


Community Meeting CC-41

3. März, 2022

Special Interest Group (SIG) Metadata & Ontologies

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SIG Metadata & Ontologies

Themen/ Scope

- Metadaten
- Ontologien
- Tools zur Erstellung und Verwendung von beidem

Austauschplattform

- Base Services
- Archetypen
- Community Cluster

- Sub-SIG Metadata4Ing

Treffen

- Jeder 3. Donnerstag im Monat, 11:30 bis 13:00 Uhr
- 17.03.2022 RFC für Metadatenmanagement in den Ingenieurwissenschaften
- 21.04.2022 tbd
- 19.05.2022 tbd



SIG Metadata & Ontologies

Kommunikationskanäle

NFDI-Rocket-Chat-Kanal

- <https://all-chat.nfdi.de/channel/nfdi4ing-SIGmetadata>

Mailing-Liste

- https://lists.tu-darmstadt.de/mailman/listinfo/sig_metadata_ontologies



SIG Metadata & Ontologies

Aktuelle Aktivitäten

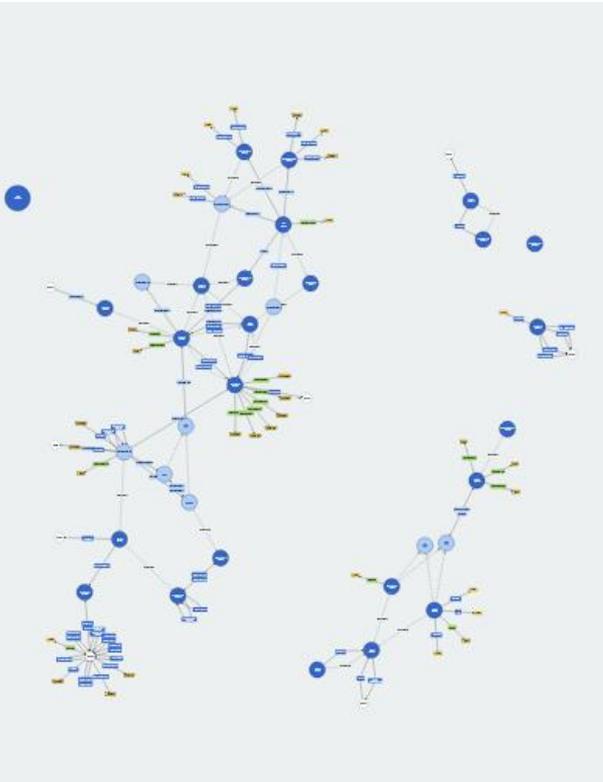


- Erstellung einer Übersicht von Aktivitäten in NFDI4Ing mit Bezug zu
 - Entwicklung von Metadatenschemata
 - Entwicklung von Ontologien→ zugänglich via NFDI4Ing-Sharepoint
- Mitwirkung in Sektion Metadaten, Ontologien, Provenienz
 - Aktuell Formierung von Arbeitsgruppen
 - WG Semantic Interoperability + Terminology Services
 - WG Cookbooks, Guidance and Best Practice
 - WG Knowledge Graphs
 - WG Provenance Documentation
 - WG Ontology Harmonization and Mappings
 - WG Search and Harvesting
 - WG Sustainability and Internationalization

