
Odf Docs Documentation

Release 0.0.1

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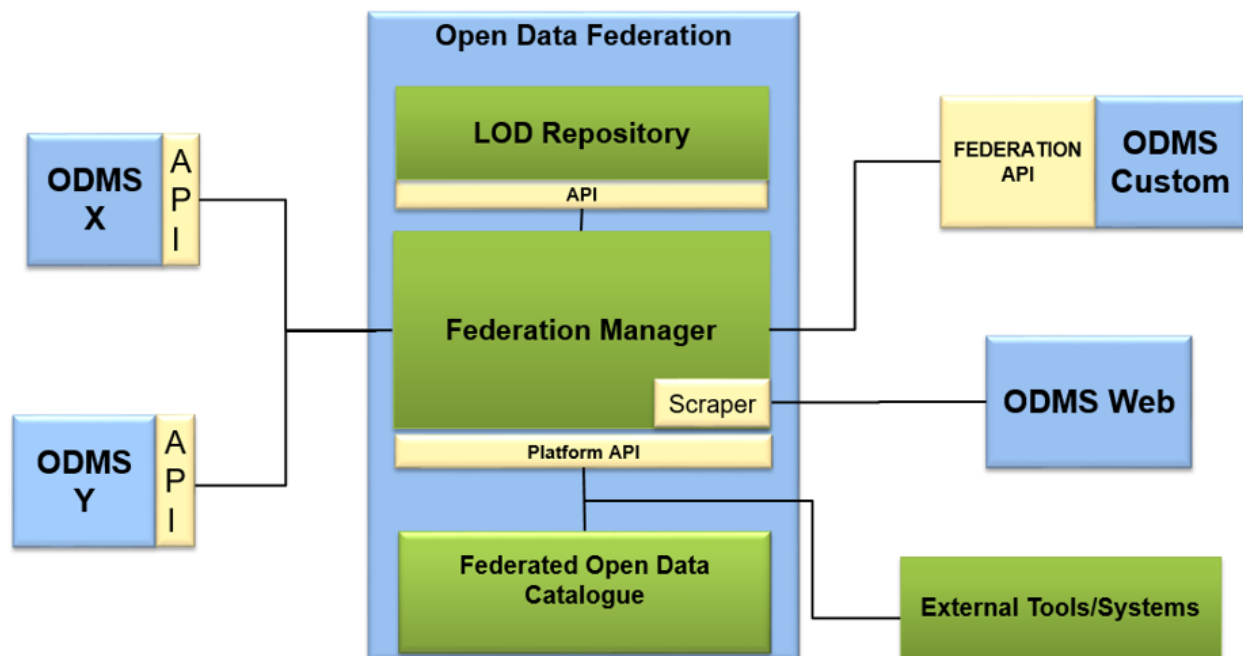
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Open Data Federation (ODF) is a web application able to federate existing Open Data Management Systems (ODMS) based on different technologies; in this way ODF provides a unique access point to search and discover open data sets coming from the different federated ODMS. ODF uniforms representation of collected Open Data Set, thanks to the adoption of international standards (DCAT-AP) and provides a set of APIs to develop third party applications. ODF supports natively ODMS based on CKAN, DKAN and Socrata and provides a set of APIs to federate ODMSs not natively supported; these ODMSs have to implement and expose them. In addition, it is possible to federate a generic Web Portal, either by using the Web Scraping functionality or by uploading a dump of the datasets in DCAT-AP format. Moreover, ODF provides a SPARQL endpoint in order to perform queries on 5 stars RDF linked open data collected from federated ODMSs.

1.1 Architecture Overview

Open Data Federation provides access to resources of federated ODMSs from a single-entry point through a set of APIs and is able to retrieve, search and visualize datasets from different ODMSs. The platform is responsible for collecting metadata of Open Data from federated ODMS catalogues and then for translating them into a common and uniform format. In addition, it manages Linked Open Data (LOD), importing them into a specific repository in order to perform queries on them. The following picture illustrates the architecture of the Open Data Federation.



Its main components are:

- **Federation Manager:** is the core of the platform that interacts with federated ODMS catalogues; it is responsible for managing internal federation processes. It provides the main functionalities through Platform API in order to be accessed by external application or by the Federated Open Data Catalogue. Main functionalities provided by the FM are:
 - ODMS catalogues management: registration, removal and monitor.
 - Federated full text search: possibility to search for specific Open Data on the federated ODMS catalogues.
 - Federated queries on Linked Open Data.
 - Federation configuration management
- **LOD Repository:** is the central store in which collected Linked Open Data retrieved from federated ODMS catalogues are stored, in order to perform queries on them and to provide collected results in different formats.
- **Federated Open Data Catalogue:** is a web application that allows end users to access the FM functionalities calling the Platform API. In particular, the Federated Open Data Catalogue allows to:
 - Manage administrator authentication
 - Search for Open Data/Linked Open Data, visualise and manage results
 - Manage Federation and configuration.

The Federation Manager functionalities can be also accessed by a generic external system (e.g. client application) using the Platform API. It is important to underline that each ODMS catalogue depicted in the picture is a generic system that manages OD/LOD. Usually it consists in a web portal associated to a database. In order to be federated in the ODF, the ODMS has to provide some basic functionalities through RESTful APIs. One of the objectives of the ODF is to allow the federation of different ODMSs with minimum effort. Different type of ODMS catalogues will be natively supported by ODF: CKAN, Socrata, DKAN or portals that provides the datasets through a DCAT-AP or DCAT-AP_IT dump; ODF provides Federation API Specification to allow “custom ODMS catalogues” to join the federation; moreover, custom ODMS catalogues that does not provide APIs can join the federation through the scraping of its web portal.

