Big Data Forensics – Learning Hadoop Investigations

Perform forensic investigations on Hadoop clusters with cutting-edge tools and techniques

Joe Sremack

Learning Hadoop

Lynn Langit

Learning Hadoop :

Learning Hadoop 2 Garry Turkington,Gabriele Modena,2015-02-13 If you are a system or application developer interested in learning how to solve practical problems using the Hadoop framework then this book is ideal for you You are expected to be familiar with the Unix Linux command line interface and have some experience with the Java programming language Familiarity with Hadoop would be a plus   *Learn Hadoop in 24 Hours* Alex Nordeen,2020-09-15 Hadoop has changed the way large data sets are analyzed stored transferred and processed At such low cost it provides benefits like supports partial failure fault tolerance consistency scalability flexible schema and so on It also supports cloud computing More and more number of individuals are looking forward to mastering their Hadoop skills While initiating with Hadoop most users are unsure about how to proceed with Hadoop They are not aware of what are the pre requisite or data structure they should be familiar with Or How to make the most efficient use of Hadoop and its ecosystem To help them with all these queries and other issues this e book is designed The book gives insights into many of Hadoop libraries and packages that are not known to many Big data Analysts and Architects The e book also tells you about Hadoop MapReduce and HDFS The example in the e book is well chosen and demonstrates how to control Hadoop ecosystem through various shell commands With this book users will gain expertise in Hadoop technology and its related components The book leverages you with the best Hadoop content with the lowest price range After going through this book you will also acquire knowledge on Hadoop Security required for Hadoop Certifications like CCAH and CCDH It is a definite guide to Hadoop Table Of Content Chapter 1 What Is Big Data 1 Examples Of Big Data 2 Categories Of Big Data 3 Characteristics Of Big Data 4 Advantages Of Big Data Processing Chapter 2 Introduction to Hadoop 1 Components of Hadoop 2 Features Of Hadoop 3 Network Topology In Hadoop Chapter 3 Hadoop Installation Chapter 4 HDFS 1 Read Operation 2 Write Operation 3 Access HDFS using JAVA API 4 Access HDFS Using COMMAND LINE INTERFACE Chapter 5 Mapreduce 1 How MapReduce works 2 How MapReduce Organizes Work Chapter 6 First Program 1 Understanding MapReducer Code 2 Explanation of SalesMapper Class 3 Explanation of SalesCountryReducer Class 4 Explanation of SalesCountryDriver Class Chapter 7 Counters Joins In MapReduce 1 Two types of counters 2 MapReduce Join Chapter 8 MapReduce Hadoop Program To Join Data Chapter 9 Flume and Sqoop 1 What is SQOOP in Hadoop 2 What is FLUME in Hadoop 3 Some Important features of FLUME Chapter 10 Pig 1 Introduction to PIG 2 Create your First PIG Program 3 PART 1 Pig Installation 4 PART 2 Pig Demo Chapter 11 OOZIE 1 What is OOZIE 2 How does OOZIE work 3 Example Workflow Diagram 4 Oozie workflow application 5 Why use Oozie 6 FEATURES OF OOZIE   Learning Cascading Michael Covert,Victoria Loewengart,2015-05-29 This book is intended for software developers system architects and analysts big data project managers and data scientists who wish to deploy big data solutions using the Cascading framework You must have a basic understanding of the big data paradigm and should be familiar with Java development techniques   *Learning Hadoop* Lynn Langit,2020 Hadoop is indispensable when it comes to

