Appendix A

User Help

In this documentation, we give a practical guideline about how a user can interact with the *CoMerger* tool. In particular, we present:

1. how to merge ontologies (Sec. A.1),
2. how to assess the quality of the merged ontology (Sec. A.2),
3. how to verify the consistency of the merged result (Sec. A.3),
4. how to check the compatibility of the selected Generic Merge Requirements (GMR)s (Sec. A.4),
5. how to compare the ontologies through the SPARQL endpoint (Sec. A.5).

A.1 Merging Ontologies

Figure A.1 shows the GUI of the ontology merging process in *CoMerger* tool. First, the MERGER tab should be selected. Then the required input parameters should be adjusted. To this end, a set of source ontologies and their mappings should be uploaded. If no mapping is available for them, the system can generate them automatically. The type of matcher and the format of output should be determined. Users can adjust a set of refinements and evaluation criteria to be applied to the created merged ontology. However, there is a possibility to perform them after the merge process as well. Finally, with pressing the MERGE button, the merged ontology will be generated.

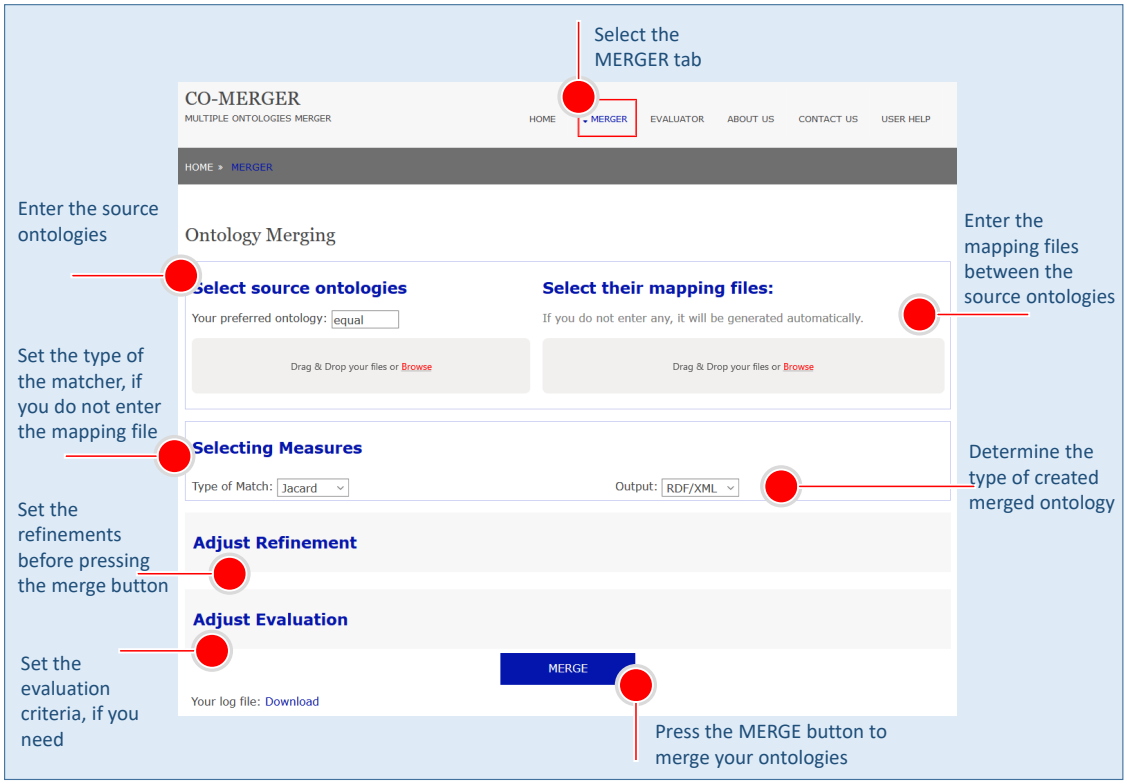

FIGURE A.1: Merger GUI.

