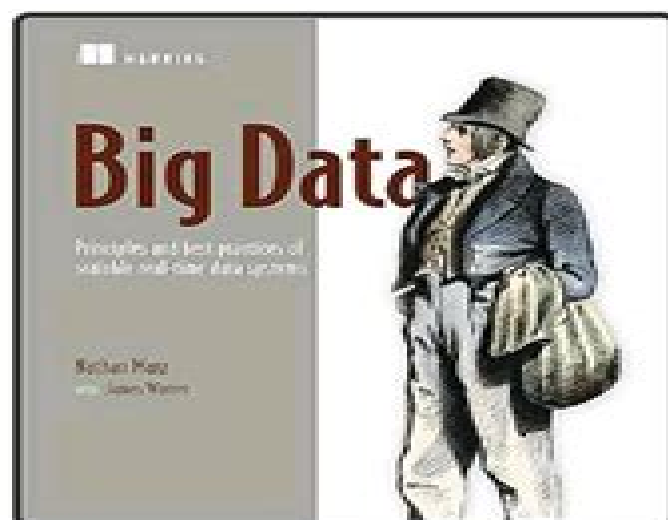


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Big Data Principles And Best Practices Of Scalable Realtime Data Systems

**Stanisław Kozielski, Dariusz
Mrozek, Paweł Kasprowski, Bożena
Małysiak-Mrozek, Daniel Kostrzewa**

Big Data Principles And Best Practices Of Scalable Realtime Data Systems:

Big Data Nathan Marz, James Warren, 2015 Summary Big Data teaches you to build big data systems using an architecture that takes advantage of clustered hardware along with new tools designed specifically to capture and analyze web scale data. It describes a scalable, easy to understand approach to big data systems that can be built and run by a small team. Following a realistic example, this book guides readers through the theory of big data systems, how to implement them in practice, and how to deploy and operate them once they're built. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the Book Web scale applications like social networks, real time analytics, or e-commerce sites deal with a lot of data whose volume and velocity exceed the limits of traditional database systems. These applications require architectures built around clusters of machines to store and process data of any size or speed. Fortunately, scale and simplicity are not mutually exclusive. Big Data teaches you to build big data systems using an architecture designed specifically to capture and analyze web scale data. This book presents the Lambda Architecture, a scalable, easy to understand approach that can be built and run by a small team. You'll explore the theory of big data systems and how to implement them in practice. In addition to discovering a general framework for processing big data, you'll learn specific technologies like Hadoop, Storm, and NoSQL databases. This book requires no previous exposure to large scale data analysis or NoSQL tools. Familiarity with traditional databases is helpful. What's Inside Introduction to big data systems Real time processing of web scale data Tools like Hadoop, Cassandra, and Storm Extensions to traditional database skills About the Authors Nathan Marz is the creator of Apache Storm and the originator of the Lambda Architecture for big data systems. James Warren is an analytics architect with a background in machine learning and scientific computing. Table of Contents A new paradigm for Big Data PART 1 BATCH LAYER Data model for Big Data Data model for Big Data Illustration Data storage on the batch layer Data storage on the batch layer Illustration Batch layer Batch layer Illustration An example batch layer Architecture and algorithms An example batch layer Implementation PART 2 SERVING LAYER Serving layer Serving layer Illustration PART 3 SPEED LAYER Realtime views Realtime views Illustration Queuing and stream processing Queuing and stream processing Illustration Micro batch stream processing Micro batch stream processing Illustration Lambda Architecture in depth

