

Mastering Azure Analytics Architecting In The Cloud With Azure Data Lake HDInsight And Spark

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Microsoft Azure Architect Technologies and Design Complete Study Guide - Benjamin Perkins
2021-01-13

Become a proficient Microsoft Azure solutions architect Azure certifications are critical to the millions of IT professionals Microsoft has certified as MCSE and MCSA in Windows Server in the last 20 years. All of these professionals need to certify in key Azure exams to stay current and advance in their careers. Exams AZ-303 and AZ-304 are the key solutions architect exams that experienced Windows professionals will find most useful at the intermediate and advanced points of their careers. Microsoft Azure Architect Technologies and Design Complete Study Guide Exams AZ-303 and AZ-304 covers the two critical Microsoft Azure exams that intermediate and advanced Microsoft IT professionals will need to show proficiency as their organizations move to the Azure cloud. Understand Azure Set up your Microsoft Cloud network Solve real-world problems Get the confidence to pass the exam By learning all of these things plus using the Study Guide review questions and practice exams, the reader will be ready to take the exam and perform the job with confidence.

Exam Ref 70-778 Analyzing and Visualizing Data by Using Microsoft Power BI - Daniil Maslyuk
2018-06-07

Prepare for Microsoft Exam 70-778—and help demonstrate your real-world mastery of Power BI data analysis and visualization. Designed for experienced BI professionals and data analysts ready to advance their status, Exam Ref focuses on the critical thinking and decision-making acumen needed for success at the MCSA level. Focus on the expertise measured by these objectives: Consume and transform data by using Power BI Desktop Model and visualize data Configure dashboards, reports, and apps in the Power BI Service This Microsoft Exam Ref: Organizes its coverage by exam objectives Features strategic, what-if scenarios to challenge you Assumes you have experience consuming and transforming data, modeling and visualizing data, and configuring dashboards using Excel and Power BI

Mastering Spark with R - Javier Luraschi 2019-10-07

If you're like most R users, you have deep knowledge and love for statistics. But as your organization continues to collect huge amounts of data, adding tools such as Apache Spark makes a lot of sense. With this practical book, data scientists and professionals working with large-scale data applications will learn how to use Spark from R to tackle big data and big compute problems. Authors Javier Luraschi, Kevin Kuo, and Edgar Ruiz show you how to use R with Spark to solve different data analysis problems. This book covers relevant data science topics, cluster computing, and issues that should interest even the most advanced users. Analyze, explore, transform, and visualize data in Apache Spark with R Create statistical models to extract information and predict outcomes; automate the process in production-ready workflows Perform analysis and modeling across many machines using distributed computing techniques Use large-scale data from multiple sources and different formats with ease from within Spark Learn about alternative modeling frameworks for graph processing, geospatial analysis, and genomics at scale Dive into advanced topics including custom transformations, real-time data processing, and creating custom Spark extensions

Azure Strategy and Implementation Guide - Jack Lee 2021-05-14

Leverage Azure's cloud capabilities to find the most optimized path to meet your firm's cloud infrastructure needs Key FeaturesGet to grips with the core Azure infrastructure technologies and solutionsDevelop the

ability to opt for cloud design and architecture that best fits your organizationCover the entire spectrum of cloud migration from planning to implementation and best practicesBook Description Microsoft Azure is a powerful cloud computing platform that offers a multitude of services and capabilities for organizations of any size moving to a cloud strategy. This fourth edition comes with the latest updates on cloud security fundamentals, hybrid cloud, cloud migration, Microsoft Azure Active Directory, and Windows Virtual Desktop. It encapsulates the entire spectrum of measures involved in Azure deployment that includes understanding Azure fundamentals, choosing a suitable cloud architecture, building on design principles, becoming familiar with Azure DevOps, and learning best practices for optimization and management. The book begins by introducing you to the Azure cloud platform and demonstrating the substantial scope of digital transformation and innovation that can be achieved with Azure's capabilities. The guide also acquaints you with practical insights into application modernization, Azure Infrastructure as a Service (IaaS) deployment, infrastructure management, key application architectures, best practices of Azure DevOps, and Azure automation. By the end of this book, you will have acquired the skills required to drive Azure operations from the planning and cloud migration stage to cost management and troubleshooting. What you will learnUnderstand core Azure infrastructure technologies and solutionsCarry out detailed planning for migrating applications to the cloud with AzureDeploy and run Azure infrastructure servicesDefine roles and responsibilities in DevOpsGet a firm grip on Azure security fundamentalsCarry out cost optimization in AzureWho this book is for This book is designed to benefit Azure architects, cloud solution architects, Azure developers, Azure administrators, and anyone who wants to develop expertise in operating and administering the Azure cloud. Basic familiarity with operating systems and databases will help you grasp the concepts covered in this book.

Architecting the Cloud - Michael J. Kavis 2014-01-28

An expert guide to selecting the right cloud service model for your business Cloud computing is all the rage, allowing for the delivery of computing and storage capacity to a diverse community of end-recipients. However, before you can decide on a cloud model, you need to determine what the ideal cloud service model is for your business. Helping you cut through all the haze, Architecting the Cloud is vendor neutral and guides you in making one of the most critical technology decisions that you will face: selecting the right cloud service model(s) based on a combination of both business and technology requirements. Guides corporations through key cloud design considerations Discusses the pros and cons of each cloud service model Highlights major design considerations in areas such as security, data privacy, logging, data storage, SLA monitoring, and more Clearly defines the services cloud providers offer for each service model and the cloud services IT must provide Arming you with the information you need to choose the right cloud service provider, Architecting the Cloud is a comprehensive guide covering everything you need to be aware of in selecting the right cloud service model for you.

Foundations for Architecting Data Solutions - Ted Malaska 2018-08-29

While many companies ponder implementation details such as distributed processing engines and algorithms for data analysis, this practical book takes a much wider view of big data development, starting with initial planning and moving diligently toward execution. Authors Ted Malaska and Jonathan Seidman guide you through the major components necessary to start, architect, and develop successful big data

projects. Everyone from CIOs and COOs to lead architects and developers will explore a variety of big data architectures and applications, from massive data pipelines to web-scale applications. Each chapter addresses a piece of the software development life cycle and identifies patterns to maximize long-term success throughout the life of your project. Start the planning process by considering the key data project types Use guidelines to evaluate and select data management solutions Reduce risk related to technology, your team, and vague requirements Explore system interface design using APIs, REST, and pub/sub systems Choose the right distributed storage system for your big data system Plan and implement metadata collections for your data architecture Use data pipelines to ensure data integrity from source to final storage Evaluate the attributes of various engines for processing the data you collect