1.2 Administration Manual

This section provides the description of the administration functionalities. An administrator should be able to install, deploy, perform the sanity checks on the environment and manage the platform through the Federated Open Data Portal.

1.2.1 Installation

This section covers the steps needed to properly install the Open Data Federation

Requirements

ODF has the following requirements that must be correctly installed and configured

Framework	Version	License
Java SE Development Kit	8.0	Oracle Binary Code License
Apache Tomcat	8.0	Apache License v.2.0
MySQL	5.7.5 Community	GNU General Public License Version 2.0
RDF4J Server	2.2.1	EDL 1.0 (Eclipse Distribution License)
RDF4J Workbench	2.2.1	EDL 1.0 (Eclipse Distribution License)

Libraries

ODF is based on the following software libraries and frameworks.

Framework	Version	Licence
Apache SOLR-Lucene (SOLR Core)	6.6.0	Apache License
Apache Http Client	4.5.2	Apache License
Apache Http Core	4.5.2	Apache License
Mysql connector (Community Release)	5.1.39	GPL 2.0 (GNU General Public License Version)
Hibernate	5.2.10.Final	LGPL 2.1 (GNU Lesser General Public License)
Hikari	2.6.1	Apache License 2.0
Log4j	2.7	Apache License 2.0
CKANClient-J	1.7	AGPL 3.0 (GNU Affero General Public License)
RDF4J-Runtime	2.2.1	EDL 1.0 (Eclipse Distribution License)
AngularJS	1.5.9	MIT
Angular-UI - bootstrap-ui	0.13.3	MIT
Bootstrap	3.3.2	MIT
Bootstrap-Material	3	MIT
Smart-table	2.1.3	MIT
ngImageCrop	0.3.2	MIT
spin.js	2.3.2	MIT
angular-zeroclipboard	0.8.0	MIT
angular-xeditable	0.1.8	MIT
angular-pagination	0.11.0	MIT
Ace Editor	1.2.0	BSD
Angular-UI - ace-ui	0.2.3	MIT

Prerequisites

The following tools should be properly installed on your computer:

- Git
- NodeJs (with NPM)
- Bower
- Maven

Proxy configurations

In order to use the different tools behind a proxy please execute the following commands (*username* and *password* are your credential, *proxyhost* is the host name or the IP address of the proxy and *proxyport* is the TCP port of the proxy):

- **Git: open a command prompt and execute:**

```
$ git config --global http.proxy http://username:password@proxyhost:proxyport
$ git config --global https.proxy http://username:password@proxyhost:proxyport
```

- **Npm: open a command prompt and execute:**

```
$ npm config set proxy http://username:password@proxyhost:proxyport
$ npm config set https-proxy http://username:password@proxyhost:proxyport
```

- **Bower:** change the current directory to the one that contains the “*bower.json*” file and create/edit the “*.bowerrc*” file and add the proxy configuration:

```
{
    "proxy" : "http://username:password@proxyhost:proxyport",
    "https-proxy" : "http://username:password@proxyhost:proxyport"
}
```

- **Maven:** edit the file “*Path_Of_Maven/conf/settings.xml*” and add to the “*<proxies>*” section the proper configuration following the example provided in the same file (please refer to maven guide <https://maven.apache.org/guides/mini/guide-proxies.html>)

Create WAR packages

Open a command prompt and Execute the following command to clone the repository:

```
$ git clone https://production.eng.it/gitlab/OPSI/OpenDataFederation.git
$ cd OpenDataFederation
```

In this folder you will find two subfolders:

- **FederationManager:** this folder contains the server side application of the Open Data Federation
- **ODFCatalogue:** this folder contains the client side application of the Open Data Federation

FederationManager.war

Move in FederationManager folder:

```
$ cd FederationManager
$ mvn package
```

Note. Execute this command in a network without proxy because of jitpack dependency.

ODFCatalogue.war

Move in ODFCatalogue folder:

```
$ cd ODFCatalogue
$ cd /src/main/webapp
$ bower install
$ cd ../../..
$ mvn package
```

1.2.2 Deployment

This page shows the deployment procedure of the Open Data Federation.

Artefacts

These are the artefacts that must be installed in order to run ODF:

- FederationManager.war

- ODFCatalogue.war
- rdf4j-workbench.war & rdf4j-sesame.war (you can get both [here](#) , into "war" folder)
- opendata_federation.sql

Database creation

ODF relies on a MySQL database to store all the application data and collected Open Datasets.

So before deploying the application, it is necessary to create a new database, by importing in the MySQL server the provided SQL dump file:

- **opendata_federation.sql**

This dump already contains the statement that creates the “**opendata_federation**” DB automatically. In addition it creates an administration user with the following credentials:

username: admin

password: admin

Note. To change the administrator password login in the Open Data Catalogue with the previous credentials then go to the **Administration -> Manage Configurations -> Update Password** section.

WARs deployment

Move all the WAR artifacts to the “webapps” folder of Tomcat installation, start it up and wait until they are deployed.

RDF repository creation

Once the Tomcat server started, go with browser to the URL “**localhost:8080/rdf4j-workbench**”

Note. Change the port number according to the configuration of server.xml file of Tomcat “conf” folder (default 8080)

Through the RDF4J GUI, select “new repository” on the left menu, then create a new repository of type “**Native Java Store**” called “**ODF**”.

Configuration

Once all the WAR files are deployed and the server has started, modify the following configuration files, located in the deployed folders of Tomcat “webapps” folder.

