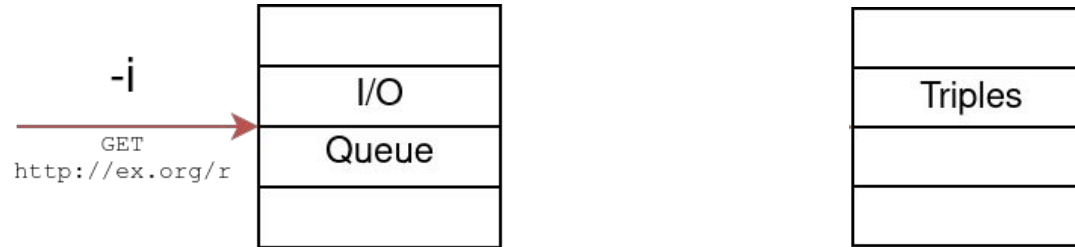
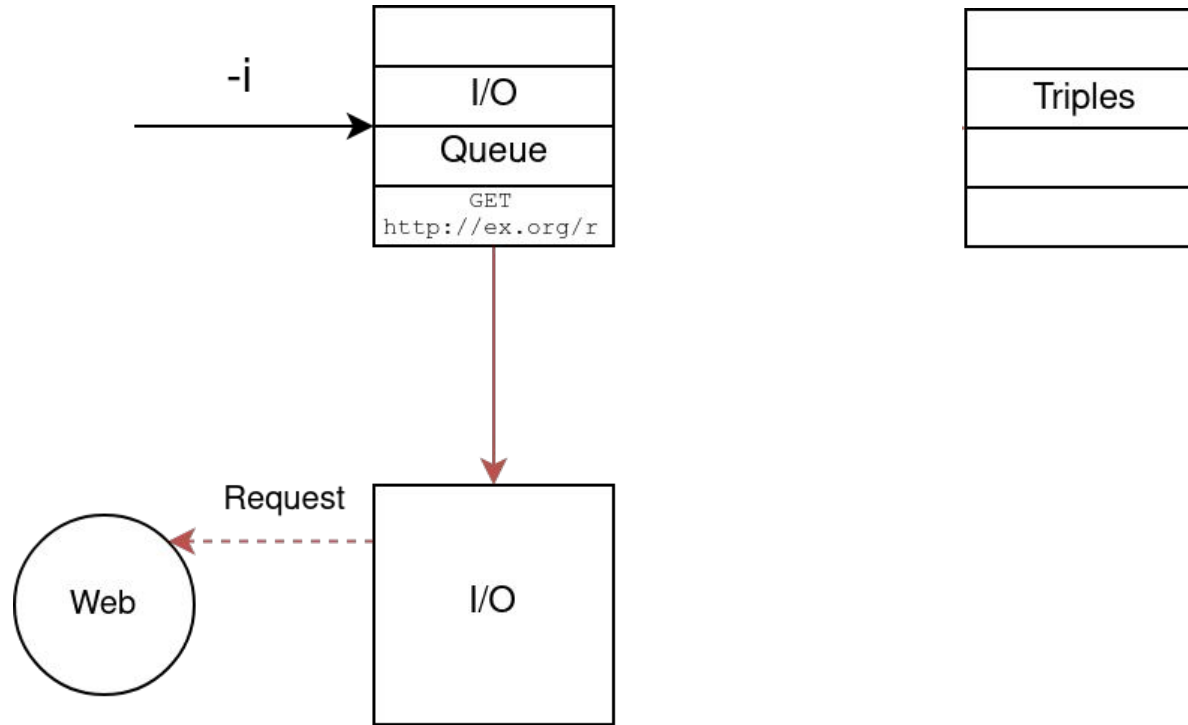