Kafka: The Definitive Guide - Neha Narkhede 2017-08-31

Every enterprise application creates data, whether it's log messages, metrics, user activity, outgoing messages, or something else. And how to move all of this data becomes nearly as important as the data itself. If you're an application architect, developer, or production engineer new to Apache Kafka, this practical guide shows you how to use this open source streaming platform to handle real-time data feeds. Engineers from Confluent and LinkedIn who are responsible for developing Kafka explain how to deploy production Kafka clusters, write reliable event-driven microservices, and build scalable stream-processing applications with this platform. Through detailed examples, you'll learn Kafka's design principles, reliability guarantees, key APIs, and architecture details, including the replication protocol, the controller, and the storage layer. Understand publish-subscribe messaging and how it fits in the big data ecosystem. Explore Kafka producers and consumers for writing and reading messages Understand Kafka patterns and use-case requirements to ensure reliable data delivery Get best practices for building data pipelines and applications with Kafka Manage Kafka in production, and learn to perform monitoring, tuning, and maintenance tasks Learn the most critical metrics among Kafka's operational measurements Explore how Kafka's stream delivery capabilities make it a perfect source for stream processing systems

Migrating to Azure - Joshua Garverick 2018-11-19

Design an enterprise solution from scratch that allows the migration of a legacy application. Begin with the planning and design phase and be guided through all the stages of selecting the architecture framework that fits your enterprise. Join Microsoft MVP Josh Garverick as he addresses all major areas of design and implementation—application, infrastructure, data, security, and deployment—while leveraging the power and tools of Visual Studio Team Services (VSTS) to bring DevOps to the forefront. With an emphasis on principles and best practices of enterprise design, you will discover how to recognize existing patterns within the legacy platform and to identify potential risks, bottlenecks, and candidates for automation. What You'll Learn Accurately and completely capture baseline information about a legacy system Leverage enterprise patterns for constructing next-generation platforms in the cloud Design, plan, and implement deployment pipelines to enable continuous delivery Identify and implement cloud-based platform components to reduce total cost of ownership Understand testing and validation: iterative component authoring, monitoring, deployment, and performance Price and perform capacity planning for cloud-based infrastructure and workloads Who This Book Is For Enterprise architects and IT professionals who are required to keep legacy applications relevant in today's cloud-first world

Jumpstart Snowflake - Dmitry Anoshin 2019-12-20

Explore the modern market of data analytics platforms and the benefits of using Snowflake computing, the data warehouse built for the cloud. With the rise of cloud technologies, organizations prefer to deploy their analytics using cloud providers such as Amazon Web Services (AWS), Microsoft Azure, or Google Cloud Platform. Cloud vendors are offering modern data platforms for building cloud analytics solutions to collect data and consolidate into single storage solutions that provide insights for business users. The core of any analytics framework is the data warehouse, and previously customers did not have many choices of platform to use. Snowflake was built specifically for the cloud and it is a true game changer for the analytics market. This book will help onboard you to Snowflake, present best practices to deploy, and use the Snowflake data warehouse. In addition, it covers modern analytics architecture and use cases. It provides use cases of integration with leading analytics software such as Matillion ETL, Tableau, and Databricks. Finally, it covers migration scenarios for on-premise legacy data warehouses. What You Will

Learn Know the key functionalities of Snowflake Set up security and access with cluster Bulk load data into Snowflake using the COPY command Migrate from a legacy data warehouse to Snowflake integrate the Snowflake data platform with modern business intelligence (BI) and data integration tools Who This Book Is For Those working with data warehouse and business intelligence (BI) technologies, and existing and potential Snowflake users

Mastering Identity and Access Management with Microsoft Azure - Jochen Nickel 2016-09-30 Start empowering users and protecting corporate data, while managing Identities and Access with Microsoft Azure in different environments About This Book Deep dive into the Microsoft Identity and Access Management as a Service (IDaaS) solution Design, implement and manage simple and complex hybrid identity and access management environments Learn to apply solution architectures directly to your business needs and understand how to identify and manage business drivers during transitions Who This Book Is For This book is for business decision makers, IT consultants, and system and security engineers who wish to plan, design, and implement Identity and Access Management solutions with Microsoft Azure. What You Will Learn Apply technical descriptions and solution architectures directly to your business needs and deployments Identify and manage business drivers and architecture changes to transition between different scenarios Understand and configure all relevant Identity and Access Management key features and concepts Implement simple and complex directory integration, authentication, and authorization scenarios Get to know about modern identity management, authentication, and authorization protocols and standards Implement and configure a modern information protection solution Integrate and configure future improvements in authentication and authorization functionality of Windows 10 and Windows Server 2016 In Detail Microsoft Azure and its Identity and Access Management is at the heart of Microsoft's Software as a Service, including Office 365, Dynamics CRM, and Enterprise Mobility Management. It is an essential tool to master in order to effectively work with the Microsoft Cloud. Through practical, project based learning this book will impart that mastery. Beginning with the basics of features and licenses, this book quickly moves on to the user and group lifecycle required to design roles and administrative units for role-based access control (RBAC). Learn to design Azure AD to be an identity provider and provide flexible and secure access to SaaS applications. Get to grips with how to configure and manage users, groups, roles, and administrative units to provide a user- and group-based application and self-service access including the audit functionality. Next find out how to take advantage of managing common identities with the Microsoft Identity Manager 2016 and build cloud identities with the Azure AD Connect utility. Construct blueprints with different authentication scenarios including multi-factor authentication. Discover how to configure and manage the identity synchronization and federation environment along with multi-factor authentication, conditional access, and information protection scenarios to apply the required security functionality. Finally, get recommendations for planning and implementing a future-oriented and sustainable identity and access management strategy. Style and approach A practical, project-based learning experience explained through hands-on examples.

Understanding Azure Data Factory - Sudhir Rawat 2018-12-18

Improve your analytics and data platform to solve major challenges, including operationalizing big data and advanced analytics workloads on Azure. You will learn how to monitor complex pipelines, set alerts, and extend your organization's custom monitoring requirements. This book starts with an overview of the Azure Data Factory as a hybrid ETL/ELT orchestration service on Azure. The book then dives into data movement and the connectivity capability of Azure Data Factory. You will learn about the support for hybrid data integration from disparate sources such as on-premise, cloud, or from SaaS applications. Detailed guidance is provided on how to transform data and on control flow. Demonstration of operationalizing the pipelines and ETL with SSIS is included. You will know how to leverage Azure Data Factory to run existing SSIS packages. As you advance through the book, you will wrap up by learning how to create a single pane for end-to-end monitoring, which is a key skill in building advanced analytics and big data pipelines. What You'll Learn Understand data integration on Azure cloud Build and operationalize an ADF pipeline Modernize a data warehouse Be aware of performance and security considerations while moving data Who This Book Is For Data engineers and big data developers. ETL (extract, transform, load) developers also will find the book useful in demonstrating various operations.