After the merge process is performed, the users guide to the result page. In this page, the merged ontology, the created sub-ontologies, the log information on each step of refinements, and the evaluation result can be download, as shown in Figure A.2.

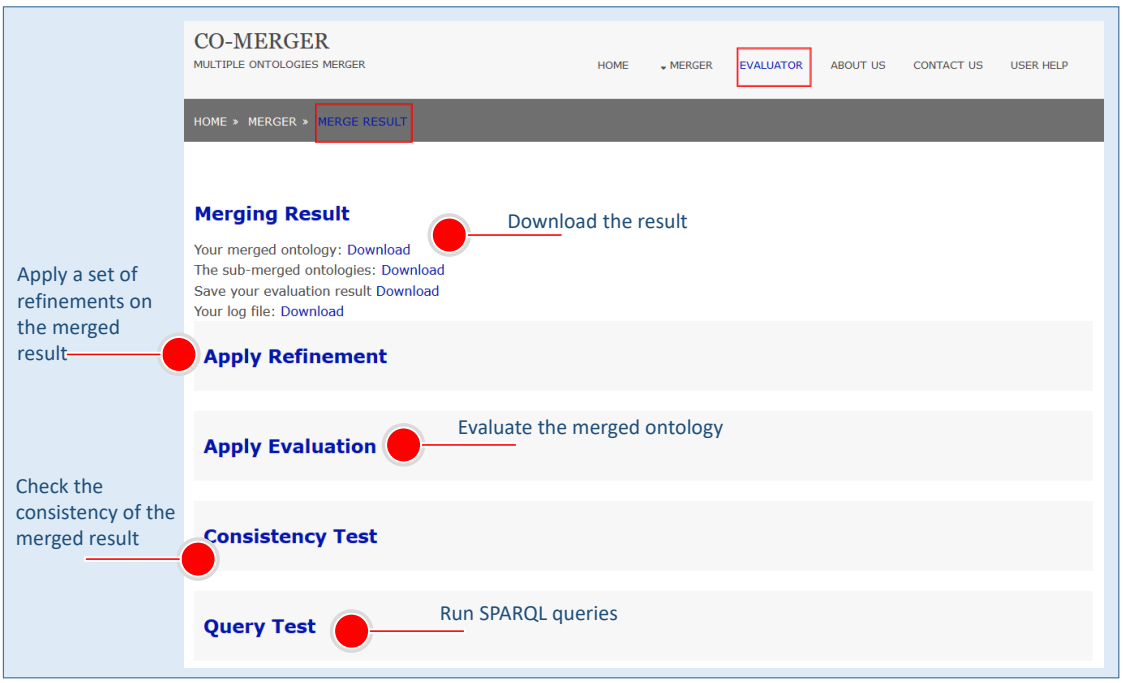

FIGURE A.2: Merging Result GUI.

A.2 Quality Assessment

Figure A.3 shows the setting for the evaluation criteria, and Figure A.4 presents the evaluation results.

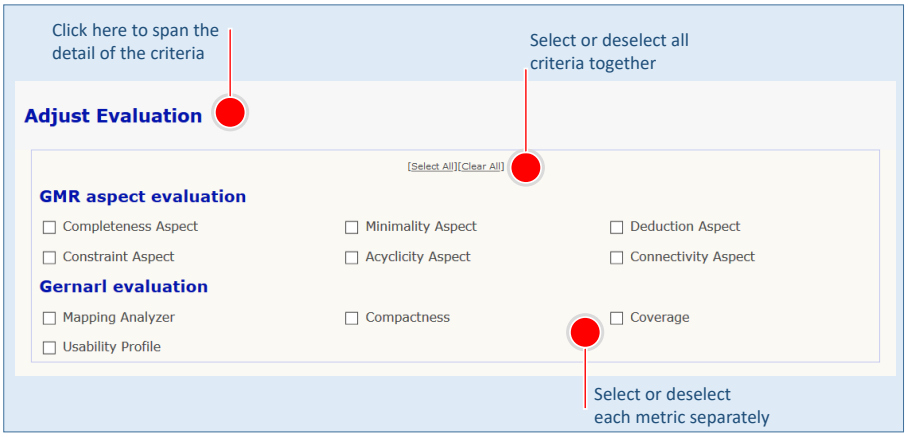

FIGURE A.3: Setting of the evaluation criteria.

