Big Data Analytics With Spark Home Springer

Big Data Analytics With Spark Home Springer Unleashing the Power of Big Data Analytics with Spark Home and Spring The world is drowning in data Every interaction transaction and click generates a flood of information presenting both a challenge and an opportunity Big data analytics provides the tools to navigate this deluge extracting meaningful insights and driving impactful decisions This article explores the powerful trio of Spark Home and Spring showcasing how these technologies can empower you to unlock the potential of your data Understanding the Powerhouse Trio Spark A lightningfast and versatile opensource engine for processing largescale data sets It excels at realtime analytics machine learning and data exploration offering a comprehensive ecosystem of tools and libraries Home A lightweight and extensible framework for building user interfaces with React It provides a foundation for creating interactive and dynamic dashboards that showcase your data insights Spring A widely adopted Java framework renowned for its comprehensive support for enterprise applications It seamlessly integrates with Spark enabling you to build robust and scalable data processing pipelines The Synergy of Spark Home and Spring This trifecta creates a potent combination for big data analytics Spark Processes massive datasets performing computations at blazing speeds delivering realtime insights Home Provides the tools to build interactive dashboards that visually present insights from Sparks analysis Spring Offers a robust foundation for building applications that orchestrate data processing integration and user interface interactions This integrated approach fosters a streamlined workflow from data ingestion and processing to insightful visualizations and interactive dashboards 2 Case Study Building a

RealTime Customer Analytics Dashboard Imagine a scenario where you want to monitor customer behavior in realtime identifying trends and potential opportunities Heres how the trio can help you build a powerful dashboard 1 Data Ingestion and Processing Use Sparks streaming capabilities to ingest live data from various sources like website logs social media feeds and CRM systems Apply transformations and aggregations using Spark SQL or DataFrame API to extract meaningful metrics like website traffic user engagement and conversion rates 2 Dashboard Development Employ Homes declarative and componentbased approach to create interactive dashboards with dynamic charts tables and filters Visualize key metrics in realtime showcasing trends and patterns using dynamic charts like line graphs bar charts and heatmaps Incorporate interactive filters and drilldown capabilities to explore specific data segments and uncover hidden insights 3 Spring Integration Utilize Spring Boot to create a RESTful API that exposes data processed by Spark Integrate this API with your Home application allowing the dashboard to fetch live data and update visuals in realtime Leverage Spring Security for secure access control and authentication to ensure data integrity and user privacy Benefits of this Approach Faster Insights Realtime data processing enables immediate analysis and identification of emerging trends Improved Decision Making Actionable insights from data analytics empower businesses to make informed decisions based on realtime data Enhanced User Experience Interactive dashboards provide a userfriendly and engaging experience for exploring data making insights accessible to a wider audience Scalability and Flexibility The architecture is easily scalable to accommodate increasing data volumes and user traffic Key Considerations Data Governance and Security Implement robust data governance policies and security 3 measures to protect sensitive information Data Quality and Consistency Ensure data accuracy and consistency across various sources to avoid misleading insights Performance Optimization Optimize Spark processing for efficient data handling and query execution to maintain responsiveness Continuous Monitoring and Maintenance Regularly monitor system

performance and update components to ensure smooth operation Conclusion The combined power of Spark Home and Spring unlocks a world of possibilities for big data analytics By leveraging their unique strengths you can build robust scalable and visually appealing applications that deliver actionable insights from your data Embrace this trio and witness the transformation of raw data into a powerful driver of innovation and success

Big Data Analytics with SparkAdvanced Analytics with SparkData Analytics with Spark Using PythonBig Data Analytics with SparkAdvanced Analytics with SparkLearning SparkAdvanced Analytics with SparkAdvanced Analytics with Spark, 2nd EditionAdvanced Analytics with PySparkMastering Apache SparkEssential PySpark for Scalable Data AnalyticsLearning SparkBig Data Analytics with Apache Hadoop and SparkPro Spark StreamingLearning SparkBig Data Processing Using Spark in CloudExpert Strategies in Apache Spark: Comprehensive Data Processing and Advanced AnalyticsApache Spark 2: Data Processing and Real–Time AnalyticsMastering Apache Spark 2.xScala Programming for Big Data Analytics Mohammed Guller Sandy Ryza Jeffrey Aven Mohammed Guller Sandy Ryza Jules S. Damji Sandy Ryza. Uri Laserson. Sean Owen. Josh Wills Josh Wills. Sean Owen. Sandy Ryza. Uri Laserson Akash Tandon Greyson Chesterfield Sreeram Nudurupati Holden Karau Renata Sloane Zubair Nabi Joseph Moore Mamta Mittal Adam Jones Romeo Kienzler Romeo Kienzler Irfan Elahi