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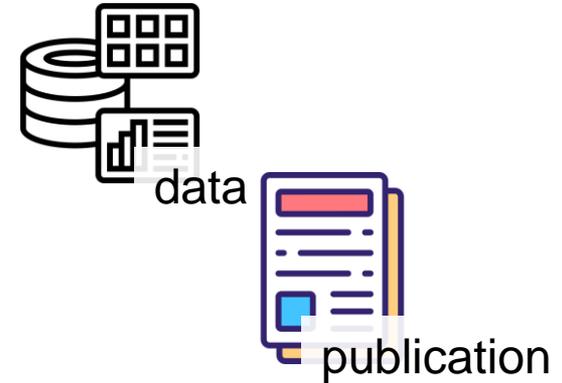
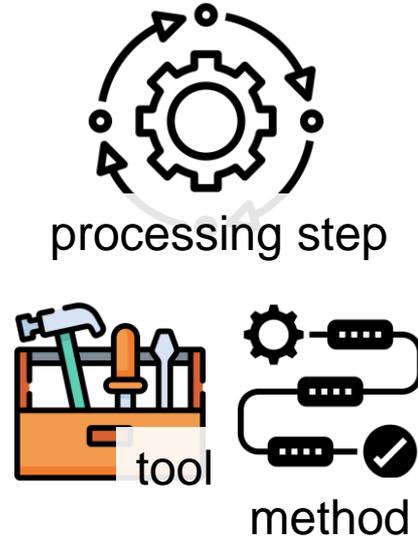
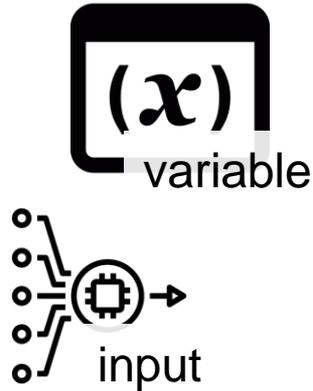
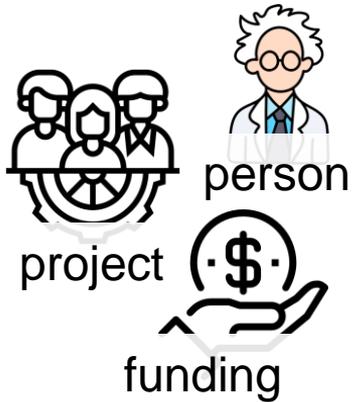
Aktuelle Aktivitäten - Metadata4Ing

- Ontologie: Beschreibung der Genese von Daten- und Datensets
- URI: <https://w3id.org/nfdi4ing/metadata4ing/1.0.0>
- Release des ersten Drafts am 22.02.2022
- Möglichst Wiederverwendung existierender Ontologien

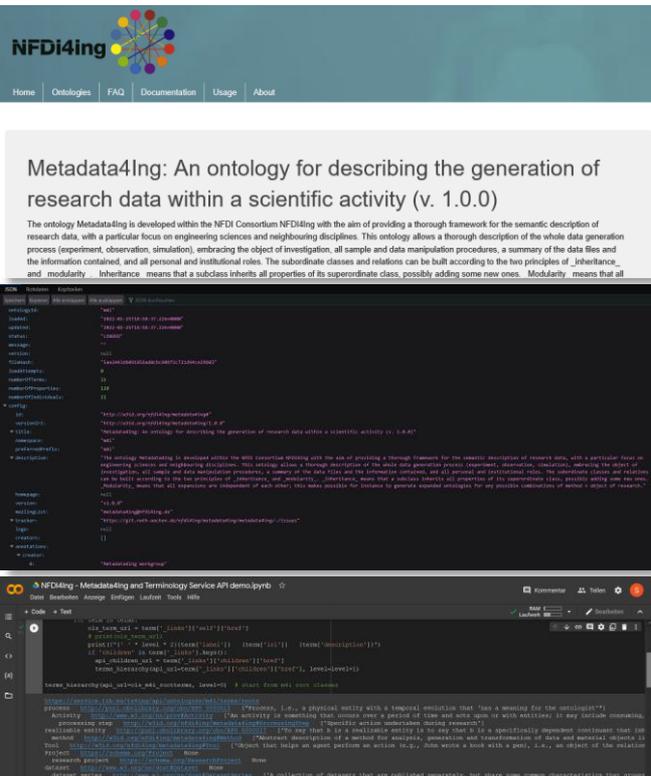


SIG Metadata & Ontologies

Metadata4Ing - Scope



SIG Metadata & Ontologies



NFDI4ing
Home Ontologies FAQ Documentation Usage About

Metadata4Ing: An ontology for describing the generation of research data within a scientific activity (v. 1.0.0)

The ontology *Metadata4Ing* is developed within the NFDI Consortium NFDI4ing with the aim of providing a thorough framework for the semantic description of research data, with a particular focus on engineering sciences and neighbouring disciplines. This ontology allows a thorough description of the whole data generation process (experiment, observation, simulation), embracing the object of investigation, all sample and data manipulation procedures, a summary of the data files and the information contained, and all personal and institutional roles. The subordinate classes and relations can be built according to the two principles of *inheritance* and *modularity*. *Inheritance* means that a subclass inherits all properties of its superclass, possibly adding some new ones. *Modularity* means that all

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Nächste Schritte - Metadata4Ing