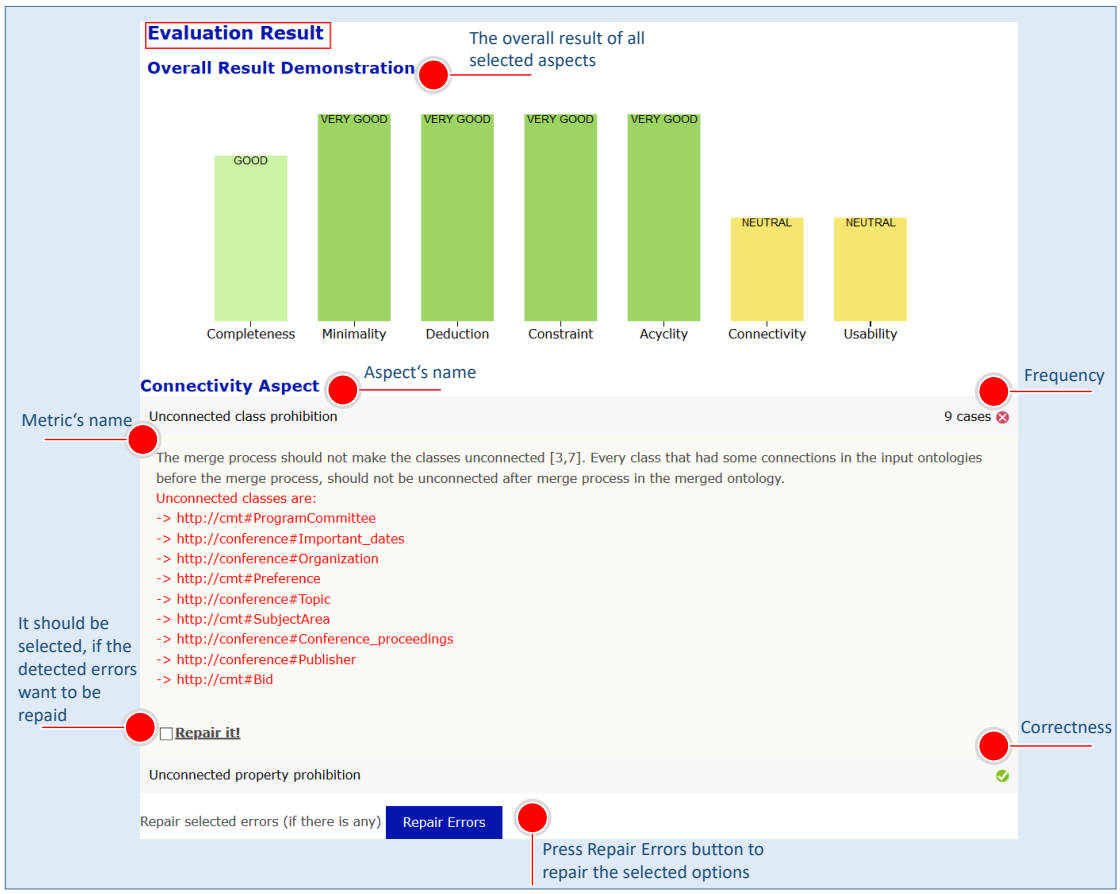

FIGURE A.4: Evaluation results.