Big Data Analytics with Spark Advanced Analytics with Spark Data Analytics with Spark Using Python Big Data Analytics with Spark Advanced Analytics with Spark Learning Spark Advanced Analytics with Spark Advanced Analytics with Spark, 2nd Edition Advanced Analytics with PySpark Mastering Apache Spark Essential PySpark for Scalable Data Analytics Learning Spark Big Data Analytics with Apache Hadoop and Spark Pro Spark Streaming Learning Spark Big Data Processing Using Spark in Cloud Expert Strategies in Apache Spark: Comprehensive Data Processing and Advanced Analytics Apache Spark 2: Data Processing and Real–Time Analytics Mastering Apache Spark 2.x Scala Programming for Big Data Analytics *Mohammed Guller*

Sandy Ryza Jeffrey Aven Mohammed Guller Sandy Ryza Jules S. Damji Sandy Ryza. Uri Laserson. Sean Owen. Josh Wills Josh Wills. Sean Owen. Sandy Ryza. Uri Laserson Akash Tandon Greyson Chesterfield Sreeram Nudurupati Holden Karau Renata Sloane Zubair Nabi Joseph Moore Mamta Mittal Adam Jones Romeo Kienzler Romeo Kienzler Irfan Elahi

big data analytics with spark is a step by step guide for learning spark which is an open source fast and general purpose cluster computing framework for large scale data analysis you will learn how to use spark for different types of big data analytics projects including batch interactive graph and stream data analysis as well as machine learning in addition this book will help you become a much sought after spark expert spark is one of the hottest big data technologies the amount of data generated today by devices applications and users is exploding therefore there is a critical need for tools that can analyze large scale data and unlock value from it spark is a powerful technology that meets that need you can for example use spark to perform low latency computations through the use of efficient caching and iterative algorithms leverage the features of its shell for easy and interactive data analysis employ its fast batch processing and low latency features to process your real time data streams and so on as a result adoption of spark is rapidly growing and is replacing hadoop mapreduce as the technology of choice for big data analytics this book provides an introduction to spark and related big data technologies it covers spark core and its add on libraries including spark sql spark streaming graphx and mllib big data analytics with spark is therefore written for busy professionals who prefer learning a new technology from a consolidated source instead of spending countless hours on the internet trying to pick bits and pieces from different sources the book also provides a chapter on scala the hottest functional programming language and the program that underlies spark you ll learn the basics of functional programming in scala so that you can write spark applications in it what s more big data analytics with spark provides an introduction to other big data technologies that are commonly used along with spark like hive avro kafka

and so on so the book is self sufficient all the technologies that you need to know to use spark are covered the only thing that you are expected to know is programming in any language there is a critical shortage of people with big data expertise so companies are willing to pay top dollar for people with skills in areas like spark and scala so reading this book and absorbing its principles will provide a boost possibly a big boost to your career

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

solve data analytics problems with spark pyspark and related open source tools spark is at the heart of today s big data revolution helping data professionals supercharge efficiency and performance in a wide range of data processing and analytics tasks in this guide big data expert jeffrey aven covers all you need to know to leverage spark together with its

extensions subprojects and wider ecosystem aven combines a language agnostic introduction to foundational spark concepts with extensive programming examples utilizing the popular and intuitive pyspark development environment this guide s focus on python makes it widely accessible to large audiences of data professionals analysts and developers even those with little hadoop or spark experience aven s broad coverage ranges from basic to advanced spark programming and spark sql to machine learning you ll learn how to efficiently manage all forms of data with spark streaming structured semi structured and unstructured throughout concise topic overviews quickly get you up to speed and extensive hands on exercises prepare you to solve real problems coverage includes understand spark s evolving role in the big data and hadoop ecosystems create spark clusters using various deployment modes control and optimize the operation of spark clusters and applications master spark core rdd api programming techniques extend accelerate and optimize spark routines with advanced api platform constructs including shared variables rdd storage and partitioning efficiently integrate spark with both sql and nonrelational data stores perform stream processing and messaging with spark streaming and apache kafka implement predictive modeling with sparkr and spark mllib