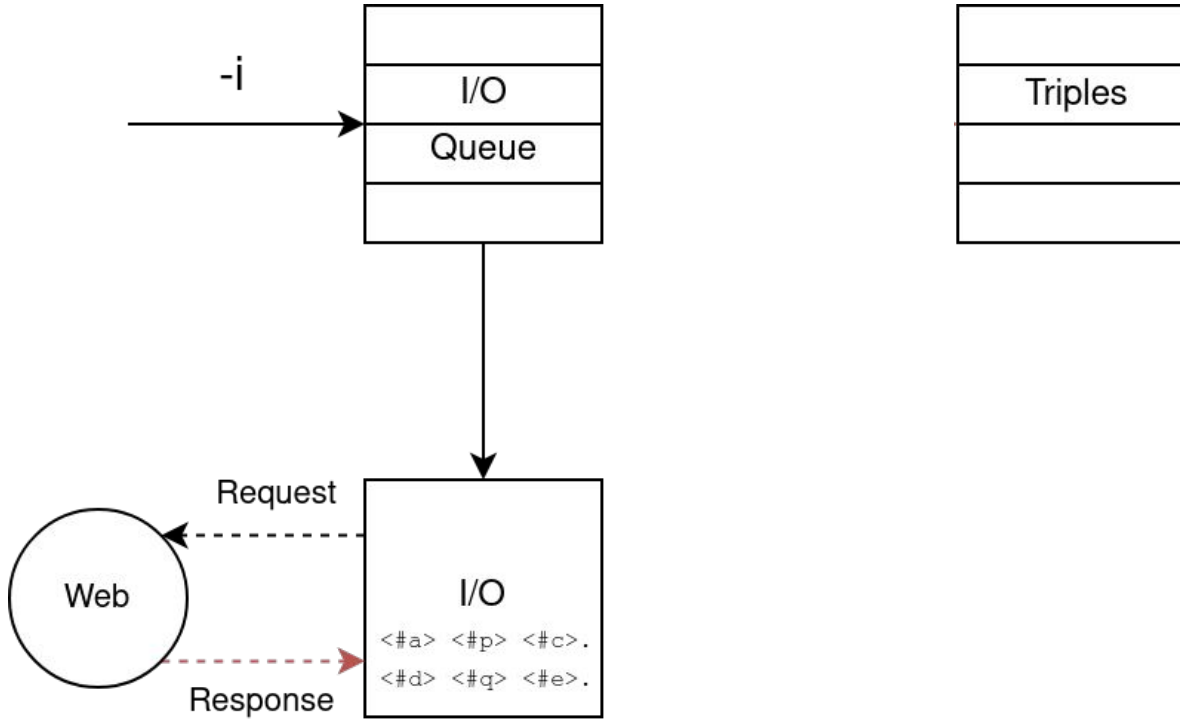
Tutorial

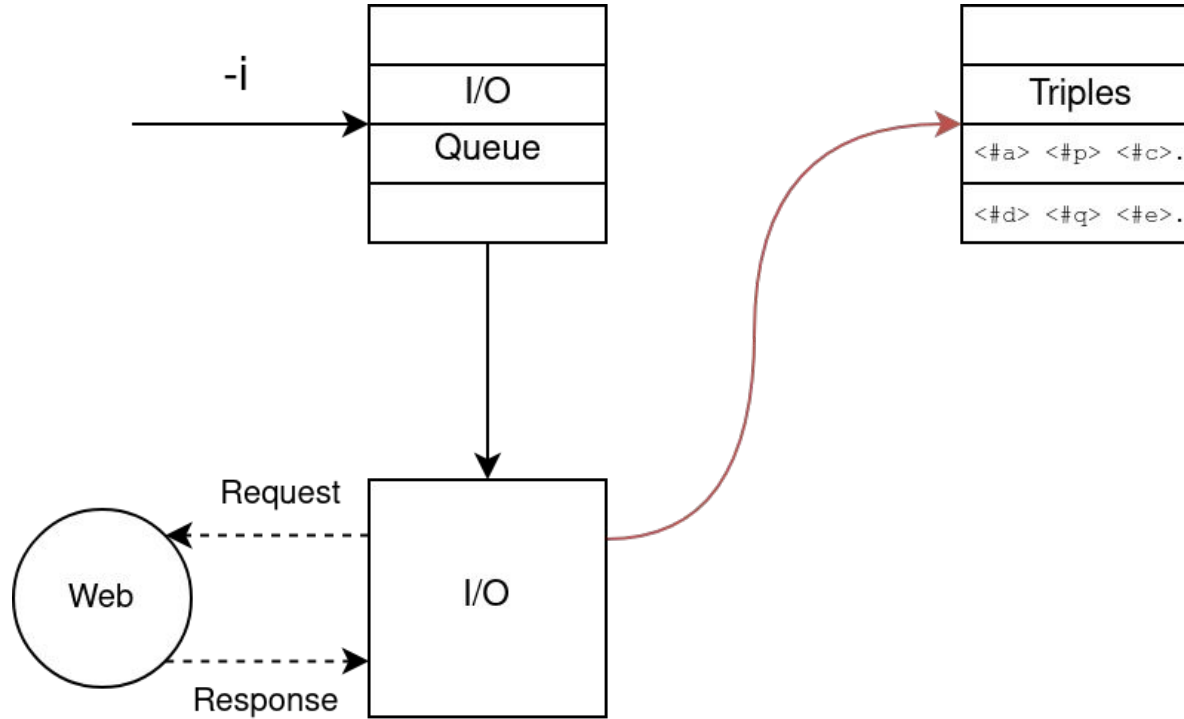
Linked Data-Fu

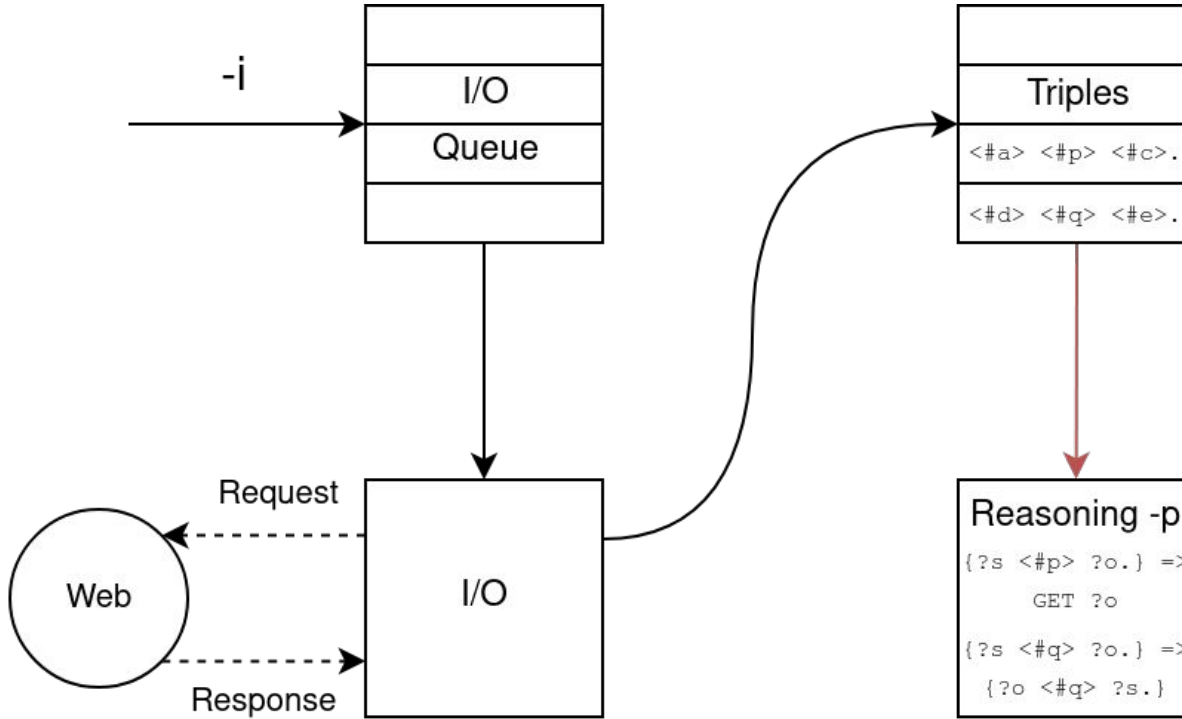
Daniel Schraudner, Sebastian Schmid
Lehrstuhl für Technische Informationssysteme,
Friedrich-Alexander-Universität Erlangen-Nürnberg