Users are able to evaluate the quality of any given merged ontology directly. It does not require to run the merge before that. To this end, through the *Evaluator* tab, the quality of a merged ontology can directly be assessed, as shown in Figure A.5. The users can evaluate the merged result by adjusting the set of criteria, run a consistency test directly, or perform the query processing.

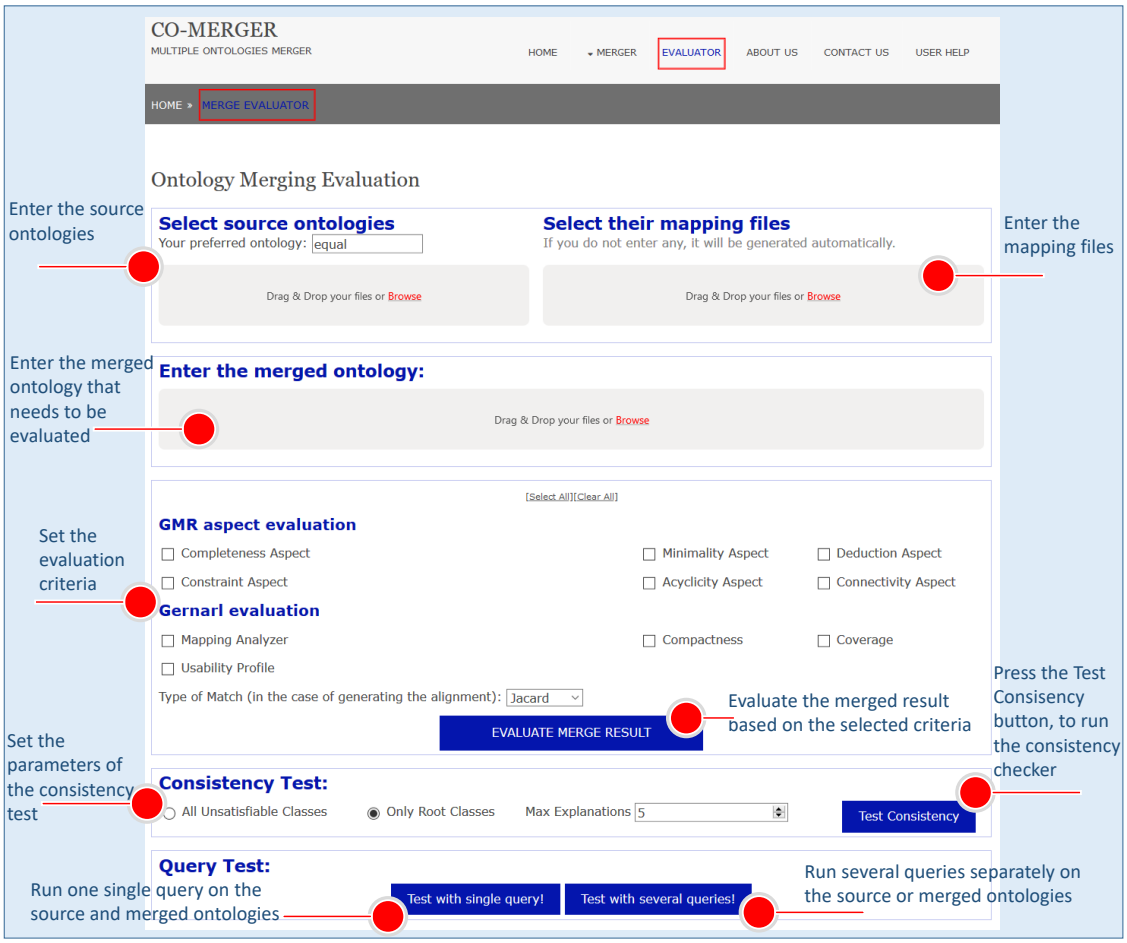

FIGURE A.5: Evaluator GUI.

A.3 Consistency Checker

Figure A.6 shows the parameter setting before performing the consistency test. Figure A.7 presents the result of the consistency test.

