Services Roadshow by

base4nfdi

TS4nfdi

Terminology Services 4 NFDI

Dec 04, 2024

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Terminologies - Why are they important?

TS4NFDI

Usage of TS4NFDI

Terminologies

Why are they important?

Terminologies

Why are they important?

Venus

Terminologies

Why are they important?

Terminologies

Why are they important?

Venus

Terminologies

Why are they important?

Morning Star

Terminologies

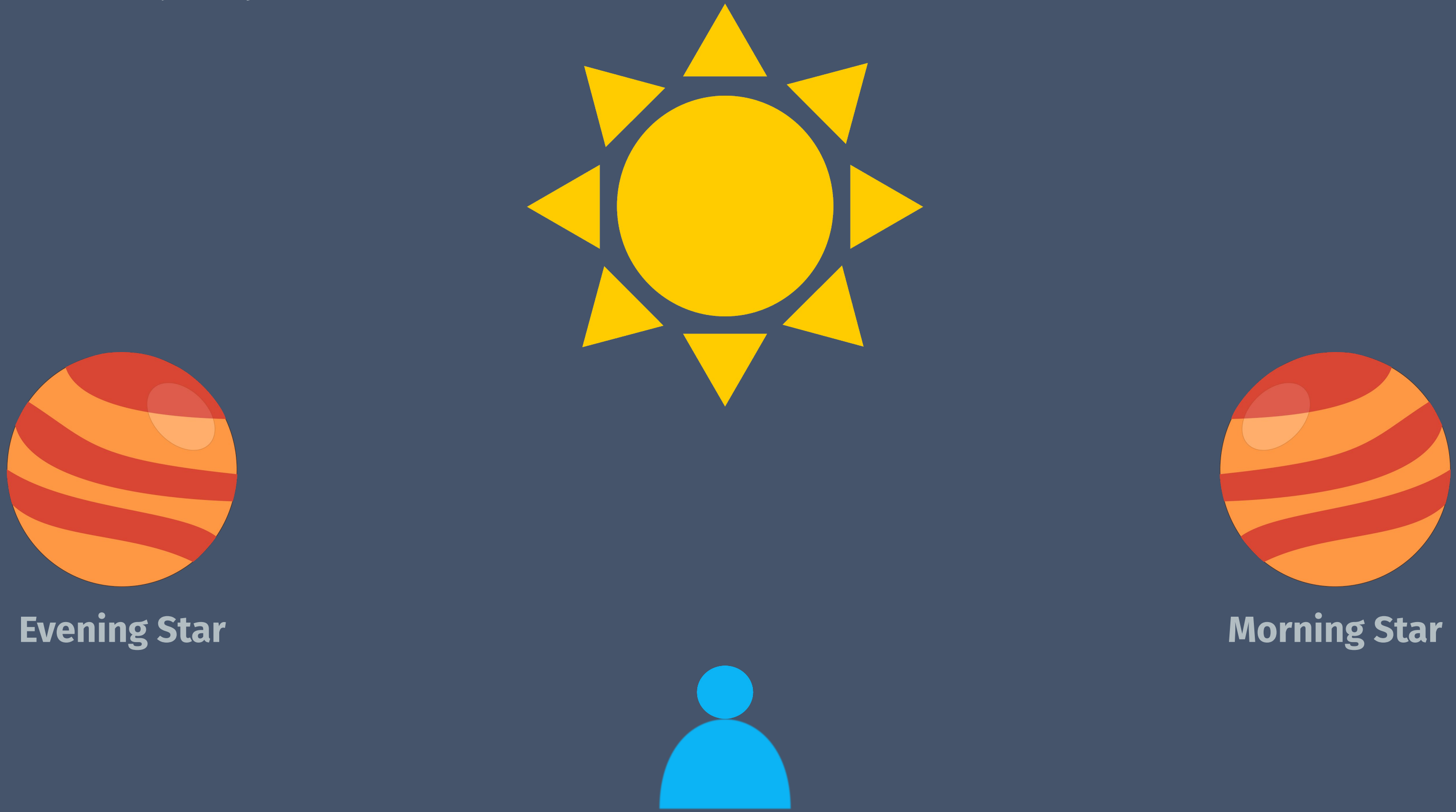
Why are they important?

Evening Star

Morning Star

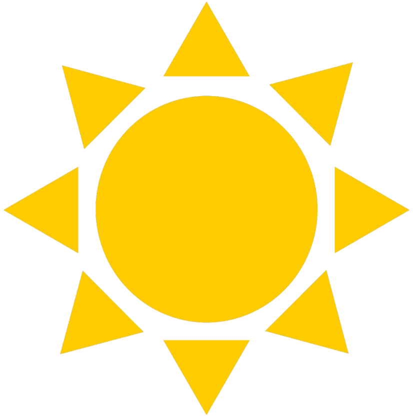
Terminologies

Why are they important?


Evening Star
Morning Star

Terminologies

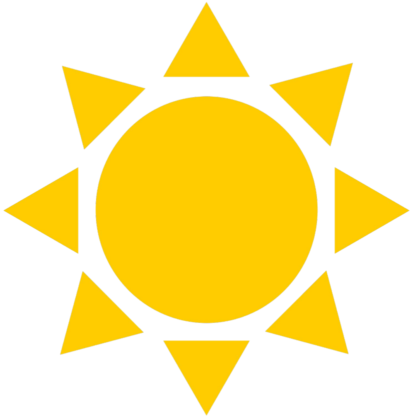
Why are they important?



sun

Terminologies

Why are they important?

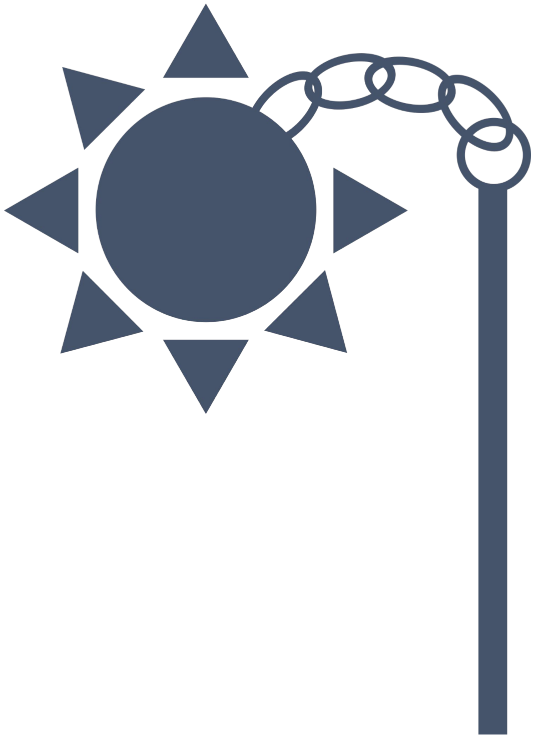


Sonne

Terminologies

Why are they important?

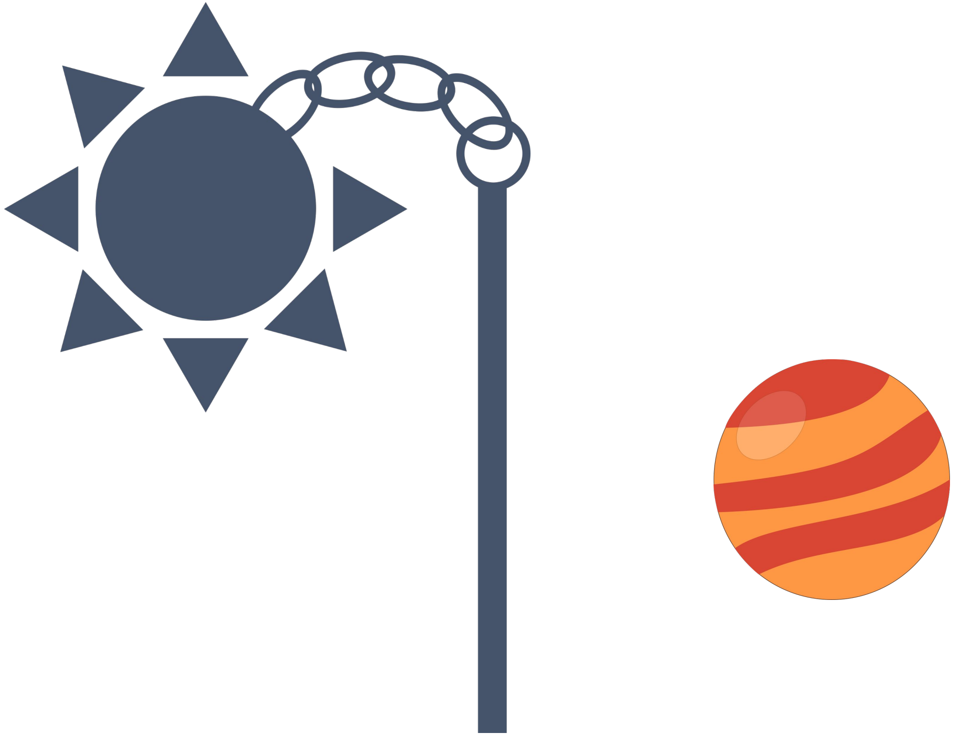
Morning Star



Terminologies

Why are they important?

Morning Stars



Terminologies

Why are they important?

Terminologies

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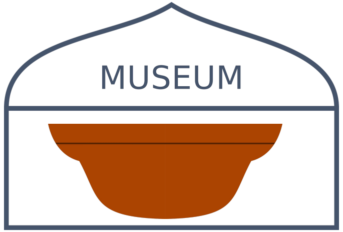
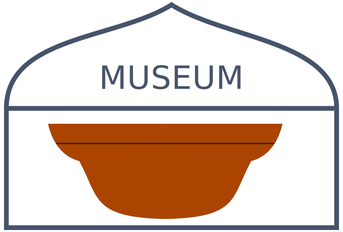


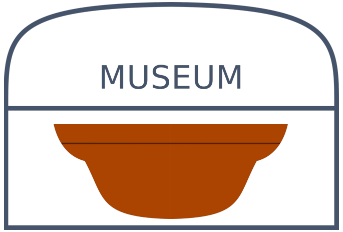
terra sigillata
bowl

Terminologies

Why are they important?



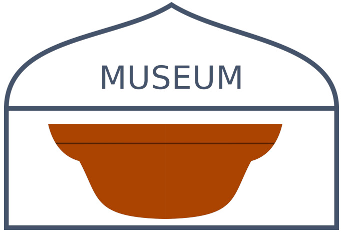
terra sigillata bowl



without name

Terminologies

Why are they important?



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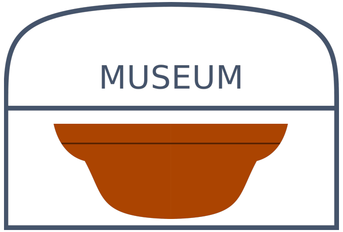


without name

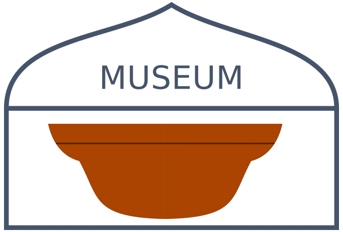
Terminologies

Why are they important?

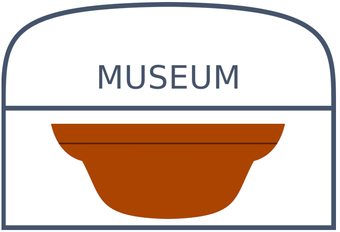
Perspective

same objects/items could have different labels

different objects/items could have the same label



terra sigillata bowl



without name

Terminologies

Why are they important?

terra sigillata bowl

Perspective

same objects/items could have different labels

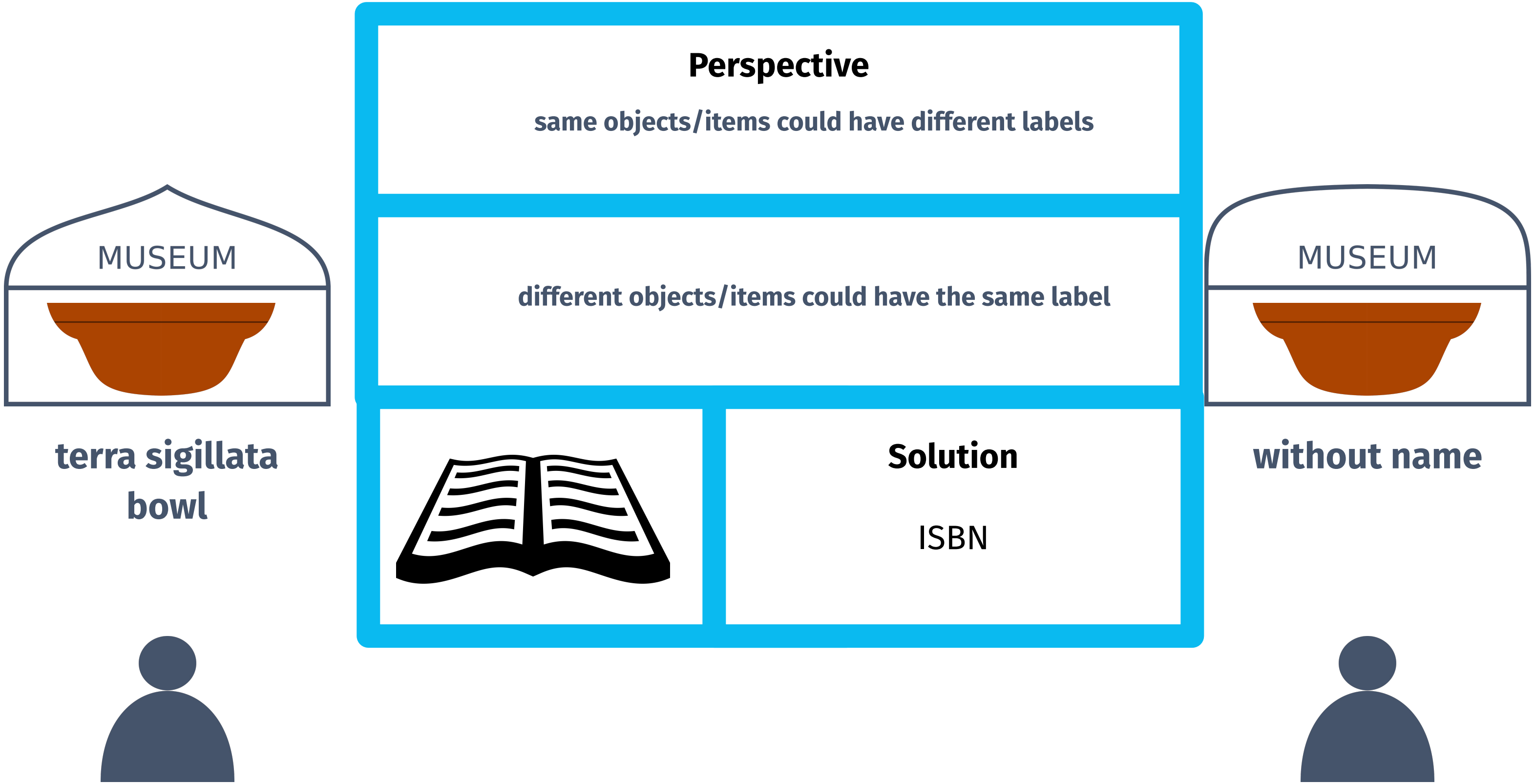
different objects/items could have the same label

Solution

without name

Terminologies

Why are they important?



Perspective

same objects/items could have different labels

different objects/items could have the same label

Solution

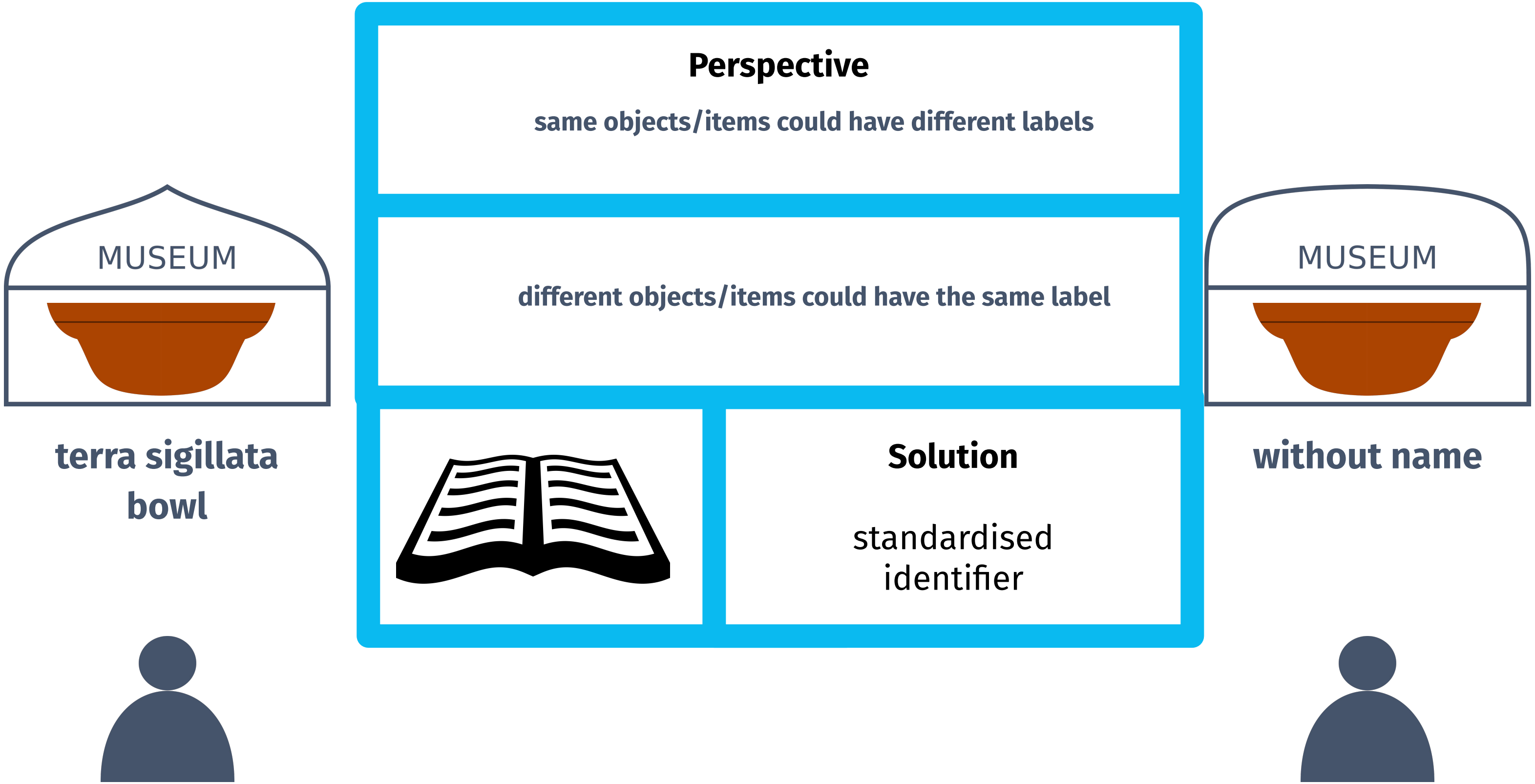
ISBN

terra sigillata bowl

without name

Terminologies

Why are they important?