- ODFCatalogue/WEB-INF/classes/
 - In **configuration.properties** file, change the following properties:
 - * Base url part of **ADMIN_SERVICES_BASE_URL** property with the **PUBLIC** domain where is exposed the runtime environment. (Example: <https://opendatafederation.eng.it/FederationManager/api/v1/administration>)
 - * Base url part of **CLIENT_SERVICES_BASE_URL** property with the **PUBLIC** domain where is exposed the runtime environment. (Example: <https://opendatafederation.eng.it/FederationManager/api/v1/client>)
- FederationManager/WEB-INF/classes/
 - In **configuration.properties** file, change the following properties:

- * **DB_HOST, DB_USERNAME, DB_PASSWORD** with the actual parameters of the MySQL server installation.
- * **http.proxyHost, http.proxyPort, http.proxyUser, http.proxyPassword** with the proxy parameters, leave blank if none. Change **http.proxyEnabled** to **true** if the previous proxy parameters are provided.
- * **odmsDumpFilePath** and **dumpFilePath** with the folder path where to save the DCAT-AP dump files. **NOTE** The path **MUST** end with "\" or "/".
- * **sesameRepositoryName** must have the same value of the newly created RDF repository.
- * **enableRdf** to **true**, in order to enable RDF retrieval, configured with the following parameters, according to the Tomcat configuration, as described in the “**RDF repository creation**” step:
 - **sesameServerURI** with the URL where to find the "repositories" endpoint of RDF4J. Example: `http\:\\localhost\\:8080/rdf4j-server/repositories/`
 - **sesameEndPoint** with the URL where to find the "query" endpoint. Example: `http\\:localhost\\:8080/rdf4j-workbench/repositories/ODF/query`
- In **hibernate.properties** file, change the following properties:
 - * **hibernate.connection.url, hibernate.connection.username, hibernate.connection.password** with the actual parameters of the MySQL server installation.

1.2.3 Sanity Checks

In order to apply the previous changes, restart the Tomcat server. The Sanity Checks are the steps that the Administrator will take to verify that the installation is ready to be used and tested.

Note. Change the “BASEPATH” value with the actual host and port where is exposed the runtime environment (Tomcat).

Catalogue Access Testing

Once the server restarted, go with browser to *http://BASEPATH/ODFCatalogue*

When the home page is showed, perform the following steps:

- Check that the message "There are no federated catalogues" is showed.
- Check that you can perform the Login as Administrator, in the appropriate section in the top bar.

Platform API testing

- Open a command prompt and execute: `curl http://BASEPATH/FederationManager/api/v1/administration/info`
- Check that you get the version number as output, along with other information about API version and timestamp

1.2.4 Platform Management

This section provides the description of the Administration Functionalities. Through the Open Data Catalogue a logged administrator can:

- Manage ODMS Catalogues;

- Manage configuration parameters;
- Manage datalets;
- View platform logs.

Catalogues Managements

In this page the administrator manages the Catalogues. In particular, he/she is able to:

- Add/Edit/Delete a Catalogue
- Add from a Remote Catalogues
- Activate/Deactivate a Catalogue;
- Start the synchronization of a Catalogue;
- Download a catalogue dump or the federation dump with DCAT-AP profile

Federated Open Data Catalogue

Dataset Search









































SPARQL Search

Federated Catalogues


Administration +

LOGOUT

LocalRemote

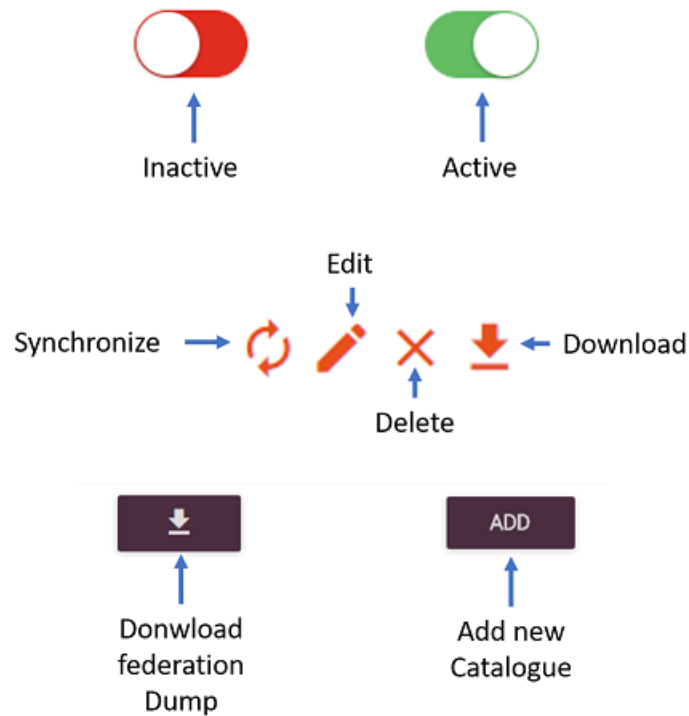
Active	▲Name	Host	Type	Level	Status	Datasets	Update Period	Last Update	
<input checked="" type="checkbox"/>	Ancitel Open Data	http://ckan.ancitel.it	CKAN	3	✓	10	1 day	2018-03-22 11:02:46	   
<input checked="" type="checkbox"/>	Arpae	https://dati.arpae.it/	CKAN	3	✓	21	1 day	2018-03-22 18:06:11	   
<input checked="" type="checkbox"/>	Civitavecchia Open Data	http://opendata.comune.civit...	CKAN	3	✓	43	1 day	2018-03-22 18:06:45	   
<input checked="" type="checkbox"/>	Consiglio Regionale della Ca...	http://opendata-crc.di.unisa...	CKAN	3	✓	5	1 hour	2018-03-23 09:06:24	   
<input checked="" type="checkbox"/>	Consip OpenData	http://dati.consip.it	CKAN	3	✓	16	1 day	2018-03-22 19:03:50	   
<input checked="" type="checkbox"/>	Consorzio LaMMa	http://dati.lamma.toscana.it	CKAN	3	✓	309	1 day	2018-03-22 18:07:23	   
<input checked="" type="checkbox"/>	Dati Comune Genova	http://dati.comune.genova.it	CKAN	2	✓	153	1 day	2018-03-22 16:36:24	   
<input checked="" type="checkbox"/>	Dati Toscana	http://dati.toscana.it/	CKAN	3	✓	2844	1 day	2018-03-22 17:09:26	   
<input checked="" type="checkbox"/>	Dati Trentino	https://dati.trentino.it	CKAN	3	✓	6095	1 day	2018-03-22 11:31:49	   
<input checked="" type="checkbox"/>	Fiware CKAN Catalogue	https://data.lab.fiware.org	CKAN	3	✓	2934	1 week	2018-03-21 16:39:41	   