this book is a step by step guide for learning how to use spark for different types of big data analytics projects including batch interactive graph and stream data analysis as well as machine learning it covers spark core and its add on libraries including spark sql spark streaming graphx mllib and spark ml big data analytics with spark shows you how to use spark and leverage its easy to use features to increase your productivity you learn to perform fast data analysis using its in memory caching and advanced execution engine employ in memory computing capabilities for building high performance machine learning and low latency interactive analytics applications and much more moreover the book shows you how to use spark as a single integrated platform for a variety of data processing tasks including etl pipelines bi live data stream processing

graph analytics and machine learning the book also includes a chapter on scala the hottest functional programming language and the language that underlies spark you ll learn the basics of functional programming in scala so that you can write spark applications in it what s more big data analytics with spark provides an introduction to other big data technologies that are commonly used along with spark such as hdfs avro parquet kafka cassandra hbase mesos and so on it also provides an introduction to machine learning and graph concepts so the book is self sufficient all the technologies that you need to know to use spark are covered the only thing that you are expected to have is some programming knowledge in any language

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

data is bigger arrives faster and comes in a variety of formatsâ and it all needs to be processed at scale for analytics or

machine learning but how can you process such varied workloads efficiently enter apache spark updated to include spark 3 0 this second edition shows data engineers and data scientists why structure and unification in spark matters specifically this book explains how to perform simple and complex data analytics and employ machine learning algorithms through step by step walk throughs code snippets and notebooks youâ ll be able to learn python sql scala or java high level structured apis understand spark operations and sql engine inspect tune and debug spark operations with spark configurations and spark ui connect to data sources json parquet csv avro orc hive s3 or kafka perform analytics on batch and streaming data using structured streaming build reliable data pipelines with open source delta lake and spark develop machine learning pipelines with mllib and productionize models using mlflow

the amount of data being generated today is staggering and growing apache spark has emerged as the de facto tool to analyze big data and is now a critical part of the data science toolbox updated for spark 3 0 this practical guide brings together spark statistical methods and real world datasets to teach you how to approach analytics problems using pyspark spark s python api and other best practices in spark programming data scientists akash tandon sandy ryza uri laserson sean owen and josh wills offer an introduction to the spark ecosystem then dive into patterns that apply common techniques including classification clustering collaborative filtering and anomaly detection to fields such as genomics security and finance this updated edition also covers nlp and image processing if you have a basic understanding of machine learning and statistics and you program in python this book will get you started with large scale data analysis familiarize yourself with spark s programming model and ecosystem learn general approaches in data science examine complete implementations that analyze large public datasets discover which machine learning tools make sense for particular problems explore code that can be adapted to many uses

unlock the power of big data with mastering apache spark real time big data analytics this comprehensive guide is your ultimate resource for building processing and analyzing large scale data using apache spark the fast flexible and powerful open source framework for big data processing whether you re a data engineer scientist or analyst this book will teach you how to harness spark s real time analytics capabilities to process and analyze massive datasets apache spark is widely used for its speed ease of use and scalability it s the go to solution for building data pipelines running machine learning algorithms and processing streams of real time data in this book you ll learn everything from the fundamentals of spark to advanced techniques for scaling your big data workflows what s inside getting started with apache spark learn the core concepts behind apache spark including spark rdds dataframes and spark sql and how to set up spark on your system or in the cloud real time data processing dive into real time data processing with spark streaming handling live data streams and building real time analytics applications building data pipelines learn how to design and implement scalable data pipelines that can process large volumes of structured and unstructured data data analytics with spark explore how to analyze big data using spark s powerful libraries including spark mllib for machine learning and spark graphx for graph processing optimizing spark performance discover strategies to optimize spark performance including partitioning caching and using the catalyst optimizer for sql queries advanced spark topics get hands on with advanced topics like spark on kubernetes spark integration with hadoop and deploying spark on cloud platforms such as aws and azure batch vs stream processing learn when to use batch processing and when to go for stream processing for different use cases in data analytics use cases and real world applications explore real world use cases for spark in industries like finance healthcare e commerce and iot by the end of this book you ll be equipped with the knowledge and hands on experience to build efficient scalable data pipelines and perform advanced real time big data analytics using apache spark ready to master big data with spark grab your copy now and start

building powerful high performance data solutions that scale with your business needs

