



# DSC Introduction

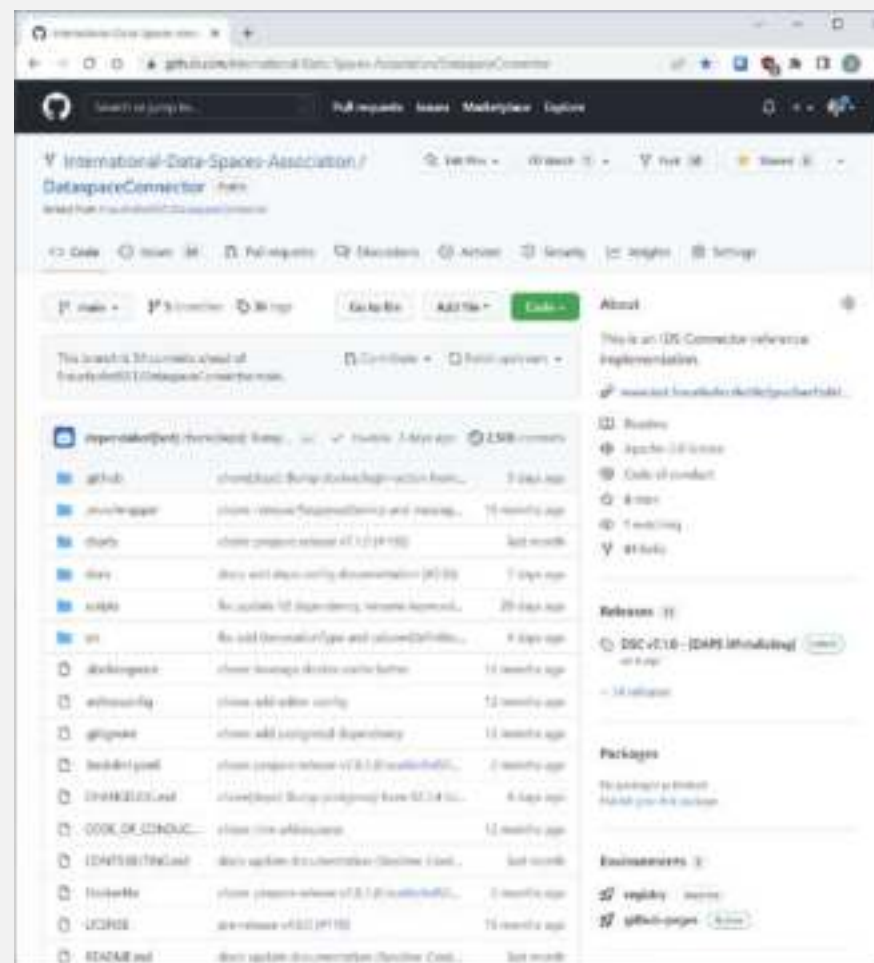
Dr. Sebastian Opriel  
CTO and Co-founder of soivity GmbH