Big Data Nathan Warren, 2015 Big Data teaches you to build big data systems using an architecture that takes advantage of clustered hardware along with new tools designed specifically to capture and analyze web scale data. It describes a scalable, easy to understand approach to big data systems that can be built and run by a small team. Following a realistic example, this book guides readers through the theory of big data systems, how to implement them in practice, and how to deploy and operate them once they're built. About the Book Web scale applications like social networks, real time analytics, or e-commerce sites deal with a lot of data whose volume and velocity exceed the limits of traditional database systems. These applications require architectures built around clusters of machines to store and process data of any

size or speed Fortunately scale and simplicity are not mutually exclusive Big Data teaches you to build big data systems using an architecture designed specifically to capture and analyze web scale data This book presents the Lambda Architecture a scalable easy to understand approach that can be built and run by a small team You ll explore the theory of big data systems and how to implement them in practice In addition to discovering a general framework for processing big data you ll learn specific technologies like Hadoop Storm and NoSQL databases This book requires no previous exposure to large scale data analysis or NoSQL tools Familiarity with traditional databases is helpful What s Inside Introduction to big data systems Real time processing of web scale data Tools like Hadoop Cassandra and Storm Extensions to traditional database skills About the Authors Nathan Marz is the creator of Apache Storm and the originator of the Lambda Architecture for big data systems James Warren is an analytics architect with a background in machine learning and scientific computing

Big Data Analysen Sebastian Müller, 2018-09-24 Big Data ist ein aktuelles Trendthema doch was versteckt sich dahinter Big Data beschreibt Daten die gross oder schnelllebig sind Big Data bedeutet aber auch sich mit vielfältigen Datenquellen und Datenformaten zu beschäftigen Diese Lektüre soll daher eine Einführung in das Kosystem Big Data sein Anhand einfacher Beispiele werden Methoden und Technologien zur Handhabung von Big Data aufgezeigt

Big Data Maribel Yasmina Santos, Carlos Costa, 2022-09-01 Big Data is a concept of major relevance in today's world sometimes highlighted as a key asset for productivity growth innovation and customer relationship whose popularity has increased considerably during the last years Areas like smart cities manufacturing retail finance software development environment digital media among others can benefit from the collection storage processing and analysis of Big Data leveraging unprecedented data driven workflows and considerably improved decision making processes The concept of a Big Data Warehouse BDW is emerging as either an augmentation or a replacement of the traditional Data Warehouse DW a concept that has a long history as one of the most valuable enterprise data assets Nevertheless research in Big Data Warehousing is still in its infancy lacking an integrated and validated approach for designing and implementing both the logical layer data models data flows and interoperability between components and the physical layer technological infrastructure of these complex systems This book addresses models and methods for designing and implementing Big Data Systems to support mixed and complex decision processes giving special attention to BDWs as a way of efficiently storing and processing batch or streaming data for structured or semi structured analytical problems

Big Data Daniel Fasel, Andreas Meier, 2016-06-21 Dieser Herausgeber Band bietet eine umfassende Einführung in das Gebiet Big Data Neben einer Markteinschätzung und grundlegenden Konzepten semantische Modellbildung Anfragesprachen Konsistenzgewährung etc werden wichtige NoSQL Systeme Key Value Store Column Store Document Store Graph Database vorgestellt und erfolgreiche Anwendungen aus unterschiedlichen Perspektiven erläutert Eine Diskussion rechtlicher Aspekte und ein Vorschlag zum Berufsbild des Data Scientist runden das Buch ab Damit erhält die Leserschaft Handlungsempfehlungen für die Nutzung von Big Data Technologien im Unternehmen

Big Data - BigData

2018 Francis Y. L. Chin, C. L. Philip Chen, Latifur Khan, Kisung Lee, Liang-Jie Zhang, 2018-06-20 This volume constitutes the proceedings of the 7th International Conference on BIGDATA 2018 held as Part of SCF 2018 in Seattle WA USA in June 2018. The 22 full papers together with 10 short papers published in this volume were carefully reviewed and selected from 97 submissions. They are organized in topical sections such as Data analysis, data as a service, services computing, data conversion, data storage, data centers, dataflow architectures, data compression, data exchange, data modeling, databases and data management.