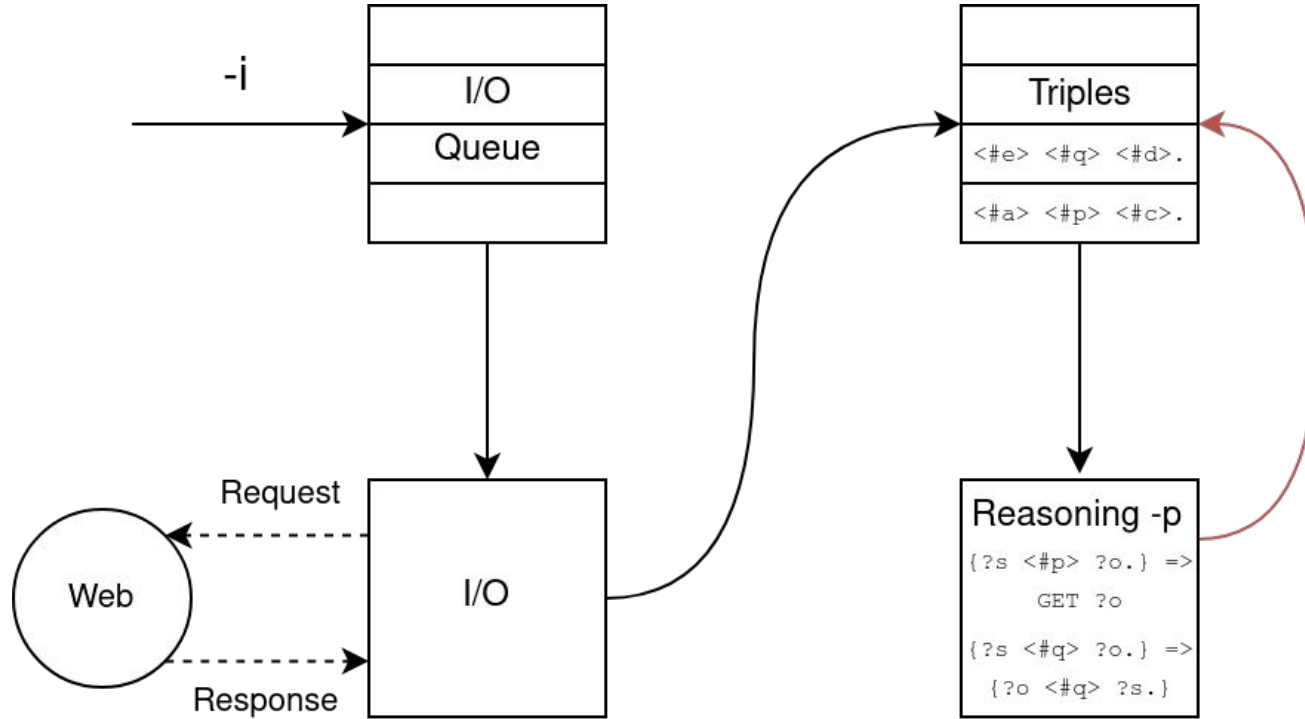


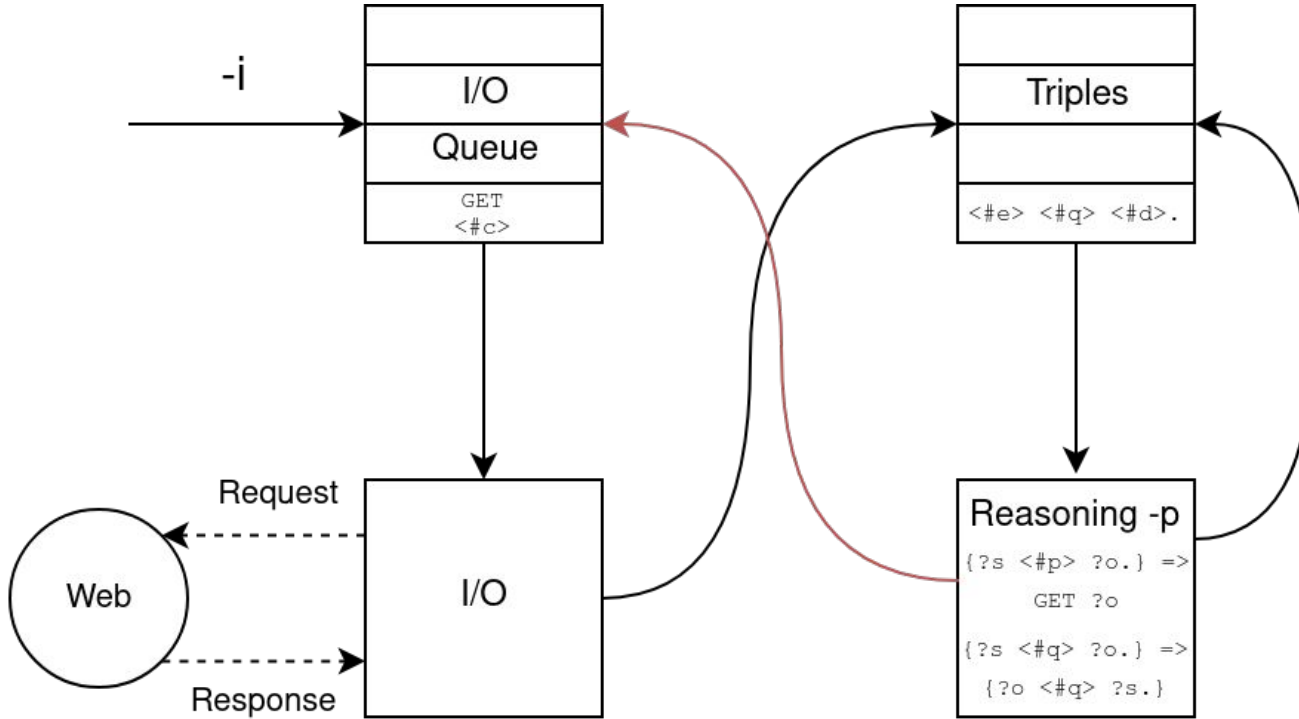




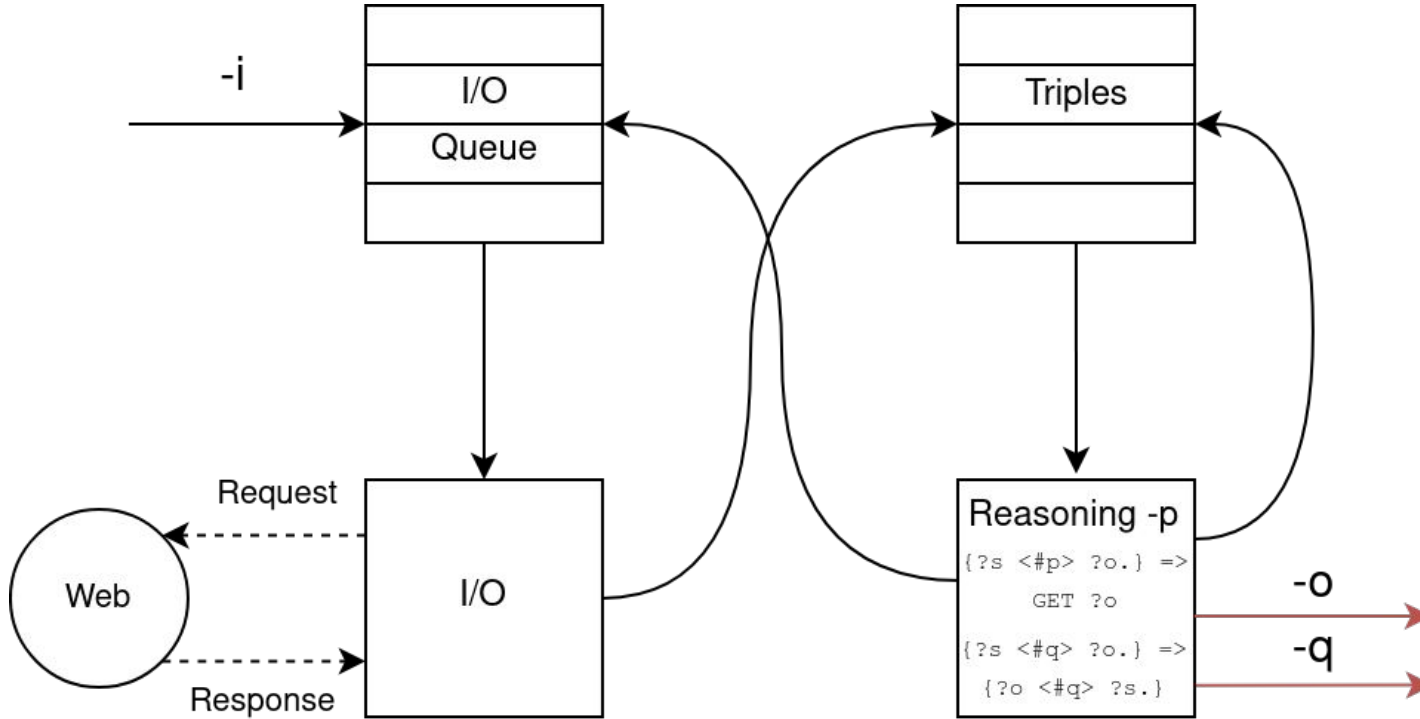












Exercises

<https://github.com/wintechis/tutorial-ldfu>

Exercises

For the Foundations of Linked Data Lecture students had to create one file with triples about ice hockey in their own vocabulary, e.g.:

<https://paul.ti.rw.fau.de/~ci24rucu/fld.ttl>

They also had to create a file with mappings between their vocabulary and the Wikidata vocabulary, e.g.:

<https://paul.ti.rw.fau.de/~ci24rucu/mapping.ttl>

To access all of the student submission, we have a landing page:

<https://paul.ti.rw.fau.de/cgi-bin/all-submissions>

Exercises

In the end, we want to get solutions to the following SPARQL query:

```
PREFIX wd: <http://www.wikidata.org/entity/>
PREFIX foaf: <http://xmlns.com/foaf/0.1/>

SELECT *
WHERE {
  # P54:          member of sports team
  # P413:         position
  # P495:         nationality
  # Q514676, actually Q704524: Nürnberg Ice Tigers (solution wrong)

  ?player wd:P54      wd:Q514676 ;
          foaf:name ?name ;
          wd:P413     ?position .
}
```

Step 1

Retrieve the URIs of all student submissions from
<https://paul.ti.rw.fau.de/cgi-bin/all-submissions> using Idfu.

Step 2

Get the triples behind every resource that is a student submission.