MUSEUM
terra sigillata bowl

Perspective

same objects/items could have different labels

different objects/items could have the same label

Solution

standardised identifier

MUSEUM
without name

Terminologies - Why are they important?

TS4NFDI

Usage of TS4NFDI

TS4NFDI

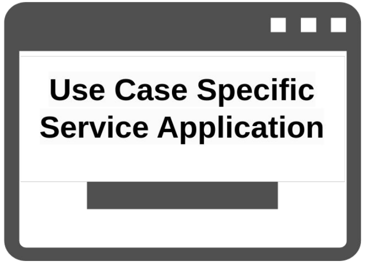
What does TS4NFDI want to solve?

Use Case Specific Service Application

- web services with data
    - annotation service
    - search engine
    - data repository

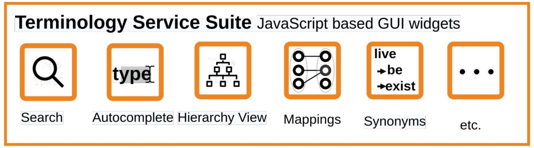
TS4NFDI

What does TS4NFDI want to solve?


Use Case Specific Service Application

TS4nfdi

Terminology Services
for the German National Research
Data Infrastructure


Terminology Service Suite JavaScript based GUI widgets
type
live
→be
→exist
Search
Autocomplete
Hierarchy View
Mappings
Synonyms
etc.

- web services with data
  - annotation service
  - search engine
  - data repository
- **direct integration of terminologies to web services through widgets**

TS4NFDI

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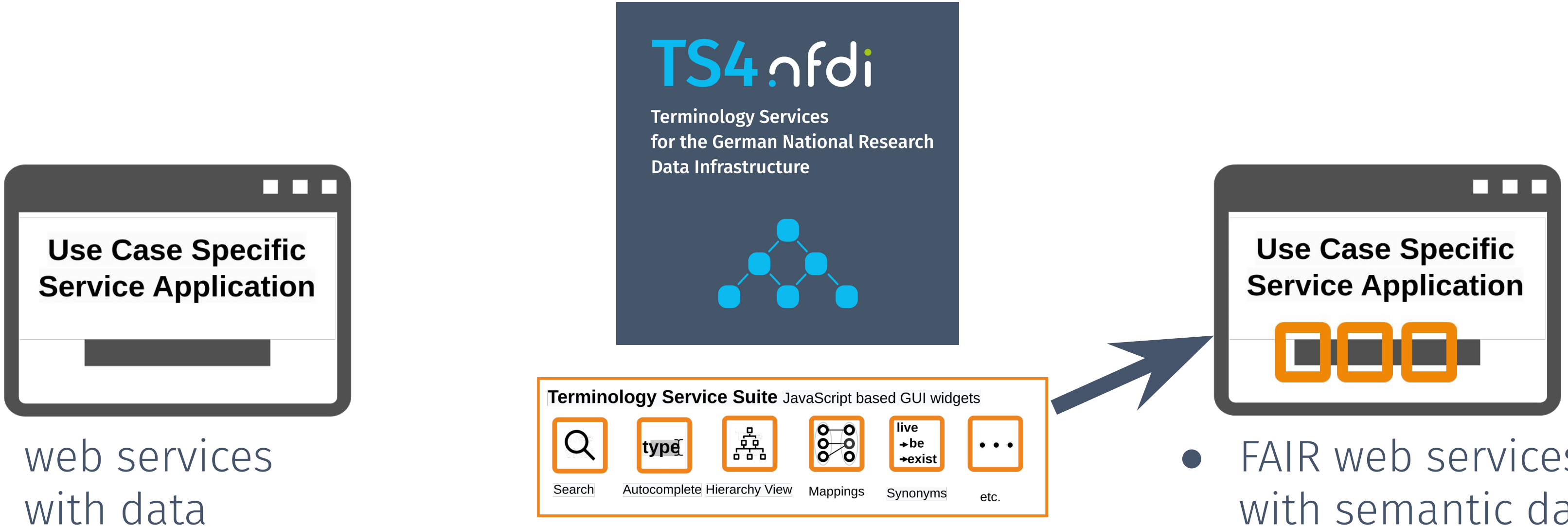

Use Case Specific Service Application

TS4nfdi

Terminology Services
for the German National Research
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Terminology Service Suite JavaScript based GUI widgets

Search

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Hierarchy View

Mappings

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etc.

Use Case Specific Service Application

- web services with data
  - annotation service
  - search engine
  - data repository

- FAIR web services with semantic data
  - annotation service
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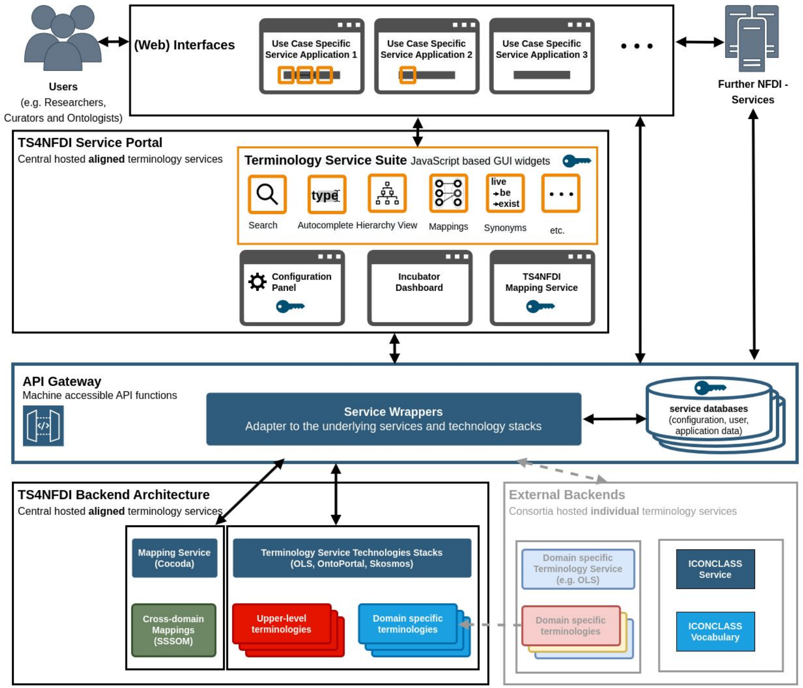
- **direct integration of terminologies to web services through widgets**

TS4NFDI

Architecture



Users
(e.g. Researchers, Curators and Ontologists)

(Web) Interfaces

Use Case Specific Service Application 1

Use Case Specific Service Application 2

Use Case Specific Service Application 3

• • •

Further NFDI - Services

TS4NFDI Service Portal
Central hosted **aligned** terminology services

Terminology Service Suite JavaScript based GUI widgets

Search
Autocomplete
Hierarchy View
Mappings
Synonyms
etc.

Configuration Panel

Incubator Dashboard

TS4NFDI Mapping Service

API Gateway
Machine accessible API functions

Service Wrappers
Adapter to the underlying services and technology stacks

service databases
(configuration, user, application data)

TS4NFDI Backend Architecture
Central hosted **aligned** terminology services

Mapping Service (Cocoda)

Cross-domain Mappings (SSSOM)

Terminology Service Technologies Stacks (OLS, OntoPortal, Skosmos)

Upper-level terminologies

Domain specific terminologies

External Backends
Consortia hosted **individual** terminology services

Domain specific Terminology Service (e.g. OLS)

Domain specific terminologies

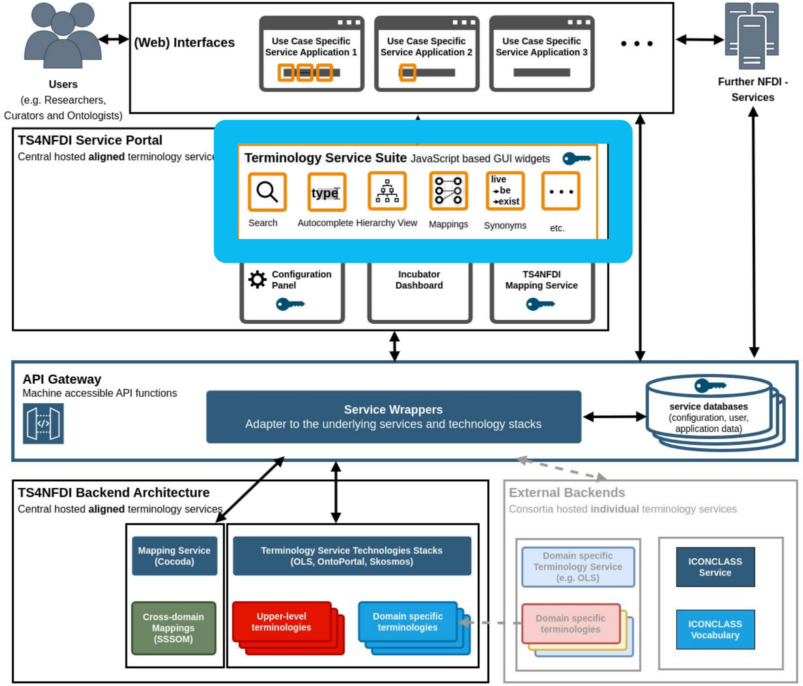
ICONCLASS Service

ICONCLASS Vocabulary

TS4NFDI

Architecture

- **Terminology Service Suite (TSS)**
  - Javascript based widgets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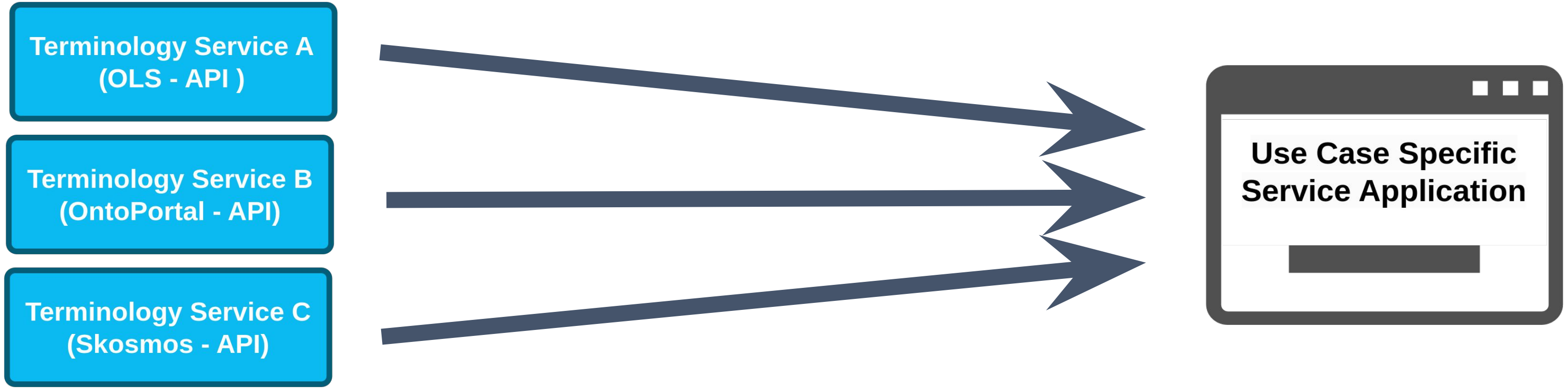


Terminology Service A
(OLS - API)

Terminology Service B
(OntoPortal - API)

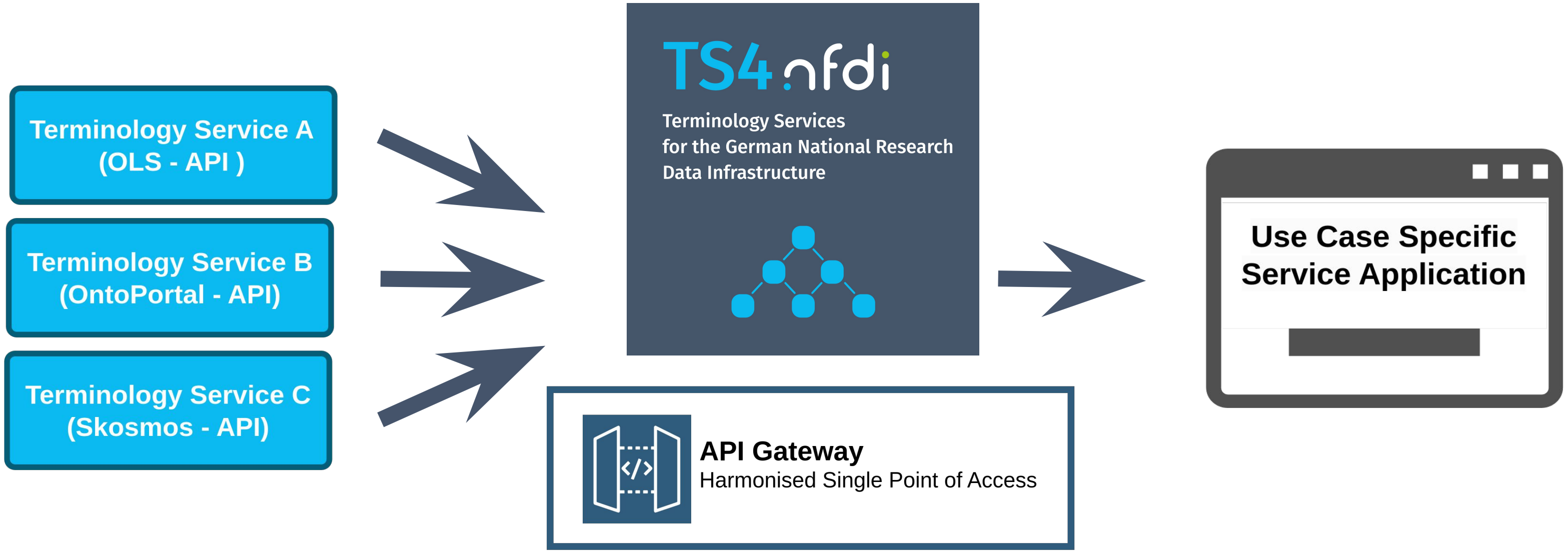
Terminology Service C
(Skosmos - API)

Use Case Specific
Service Application

- multiple different APIs for different Terminology Services

TS4NFDI

What does TS4NFDI want to solve?



Terminology Service A (OLS - API)

Terminology Service B (OntoPortal - API)

Terminology Service C (Skosmos - API)

TS4nfdi

Terminology Services for the German National Research Data Infrastructure

API Gateway
Harmonised Single Point of Access

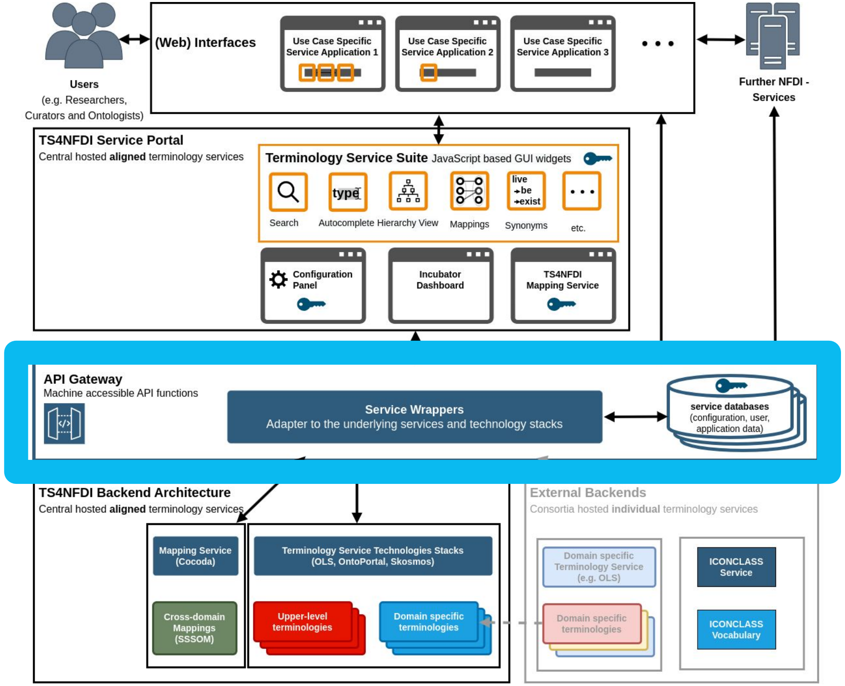
Use Case Specific Service Application

- **one single API** for different Terminology Services

TS4NFDI

Architecture

- **Terminology Service Suite (TSS)**
  - Javascript based widgets
- **Central API Gateway**
  - Harmonised single point of access to other (NFDI) terminology services



