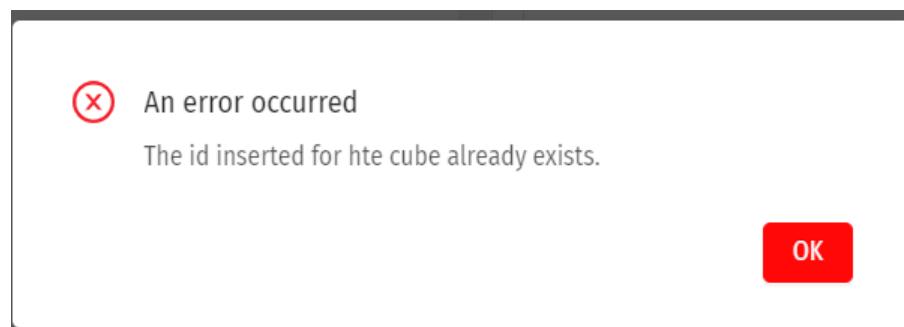


Among the selectable attributes there is the TID (table identifier) that is used to uniquely identify the Dataflows built from the same Cube (displayed in the image). from the same Cube (displayed in the tree on the left).

In this way it is also possible, for example, to load two attributes at dataset level for two dataflows built from the same cube: to do this it is necessary that the user adds the TID in the cube and when loading a data file (see paragraph [Loader](#)) or an attribute file, he loads different attribute values for different TID values.

The user has the possibility to check the structure of the DSD and its components by clicking on the icons present next to the artefacts.

During the creation of the Cube the System checks the correctness of the data entered. If the user, for instance, tries to create a Cube with an already existing ID, saving is blocked and the user is notified with an error message.



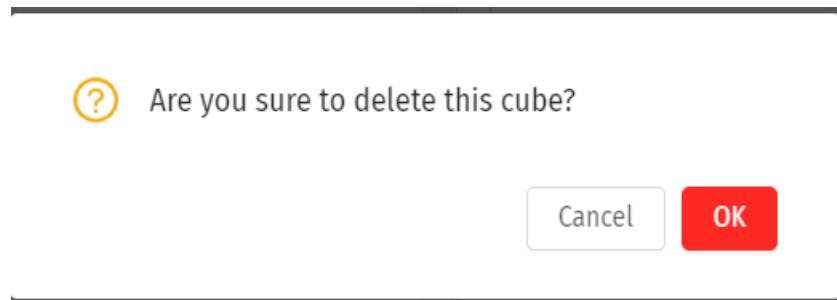
Once the mandatory fields have been filled in, the “Save” button becomes active and the cube can be saved.

The window with all the Cube’s properties is displayed whenever the Cube is selected.

Delete Cube

To delete a Cube, the user must select it with the mouse; in this way the “Delete Cube” button is activated.

By clicking on the button, a mask appears asking the user to confirm the operation. If yes, the deletion is carried out.



Following deletion, the System automatically updates the tree of the Category Schemes.

If a Dataflow is associated with the Cube, deletion is not allowed.

Create Category

Clicking on the “+” icon the user can create a new Category, a window is opened where the user has to type the Category ID, the Name and, optionally, the parent of the Category among those already defined. Categories can be moved under other categories with drag&drop functionality.

Delete Category

To delete a Category, the user must select it with the mouse; the “Delete Category” button will only be active if the Category does not have any associated cubes. When the button is clicked, a mask appears asking the user to confirm the operation. If so, the deletion is carried out.

Update tree

This function allows the user to update the Category Diagrams tree to show changes following the creation and deletion of cubes and Category Diagrams.

Collect All

This function displays the Category Tree in a reduced form.

Expand all

This function displays the Category Tree in an exploded view.

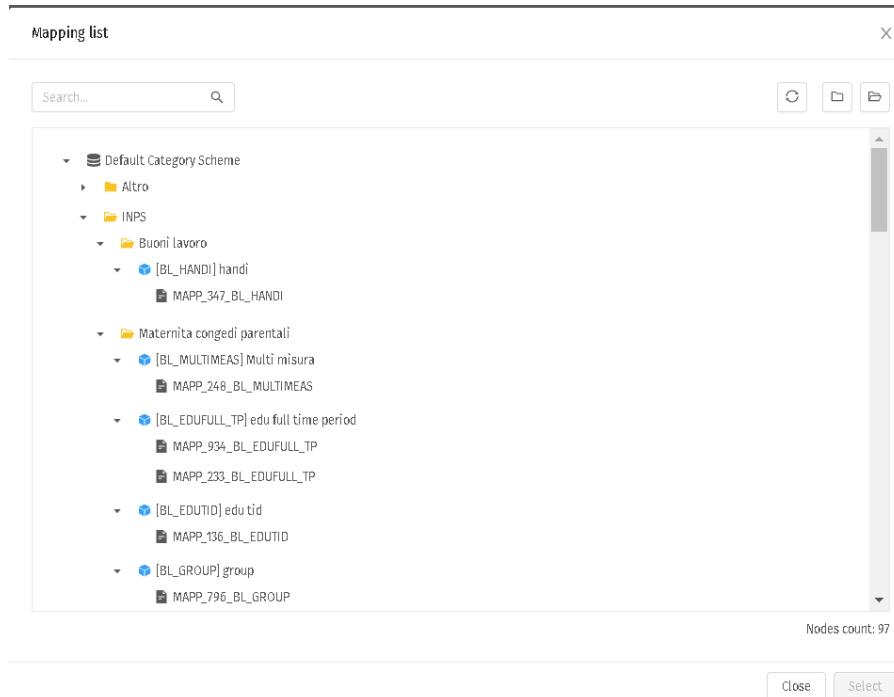
Search

The search is carried out by means of an editable field in the upper left-hand corner of the screen, as described in *Search in the list of artefacts*.

8.1.2 File Mapping

The File Mapping window displays all mappings in tree format. It is possible to:

- **Create a new mapping**
- **View or delete an existing mapping.**

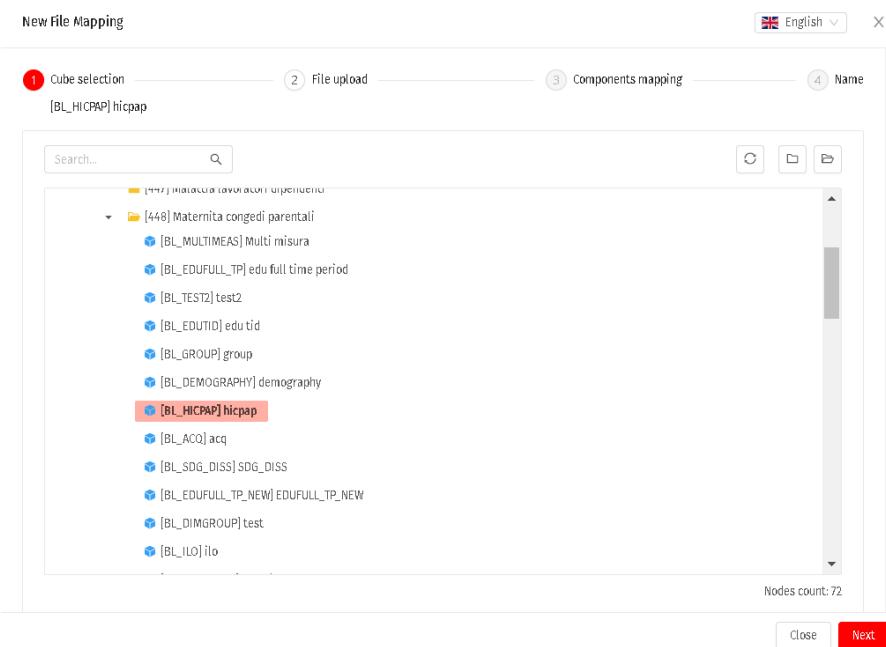


Create a new mapping

The selection of the “New” button, in the upper right corner, opens a pop-up window for the setting of the information necessary for the creation of the Mapping.

The system provides for successive steps displayed in the top bar: it is possible to move to the next step with the “Next” button or selecting the step directly from the bar.

The user can go back to the previous steps to make any changes or to check the settings.



Cube Selection

The first step is the identification of the Cube to be mapped among those present in the tree of Category Schemes.

Once the Cube has been selected the “Next” button becomes active to pass to the next step.

Upload File (CSV)

The system displays a form for uploading the CSV file with which to perform the mapping with the selected Cube.

The screenshot shows the 'New File Mapping' interface. Step 2, 'File upload', is active. It features a file input field with the placeholder '[BL_HICPAP] hicpac'. Below it are fields for 'Separator' (set to ;), 'Delimiter' (empty), 'Has header' (checked), and 'STAT Format' (unchecked). Buttons for 'Upload file' and 'Preview' are at the bottom. Navigation buttons 'Close', 'Previous', and 'Next' are at the bottom right.

The form allows searching the CSV file from filesystem; once the CSV file has been selected, its name will be shown in the “File” field.

The user must check that the “Separator” and “Header” settings, which are set by default, correspond to what is present in the chosen CSV file and change them if necessary.

The form allows the user to set a “Delimiter” (optional field) and the “.STAT Format” flag (activate the flag if the CSV file has the .STAT format).

The frame allows the user to delete the file upload, to allow the selection of a different file.

Once the compulsory information has been filled in, the button “Upload File” will become active, with the click, the System will upload the file and activate the “Next” button.

After uploading the user can view the content of the file with the “Preview” button.

The screenshot shows the 'Dataset' interface with a preview of a CSV file. The columns are: FREQ, ETA, ITTER107, SESSO, STATO_CIV, TIPO_INDEM, TIME_PERIOD, OBS_STATUS, and OBS_VALUE. The data rows show various values like 'A TOTAL 001001 9 16 JAN 2018 C'. A search bar and navigation buttons ('Close') are at the bottom.

Upload File (Excel)

The system allows a new mapping to be created and a new dataset to be loaded from a

pair consisting of a file in Excel format and a mapping file in XML format generated with the “ExcelToCsv” tool.

The module allows the user to search the XLSX file from the filesystem; once the XLSX file has been selected, its name will be shown in the “File” field.

The module allows the user to search the XML file from the filesystem; once the XML file has been selected, its name will be shown in the “Mapping XML” field.

From these two files, the system automatically creates a CSV file that allows the mapping with the fields of the cube (as we have seen in the previous section).

The box allows the user to delete the loaded files, in order to allow the selection of different files.

Once the mandatory information has been filled in, the button “Upload File” will become active, with the click, the System will upload the file and activate the button “Next”.

After uploading the user can view the content of the file with the “Preview” button.

Upload File (PC-Axis)

The system allows a new mapping to be created and a new dataset to be loaded from a PC_Axis file.

The module allows the PX file to be searched from the filesystem; once the PX file has been selected, its name will be shown in the “File” field.

Once the compulsory information has been filled in, the “Upload File” button will become active, with the click, the System will upload the file and activate the “Next” button.

After uploading the user can view the content of the file with the “Preview” button.

Component mapping

This step allows the mapping between the components of the Cube and those of the upload file.

The functions available are:

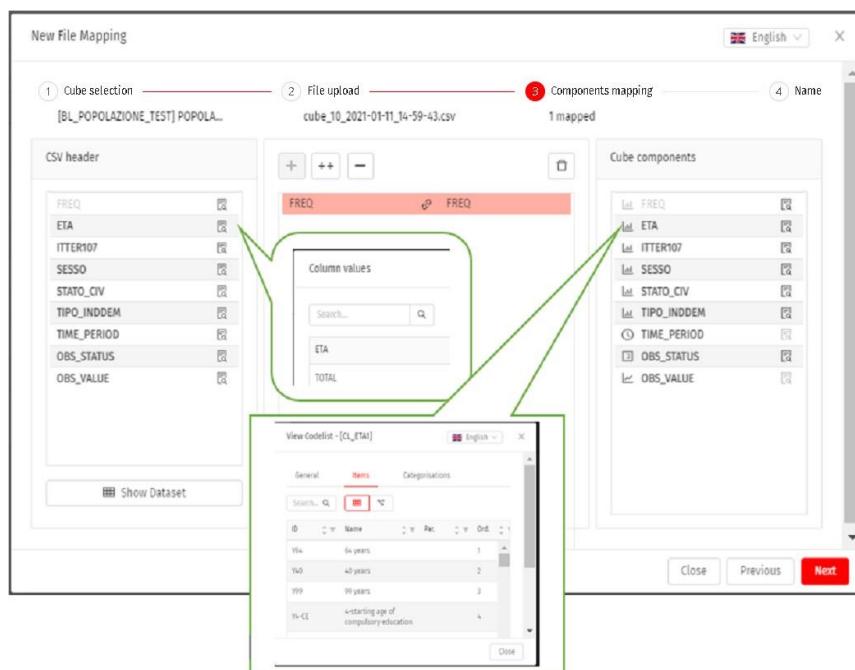
”+” to add a mapping after the selection of a Cube Component and the Header
 ”++” to add in the mapping all the correspondences between the Cube Component and the Header in automatic mode

”-“ to remove a match from the mapping

The “Show Dataset” button at the bottom activates a pop-up window displaying the file in table format.

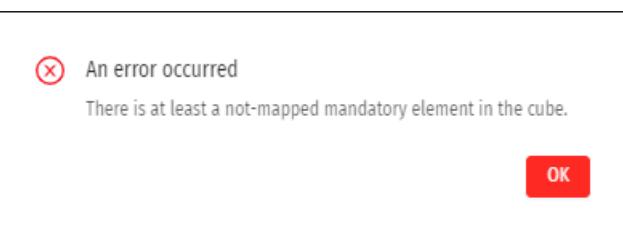
The user can visualize the values contained in the components by clicking on the icon placed next to each element.