Azure Data Factory Cookbook - Dmitry Anoshin 2020-12-24

With the help of well-structured and practical recipes, this book will teach you how to integrate data from the cloud and on-premise. You'll learn how to transform, clean, and consolidate data into a single data platform and get to grips with using ADF as the main ETL and orchestration tool for your data warehouse or data platform project.

Hands-On Data Warehousing with Azure Data Factory - Christian Coté 2018-05-31

Leverage the power of Microsoft Azure Data Factory v2 to build hybrid data solutions Key Features Combine the power of Azure Data Factory v2 and SQL Server Integration Services Design and enhance performance and scalability of a modern ETL hybrid solution Interact with the loaded data in data warehouse and data lake using Power BI Book Description ETL is one of the essential techniques in data processing. Given data is everywhere, ETL will always be the vital process to handle data from different sources. Hands-On Data Warehousing with Azure Data Factory starts with the basic concepts of data warehousing and ETL process. You will learn how Azure Data Factory and SSIS can be used to understand the key components of an ETL solution. You will go through different services offered by Azure that can be used by ADF and SSIS, such as Azure Data Lake Analytics, Machine Learning and Databrick's Spark with the help of practical examples. You will explore how to design and implement ETL hybrid solutions using different integration services with a step-by-step approach. Once you get to grips with all this, you will use Power BI to interact with data coming from different sources in order to reveal valuable insights. By the end of this book, you will not only learn how to build your own ETL solutions but also address the key challenges that are faced while building them. What you will learn Understand the key components of an ETL solution using Azure Data Factory and Integration Services Design the architecture of a modern ETL hybrid solution Implement ETL solutions for both on-premises and Azure data Improve the performance and scalability of your ETL solution Gain thorough knowledge of new capabilities and features added to Azure Data Factory and Integration Services Who this book is for This book is for you if you are a software professional who develops and implements ETL solutions using Microsoft SQL Server or Azure cloud. It will be an added advantage if you are a software engineer, DW/ETL architect, or ETL developer, and know how to create a new ETL implementation or enhance an existing one with ADF or SSIS.

Data Lake Architecture - Bill Inmon 2016-04-01

Organizations invest incredible amounts of time and money obtaining and then storing big data in data stores called data lakes. But how many of these organizations can actually get the data back out in a useable form? Very few can turn the data lake into an information gold mine. Most wind up with garbage dumps. Data Lake Architecture will explain how to build a useful data lake, where data scientists and data analysts can solve business challenges and identify new business opportunities. Learn how to structure data lakes as well as analog, application, and text-based data ponds to provide maximum business value. Understand the role of the raw data pond and when to use an archival data pond. Leverage the four key ingredients for data lake success: metadata, integration mapping, context, and metaprocess. Bill Inmon opened our eyes to the architecture and benefits of a data warehouse, and now he takes us to the next level of data lake architecture.

Big Data Processing Using Spark in Cloud - Mamta Mittal 2018-06-16

The book describes the emergence of big data technologies and the role of Spark in the entire big data stack. It compares Spark and Hadoop and identifies the shortcomings of Hadoop that have been overcome by Spark. The book mainly focuses on the in-depth architecture of Spark and our understanding of Spark RDDs and how RDD complements big data's immutable nature, and solves it with lazy evaluation, cacheable and type inference. It also addresses advanced topics in Spark, starting with the basics of Scala and the core Spark framework, and exploring Spark data frames, machine learning using Mllib, graph analytics using Graph X and real-time processing with Apache Kafka, AWS Kenisis, and Azure Event Hub. It then goes on to investigate Spark using PySpark and R. Focusing on the current big data stack, the book examines the interaction with current big data tools, with Spark being the core processing layer for all types of data. The book is intended for data engineers and scientists working on massive datasets and big data technologies in the cloud. In addition to industry professionals, it is helpful for aspiring data processing professionals and students working in big data processing and cloud computing environments.

Deep Learning with Azure - Mathew Salvaris 2018

Get up-to-speed with Microsoft's AI Platform. Learn to innovate and accelerate with open and powerful tools and services that bring artificial intelligence to every data scientist and developer. Artificial Intelligence (AI) is the new normal. Innovations in deep learning algorithms and hardware are happening at a rapid pace. It is no longer a question of should I build AI into my business, but more about where do I begin and how do I get started with AI?Written by expert data scientists at Microsoft, Deep Learning with the Microsoft AI Platform helps you with the how-to of doing deep learning on Azure and leveraging deep learning to create innovative and intelligent solutions. Benefit from guidance on where to begin your AI adventure, and learn how the cloud provides you with all the tools, infrastructure, and services you need to do AI. What You'll LearnBecome familiar with the tools, infrastructure, and services available for deep learning on Microsoft Azure such as Azure Machine Learning services and Batch AIUse pre-built AI capabilities (Computer Vision, OCR, gender, emotion, landmark detection, and more)Understand the common deep learning models, including convolutional neural networks (CNNs), recurrent neural networks (RNNs), generative adversarial networks (GANs) with sample code and understand how the field is evolvingDiscover the options for training and operationalizing deep learning models on Azure Who This Book Is ForProfessional data scientists who are interested in learning more about deep learning and how to use the Microsoft AI platform. Some experience with Python is helpful.

Introducing Microsoft SQL Server 2019 - Kellyn Gorman 2020-04-27

Explore the impressive storage and analytic tools available with the in-cloud and on-premises versions of Microsoft SQL Server 2019. Key FeaturesGain insights into what's new in SQL Server 2019Understand use cases and customer scenarios that can be implemented with SQL Server 2019Discover new cross-platform tools that simplify management and analysisBook Description Microsoft SQL Server comes equipped with industry-leading features and the best online transaction processing capabilities. If you are looking to work with data processing and management, getting up to speed with Microsoft Server 2019 is key. Introducing SQL Server 2019 takes you through the latest features in SQL Server 2019 and their importance. You will learn to unlock faster querying speeds and understand how to leverage the new and improved security features to build robust data management solutions. Further chapters will assist you with integrating, managing, and analyzing all data, including relational, NoSQL, and unstructured big data using SQL Server 2019. Dedicated sections in the book will also demonstrate how you can use SQL Server 2019 to leverage data processing platforms, such as Apache Hadoop and Spark, and containerization technologies like Docker and Kubernetes to control your data and efficiently monitor it. By the end of this book, you'll be well versed with all the features of Microsoft SQL Server 2019 and understand how to use them confidently to build robust data management solutions. What you will learnBuild a custom container image with a DockerfileDeploy and run the SQL Server 2019 container imageUnderstand how to use SQL server on LinuxMigrate existing paginated reports to Power BI Report ServerLearn to query Hadoop Distributed File System (HDFS) data using Azure Data StudioUnderstand the benefits of In-Memory OLTPWho this book is for This book is for database administrators, architects, big data engineers, or anyone who has experience with SQL Server and wants to explore and implement the new features in SQL Server 2019. Basic working knowledge of SQL Server and relational database management system (RDBMS) is required.