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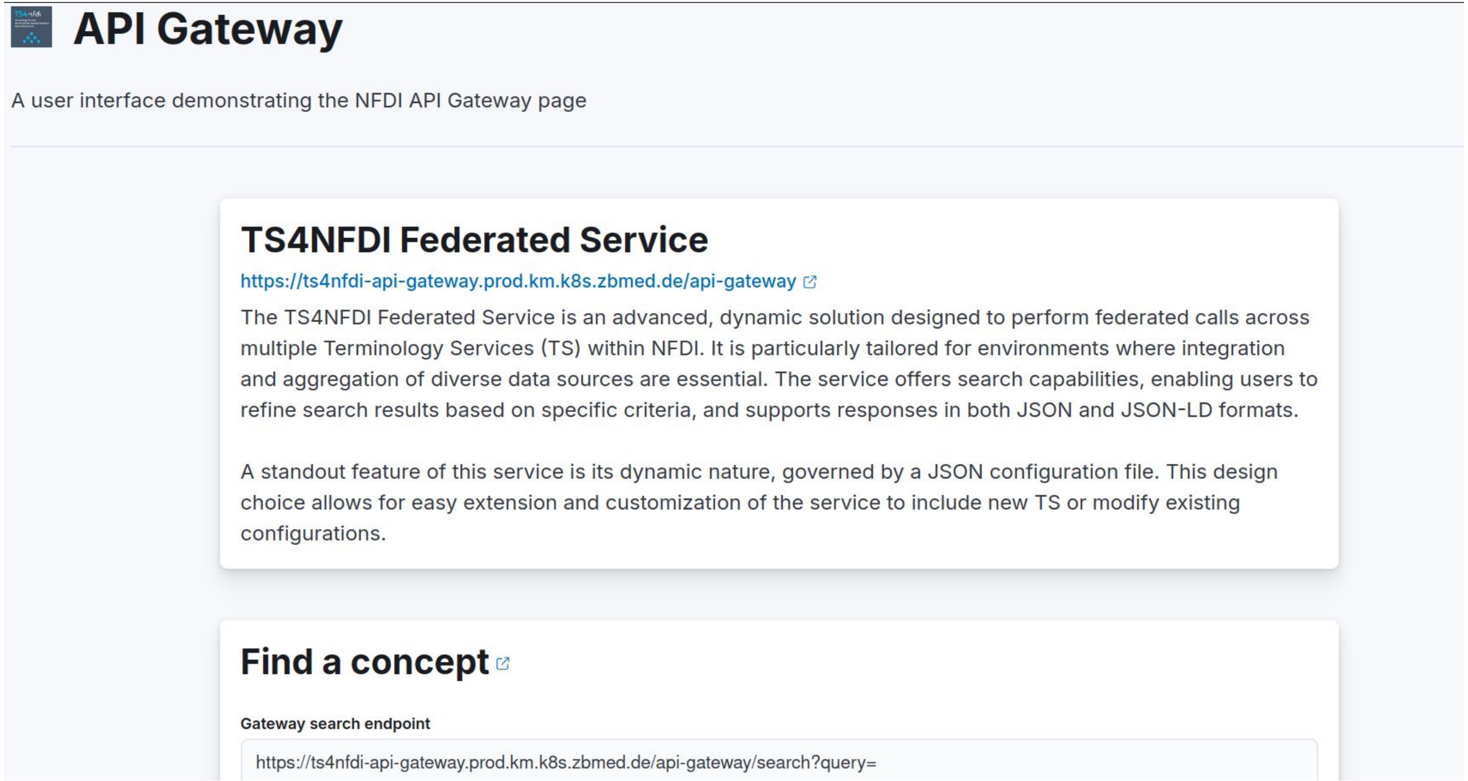
TS4NFDI architecture

First Steps: Usage of TS4NFDI

API Gateway - Prototype



API Gateway

A user interface demonstrating the NFDI API Gateway page

TS4NFDI Federated Service

https://ts4nfdi-api-gateway.prod.km.k8s.zbmed.de/api-gateway

The TS4NFDI Federated Service is an advanced, dynamic solution designed to perform federated calls across multiple Terminology Services (TS) within NFDI. It is particularly tailored for environments where integration and aggregation of diverse data sources are essential. The service offers search capabilities, enabling users to refine search results based on specific criteria, and supports responses in both JSON and JSON-LD formats.

A standout feature of this service is its dynamic nature, governed by a JSON configuration file. This design choice allows for easy extension and customization of the service to include new TS or modify existing configurations.

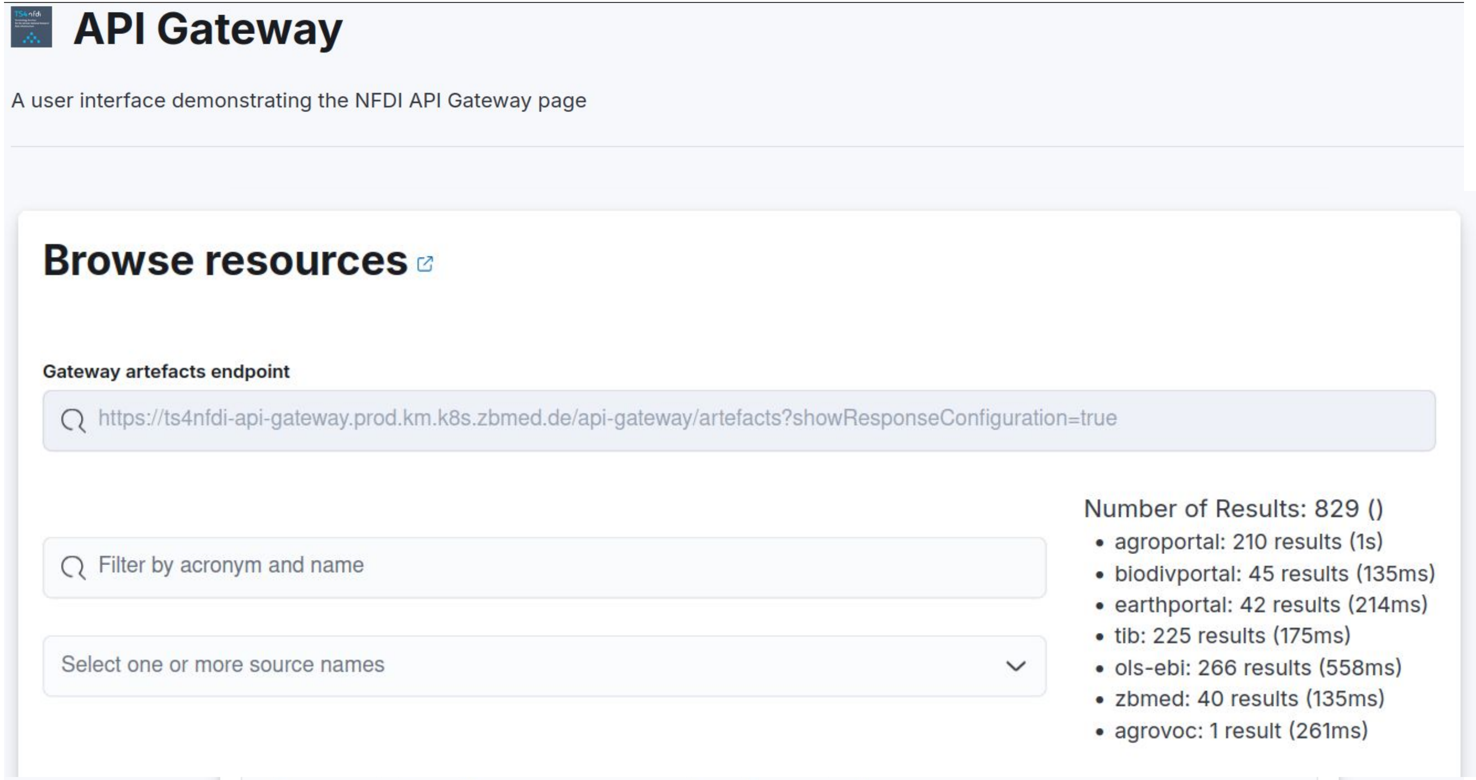
Find a concept

Gateway search endpoint

https://ts4nfdi-api-gateway.prod.km.k8s.zbmed.de/api-gateway/search?query=

First Steps: Usage of TS4NFDI

API Gateway - Prototype



API Gateway

A user interface demonstrating the NFDI API Gateway page

Browse resources

Gateway artefacts endpoint

https://ts4nfdi-api-gateway.prod.km.k8s.zbmed.de/api-gateway/artefacts?showResponseConfiguration=true

Filter by acronym and name

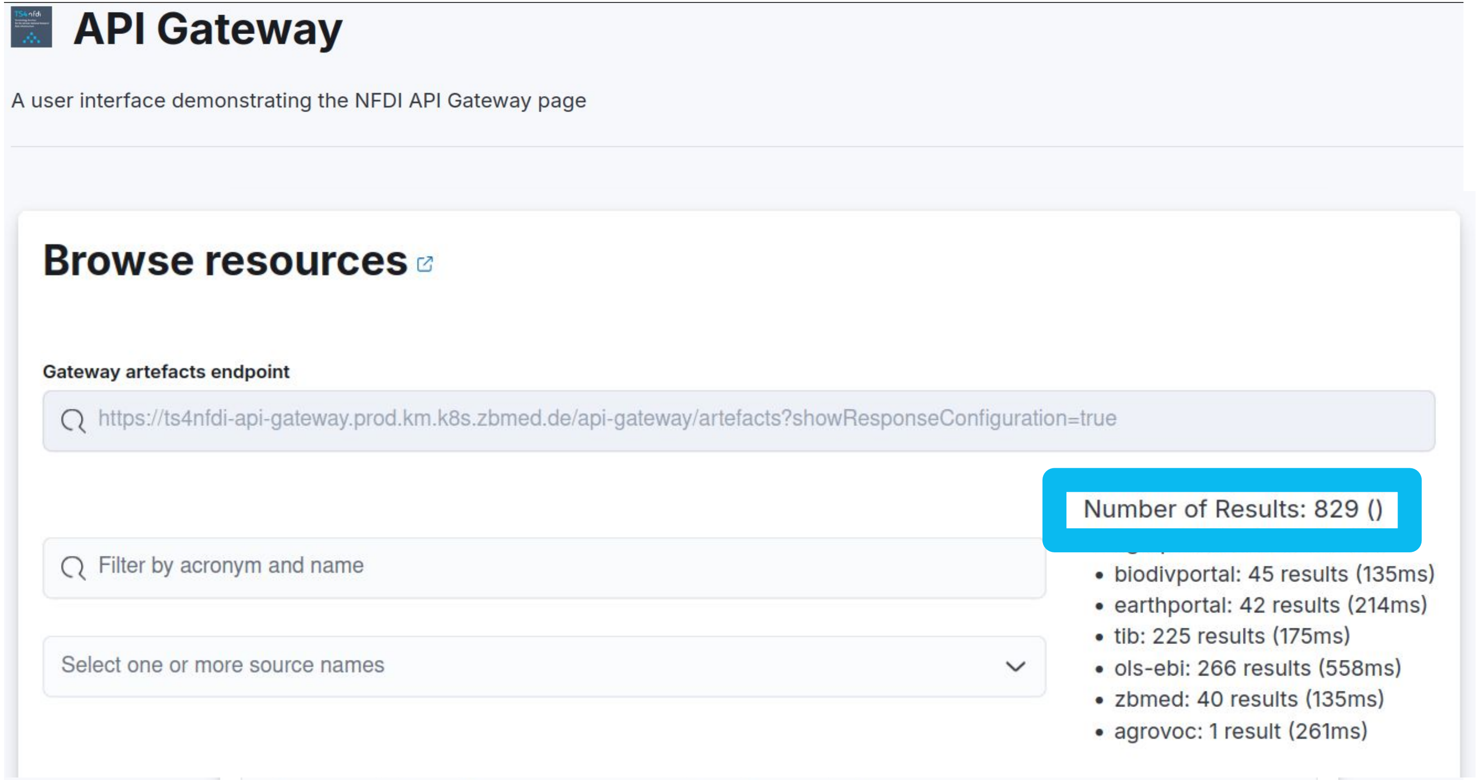
Select one or more source names

Number of Results: 829 ()

- agroportal: 210 results (1s)
- biodivportal: 45 results (135ms)
- earthportal: 42 results (214ms)
- tib: 225 results (175ms)
- ols-ebi: 266 results (558ms)
- zbmed: 40 results (135ms)
- agrovoc: 1 result (261ms)

First Steps: Usage of TS4NFDI

API Gateway - Prototype



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TS4NFDI

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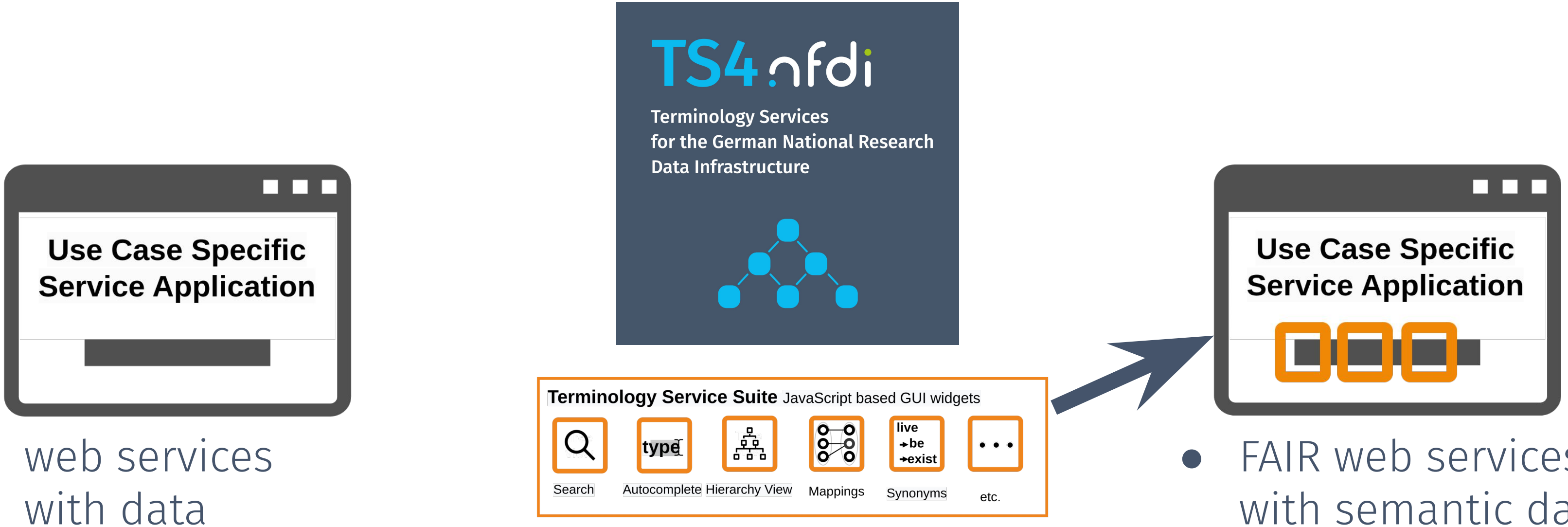
Terminology Service Suite



TS4nfdi
Terminology Services
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Usage of TS4NFDI

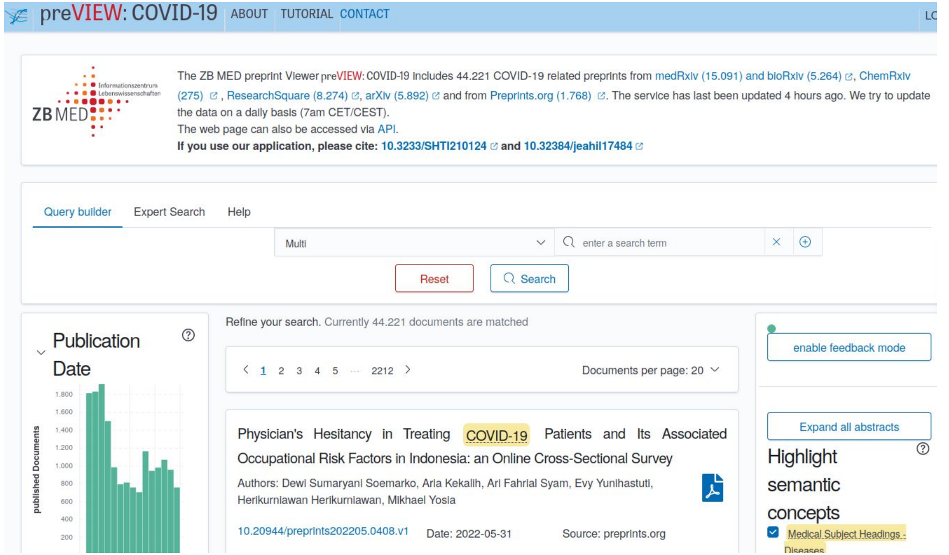
Terminology Service Suite

- Semantic Search

Usage of TS4NFDI

Terminology Service Suite - preVIEW

- **pre**print **view**er for COVID-19 related articles
- contains automated annotations
- provide semantic concept search functionality
- a comprehensive API to retrieve all data and information and embed it into other services and applications



The ZB MED preprint Viewer preVIEW: COVID-19 includes 44.221 COVID-19 related preprints from medRxiv (15.091) and bioRxiv (5.264), ChemRxiv (275), ResearchSquare (8.274), arXiv (5.892) and from Preprints.org (1.768). The service has last been updated 4 hours ago. We try to update the data on a daily basis (7am CET/CEST).

The web page can also be accessed via API.