Hint:

The correct triples for sending an HTTP GET request in Idfu are

```
[ ] http:mthd          httpm:GET ;  
    http:requestURI    ?uri .
```

Step 3

Add reasoning rules for the OWL Semantics of Equality.

Table 4. The Semantics of Equality

	If	then
eq-ref	$T(?s, ?p, ?o)$	$T(?s, \text{owl:sameAs}, ?s)$ $T(?p, \text{owl:sameAs}, ?p)$ $T(?o, \text{owl:sameAs}, ?o)$
eq-sym	$T(?x, \text{owl:sameAs}, ?y)$	$T(?y, \text{owl:sameAs}, ?x)$
eq-trans	$T(?x, \text{owl:sameAs}, ?y)$ $T(?y, \text{owl:sameAs}, ?z)$	$T(?x, \text{owl:sameAs}, ?z)$
eq-rep-s	$T(?s, \text{owl:sameAs}, ?s')$ $T(?s, ?p, ?o)$	$T(?s', ?p, ?o)$
eq-rep-p	$T(?p, \text{owl:sameAs}, ?p')$ $T(?s, ?p, ?o)$	$T(?s, ?p', ?o)$
eq-rep-o	$T(?o, \text{owl:sameAs}, ?o')$ $T(?s, ?p, ?o)$	$T(?s, ?p, ?o')$

Step 4

Run everything together with the SPARQL query to get the results.

```
?player ?name ?position .
<http://www.wikidata.org/entity/Q28524944> "Oliver Mebus" <https://paul.ti.rw.fau.de/~ef67yzik/fld.ttl#defender> .
<http://www.wikidata.org/entity/Q28524944> "Oliver Mebus" <http://www.wikidata.org/entity/Q2304909> .
<https://paul.ti.rw.fau.de/~aq22idun/fld.ttl#mebus> "Oliver Mebus" <https://paul.ti.rw.fau.de/~hy98jiki/fld.ttl#position_defense> .
<https://paul.ti.rw.fau.de/~aq22idun/fld.ttl#mebus> "Oliver Mebus" <http://www.wikidata.org/entity/Q2304909> .
<https://paul.ti.rw.fau.de/~aq22idun/fld.ttl#mebus> "Oliver Mebus" <https://paul.ti.rw.fau.de/~ef67yzik/fld.ttl#defender> .
<http://www.wikidata.org/entity/Q28524944> "Oliver Mebus" <https://paul.ti.rw.fau.de/~hy98jiki/fld.ttl#position_defense> .
<https://paul.ti.rw.fau.de/~hy98jiki/fld.ttl#mebus> "Oliver Mebus" <http://www.wikidata.org/entity/Q2304909> .
<https://paul.ti.rw.fau.de/~hy98jiki/fld.ttl#mebus> "Oliver Mebus" <https://paul.ti.rw.fau.de/~ef67yzik/fld.ttl#defender> .
<https://paul.ti.rw.fau.de/~hy98jiki/fld.ttl#mebus> "Oliver Mebus" <https://paul.ti.rw.fau.de/~hy98jiki/fld.ttl#position_defense> .
<https://paul.ti.rw.fau.de/~op44ogoh/fld.ttl#weber> "Marcus Weber" "Verteidiger"@de .
<http://www.wikidata.org/entity/Q1409226> "Marcus Weber" "Verteidiger"@de .
<http://www.wikidata.org/entity/Q109923362> "Lukas Ribarik" "Stürmer"@de .
<https://paul.ti.rw.fau.de/~ak82irip/fld.ttl#ribarik> "Lukas Ribarik" "Stürmer"@de .
<http://www.wikidata.org/entity/Q28524944> "Oliver Mebus" "defender" .
<https://paul.ti.rw.fau.de/~hy98jiki/fld.ttl#mebus> "Oliver Mebus" "defender" .
<https://paul.ti.rw.fau.de/~aq22idun/fld.ttl#mebus> "Oliver Mebus" "defender"
```