ETL with Azure Cookbook - Christian Coté 2020-09-30

Explore the latest Azure ETL techniques both on-premises and in the cloud using Azure services such as SQL Server Integration Services (SSIS), Azure Data Factory, and Azure Databricks Key FeaturesUnderstand the key components of an ETL solution using Azure Integration ServicesDiscover the common and not-so-common challenges faced while creating modern and scalable ETL solutionsProgram and extend your packages to develop efficient data integration and data transformation solutionsBook Description ETL is one of the most common and tedious procedures for moving and processing data from one database to another. With the help of this book, you will be able to speed up the process by designing effective ETL solutions using the Azure services available for handling and transforming any data to suit your requirements. With this cookbook, you'll become well versed in all the features of SQL Server Integration Services (SSIS) to perform data migration and ETL tasks that integrate with Azure. You'll learn how to transform data in Azure and understand how legacy systems perform ETL on-premises using SSIS.

Later chapters will get you up to speed with connecting and retrieving data from SQL Server 2019 Big Data Clusters, and even show you how to extend and customize the SSIS toolbox using custom-developed tasks and transforms. This ETL book also contains practical recipes for moving and transforming data with Azure services, such as Data Factory and Azure Databricks, and lets you explore various options for migrating SSIS packages to Azure. Toward the end, you'll find out how to profile data in the cloud and automate service creation with Business Intelligence Markup Language (BIML). By the end of this book, you'll have developed the skills you need to create and automate ETL solutions on-premises as well as in Azure. What you will learn

Explore ETL and how it is different from ELT
Move and transform various data sources with Azure ETL and ELT services
Use SSIS 2019 with Azure HDInsight clusters
Discover how to query SQL Server 2019 Big Data Clusters hosted in Azure
Migrate SSIS solutions to Azure and solve key challenges associated with it
Understand why data profiling is crucial and how to implement it in Azure Databricks
Get to grips with BIML and learn how it applies to SSIS and Azure Data Factory solutions
Who this book is for
This book is for data warehouse architects, ETL developers, or anyone who wants to build scalable ETL applications in Azure. Those looking to extend their existing on-premise ETL applications to use big data and a variety of Azure services or others interested in migrating existing on-premise solutions to the Azure cloud platform will also find the book useful. Familiarity with SQL Server services is necessary to get the most out of this book.

Mastering Azure Analytics - Zoiner Tejada 2017-04-06

Microsoft Azure has over 20 platform-as-a-service (PaaS) offerings that can act in support of a big data analytics solution. So which one is right for your project? This practical book helps you understand the breadth of Azure services by organizing them into a reference framework you can use when crafting your own big data analytics solution. You'll not only be able to determine which service best fits the job, but also learn how to implement a complete solution that scales, provides human fault tolerance, and supports future needs. Understand the fundamental patterns of the data lake and lambda architecture
Recognize the canonical steps in the analytics data pipeline and learn how to use Azure Data Factory to orchestrate them
Implement data lakes and lambda architectures, using Azure Data Lake Store, Data Lake Analytics, HDInsight (including Spark), Stream Analytics, SQL Data Warehouse, and Event Hubs
Understand where Azure Machine Learning fits into your analytics pipeline
Gain experience using these services on real-world data that has real-world problems, with scenarios ranging from aviation to Internet of Things (IoT)

Microsoft Azure Cosmos DB Revealed - José Rolando Guay Paz 2018-01-17

Learn the main features of Azure Cosmos DB and how to use Microsoft's multi-model database service as a data store for mission-critical applications. The clear examples help in writing your own applications to take advantage of Cosmos DB's multi-model, globally distributed, elastic database. Simple step-by-step instructions show how to resolve common and uncommon scenarios involving Azure Cosmos DB, and scenarios such as delivering extremely low response times (in the order of milliseconds), and scaling rapidly and globally. Microsoft Azure Cosmos DB Revealed demonstrates a multitude of possible implementations to get you started. This book guides you toward best practices to get the most out of Microsoft's Cosmos DB service. Later chapters in the book cover advanced implementation features, helping you master important elements such as securing the database, querying, and using various APIs. What You'll Learn
Set up a development environment to work with Azure Cosmos DB
Configure Azure Cosmos DB in a production environment with multi-region distribution
Query using all APIs, including SQL, JavaScript, MongoDB, and Graph Work with the Azure Cosmos DB.NET SDK in an application you built
Access Cosmos DB from web applications created in .NET
Who This Book Is For
Developers who build applications to be hosted in Microsoft Azure, whether they use PaaS or IaaS. No previous knowledge of Azure Cosmos DB is assumed, but readers must be familiar with developing applications in Microsoft Visual Studio.

Automating Microsoft Azure Infrastructure Services - Michael Washam 2014-10-21

Get valuable tips and techniques for automating your cloud deployments with Azure PowerShell cmdlets, and learn how to provision Azure services on the fly. In this hands-on guide, Microsoft cloud technology expert Michael Washam shows you how to automate various management tasks and deploy solutions that are both complex and at scale. By combining the native automation capabilities of PowerShell with Azure Infrastructure Services, these powerful cmdlets enable you to create and configure virtual machines with

ease. You'll learn how to take advantage of these technologies to build complete virtual networks. If you have experience with PowerShell and Azure, you're ready to get started. Install and authenticate cmdlets to set up your environment
Create and update virtual machines with Azure platform images
Manage network endpoints, access control lists, and IP addresses
Use cmdlets to manage and configure virtual machine storage
Automate Azure virtual networks with hybrid technologies such as site-to-site, point-to-site, and ExpressRoute
Dive into advanced virtual machine provisioning capabilities and management techniques
Learn tips and tricks for deleting or moving virtual machines within (or out of) your subscription

Power Query Cookbook - Andrea Janicijevic 2021-10-15

Leverage your source data from hundreds of different connections, perform millions of different transformations, and easily manage highly complex data lifecycles with Power Query
Key Features
Collect, combine, and transform data using Power Query's data connectivity and data preparation features
Overcome the problems faced while accessing data from multiple sources and reshape it to meet your business requirements
Explore how the M language can be used to write your own customized solutions
Book Description
Power Query is a data preparation tool that enables data engineers and business users to connect, reshape, enrich, and transform their data to facilitate relevant business insights and analysis. With Power Query's wide range of features, you can perform no-code transformations and complex M code functions at the same time to get the most out of your data. This Power Query book will help you to connect to data sources, achieve intuitive transformations, and get to grips with preparation practices. Starting with a general overview of Power Query and what it can do, the book advances to cover more complex topics such as M code and performance optimization. You'll learn how to extend these capabilities by gradually stepping away from the Power Query GUI and into the M programming language. Additionally, the book also shows you how to use Power Query Online within Power BI Dataflows. By the end of the book, you'll be able to leverage your source data, understand your data better, and enrich it with a full stack of no-code and custom features that you'll learn to design by yourself for your business requirements. What you will learn
Understand how to use Power Query to connect and explore data
Explore ways to reshape and enrich data
Discover the potential of Power Query across the Microsoft platform
Build complex and custom transformations
Use M code to write new queries against data sources
Use the Power Query Online tool within Power BI Dataflows
Implement best practices such as reusing dataflows, optimizing expanding table operations, and field mapping
Who this book is for
This book is for data analysts, BI developers, data engineers, and anyone looking for a desk reference guide to learn how Power Query can be used with different Microsoft products to handle data of varying complexity. Beginner-level knowledge of Power BI and the M Language will help you to get the best out of this book.