If you use our application, please cite: 10.3233/SHTI210124 and 10.32384/jeahil17484

Refine your search. Currently 44.221 documents are matched

Physician's Hesitancy in Treating COVID-19 Patients and Its Associated Occupational Risk Factors in Indonesia: an Online Cross-Sectional Survey

Authors: Dewi Sumaryani Soemarko, Aria Kekalih, Ari Fahrial Syam, Evy Yunihastuti, Herikurniawan Herikurniawan, Mikhael Yosia

10.20944/preprints202205.0408.v1 Date: 2022-05-31 Source: preprints.org

preVIEW: COVID-19
ABOUT
TUTORIAL
CONTACT
ZB MED Informationszentrum Lebenswissenschaften
Query builder
Expert Search
Help
Multi
enter a search term
Reset
Search
Publication Date
1.800
1.600
1.400
1.200
1.000
800
600
400
200
published Documents
1 2 3 4 5 ... 2212
Documents per page: 20
enable feedback mode
Expand all abstracts
Highlight semantic concepts
Medical Subject Headings - Diseases

Usage of TS4NFDI

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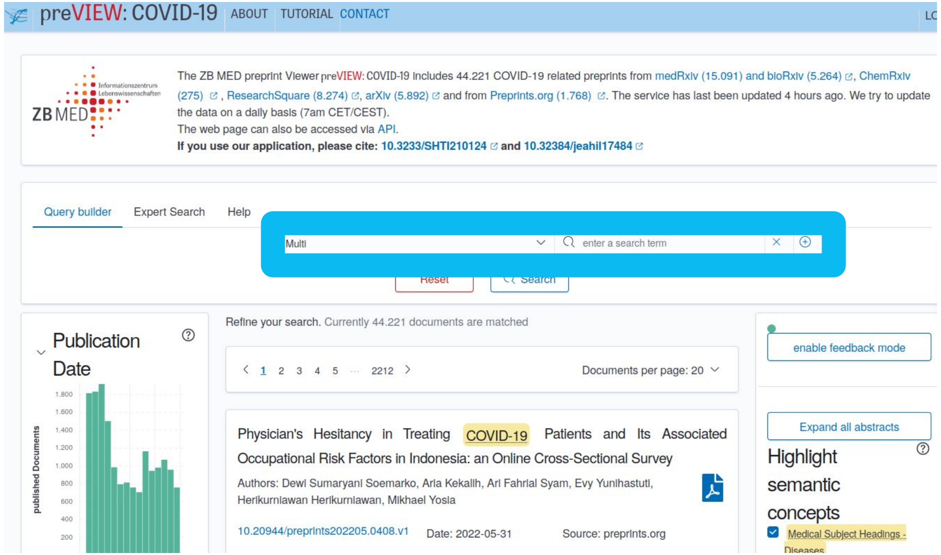
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ABOUT
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Query builder
Expert Search
Help
Multi
enter a search term
Reset
Search
Publication Date
published Documents
1.800
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‹ 1 2 3 4 5 … 2212 › Documents per page: 20

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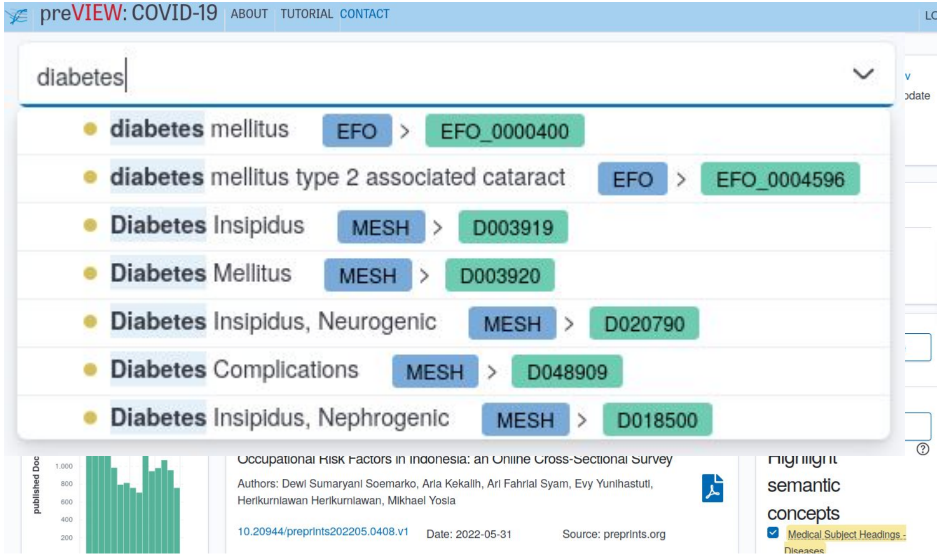
Usage of TS4NFDI

Terminology Service Suite - preVIEW

- **pre**print **view**er for COVID-19 related articles
- contains automated annotations
- provide **semantic** concept **search** functionality
- a comprehensive API to retrieve all data and information and embed it into other services and applications
- the autocomplete functionality of the Terminology Service Suite is directly integrated into preVIEW



diabetes

- **diabetes** mellitus EFO > EFO_0000400
- **diabetes** mellitus type 2 associated cataract EFO > EFO_0004596
- **Diabetes** Insipidus MESH > D003919
- **Diabetes** Mellitus MESH > D003920
- **Diabetes** Insipidus, Neurogenic MESH > D020790
- **Diabetes** Complications MESH > D048909
- **Diabetes** Insipidus, Nephrogenic MESH > D018500

Occupational Risk Factors in Indonesia: an Online Cross-Sectional Survey

Authors: Dewi Sumaryani Soemarko, Aria Kekalih, Ari Fahrial Syam, Evy Yunihastuti, Herikurniawan Herikurniawan, Mikhael Yosia

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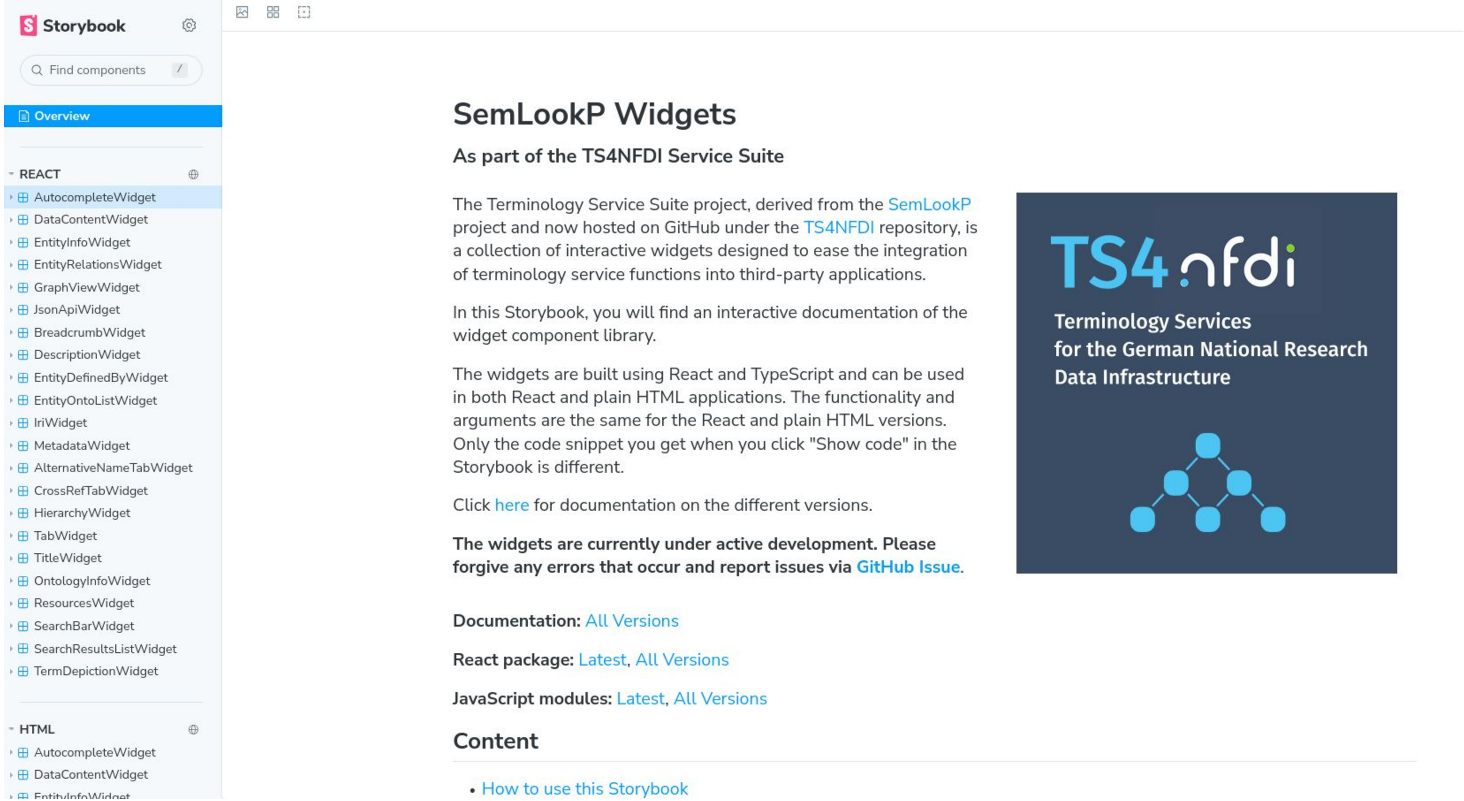
Highlight semantic concepts

☑ Medical Subject Headings - Diseases

Usage of TS4NFDI

Terminology Service Suite


Storybook
Find components
/
Overview
REACT
AutocompleteWidget
DataContentWidget
EntityInfoWidget
EntityRelationsWidget
GraphViewWidget
JsonApiWidget
BreadcrumbWidget
DescriptionWidget
EntityDefinedByWidget
EntityOntoListWidget
IriWidget
MetadataWidget
AlternativeNameTabWidget
CrossRefTabWidget
HierarchyWidget
TabWidget
TitleWidget
OntologyInfoWidget
ResourcesWidget
SearchBarWidget
SearchResultsListWidget
TermDepictionWidget
HTML
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TS4nfdi
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SemLookP Widgets

As part of the TS4NFDI Service Suite

The Terminology Service Suite project, derived from the SemLookP project and now hosted on GitHub under the TS4NFDI repository, is a collection of interactive widgets designed to ease the integration of terminology service functions into third-party applications.

In this Storybook, you will find an interactive documentation of the widget component library.

The widgets are built using React and TypeScript and can be used in both React and plain HTML applications. The functionality and arguments are the same for the React and plain HTML versions. Only the code snippet you get when you click "Show code" in the Storybook is different.

Click here for documentation on the different versions.

The widgets are currently under active development. Please forgive any errors that occur and report issues via GitHub Issue.

Documentation: All Versions

React package: Latest, All Versions

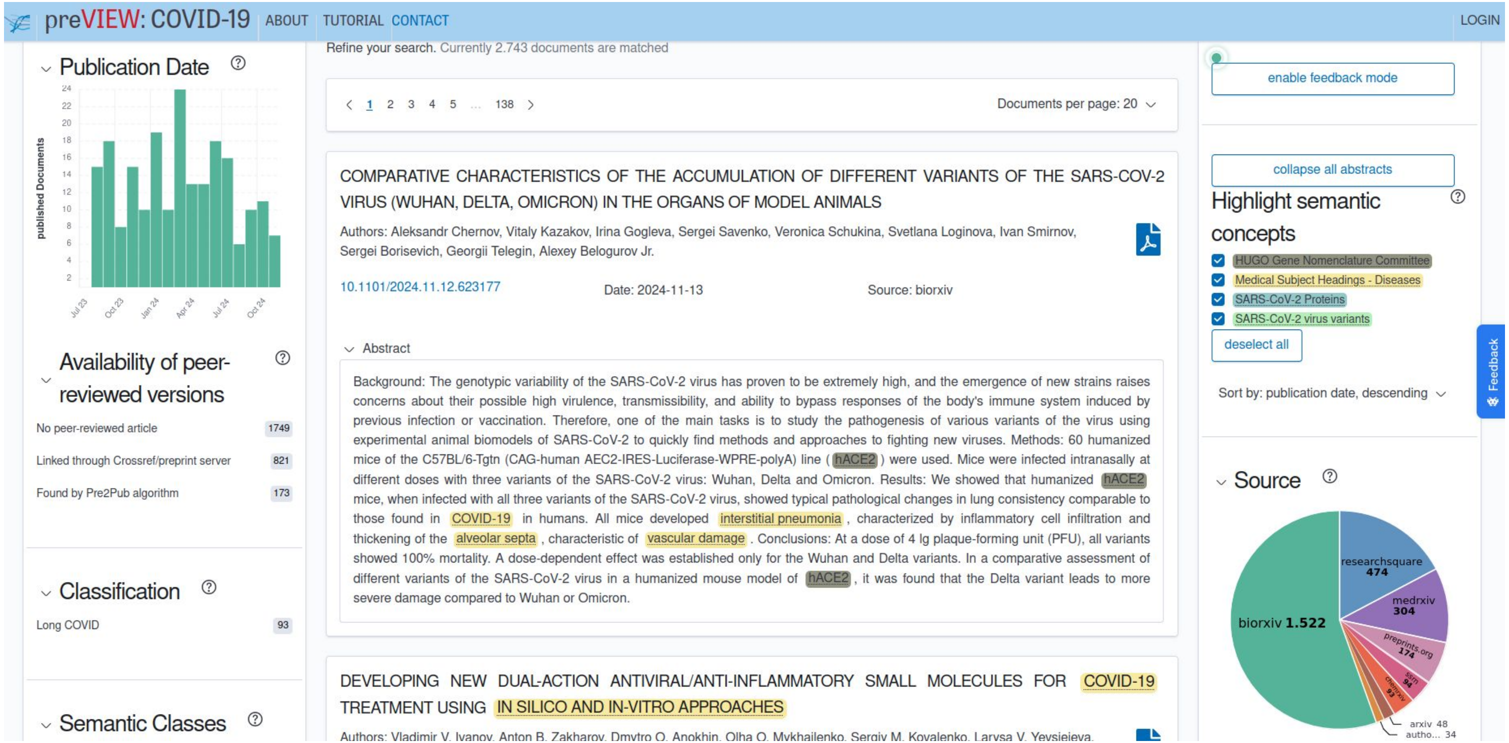
JavaScript modules: Latest, All Versions

Content

- How to use this Storybook

Usage of TS4NFDI

Terminology Service Suite - preVIEW


preVIEW: COVID-19
ABOUT
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published Documents
24
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18
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Oct 23
Jan 24
Apr 24
Jul 24
Oct 24
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deselect all
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Classification

Long COVID	93

Semantic Classes

COMPARATIVE CHARACTERISTICS OF THE ACCUMULATION OF DIFFERENT VARIANTS OF THE SARS-COV-2 VIRUS (WUHAN, DELTA, OMICRON) IN THE ORGANS OF MODEL ANIMALS

Authors: Aleksandr Chernov, Vitaly Kazakov, Irina Gogleva, Sergei Savenko, Veronica Schukina, Svetlana Loginova, Ivan Smirnov, Sergei Borisevich, Georgii Telegin, Alexey Belogurov Jr.

10.1101/2024.11.12.623177 Date: 2024-11-13 Source: biorxiv

Abstract

Background: The genotypic variability of the SARS-CoV-2 virus has proven to be extremely high, and the emergence of new strains raises concerns about their possible high virulence, transmissibility, and ability to bypass responses of the body's immune system induced by previous infection or vaccination. Therefore, one of the main tasks is to study the pathogenesis of various variants of the virus using experimental animal biomodels of SARS-CoV-2 to quickly find methods and approaches to fighting new viruses. Methods: 60 humanized mice of the C57BL/6-Tgtn (CAG-human AEC2-IRES-Luciferase-WPRE-polyA) line (hACE2) were used. Mice were infected intranasally at different doses with three variants of the SARS-CoV-2 virus: Wuhan, Delta and Omicron. Results: We showed that humanized hACE2 mice, when infected with all three variants of the SARS-CoV-2 virus, showed typical pathological changes in lung consistency comparable to those found in COVID-19 in humans. All mice developed interstitial pneumonia , characterized by inflammatory cell infiltration and thickening of the alveolar septa , characteristic of vascular damage . Conclusions: At a dose of 4 lg plaque-forming unit (PFU), all variants showed 100% mortality. A dose-dependent effect was established only for the Wuhan and Delta variants. In a comparative assessment of different variants of the SARS-CoV-2 virus in a humanized mouse model of hACE2 , it was found that the Delta variant leads to more severe damage compared to Wuhan or Omicron.

DEVELOPING NEW DUAL-ACTION ANTIVIRAL/ANTI-INFLAMMATORY SMALL MOLECULES FOR COVID-19 TREATMENT USING IN SILICO AND IN-VITRO APPROACHES

Authors: Vladimir V. Ivanov, Anton B. Zakharov, Dmytro O. Anokhin, Olha O. Mykhailenko, Sergiy M. Kovalenko, Larysa V. Yevsieieva

Highlight semantic concepts

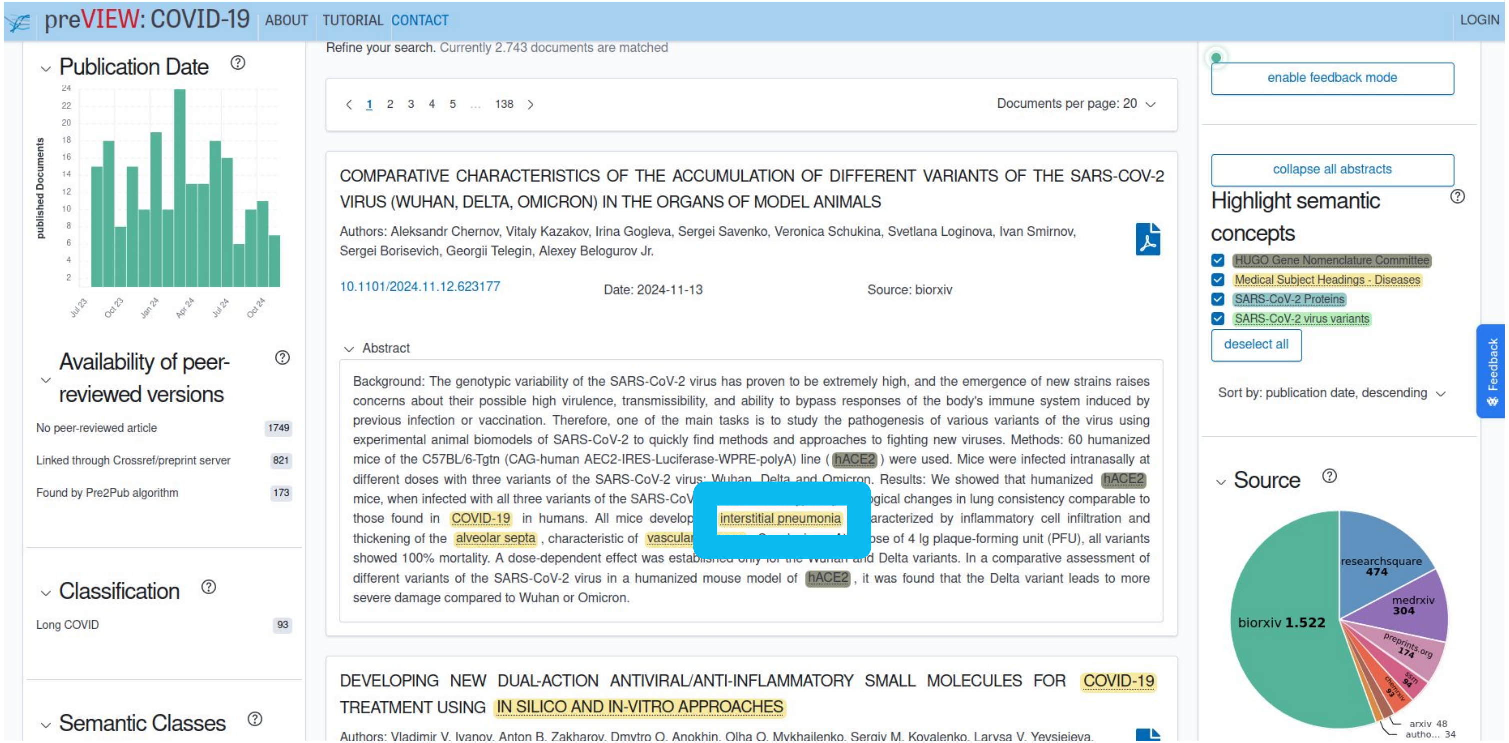
- ☑ HUGO Gene Nomenclature Committee
- ☑ Medical Subject Headings - Diseases
- ☑ SARS-CoV-2 Proteins
- ☑ SARS-CoV-2 virus variants