On the left side the elements and the values present in the loaded file are shown, on the right side the Codelists and the items related to the DSD of the selected Cube are also shown. The mapping is used to check the correspondence between the contents of the csv header and the components of the Cube.



Optional components are greyed out and can be selected in this step.

In order to continue with the creation, it is necessary to map all the mandatory components of the Cube, otherwise, the System allows the user to continue but prevents from saving with an error message.



Name

The save mask contains the fields:

- *Mapping Name* (mandatory, automatically created but editable)
- *Mapping Description* (optional)

Once the values in the fields have been set, the user selects the “Save” button.

The system notifies the user that the mapping has been created by closing the creation pop-up window and displaying the updated mapping list with the new item.

Viewing or deleting an existing mapping

The “Show Details” button is selectable from the tree-element of the Mapping list.

File Mapping

Builder > File Mapping > Loader > Dataflow Builder

Search...

Default Category Scheme

- Altro
- [BL_EDU_TPONLY] EDU_TPONLY
 - MAPP_983_BL_EDU_TPONLY
- [BL_EDU_TP_G] EDU_TP_G
 - MAPP_816_BL_EDU_TP_G
- [BL_SDG_NEW] sdg
 - MAPP_128_BL_SDG_NEW**
- [BL_POP4MLN] pop4mln
 - MAPP_858_BL_POP4MLN
- [BL_SDG15] sdg15
 - MAPP_386_BL_SDG15

The System displays a pop-up window showing the following information of the Mapping in read-only mode:

- *Mapping Name*
- *Mapping Description*
- *Cube Identifier*
- *Cube Name*
- *Component List*

File Mapping detail

English X

Name: MAPP_758_BL_POPOLAZIONE_TEST

Description:

Cube ID: BL_POPOLAZIONE_TEST

Cube name:

Components:

FREQ	FREQ
ETA	ETA
ITTER107	ITTER107
SESSO	SESSO
STATO_CIV	STATO_CIV
TIPO_INDEM	TIPO_INDEM
TIME_PERIOD	TIME_PERIOD
OBS_STATUS	OBS_STATUS

Close

Deleting a mapping is possible from the “Delete Mapping” icon, which can be selected from the tree branch in the Mapping list or from the “Delete selected Mapping” button at the top of the screen.

File Mapping Builder > File Mapping > Loader > Dataflow Builder

Search...

- Default Category Scheme
- Altro
 - [BL_EDU_TPONLY] EDU_TPONLY
 - MAPP_983_BL_EDU_TPONLY
 - [BL_EDU_TP_G] EDU_TP_G
 - MAPP_816_BL_EDU_TP_G
 - [BL_SDG_NEW] sdg
 - MAPP_128_BL_SDG_NEW
 - [BL_POP4MLN] pop4mln
 - MAPP_858_BL_POP4MLN
 - [BL_SDG15] sdg15
 - MAPP_386_BL_SDG15

8.1.3 Loader

The system displays the mask for choosing the mapping and for acquiring data from CSV or SDMX-ML files. The required fields for loading from CSV file are:

- *Mapping* (mandatory, to be chosen from a list)
- *Import type* (mandatory, to be chosen from a list)
- *File* (mandatory)
- *Separator* (mandatory, it is pre-set with “;”)
- *Delimiter* (optional)
- *Flag “Has header”* (optional, the default is ON)
- *Flag “Format .Stat”* (optional, the default is OFF)

The screenshot shows the 'Loader' interface for CSV files. At the top, there are tabs for 'CSV' (which is selected) and 'SDMX-ML'. Below the tabs, there are several input fields and controls:

- * Mapping: A dropdown menu showing '[MAPP_948_BL_STS]'
- * Import type: A dropdown menu set to 'Series and Data'
- * File: An empty input field with a browse button (represented by a folder icon).
- * Separator: An input field containing a semicolon (';').
- Delimiter: An empty input field.
- Has header: A checked checkbox.
- .STAT Format: An unchecked checkbox.
- Upload file: A button with a file icon.
- Show Dataset: A button with a grid icon.
- Embargo: A toggle switch (off).
- Import data: A checked checkbox.
- Refresh CC + Transc.: An unchecked checkbox.
- checkFiltAttributes: An unchecked checkbox.

The user can select the mapping by opening the list of mappings by clicking on the “+” in the list box, which will be populated with the chosen mapping.

In the field “Import type” the user sets the type of loading between the values:

- Series and Data
- data
- Series

Generally, the loading includes both the series and the data, but the user may choose to load the series first (e.g. for control) and then the data.

If only the data is loaded, the series must already be present, which is useful when updating the data.

The other fields for loading the csv are similar to those provided in the “File Mapping”.

Once all mandatory fields have been filled in the “Load CSV” button will be activated.

After loading the csv it is possible to view the data (“Show Dataset” button) , moreover the “Import Data” button is activated to complete the loading.

The “Embargo” function is available to deny the display of the loaded data.

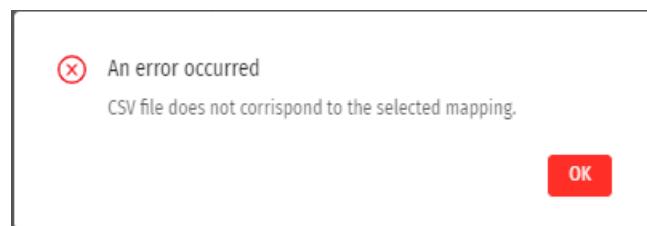


The embargo can be removed manually with the “Remove Embargo” button from the “Cubes List” item.

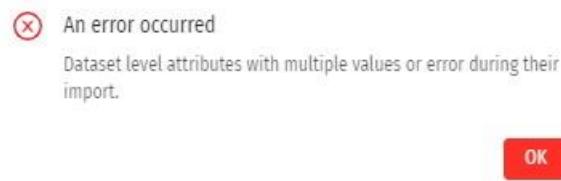
Otherwise it can be removed automatically by selecting the “Automatic data release” and a release date (functionality not active at the moment).

The “Regenerate CC+Transcoding” flag allows the loading of a data item recreating also the Transcoding and the Content Constraint if they are already present.

The system, during the importation process, checks for errors in consistency, formatting and correctness of the CSV file. If not, an error message is displayed.



Moreover the import is blocked when there are two duplicate rows in the csv file but with different OBS_VALUE.



User can also download the report with the details of the error.

Finally, there are cases (e.g. reference to a code that does not exist in a codelist) in which, despite the presence of errors, the process still ends successfully, with a certain number of rows being discarded. The report details the discarded lines and, for each of them, the first error encountered. In this case, in addition to the report, it

is also possible to download a csv file containing all the rows with errors that have been discarded.

The screenshot shows two main sections: 'Import report' and 'Errors'.
The 'Import report' section contains the following information:

- Time: 0 s
- Number of imported rows: 614
- Number of imported series: 0
- Name of the imported file: C:\temp\file_import\DDB_DOM_1\DDB_DOM_1_18\Caricati\BL_JUS_20210111_094608.csv

The 'Errors' section contains a message: 'For each row, only the first wrong reference is shown'. Below this, a list of errors is provided:

- Row 11 - Column COURT - Code XXX: Column with unknown code.
- Row 13: Warning! The row has been discarded because it is duplicated and has the same values for measures.
- Row 15: Warning! The row has been discarded because it is duplicated and has the same values for measures.
- Row 19: Warning! The row has been discarded because it is duplicated and has the same values for measures.
- Row 29: Warning! The row has been discarded because it is duplicated and has the same values for measures.
- Row 38: Warning! The row has been discarded because it is duplicated and has the same values for measures.
- Row 41: Warning! The row has been discarded because it is duplicated and has the same values for measures.
- Row 50: Warning! The row has been discarded because it is duplicated and has the same values for measures.
- Row 51: Warning! The row has been discarded because it is duplicated and has the same values for measures.
- Row 52: Warning! The row has been discarded because it is duplicated and has the same values for measures.
- Row 53: Warning! The row has been discarded because it is duplicated and has the same values for measures.
- Row 54: Warning! The row has been discarded because it is duplicated and has the same values for measures.

At the bottom of the 'Errors' section are two buttons: 'Download report' and 'Download rows with errors'.

Even in the case of a successful import, the system displays a pop-up window with the details of the import and the possibility of downloading the report.

The screenshot shows a pop-up window with the following details:
Import report
Time: 0 s
Number of imported rows: 3
Number of imported series: 0
Name of the imported file: C:\temp\file_import\DDB_DOM_1\DDB_DOM_1_12\Caricati\BL_STS_TEST_20210111_193158.csv

At the bottom right of the window are two buttons: 'Download report' and 'OK'.

The user has the possibility to upload a file in “SDMX-ML” format. In this case, the following mask is available for data entry:

The screenshot shows the "Loader" interface with the "SDMX-ML" tab selected. The main area contains fields for "Cube" (with a "+" button to search for Category Scheme tree), "Import type" (set to "Series and Data"), "File" (with a search icon), and "Upload XML" and "Show dataset" buttons. There is also an "Embargo" toggle switch. At the bottom, there are buttons for "import data" (disabled), "Refresh CC + Transc.", and "checkFiltAttributes".

In this case the loading is done by choosing a Cube and an SDMX file containing the data.

Pressing “+” in the list box “Cube” the System shows the Category Scheme tree for selecting the Cube, while pressing “+” in the list box “File” allows the user to search for the SDMX file in the filesystem.

The third mandatory field is the “Import Type” analogous to loading CSV files.

Once the mandatory fields are populated the “Load XML” button is activated, if the loading is successful the “Import data” button is activated and the user can carry out the import.

Also for the loading from SDMX it is possible not to visualize the loaded data by selecting “Embargo” and to recreate Transcoding and Content Constraint by activating the flag the “Regenerate CC+Transcoding” flag.

8.1.4 Dataflow Builder

The Dataflow Builder window displays all the Dataflows in table format. Clicking the “Show Categories” button a pop-up window with a tree view of the Dataflows is opened.

The screenshot shows the "Dataflow Builder" interface with a table of dataflows. The columns include ID, Ag., Name, Vers., Transc., C.C., Prod., and a toolbar at the top right. A yellow box highlights the toolbar with icons for Create, Delete, and Modify. The table lists several dataflows:

ID	Ag.	Name	Vers.	Transc.	C.C.	Prod.
DF_MAIN_ALPHA	SDMX	test alphanumeric	1.0	✓	✓	✓
DF_BL_POP_RES_TEST_ND	SDMX	DF_BL_POP_RES_TEST_ND	1.0	✓	✓	✓
DF_BL_POP_RES_TEST_ND1	SDMX	DF_BL_POP_RES_TEST_ND1	1.0	✓	✓	✓
DSO_JUS_TEST_NO_GROUP	IT1	fp	1.0			✓
DF_JUS_TESTS	SDMX	DF_JUS_TESTS	1.0	✓	✓	✓
DF_POP_RES_263	SDMX	DF_POP_RES_263	1.0	✓	✓	✓
DF_POP_RES_263_BIS	IT1	DF_POP_RES_263_bis	1.0	✓	✓	✓
DF_HICPAP	IT1	hicpac	1.0			✓

For each Dataflow the following fields are present:

- *ID of the Dataflow*

- *Agency ID*
- *Name of the Dataflow*
- *Version of the Dataflow*
- *Transcoding check*
- *Content Constraint Check*
- *Check that indicates if the Dataflow is or is not in Production*

It is possible to:

- **Create a new Dataflow**
- **Perform operations (display, delete, etc.) on an existing Dataflow.**

for the operations on the Dataflow please refer to the section *Dataflow management*

Create a new Dataflow

The selection of the “New” button, in the upper right corner, opens a pop-up window for the setting of the necessary information for the creation of the Dataflow.

The system displays the steps to follow in the bar at the top: it is possible to move to the next step with the “Next” button or by selecting the step directly from the bar.

The user can go back to the previous steps to perform changes or to check what has been set.

The screenshot shows the 'Create Dataflow' dialog box. The title bar says 'Create Dataflow'. The top navigation bar has five tabs: ① Dataflow (highlighted with a yellow border), ② Query, ③ Categorisation, ④ Header, and ⑤ Layout annotations. The 'Dataflow' tab is active. The main form contains the following fields:

- ID:** Text input field
- Agency:** Text input field with a dropdown arrow
- Version:** Text input field
- Finalized:** A checked checkbox
- URI:** Text input field
- URN:** Text input field
- Valid from:** Date picker input field
- Valid to:** Date picker input field
- Name:** Text input field
- Description:** Text input field with a magnifying glass icon

Below the main form is a section titled 'Annotations' with two tabs: **General** (selected, highlighted with a red underline) and **Custom Annotations**. The 'General' tab displays the message 'No data to display'. At the bottom right of the dialog are 'Close' and 'Next' buttons.

Dataflow

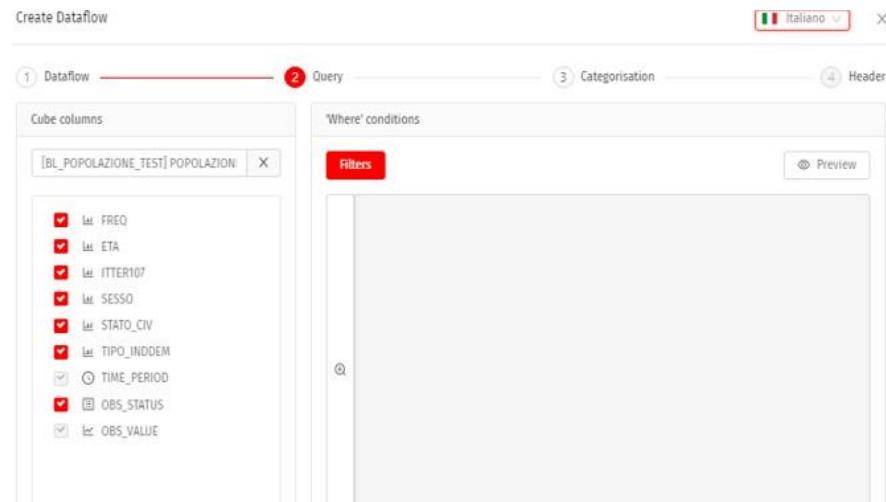
The first step opens the Dataflow's general data acquisition mask. As soon as the mandatory fields are filled in:

- *ID*
- *Version*
- *Agency*
- *Name*

the “Next” button becomes active to proceed to the next step.