Programming Microsoft's Clouds - Thomas Rizzo 2012-05-01

A detailed look at a diverse set of Cloud topics, particularly Azure and Office 365
More and more companies are realizing the power and potential of Cloud computing as a viable way to save energy and money. This valuable book offers an in-depth look at a wide range of Cloud topics unlike any other book on the market. Examining how Cloud services allows users to pay as they go for exactly what they use, this guide explains how companies can easily scale their Cloud use up and down to fit their business requirements. After an introduction to Cloud computing, you'll discover how to prepare your environment for the Cloud and learn all about Office 365 and Azure. Examines a diverse range of Cloud topics, with special emphasis placed on how Cloud computing can save businesses energy and money
Shows you how to prepare your environment for the Cloud
Addresses Office 365, including infrastructure services, SharePoint 2010 online, SharePoint online development, Exchange online development, and Lync online development
Discusses working with Azure, including setting it up, leveraging Blob storage, building Azure applications, programming, and debugging
Offers advice for deciding when to use Azure and when to use Office 365 and looks at hybrid solutions between Azure and Office 365
Tap into the potential of Azure and Office 365 with this helpful resource.

Data Analysis with Python and PySpark - Jonathan Rioux 2022-03-22

Think big about your data! PySpark brings the powerful Spark big data processing engine to the Python ecosystem, letting you seamlessly scale up your data tasks and create lightning-fast pipelines.
In Data Analysis with Python and PySpark you will learn how to:
Manage your data as it scales across multiple

machines, Scale up your data programs with full confidence, Read and write data to and from a variety of sources and formats, Deal with messy data with PySpark's data manipulation functionality, Discover new data sets and perform exploratory data analysis, Build automated data pipelines that transform, summarize, and get insights from data, Troubleshoot common PySpark errors, Creating reliable long-running jobs. Data Analysis with Python and PySpark is your guide to delivering successful Python-driven data projects. Packed with relevant examples and essential techniques, this practical book teaches you to build pipelines for reporting, machine learning, and other data-centric tasks. Quick exercises in every chapter help you practice what you've learned, and rapidly start implementing PySpark into your data systems. No previous knowledge of Spark is required. Data Analysis with Python and PySpark helps you solve the daily challenges of data science with PySpark. You'll learn how to scale your processing capabilities across multiple machines while ingesting data from any source--whether that's Hadoop clusters, cloud data storage, or local data files. Once you've covered the fundamentals, you'll explore the full versatility of PySpark by building machine learning pipelines, and blending Python, pandas, and PySpark code.

Mastering Power Query in Power BI and Excel - Reza Rad 2021-08-27

Any data analytics solution requires data population and preparation. With the rise of data analytics solutions these years, the need for this data preparation becomes even more essential. Power BI is a helpful data analytics tool that is used worldwide by many users. As a Power BI (or Microsoft BI) developer, it is essential to learn how to prepare the data in the right shape and format needed. You need to learn how to clean the data and build it in a structure that can be modeled easily and used high performant for visualization. Data preparation and transformation is the backend work. If you consider building a BI system as going to a restaurant and ordering food. The visualization is the food you see on the table nicely presented. The quality, the taste, and everything else come from the hard work in the kitchen. The part that you don't see or the backend in the world of Power BI is Power Query. You may already be familiar with other data preparation and transformation technologies, such as T-SQL, SSIS, Azure Data Factory, Informatica, etc. Power Query is a data transformation engine capable of preparing the data in the format you need. The good news is that to learn Power Query; you don't need to know programming. Power Query is for citizen data engineers. However, this doesn't mean that Power Query is not capable of performing advanced transformation. Power Query exists in many Microsoft tools and services such as Power BI, Excel, Dataflows, Power Automate, Azure Data Factory, etc. Through the years, this engine became more powerful. These days, we can say this is essential learning for anyone who wants to do data analysis with Microsoft technology to learn Power Query and master it. We have been working with Power Query since the very early release of that in 2013, named Data Explorer, and wrote blog articles and published videos about it. The number of articles we published under this subject easily exceeds hundreds. Through those articles, some of the fundamentals and key learnings of Power Query are explained. We thought it is good to compile some of them in a book series. A good analytics solution combines a good data model, good data preparation, and good analytics and calculations. Reza has written another book about the Basics of modeling in Power BI and a book on Power BI DAX Simplified. This book is covering the data preparation and transformations aspects of it. This book series is for you if you are building a Power BI solution. Even if you are just visualizing the data, preparation and transformations are an essential part of analytics. You do need to have the cleaned and prepared data ready before visualizing it. This book is compiled into a series of two books, which will be followed by a third book later; Getting started with Power Query in Power BI and Excel (already available to be purchased separately) Mastering Power Query in Power BI and Excel (This book) Power Query dataflows (will be published later) This book deeps dive into real-world challenges of data transformation. It starts with combining data sources and continues with aggregations and fuzzy operations. The book covers advanced usage of Power Query in scenarios such as error handling and exception reports, custom functions and parameters, advanced analytics, and some helpful table and list functions. The book continues with some performance tuning tips and it also explains the Power Query formula language (M) and the structure of it and how to use it in practical solutions. Although this book is written for Power BI and all the examples are presented using the Power BI. However, the examples can be easily applied to Excel, Dataflows, and other tools and services using Power Query.

Microsoft Azure Essentials - Fundamentals of Azure - Michael Collier 2015-01-29

Microsoft Azure Essentials from Microsoft Press is a series of free ebooks designed to help you advance your technical skills with Microsoft Azure. The first ebook in the series, Microsoft Azure Essentials: Fundamentals of Azure, introduces developers and IT professionals to the wide range of capabilities in Azure. The authors - both Microsoft MVPs in Azure - present both conceptual and how-to content for key areas, including: Azure Websites and Azure Cloud Services Azure Virtual Machines Azure Storage Azure Virtual Networks Databases Azure Active Directory Management tools Business scenarios Watch Microsoft Press's blog and Twitter (@MicrosoftPress) to learn about other free ebooks in the "Microsoft Azure Essentials" series.

