This thesis describes an analysis and a method of construction of a parallel parser exploiting an advantage of multi-core CPU. The parallelism is based on splitting of an XML document on arbitrary parts, which are then parsed by the cores of CPU. A part of this work is also implementation of the algorithm. Further, the quality of the algorithm was experimentally tested on a computer with 16 cores in its CPUs. The tests con rmed excellent scalability of the algorithm. At the end, an enhancement of the algorithm on parsing XML documents with XML namespaces is also suggested.