

1. Record Nr.	UNISA996465366903316
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Titolo	The web of data / / Aidan Hogan
Pubbl/distr/stampa	Cham, Switzerland : , : Springer, , [2020] ©2020
ISBN	3-030-51580-X
Edizione	[1st ed. 2020.]
Descrizione fisica	1 online resource (XVII, 680 p. 71 illus., 21 illus. in color.)
Disciplina	025.04
Soggetti	Semantic Web Metadata
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	1. Introduction -- 2. Web of Data -- 3. Resource Description Framework -- 4. RDF Schema and Semantics -- 5. Web Ontology Language -- 6. SPARQL Query Language -- 7. Shape Constraints and Expressions -- 8. Linked Data -- 9. Conclusions.
Sommario/riassunto	This book concisely brings together the key standards and best practices relating to modelling, querying, validating and linking machine-readable data and semantics on the Web. Alongside practical examples and formal definitions, the book shows how these standards contribute to – and have been used thus far on – the "Web of Data": a machine readable evolution of the Web marked by increased automation, enabling powerful Web applications capable of discovering, cross-referencing, and organising data from numerous websites in a matter of seconds. The book is divided into nine chapters, the first of which highlights the fundamental shortcomings of the current Web that illustrate the need for increased machine readability. The next chapter outlines the core concepts of the "Web of Data", discussing use-cases on the Web where they have already been deployed. "Resource Description Framework (RDF)" describes the graph-structured data model proposed by the Semantic Web community as a common data model for the Web. The chapter on "RDF Schema (RDFS) and Semantics" presents a lightweight ontology language used to define an initial semantics for RDF graphs. In turn,

the chapter “Web Ontology Language (OWL)” elaborates on a much more expressive ontology language built upon RDFS. In “SPARQL Query Language” a language for querying and updating RDF graphs is described. “Shape Constraints and Expressions (SHACL/ShEx)” introduces two languages for describing the expected structure of – and expressing constraints over – RDF graphs for the purposes of validation. “Linked Data” discusses the principles and best practices by which interlinked (RDF) data can be published on the Web, and how they have been adopted. The final chapter highlights open problems and concludes with a general discussion on the future of the Web of Data. The book is intended for students, researchers and advanced practitioners interested in learning more about the Web of Data, and about closely related topics such as the Semantic Web, Knowledge Graphs, Linked Data, Graph Databases, Ontologies, etc. Offering a range of accessible examples and exercises, it can be used as a textbook for students and other newcomers to the field. It can also serve as a reference handbook for researchers and developers, as it offers up-to-date details on key standards (RDF, RDFS, OWL, SPARQL, SHACL, ShEx, RDB2RDF, LDP), along with formal definitions and references to further literature. The associated website webofdatabook.org offers a wealth of complementary material, including solutions to the exercises, slides for classes, interactive examples, and a section for comments and questions.