12345



ADD

The following pictures depicts the functionalities linked to every button or icons.




Add/Edit/Delete a Catalogue

By clicking on the **ADD** button the following the Catalogue form is presented to the administrator.

Federated Open Data Catalogue Dataset Search SPARQL Search Federated Catalogues Administration - LOGOUT

Home / Catalogues / Add Catalogue



BROWSE **CROP**

Name:

Publisher Name:

Host:

Country:

Active:

Type:

Refresh Period:

Category:

Description:

BACK **RESET** **CREATE**

Here the administrator has to insert all of the information related to the catalogue and then click on the **CREATE** button.

By clicking on the *edit* icon on the Catalogue table, the user can edit most of the Catalogue's information. He/she cannot modify the *host* and *type* attributes.

By clicking on the *delete* icon on the Catalogue table, the user deletes the Catalogue and its datasets from the federation. This operation cannot be reverted.

Remote Catalogues

New Catalogues can be added to the federation using the **remote catalogues** list. This remote list is a catalogue repository maintained by Engineering. In the remote catalogue list an ODF administrator can find certified catalogues and by clicking on the *plus* icon he can insert the selected catalogue in his/her ODF instance.

Federated Open Data Catalogue						Dataset Search	SPARQL Search	Federated Catalogues	Administration +	LOGOUT
Home / Federated Catalogues										
Local Remote										
▲ Name	Host	Type	Level	Update Period						
Ancitel Open Data	http://ckan.ancitel.it	CKAN	3	1 day	+					
Arpae	https://dati.arpae.it/	CKAN	3	1 day	+					
Civitavecchia Open Data	http://opendata.comune.civitavecchia.rm.it	CKAN	3	1 day	+					
Consiglio Regionale della Campania	http://opendata-crc.di.unisa.it	CKAN	3	1 hour	+					
Consip OpenData	http://dati.consip.it	CKAN	3	1 day	+					
Consorzio LaMMa	http://dati.lamma.toscana.it	CKAN	3	1 day	+					
Dati Comune Genova	http://dati.comune.genova.it	DKAN	2	1 day	+					
Dati Toscana	http://dati.toscana.it/	CKAN	3	1 day	+					
Dati Trentino	https://dati.trentino.it	CKAN	3	1 day	+					
Fiware CKAN Catalogue	https://data.lab.fiware.org	CKAN	3	1 week	+					
1 2 3 4 5										

Activate/Deactivate a Catalogue

This functionality allows the administrator to manage on which catalogues the user can perform searches. Indeed, if a catalogue is **active** users will find its datasets during a search; if a catalogue is **inactive** user will not find any of its datasets during a search.

Catalogue Synchronization

By default, Catalogues are automatically synchronized from the platform taking advantage of the *refresh period* attribute. If an administrator will force the synchronization of a catalogue he/she would have to click on its *synchronize* button.

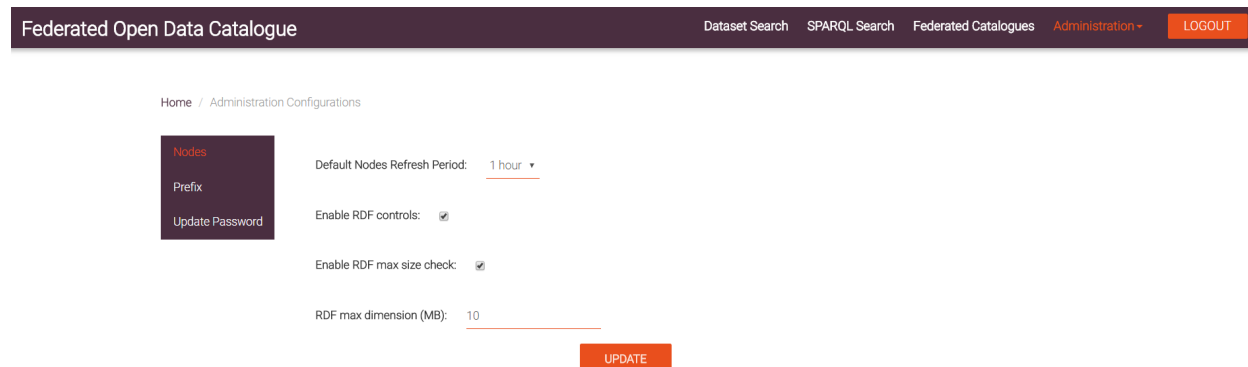
Download Dump

The administrator can download a DCAT-AP dump the Federated Open Data Catalogue. He/she can choose to download a single catalogue dump or the complete federation dump by clicking respectively on the download button in the catalogue's row of the table or on the global download button located at the bottom of the table.