Big Data in der Praxis Jonas Freiknecht, Stefan Papp, 2018-06-11 Diese komplett bearbeitete Neuauflage bringt Ihnen das Thema Big Data auf sehr praktische Art und Weise nahe. Sie lernen Technologien, Tools und Methoden kennen, entwickeln Beispiele, lernen und erfahren, wie Sie bestehende Systeme vorausschauend auf die mit Big Data einhergehenden Herausforderungen vorbereiten. Dazu werden Sie neben den bekannten Apache Projekten wie Hadoop, Hive und HBase auch einige weniger bekannte Frameworks wie Apache UIMA oder Apache OpenNLP kennenlernen, um gezielt die Verarbeitung unstrukturierter Daten zu lernen. Alle hier verwendeten Software-Komponenten stehen im vollen Umfang kostenlos im Internet zur Verfügung. Gemeinsam mit den Autoren bauen Sie Schritt für Schritt viele kleinere Projekte auf, bis hin zu einer fertigen und funktionstüchtigen Implementierung. Ziel des Buches ist es, Sie auf den Effekt und den Mehrwert der neuen Möglichkeiten aufmerksam zu machen, sodass Sie diese konstruktiv in Ihr Unternehmen tragen können und für sich und Ihre Kollegen somit ein Bewusstsein für den Wert Ihrer Daten schaffen. Die zweite Auflage ergänzt das Buch um zahlreiche neue Themen wie Apache Spark, Apache Kafka und weitere Technologien, die vor allem darauf abzielen, Antwortzeiten kurz zu halten und so ein interaktives Arbeiten zu ermöglichen. Ebenso werden die für Firmen so wichtigen Themen Data Governance und Sicherheit behandelt. Im Internet 18 fertige Beispiel-Projekte auf Basis von Hadoop, HBase, Hive und D3.js plus Videotutorials EXTRA E-Book inside.

Handbuch IT-System- und Plattformmanagement Ernst Tiemeyer, 2025-02-10 Lernen Sie die Methoden, Tools und Instrumente für ein erfolgreiches IT-System und Plattformmanagement kennen. Aktuelles Wissen und Praxis-Tipps, die Sie in Ihren Tätigkeitsbereichen umsetzen können. Profiwissen für das IT-System und Plattformmanagement, IT-Architektur, Applikationsmanagement, IT-Servicemanagement, IT-Projektmanagement und CyberSecurity Management. Von 13 Fachleuten aus Unternehmen, Consulting-Firmen und Hochschulen. Ihr exklusiver Vorteil: E-Book inside beim Kauf des gedruckten Buches. Ein effizientes und ganzheitliches Management der installierten IT-Systeme, Applikationen, Datenbanken, IT-Infrastrukturen und IT-Plattformen. Cloud-Daten-Integration ist heute unverzichtbar. Nur so lassen sich Geschäftsprozesse optimal unterstützen und neue Geschäftspotenziale generieren. Dieses Handbuch bietet das relevante Wissen für einen erfolgreichen Einsatz von IT-Systemen in systematischer Form. Darlegung der Methoden, Instrumente und Prozesse. Fragen der Planung und Weiterentwicklung der IT-Systemlandschaft werden genauso behandelt wie Aspekte der Koordination, Auftragsmanagement, Systemsupport und der sicheren Steuerung der installierten IT-Systeme. Qualitätsmanagement, Risiko- und Sicherheitsmanagement, Notfallplanung etc.

Viele Praxistipps und Beispiele helfen Ihnen IT Systeme und die Plattformnutzung zu planen und zu verwalten sowie deren stabilen Betrieb zu gewährleisten. Mit Beiträgen von Martin Beims, Christian Bischof, Wolf Hengstberger, Luca Ingianni, Thomas Mandl, Wolfgang Ortner, Stefan Papp, Markus Schiemer, Dierk Sillner, Ernst Tiemeyer, Jörg Wesiak, Manfred Wöhrl, Helmut E. Zsifkovits.