DIO Workshop | September 2022



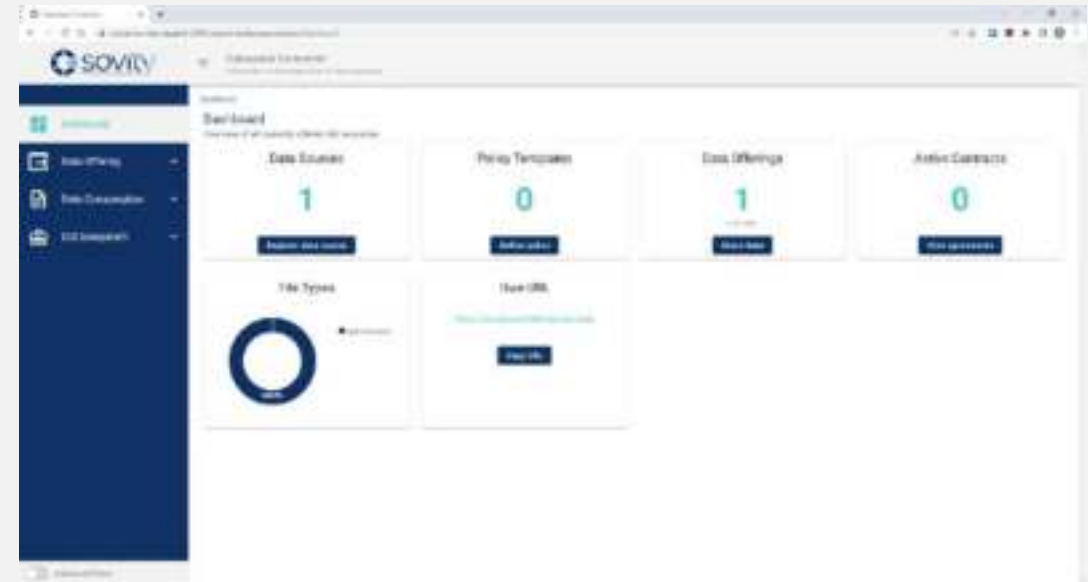
# Main Features of Dataspace Connector (DSC)

- Open Source (Apache 2.0) on GitHub: <https://github.com/International-Data-Spaces-Association/DataspaceConnector>
- DSC serves as reference connector in IDSA testbed
- Development
  - Initially developed by Fraunhofer ISST (2020–2022)
  - soivity took over maintainership in early 2022
- DSC is IDS\_ready and approved for IDS graduation scheme



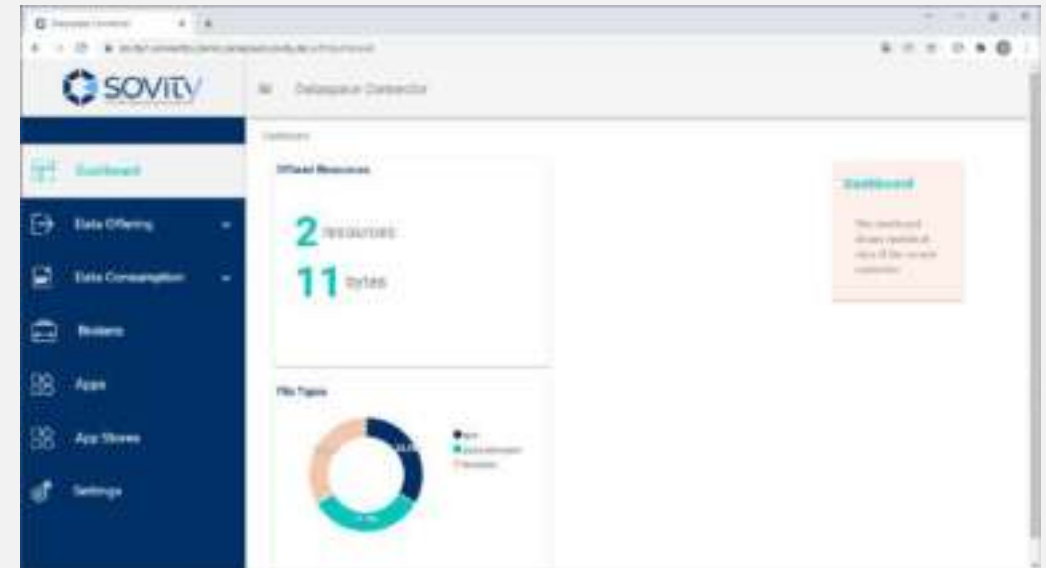
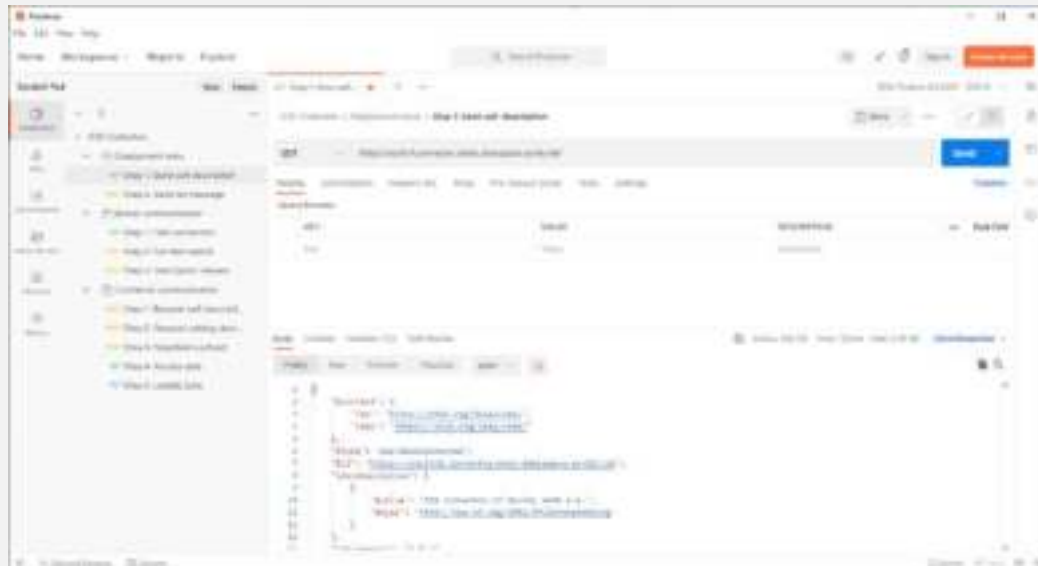
# Main Features of DSC