Data Lake for Enterprises - Tomcy John 2017-05-31

A practical guide to implementing your enterprise data lake using Lambda Architecture as the base About This Book Build a full-fledged data lake for your organization with popular big data technologies using the Lambda architecture as the base Delve into the big data technologies required to meet modern day business strategies A highly practical guide to implementing enterprise data lakes with lots of examples and real-world use-cases Who This Book Is For Java developers and architects who would like to implement a data lake for their enterprise will find this book useful. If you want to get hands-on experience with the Lambda Architecture and big data technologies by implementing a practical solution using these technologies, this book will also help you. What You Will Learn Build an enterprise-level data lake using the relevant big data technologies Understand the core of the Lambda architecture and how to apply it in an enterprise Learn the technical details around Sqoop and its functionalities Integrate Kafka with Hadoop components to acquire enterprise data Use flume with streaming technologies for stream-based processing Understand stream-based processing with reference to Apache Spark Streaming Incorporate Hadoop components and know the advantages they provide for enterprise data lakes Build fast, streaming, and high-performance applications using Elasticsearch Make your data ingestion process consistent across various data formats with configurability Process your data to derive intelligence using machine learning algorithms In Detail The term "Data Lake" has recently emerged as a prominent term in the big data industry. Data scientists can make use of it in deriving meaningful insights that can be used by businesses to redefine or transform the way they operate. Lambda architecture is also emerging as one of the very eminent patterns in the big data landscape, as it not only helps to derive useful information from historical data but also correlates real-time data to enable business to take critical decisions. This book tries to bring these two important aspects — data lake and lambda architecture—together. This book is divided into three main sections. The first introduces you to the concept of data lakes, the importance of data lakes in enterprises, and getting you up-to-speed with the Lambda architecture. The second section delves into the principal components of building a data lake using the Lambda architecture. It introduces you to popular big data technologies such as Apache Hadoop, Spark, Sqoop, Flume, and Elasticsearch. The third section is a highly practical demonstration of putting it all together, and shows you how an enterprise data lake can be implemented, along with several real-world use-cases. It also shows you how other peripheral components can be added to the lake to make it more efficient. By the end of this book, you will be able to choose the right big data technologies using the lambda architectural patterns to build your enterprise data lake. Style and approach The book takes a pragmatic approach, showing ways to leverage big data technologies and lambda architecture to build an enterprise-level data lake.

The Data Science Framework - Juan J. Cuadrado-Gallego 2020-10-01

This edited book first consolidates the results of the EU-funded EDISON project (Education for Data Intensive Science to Open New science frontiers), which developed training material and information to assist educators, trainers, employers, and research infrastructure managers in identifying, recruiting and inspiring the data science professionals of the future. It then deepens the presentation of the information and knowledge gained to allow for easier assimilation by the reader. The contributed chapters are presented in sequence, each chapter picking up from the end point of the previous one. After the initial book and project overview, the chapters present the relevant data science competencies and body of knowledge, the model curriculum required to teach the required foundations, profiles of professionals in this domain, and use cases and applications. The text is supported with appendices on related process models. The book can be used to develop new courses in data science, evaluate existing modules and

courses, draft job descriptions, and plan and design efficient data-intensive research teams across scientific disciplines.

Cloud Data Design, Orchestration, and Management Using Microsoft Azure - Francesco Diaz
2018-06-28

Use Microsoft Azure to optimally design your data solutions and save time and money. Scenarios are presented covering analysis, design, integration, monitoring, and derivatives. This book is about data and provides you with a wide range of possibilities to implement a data solution on Azure, from hybrid cloud to PaaS services. Migration from existing solutions is presented in detail. Alternatives and their scope are discussed. Five of six chapters explore PaaS, while one focuses on SQL Server features for cloud and relates to hybrid cloud and IaaS functionalities. What You'll Learn Know the Azure services useful to implement a data solution Match the products/services used to your specific needs Fit relational databases efficiently into data design Understand how to work with any type of data using Azure hybrid and public cloud features Use non-relational alternatives to solve even complex requirements Orchestrate data movement using Azure services Approach analysis and manipulation according to the data life cycle Who This Book Is For Software developers and professionals with a good data design background and basic development skills who want to learn how to implement a solution using Azure data services

Cloud Native Python - Manish Sethi 2017-07-21

Build cloud native applications in Python About This Book This is the only reliable resource that showcases the tools and techniques you need build robust and resilient cloud native applications in Python Learn how to architect your application on both, the AWS and Azure clouds for high availability Assess, monitor, and troubleshoot your applications in the cloud Who This Book Is For This book is ideal for developers with a basic knowledge of Python who want to learn to build, test, and scale their Python-based applications. No prior experience of writing microservices in Python is required. What You Will Learn Get to know “the way of the cloud”, including why developing good cloud software is fundamentally about mindset and discipline Know what microservices are and how to design them Create reactive applications in the cloud with third-party messaging providers Build massive-scale, user-friendly GUIs with React and Flux Secure cloud-based web applications: the do's, don'ts, and options Plan cloud apps that support continuous delivery and deployment In Detail Businesses today are evolving so rapidly that having their own infrastructure to support their expansion is not feasible. As a result, they have been resorting to the elasticity of the cloud to provide a platform to build and deploy their highly scalable applications. This book will be the one stop for you to learn all about building cloud-native architectures in Python. It will begin by introducing you to cloud-native architecture and will help break it down for you. Then you'll learn how to build microservices in Python using REST APIs in an event driven approach and you will build the web layer. Next, you'll learn about Interacting data services and building Web views with React, after which we will take a detailed look at application security and performance. Then, you'll also learn how to Dockerize your services. And finally, you'll learn how to deploy the application on the AWS and Azure platforms. We will end the book by discussing some concepts and techniques around troubleshooting problems that might occur with your applications after you've deployed them. This book will teach you how to craft applications that are built as small standard units, using all the proven best practices and avoiding the usual traps. It's a practical book: we're going to build everything using Python 3 and its amazing tooling ecosystem. The book will take you on a journey, the destination of which, is the creation of a complete Python application based on microservices over the cloud platform Style and approach Filled with examples, this book takes a step-by-step approach to teach you each and every configuration you need to make your application highly available and fault tolerant.