Big Data 2.0 Processing Systems Sherif Sakr, 2016-08-24. This book provides readers the big picture and a comprehensive survey of the domain of big data processing systems. For the past decade the Hadoop framework has dominated the world of big data processing, yet recently academia and industry have started to recognize its limitations in several application domains and big data processing scenarios such as the large scale processing of structured data, graph data, and streaming data. Thus it is now gradually being replaced by a collection of engines that are dedicated to specific verticals, e.g. structured data, graph data, and streaming data. The book explores this new wave of systems which it refers to as Big Data 2.0 processing systems. After Chapter 1 presents the general background of the big data phenomena, Chapter 2 provides an overview of various general purpose big data processing systems that allow their users to develop various big data processing jobs for different application domains. In turn, Chapter 3 examines various systems that have been introduced to support the SQL flavor on top of the Hadoop infrastructure and provide competing and scalable performance in the processing of large scale structured data. Chapter 4 discusses several systems that have been designed to tackle the problem of large scale graph processing, while the main focus of Chapter 5 is on several systems that have been designed to provide scalable solutions for processing big data streams and on other sets of systems that have been introduced to support the development of data pipelines between various types of big data processing jobs and systems. Lastly, Chapter 6 shares conclusions and an outlook on future research challenges. Overall, the book offers a valuable reference guide for students, researchers, and professionals in the domain of big data processing systems. Further, its comprehensive content will hopefully encourage readers to pursue further research on the subject.

Proaktives ereignisgesteuertes

Geschäftsprozessmanagement Julian Krumeich, 2018. Die Digitalisierung ermöglicht feingranulare Datenströme in betrieblichen Abläufen zu erfassen. Mittels moderner Analyseverfahren wie dem Complex Event Processing (CEP) können relevante Ereignismuster hieraus identifiziert und korrespondierende Maßnahmen unverzüglich initiiert werden. Vielerorts erweist sich zukünftige Geschäftseignisse zu prognostizieren und hierdurch eine proaktive Steuerung von Unternehmensabläufen zu realisieren. Hierzu muss eine Kombination aus CEP und prädiktiven Analysen in die operativen Entscheidungs- und Steuerungsprozesse verankert werden. Dies bedingt einen Veränderungsprozess in Unternehmen und somit die Integration in das Geschäftsprozessmanagement. Das von Julian Krumeich konstruierte Referenzmodell dient als Gestaltungsvorlage für die Realisierung eines proaktiven ereignisgesteuerten Geschäftsprozessmanagements. Das Modell umfasst Komponenten zur Modellierung von komplexen Ereignismustern sowie deren automatisierten Transformation in EPL-Spezifikationen. Zudem ermöglicht ein methodisches Vorgehen Prognosepotenziale in Geschäftsprozessen zu identifizieren, um

auf dieser Grundlage reaktive Prozesse durch die Einbettung proaktiver Bestandteile in proaktive Prozesse zu transformieren Die Praxistauglichkeit des Referenzmodells wird anhand eines Anwendungsbeispiels aus der Stahlproduktion validiert und die Umsetzbarkeit durch Prototypen unterstrichen Dieses Buch erweist sich nicht nur für Wissenschaftler von Interesse sondern dient auch Lesern aus der Unternehmenspraxis als Impulsgeber zur Bewältigung der notwendigen Transformation ihrer Geschäftsprozesse

Handbook of Research on Big Data and the IoT Kaur, Gurjit, Tomar, Pradeep, 2019-03-29 The increase in connected devices in the internet of things IoT is leading to an exponential increase in the data that an organization is required to manage To successfully utilize IoT in businesses big data analytics are necessary in order to efficiently sort through the increased data The combination of big data and IoT can thus enable new monitoring services and powerful processing of sensory data streams The Handbook of Research on Big Data and the IoT is a pivotal reference source that provides vital research on emerging trends and recent innovative applications of big data and IoT challenges facing organizations and the implications of these technologies on society and best practices for their implementation While highlighting topics such as bootstrapping data fusion and graph mining this publication is ideally designed for IT specialists managers policymakers analysts software engineers academicians and researchers