- **Functionalities**
  - Connects to data sources and sinks (REST, data bases or via Camel)
  - Exchanges data between IDS Connectors
  - HTTP Multipart and IDSCP protocols
  - Use IDS Apps and Routes to incorporate business logic
  - Enforcement of Usage Control
- **Configuration and communication**
  - Open-Source Frontend
  - Swagger UI of Connector
  - Postman Collection



# Interaction Ways with DSC

1. Via Frontend
2. Via Swagger-API
3. Via CURL/Postman/etc.





- Dashboard
- Data Offering
- Data Consumption
- IDS Ecosystem

Dashboard

### Dashboard

Data Sources

2

Register data source

Policy Templates

0

Define policy

Data Offerings

2

563 BYTES

Share Data

Active Contracts

4

View agreements

File Types

- application/json
- json

Own URL

<https://connector-sovity-mds-test-ui.prod-sovity.azure.sovity.io/api/ids/data>

Copy URL





- Dashboard
- Data Offering
- Offerings**
- Policy Templates
- Data Consumption
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Data Offering > Offerings

## Data Offerings

Overview of all currently offered IDS resources.

**ADD OFFERING**

Filter by catalog

Show all resources

Search

Creation date ↓	Title	Keywords	Brokers	Agreem.	
2022-08-12 05:25:50	Cryptocurrency API	coin,cryptocurrency	MDS Broker Test Environment	0	
2022-08-12 05:22:49	Bitcoin Values	coin,bitcoin,cryptocurrency	MDS Broker Test Environment	4	

Rows per page: 5 1-2 of 2

Advanced View





- Dashboard
- Data Offering
- Offerings**
- Policy Templates
- Data Consumption
- IDS Ecosystem

Data Offering > Offerings > New Offering

META DATA ADDITIONAL POLICY REPRESENTATION CATALOGS BROKERS

Title  
Bitcoin Values

---

Description  
The current value of Bitcoins

---

Publisher  
<https://coincap.io>

---

Keywords  
coin, bitcoin, cryptocurrency

---

Standard License  
[https://assets.coincap.io/documents/terms\\_of\\_service.pdf](https://assets.coincap.io/documents/terms_of_service.pdf)

---

Language  
English

---

Payment Modality  
Free

NEXT





- Dashboard
- Data Offering ^
- Offerings**
- Policy Templates
- Data Consumption v
- IDS Ecosystem v