Query

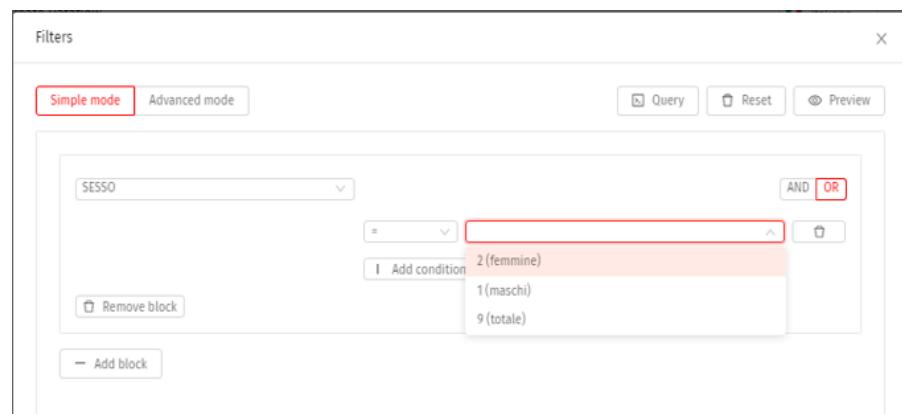
In this mask the user chooses the Dataflow source cube from the tree of Category Schemes and composes the query that identifies the Dataflow.



In the left window the user chooses the dimensions and attributes and with the “Filters” button composes the “where condition” that is the filter to be applied on the data.

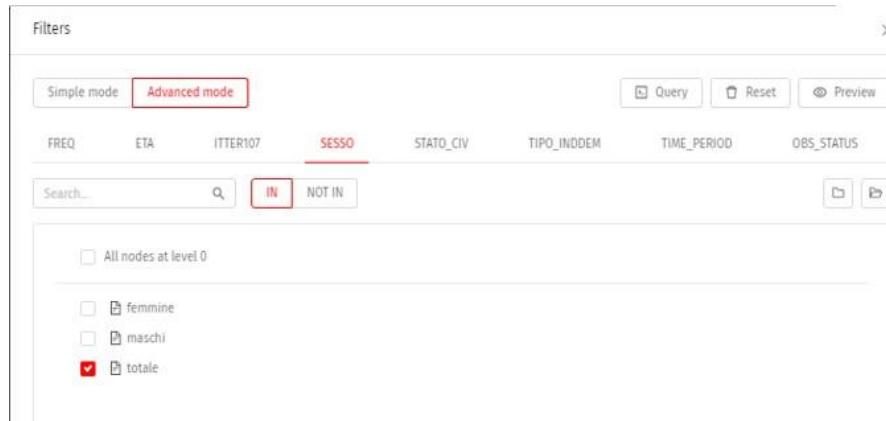
The filter can be created in simple mode (“Simple Mode” button) or in advanced mode (“Advanced Mode” button).

In simple mode the user can write the query in a guided way by choosing a dimension or attribute, operator and values and combining constructs with “and” or “or” operators.

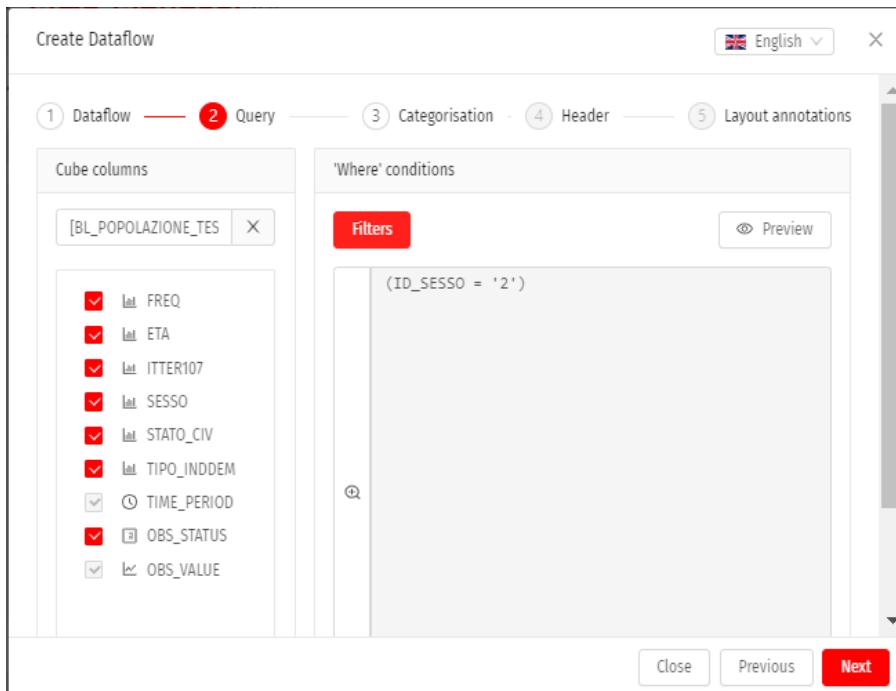


In the Advanced mode the dimensions or attributes are presented in sequential tabs where the user selects the values for the creation of the Dataflow.

This way the System proposes for each element only the values actually present in the Cube, based on the choices made previously, so that the query does not return an empty set.

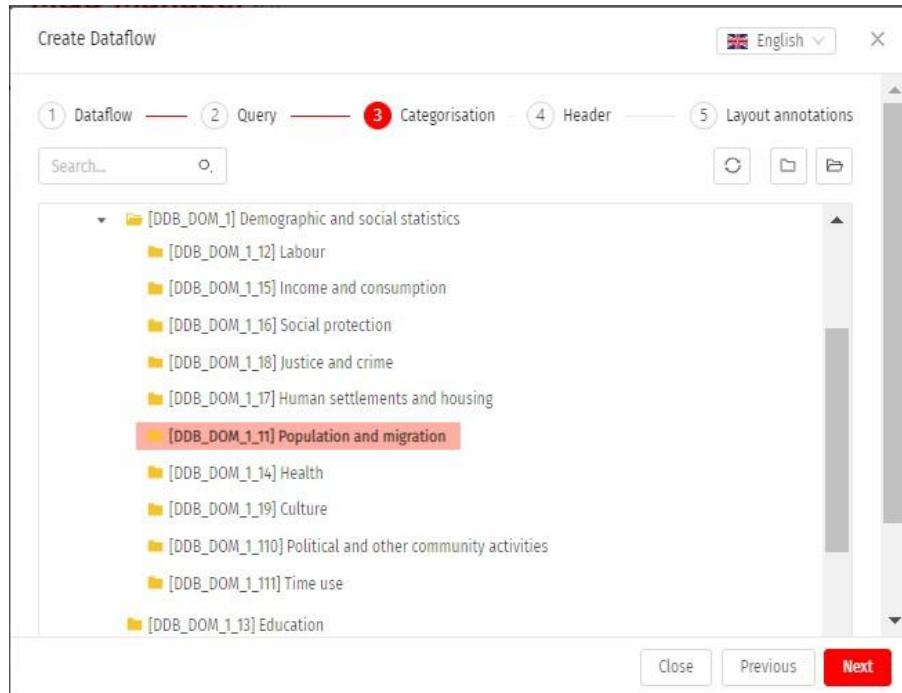


In both cases, the system displays the instruction corresponding to the query.



Categorisation

In this mask, the user associates the Dataflow to a category by selecting it from the Category Patterns tree.



Header

In this section the user decides whether to insert a header to the Dataflow by acting on the “Dataflow with header” flag.

If the flag is selected the window shows the list boxes where to insert the information about “sender” and “receiver” prefixes.

At the end of the 4 steps, pressing the “Save” button, the Dataflow is saved and inserted in the list.

ID	Ag	Name	Vers.	Transc.	CC	Prod.
DIB_POP_TEST	SOMX	DIB_POP_TEST	1.0			

As soon as the Dataflow is created, the fields that identify it (ID, Agency, Name, Version) are valorized, while the fields: Transcoding, Content Constraint , Production are not valorized, for these it is necessary the publication.

Moreover, on the right side the following functionalities are available, as explained in the section *Dataflow management*:

- *Display Annotation*
- *Publication*
- *Preview on the Data Browser*
- *Preview*
- *Additional Information*
- *View/Edit*
- *Download*
- *Delete*

Layout Annotations

In this section the user decides whether to insert annotations at the level of dimensions to be hidden or to insert annotations that set the graphic structure of the table, chart or map.

In addition, other annotations can be set (such as decimal separator, value for empty table cells, etc.).

For their meaning please refer to the paragraph *Other node configurations*.

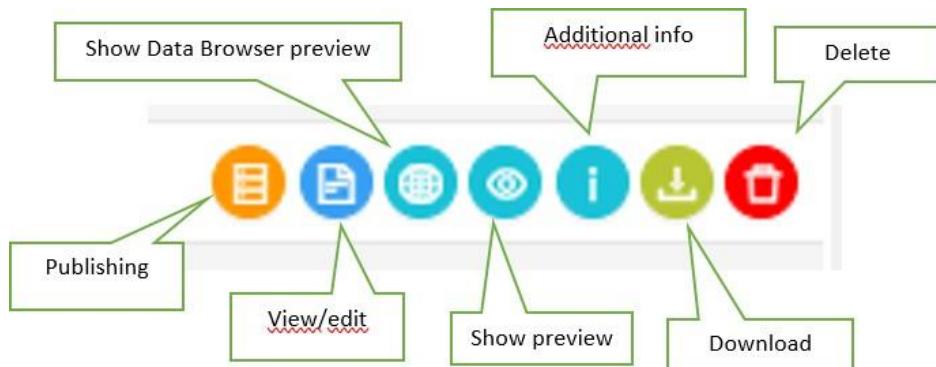
The screenshot shows the 'Create Dataflow' interface with the 'Layout annotations' tab selected. The 'General parameters' tab is also visible below it. The form includes fields for 'Keywords', 'Criteria selection', 'Decimal separator', 'Metadata URL', 'Empty cell placeholder', 'Hidden', 'Dataflow notes', 'Dataflow source', and an 'Attached data files' section with a '+ Add' button. At the bottom are 'Close' and 'Save' buttons.

8.2 Dataflow Management

In this section we describe the functionalities available for Dataflow management:

- **View Annotation**
- **Publication**
- **Preview on the Data Browser**
- **Preview**
- **Additional Information**
- **View/Edit**
- **Download**
- **Delete**

some of these will be discussed in more detail in the following sections.



Display Annotation

The presence of an annotation is indicated by the symbol “i”. The click allows the user to visualize the annotation details.

Publication

It allows the user to set the Dataflow in production, see section: *How to put a Dataflow into production*

Preview on the Data Browser

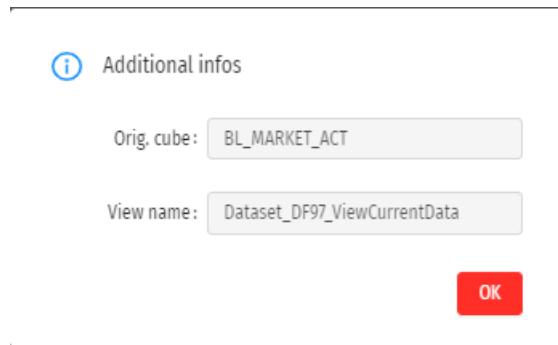
The icon is visible only if the Dataflow has been published and allows the visualization of the Dataflow with the Data Browser tool associated to the application, if present.

Preview

The information contained in the Dataflow is shown in table format with the possibility of sorting and filtering the columns or searching for items.

Additional information

The “Additional information” button allows the user to display information about the Cube and the corresponding view of the Dataflow.