Sort by: publication date, descending

Source

Usage of TS4NFDI

Terminology Service Suite - preVIEW


preVIEW: COVID-19
ABOUT
TUTORIAL
CONTACT
LOGIN
Publication Date
published Documents
24
22
20
18
16
14
12
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8
6
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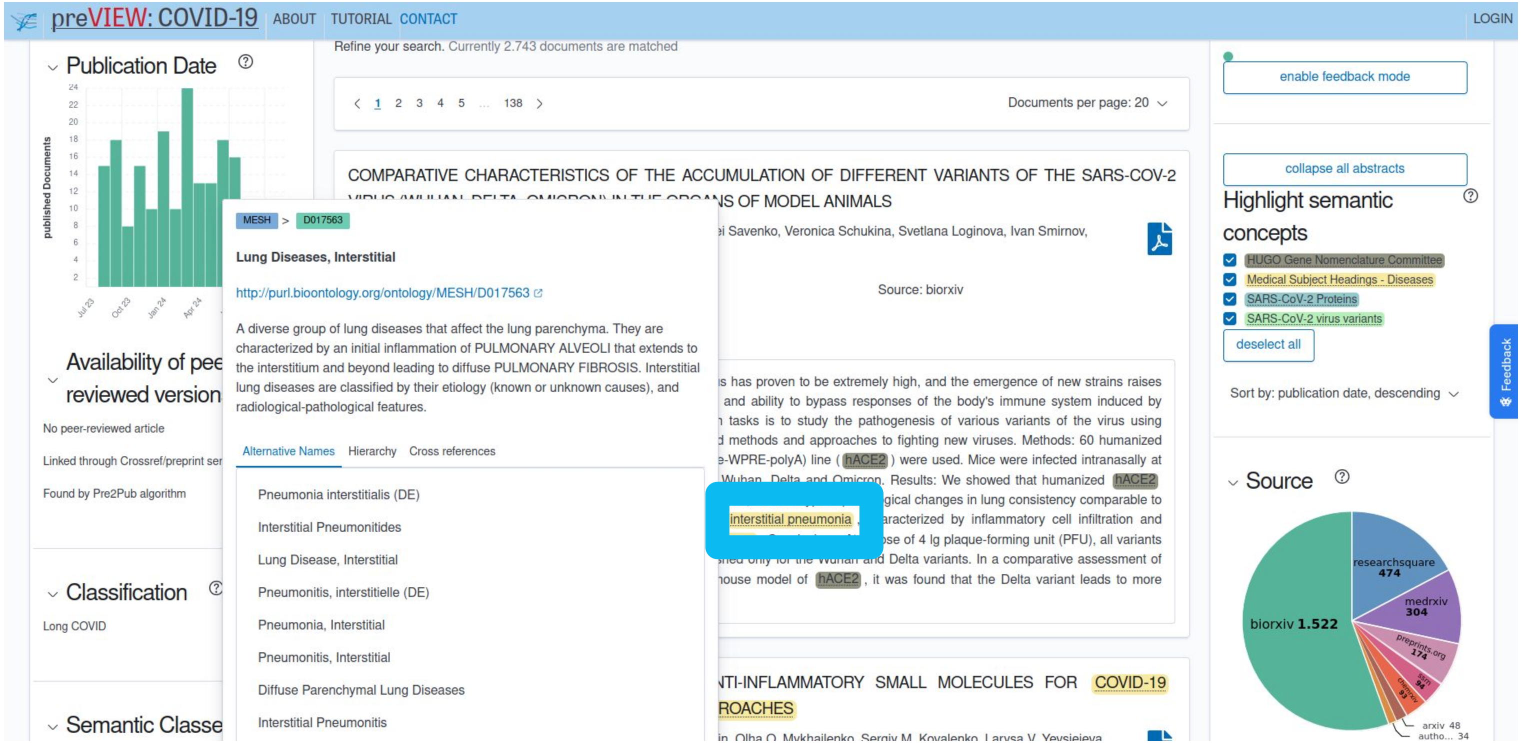
Usage of TS4NFDI

Terminology Service Suite - preVIEW


preVIEW: COVID-19
ABOUT
TUTORIAL
CONTACT
LOGIN
Publication Date
published Documents
24
22
20
18
16
14
12
10
8
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Jul 23
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NTI-INFLAMMATORY SMALL MOLECULES FOR COVID-19
ROACHES

in Olha O. Mykhailenko, Sergiy M. Kovalenko, Larysa V. Yevsieieva

MESH > D017563

Lung Diseases, Interstitial

http://purl.bioontology.org/ontology/MESH/D017563

A diverse group of lung diseases that affect the lung parenchyma. They are characterized by an initial inflammation of PULMONARY ALVEOLI that extends to the interstitium and beyond leading to diffuse PULMONARY FIBROSIS. Interstitial lung diseases are classified by their etiology (known or unknown causes), and radiological-pathological features.

Alternative Names | Hierarchy | Cross references

- Pneumonia interstitialis (DE)
- Interstitial Pneumonitides
- Lung Disease, Interstitial
- Pneumonitis, interstitielle (DE)
- Pneumonia, Interstitial
- Pneumonitis, Interstitial
- Diffuse Parenchymal Lung Diseases
- Interstitial Pneumonitis

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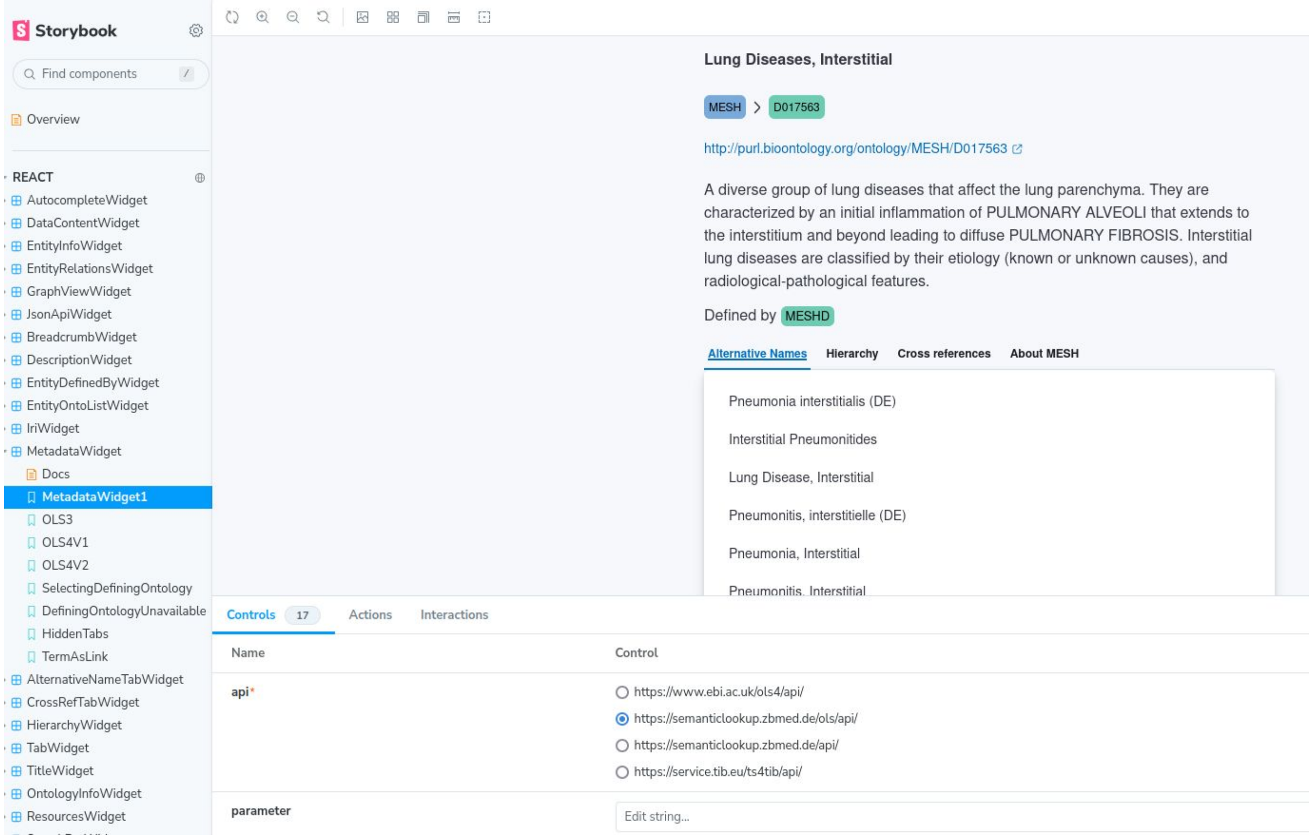
Usage of TS4NFDI

Terminology Service Suite


Storybook
Find components
Overview
REACT
AutocompleteWidget
DataContentWidget
EntityInfoWidget
EntityRelationsWidget
GraphViewWidget
JsonApiWidget
BreadcrumbWidget
DescriptionWidget
EntityDefinedByWidget
EntityOntoListWidget
IriWidget
MetadataWidget
Docs
MetadataWidget1
OLS3
OLS4V1
OLS4V2
SelectingDefiningOntology
DefiningOntologyUnavailable
HiddenTabs
TermAsLink
AlternativeNameTabWidget
CrossRefTabWidget
HierarchyWidget
TabWidget
TitleWidget
OntologyInfoWidget
ResourcesWidget

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Defined by MESHD

Alternative Names
Hierarchy
Cross references
About MESH

Pneumonia interstitialis (DE)

Interstitial Pneumonitides

Lung Disease, Interstitial

Pneumonitis, interstitielle (DE)

Pneumonia, Interstitial

Pneumonitis, Interstitial

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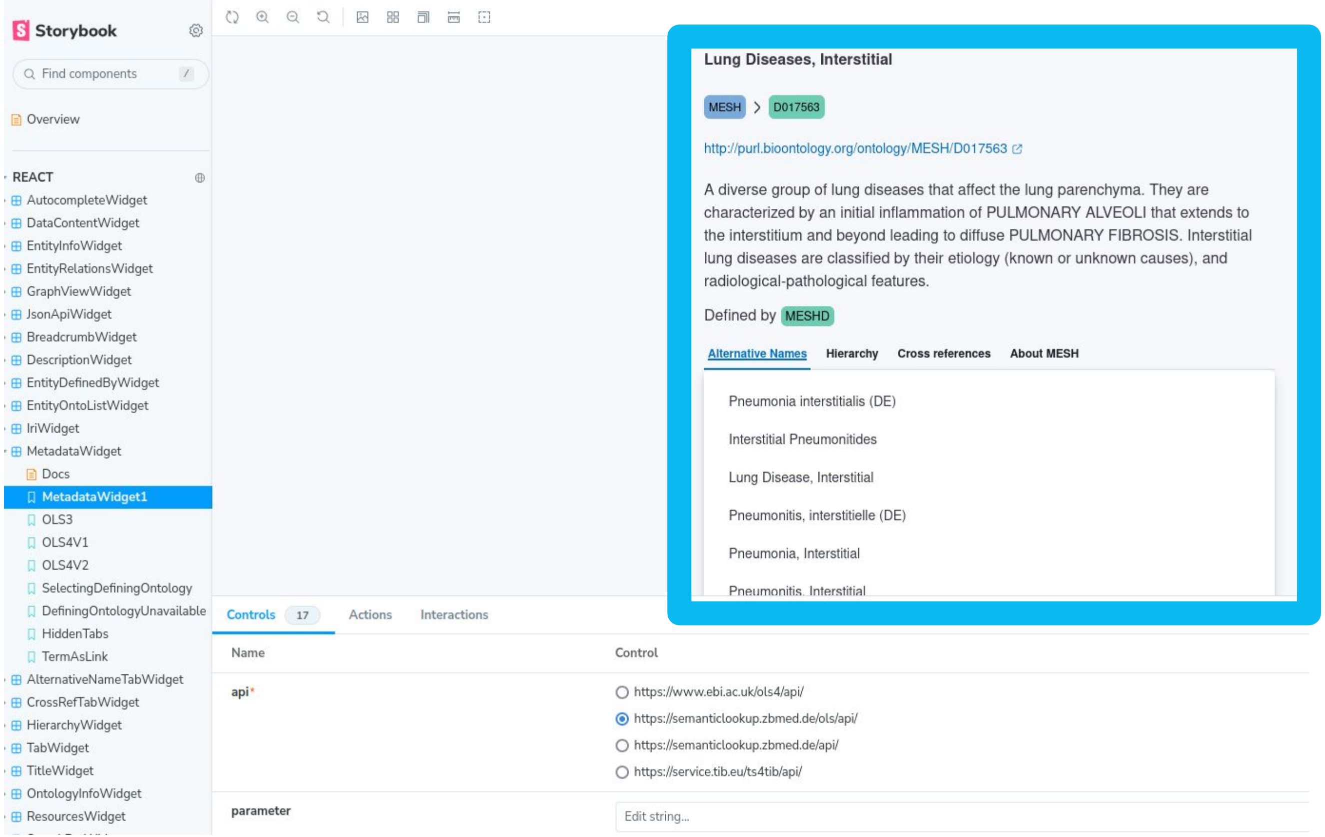
Interactions

Name	Control
api*	○ https://www.ebi.ac.uk/ols4/api/ ● https://semanticlookup.zbmed.de/ols/api/ ○ https://semanticlookup.zbmed.de/api/ ○ https://service.tib.eu/ts4tib/api/
parameter	Edit string...

Usage of TS4NFDI

Terminology Service Suite


Storybook
Find components
Overview
REACT
AutocompleteWidget
DataContentWidget
EntityInfoWidget
EntityRelationsWidget
GraphViewWidget
JsonApiWidget
BreadcrumbWidget
DescriptionWidget
EntityDefinedByWidget
EntityOntoListWidget
IriWidget
MetadataWidget
Docs
MetadataWidget1
OLS3
OLS4V1
OLS4V2
SelectingDefiningOntology
DefiningOntologyUnavailable
HiddenTabs
TermAsLink
AlternativeNameTabWidget
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Pneumonitis, Interstitial

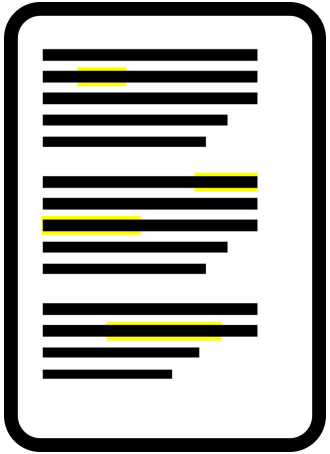
Name	Control
api*	○ https://www.ebi.ac.uk/ols4/api/ ● https://semanticlookup.zbmed.de/ols/api/ ○ https://semanticlookup.zbmed.de/api/ ○ https://service.tib.eu/ts4tib/api/
parameter	Edit string...

Usage of TS4NFDI

Terminology Service Suite

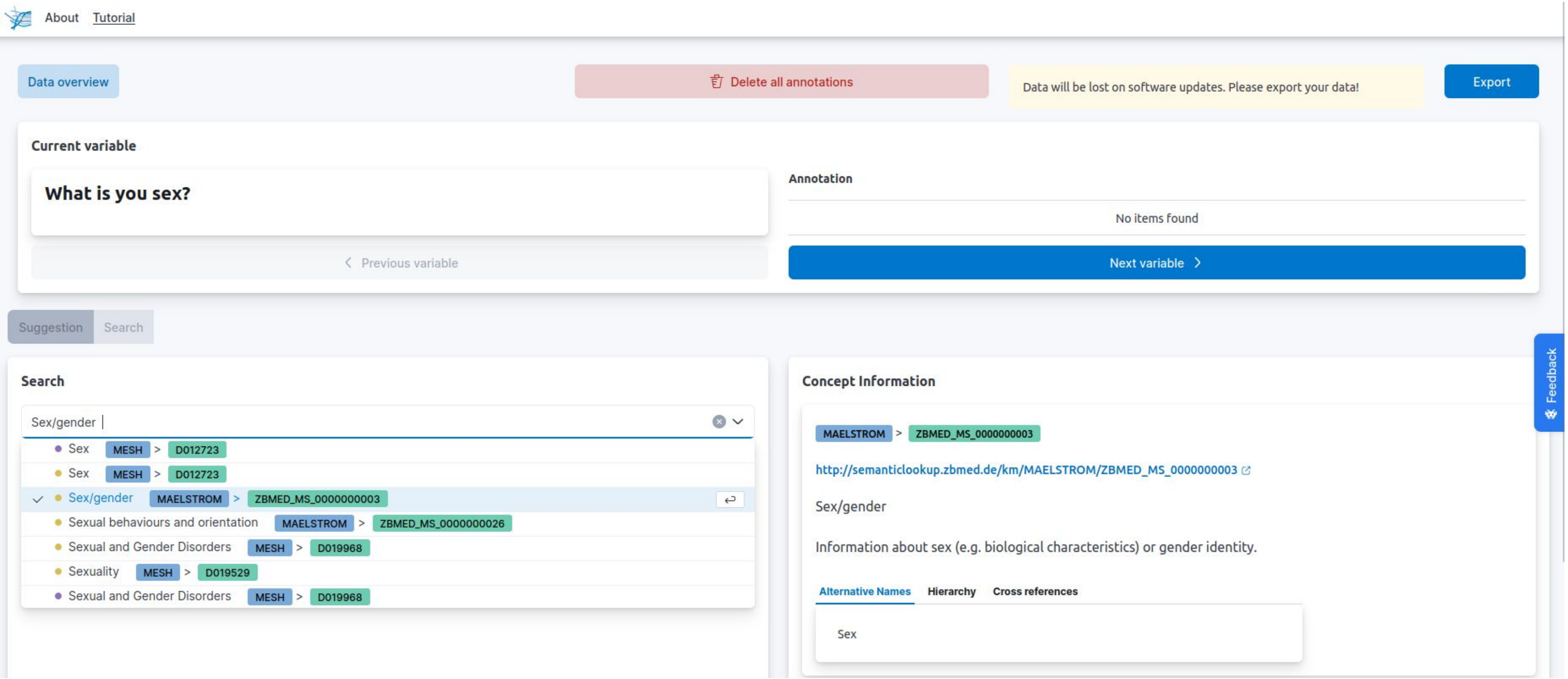
- Semantic Search

- Data Annotation Services



Usage of TS4NFDI

Terminology Service Suite - Metadata Annotation Workbench


About
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Export
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Feedback
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Hierarchy
Cross references

Data will be lost on software updates. Please export your data!

Current variable

What is you sex?