Data Offering > Offerings > New Offering

META DATA ADDITIONAL POLICY REPRESENTATION CATALOGS BROKERS

Data model

Geo reference method

Data category  
Various

Data subcategory

Transport mode

BACK NEXT







- Dashboard
- Data Offering
- Offerings**
- Policy Templates
- Data Consumption
- IDS Ecosystem

Advanced View

- Data Offering
  - Offerings
  - New Offering
- META DATA   ADDITIONAL   **POLICY**   REPRESENTATION   CATALOGS   BROKERS

- Options:**
- Select a Policy Pattern template. Adjust it as you need.
  - Or, create a new Policy Pattern from scratch below.

**Select a Policy Pattern template**

Select a template  **APPLY**

**Edit/Create Policy Patterns**

Provide Access  **X**

**+**

Contract validity period

From  To

2022-09-11  2022-09-17

**Optional: Save as Template**

Save as template

Template Name

**BACK** **NEXT**



# Examples of IDS Policies

## Connector-restricted Data Usage

This policy restricts the usage of the data to a specific IDS connector of a specific Data Consumer assuming that the Data Consumer owns one or more IDS Connector(s).

### Parameter:

- URLs of white-listed data-receiving IDS Connectors

## Interval-restricted Data Usage

This policy restricts the usage of the data to a specific time interval.

### Parameter:

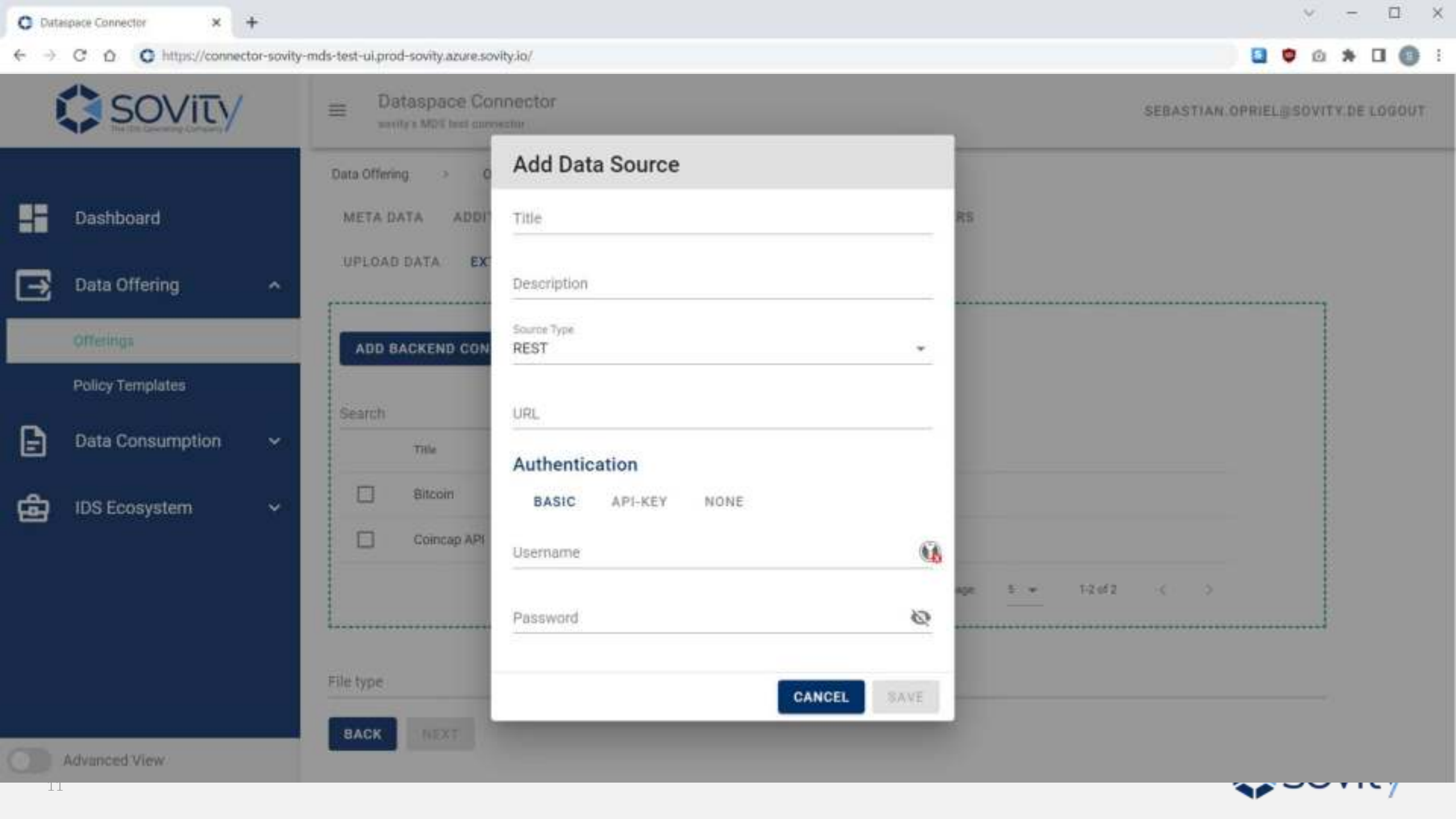
- Start date/time of usage
- End date/time of usage