Configuration Parameters Management

An administrator can modify some of the configuration parameters that control the loading of the RDF files into the LOD repository. In particular, he/she can: - Enable RDF controls: if **false** all RDFs will be loaded into the LOD repository, if **true** only the RDFs which pass the controls will be loaded, the others will be discarded; - Enable RDF max size check: this configuration parameter if **true** will enable the controls on RDFs size; - RDF max dimension: if the previous configuration parameter is **true**, this parameter will represent the size limit of an RDF in order to be

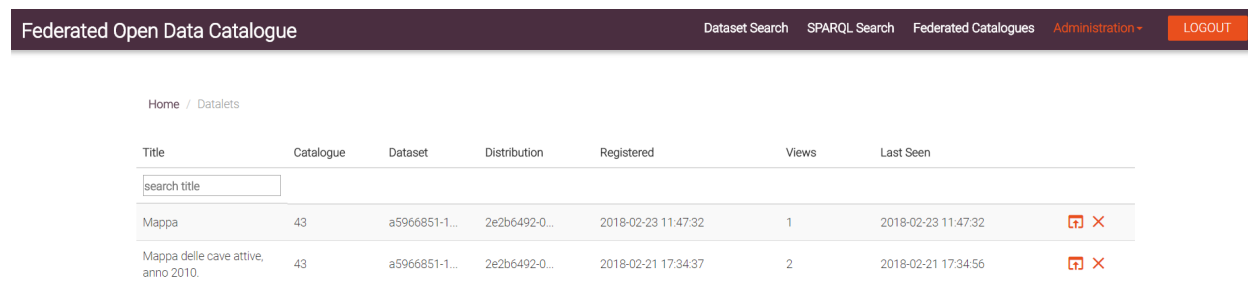
loaded into the repository. RDFs whose dimension exceeded will be discarded. Moreover, the administrator will define the default catalogue's refresh period.



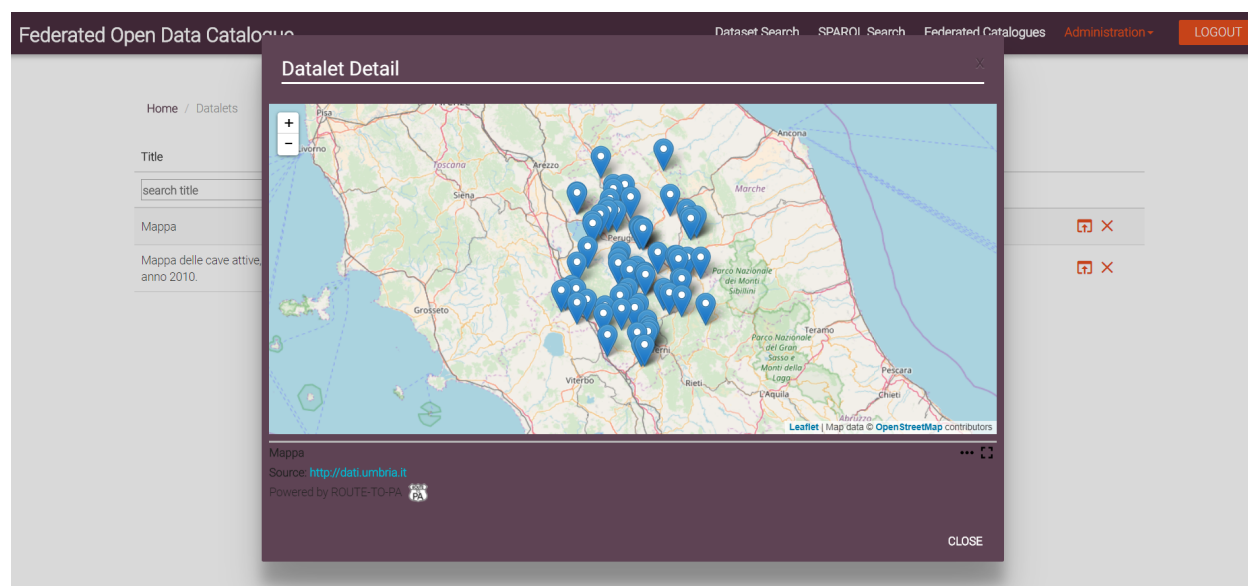
The administrator can also update his/her password and he/she can manage the RDFs' prefixes through the console.

Datalets Management

Through this page, the administrator can manage all of the datalets produced by the end users.