The Modern Data Warehouse in Azure - Matt How 2020-06-15

Build a modern data warehouse on Microsoft's Azure Platform that is flexible, adaptable, and fast—fast to snap together, reconfigure, and fast at delivering results to drive good decision making in your business. Gone are the days when data warehousing projects were lumbering dinosaur-style projects that took forever, drained budgets, and produced business intelligence (BI) just in time to tell you what to do 10 years ago. This book will show you how to assemble a data warehouse solution like a jigsaw puzzle by connecting specific Azure technologies that address your own needs and bring value to your business. You

will see how to implement a range of architectural patterns using batches, events, and streams for both data lake technology and SQL databases. You will discover how to manage metadata and automation to accelerate the development of your warehouse while establishing resilience at every level. And you will know how to feed downstream analytic solutions such as Power BI and Azure Analysis Services to empower data-driven decision making that drives your business forward toward a pattern of success. This book teaches you how to employ the Azure platform in a strategy to dramatically improve implementation speed and flexibility of data warehousing systems. You will know how to make correct decisions in design, architecture, and infrastructure such as choosing which type of SQL engine (from at least three options) best meets the needs of your organization. You also will learn about ETL/ELT structure and the vast number of accelerators and patterns that can be used to aid implementation and ensure resilience. Data warehouse developers and architects will find this book a tremendous resource for moving their skills into the future through cloud-based implementations. What You Will Learn Choose the appropriate Azure SQL engine for implementing a given data warehouse Develop smart, reusable ETL/ELT processes that are resilient and easily maintained Automate mundane development tasks through tools such as PowerShell Ensure consistency of data by creating and enforcing data contracts Explore streaming and event-driven architectures for data ingestion Create advanced staging layers using Azure Data Lake Gen 2 to feed your data warehouse Who This Book Is For Data warehouse or ETL/ELT developers who wish to implement a data warehouse project in the Azure cloud, and developers currently working in on-premise environments who want to move to the cloud, and for developers with Azure experience looking to tighten up their implementation and consolidate their knowledge

Exam Ref 70-532 Developing Microsoft Azure Solutions - Zoiner Tejada 2015-02-20

Prepare for Microsoft Exam 70-532--and help demonstrate your real-world mastery of Microsoft Azure solution development. Designed for experienced developers ready to advance their status, Exam Ref focuses on the critical-thinking and decision-making acumen needed for success at the Microsoft Specialist level. Focus on the expertise measured by these objectives: Design and implement Websites Create and manage Virtual Machines Design and implement Cloud Services Design and implement a storage strategy Manage application and network services This Microsoft Exam Ref: Organizes its coverage by exam objectives Features strategic, what-if scenarios to challenge you Will be valuable for Microsoft Azure developers, solution architects, DevOps engineers, and QA engineers Assumes you have experience designing, programming, implementing, automating, and monitoring Microsoft Azure solutions and that you are proficient with tools, techniques, and approaches for building scalable, resilient solutions Developing Microsoft Azure Solutions About the Exam Exam 70-532 focuses on the skills and knowledge needed to develop Microsoft Azure solutions that include websites, virtual machines, cloud services, storage, application services, and network services. About Microsoft Certification Passing this exam earns you a Microsoft Specialist certification in Microsoft Azure, demonstrating your expertise with the Microsoft Azure enterprise-grade cloud platform. You can earn this certification by passing Exam 70-532, Developing Microsoft Azure Solutions; or Exam 70-533, Implementing Microsoft Azure Infrastructure Solutions; or Exam 70-534, Architecting Microsoft Azure Solutions. See full details at: microsoft.com/learning
Azure Databricks Cookbook - Phani Raj 2021-09-17

Get to grips with building and productionizing end-to-end big data solutions in Azure and learn best practices for working with large datasets Key Features Integrate with Azure Synapse Analytics, Cosmos DB, and Azure HDInsight Kafka Cluster to scale and analyze your projects and build pipelines Use Databricks SQL to run ad hoc queries on your data lake and create dashboards Productionize a solution using CI/CD for deploying notebooks and Azure Databricks Service to various environments Book Description Azure Databricks is a unified collaborative platform for performing scalable analytics in an interactive environment. The Azure Databricks Cookbook provides recipes to get hands-on with the analytics process, including ingesting data from various batch and streaming sources and building a modern data warehouse. The book starts by teaching you how to create an Azure Databricks instance within the Azure portal, Azure CLI, and ARM templates. You'll work through clusters in Databricks and explore recipes for ingesting data from sources, including files, databases, and streaming sources such as Apache Kafka and EventHub. The book will help you explore all the features supported by Azure Databricks for building powerful end-to-end

data pipelines. You'll also find out how to build a modern data warehouse by using Delta tables and Azure Synapse Analytics. Later, you'll learn how to write ad hoc queries and extract meaningful insights from the data lake by creating visualizations and dashboards with Databricks SQL. Finally, you'll deploy and productionize a data pipeline as well as deploy notebooks and Azure Databricks service using continuous integration and continuous delivery (CI/CD). By the end of this Azure book, you'll be able to use Azure Databricks to streamline different processes involved in building data-driven apps. What you will learn

Read and write data from and to various Azure resources and file formats

Build a modern data warehouse with Delta Tables and Azure Synapse Analytics

Explore jobs, stages, and tasks and see how Spark lazy evaluation works

Handle concurrent transactions and learn performance optimization in Delta tables

Learn Databricks SQL and create real-time dashboards in Databricks SQL

Integrate Azure DevOps for version control, deploying, and productionizing solutions with CI/CD pipelines

Discover how to use RBAC and ACLs to restrict data access

Build end-to-end data processing pipeline for near real-time data analytics

Who this book is for

This recipe-based book is for data scientists, data engineers, big data professionals, and machine learning engineers who want to perform data analytics on their applications. Prior experience of working with Apache Spark and Azure is necessary to get the most out of this book.

Encyclopedia of Information Science and Technology, Fifth Edition - Khosrow-Pour D.B.A., Mehdi
2020-07-24

The rise of intelligence and computation within technology has created an eruption of potential applications in numerous professional industries. Techniques such as data analysis, cloud computing, machine learning, and others have altered the traditional processes of various disciplines including healthcare, economics, transportation, and politics. Information technology in today's world is beginning to uncover opportunities for experts in these fields that they are not yet aware of. The exposure of specific instances in which these devices are being implemented will assist other specialists in how to successfully utilize these transformative tools with the appropriate amount of discretion, safety, and awareness. Considering the level of diverse uses and practices throughout the globe, the fifth edition of the Encyclopedia of Information Science and Technology series continues the enduring legacy set forth by its predecessors as a premier reference that contributes the most cutting-edge concepts and methodologies to the research community. The Encyclopedia of Information Science and Technology, Fifth Edition is a three-volume set that includes 136 original and previously unpublished research chapters that present multidisciplinary research and expert insights into new methods and processes for understanding modern technological tools and their applications as well as emerging theories and ethical controversies surrounding the field of information science. Highlighting a wide range of topics such as natural language processing, decision support systems, and electronic government, this book offers strategies for implementing smart devices and analytics into various professional disciplines. The techniques discussed in this publication are ideal for IT professionals, developers, computer scientists, practitioners, managers, policymakers, engineers, data analysts, and programmers seeking to understand the latest developments within this field and who are looking to apply new tools and policies in their practice. Additionally, academicians, researchers, and students in fields that include but are not limited to software engineering, cybersecurity, information technology, media and communications, urban planning, computer science, healthcare, economics, environmental science, data management, and political science will benefit from the extensive knowledge compiled within this publication.