Datenmanagement und Datenanalyse Peter Gluchowski, 2024-09-22 Derzeit wird kaum noch ernsthaft bestritten dass die Daten eines Unternehmens ein wichtiges Wirtschaftsgut darstellen und in erheblicher Weise zum Erfolg beitragen können Allerdings gilt es nicht nur den Wert der Daten zu erkennen sondern diese auch in den zugehörigen Geschäftsprozessen gewinnbringend einzusetzen Als zwingende Voraussetzung erweist sich dabei eine organisatorische und technische Basis zu etablieren die nachhaltig darauf ausgerichtet ist die fachlichen Ausgabenstellungen bestmöglich zu unterstützen Unter dem Oberbegriff Datenmanagement werden dazu diejenigen Funktionen und Durchföhrungstätigkeiten diskutiert die einen tragfähigen Rahmen für den Umgang mit Daten in der Organisation aufspannen Daneben erweisen sich vor allem die Verfahren zur Auswertung und Analyse der verfügbaren Datenbestände als leistungsfähige Instrumente um langfristige Wettbewerbsvorteile zu erlangen Vor diesem Hintergrund widmet sich das vorliegende Buch den stetig an Bedeutung gewinnenden Themenfeldern Datenmanagement und Datenanalyse denen insbesondere im Rahmen der digitalen Transformation eine große Bedeutung zukommt

Analytics and Knowledge Management Suliman Hawamdeh, Hsia-Ching Chang, 2018-08-06 The process of transforming data into actionable knowledge is a complex process that requires the use of powerful machines and advanced analytics technique Analytics and Knowledge Management examines the role of analytics in knowledge management and the integration of big data theories methods and techniques into an organizational knowledge management framework Its chapters written by researchers and professionals provide insight into theories models techniques and applications with case studies examining the use of analytics in organizations The process of transforming data into actionable knowledge is a complex process that requires the use of powerful machines and advanced analytics techniques Analytics on the other hand

is the examination interpretation and discovery of meaningful patterns trends and knowledge from data and textual information It provides the basis for knowledge discovery and completes the cycle in which knowledge management and knowledge utilization happen Organizations should develop knowledge focuses on data quality application domain selecting analytics techniques and on how to take actions based on patterns and insights derived from analytics Case studies in the book explore how to perform analytics on social networking and user based data to develop knowledge One case explores analyze data from Twitter feeds Another examines the analysis of data obtained through user feedback One chapter introduces the definitions and processes of social media analytics from different perspectives as well as focuses on techniques and tools used for social media analytics Data visualization has a critical role in the advancement of modern data analytics particularly in the field of business intelligence and analytics It can guide managers in understanding market trends and customer purchasing patterns over time The book illustrates various data visualization tools that can support answering different types of business questions to improve profits and customer relationships This insightful reference concludes with a chapter on the critical issue of cybersecurity It examines the process of collecting and organizing data as well as reviewing various tools for text analysis and data analytics and discusses dealing with collections of large datasets and a great deal of diverse data types from legacy system to social networks platforms

Service Orientation in Holonic and Multi-Agent Manufacturing Theodor Borangiu,Damien Trentesaux,André Thomas,Paulo Leitão,José Barata Oliveira,2017-02-28 The book offers an integrated vision on Cloud and HPC Big Data Analytics and virtualization in computing oriented manufacturing combining information and communication technologies service oriented control of holonic architectures as well as enterprise integration solutions based on SOA principles It is structured in eight parts each one grouping research and trends in digital manufacturing and service oriented manufacturing control Cloud and Cyber Physical Systems for Smart Manufacturing Reconfigurable and Self organized Multi Agent Systems for Industry and Service Sustainability Issues in Intelligent Manufacturing Systems Holonic and Multi agent System Design for Industry and Service Should Intelligent Manufacturing Systems be Dependable and Safe Service oriented Management and Control of Manufacturing Systems Engineering and Human Integration in Flexible and Reconfigurable Industrial Systems Virtualization and Simulation in Computing oriented Industry and Service p