processing big data as necessary to understanding your information as servers are to storing it This course is your introduction to Hadoop key file systems used with Hadoop its processing engine MapReduce and its many libraries and programming tools Developer and big data consultant Lynn Langit shows how to set up a Hadoop development environment run and optimize MapReduce jobs code basic queries with Hive and Pig and build workflows to schedule jobs Plus learn about the depth and breadth of available Apache Spark libraries available for use with a Hadoop cluster as well as options for running machine learning jobs on a Hadoop cluster   Learning Hadoop 2 Randal Scott King,2015 Learning Hadoop 2 introduces you to the powerful system synonymous with Big Data demonstrating how to create an instance and leverage Hadoop ecosystem s many components to store process manage and query massive data sets with confidence We open this course by providing an overview of the Hadoop component ecosystem including HDFS Sqoop Flume YARN MapReduce Pig and Hive before installing and configuring our Hadoop environment We take a look at Hue the graphical user interface of Hadoop We will then discover HDFS Hadoop s file system used to store data We will learn how to import and export data both manually and automatically Afterward we turn our attention toward running computations using MapReduce and get to grips working with Hadoop s scripting language Pig Lastly we will siphon data from HDFS into Hive and demonstrate how it can be used to structure and query data sets Resource description page   *Intelligent Systems and Smart Infrastructure* Brijesh Mishra,Rakesh Kumar Singh,Subodh Wairya,Manish Tiwari,2023-02-16 This book covers the proceedings of ICISSI 2022 International Conference on Intelligent Systems and Smart Infrastructure held at Prayagraj Uttar Pradesh during April 21 22 2022 The conference was jointly organised by Shambhunath Institute of Engineering and Technology Prayagraj UP India Institute of Engineering and Technology IET Lucknow U P India and Manipal University Jaipur Rajasthan India with an aim to provide a platform for researchers scientists technocrats academicians and engineers to exchange their innovative ideas and new challenges being faced in the field of emerging technologies The papers presented in the conference have been compiled in form of chapters to focus on the core technological developments in the emerging fields like machine learning intelligence systems smart infrastructure advanced power technology etc   **R for Cloud Computing** A Ohri,2014-11-14 R for Cloud Computing looks at some of the tasks performed by business analysts on the desktop PC era and helps the user navigate the wealth of information in R and its 4000 packages as well as transition the same analytics using the cloud With this information the reader can select both cloud vendors and the sometimes confusing cloud ecosystem as well as the R packages that can help process the analytical tasks with minimum effort cost and maximum usefulness and customization The use of Graphical User Interfaces GUI and Step by Step screenshot tutorials is emphasized in this book to lessen the famous learning curve in learning R and some of the needless confusion created in cloud computing that hinders its widespread adoption This will help you kick start analytics on the cloud including chapters on both cloud computing R common tasks performed in analytics including the current focus and scrutiny of Big Data Analytics setting up and navigating

cloud providers Readers are exposed to a breadth of cloud computing choices and analytics topics without being buried in needless depth The included references and links allow the reader to pursue business analytics on the cloud easily It is aimed at practical analytics and is easy to transition from existing analytical set up to the cloud on an open source system based primarily on R This book is aimed at industry practitioners with basic programming skills and students who want to enter analytics as a profession Note the scope of the book is neither statistical theory nor graduate level research for statistics but rather it is for business analytics practitioners It will also help researchers and academics but at a practical rather than conceptual level The R statistical software is the fastest growing analytics platform in the world and is established in both academia and corporations for robustness reliability and accuracy The cloud computing paradigm is firmly established as the next generation of computing from microprocessors to desktop PCs to cloud   Big Data Analytics with R Simon Walkowiak,2016-07-29 Utilize R to uncover hidden patterns in your Big Data About This Book Perform computational analyses on Big Data to generate meaningful results Get a practical knowledge of R programming language while working on Big Data platforms like Hadoop Spark H2O and SQL NoSQL databases Explore fast streaming and scalable data analysis with the most cutting edge technologies in the market Who This Book Is For This book is intended for Data Analysts Scientists Data Engineers Statisticians Researchers who want to integrate R with their current or future Big Data workflows It is assumed that readers have some experience in data analysis and understanding of data management and algorithmic processing of large quantities of data however they may lack specific skills related to R What You Will Learn Learn about current state of Big Data processing using R programming language and its powerful statistical capabilities Deploy Big Data analytics platforms with selected Big Data tools supported by R in a cost effective and time saving manner Apply the R language to real world Big Data problems on a multi node Hadoop cluster e g electricity consumption across various socio demographic indicators and bike share scheme usage Explore the compatibility of R with Hadoop Spark SQL and NoSQL databases and H2O platform In Detail Big Data analytics is the process of examining large and complex data sets that often exceed the computational capabilities R is a leading programming language of data science consisting of powerful functions to tackle all problems related to Big Data processing The book will begin with a brief introduction to the Big Data world and its current industry standards With introduction to the R language and presenting its development structure applications in real world and its shortcomings Book will progress towards revision of major R functions for data management and transformations Readers will be introduce to Cloud based Big Data solutions e g Amazon EC2 instances and Amazon RDS Microsoft Azure and its HDInsight clusters and also provide guidance on R connectivity with relational and non relational databases such as MongoDB and HBase etc It will further expand to include Big Data tools such as Apache Hadoop ecosystem HDFS and MapReduce frameworks Also other R compatible tools such as Apache Spark its machine learning library Spark MLlib as well as H2O Style and approach This book will serve as a practical guide to tackling Big Data