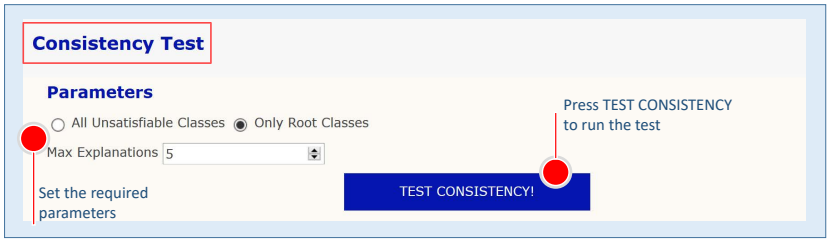

FIGURE A.6: Parameter setting of consistency test.

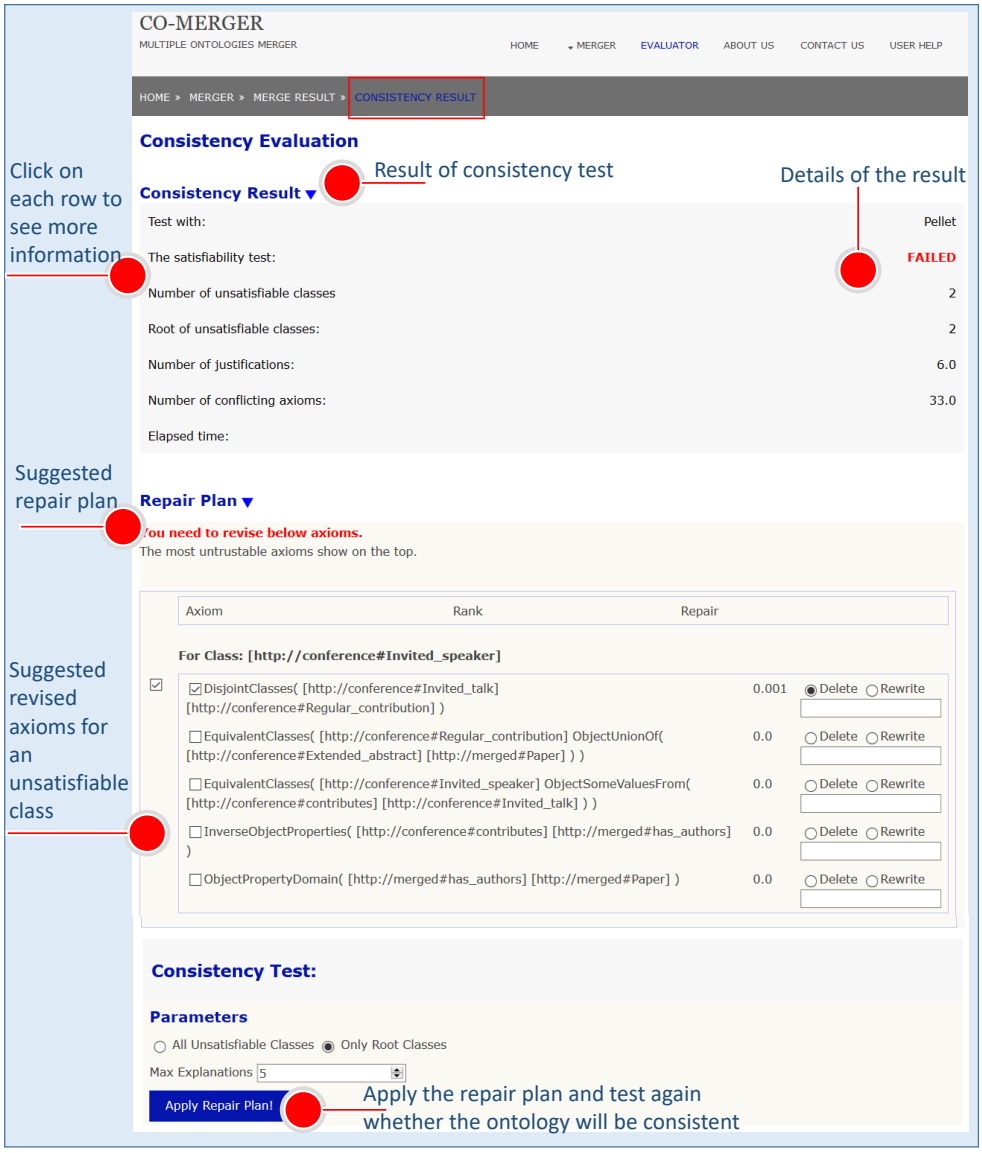

FIGURE A.7: Consistency test result.

A.4 Compatibility Checker

Figure A.8 shows the compatibility checker test, and Figure A.9 shows a sample result of this test.

FIGURE A.8: Compatibility checker GUI.

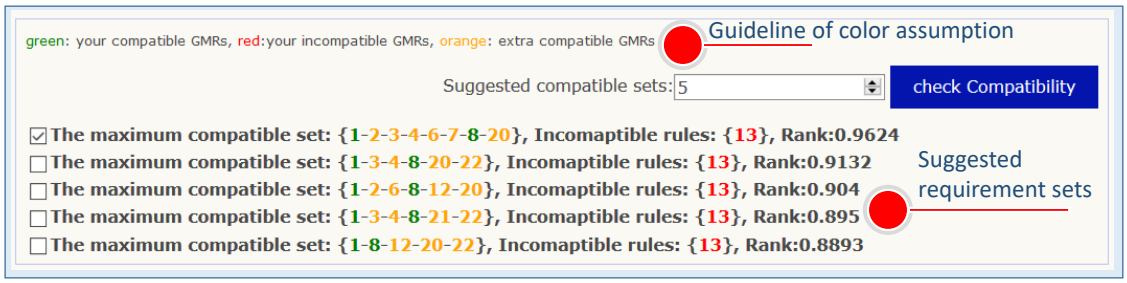

FIGURE A.9: Result of compatibility checker.

More information about GMRs can be achieved via the Requirement page. This is accessible under Merger submenu (see Figure A.10)