View/Edit

The “View/Edit” function allows the user to view or edit a Dataflow, for this last part see section: [How to update an existing Dataflow](#)

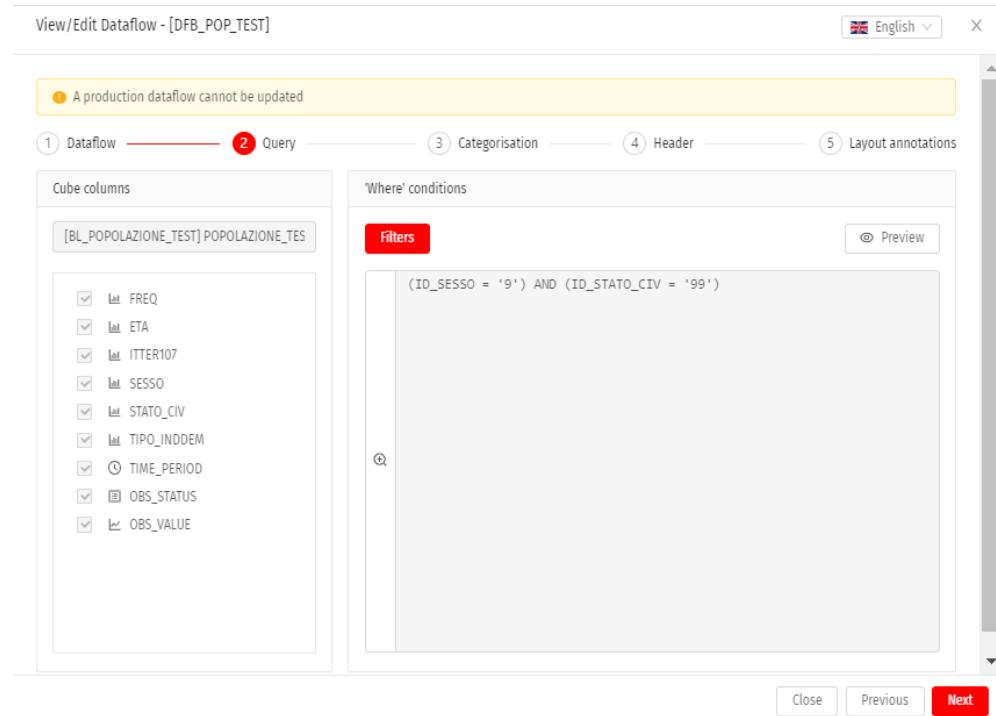
The system displays all the Dataflow elements:

- *General Data*
- *Queries*
- *Categorisation*
- *Header*
- *Layout annotations*

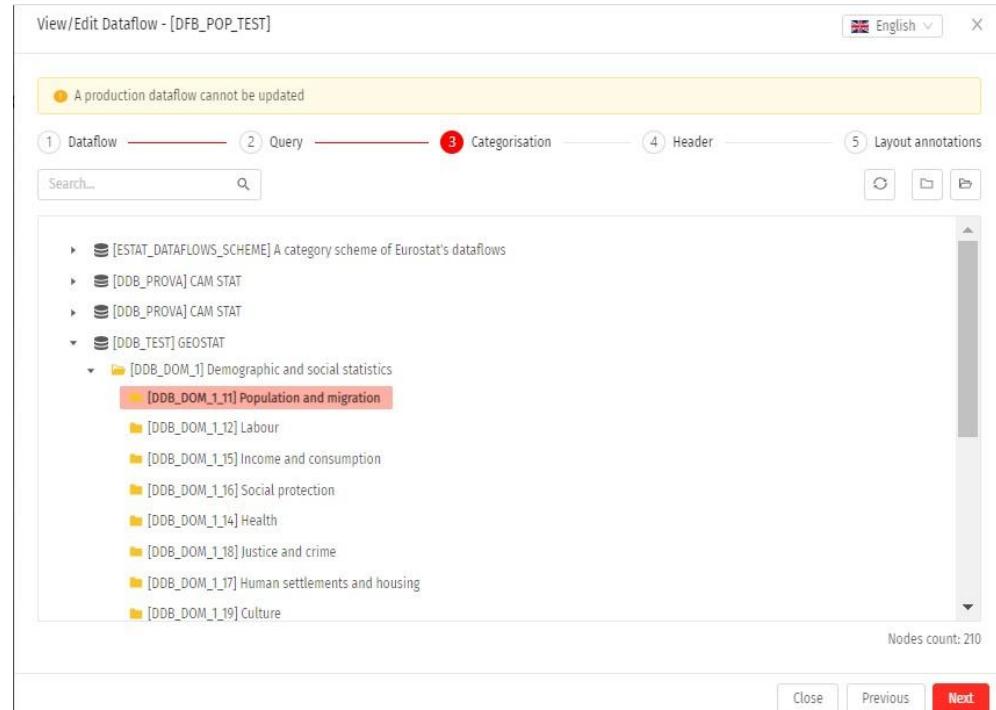
in windows identical to those seen in the creation phase of the Dataflow.

In the mask “General data” the general information of the Dataflow are shown.

The “Query” mask displays the selected cube elements and the defined filter.



The “Categorisation” mask displays the category to which the Dataflow is associated.



The “Header” mask displays information about the header if it has been selected.

View/Edit Dataflow - [DFB_POP_TEST]

1 Dataflow — 2 Query — 3 Categorisation — 4 Header — 5 Layout annotations

A production dataflow cannot be updated

Dataflow with header:

Test flag: Transmission name: test header

Sender

* Organization ID: TG Organization name: Tagliacarne

Name: Email:

Department: Role:

Receiver

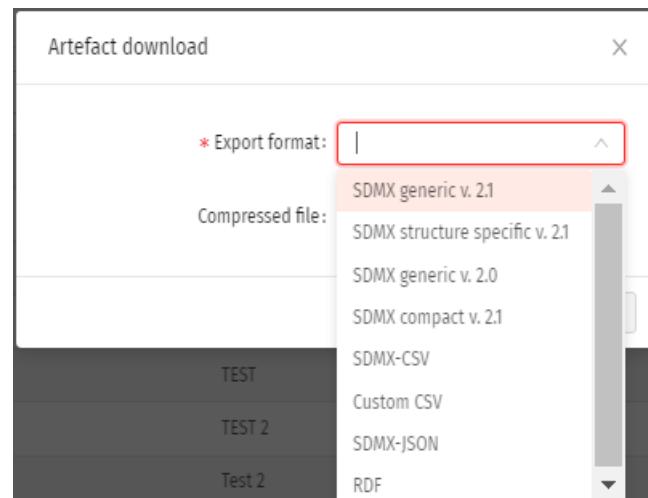
Organization ID: ST Organization name: Sister

Name: Email:

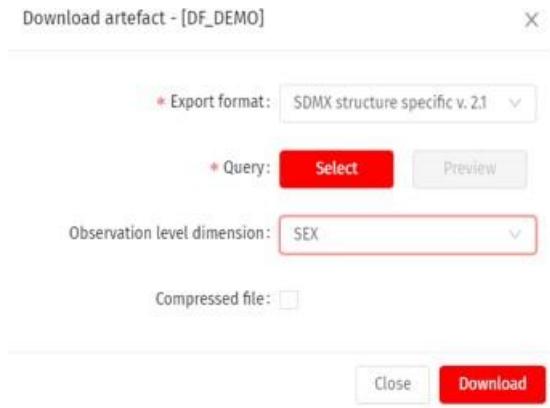
Buttons: Close, Previous, Next

Download

The “Download” button allows the user to download the Dataflow in different formats. It is possible to download in compressed format.



“SDMX Structure Specific v 2.1” and “SDMX-JSON” are special data download formats in which the user can select the size to be used as the observation level



and get the downloaded data in the chosen form with the dimension at observation level:

```
<message:DataSet action="Information" ss:dataScope="DataStructure"
    xsi:type="ns1:DataSetType" ss:structureRef="TN1_DSD_EDUPUB_1_0">
    <Series FREQ="A" IND="NSTUD" CYCLE="2CSEC" CLASS="_Z" TIME_PERIOD
    ="1999">
        <Obs SEX="F" OBS_VALUE="464331" />
        <Obs SEX="M" OBS_VALUE="443917" />
        <Obs SEX="T" OBS_VALUE="908248" />
    </Series>
    <Series FREQ="A" IND="NSTUD" CYCLE="2CSEC" CLASS="_Z" TIME_PERIOD
    ="2000">
        <Obs SEX="F" OBS_VALUE="493783" />
        <Obs SEX="M" OBS_VALUE="469202" />
        <Obs SEX="T" OBS_VALUE="962985" />
    </Series>
```

Once the user has completed the mandatory fields the “Download” button is activated and he can download the dataflow.

Delete

The “Delete” button allows the user to delete a Dataflow. The System shows a pop-up mask where the user can confirm or not the operation.

8.3 How to update an existing Dataflow

From the list of created Dataflows select the Dataflow to be modified.

From the functions displayed in the icons on the right choose “View/Edit” which, in addition to displaying it, allows the user to edit the Dataflow.

The System shows all the elements of the Dataflow:

- *General Data*
- *Query*
- *Categorisation*
- *Header*
- *Layout annotations*

in windows identical to those seen in the creation phase of the Dataflow.

If the Dataflow is not in production and if the user has the necessary permissions he can use the windows to make changes to the Dataflow.

Some information, such as the Dataflow identifier, cannot be modified, a prohibition symbol appears on these and they cannot be edited.

The user can modify the URI, validity, name and description in the General Data mask.

In the mask “Query” it is possible to change the selection of dimensions and attributes and to change the set filters.

In the mask “Categorisation” the user can change the category to which the Dataflow is associated.

In the “Header” mask it is possible to modify the Dataflow header by clicking on the “Dataflow with header” flag.

The annotations previously set for the Dataflow can be modified in the “Layout annotations” mask.

For the details of the single operations see the *Dataflow builder*.

With the “Save” button all changes made to the Dataflow are saved.

8.4 How to add data to an existing Dataflow

The ability to add data to an existing Dataflow results in loading the data into the Cube from which the Dataflow is derived.

In the section: *How to load a new Dataflow* we have listed the actions necessary to create a Dataflow having only the DSD available:

- **Builder:** creation of a Cube associated with a DSD
- **File Mapping:** creation of a mapping between Cube and data
- **Loader:** data loading
- **Dataflow Builder:** Dataflow creation and publication

To add data to an existing Dataflow only the third step is needed: *Loader* which allows the loading of data from CSV or SDMX-ML files.

The loading of a new file in the Cube will affect all Dataflow derived from it.

In the case of published Dataflows in which “Transcoding” or “Content Constraint” are present, the update is not immediately visible as these functions lock the dimensions values to the codes present at the time of publication.

In order to acknowledge the presence of new values deriving from the data update, the “Regenerate CC+Transcoding” option must be selected, which allows the loading of data by recreating also the Transcoding and the Content Constraint.

For each operation’s details see section: *Loader*.

8.5 How to create different Dataflows from the same Cube

The creation of different Dataflows from the same cube must be seen as the definition of different views from the same data.

In the section: *How to load a new Dataflow* we have listed the actions necessary to create a Dataflow having only the DSD available:

- **Builder:** creation of a Cube associated with a DSD
- **File Mapping:** creation of a mapping between Cube and data
- **Loader:** data loading
- **Dataflow Builder:** Dataflow creation and publication

To create a new Dataflow from the same Cube only the last step is needed: *Dataflow Builder* which allows the creation of a Dataflow from a Cube present in the tree of the Category Schemes.

For the details of each operation see the Dataflow construction in the section: *Dataflow Builder*.

8.6 How to put a Dataflow into production

Once created, the Dataflow must be published so that it can be available. This activity can be done in the *Dataflow Builder* section by selecting the Dataflow and clicking on the “Publish” icon.

ID	Ag.	Name	Vers.	Transc.	CC	Prod.	
DFB_POP_TEST	SDMX	DFB_POP_TEST	1.0	✓	✓	✓	

The production set-up is done in 4 sequential steps:

- **Mapping Set**
- **Transcoding**
- **Content Constraint**
- **Production**

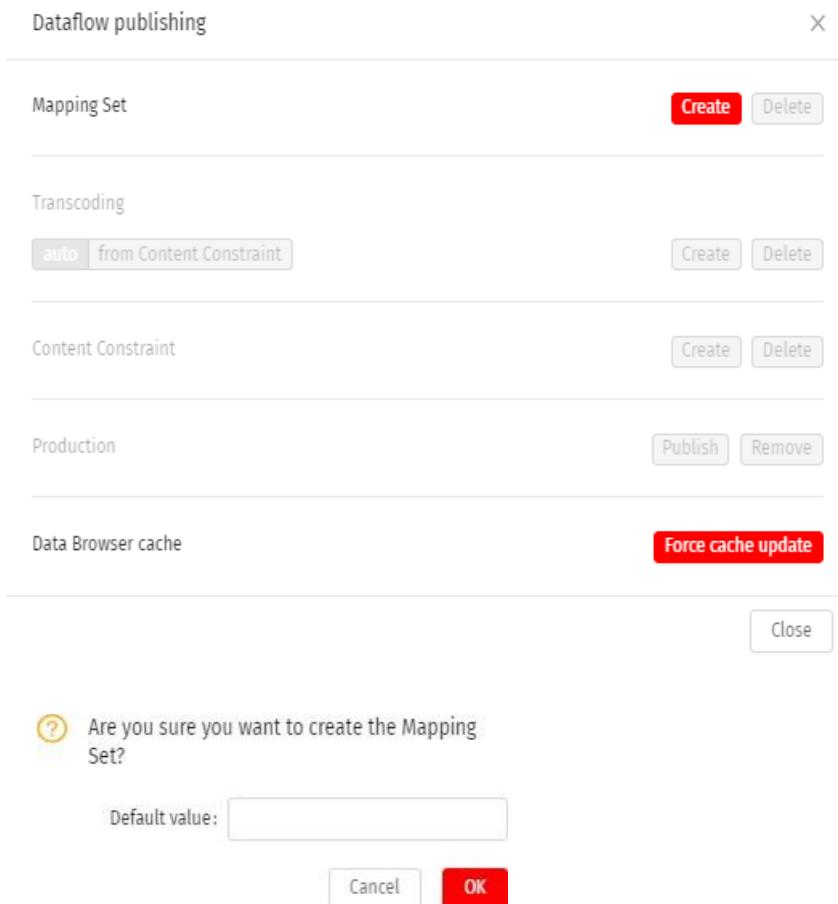
If the node settings include the configuration to connect to the Data Browser, the option to clear the dataflow cache will also be present in the publication window.

The completion of a step allows the passage to the next step.

The same mask allows the user to remove a Dataflow from production or to delete the settings set in the steps above with the “Delete” or “Remove” buttons.

Mapping set

Pressing the “Create” button, the system opens a pop-up window where the user enters the “Default value” to be used for observations with a null value.



By clicking on “Ok” the system performs the mapping between the information present in the data and the elements of the DSD.