problems using R programming language and its statistical environment Each section of the book will present you with concise and easy to follow steps on how to process transform and analyse large data sets   *Learning Hadoop* ,2015 Learn about Hadoop its file system HDFS its processing engine MapReduce and its many libraries and programming tools These Hadoop tutorials show how to set up a dev environment run MapReduce jobs build workflows and more   **Practical Big Data Analytics** Nataraj Dasgupta,2018-01-15 Get command of your organizational Big Data using the power of data science and analytics Key Features A perfect companion to boost your Big Data storing processing analyzing skills to help you take informed business decisions Work with the best tools such as Apache Hadoop R Python and Spark for NoSQL platforms to perform massive online analyses Get expert tips on statistical inference machine learning mathematical modeling and data visualization for Big Data Book Description Big Data analytics relates to the strategies used by organizations to collect organize and analyze large amounts of data to uncover valuable business insights that otherwise cannot be analyzed through traditional systems Crafting an enterprise scale cost efficient Big Data and machine learning solution to uncover insights and value from your organization s data is a challenge Today with hundreds of new Big Data systems machine learning packages and BI Tools selecting the right combination of technologies is an even greater challenge This book will help you do that With the help of this guide you will be able to bridge the gap between the theoretical world of technology with the practical ground reality of building corporate Big Data and data science platforms You will get hands on exposure to Hadoop and Spark build machine learning dashboards using R and R Shiny create web based apps using NoSQL databases such as MongoDB and even learn how to write R code for neural networks By the end of the book you will have a very clear and concrete understanding of what Big Data analytics means how it drives revenues for organizations and how you can develop your own Big Data analytics solution using different tools and methods articulated in this book What you will learn Get a 360 degree view into the world of Big Data data science and machine learning Broad range of technical and business Big Data analytics topics that caters to the interests of the technical experts as well as corporate IT executives Get hands on experience with industry standard Big Data and machine learning tools such as Hadoop Spark MongoDB KDB and R Create production grade machine learning BI Dashboards using R and R Shiny with step by step instructions Learn how to combine open source Big Data machine learning and BI Tools to create low cost business analytics applications Understand corporate strategies for successful Big Data and data science projects Go beyond general purpose analytics to develop cutting edge Big Data applications using emerging technologies Who this book is for The book is intended for existing and aspiring Big Data professionals who wish to become the go to person in their organization when it comes to Big Data architecture analytics and governance While no prior knowledge of Big Data or related technologies is assumed it will be helpful to have some programming experience   Big Data Forensics – Learning Hadoop Investigations Joe Sremack,2015-09-24 Perform forensic investigations on Hadoop clusters with cutting edge tools and techniques About This Book Identify collect and analyze

Hadoop evidence forensically Learn about Hadoop s internals and Big Data file storage concepts A step by step guide to help you perform forensic analysis using freely available tools Who This Book Is For This book is meant for statisticians and forensic analysts with basic knowledge of digital forensics They do not need to know Big Data Forensics If you are an IT professional law enforcement professional legal professional or a student interested in Big Data and forensics this book is the perfect hands on guide for learning how to conduct Hadoop forensic investigations Each topic and step in the forensic process is described in accessible language What You Will Learn Understand Hadoop internals and file storage Collect and analyze Hadoop forensic evidence Perform complex forensic analysis for fraud and other investigations Use state of the art forensic tools Conduct interviews to identify Hadoop evidence Create compelling presentations of your forensic findings Understand how Big Data clusters operate Apply advanced forensic techniques in an investigation including file carving statistical analysis and more In Detail Big Data forensics is an important type of digital investigation that involves the identification collection and analysis of large scale Big Data systems Hadoop is one of the most popular Big Data solutions and forensically investigating a Hadoop cluster requires specialized tools and techniques With the explosion of Big Data forensic investigators need to be prepared to analyze the petabytes of data stored in Hadoop clusters Understanding Hadoop s operational structure and performing forensic analysis with court accepted tools and best practices will help you conduct a successful investigation Discover how to perform a complete forensic investigation of large scale Hadoop clusters using the same tools and techniques employed by forensic experts This book begins by taking you through the process of forensic investigation and the pitfalls to avoid It will walk you through Hadoop s internals and architecture and you will discover what types of information Hadoop stores and how to access that data You will learn to identify Big Data evidence using techniques to survey a live system and interview witnesses After setting up your own Hadoop system you will collect evidence using techniques such as forensic imaging and application based extractions You will analyze Hadoop evidence using advanced tools and techniques to uncover events and statistical information Finally data visualization and evidence presentation techniques are covered to help you properly communicate your findings to any audience Style and approach This book is a complete guide that follows every step of the forensic analysis process in detail You will be guided through each key topic and step necessary to perform an investigation Hands on exercises are presented throughout the book and technical reference guides and sample documents are included for real world use **Deep Learning with Hadoop** Dipayan Dev,2017-02-20 Build implement and scale distributed deep learning models for large scale datasets About This Book Get to grips with the deep learning concepts and set up Hadoop to put them to use Implement and parallelize deep learning models on Hadoop s YARN framework A comprehensive tutorial to distributed deep learning with Hadoop Who This Book Is For If you are a data scientist who wants to learn how to perform deep learning on Hadoop this is the book for you Knowledge of the basic machine learning concepts and some understanding of Hadoop is required to make the best use of this book What