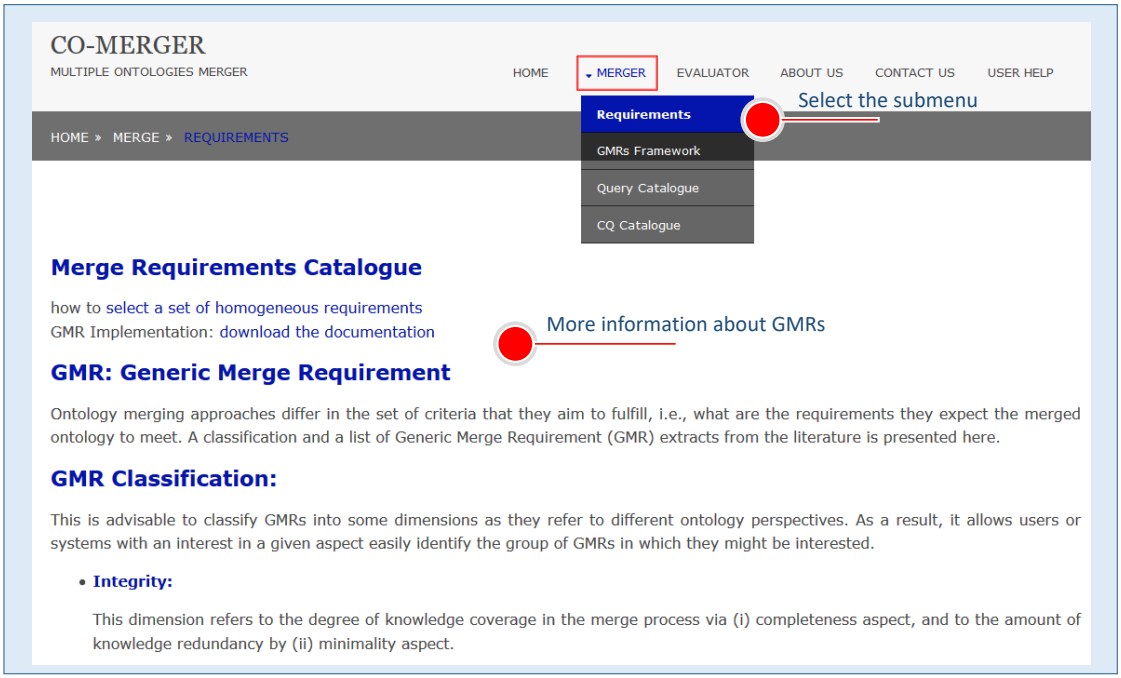

FIGURE A.10: Generic Merge Requirements (GMR)s information page

A.5 SPARQL Query Endpoint

Figure A.11 shows the detail of running a single SPARQL query both on the source and merged ontologies. Users can use ready templates or write their queries.