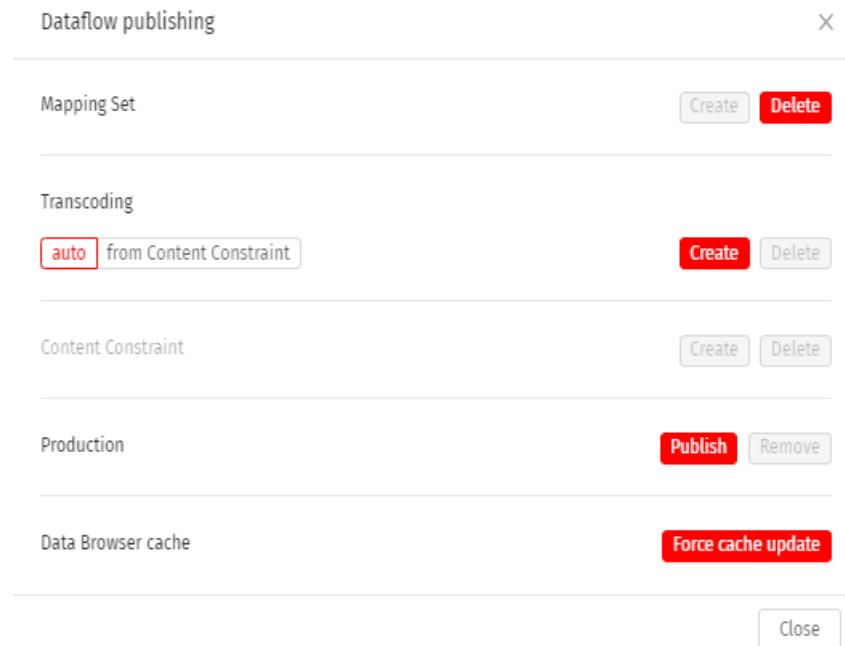
The mapping is done automatically based on the information provided in the section [File Mapping](#) during the construction of the Dataflow, in this step the conformity checks are carried out between the values contained in the dimensions and the corresponding Codelist items.

Transcoding

In this step the correspondence between the codes present in the data and the codes present in the Codelist is created.

For the temporal dimension, for which there is no Codelist, a format Transcoding is applied (e.g. year-month => yyyy-mm).

The Transcoding can be done automatically based on the information contained in the definition of the Dataflow or from an already existing Content Constraint linked to the Dataflow.



Content Constraint

In this step the Content Constraint is created automatically according to the information contained in the Dataflow definition.

Production

By clicking the “Publish” button the user puts the data into production; the button is active as soon as the first step “Mapping set” is completed, as publication is possible even without the “Mapping set”. The button is active as soon as the first step “Mapping set” is completed, since the publication is possible even without the creation of Transcoding and Content Constraint.

To be in production, the presence of Transcoding and Content Constraint are indicated by the flags highlighted in the figure.

ID	Ag.	Name	Vers.	Transc.	C.C.	Prod.	
DFB_POP_TEST	SDMX	DFB_POP_TEST	1.0	✓	✓	✓	

Force Update Cache

If the Data Browser section is properly set in configuration, through this button it is possible to invalidate the data cache of the Data Browser for the selected dataflow. In order to regenerate the cache it is sufficient to access the data in the Data Browser, for example by clicking on the button with the world icon (present only if the dataflow is in production) in the main screen of the Dataflow Builder. This operation is performed automatically in the following cases, which also produce the update of the LAST_UPDATE annotation of the related dataflow:

- Putting in/removing a dataflow from production
- Loading data into a cube (CSV or SDMXML format)
- Loading an attribute file
- Deleting a series
- Empting a cube

8.7 How to update a DSD

The “Update DSD” function can be found in the menu on the left under “Data Manager” and allows the user to update the version of a DSD used in a Cube.

Selecting this item from the menu will show the DSDs with at least one associated Cube.

The screenshot shows a table titled "Upgrade DSD" with columns: ID, Ag., Name, Vers., Final, and actions. The table contains four rows of data. In the "actions" column, there are three small circular icons: a blue one with a white "P", a teal one with a white "M", and an orange one with a white "U". A "Search..." input field and a magnifying glass icon are at the top left. A "Upgrade Dsd" button is located at the bottom right of the table area.

ID	Ag.	Name	Vers.	Final	
DCIS_POPRES1	IT1	Resident population on 1st January	1.3	✓	
DCIS_POPRES1	IT1	Resident population on 1st January	1.4	✓	
DCIS_POPRES1	IT1	Resident population on 1st January	1.2	✓	
DCIS_POPRES1_ANTO	SDMX	Resident population on 1st January	2.0	✓	

At line level on the right, icons are present for:

- *View the DSD*
- *View the associated Dataflows*
- *Update the DSD*

By clicking on the “Update DSD” icon the System opens a window where the user can see the DSDs with a later version than the selected one, and that can be used for the update.

The screenshot shows a table titled "Upgraded DSD list" with columns: ID, Ag., Name, Vers., Final, and actions. The table contains two rows of data. In the "actions" column, there are two small circular icons: a blue one with a white "U" and an orange one with a white "U". A "Search..." input field and a magnifying glass icon are at the top left. A "Compare Dsds" button is located at the bottom right of the table area.

ID	Ag.	Name	Vers.	Final	
DCIS_POPRES1	IT1	Resident population on 1st January	1.3	✓	
DCIS_POPRES1	IT1	Resident population on 1st January	1.4	✓	

The system shows a report with the results of the comparison between the two DSDs, the comparison can be downloaded in a report with the “Download” button.

The screenshot shows a report titled "Dsds compare report" comparing "DCIS_POPRES1+IT1+12" and "DCIS_POPRES1+IT1+13". It highlights that "These Dsds don't respect the minimum requirements for upgrading". The report details differences in Dimensions (2 diff.), Attributes (0 diff.), and Measures (0 diff.). A diagram shows a relationship between "ETA_NUM" and "ETA". A "Close" and "Download" button are at the bottom right.

These Dsds don't respect the minimum requirements for upgrading

DCIS_POPRES1+IT1+12	DCIS_POPRES1+IT1+13
---------------------	---------------------

< Dimensions (2 diff.) Dimensions detail (6 diff.) Attributes (0 diff.) Attributes detail (0 diff.) Measures (0 diff.) >

```

graph TD
    ETA_NUM --- ETA

```

Close Download

The “Update DSD” icon updates the DSD in all connected objects, e.g. if a Cube was created

with the DSD: DCISPOP-IT1-1.2, after updating the DSD to version 1.3 the Cube will be associated with DSD: DCISPOP-IT1-1.3.

If the DSD chosen for the update does not meet the minimum requirements (e.g. there is no mandatory dimension or attribute) the update is blocked with an error message.



8.8 Other use cases

This section explains the other functions available in the menu under “Data Manager”.

- **Cube Lists**
- **Manage Series**
- **Synchronise code lists**
- **Import attribute files**
- **Update Cache Data Browser**
- **DDB reset**
- **Remove temporary tables**

Cube lists

The “Cube List” menu item displays the list of cubes in the system.

The “Search” function can be activated from the mask to display one or more cubes that contain the entered text.

Cube list						
pop						
ID	Name	DSD	Last update	Embargo		
BL_POP_ITTER107_BUCHI	BL_POP_ITTER107_BUCHI	DCIS_POPREST_TEST+SDMX-1.0	8/1/2021, 09:25:30			
BL_POP_5MLN	pop_4MLN	DCIS_POPREST+IT1+1.2	5/5/2020, 09:28:39			
BL_POPOLAZIONE_TEST	POPOLAZIONE_TEST	DCIS_POPREST+IT1+1.3	8/1/2021, 11:53:09	✓		
BL_POPULATION_ANTO	Population Test	DCIS_POPREST_ANTO+SDMX+2.0	10/6/2020, 12:14:18			

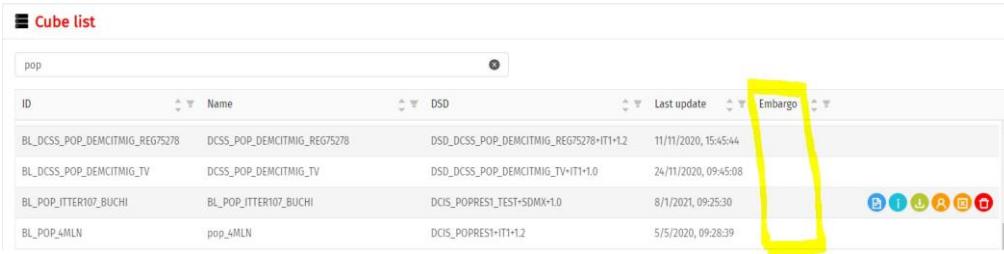
The list of Cubes has a tabular representation with the following columns:

- *ID representing the identifier of the Cube.*
- *Cube name*
- *Name of the Reference DSD*
- *Last modification of the Cube*
- *Name of the Cube data view*
- *Flag embargo*

Functions are provided for each item in the list:

- *Show Cube data*: allows the user to view the data contained in the Cube in table format.
- *Download*: allows the user to save the contents of the Cube to a CSV file, you can select only some dimensions or attributes and submit filters to select the data to export
- *Remove Embargo*: allows the user to remove the embargo.
- *Manage owner*: allows the user to manage the rights on the Cube.
- *Empty Cube*: deletes the data contained in the Cube
- *Delete*: deletes the Cube.

For cubes that have embargoed data, the “Remove Embargo” function is available, which allows the manual release of the data that was loaded in the *Loader* section but not visible. Once the embargo is removed, the data is visible and the flag and icon that indicated the embargo are no longer present.



ID	Name	DSD	Last update	Embargo
BL_DCSS_POP_DEMCITMIG_REG75278	DCSS_POP_DEMCITMIG_REG75278	DSD_DCSS_POP_DEMCITMIG_REG75278+IT1+L2	11/11/2020, 15:45:44	
BL_DCSS_POP_DEMCITMIG_TV	DCSS_POP_DEMCITMIG_TV	DSD_DCSS_POP_DEMCITMIG_TV+IT1+0	24/11/2020, 09:45:08	
BL_POP_ITTER107_BUCHI	BL_POP_ITTER107_BUCHI	DCIS_POPRES1_TEST+SDMX+1.0	8/1/2021, 09:25:30	
BL_POP_4MLN	pop_4MLN	DCIS_POPRES1+IT1+1.2	5/5/2020, 09:28:39	

A user who owns a Cube can assign the rights on the Cube to another user operating on the “Manage owner” function.

The System opens a mask allowing the user who owns the Cube to choose the user to whom he wishes to assign rights.



User	Email
federica	f.sbrana@sister.it
<input checked="" type="checkbox"/> Mario Rossi	m.rossi@libero.it
s.gabbani	s.gabbani@sister.it

from 1 to 8 of 8 rows

By clicking on the “Save” button, the selected user acquires rights on the Cube.

Manage Series

The menu item “Manage series” is used to edit several series at the same time. Once the cube has been selected from the category tree it is possible to see all the series (combinations of dimensions). It is possible to scroll through the complete list and make a choice of the individual series to be deleted. With both simple and advanced filters it is possible to identify exactly the series and eventually delete them.

Synchronise code lists

The menu item “Synchronise Code Lists” opens a window where the “Code Lists” that can be synchronised are displayed, e.g. Code Lists used in a Cube and that have been modified by

adding an item.

The selected code list has been changed from the one used in the cube and therefore can be synchronized.

With synchronisation, the structures created during the construction of the Cube are aligned with the changes in the code list, so that the loading of a new data element containing the new items can take place successfully.

Imports attribute files

The “Import Attribute File” menu item allows the user to import or overwrite the attributes of a cube using a list of rules defined in a csv file.

* Cube:

* File:

* Separator: Delimiter:

Refresh CC + Transc.: checkFitAttributes:

The user must define

- the cube into which import the attributes (mandatory)
- the file from which import the attributes (mandatory)
- the separator used within the file (mandatory)
- the delimiter used within the file (optional)

Once the file has been loaded (it will be possible to see a preview by clicking on the “Show dataset” button), the user will be able to decide whether to actually perform the import by specifying:

- to regenerate or not content constraint and transcoding for the dataflows derived from the cube on which the attributes are being loaded
- to check or not the correctness of the attributes defined on the File (i.e. those at Group and Dimension Group level). If the check fails, the attributes will not be loaded and the initial situation will be restored.

The file must have the following format:

- the header shall contain the identifiers of all the dimensions and attributes present in the cube
- for each line we specify for a given combination of dimension values (where we can leave empty the positions corresponding to dimensions for which the rule must be applied for all values) the value to be assigned to one and only one of the attributes present
- the rules are applied sequentially from the first to the last line so that the subsequent ones overwrite the previous ones. Rules for more specific cases than a more general case will therefore have to be contained in subsequent lines.

Here an example of a csv file:

Dimensions	Attributes
FREQ, IND, CASE, CSTAT, COURT, TIME_PERIOD	OBS_STATUS, CONF_STATUS, UMEAS, UMULT
.....,km,	
.....,mult	
,,CIVAFF,,APP,,,open,,	
A,NCASE,CIVAFF,PRO,APP,2000,valid,,,	

- Row 1: header with dimensions and attributes
- Row 2: the UMEAS attribute has the value “km” for any combination of dimensions (attribute with attachment level Dataset)
- Row 3: the attribute UMULT has the value “mult” for any combination of dimensions (attribute with attachment level Dataset)
- Row 4: the CONF_STATUS attribute has the value “open” for all data points where the CASE dimension has value IVAFF and the COURT dimension has value APP (attribute with attachment level Dimension Group)
- Row 5: the attribute OBS_STATUS has the value “valid” for the given values of each dimension (attribute with attachment level Observation).

Obviously it would have been possible to indicate different values of the last two attributes for different combinations of dimension values.

Update Cache Data Browser.