You Will Learn Explore Deep Learning and various models associated with it Understand the challenges of implementing distributed deep learning with Hadoop and how to overcome it Implement Convolutional Neural Network CNN with deeplearning4j Delve into the implementation of Restricted Boltzmann Machines RBM Understand the mathematical explanation for implementing Recurrent Neural Networks RNN Get hands on practice of deep learning and their implementation with Hadoop In Detail This book will teach you how to deploy large scale dataset in deep neural networks with Hadoop for optimal performance Starting with understanding what deep learning is and what the various models associated with deep neural networks are this book will then show you how to set up the Hadoop environment for deep learning In this book you will also learn how to overcome the challenges that you face while implementing distributed deep learning with large scale unstructured datasets The book will also show you how you can implement and parallelize the widely used deep learning models such as Deep Belief Networks Convolutional Neural Networks Recurrent Neural Networks Restricted Boltzmann Machines and autoencoder using the popular deep learning library deeplearning4j Get in depth mathematical explanations and visual representations to help you understand the design and implementations of Recurrent Neural network and Denoising AutoEncoders with deeplearning4j To give you a more practical perspective the book will also teach you the implementation of large scale video processing image processing and natural language processing on Hadoop By the end of this book you will know how to deploy various deep neural networks in distributed systems using Hadoop Style and approach This book takes a comprehensive step by step approach to implement efficient deep learning models on Hadoop It starts from the basics and builds the readers knowledge as they strengthen their understanding of the concepts Practical examples are included in every step of the way to supplement the theory **Apache Hadoop 3 Quick Start Guide** Hrishikesh Vijay Karambelkar,2018-10-31 A fast paced guide that will help you learn about Apache Hadoop 3 and its ecosystem Key FeaturesSet up configure and get started with Hadoop to get useful insights from large data setsWork with the different components of Hadoop such as MapReduce HDFS and YARN Learn about the new features introduced in Hadoop 3Book Description Apache Hadoop is a widely used distributed data platform It enables large datasets to be efficiently processed instead of using one large computer to store and process the data This book will get you started with the Hadoop ecosystem and introduce you to the main technical topics including MapReduce YARN and HDFS The book begins with an overview of big data and Apache Hadoop Then you will set up a pseudo Hadoop development environment and a multi node enterprise Hadoop cluster You will see how the parallel programming paradigm such as MapReduce can solve many complex data processing problems The book also covers the important aspects of the big data software development lifecycle including quality assurance and control performance administration and monitoring You will then learn about the Hadoop ecosystem and tools such as Kafka Sqoop Flume Pig Hive and HBase Finally you will look at advanced topics including real time streaming using Apache Storm and data analytics using Apache Spark By the end of the book you will be