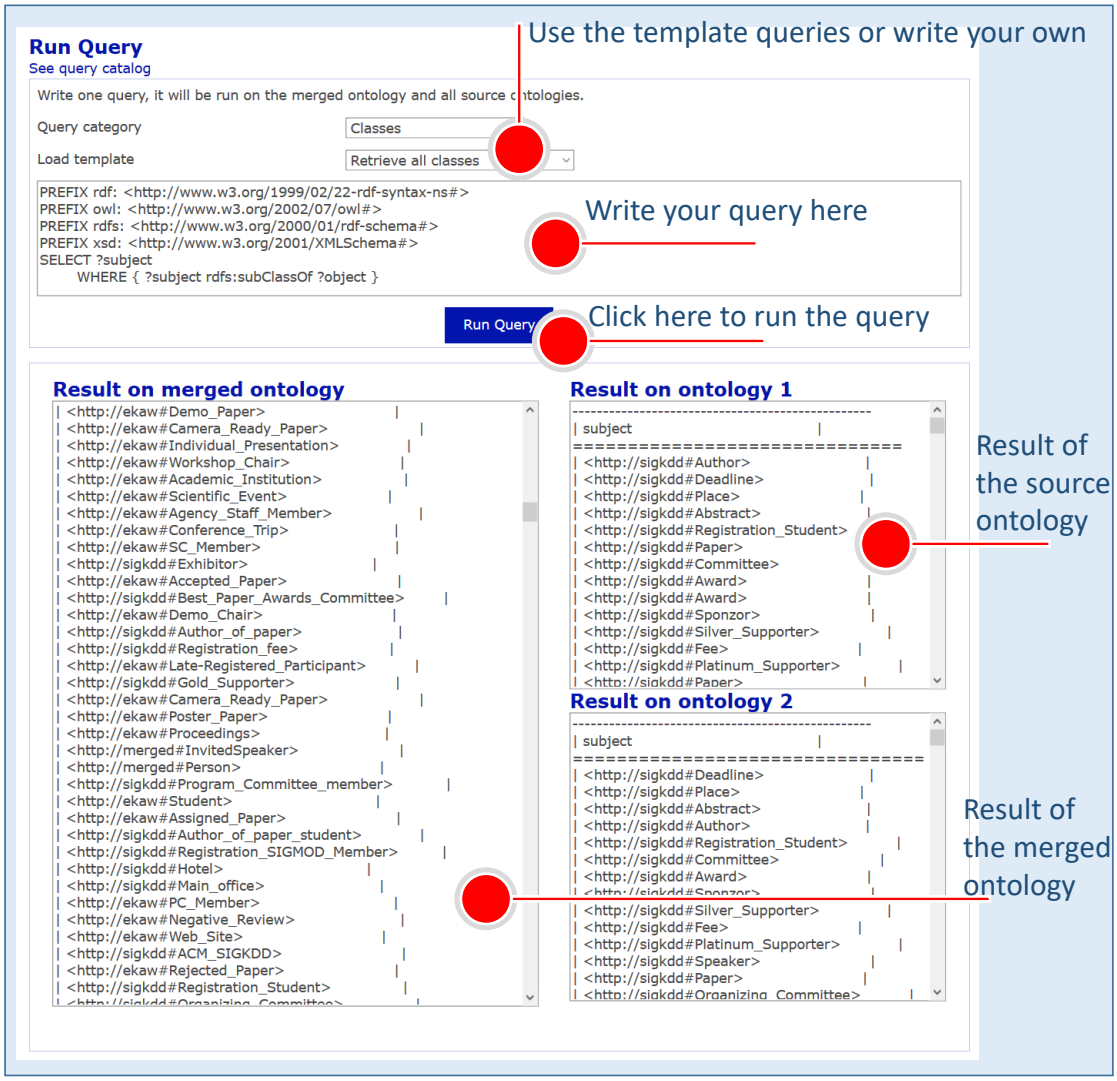

FIGURE A.11: Running a single query on the source and merged ontologies, simultaneously.

Figure A.12 shows the possibility of running