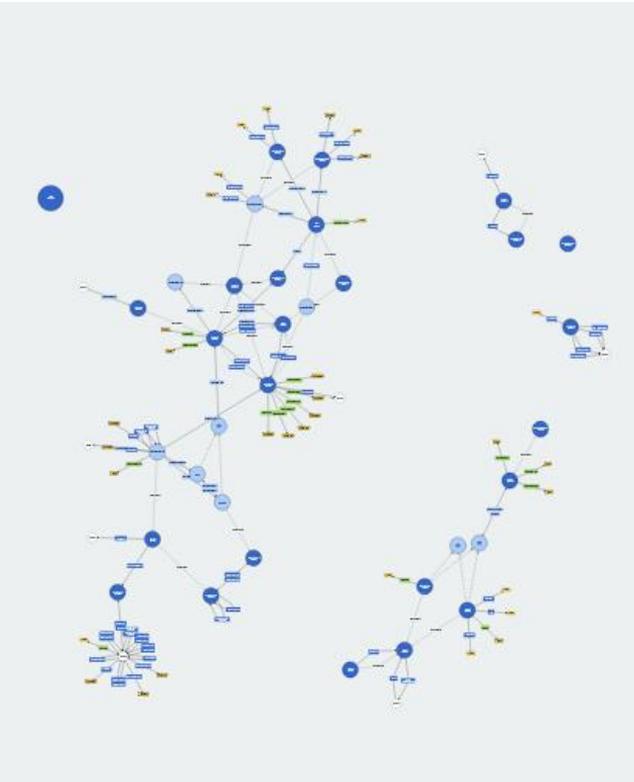
- Einbringung in den Terminology Service (S 3-2)
- Browsen: <https://terminology.nfdi4ing.de/ts4ing/ontologies/m4i>
- API: <https://terminology.nfdi4ing.de/ts4ing/api/ontologies/m4i>
- Doku: <https://service.tib.eu/ts4tib/swagger-ui.html>
- [Beispiel für Abruf in Jupyter Notebooks](#)

- Ergänzung um Applikationsprofile mit SHACL (S 3-1)
- Datenvalidierung
- Formulargenerierung



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Nächste Schritte - Metadata4Ing

- Erstellung von Anwendungsbeispielen > Demonstration der Nutzung der Ontologie
- Sammlung von Kompetenzfragen
→ Auswertung und Erweiterung der Ontologie
siehe auch: NFDI4Ing-Konferenz 2021 Session A1
- Feedback der Archetypen und Community Cluster
<https://git.rwth-aachen.de/nfdi4ing/metadata4ing/metadata4ing/-/issues>



SIG Metadata & Ontologies

Ausblick



- Knowledge Base
 - GitLab mit Infos zur Erstellung einer Ontologie?
 - Lessons Learned aus m4i?
- Zentrale Terminologieressource für NFDI4Ing?
- Kooperation mit einzelnen Anwendungsfällen aus den CCs und Archetypen?
 - Bspw. NFDI4Ing Konferenz 2021 Session C1



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Fragen?



SIG Metadata & Ontologies

Ihre Bedarfe

- Bitte folgen Sie mir in ein Google Doc:
<https://tinyurl.com/2p92fhw>



SIG Metadata & Ontologies

Referenzen

NFDI-Ressourcen:

- Berger, Marco, Linxweiler, Jan, & Roski, Stefanie. (2021). NFDI4Ing Conference 2021 - Collection of Abstracts. Zenodo. <https://doi.org/10.5281/zenodo.5702697>
- Metadata4Ing Work Group (2022). Metadata4Ing: An ontology for describing the generation of research data within a scientific activity. (1.0.0). Zenodo. <https://doi.org/10.5281/zenodo.5957104>
- Koepler, Oliver, Schrade, Torsten, Neumann, Steffen, Stotzka, Rainer, Wiljes, Cord, Blümel, Ina, Bracht, Christian, Hamann, Tobias, Arndt, Susanne, & Hunold, Johannes. (2021). Sektionskonzept Meta(daten), Terminologien und Provenienz zur Einrichtung einer Sektion im Verein Nationale Forschungsdateninfrastruktur (NFDI) e.V. Zenodo. <https://doi.org/10.5281/zenodo.5619089>

Icons

- [System icons created by noomtah – Flaticon](#)
- [Scientist icons created by Freepik – Flaticon](#)
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