get started with distributed computing using pyspark a single unified framework to solve end to end data analytics at scale key featuresdiscover how to convert huge amounts of raw data into meaningful and actionable insightsuse spark s unified analytics engine for end to end analytics from data preparation to predictive analyticsperform data ingestion cleansing and integration for ml data analytics and data visualizationbook description apache spark is a unified data analytics engine designed to process huge volumes of data quickly and efficiently pyspark is apache spark s python language api which offers python developers an easy to use scalable data analytics framework essential pyspark for scalable data analytics starts by exploring the distributed computing paradigm and provides a high level overview of apache spark you ll begin your analytics journey with the data engineering process learning how to perform data ingestion cleansing and integration at scale this book helps you build real time analytics pipelines that help you gain insights faster you ll then discover methods for building cloud based data lakes and explore delta lake which brings reliability to data lakes the book also covers data lakehouse an emerging paradigm which combines the structure and performance of a data warehouse with the scalability of cloud based data lakes later you ll perform scalable data science and machine learning tasks using pyspark such as data preparation feature engineering and model training and productionization finally you ll learn ways to scale out standard python ml libraries along with a new pandas api on top of pyspark called koalas by the end of this pyspark book you ll be able to harness the power of pyspark to solve business problems what you will learnunderstand the role of distributed computing in the world of big datagain an appreciation for apache spark as the de facto go to for big data processingscale out your data analytics process using apache sparkbuild data pipelines using data lakes and perform data visualization with pyspark and spark sqlleverage the cloud to build truly scalable and real time data analytics applicationsexplore the applications of data science

and scalable machine learning with pysparkintegrate your clean and curated data with bi and sql analysis toolswho this book is for this book is for practicing data engineers data scientists data analysts and data enthusiasts who are already using data analytics to explore distributed and scalable data analytics basic to intermediate knowledge of the disciplines of data engineering data science and sql analytics is expected general proficiency in using any programming language especially python and working knowledge of performing data analytics using frameworks such as pandas and sql will help you to get the most out of this book

data in all domains is getting bigger how can you work with it efficiently recently updated for spark 1 3 this book introduces apache spark the open source cluster computing system that makes data analytics fast to write and fast to run with spark you can tackle big datasets quickly through simple apis in python java and scala this edition includes new information on spark sql spark streaming setup and maven coordinates written by the developers of spark this book will have data scientists and engineers up and running in no time you ll learn how to express parallel jobs with just a few lines of code and cover applications from simple batch jobs to stream processing and machine learning quickly dive into spark capabilities such as distributed datasets in memory caching and the interactive shell leverage spark s powerful built in libraries including spark sql spark streaming and mllib use one programming paradigm instead of mixing and matching tools like hive hadoop mahout and storm learn how to deploy interactive batch and streaming applications connect to data sources including hdfs hive json and s3 master advanced topics like data partitioning and shared variables

unlock the power of big data and dive deep into the world of hadoop and spark with this comprehensive guide whether you re a beginner or an experienced data enthusiast this book provides you with all the tools you need to understand implement

and master big data analytics explore the intricacies of apache hadoop and apache spark two of the most powerful frameworks in the industry and learn how to leverage them for real time data processing and analysis inside you will discover an introduction to hadoop and spark their ecosystems and how they work together to handle vast datasets step by step guidance on setting up hadoop and spark environments including real world examples and practical tips in depth coverage of key concepts such as mapreduce hdfs spark rdds and machine learning integration best practices for working with real time data processing and scalable analytics solutions insights on optimizing performance and troubleshooting common issues whether you re looking to boost your career in data science explore the potential of big data analytics or develop high performance data pipelines this book is your go to resource equip yourself with the knowledge to analyze massive datasets and derive meaningful insights using the apache hadoop and spark frameworks why this book is different clear practical instructions for hands on learning real world examples to apply in your projects focus on scalability real time processing and advanced analytics perfect for anyone eager to break into the world of big data start mastering big data with hadoop and spark today

learn the right cutting edge skills and knowledge to leverage spark streaming to implement a wide array of real time streaming applications this book walks you through end to end real time application development using real world applications data and code taking an application first approach each chapter introduces use cases from a specific industry and uses publicly available datasets from that domain to unravel the intricacies of production grade design and implementation the domains covered in pro spark streaming include social media the sharing economy finance online advertising telecommunication and iot in the last few years spark has become synonymous with big data processing dstreams enhance the underlying spark processing engine to support streaming analysis with a novel micro batch processing model pro spark streaming by zubair