Annotation

No items found

Search

Sex/gender

- Sex MESH > D012723
- Sex MESH > D012723
- ✓ Sex/gender MAELSTROM > ZBMED_MS_0000000003
- Sexual behaviours and orientation MAELSTROM > ZBMED_MS_0000000026
- Sexual and Gender Disorders MESH > D019968
- Sexuality MESH > D019529
- Sexual and Gender Disorders MESH > D019968

Concept Information

MAELSTROM > ZBMED_MS_0000000003

http://semanticlookup.zbmed.de/km/MAELSTROM/ZBMED_MS_0000000003

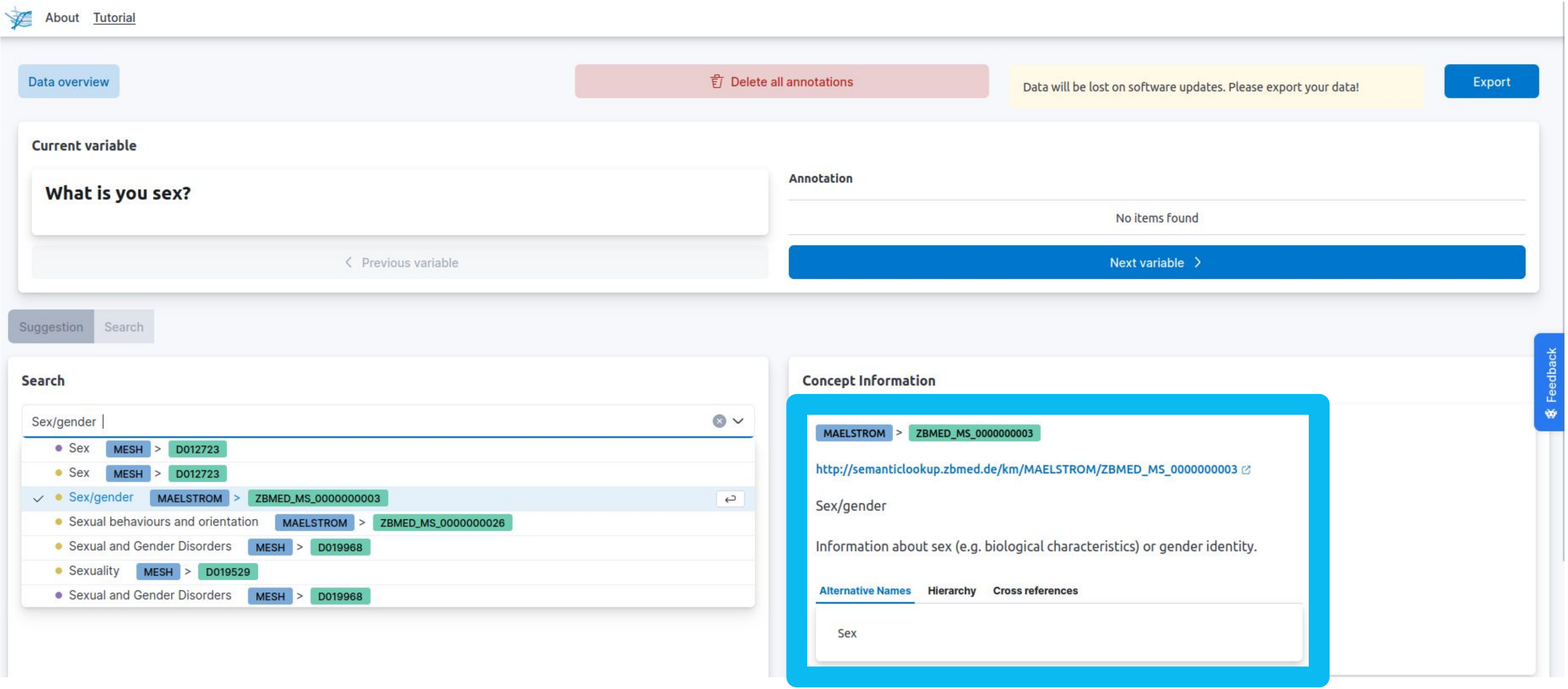
Sex/gender

Information about sex (e.g. biological characteristics) or gender identity.

Sex

Usage of TS4NFDI

Terminology Service Suite - Metadata Annotation Workbench



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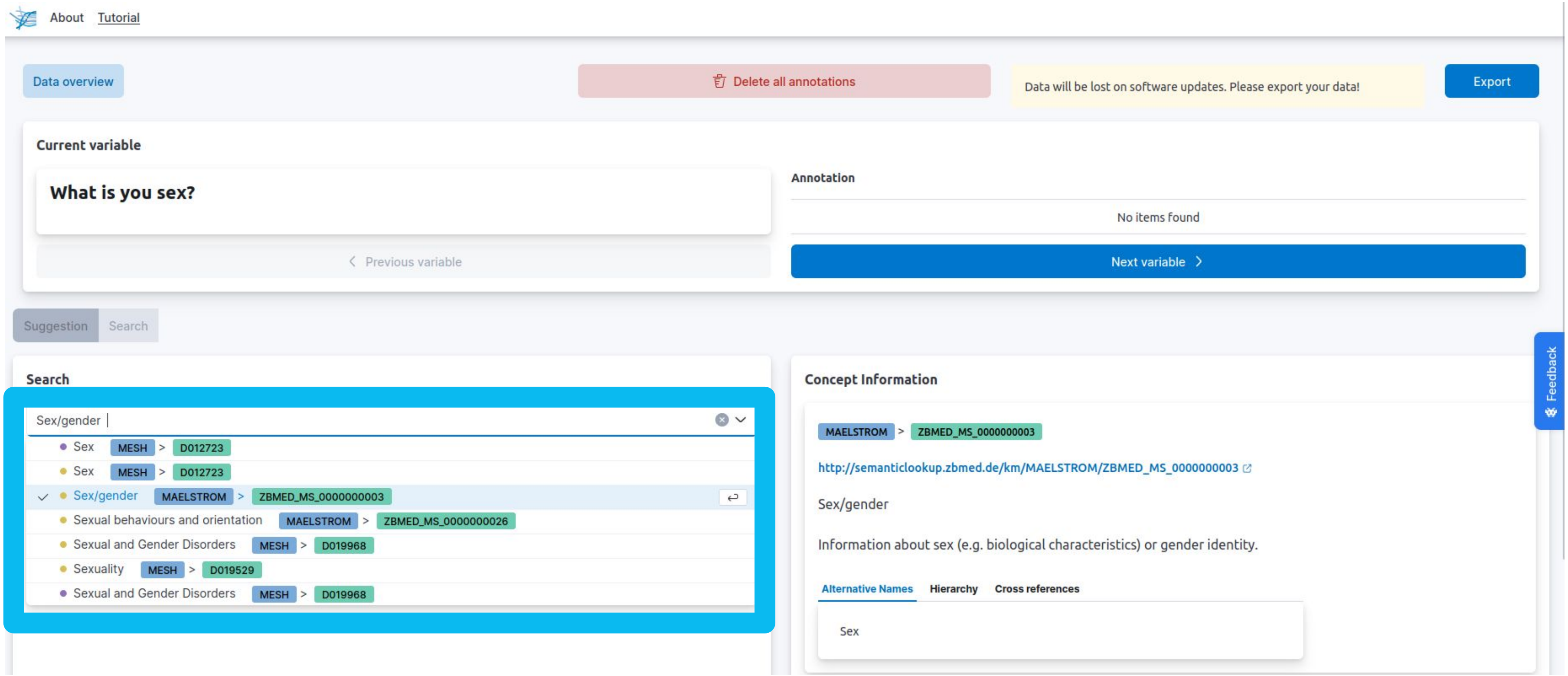
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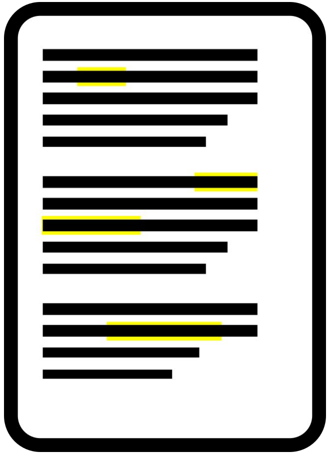
Terminology Service Suite

- Semantic Search

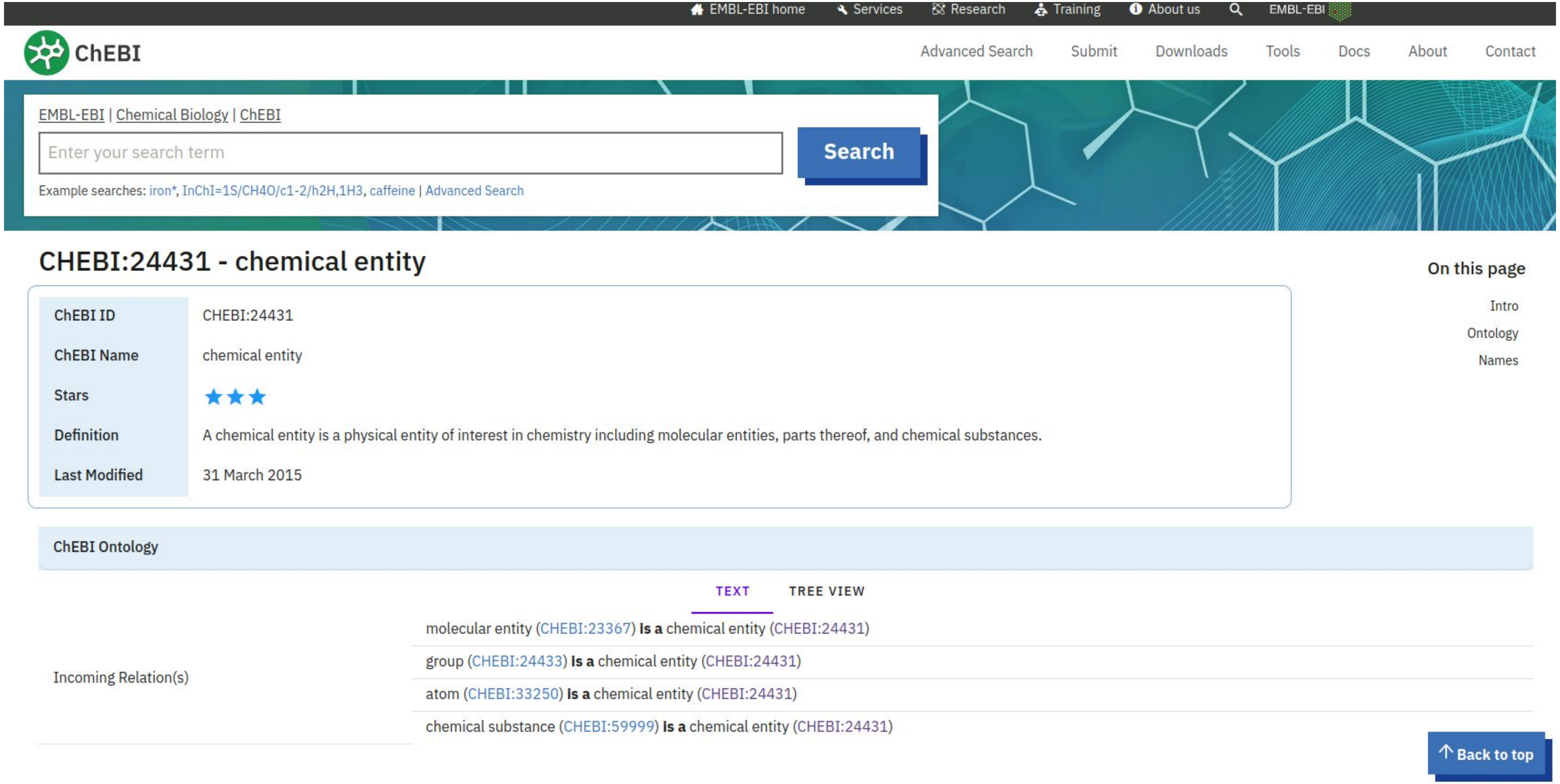
- Data Annotation Services



- User Experience Enhancement

Usage of TS4NFDI

Terminology Service Suite - ChEBI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Example searches: iron*, InChI=1S/CH4O/c1-2/h2H,1H3, caffeine | Advanced Search
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CHEBI:24431 - chemical entity

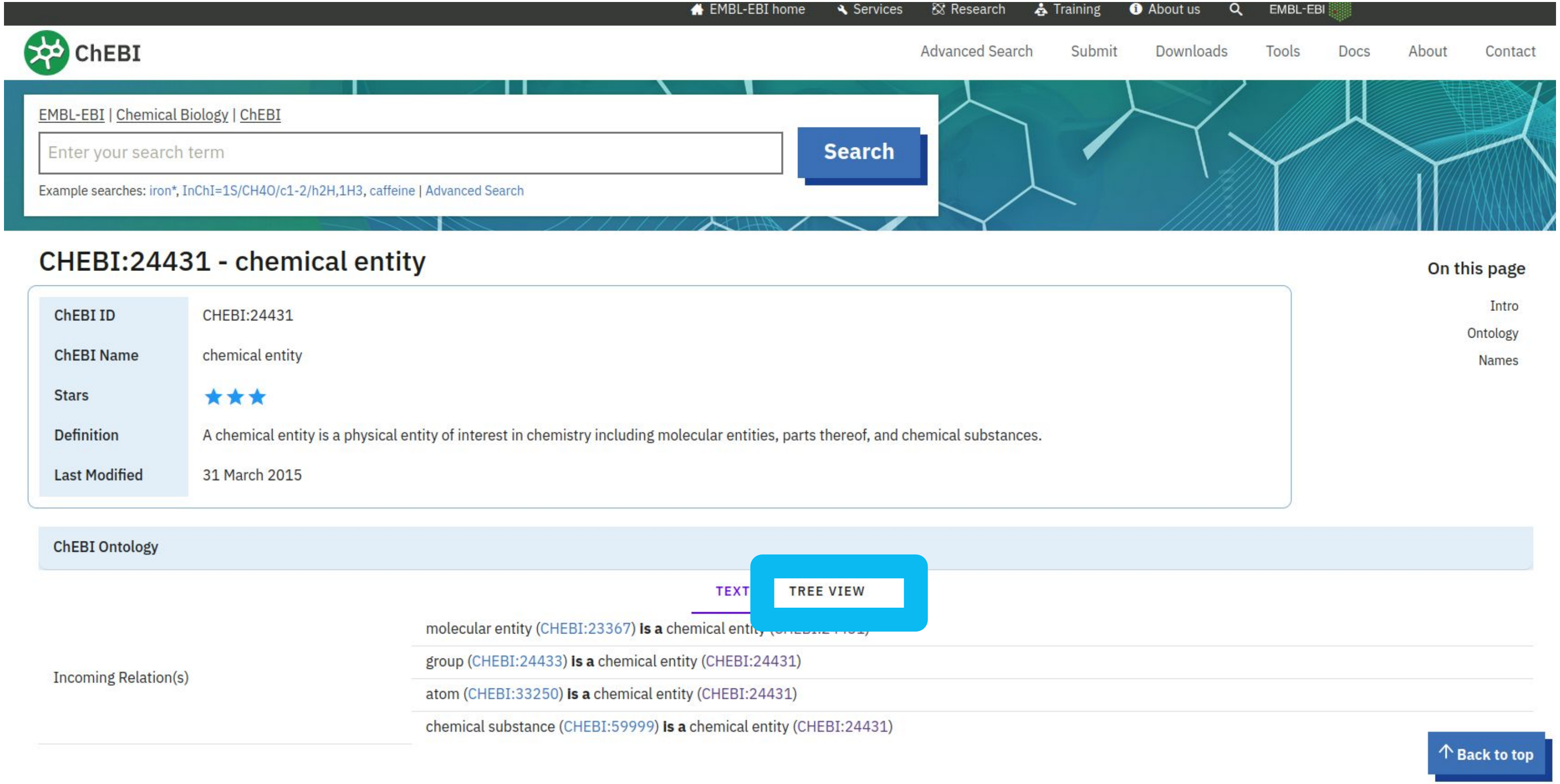
ChEBI ID	CHEBI:24431
ChEBI Name	chemical entity
Stars	★★★
Definition	A chemical entity is a physical entity of interest in chemistry including molecular entities, parts thereof, and chemical substances.
Last Modified	31 March 2015

ChEBI Ontology

Incoming Relation(s)	molecular entity (CHEBI:23367) **is a** chemical entity (CHEBI:24431) group (CHEBI:24433) **is a** chemical entity (CHEBI:24431) atom (CHEBI:33250) **is a** chemical entity (CHEBI:24431) chemical substance (CHEBI:59999) **is a** chemical entity (CHEBI:24431)

Usage of TS4NFDI

Terminology Service Suite - ChEBI


EMBL-EBI home
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Enter your search term
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Example searches: iron*, InChI=1S/CH4O/c1-2/h2H,1H3, caffeine | Advanced Search
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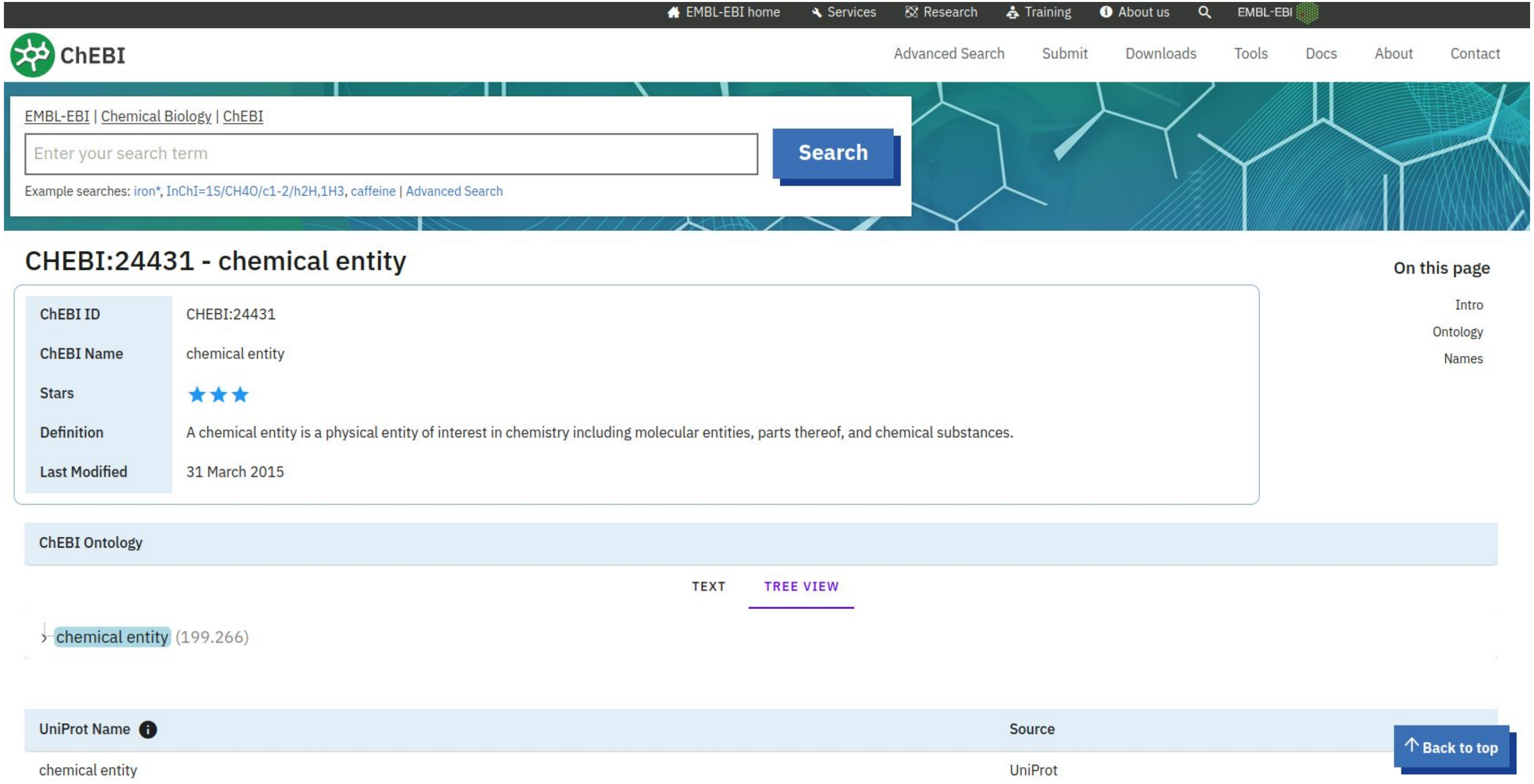
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Enter your search term
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Example searches: iron*, InChI=1S/CH4O/c1-2/h2H,1H3, caffeine | Advanced Search