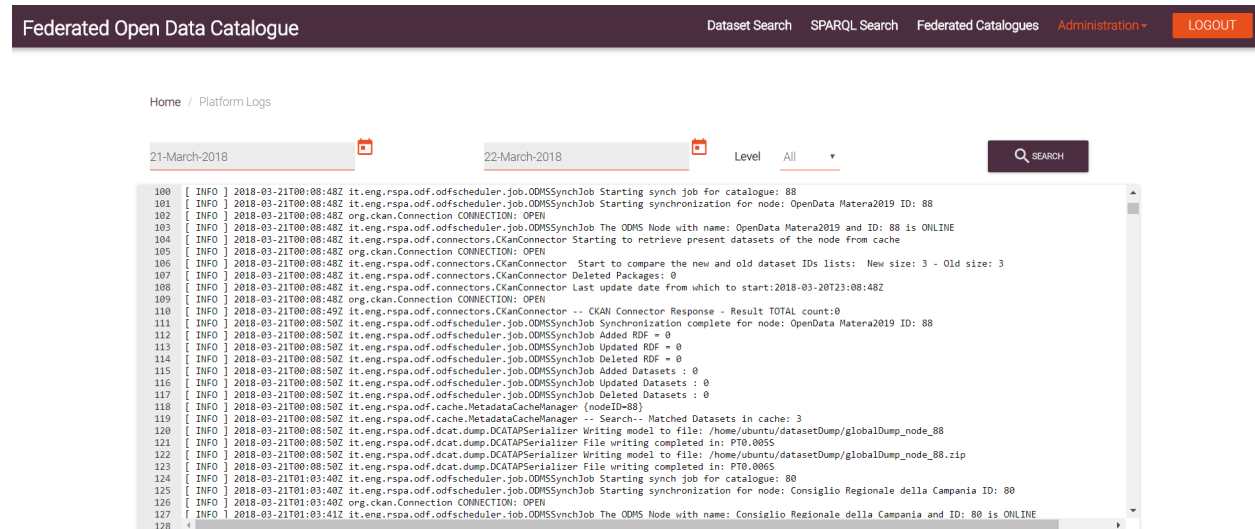


The administrator will check the number of views and the last time the datalets was seen by end users. The administrator will be able to delete the datalet or to see its preview.



Platform Logs

This page will show the *Logs* produced by the back-end server in the GUI. The administrator will be able to query the logs in order to search for a particular event. The following figure depicts this functionality.



1.3 End User Manual

This section provides the description of the End User Functionalities. Through the Open Data Catalogue a user can:

- Search datasets filtering by their metadata;
- Create graphical representation of dataset resources called *Datalet*;
- Execute SPARQL queries on RDF resources;
- View the federated ODMS in the platform.

1.3.1 Metadata Search

Each user can perform a dataset. Two types of search are provided by the GUI: a simple search or an advanced search.

Simple search

To perform a simple search the user should click on the search icon to perform the search on all of the federated datasets. The user could insert one or more keyword into the search bar to perform a filtered search. Moreover, the user could:

- select a tag from the tag-cloud to filter the search using the selected tag;
- search dataset by Categories.

Federated Open Data Catalogue
Dataset Search
SPARQL Search
Federated Catalogues
LOGIN

Search over **32780** dataset from **46** catalogues!

Browse by Categories

Agriculture, fisheries, forestry and food

Economy and finance

Education, culture and sport

Energy

Environment

Government and public sector

Health

International issues

Justice, legal system and public safety

Regions and cities

Population and society

Science and technology

Transport

Credits

ENGINEERING

Advanced Search

To perform an advanced search the user should click on the expand icon. An advanced form appears to him/her where the user can fill one or all of the fields in order to filter the results.

Search over **32780** dataset from **46** catalogues!

Filter 1 All

Release Date From To

Update Date From To

Catalogues (46/46)

☒ Multi Language

Source English

Targets Deutsch, Français

Sort By Title Ascendent

Max results per page 25

RESET SEARCH

The advanced search functionality allows the user to search using a multilanguage approach provided by the platform taking advantage of EuroVoc thesaurus. The user should select one source language and one or more target language to use this functionality. The following picture shows an example of multilanguage search with keyword *water*, source language *English* and target language *Italian*.

Filter 1 All

water

Tags

- ambiente (13)
- cover (13)
- land (13)
- surface (13)
- fiumi (12)
- idrografia (12)
- land1 (11)
- sea0 (11)
- acqua (10)
- gfs (10)

Formats

- zip (34)
- csv (23)
- wms (19)
- html (12)
- xls (8)
- json (6)
- xml (5)
- pdf (4)
- rdf+xml (4)
- xlsx (3)

Results 25

Datasets found: 69

MODELLO WRF-ARW a 3km - Maschera Terra - Acqua - 2018...

Dati Toscana

Maschera Terra - Acqua. Corsa del 2018-02-27 ore 00 UTC - Valido dalle ore 00 UTC del 2018-02-27 alle ore 00 ...

UNKNOWN (1) WMS (1) ZIP (1)

MODELLO WRF-ARW a 3km - Maschera Terra - Acqua - 2018...

Consorzio LaMMA

Maschera Terra - Acqua. Corsa del 2018-02-27 ore 00 UTC - Valido dalle ore 00 UTC del 2018-02-27 alle ore 00 ...

WMS (1) UNKNOWN (1) ZIP (1)

MODELLO GFS a 50km - Maschera Terra - Acqua - 2018-02-...

Dati Toscana

Maschera Terra - Acqua. Corsa del 2018-02-27 ore 00 UTC - Valido dalle ore 00 UTC del 2018-02-27 alle ore 12 ...

UNKNOWN (1) WMS (1) ZIP (1)

Search Result

The result of both the simple search or the advanced search are a list of the dataset that match with the requested filter. Next figure illustrates the result of a search operation.

Federated Open Data Catalogue

[Dataset Search](#)
[SPARQL Search](#)
[Federated Catalogues](#)
[LOGIN](#)

Home / Datasets

Tags

comune-di-firenze (782)

ambiente (749)

popolazione (717)

comune-pisa (663)

delibera della domanda (559)

profili di consumo (559)

elezioni (501)

territorio (435)

trasparenza (417)

statistica (379)

Show all Tags

Formats

csv (26238)

json (8741)

xml (2839)

z39 (7656)

BACK

Sort By Title

Results 25

<<

<

1

2

3

>

>>

Datasets found: 32780

Comune di Rovereto: Stradario WFS 1.1.0 beta

Dati Trentino

Questo web service di tipo WFS (Web Feature Service) fornisce diverse informazioni in formato GML collegate allo stradario ufficiale. Med...