Beyond Databases, Architectures and Structures. Paving the Road to Smart Data Processing and Analysis Stanisław Kozielski,Dariusz Mrozek,Paweł Kasprowski,Bożena

Małysiak-Mrozek,Daniel Kostrzewa,2019-05-07 This book constitutes the refereed proceedings of the 15th International Conference entitled Beyond Databases Architectures and Structures BDAS 2019 held in Ustro Poland in May 2019 It consists of 26 carefully reviewed papers selected from 69 submissions The papers are organized in topical sections namely big data and cloud computing architectures structures and algorithms for efficient data processing and analysis artificial intelligence data mining and knowledge discovery image analysis and multimedia mining bioinformatics and biomedical data analysis

industrial applications networks and security

Novel Financial Applications of Machine Learning and Deep

Learning Mohammad Zoynul Abedin, Petr Hajek, 2023-03-01 This book presents the state of the art applications of machine learning in the finance domain with a focus on financial product modeling which aims to advance the model performance and minimize risk and uncertainty It provides both practical and managerial implications of financial and managerial decision support systems which capture a broad range of financial data traits It also serves as a guide for the implementation of risk adjusted financial product pricing systems while adding a significant supplement to the financial literacy of the investigated study The book covers advanced machine learning techniques such as Support Vector Machine Neural Networks Random Forest K Nearest Neighbors Extreme Learning Machine Deep Learning Approaches and their application to finance datasets It also leverages real world financial instances to practice business product modeling and data analysis Software code such as MATLAB Python and or R including datasets within a broad range of financial domain are included for more rigorous practice The book primarily aims at providing graduate students and researchers with a roadmap for financial data analysis It is also intended for a broad audience including academics professional financial analysts and policy makers who are involved in forecasting modeling trading risk management economics credit risk and portfolio management

Thinking

Big Data in Geography Jim Thatcher, 2018 Thinking Big Data in Geography offers a practical state of the field overview of big data as both a means and an object of research with essays from prominent and emerging scholars such as Rob Kitchin Renee Sieber and Mark Graham Part 1 explores how the advent of geoweb technologies and big data sets has influenced some of geography's major subdisciplines urban politics and political economy human environment interactions and geographic information sciences Part 2 addresses how the geographic study of big data has implications for other disciplinary fields notably the digital humanities and the study of social justice The volume concludes with theoretical applications of the geoweb and big data as they pertain to society as a whole examining the ways in which user generated data come into the world and are complicit in its unfolding The contributors raise caution regarding the use of spatial big data citing issues of accuracy surveillance and privacy

Innovations in Smart Cities Applications Volume 8

Mohamed Ben Ahmed, Boudhir Anouar Abdelhakim, İsmail Rakıp Karaş, Kaoutar Ben Ahmed, 2025-05-06 This book discovers the latest technological advances that are transforming our cities into smart and connected spaces This book presents cutting edge research and inspiring case studies on urban management smart mobility and environmental sustainability With an innovative approach it explores concrete solutions and future perspectives to improve the quality of urban life Intended for researchers professionals and decision makers this book is an essential resource to understand and participate in the transformation of smart cities

Knowledge Management in the Development of Data-Intensive Systems

Ivan Mistrik, Matthias Galster, Bruce R. Maxim, Bedir Tekinerdogan, 2021-06-15 Data intensive systems are software applications that process and generate Big Data Data intensive systems support the use of large amounts of data strategically and