Using the “Update Data Browser Cache” menu item it is possible to invalidate the catalogue cache of a Data Browser node appropriately defined in the configuration section of an MDM node. This functionality is performed automatically in the following cases:

- Putting in/removing a dataflow from production
- Creating a new dataflow from Data Manager
- Deleting a dataflow from the Data Manager
- DDB reset

DDB reset

The menu item “DDB reset” resets all the operations done in the “Data Manager”. A pop-up window is shown to confirm the removal.

Remove temporary tables

The “Remove temporary tables” menu item removes the temporary tables created by the system during operations on Cubes or Dataflows (e.g. support tables for loading). A pop-up window will be displayed for confirmation by the user.

**CHAPTER
NINE**

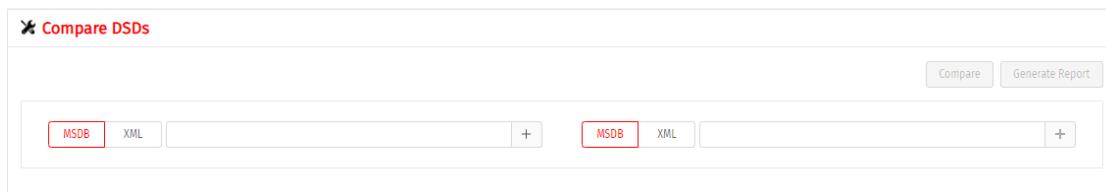
TOOLS

9.1 Import structures

The **Import Structures** function is present in the left-hand side menu starting from the “Tools” item and also in the list of artefacts. For the functionalities see the paragraph: *Import an Artefact* described in the Meta Manager.

9.2 Compare DSDs

The “**Compare DSD**” function can be found in the left sidebar menu starting from the “Tools” item. The function allows the user to compare two DSDs highlighting the differences between them.



The user can choose, for both DSDs, whether to take the DSD from the Structure DataBase Metadata or to load it from an external file. Obviously, when comparing two DSDs, it is also possible to choose one from the MSDB and the other from an external file to see if there are differences.

If loading is made from the MSDB then the user will be able to choose the DSD from a list of those available in the System:

Select first DSD

ID	Ag.	Name	Vers.	Final
AGRI	IT1	Agriculture	1.1	✓
AGRI	IT1	Agriculture	1.2	
CENSAGR_CAPOAZ_GEN	IT1	Farm manager	1.3	✓
DCAR_ATT_NOTAR	IT1	Notarial deeds	1.0	✓
DCIS_INCIDMORFER_COM	IT1	Road accidents, killed and injured - municipalities	1.0	✓
DCIS_INCIDMORFER_COM	IT1	Road accidents, killed and injured - municipalities	1.1	✓
DCIS_INCIDMORFER_COM	IT1	Road accidents, killed and injured - municipalities	1.11	
DCIS_OSPED_COM	IT1	Hospitals - municipalities	1.0	✓
DCIS_DOD_ANTO_1ANDA	SONMY	Po	2.0	✓

from 1 to 9 of 80 rows

Close

while choosing the XML option, the user selects the file from *filesystem*:

Nome	Ultima modifica	Tipo	Dimensione
DSD_EDUPUB_TN1_1.0.xml	13/03/2020 09:42	Documento XML	80 KB
DSD_JUS_TN1_1.0.xml	13/03/2020 09:42	Documento XML	30 KB

Once the choice of the two DSDs has been made, the System activates the **Compare** and **Generate Report** buttons.

Then the user, by pressing **Compare**, can perform the comparison and obtain the result with the differences on the screen:

Compare DSDs

Compare **Generate Report**

MSDB XML	DCIS_INCIDMORFER_COM+IT1+1.0	MSDB XML	DCIS_OSPED_COM+IT1+1.0
----------	------------------------------	----------	------------------------

Dimensions (3 diff.) Dimensions detail (1 diff.) Attributes (0 diff.) Attributes detail (0 diff.) Measures (0 diff.) Groups (0 diff.) Groups detail (0 diff.)

```

graph TD
    RESULT --- HOSPITAL_TYPE
    RESULT --- CLINICAL_SPECIALTY
    
```

and, by pressing **Generate Report**, he obtains a comparison report in txt format.

```

CompareDss_2020-05-12_15-41-08.txt - Blocco note

File Modifica Formato Visualizza ?
PSD: DSD_JUS+TN1+1.0 - ++

-----
Dimensions in Source:
FREQ: CL_FREQ+TN1+1.0 (Frequency)
IND: CL_IND+TN1+1.0 (Indicator type)
CASE: CL_CASE+TN1+1.0 (case type)
CSTAT: CL_STATE+TN1+1.0 (State of affairs)
COURT: CL_COURT+TN1+1.0 (Justice court types)
TIME_PERIOD: No Codelist

Dimensions missing in source:
SEX: CL_SEX+TN1+1.0
CYCLE: CL_CYCLE+TN1+1.0
CLASS: CL_CLASS+TN1+1.0

Dimensions missing in target:
CASE: CL_CASE+TN1+1.0
CSTAT: CL_STATE+TN1+1.0
COURT: CL_COURT+TN1+1.0

Difference Codelist Dimension:
- No Difference

Difference Concept Dimension:
- No Difference

```

9.3 Compare Item Schemes

The **Compare Item Scheme** function can be found in the left-hand side menu starting with the “Tools” item.

The function allows a two-by-two comparisons for: **Code Lists**, **Category Schemes** and **Concept Schemes**.

Compare Item Schemes

Select Item Scheme type: Codelists Category Schemes Concept Schemes

Compare Generate Report

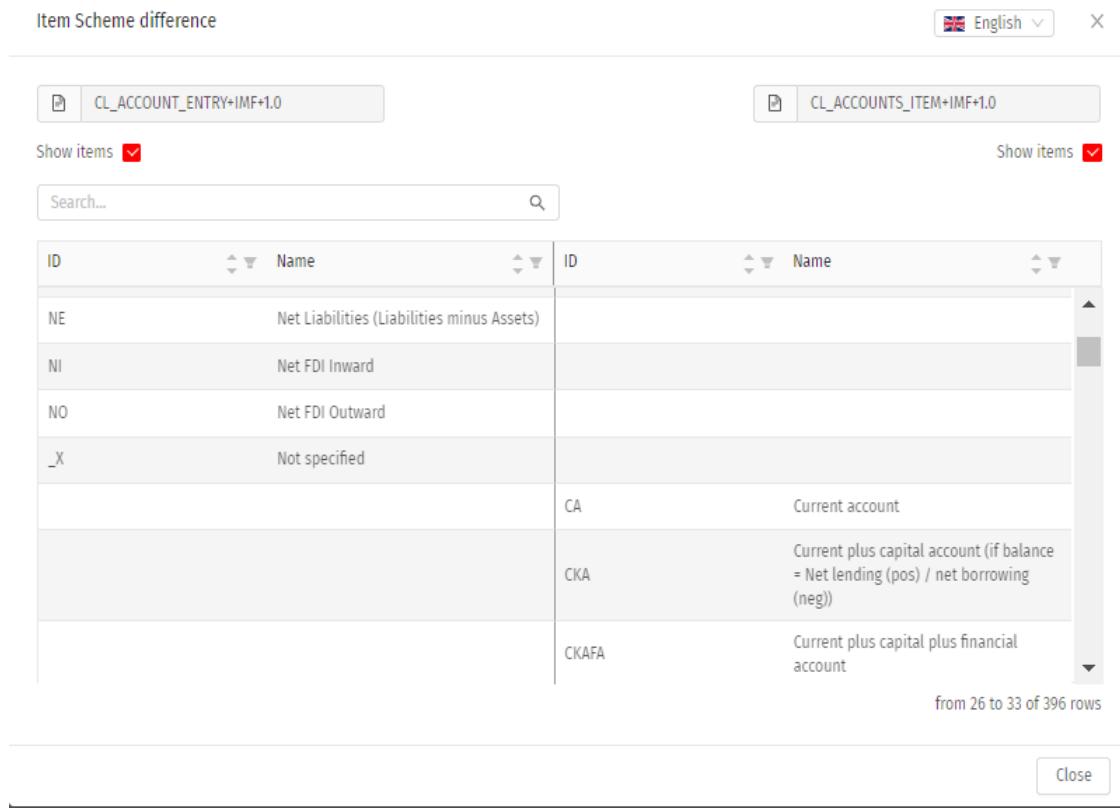
Codelist 1	Codelist 2
<input type="file"/>	<input type="file"/>
MSDB CSV SDMX-ML	MSDB CSV SDMX-ML

Item schemes can be loaded indifferently from:

- MSDB
- CSV
- SDMX-ML

Once the choice of the two Item Schemes (e.g. two Code Lists) has been made, the System activates the **Compare** and **Generate Report** buttons.

The user, by pressing **Compare**, can perform the comparison obtaining the result with the differences on the screen:



The screenshot shows a comparison interface between two item schemes. At the top, there are two tabs: 'CL_ACCOUNT_ENTRY+IMF+1.0' on the left and 'CL_ACCOUNTS_ITEM+IMF+1.0' on the right. Both tabs have a 'Show items' checkbox checked. Below the tabs is a search bar with the placeholder 'Search...'. The main area contains two tables side-by-side. The left table has columns 'ID' and 'Name'. The right table also has columns 'ID' and 'Name'. The data in both tables is identical, listing account codes and names such as NE (Net Liabilities), NI (Net FDI Inward), NO (Net FDI Outward), _X (Not specified), CA (Current account), CKA (Current plus capital account), and CKAFA (Current plus capital plus financial account). A scroll bar is visible on the right side of the right table. At the bottom right of the interface, there is a 'Close' button.

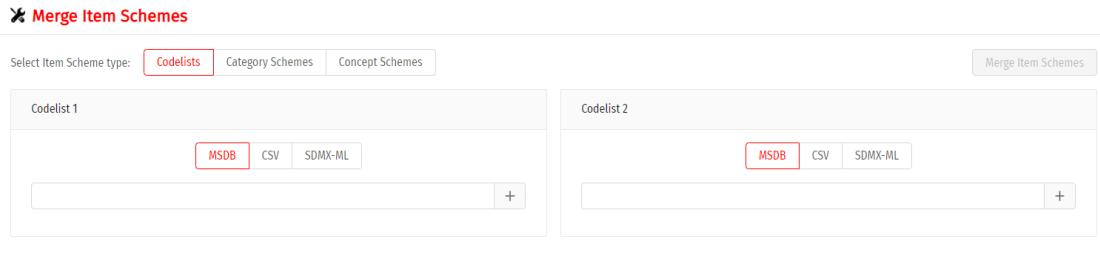
and, by pressing **Generate Report**, he obtains a comparison report in txt format.

```
Artefacts: CL_ACCOUNT_ENTRY+IMF+1.0 - CL_ACCOUNTS_ITEM+IMF+1.0
Missing item in Source:
[CA]: (Current account)
[CKA]: (Current plus capital account (if balance = Net lending (pos) / net borrowing (neg)))
[CKAFA]: (Current plus capital plus financial account)
[D1]: (Primary income, Compensation of employees)
[D11]: (Primary income, Wages and salaries excluding employers social contributions)
[D12]: (Primary income, Employers social contributions)
[D121]: (Primary income, Employers actual social contributions)
[D1211]: (Primary income, Employers actual pension contributions)
[D1212]: (Primary income, Employers actual non-pension contributions)
[D122]: (Primary income, Employers imputed social contributions)
[D1221]: (Primary income, Employers imputed pension contributions)
[D1222]: (Primary income, Employers imputed non-pension contributions)
[D2]: (Primary income, Taxes on production and imports)
```

9.4 Merge Item Schemes

The **Merge Item Schemes** function can be found in the left-hand side menu starting from the “Tools” item.

The function allows a two-by-two merge for: **Code Lists, Category Schemes and Concept Schemes**.



Item schemes can be loaded indifferently from:

- MSDB
- CSV
- SDMX-ML

Once the choice of the two Item Schemes (e.g. two Code Lists) has been made, the System activates the **Merge Item Schemes** button.

By pressing **Merge Item Schemes** the Merge preview will be shown:

The screenshot shows the 'Merge preview' interface. At the top, there is a header with a language selection dropdown (English) and a close button. Below the header, there is a search bar with a magnifying glass icon. The main area is a table with two columns: 'ID' and 'Name'. The table contains the following data:

ID	Name
_T	All age ranges or no breakdown by age
M0	under 1 month old
M36T59	36 to 59 months old
Y0	under 1 year old
YOT4	under 5 years old
YOT14	under 15 years old
YOT13	under 14 years old
YOT17	under 18 years old
V1T1/	1 to 1/4 years old

At the bottom of the table, it says 'from 1 to 9 of 222 rows'. At the very bottom, there are 'Close' and 'Forward' buttons.