well versed with different configurations of the Hadoop 3 cluster What you will learnStore and analyze data at scale using HDFS MapReduce and YARNInstall and configure Hadoop 3 in different modesUse Yarn effectively to run different applications on Hadoop based platformUnderstand and monitor how Hadoop cluster is managedConsume streaming data using Storm and then analyze it using SparkExplore Apache Hadoop ecosystem components such as Flume Sqoop HBase Hive and KafkaWho this book is for Aspiring Big Data professionals who want to learn the essentials of Hadoop 3 will find this book to be useful Existing Hadoop users who want to get up to speed with the new features introduced in Hadoop 3 will also benefit from this book Having knowledge of Java programming will be an added advantage   *Big Data Forensics - Learning Hadoop Investigations* Joe Sremack,2015-08-25 Perform forensic investigations on Hadoop clusters with cutting edge tools and techniquesAbout This Book Identify collect and analyze Hadoop evidence forensically Learn about Hadoop s internals and Big Data file storage concepts A step by step guide to help you perform forensic analysis using freely available toolsWho This Book Is ForThis book is meant for statisticians and forensic analysts with basic knowledge of digital forensics They do not need to know Big Data Forensics If you are an IT professional law enforcement professional legal professional or a student interested in Big Data and forensics this book is the perfect hands on guide for learning how to conduct Hadoop forensic investigations Each topic and step in the forensic process is described in accessible language What You Will Learn Understand Hadoop internals and file storage Collect and analyze Hadoop forensic evidence Perform complex forensic analysis for fraud and other investigations Use state of the art forensic tools Conduct interviews to identify Hadoop evidence Create compelling presentations of your forensic findings Understand how Big Data clusters operate Apply advanced forensic techniques in an investigation including file carving statistical analysis and moreIn DetailBig Data forensics is an important type of digital investigation that involves the identification collection and analysis of large scale Big Data systems Hadoop is one of the most popular Big Data solutions and forensically investigating a Hadoop cluster requires specialized tools and techniques With the explosion of Big Data forensic investigators need to be prepared to analyze the petabytes of data stored in Hadoop clusters Understanding Hadoop s operational structure and performing forensic analysis with court accepted tools and best practices will help you conduct a successful investigation Discover how to perform a complete forensic investigation of large scale Hadoop clusters using the same tools and techniques employed by forensic experts This book begins by taking you through the process of forensic investigation and the pitfalls to avoid It will walk you through Hadoop s internals and architecture and you will discover what types of information Hadoop stores and how to access that data You will learn to identify Big Data evidence using techniques to survey a live system and interview witnesses After setting up your own Hadoop system you will collect evidence using techniques such as forensic imaging and application based extractions You will analyze Hadoop evidence using advanced tools and techniques to uncover events and statistical information Finally data visualization and evidence presentation techniques are covered to help you properly communicate your findings to any

audience Style and approachThis book is a complete guide that follows every step of the forensic analysis process in detail You will be guided through each key topic and step necessary to perform an investigation Hands on exercises are presented throughout the book and technical reference guides and sample documents are included for real world use **Python for Programmers** Paul Deitel,Harvey Deitel,2019-03-15 The professional programmer s Deitel guide to Python with introductory artificial intelligence case studies Written for programmers with a background in another high level language Python for Programmers uses hands on instruction to teach today s most compelling leading edge computing technologies and programming in Python one of the world s most popular and fastest growing languages Please read the Table of Contents diagram inside the front cover and the Preface for more details In the context of 500 real world examples ranging from individual snippets to 40 large scripts and full implementation case studies you ll use the interactive IPython interpreter with code in Jupyter Notebooks to quickly master the latest Python coding idioms After covering Python Chapters 1 5 and a few key parts of Chapters 6 7 you ll be able to handle significant portions of the hands on introductory AI case studies in Chapters 11 16 which are loaded with cool powerful contemporary examples These include natural language processing data mining Twitter for sentiment analysis cognitive computing with IBM WatsonTM supervised machine learning with classification and regression unsupervised machine learning with clustering computer vision through deep learning and convolutional neural networks deep learning with recurrent neural networks big data with Hadoop SparkTM and NoSQL databases the Internet of Things and more You ll also work directly or indirectly with cloud based services including Twitter Google TranslateTM IBM Watson Microsoft Azure OpenMapQuest PubNub and more Features 500 hands on real world live code examples from snippets to case studies IPython code in Jupyter Notebooks Library focused Uses Python Standard Library and data science libraries to accomplish significant tasks with minimal code Rich Python coverage Control statements functions strings files JSON serialization CSV exceptions Procedural functional style and object oriented programming Collections Lists tuples dictionaries sets NumPy arrays pandas Series DataFrames Static dynamic and interactive visualizations Data experiences with real world datasets and data sources Intro to Data Science sections AI basic stats simulation animation random variables data wrangling regression AI big data and cloud data science case studies NLP data mining Twitter IBM WatsonTM machine learning deep learning computer vision Hadoop SparkTM NoSQL IoT Open source libraries NumPy pandas Matplotlib Seaborn Folium SciPy NLTK TextBlob spaCy Textatistic Tweepy scikit learn Keras and more Accompanying code examples are available here http ptgmedia pearsoncmg com imprint_downloads informit bookreg 9780135224335 9780135224335_examples zip Register your product for convenient access to downloads updates and or corrections as they become available See inside book for more information **Oracle Big Data Handbook** Tom Plunkett,Brian Macdonald,Bruce Nelson,Mark Hornick,Helen Sun,Khader Mohiuddin,Debra Harding,Gokula Mishra,Robert Stackowiak,Keith Laker,David Segleau,2013-10-06 Transform Big Data into Insight In this book some of Oracle s best