## Restricted Number of Usages

This policy may be specified as “the Data Consumer is allowed to use my data not more than n times”.

### Parameter:

- Max. number of usages



### Add Data Source

Title

Description

Source Type  
REST

URL

#### Authentication

BASIC  API-KEY  NONE

Username

Password

CANCEL SAVE

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Advanced View



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Advanced View

Data Offering > Offerings > New Offering

META DATA ADDITIONAL POLICY REPRESENTATION CATALOGS BROKERS

UPLOAD DATA EXTERNAL DATA SOURCE

**ADD BACKEND CONNECTION**

Search

	Title	URL
<input checked="" type="checkbox"/>	Bitcoin	https://api.coincap.io/v2/assets/bitcoin
<input type="checkbox"/>	Coincap API	https://api.coincap.io/v2/assets

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File type  
application/json

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Data Offering > Offerings > New Offering

META DATA ADDITIONAL POLICY REPRESENTATION CATALOGS BROKERS

ADD CATALOG

Search

Title ↑

Crypto

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Advanced View





- Dashboard
- Data Offering
- Offerings**
- Policy Templates
- Routes
- Catalogs
- Data Consumption
- IDS Ecosystem
- Settings

Data Offering > Offerings > Edit Resource

META DATA ADDITIONAL POLICY REPRESENTATION CATALOGS BROKERS

Select brokers to which the resource should be registered:

<input checked="" type="checkbox"/>	Title	URL
<input checked="" type="checkbox"/>	MDS Broker Test Environment	https://broker.test.mobility-dataspace.eu/infrastructure

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BACK SAVE





- Dashboard
- Data Offering
- Data Consumption
- Requests**
- IDS Ecosystem

Data Consumption > Requests

REQUEST RESOURCE

Search

Creation date	Title	Keywords	Subscribed	
2022-08-12 09:44:11	DWD Weather Warnings	Warnung,DWD,Urwetter	false	
2022-08-12 09:43:53	DWD GeoServer	DWD,OpenData	false	
2022-08-29 14:45:34	Test	test	false	
2022-08-12 09:43:37	Uhrzeit	Zeit	false	

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Advanced View





- Dashboard
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- Requests
- IDS Ecosystem

Data Consumption > Requests > Request Resource

CONNECTOR BROKER

Provider Connector URL

SHOW AVAILABLE RESOURCES

Advanced View







- Dashboard
- Data Offering
- Data Consumption
- Requests**
- Routes
- IDS Ecosystem
- Settings

Data Consumption > Requests > Request Resource

CONNECTOR: BROKER

Provider Connector URL  
<https://connector-sovity-mds-test.prod-sovity.azure.sovity.io/api/ids/data>

