

The RDF is one of the basic technologies of the Semantic Web. It is a language describing resources on the web. It defines the format and semantics of such data but does not provide query capabilities. The aim of this thesis is to create system capable of querying RDF data. We have created a partial implementation of the SPARQL query language. The SPARQL standard is currently being developed by the W3C Consortium. We have chosen the Oracle relational database to store the RDF data. The proposed database schema allows us to evaluate SPARQL queries by translating them into SQL queries. The proposed methods have been tested on a large set of RDF data. We have created several examples of SPARQL queries, translated them to SQL, and measured the evaluation time of the translated queries. Afterwards, factors with negative impact on the evaluation speed have been analyzed. We have proposed two ways of improving the evaluation times based on this analysis, implemented one of them, and measured its effects.