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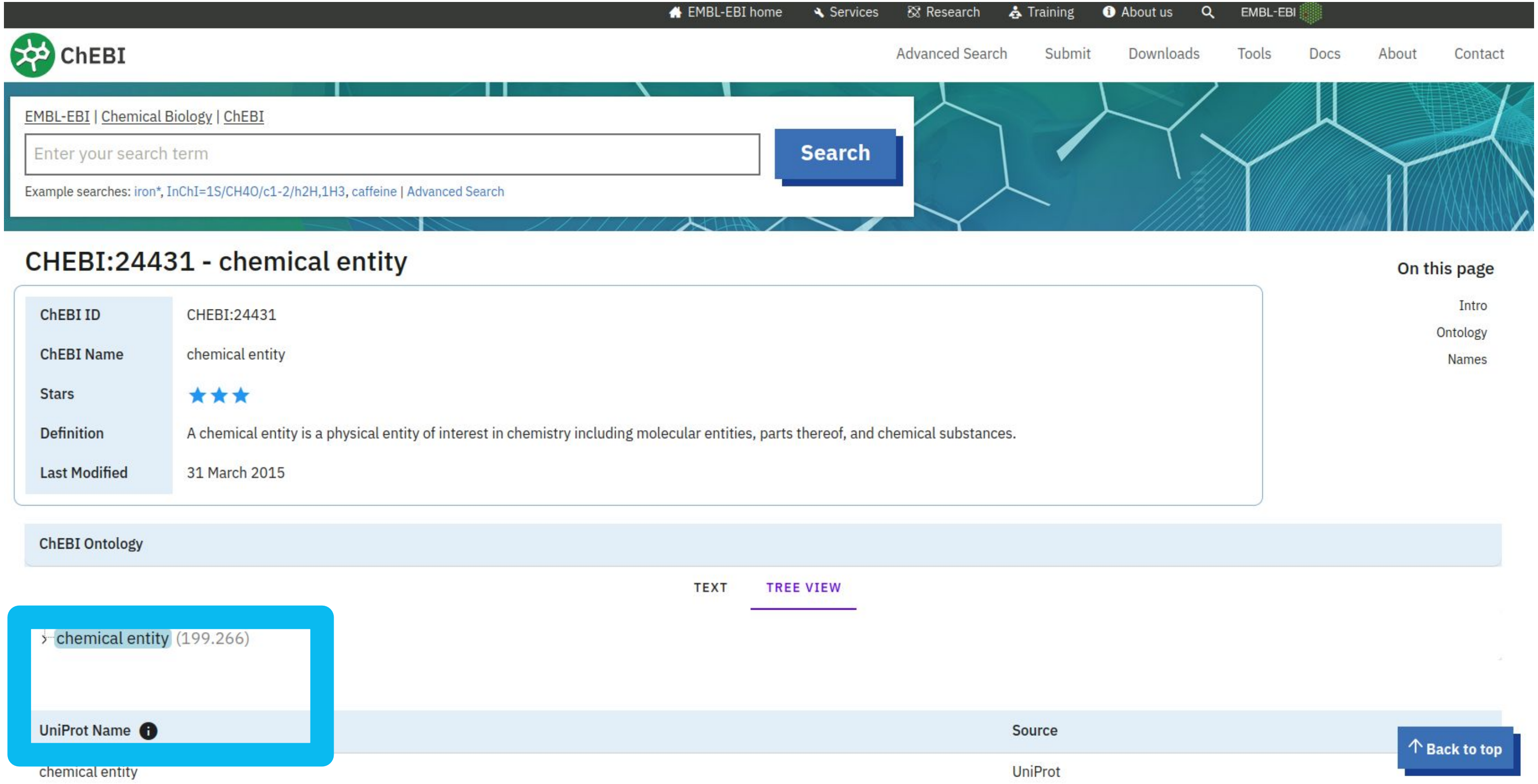
ChEBI Ontology

› chemical entity (199.266)

UniProt Name	Source
chemical entity	UniProt

Usage of TS4NFDI

Terminology Service Suite - ChEBI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Enter your search term
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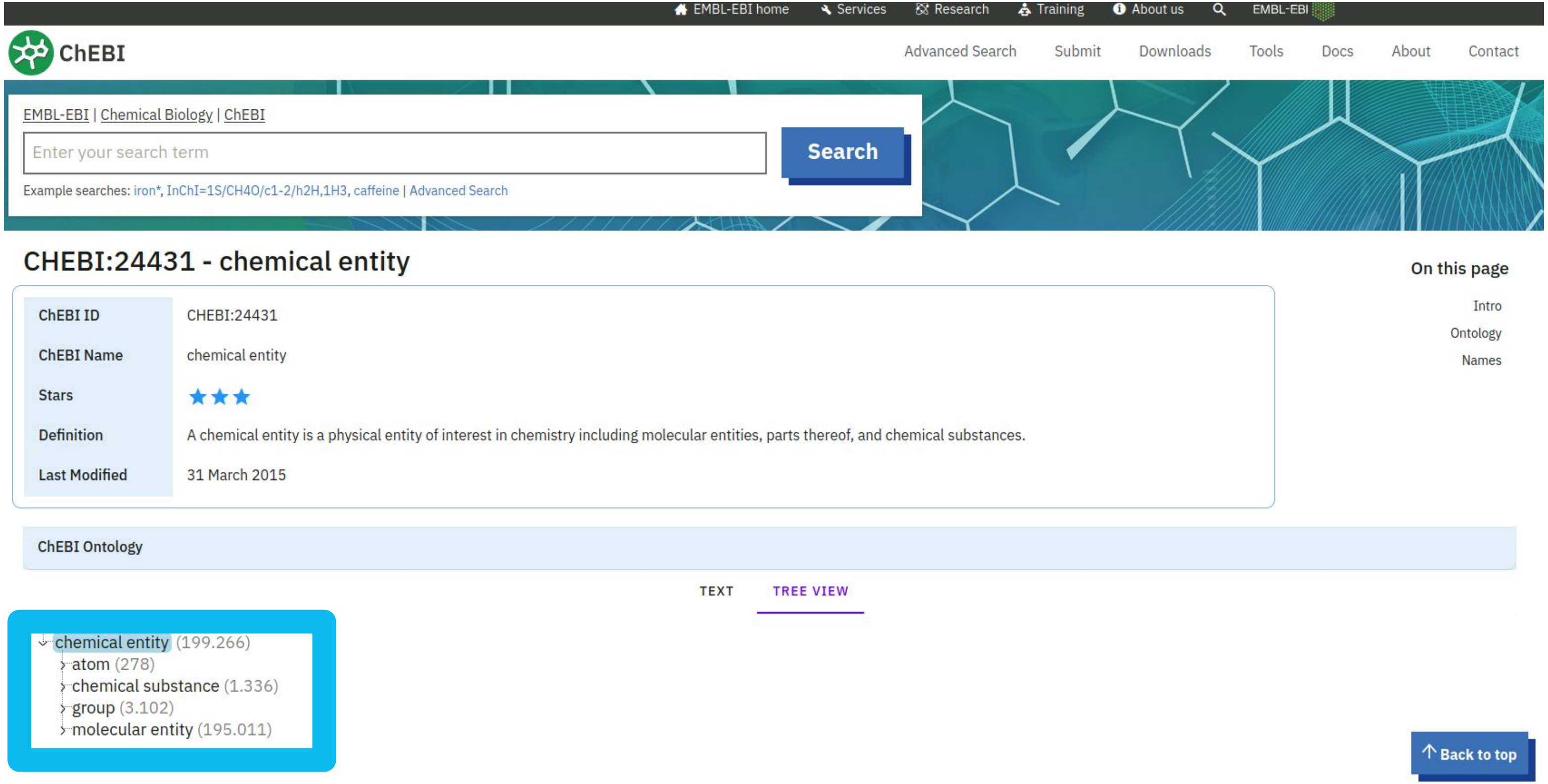
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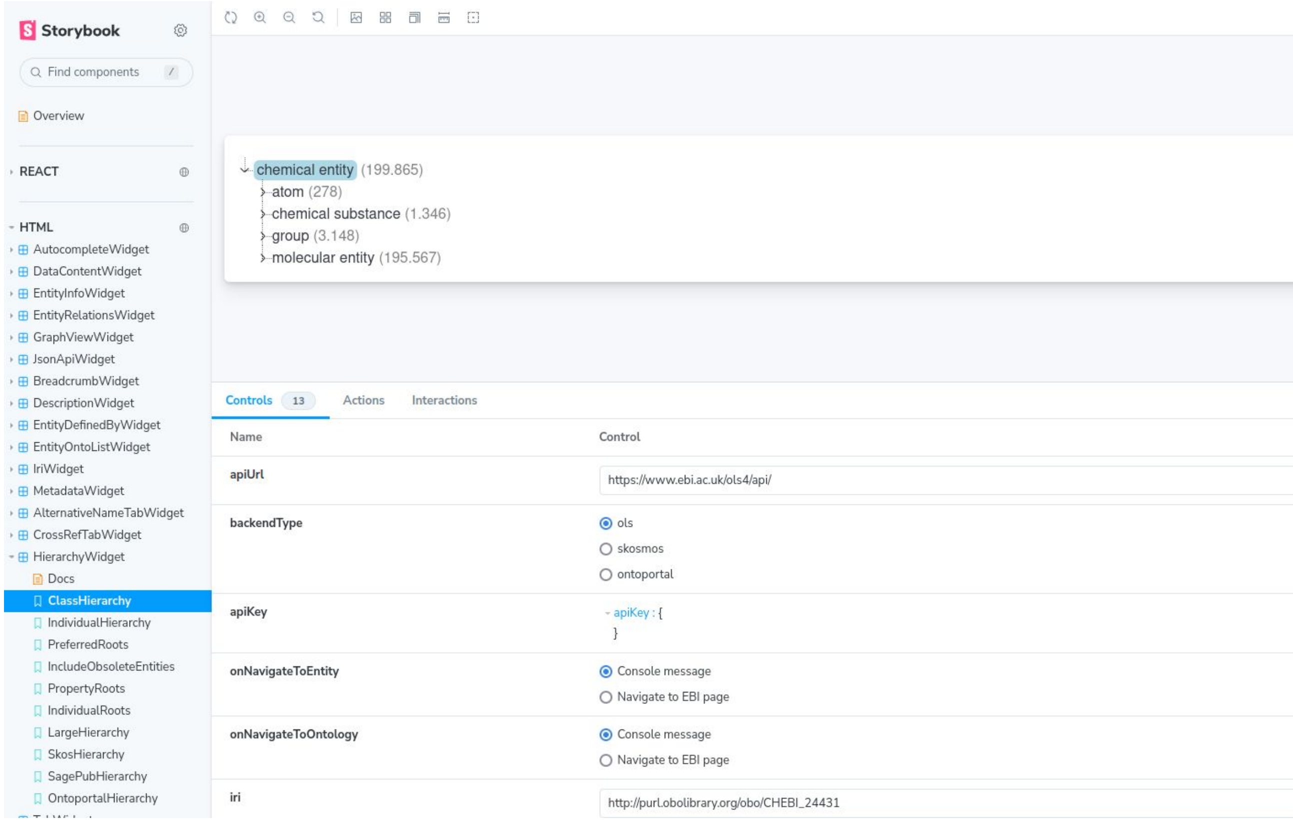
- chemical entity (199.266)
  - atom (278)
  - chemical substance (1.336)
  - group (3.102)
  - molecular entity (195.011)

Usage of TS4NFDI

Terminology Service Suite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Docs
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IndividualHierarchy
PreferredRoots
IncludeObsoleteEntities
PropertyRoots
IndividualRoots
LargeHierarchy
SkosHierarchy
SagePubHierarchy
OntoportalHierarchy
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- chemical entity (199.865)
  - atom (278)
  - chemical substance (1.346)
  - group (3.148)
  - molecular entity (195.567)

Name	Control
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backendType	● ols ○ skosmos ○ ontoportal
apiKey	apiKey : { }
onNavigateToEntity	● Console message ○ Navigate to EBI page
onNavigateToOntology	● Console message ○ Navigate to EBI page
iri	http://purl.obolibrary.org/obo/CHEBI_24431

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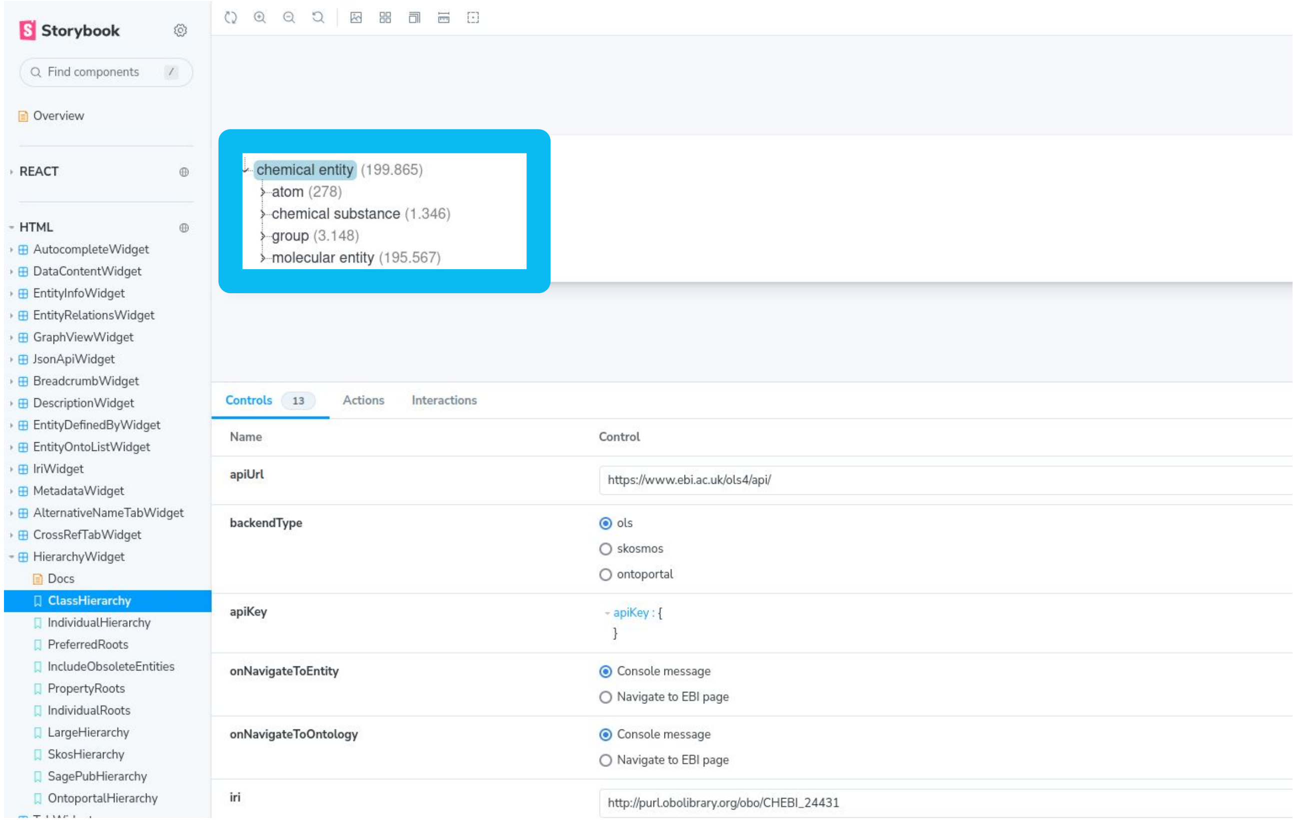
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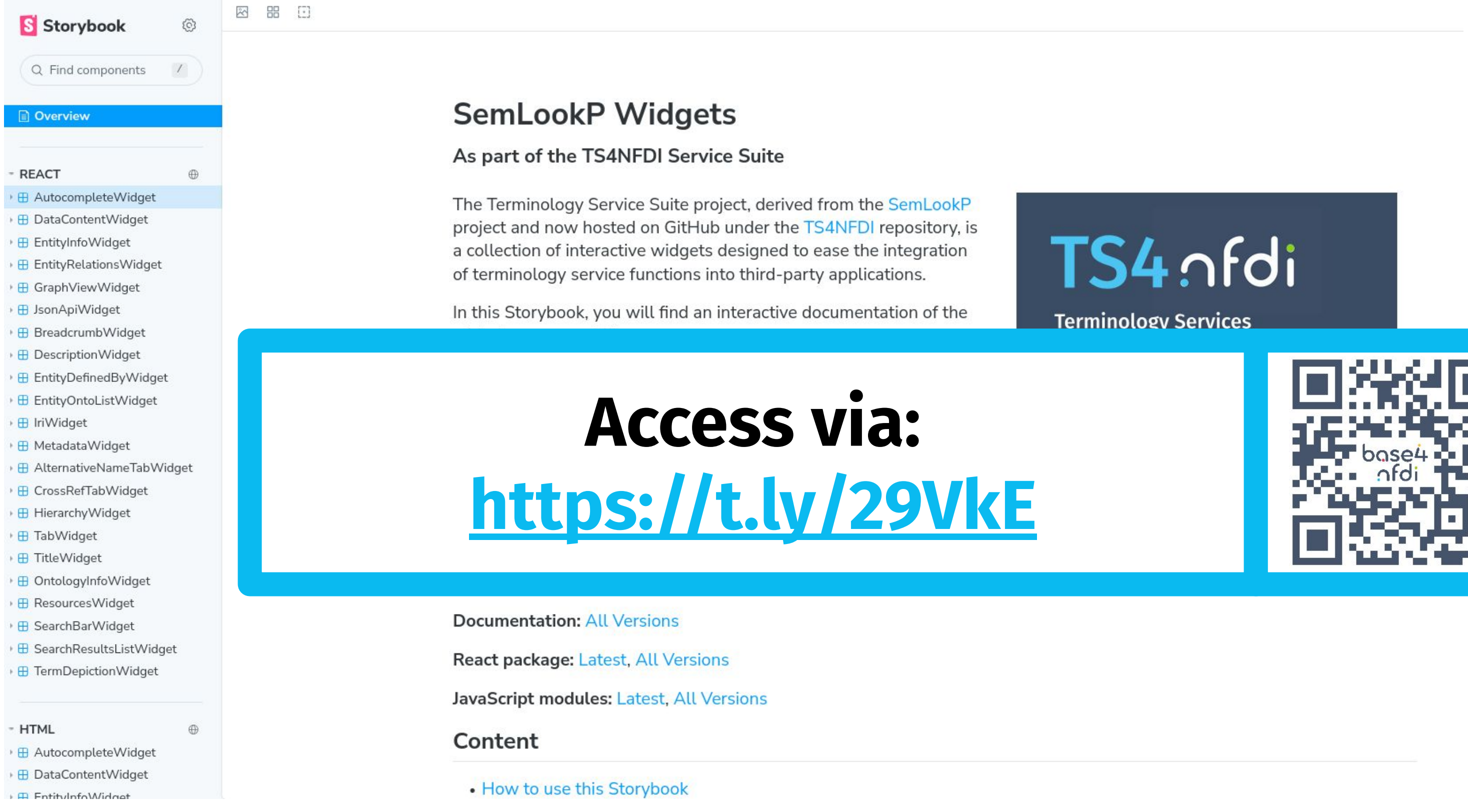
DescriptionWidget
EntityDefinedByWidget
EntityOntoListWidget
IriWidget
MetadataWidget
AlternativeNameTabWidget
CrossRefTabWidget
HierarchyWidget
Docs
ClassHierarchy
IndividualHierarchy
PreferredRoots
IncludeObsoleteEntities
PropertyRoots
IndividualRoots
LargeHierarchy
SkosHierarchy
SagePubHierarchy
OntoportalHierarchy
Controls 13
Actions
Interactions