SHOW AVAILABLE RESOURCES

Resources:

Creation date ↓	Title	Keywords	Publisher	License	Offered from	Offered until	
2022-08-12 05:25:50	Cryptocurrency API	coin,cryptocurrency	<a href="https://coincap.io">https://coincap.io</a>	<a href="https://assets.coincap.io/documents/terms_of_service.pdf">https://assets.coincap.io/documents/terms_of_service.pdf</a>	2022-08-07	2024-08-07	
2022-08-12 05:22:49	Bitcoin Values	coin,bitcoin,cryptocurrency	<a href="https://coincap.io">https://coincap.io</a>	<a href="https://assets.coincap.io/documents/terms_of_service.pdf">https://assets.coincap.io/documents/terms_of_service.pdf</a>	2022-08-07	2024-09-12	

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Advanced View





Data Consumption > Requests > Request Resource

CONNECTOR BROKER

Provider Connector URL

https://connector-sovity-mds-test.prod-sovity.azure.sovity.io/api/ids/data

SHOW AVAILABLE RESOURCES

Resources:

	Keywords	Publisher	License	Offered from	Offered until	
cryptocurrency	coin,cryptocurrency	https://coincap.io	https://assets.coincap.io/documents/terms_of_service.pdf	2022-08-07	2024-08-07	
coin Values	coin,bitcoin,cryptocurrency	https://coincap.io	https://assets.coincap.io/documents/terms_of_service.pdf	2022-08-07	2024-09-12	

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Select Representation:

HTTPS://CONNECTOR-SOVITY-MDS-TEST.PROD-SOVITY.AZURE.SOVITY.IO/API/REPRESENTATIONS/1FDCFA0F-0274-48F3-AE2E-D4ECCED060DEB

Artifacts:

Creation date	File Name	Byte Size	
2022-08-17T05:25:50.923Z		0	

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- IDS Ecosystem

Advanced View





- Dashboard
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- IDS Ecosystem
- Settings

Data Consumption > Requests > Request Resource

CONNECTOR BROKER

Provider Connector URL:  
https://connector-sovity-mds-test...

SHOW AVAILABLE RESOURCES

Resources:

Creation date ↓	Title	License	Offered from	Offered until	
2022-06-12 05:25:30	Cryptocurrencies API	https://assets.coincap.io/documents/terms_of_service.pdf	2022-06-07	2024-06-07	
2022-06-12 05:22:49	Bitcoin Value	https://assets.coincap.io/documents/terms_of_service.pdf	2022-06-07	2024-06-12	

ACCEPT DECLINE

Select Representation:

HTTPS://CONNECTOR-SOVITY-MDS-TEST.PROD-SOVITY.AZURE.SOVITY.IO/API/REPRESENTATIONS/1FD0CFA0F-0274-48F3-AE2E-D4E0ED060DE8

Artifacts:

Creation date	File Name	Byte Size	
2022-06-12T05:25:30.923Z		0	



- Dashboard
- Data Offering
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- Requests**
- IDS Ecosystem