GML (1)

Servizi educativi 0-3 anni apertura dei giardini ai bambini in età 0/6 anni acc...

Fiware CKAN Catalogue

Servizi educativi 0-3 anni apertura dei giardini ai bambini in età 0/6 anni accompagnati da un adulto familiare Anno scolastico 2012-2013 ...

CSV (1)

XLS (1)

PDF (1)

In this page the user can navigate results, he/she can change the order and the number of the results per page; moreover, he/she can filter the data using a *facet* approach. Different facets are available, in particular:

- Tags
- File Formats
- File Licenses
- Catalogues
- Categories

Dataset Detail

By clicking on a dataset in the search result page, the detailed presentation of all its metadata is showed to the user. The following picture shows an example of dataset detail.

Federated Open Data Catalogue

[Dataset Search](#)
[SPARQL Search](#)
[Federated Catalogues](#)
[LOGIN](#)

Cognomi di tutti i residenti di Matera aggiornati al 31/08/2013

OpenData Matera

Il file CSV contiene i cognomi di tutti i residenti nel comune di Matera. Nella seconda colonna è visualizzato il numero totale di individui aventi il relativo cognome. La situazione è aggiornata al 31 Agosto 2013.

Tags

cognome

residenti

statistica

Resources

JSON

cognomimatera.json

JSON

file in formato json

✓

📄

CSV

cognomimatera.csv

CSV

I cognomi di tutti i residenti nel comune di Matera. Nella seconda colonna è visualizzato il ...

✓

📄

Additional Info

Landing Page:

http://dati.comune.matera.it/dataset/110b5195-0301-4b61-8500-28b1b7ac5c65

Publisher:

Redeazione OD

Licenses:

cc-by

Release Date:

Jan 17, 2018

Update Date:

Feb 2, 2018

Frequency:

NEVER

Language:

ITA

Rights Holder:

Comune di Matera

Creator:

Ufficio Statistica

Theme:

SOCI

Identifier:

110b5195-0301-4b61-8500-28b1b7ac5c65

Other Identifier:

cognomi-di-tutti-i-residenti-di-matera-aggiornati-a-31-08-2013

Contacts:

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Spatial Coverage:

ITA_MTR

16

Chapter 1. Content

In this page the user can download the resources associated to the dataset by clicking on the download button; moreover, the user can create a graphical representation of the resources by clicking on the *create datalet* button.

1.3.2 Datalet Creation

A **Datalet** is a view WC, which is used to create rich, reusable visualization of open data. It was developed under the [ROUTE-TO-PA project](#). The datalet creator tool called *Datalet-Ecosystem Provider (DEEP)* was integrated with ODF in order to provide to users an open data visualization tool. For any further references about datalets please check <https://github.com/routetopa/spod/wiki/Datalets>.

In order to create a datalet the user should follow this steps:

- Select fields
- Select the graphical representation

Selecting fields

The datalet creation process starts with the selection of the fields from the resource. In this page the user can add all or a subset of the original fields. Moreover, the user can also filter the data through a dedicated panel. The user should then click on the right arrow to continue the process.

Using this page you can create a Datalet, a off-the-shelf, reusable web-component able to load, query, filter, and visualise any dataset content (e.g. through HighCharts Javascript library). Datalet are reusable since they can be placed in every web page, like institutional web-sites, blogs, forums and so on, without any knowledge on how it effectively is implemented.

1 SELECT DATA

Select the fields on the left. The table will show the values related to the selected fields.

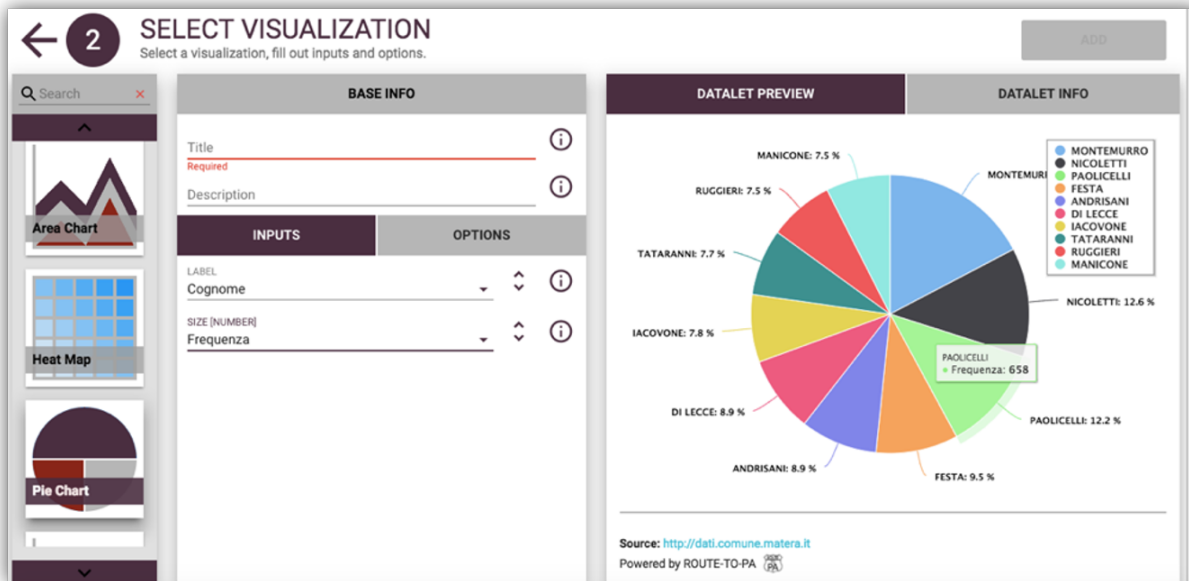
FIELDS		SELECTED DATA	
Cognome		Cognome	Frequenza
Frequenza		MONTEMURRO	937
		NICOLETTI	682
		PAOLICELLI	658
		FESTA	516
		ANDRISANI	484
		Showing 1 to 100 of 6415 rows	

Filters: Field: Operation: Value: AND

DISABLE FILTERS

Select the graphical representation

The next step is to choose the graphical representation of the selected fields and the proper association among the selected fields and the chart inputs. The following picture depicts a pie chart example.