efficiently to provide intelligence For example examining industrial sensor data or business process data can enhance production guide proactive improvements of development processes or optimize supply chain systems Designing data intensive software systems is difficult because distribution of knowledge across stakeholders creates a symmetry of ignorance because a shared vision of the future requires the development of new knowledge that extends and synthesizes existing knowledge Knowledge Management in the Development of Data Intensive Systems addresses new challenges arising from knowledge management in the development of data intensive software systems These challenges concern requirements architectural design detailed design implementation and maintenance The book covers the current state and future directions of knowledge management in development of data intensive software systems The book features both academic and industrial contributions which discuss the role software engineering can play for addressing challenges that confront developing maintaining and evolving systems data intensive software systems of cloud and mobile services and the scalability requirements they imply The book features software engineering approaches that can efficiently deal with data intensive systems as well as applications and use cases benefiting from data intensive systems Providing a comprehensive reference on the notion of data intensive systems from a technical and non technical perspective the book focuses uniquely on software engineering and knowledge management in the design and maintenance of data intensive systems The book covers constructing deploying and maintaining high quality software products and software engineering in and for dynamic and flexible environments This book provides a holistic guide for those who need to understand the impact of variability on all aspects of the software life cycle It leverages practical experience and evidence to look ahead at the challenges faced by organizations in a fast moving world with increasingly fast changing customer requirements and expectations

Neue digitale Services für Kunden. Entwurf einer IoT-Referenzarchitektur für SaaS-Anwendungen auf Basis von Microservices Michael Bockheim, 2021-03-18 Masterarbeit aus dem Jahr 2020 im Fachbereich Informatik

Wirtschaftsinformatik Note 1,0 Universität Duisburg Essen Fakultät für Wirtschaftswissenschaften Sprache Deutsch Abstract Im Rahmen dieser Arbeit wird eine neue konzeptionelle IoT Referenzarchitektur für SaaS Anwendungen entworfen die für die Entwicklung derartiger Plattformen verwendet werden kann Es werden dazu Anforderungen aus IoT Referenzarchitekturen und dem Thema SaaS in der Literatur abgeleitet sowie relevante Architekturansätze in Bezug auf die Anforderungen analysiert und Aspekte abgeleitet die diese Anforderungen unterstützen Basierend auf den Erkenntnissen wird eine neue Referenzarchitektur entworfen die sowohl diese Aspekte berücksichtigt und die Anforderungen erfüllt Da die Ableitung der Referenzarchitektur auf theoretischen Erkenntnissen basiert wird diese für einen konkreten Anwendungsfall ausgeprägt um die Übertragbarkeit in die Praxis zu evaluieren Unternehmen setzen zunehmend Internet of things IoT Projekte um Nach einer Studie von IDC hat sich die Zahl der umgesetzten IoT Projekte von 2018 auf 2019 verdoppelt Ein großer Teil der Unternehmen entwickelte die entsprechenden Lösungen dabei selbst 44 % Die größten Chancen beim Einsatz von IoT sehen

die Unternehmen in der Senkung von Kosten und der Erschließung neuer Kundenpotenziale. Zur Erschließung neuer Kundenpotenziale bieten Unternehmen neue digitale Services für Ihre Kunden an oder bauen neue Geschäftsmodelle auf, die durch den Einsatz von IoT Geräten ermöglicht werden. Die Herausforderung besteht in der Entwicklung digitaler Plattformen, die ein breites Spektrum an technischem Know-how erfordern und es kosteneffizient ermöglichen, den Service für viele Kunden bereitzustellen. Die Umsetzung solcher Anwendungen erfolgt zunehmend in Microservice Architekturen, die vor allem Flexibilität in der Entwicklung, die Reduzierung von Abhängigkeiten und damit eine hohe Fehlertoleranz sowie eine gute Skalierbarkeit ermöglichen. Im Markt werden sowohl verschiedene IoT Plattformen angeboten, die Bausteine für die Entwicklung bieten, als auch teils umfangreichere Referenzarchitekturen und Best Practices bereitgestellt. Einen technologieunabhängigen konzeptionellen Bauplan für eine IoT Anwendung liefern diese allerdings in den meisten Fällen nicht, da sie sich auf konkrete Technologien und Produkte der Anbieter fokussieren.

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Big Data Principles And Best Practices Of Scalable Realtime Data Systems Introduction

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