engineers and architects explain how you can make use of big data They ll tell you how you can integrate your existing Oracle solutions with big data systems using each where appropriate and moving data between them as needed Doug Cutting co creator of Apache Hadoop Cowritten by members of Oracle s big data team Oracle Big Data Handbook provides complete coverage of Oracle s comprehensive integrated set of products for acquiring organizing analyzing and leveraging unstructured data The book discusses the strategies and technologies essential for a successful big data implementation including Apache Hadoop Oracle Big Data Appliance Oracle Big Data Connectors Oracle NoSQL Database Oracle Endeca Oracle Advanced Analytics and Oracle s open source R offerings Best practices for migrating from legacy systems and integrating existing data warehousing and analytics solutions into an enterprise big data infrastructure are also included in this Oracle Press guide Understand the value of a comprehensive big data strategy Maximize the distributed processing power of the Apache Hadoop platform Discover the advantages of using Oracle Big Data Appliance as an engineered system for Hadoop and Oracle NoSQL Database Configure deploy and monitor Hadoop and Oracle NoSQL Database using Oracle Big Data Appliance Integrate your existing data warehousing and analytics infrastructure into a big data architecture Share data among Hadoop and relational databases using Oracle Big Data Connectors Understand how Oracle NoSQL Database integrates into the Oracle Big Data architecture Deliver faster time to value using in database analytics Analyze data with Oracle Advanced Analytics Oracle R Enterprise and Oracle Data Mining Oracle R Distribution ROracle and Oracle R Connector for Hadoop Analyze disparate data with Oracle Endeca Information Discovery Plan and implement a big data governance strategy and develop an architecture and roadmap   **Harness the Power of Big Data The IBM Big Data Platform** Paul Zikopoulos,Dirk deRoos,Krishnan Parasuraman,Thomas Deutsch,James Giles,David Corrigan,2012-10-18 Boost your Big Data IQ Gain insight into how to govern and consume IBM s unique in motion and at rest Big Data analytic capabilities Big Data represents a new era of computing an inflection point of opportunity where data in any format may be explored and utilized for breakthrough insights whether that data is in place in motion or at rest IBM is uniquely positioned to help clients navigate this transformation This book reveals how IBM is infusing open source Big Data technologies with IBM innovation that manifest in a platform capable of changing the game The four defining characteristics of Big Data volume variety velocity and veracity are discussed You ll understand how IBM is fully committed to Hadoop and integrating it into the enterprise Hear about how organizations are taking inventories of their existing Big Data assets with search capabilities that help organizations discover what they could already know and extend their reach into new data territories for unprecedented model accuracy and discovery In this book you will also learn not just about the technologies that make up the IBM Big Data platform but when to leverage its purpose built engines for analytics on data in motion and data at rest And you ll gain an understanding of how and when to govern Big Data and how IBM s industry leading InfoSphere integration and governance portfolio helps you understand govern and effectively utilize Big Data Industry use cases are also included in this