In order to show the datalet in the ODF environment the user should click on the *Add* button.

1.3.3 SPARQL Queries

This functionality allows the user to search over LOD downloaded from the federated dataset and stored into RDF4J triple store. In this page the user can write his SPARQL query and select the format of the output between *XML* or *JSON*.

Federated Open Data Catalogue

Dataset Search SPARQL Search Federated Catalogues LOGIN

Home / Sparql Query

```

1 PREFIX dc:<http://purl.org/dc/elements/1.1/>
2 SELECT ?object
3 WHERE {
4   ?subject ?predicate ?object
5 }
6 LIMIT 50

```

Output Format XML

CLEAR SEARCH

The result of the query is showed to the user and he/she can download.

Home / Sparql Query / Sparql Result

BACK

```

1 <?xml version="1.0"?>
2 <sparql xmlns="http://www.w3.org/2005/sparql-results#"
3 <head>
4   <variable name="object"/>
5 </head>
6 <results>
7   <result>
8     <binding name="object">
9       <literal datatype="xs:date">21/05/2013</literal>
10    </binding>
11  </result>
12  <result>
13    <binding name="object">
14      <literal datatype="xs:date">31/10/2017</literal>
15    </binding>
16  </result>
17  <result>
18    <binding name="object">
19      <literal datatype="xs:string">62</literal>
20    </binding>
21  </result>
22  <result>
23    <binding name="object">
24      <literal datatype="xs:string">M</literal>
25    </binding>
26  </result>
27  <result>
28    <binding name="object">
29      <uri>http://dati.inail.it/opendata/downloads/datisemestralimalattieprofessionali/rdf/Gestione.rdf/1</uri>

```







COPY

DOWNLOAD

1.3.4 Catalogues overview

In this page all of the federated Catalogues are showed to user. The user can have a brief description of the Catalogue, check its country and category. Moreover, by clicking on the search button, the user can see all of the its datasets. The user can select between two views:

- Card

 <p>Datasets: 93 Last update: 2018-03-22 Category: Municipality</p> <p>Open data del comune di Bari</p>	 <p>Datasets: 49 Last update: 2018-03-22 Category: Municipality</p> <p>Dati Aperti del Comune di Catania</p>
 <p>Datasets: 21 Last update: 2018-03-21 Category: Region</p> <p>Open Data della Regione Siciliana relativi ai settori di attività dell'amministrazione regionale e delle pubbliche amministrazioni regionali</p>	 <p>Datasets: 361 Last update: 2018-03-21 Category: Region</p> <p>Repertorio regionale dei dati pubblici aperti dell'Umbria ai sensi dell'art.15 della l.r. n.8/2011, realizzato nell'ambito della Community Network regionale (CN-Umbria) di cui all'art.10 della l.r. n.8/2011. Il portale ha lo scopo di valorizzare il ...</p>
 <p>Datasets: 826 Last update: 2018-03-22 Category: Municipality</p> <p>No description available</p>	 <p>Datasets: 618 Last update: 2018-03-22 Category: Region</p> <p>Con la deliberazione 4/2 del 5/2/2014 la Regione Autonoma della Sardegna ha avviato un processo finalizzato all'adozione di un Piano d'Azione regionale per la valorizzazione del patrimonio informativo pubblico della Regione e degli Enti Locali della ...</p>

- Table

[Home](#) / [Federated Catalogues](#)



Name	Country	Host	Category	Datasets	Last Update	
Opendata Bari	IT	http://opendata.comune.bari.it	Municipality	93	2018-03-22 11:08:47	Q
Open Data Catania	IT	http://opendata.comune.catania.gov.it/	Municipality	49	2018-03-22 11:08:48	Q
Open Data Regione Sicilia	IT	https://dati.regione.sicilia.it/	Region	21	2018-03-21 17:18:53	Q
Open Data Umbria	IT	http://dati.umbria.it/	Region	361	2018-03-21 16:38:58	Q
Open Data Palermo	IT	https://www.comune.palermo.it/opendata_dld.php	Municipality	826	2018-03-22 09:49:16	Q
Opendata Sardegna	IT	http://dati.regione.sardegna.it	Region	618	2018-03-22 10:31:22	Q
Fiware CKAN Catalogue	-	https://data.lab.fiware.org	Private Institution	2934	2018-03-21 16:39:42	Q
Open Data Milano	IT	http://dati.comune.milano.it/	Municipality	292	2018-03-22 10:39:41	Q
Dati Toscana	IT	http://dati.toscana.it/	Region	2844	2018-03-21 17:07:48	Q
Regione Marche Open Data	IT	http://goodpa.regione.marche.it	Region	27	2018-03-22 10:52:25	Q
Open Data Regione Lazio	IT	http://dati.lazio.it/catalog	Region	348	2018-03-21 17:56:16	Q
Open Data Regione Puglia	IT	http://www.dataset.puglia.it/	Region	111	2018-03-21 17:57:04	Q