By Pressing **Next** the user can create a new Item Scheme filling the mandatory fields:

- ID
- Agency
- Version

- Name

New Item Scheme

English X

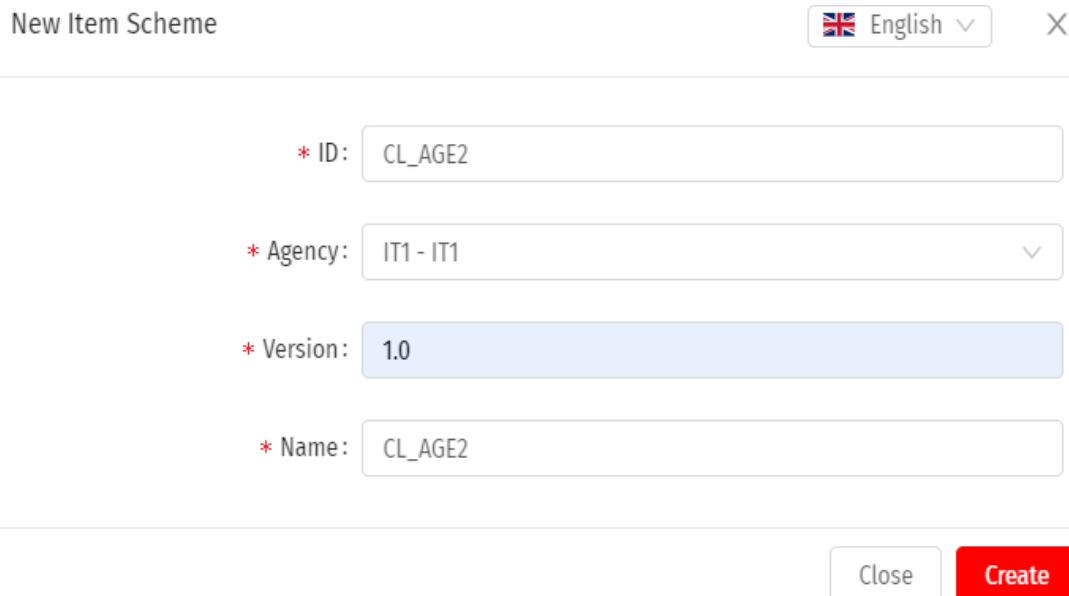
* ID: CL_AGE2

* Agency: IT1 - IT1

* Version: 1.0

* Name: CL_AGE2

Create



Finally by pressing **Create** the new Item Scheme will be created and the user will be able to locate it in the Meta Manager.

Codelists

Search... Import + New

ID	Ag.	Name	Vers.	Final
CL_ADJUSTMENT	IMF	Adjustment indicator code list	1.0	
CL_ADJUSTMENT	IT1	Adjustment indicator	1.0	✓
CL_ADJUSTMENT_EX	IT1	Adjustment	1.0	✓
CL_AGE	ILO	Classification: AGE	1.0	✓
CL_AGE	IT1	SDG age group code list	1.0	✓
CL_AGE2	IT1	CL_AGE2	1.0	

9.5 Browser artefacts

..... coming soon....

**CHAPTER
TEN**

METADATA MANAGEMENT

The Metadata item in the application menu has two sections:

- **Referential Metadata**

Dedicated to the management of Referential Metadata, that is metadata that can be associated to any artefact in a generic way.

- **DCAT-AP_IT**

Dedicated to the management of Metadata in compliance with the DCAT-AP_IT standard (defined by Agit, the agency for digital Italy), which defines a set of descriptive metadata (mandatory, recommended or optional) used to document both data and catalogues dedicated to public administrations.



10.1 Referential Metadata

Referential Metadata is linked to Structural Metadata (managed in the MetaManager) and the link is the *Metadata Structure Definition* (MSD) which is a model that specifies the types of constructs to which metadata can be related and the structure of this metadata at the time of dissemination.

In particular from an MSD it is possible to create *MetadataFlows* which represent a metadata flow with the characteristics defined by the MSD and are the starting point in the management of Referential Metadata.

- *MetadataSet Management*
- *Creating a new MetadataSet*
- *Compilation of a report*

10.1.1 MetadataSet Management

The Referential Metadata module allows the management of Metadata Sets, that is a set of Metadata organised in Category Schemes; each Metadata Set is created from a Metadataflow, with which it shares the categorisation.

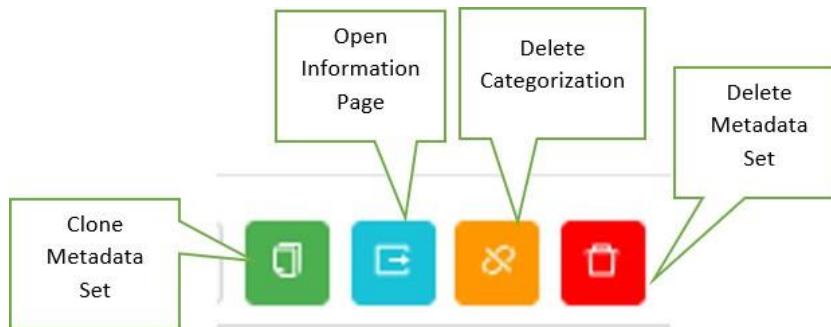
The Metadata Sets present will be displayed by browsing the category tree.

Clicking on a single Metadata Set the application will display its details, including the list of associated reports:

A user has read/write permissions on a Metadata Set and related reports if and only if the user owns the associated Metadataflow.

Therefore, if a user has permissions on the Metadataflow associated with the Metadata Set, he will be able to edit both the Metadata Set's details and create/edit/delete/expose the reports associated with it.

By clicking on a single Metadata Set the following buttons will also be activated by the System:



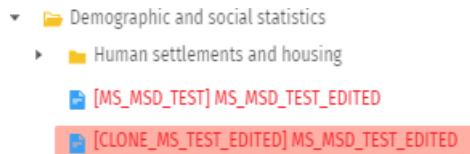
Pressing **Open Information Page** a popup window like the following will be opened:

Information	
ID: MS_TEST NOME: MS_TEST MSD: IT1:TEST_MSD(1.0)	
METADATASET DATA	
METADATAFLOW	IT1:METADATAFLOW_MSD_TEST(1.0)
MSD	IT1:TEST_MSD(1.0)
Reporting Begin-End	-
Valid From-To	-
REPORTS (ID - DATAFLOW)	
MS_TEST	SDMX-DFB_POP_TEST(1.0)

Pressing **Clone Metadata Set** the user will have to enter a new id to identify the clone:

Clone MetadataSet	
* ID:	CLONE_MS_TEST_EDITED
<input type="button" value="Close"/> <input type="button" value="Save"/>	

and the system will create an identical copy of the original Metadata Set with the new identifier:



Pressing **Remove categorization** the system will remove the Metadata Set from a category while the recategorization of a Metadata Set can be done simply by drag&drop operations.

Pressing **Delete** the chosen Metadata Set will be deleted but only if there are no reports linked.

10.1.2 Creating a new MetadataSet

Selecting the category with the mouse, the “Create Metadata Set” button will be enabled, and the user can create a new Metadata Set (after filling in the required fields).

The screenshot shows the 'Reference Metadata' creation dialog. On the left, a sidebar lists various categories such as 'Demographic and social statistics', 'Population and migration', 'Income and consumption', etc. The 'Demographic and social statistics' category is selected. On the right, a form is displayed for creating a new metadata set. It includes fields for 'ID' (set to 'ID00_TEST(1.0) GEOSTAT'), 'Name' (set to 'GEOSTAT'), 'Metadataflow' (set to 'IT1:METADATAFLOW_MSD_TEST(1.0)'), 'MSD' (set to 'IT1:TEST_MSD(1.0)'), 'Reporting begin' (a date picker), 'Reporting end' (a date picker), 'Valid from' (a date picker), 'Valid to' (a date picker), 'Publication year' (a date picker), 'Publication period' (a date picker), and an 'Annotations' field.

One of the mandatory fields for the creation of a Metadata Set is the linked Metadataflow; the Metadataflow will be selectable from a specific component, in which will be present only the Metadataflow owned by the user.

Other fields are not mandatory such as the validity period of the report and the Annotations that can be inserted with additional structured information even if this element is not an artefact.

When the user has filled in the mandatory fields then the System will enable the “Save” button and the Metadata Set can be saved.

10.1.3 Compilation of a report

Once the Metadata Set has been created, it can be viewed and one or more reports can be added using the “Create Report” button that the System will have enabled.

The compilation of the report is done in two steps:

- **Target selection:**

In the compilation of the report the user must fill in the following fields:

ID: (mandatory, alphanumeric) freely typed.

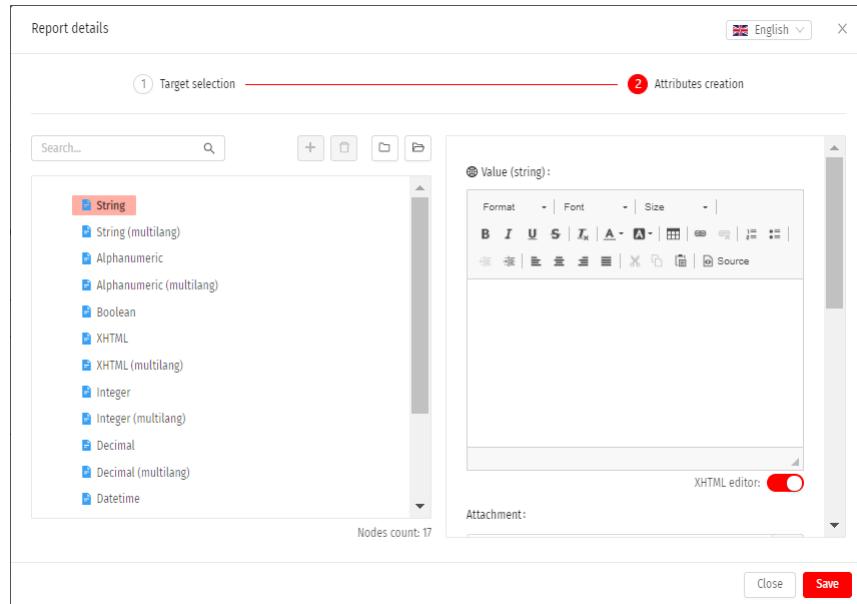
Target: (mandatory, alphanumeric) chosen from a drop-down menu from the list provided by the MetadataFlow associated to the MSD.

There can be more than one target and according to the choice made, i.e. the target object type, the System will dynamically compose the following requests. In the following example the type of target object is the *Dataflow* so the System asks the user to identify which Dataflow to consider among those present in the node:

DataFlow: (mandatory, alphanumeric) chosen from the drop-down menu.

- **Attribute creation:**

The 2nd step is the compilation of the attributes coming from the MSD:



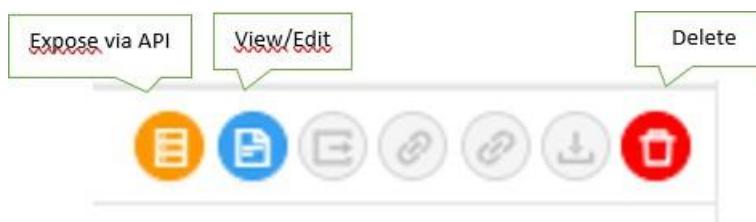
It is possible to save a draft of the report at any time (the system warns the user about the fields that still need to be completed) and the complete report can be saved, using the “Save” button, only after all the mandatory fields have been completed.

Report list			
ID	Structure	Target identifier	State
MS_TEST	TEST_TARGET_ID	DFB_POP_TEST+SDMX+1.0	

Once the report is saved, the user can use a series of tools on the line corresponding to the report:

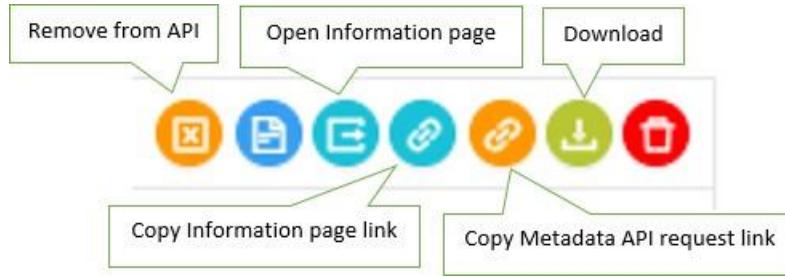
- **Publish Report via API**

To make report data accessible via API, after checking the necessary permissions, the user can use the “Publish via API” button, this way he can access the report data in SDMX-JSON format also through a call to the appropriate REST web service.



- **Open information page - Copy information page link**. For each report exposed via API, an HTML view is available.

In order to access directly from the interface to this visualisation, it will be sufficient to select the button “Open information page” on the row corresponding to the report:



And a pop-up window like the following will open, which can also be downloaded in HTML:

Information

ID: MS_TEST
Target: TEST_TARGET_ID
Dataflow: SDMX:DFB_POP_TEST(1.0)

Metadata
Reference metadata
1. String 2. String (multilang) 3. Alphanumeric 4. Alphanumeric (multilang) 5. Boolean 6. XHTML 7. XHTML (multilang) 8. Integer 9. Integer (multilang) 10. Decimal 11. Decimal (multilang) 12. Datetime 13. Time 14. Gregorian day 15. Gregorian year 16. Gregorian yearmonth

[Download Report](#)

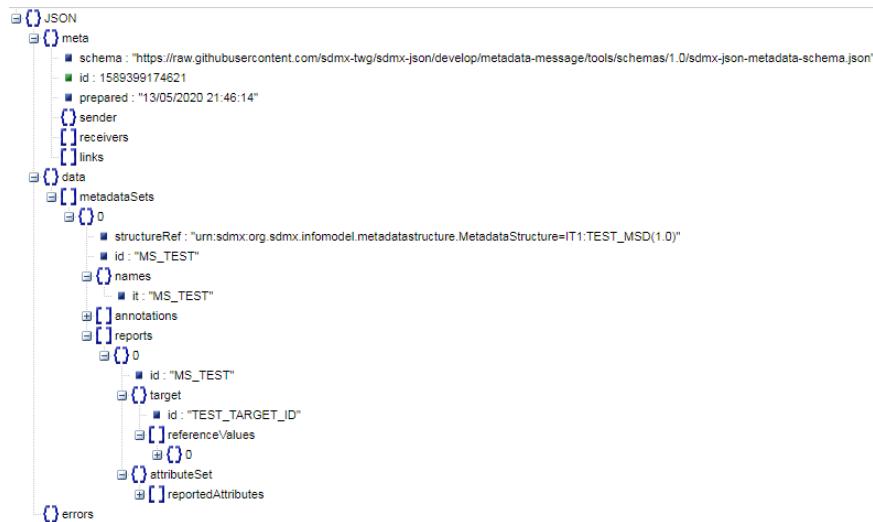
1. String [Top](#)
string

2. String (multilang) [Top](#)

[Close](#)

If the user wants to embed this visualization in other contexts, he can obtain the link using the “Copy information page link” button.