practical guide   Advanced Analytics with Spark Sandy Ryza,Uri Laserson,Sean Owen,Josh Wills,2015-04-02 In this practical book four Cloudera data scientists present a set of self contained patterns for performing large scale data analysis with Spark The authors bring Spark statistical methods and real world data sets together to teach you how to approach analytics problems by example You ll start with an introduction to Spark and its ecosystem and then dive into patterns that apply common techniques classification collaborative filtering and anomaly detection among others to fields such as genomics security and finance If you have an entry level understanding of machine learning and statistics and you program in Java Python or Scala you ll find these patterns useful for working on your own data applications Patterns include Recommending music and the Audioscrobbler data set Predicting forest cover with decision trees Anomaly detection in network traffic with K means clustering Understanding Wikipedia with Latent Semantic Analysis Analyzing co occurrence networks with GraphX Geospatial and temporal data analysis on the New York City Taxi Trips data Estimating financial risk through Monte Carlo simulation Analyzing genomics data and the BDG project Analyzing neuroimaging data with PySpark and Thunder   Ultimate Big Data Analytics with Apache Hadoop Simhadri Govindappa,2024-09-09 TAGLINE Master the Hadoop Ecosystem and Build Scalable Analytics Systems KEY FEATURES Explains Hadoop YARN MapReduce and Tez for understanding distributed data processing and resource management Delves into Apache Hive and Apache Spark for their roles in data warehousing real time processing and advanced analytics Provides hands on guidance for using Python with Hadoop for business intelligence and data analytics DESCRIPTION In a rapidly evolving Big Data job market projected to grow by 28% through 2026 and with salaries reaching up to 150 000 annually mastering big data analytics with the Hadoop ecosystem is most sought after for career advancement The Ultimate Big Data Analytics with Apache Hadoop is an indispensable companion offering in depth knowledge and practical skills needed to excel in today s data driven landscape The book begins laying a strong foundation with an overview of data lakes data warehouses and related concepts It then delves into core Hadoop components such as HDFS YARN MapReduce and Apache Tez offering a blend of theory and practical exercises You will gain hands on experience with query engines like Apache Hive and Apache Spark as well as file and table formats such as ORC Parquet Avro Iceberg Hudi and Delta Detailed instructions on installing and configuring clusters with Docker are included along with big data visualization and statistical analysis using Python Given the growing importance of scalable data pipelines this book equips data engineers analysts and big data professionals with practical skills to set up manage and optimize data pipelines and to apply machine learning techniques effectively Don t miss out on the opportunity to become a leader in the big data field to unlock the full potential of big data analytics with Hadoop WHAT WILL YOU LEARN Gain expertise in building and managing large scale data pipelines with Hadoop YARN and MapReduce Master real time analytics and data processing with Apache Spark s powerful features Develop skills in using Apache Hive for efficient data warehousing and complex queries Integrate Python for advanced data analysis visualization and business

intelligence in the Hadoop ecosystem Learn to enhance data storage and processing performance using formats like ORC Parquet and Delta Acquire hands on experience in deploying and managing Hadoop clusters with Docker and Kubernetes Build and deploy machine learning models with tools integrated into the Hadoop ecosystem WHO IS THIS BOOK FOR This book is tailored for data engineers analysts software developers data scientists IT professionals and engineering students seeking to enhance their skills in big data analytics with Hadoop Prerequisites include a basic understanding of big data concepts programming knowledge in Java Python or SQL and basic Linux command line skills No prior experience with Hadoop is required but a foundational grasp of data principles and technical proficiency will help readers fully engage with the material TABLE OF CONTENTS 1 Introduction to Hadoop and ASF 2 Overview of Big Data Analytics 3 Hadoop and YARN MapReduce and Tez 4 Distributed Query Engines Apache Hive 5 Distributed Query Engines Apache Spark 6 File Formats and Table Formats Apache Ice berg Hudi and Delta 7 Python and the Hadoop Ecosystem for Big Data Analytics BI 8 Data Science and Machine Learning with Hadoop Ecosystem 9 Introduction to Cloud Computing and Other Apache Projects Index

Hadoop 2 Quick-start Guide Doug Eadline,2016

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Table of Contents Learning Hadoop

1. Understanding the eBook Learning Hadoop
    - The Rise of Digital Reading Learning Hadoop
    - Advantages of eBooks Over Traditional Books
2. Identifying Learning Hadoop
    - Exploring Different Genres
    - Considering Fiction vs. Non-Fiction
    - Determining Your Reading Goals
3. Choosing the Right eBook Platform
    - Popular eBook Platforms
    - Features to Look for in an Learning Hadoop
    - User-Friendly Interface
4. Exploring eBook Recommendations from Learning Hadoop
    - Personalized Recommendations
    - Learning Hadoop User Reviews and Ratings

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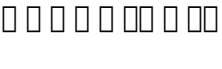
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