# Documentation of “CsvToRdf” Project

This document aims in providing the reader the basic insight on the architecture, the processes and the flows that are applied in order to create the desired outcomes using Java project “CsvToRdf”.

Documentation is divided in four subchapters, namely “Short Description”, “Preconditions”, “Initialization”, and “Creating Rdf files”. The “Short Description” subchapter aims in providing the reader a brief description of the specific action. The “Preconditions” subchapter enumerates the steps on which the main action will be based on, while the “Initialization” subchapter presents the variables that can be changed in order to affect the outcomes. The “Creating Rdf files” presents the most important factors that attention needs to be paid to by a new user.

# Short Description

The aim of this process is the following: to create the RDF triples for municipality’ s incomes and municipality’ s expenses retrieved from budget execution csv files.

# Preconditions

Before the initialization of the process some preconditions are supposed to be met. These are the following:

1. Exists on local drive CSV file of municipality’ s incomes which can be transformed with “CsvToRdf” project.
2. Exists on local drive CSV file of municipality’ s expenses which can be transformed with “CsvToRdf” project.

After these basic steps, the process of transforming data into RDF triples is ready to be initiated.

# Initialization

Once the preconditions are met the initialization of the process can take place. Before that, directories where CSV files is stored and directories where RDF files will be stored have to be set. These are the following:

1. The directory where income’s CSV file is stored is defined in line 41 to class “CsvIncomes” of “csvToRdf” project’ s package. Repository’s folder with name "Input CSV" includes income’s CSV files (note that unfortunately some days, source doesn’t provide data).
2. The directory where expense’s CSV file is stored is defined in line 41 to class “CsvExpenses” of “csvToRdf” project’s package. Repository’s folder with name "Input CSV" includes expense’s CSV files (note that unfortunately some days, source doesn’t provide data).
3. The directory where the RDF model for incomes will be stored is defined in line 218 to class “CsvIncomes” of “csvToRdf” project’s package.
4. The directory where the RDF model for expenses will be stored is defined in line 243 to class “CsvExpenses” of “csvToRdf” project’ s package.
5. If any of project’s dependencies not exist in maven central repository, developer can find it in repository’s folder "lib" and import it manually.

After the user of project has configured the above, can run “CsvToRdf” project with running of class “Main” which is placed in the “main” package.

# Creating Rdf files

Concerning the process of transforming Incomes and Expenses’ s CSV into RDF triples the following can be described. Each row of CSV file is transformed into a predefined Java object which contains all the data as retrieved from CSV file. The type of the object depends on the requested entities (incomes, expenses). These objects are passed as a parameter along with the working model to their appropriate methods which perform the transformation.

The classes, the properties and the form of the Ontology can be found at the respective chapters of the Ontology.

All the metadata of a CSV file are transformed into RDF triples according to the proposed Ontology. The proper Classes, Object and Datatype properties are used and the model is iteratively built each time a row of CSV file is parsed. Once all rows of a CSV file are processed, the resulting model is stored in the RDF/XML format.