- **Copy Metadata API request link**. If the user wants to access to the report data in SDMX-JSON format also through the call to the proper REST web service, he will be able to get the link through the button “Copy Metadata API request link”.



Remove from API - Delete. It is possible to cancel the publication of a report using the “Remove from API” button and delete it with the “Delete” button.

10.2 The DCAT-AP_IT Standard

Selecting the DCAT-AP_IT item from the Menu leads to the section dedicated to the compilation/publication of Metadata according to the DCAT-AP_IT standard.

DCAT-AP_IT

ID	Name	Metadataflow ID	Metadataflow agency	Metadataflow version
MS_DCAT_SERE	MS_DCAT_SERE	METADATAFLOW_DCAT	ITI	1.9
DCAT_MATTE	DCAT_MATTE	METADATAFLOW_DCAT	ITI	1.9
METADATASET2	METADATASET2	METADATAFLOW_DCAT	ITI	1.9
MDS2ET	MDS2ET	METADATAFLOW_DCAT	ITI	1.9

The standard requires the compilation of Metadata inherent to the Catalogue and Metadata inherent to the single published Dataflow.

- *New MetadataSet DCAT-AP_IT*
- *Compilation of a DCAT-AP_IT report*

10.2.1 New MetadataSet DCAT-AP_IT

By pressing the “Create Metadata Set” button the user can create a new Metadata Set (after filling in the required fields):

The screenshot shows the 'Metadata Set Detail' form. It includes fields for ID (MS_DCAT_SERE), Name (MS_DCAT_TEST), Metadataflow (METADATAFLOW_DCAT+IT1+1.9), Reporting begin (15/04/2020), Reporting end (30/04/2020), Valid from (15/04/2020), Valid to (29/04/2020), Publication year, and Publication period.

By filling in the mandatory fields the user will have to choose a Metadataflow among those available through a drop-down menu.

The Metadataflow available will only be those dedicated to the MSD of the DCAT-AP_IT (whose configuration, in the next image, is made by the Superuser at Node level) owned by the user.

The screenshot shows the 'DCAT-AP_IT' configuration page with tabs for General, Agencies, Endpoint, Custom annotations, Annotations, Proxy, Search, and DCAT-AP_IT (selected). The 'MSD' field contains the value 'urn:sdmx.org.sdmx.infomodel.metadatastructure.MetadataStructure=IT1:DCAT-AP_IT_MSD(1.9)'. A red 'Save' button is visible at the bottom.

Once the mandatory fields have been filled in, the user can press “Save” and the new DCAP-AP_IT Metadata Set will be inserted into the list:

The screenshot shows a table titled 'DCAT-AP_IT' with columns for ID, Name, Metadataflow ID, Metadataflow agency, and Metadataflow version. The table lists four entries: MS_DCAT_SERE, DCAT_MATTE, METADATASET2, and MDSET. The 'MS_DCAT_SERE' row is highlighted with yellow.

ID	Name	Metadataflow ID	Metadataflow agency	Metadataflow version
MS_DCAT_SERE	MS_DCAT_SERE	METADATAFLOW_DCAT	IT1	1.9
DCAT_MATTE	DCAT_MATTE	METADATAFLOW_DCAT	IT1	1.9
METADATASET2	METADATASET2	METADATAFLOW_DCAT	IT1	1.9
MDSET	MDSET	METADATAFLOW_DCAT	IT1	1.9

10.2.2 Compilation of a DCAT-AP_IT report

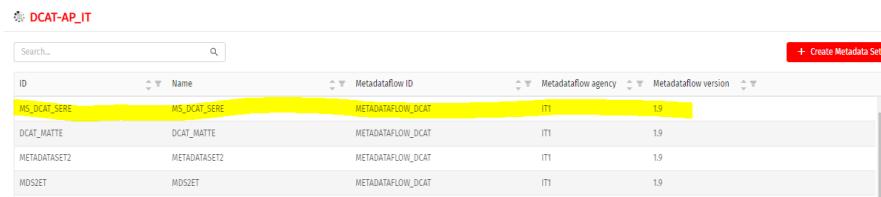
DCAT-AP_IT is a standard for meta information of catalogues, which allows the user to create metadata for the catalogue and for the dataflows categorised in it, so the dedicated DCAT-AP_IT MSD has been modelled by introducing two targets:

- The CATALOGUE target
- The DATAFLOW target

so the user can create a report for each of the two targets.

All users can create/edit/expose/delete a DCAT-AP_IT report if and only if they own the Dataflow for which they want to create the report, regardless of the permissions on the Metadataflow.

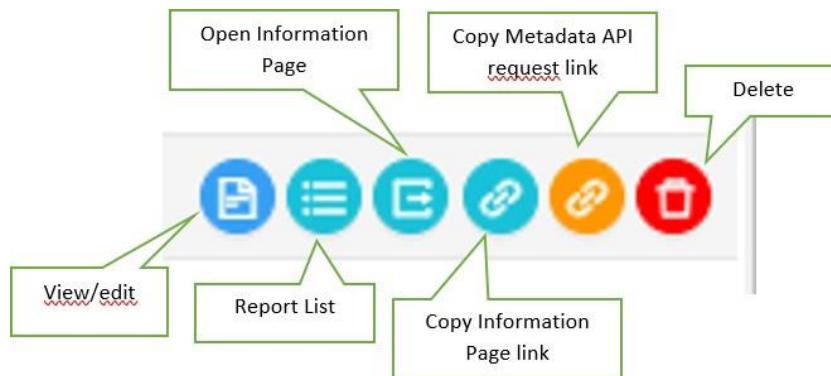
The role of ownership of a Dataflow can be transferred to other users directly from the Dataflow display interface. On the line relative to the Metadata Set DCAT-AP_IT chosen:



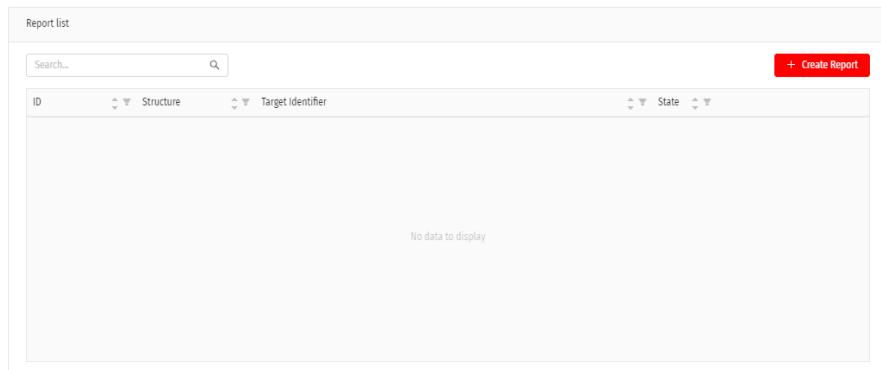
A screenshot of a web-based application interface titled "DCAT-AP_IT". At the top right is a red button labeled "+ Create Metadata Set". Below it is a search bar and a table with columns: ID, Name, Metadataflow ID, Metadataflow agency, and Metadataflow version. The table contains four rows with the following data:

ID	Name	Metadataflow ID	Metadataflow agency	Metadataflow version
MS_DCAT_SERIE	MS_DCAT_SERIE	METADATAFLOW_DCAT	ITI	1.9
DCAT_MATTIE	DCAT_MATTIE	METADATAFLOW_DCAT	ITI	1.9
METADATASET2	METADATASET2	METADATAFLOW_DCAT	ITI	1.9
MDSET	MDSET	METADATAFLOW_DCAT	ITI	1.9

the user can insert new reports by clicking on the button “Report List”



which will open the list of reports (if any):



A screenshot of a web-based application interface titled "Report list". At the top right is a red button labeled "+ Create Report". Below it is a search bar and a table with columns: ID, Structure, Target Identifier, State. The table displays the message "No data to display".

from which you can create a report for the catalogue with “Create Report”:

Report details

① Target selection ② Attributes creation

* ID: DCAT_MATTE_REPO1

* Target: CATALOG_TARGET_ID

* MetadataFlow: METADATAFLOW_DCAT+ITI+1.9

Close Forward

which obviously refers to the metadataflow relative to the initial DCAT-AP_IT and, by pressing “Next”, requires the user to fill in a series of attributes that will be associated with the catalogue:

- Catalogue title
- Description
- Identifier
- Etc...

Report details

① Target selection ② Attributes creation

Search... + ⌂ ⌂ ⌂ ⌂ ⌂

Nodes count: 11

Value (string):

XHTML editor:

Close Save

The report will be actually saved and will become publishable only after the user has filled in all mandatory fields.

The intermediate saves, during which the user will have on screen the report of the missing fields, will be only working drafts.

Only one report of this type is possible per catalog:

ID	Structure	Target Identifier	State
REP_MS_DCAT_SERE	CATALOG_TARGET_ID	METADATAFLOW_DCAT+IT1+1.9	✓
REP_MS_DCAT_SERE2	DATAFLOW_TARGET_ID	DF_SERE+IT1+1.0	✓

Then by pressing again “Create Report” it is possible to create a report for the dataflow:

Report details

① Target selection ② Attributes creation

* ID: DCAT_MATTE_REPO2

* Target: DATAFLOW_TARGET_ID

* Dataflow: DF_STS+IT1+1.0

Close Forward

and also in this case by pressing “Next” the system requires the user to fill in a series of attributes that will be associated with the dataflow:

- Description of the dataset
- Date of last modification
- Theme of the dataset
- Etc.

Report details

① Target selection ② Attributes creation

Attention: it's not possible to automatically fill some required fields, to do that you have to edit the details of the dataflow associated with the report.

Search... + - / < >

Value (string): DF_STS+IT1+1.0

Dataset

- Dataset identifier
- Dataset title
- Dataset description
- Dataset modified
- Dataset theme
- Dataset rights holder
- Agent identifier
- Agent name
- Dataset accrual periodicity
- Dataset distribution
- 1. Dataset distribution
- Distribution format

Nodes count: 37

Close Save

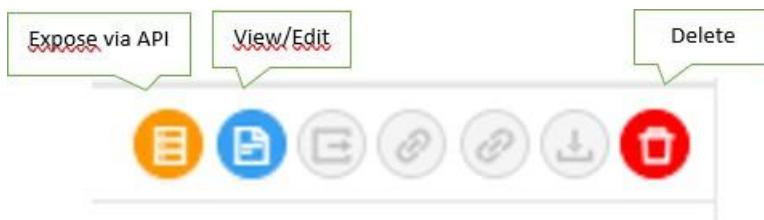
similarly, the report will actually be saved and will become publishable only after the user has filled in all mandatory fields.

The user can create more than one type of report.

Report List				
ID	Structure	Target Identifier	State	
REP_MS_DCAT_SERE	CATALOG_TARGET_ID	METADATAFLOW_DCAT+IT1+1.9	✓	
REP_MS_DCAT_SERE2	DATAFLOW_TARGET_ID	DF_SERE+IT1+1.0	✓	

Once the report is saved, the user can use a series of tools on the line corresponding to the report of interest:

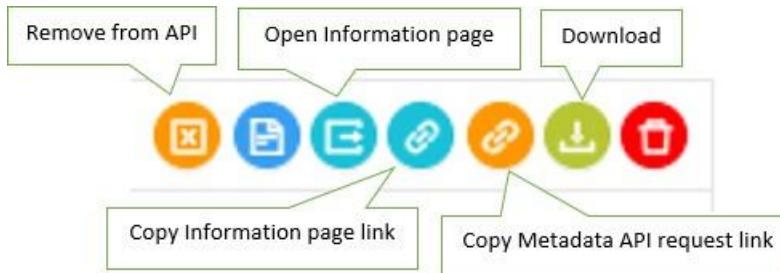
- **Publish Report via API**. To make the data of a report accessible via API, after checking the necessary permissions, the user can use the button “Expose via API”, in this way he can access the report data in SDMX-JSON format also by calling the appropriate REST web service.



Open information page - Copy info page link

For each report exposed via API an HTML view is available.

In order to access directly from the interface to this visualisation, it will be sufficient to select with the mouse the button “Open information page” on the row corresponding to the report:



And a pop-up window like the following will open, which can also be downloaded in HTML:

If the user wants to embed this visualization in different contexts, he can obtain the link by clicking on the “Copy information page link” button.

- **Copy Metadata API Request Link**

If the user wants to access the report data in SDMX-JSON format also through the call to the proper REST web service, he will be able to get the link through the button “Copy Metadata API Request Link”.

```

{
  "help": "http://demo-sistanhub.sister.it/it/MS_DCAT_IT_TEST/api/3/action/package_show?id=MS_DCAT_TARGET_DATAFLOW",
  "success": "true",
  "result": {
    "license_title": "",
    "id": "DF_STS+IT1+1.2--",
    "private": "false",
    "metadata_created": "",
    "metadata_modified": "2020-05-15",
    "author": "",
    "state": "active",
    "resources": [
      {
        "id": "",
        "package_id": "DF_STS+IT1+1.2",
        "size": "",
        "last_modified": "",
        "format": "",
        "mimetype": "",
        "name": "",
        "created": "",
        "url": "",
        "position": "0"
      }
    ]
  }
}

```

- **Remove from API - Delete**

It is possible to cancel the publication of a report using the “Remove from API” button and to delete it with the “Delete” button, taking care to delete the dataflows first, otherwise the report in the catalogue cannot be deleted.