different queries on the source or merged ontologies.

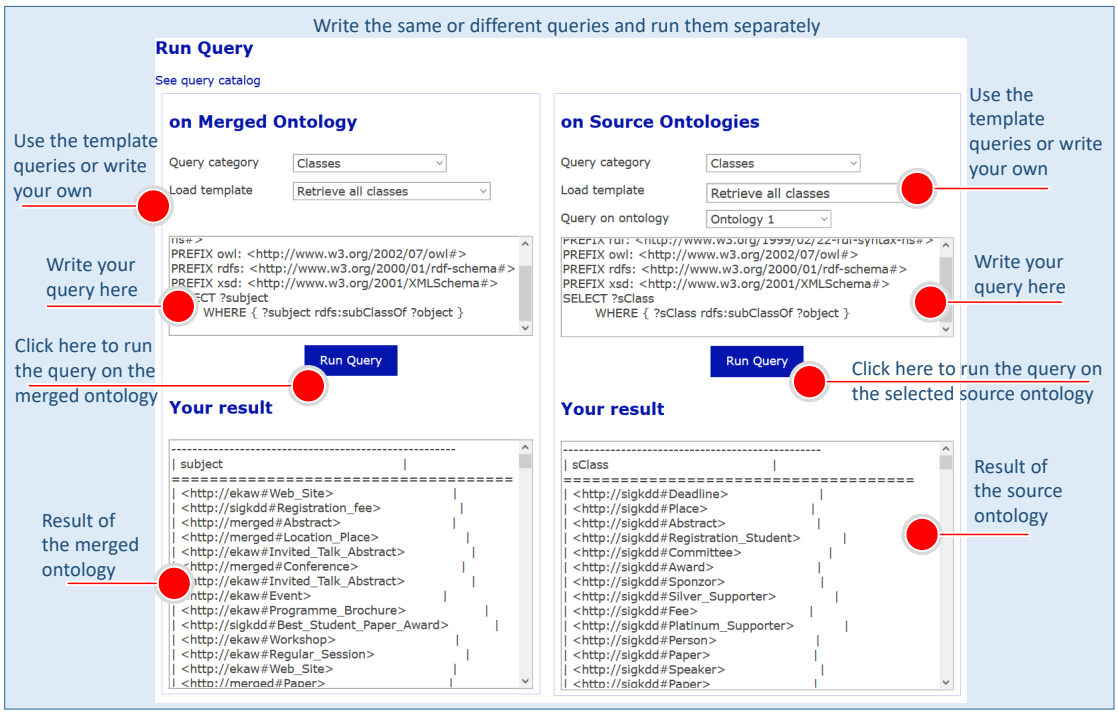

FIGURE A.12: Running different queries on the source or merged ontologies, separately.