

# Data transformations

Miroslav Blaško, Petr Křemen

October 16, 2019

## 1 Background

The goal of this seminar is to get familiar with data transformations and in transforming CSV files into RDF, in particular. For this purpose we will use *OntoRefine*, a GraphDB variant of OpenRefine supporting creation of RDF output.

## 2 Data Transformations with OpenRefine

Within this task we will transform two sheets from an XLSX document into RDF which we will use for querying. Concrete steps of the task are:

**Ex. 1** — Login into GraphDB at `http://onto.fel.cvut.cz:7300` and import sheet “event type x factor” provided by XLSX document into OntoRefine within GraphDB (Hint: `/GraphDB/Import/Tabular (OntoRefine)`).

**Ex. 2** — Fix issues with spelling/capitalization of “Eccairs event description” using cluster & merge method. (Hint: `ECCAIRSEvent description/Edit cells ../Cluster and edit ...`).

**Ex. 3** — Analyze “Source of model description (if relevant)” column using Text facet and filtering – explore functions of this tool. (Hint: `Source of model description (if relevant)/Facet/Text facet`).

**Ex. 4** — Add source type column based on different values of the analyzed column. (Hint: `Source of model description (if relevant)/Edit column/Add column based on this column ...`). You can use OpenRefine Expression Language to define new column in the following way:

```
value.replace(/^http[s]??:.../, "").split("/") [0].replace(/www./, '').split('.')[0].replace(/$/, ' documentation')
```

**Ex. 5** — Remove all irrelevant rows (Hint: `Source of model description (if relevant)/Facet/Text facet`, pick blank to include only in filtering, then `All/Edit rows/Remove all matching rows`).

**Ex. 6** — Export the project into a SPARQL endpoint. (Hint: RDF button + Data/Get SPARQL endpoint).

**Ex. 7** — Create new OpenRefine project by importing sheet “uniset factors” provided by XLSX, transform it appropriately and export it as a second SPARQL endpoint.

**Ex. 8** — Use both SPARQL endpoints to construct a list of events together with their uniset factors.

**Ex. 9** — As another exercise you can solve the ČSSZ integration task from the first tutorial using OpenRefine and check the results.

### 3 Other related tools

- **S-pipes** – available at <https://kbss.felk.cvut.cz/gitblit/tree/s-pipes.git>.
- **RDFpro** – available at <http://rdfpro.fbk.eu/>.
- **ETL LinkedPipes** – available at <https://etl.linkedpipes.com/>.