IoT Solutions in Microsoft's Azure IoT Suite - Scott Klein 2017-04-20

Collect and analyze sensor and usage data from Internet of Things applications with Microsoft Azure IoT Suite. Internet connectivity to everyday devices such as light bulbs, thermostats, and even voice-command devices such as Google Home and Amazon.com's Alexa is exploding. These connected devices and their respective applications generate large amounts of data that can be mined to enhance user-friendliness and make predictions about what a user might be likely to do next. Microsoft's Azure IoT Suite is a cloud-based platform that is ideal for collecting data from connected devices. You'll learn in this book about data acquisition and analysis, including real-time analysis. Real-world examples are provided to teach you to detect anomalous patterns in your data that might lead to business advantage. We live in a time when the amount of data being generated and stored is growing at an exponential rate. Understanding and getting

real-time insight into these data is critical to business. IoT Solutions in Microsoft's Azure IoT Suite walks you through a complete, end-to-end journey of how to collect and store data from Internet-connected devices. You'll learn to analyze the data and to apply your results to solving real-world problems. Your customers will benefit from the increasingly capable and reliable applications that you'll be able to deploy to them. You and your business will benefit from the gains in insight and knowledge that can be applied to delight your customers and increase the value from their business. What You'll Learn

Go through data generation, collection, and storage from sensors and devices, both relational and non-relational

Understand, from end to end, Microsoft's analytic services and where they fit into the analytical ecosystem

Look at the Internet of your things and find ways to discover and draw on the insights your data can provide

Understand Microsoft's IoT technologies and services, and stitch them together for business insight and advantage

Who This Book Is For

Developers and architects who plan on delivering IoT solutions, data scientists who want to understand how to get better insights into their data, and anyone needing or wanting to do real-time analysis of data from the Internet of Things

Mastering Azure Analytics - Zoiner Tejada 2017-04-06

Helps users understand the breadth of Azure services by organizing them into a reference framework they can use when crafting their own big-data analytics solution.

Cloud Computing - Dan C. Marinescu 2013-05-30

Cloud Computing: Theory and Practice provides students and IT professionals with an in-depth analysis of the cloud from the ground up. Beginning with a discussion of parallel computing and architectures and distributed systems, the book turns to contemporary cloud infrastructures, how they are being deployed at leading companies such as Amazon, Google and Apple, and how they can be applied in fields such as healthcare, banking and science. The volume also examines how to successfully deploy a cloud application across the enterprise using virtualization, resource management and the right amount of networking support, including content delivery networks and storage area networks. Developers will find a complete introduction to application development provided on a variety of platforms. Learn about recent trends in cloud computing in critical areas such as: resource management, security, energy consumption, ethics, and complex systems

Get a detailed hands-on set of practical recipes that help simplify the deployment of a cloud based system for practical use of computing clouds along with an in-depth discussion of several projects

Understand the evolution of cloud computing and why the cloud computing paradigm has a better chance to succeed than previous efforts in large-scale distributed computing

Cyber Security on Azure - Marshall Copeland 2017-07-17

Prevent destructive attacks to your Azure public cloud infrastructure, remove vulnerabilities, and instantly report cloud security readiness. This book provides comprehensive guidance from a security insider's perspective. Cyber Security on Azure explains how this 'security as a service' (SECaaS) business solution can help you better manage security risk and enable data security control using encryption options such as Advanced Encryption Standard (AES) cryptography. Discover best practices to support network security groups, web application firewalls, and database auditing for threat protection. Configure custom security notifications of potential cyberattack vectors to prevent unauthorized access by hackers, hacktivists, and industrial spies. What You'll Learn

This book provides step-by-step guidance on how to:

Support enterprise security policies

Improve cloud security

Configure intrusion detection

Identify potential vulnerabilities

Prevent enterprise security failures

Who This Book Is For

IT, cloud, and security administrators; CEOs, CIOs, and other business professionals

Stream Processing with Apache Spark - Gerard Maas 2019-06-05

Before you can build analytics tools to gain quick insights, you first need to know how to process data in real time. With this practical guide, developers familiar with Apache Spark will learn how to put this in-memory framework to use for streaming data. You'll discover how Spark enables you to write streaming jobs in almost the same way you write batch jobs. Authors Gerard Maas and François Garillot help you explore the theoretical underpinnings of Apache Spark. This comprehensive guide features two sections that compare and contrast the streaming APIs Spark now supports: the original Spark Streaming library and the newer Structured Streaming API. Learn fundamental stream processing concepts and examine different streaming architectures

Explore Structured Streaming through practical examples; learn different

aspects of stream processing in detail Create and operate streaming jobs and applications with Spark Streaming; integrate Spark Streaming with other Spark APIs Learn advanced Spark Streaming techniques, including approximation algorithms and machine learning algorithms Compare Apache Spark to other stream processing projects, including Apache Storm, Apache Flink, and Apache Kafka Streams

Beginning Apache Spark Using Azure Databricks - Robert Ilijason 2020-06-11

Analyze vast amounts of data in record time using Apache Spark with Databricks in the Cloud. Learn the fundamentals, and more, of running analytics on large clusters in Azure and AWS, using Apache Spark with Databricks on top. Discover how to squeeze the most value out of your data at a mere fraction of what classical analytics solutions cost, while at the same time getting the results you need, incrementally faster. This book explains how the confluence of these pivotal technologies gives you enormous power, and cheaply, when it comes to huge datasets. You will begin by learning how cloud infrastructure makes it possible to scale your code to large amounts of processing units, without having to pay for the machinery in advance. From there you will learn how Apache Spark, an open source framework, can enable all those

CPUs for data analytics use. Finally, you will see how services such as Databricks provide the power of Apache Spark, without you having to know anything about configuring hardware or software. By removing the need for expensive experts and hardware, your resources can instead be allocated to actually finding business value in the data. This book guides you through some advanced topics such as analytics in the cloud, data lakes, data ingestion, architecture, machine learning, and tools, including Apache Spark, Apache Hadoop, Apache Hive, Python, and SQL. Valuable exercises help reinforce what you have learned. What You Will Learn Discover the value of big data analytics that leverage the power of the cloud Get started with Databricks using SQL and Python in either Microsoft Azure or AWS Understand the underlying technology, and how the cloud and Apache Spark fit into the bigger picture See how these tools are used in the real world Run basic analytics, including machine learning, on billions of rows at a fraction of a cost or free Who This Book Is For Data engineers, data scientists, and cloud architects who want or need to run advanced analytics in the cloud. It is assumed that the reader has data experience, but perhaps minimal exposure to Apache Spark and Azure Databricks. The book is also recommended for people who want to get started in the analytics field, as it provides a strong foundation.