

A Comparative Study of Large-scale RDF Triple Conversion and Storage Tools

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Abstract: Data network rich in semantic knowledge is the cornerstone of realizing big data intelligence. Resource Description Framework (RDF) is the W3C standard for describing web resources. Large-scale conversion and storage management of RDF triples is an important path for building a linked data network or semantic knowledge graph and realizing data Findable, Accessible, Interoperable and Reusable (FAIR principle). In this paper, ten international mainstream RDF conversion tools and six popular RDF triple storage systems are selected, and a comparative analysis is made from the perspectives of technical principles, performance characteristics and application scenarios, and briefly summarize the existing problems and shortcomings. It is proposed that the goal of large-scale RDF triple data conversion and storage management is to realize the flow, integration and integration of RDF Extract-Transform-Load (ETL), and to focus on supporting four typical application requirements scenarios, including: conversion from non-RDF data to RDF data; bidirectional conversion between different RDF data formats; data migration of RDF triples between databases; dynamic update and evolutionary management of RDF data.

Keywords: RDB2RDF; RDF Conversion; RDF Triple Store; Big Data Intelligence; Knowledge Graph

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■ 书 讯 ■

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