- chemical entity (199.865)
  - atom (278)
  - chemical substance (1.346)
  - group (3.148)
  - molecular entity (195.567)

Name	Control
apiUrl	https://www.ebi.ac.uk/ols4/api/
backendType	● ols ○ skosmos ○ ontoportal
apiKey	apiKey : { }
onNavigateToEntity	● Console message ○ Navigate to EBI page
onNavigateToOntology	● Console message ○ Navigate to EBI page
iri	http://purl.obolibrary.org/obo/CHEBI_24431

Usage of TS4NFDI

Terminology Service Suite


Storybook
Find components
Overview
REACT
AutocompleteWidget
DataContentWidget
EntityInfoWidget
EntityRelationsWidget
GraphViewWidget
JsonApiWidget
BreadcrumbWidget
DescriptionWidget
EntityDefinedByWidget
EntityOntoListWidget
IriWidget
MetadataWidget
AlternativeNameTabWidget
CrossRefTabWidget
HierarchyWidget
TabWidget
TitleWidget
OntologyInfoWidget
ResourcesWidget
SearchBarWidget
SearchResultsListWidget
TermDepictionWidget
HTML
AutocompleteWidget
DataContentWidget
TS4nfdi
Terminology Services

SemLookP Widgets

As part of the TS4NFDI Service Suite

The Terminology Service Suite project, derived from the SemLookP project and now hosted on GitHub under the TS4NFDI repository, is a collection of interactive widgets designed to ease the integration of terminology service functions into third-party applications.

In this Storybook, you will find an interactive documentation of the

Documentation: All Versions

React package: Latest, All Versions

JavaScript modules: Latest, All Versions

Content

- How to use this Storybook

Access via:

https://t.ly/29VkE

Outlook: Integration Phase

Initialisation

- Analyzing requirements of all consortia
- consortia landscape analysis (Inventory of existing solutions and services)
- Terminology Service Suite (TSS)
- API Gateway

Integration

- Mapping Service
- Terminology Curation Workflows
- API Gateway extension
- TSS extension
- IAM4NFDI integration
- Community Engagement and Training Material

Ramp-Up

- focus on the stability, scalability, sustainability, and expandability
- connect to related EOSC services such as EOSC Data Type Registry (DTR) & Metadata Schema and Crosswalk Registry (MSCR)

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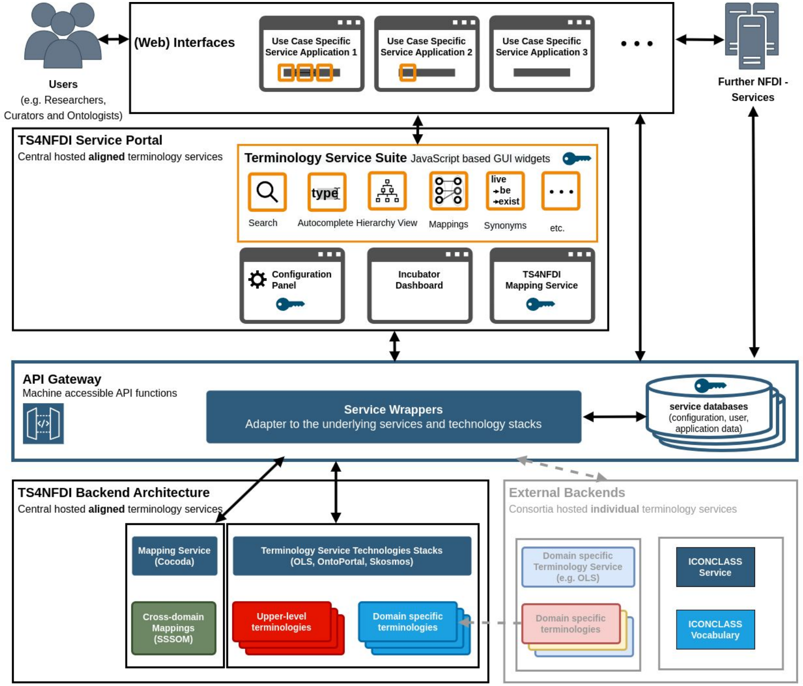
TS4NFDI
Outlook: Integration Phase

- **Terminology Service Suite (TSS)**
  - Javascript based widgets
- **Central API Gateway**
  - Harmonised single point of access to other (NFDI) terminology services
- **TS4NFDI Backend Architecture**
  - Supports Terminology Services which are based on OLS, OntoPortal, or Skosmos



Users
(e.g. Researchers, Curators and Ontologists)
(Web) Interfaces
Use Case Specific Service Application 1
Use Case Specific Service Application 2
Use Case Specific Service Application 3
Further NFDI - Services
TS4NFDI Service Portal
Central hosted aligned terminology services
Terminology Service Suite JavaScript based GUI widgets
Search
type
Autocomplete
Hierarchy View
Mappings
live
→be
→exist
Synonyms
etc.
Configuration Panel
Incubator Dashboard
TS4NFDI Mapping Service
API Gateway
Machine accessible API functions
Service Wrappers
Adapter to the underlying services and technology stacks
service databases
(configuration, user, application data)
TS4NFDI Backend Architecture
Central hosted aligned terminology services
Mapping Service (Cocoda)
Cross-domain Mappings (SSSOM)
Terminology Service Technologies Stacks (OLS, OntoPortal, Skosmos)
Upper-level terminologies
Domain specific terminologies
External Backends
Consortia hosted individual terminology services
Domain specific Terminology Service (e.g. OLS)
Domain specific terminologies
ICONCLASS Service
ICONCLASS Vocabulary

TS4NFDI architecture

TS4NFDI

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- **Terminology Service Suite (TSS)**
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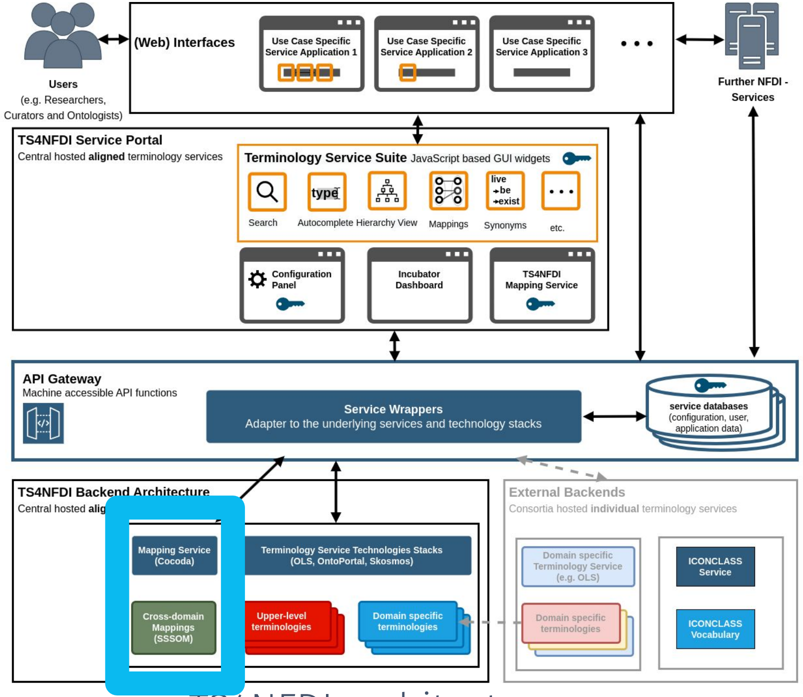
- **TS4NFDI Backend Architecture**
  - Supports Terminology Services which are based on OLS, OntoPortal, or Skosmos
  - **will provide a NFDI-wide Mapping Service with SSSOM support**



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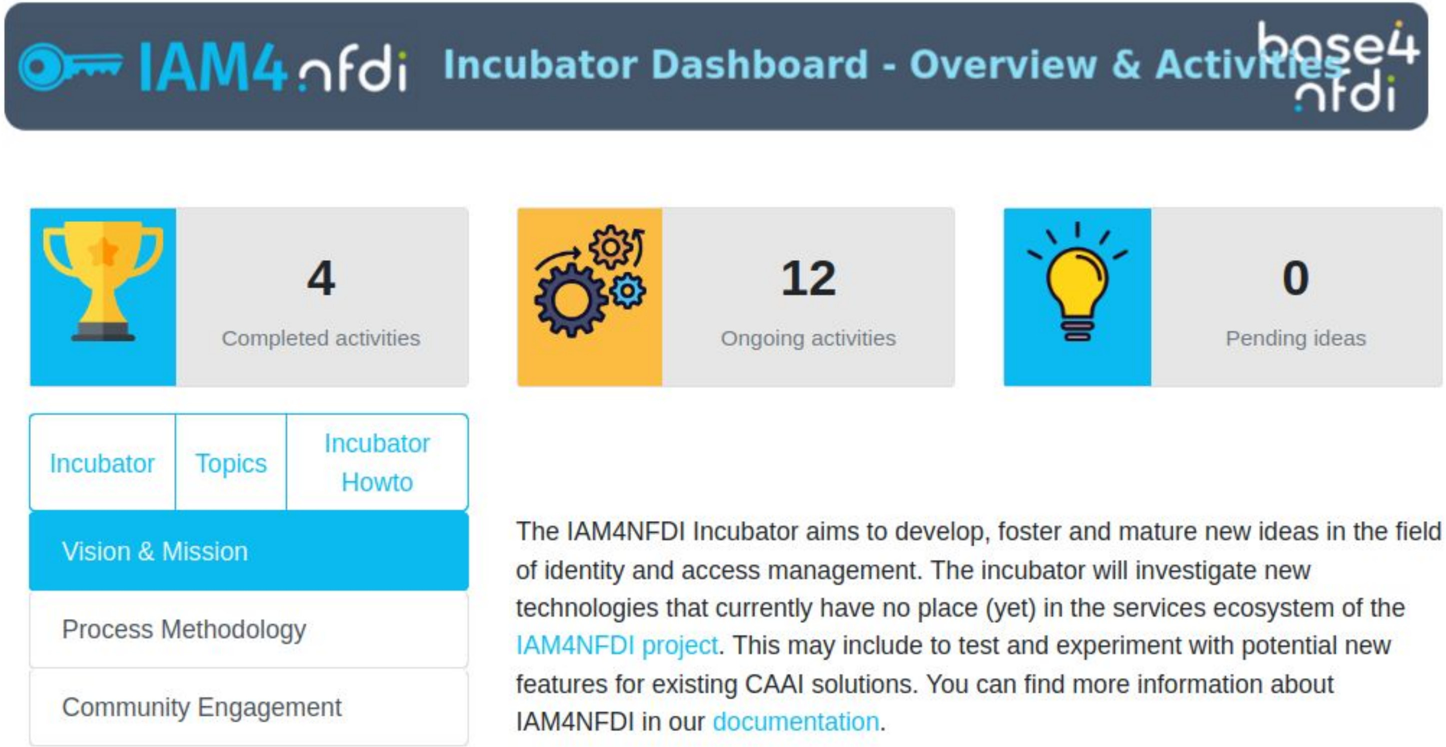
TS4NFDI

Outlook: Integration Phase - Incubators



IAM4nfdi
Incubator Dashboard - Overview & Activities
Incubator
Topics
Incubator Howto
Vision & Mission
Process Methodology
Community Engagement

4 Completed activities

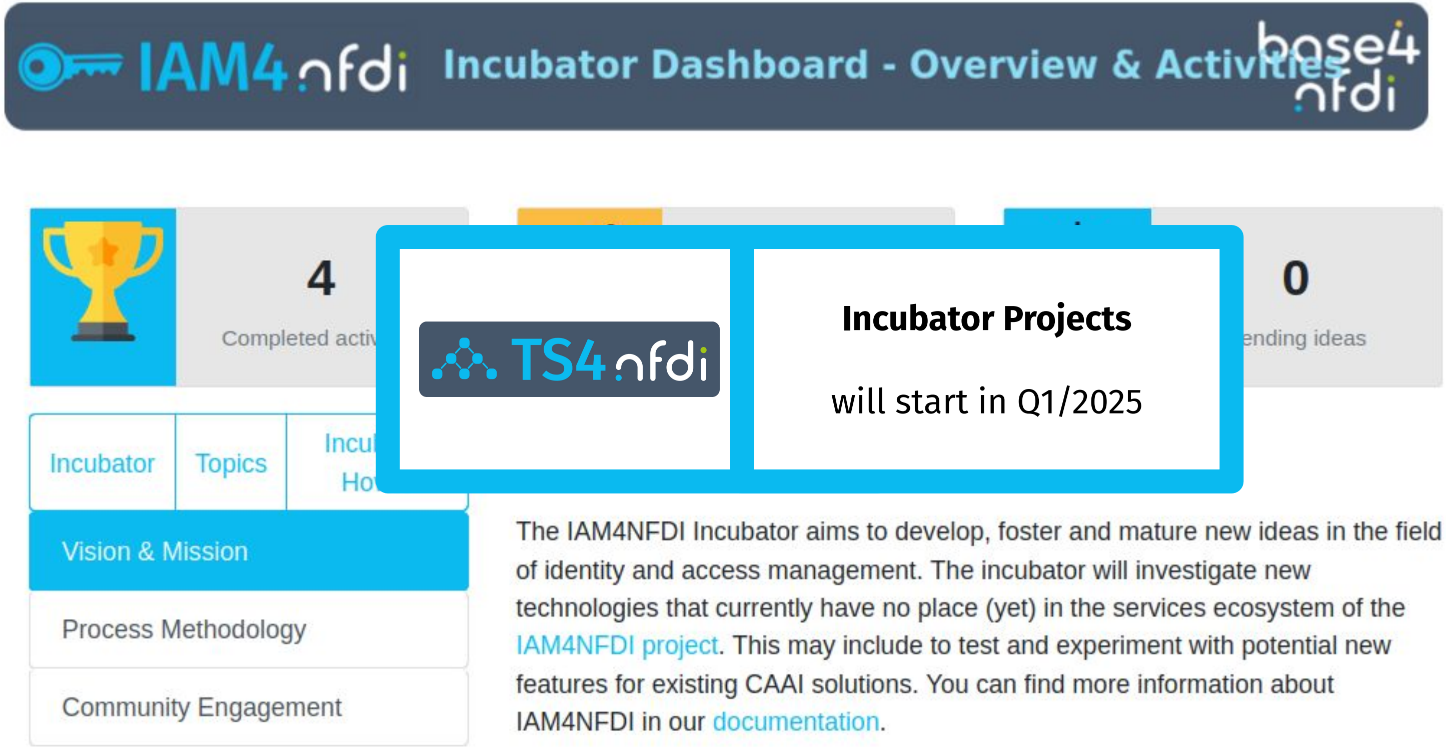
12 Ongoing activities

0 Pending ideas

The IAM4NFDI Incubator aims to develop, foster and mature new ideas in the field of identity and access management. The incubator will investigate new technologies that currently have no place (yet) in the services ecosystem of the IAM4NFDI project. This may include to test and experiment with potential new features for existing CAAI solutions. You can find more information about IAM4NFDI in our documentation.

TS4NFDI

Outlook: Integration Phase - Incubators


IAM4nfdi
Incubator Dashboard - Overview & Activities
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4
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TS4nfdi

Incubator Projects

will start in Q1/2025

Instructions:
Write down the letters in front of each correct answer! In the end, these letters will form a solution phrase.

How many words for Venus were used in this presentation?

IN) 2
H) 3
TH) 4

Thank you!

Questions?

✉ ts4nfdi@lists.nfdi.de

✉ base4nfdi-servicestewards@lists.nfdi.de for general inquiries

🌐 terminology.services.base4nfdi.de

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