Data Consumption > Requests > Request Resource

CONNECTOR **BROKER**

Broker URL  
<https://broker.test.mobility-dataspace.eu/infrastructure>

Search  
coin

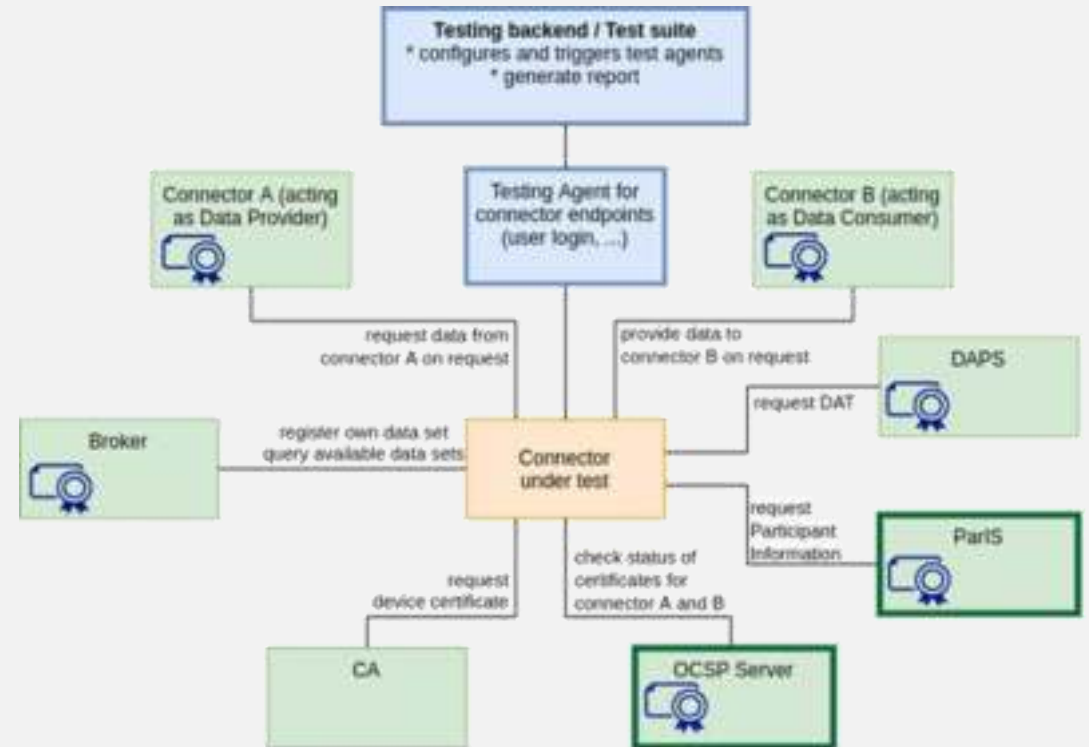
SEARCH RESOURCES

Resources:

Title / Description / Keywords	Connector	
coin	<a href="https://connector-sovity-mds-test.prod-sovity.azure.sovity.io/api/ids/data">https://connector-sovity-mds-test.prod-sovity.azure.sovity.io/api/ids/data</a>	↓
The current value of Bitcoins	<a href="https://connector-sovity-mds-test.prod-sovity.azure.sovity.io/api/ids/data">https://connector-sovity-mds-test.prod-sovity.azure.sovity.io/api/ids/data</a>	↓
Bitcoin Values	<a href="https://connector-sovity-mds-test.prod-sovity.azure.sovity.io/api/ids/data">https://connector-sovity-mds-test.prod-sovity.azure.sovity.io/api/ids/data</a>	↓
coin	<a href="https://connector-sovity-mds-test.prod-sovity.azure.sovity.io/api/ids/data">https://connector-sovity-mds-test.prod-sovity.azure.sovity.io/api/ids/data</a>	↓
bitcoin	<a href="https://connector-sovity-mds-test.prod-sovity.azure.sovity.io/api/ids/data">https://connector-sovity-mds-test.prod-sovity.azure.sovity.io/api/ids/data</a>	↓

# IDSA Testbed

- Preconfigured Dataspace for
  - testing and
  - certification purposes
- What is it for?
  - Component behavior testing
  - Interoperability testing against IDS components (Connector, DAPS, CA, Metadata Broker)
  - Preparation for IDS certification
  - Starting point for creation of data spaces
- Available at GitHub
  - <https://github.com/International-Data-Spaces-Association/IDS-testbed>



# With *Data Sovereignty as a Service* by soivity you get access to a managed solution for sovereign data exchange

## Data sovereignty enablement

Technical consulting incl. IDS training and use case ideation

## Connector-as-a-Service

Provide, integrate and manage access to data spaces

## DataSpace-as-a-Service

Facilitate data space operators by managing shared services



Want to test a Connector two weeks for free?  
Simply drop us a message via [contact@soivity.de](mailto:contact@soivity.de)

# Let's accelerate data spaces and data sovereignty

## Thank you

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