nabi will enable you to become a specialist of latency sensitive applications by leveraging the key features of dstreams micro batch processing and functional programming to this end the book includes ready to deploy examples and actual code pro spark streamingwill act as the bible of spark streaming what you ll learn discover spark streaming application development and best practices work with the low level details of discretized streams optimize production grade deployments of spark streaming via configuration recipes and instrumentation using graphite collectd and nagios ingest data from disparate sources including mqtt flume kafka twitter and a custom http receiver integrate and couple with hbase cassandra and redis take advantage of design patterns for side effects and maintaining state across the spark streaming micro batch model implement real time and scalable etl using data frames sparksql hive and sparkr use streaming machine learning predictive analytics and recommendations mesh batch processing with stream processing via the lambda architecture who this book is for data scientists big data experts bi analysts and data architects

learning spark analytics with spark framework this book is an exploration of the spark framework the book begins by explaining what spark is including the people behind its development as well as when it was developed you will also learn where the framework is used the spark shell is very important when it comes to performing some computations with the framework this has been explored in detail and you will be taught how to use it for the purpose of performing an interactive analysis batch processing which is very essential has also been discussed with no detail being left out the book will also guide you on how to use spark on ec2 most of the computations which can be performed under this scenario have been explored and you will learn how to perform them the gce for google and spark have also been explored in detail you will learn how to set up this and then perform the necessary computations the stand alone cluster for spark is discussed in detail the process of streaming in spark is also been explained you will be in a position to use spark for creating streaming programs in

the various programming languages here is a preview of what you ll learn definition spark shell for interactive analysis batch processing in spark spark on ec2 spark on gce spark and stand alone clusters streaming in spark download your copy of learning spark by scrolling up and clicking buy now with 1 click button

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

expert strategies in apache spark comprehensive data processing and advanced analytics is an essential guide for data professionals aiming to master apache spark s sophisticated capabilities building on foundational knowledge this book delves into expert level data processing and advanced analytics techniques it provides detailed insights into spark s core components like rdds dataframes and datasets while also exploring cutting edge features such as mllib for machine learning and graphx for graph processing through comprehensive and practical chapters readers will learn to optimize spark queries

using catalyst and tungsten efficiently handle streaming data manage spark clusters and fine tune performance for complex applications whether you re a data engineer looking to optimize spark deployments or a data scientist aiming to enhance analytical models this book delivers the expert strategies and best practices needed to tackle big data challenges and extract actionable insights at scale unlock your potential in the dynamic world of big data with expert strategies in apache spark comprehensive data processing and advanced analytics harness the full potential of your data with spark s advanced functionalities and transform your data operations into impactful intelligence

build efficient data flow and machine learning programs with this flexible multi functional open source cluster computing framework key featuresmaster the art of real time big data processing and machine learning explore a wide range of use cases to analyze large data discover ways to optimize your work by using many features of spark 2 x and scalabook description apache spark is an in memory cluster based data processing system that provides a wide range of functionalities such as big data processing analytics machine learning and more with this learning path you can take your knowledge of apache spark to the next level by learning how to expand spark s functionality and building your own data flow and machine learning programs on this platform you will work with the different modules in apache spark such as interactive querying with spark sql using dataframes and datasets implementing streaming analytics with spark streaming and applying machine learning and deep learning techniques on spark using mllib and various external tools by the end of this elaborately designed learning path you will have all the knowledge you need to master apache spark and build your own big data processing and analytics pipeline quickly and without any hassle this learning path includes content from the following packt products mastering apache spark 2 x by romeo kienzlerscala and spark for big data analytics by md rezaul karim sridhar allaapache spark 2 x machine learning cookbook by siamak amirghodsi meenakshi rajendran broderick hall shuen meicookbookwhat you

will learnget to grips with all the features of apache spark 2 xperform highly optimized real time big data processing use ml and dl techniques with spark mllib and third party toolsanalyze structured and unstructured data using sparksql and graphxunderstand tuning debugging and monitoring of big data applications build scalable and fault tolerant streaming applications develop scalable recommendation engineswho this book is for if you are an intermediate level spark developer looking to master the advanced capabilities and use cases of apache spark 2 x this learning path is ideal for you big data professionals who want to learn how to integrate and use the features of apache spark and build a strong big data pipeline will also find this learning path useful to grasp the concepts explained in this learning path you must know the fundamentals of apache spark and scala

advanced analytics on your big data with latest apache spark 2 xabout this book an advanced guide with a combination of instructions and practical examples to extend the most up to date spark functionalities extend your data processing capabilities to process huge chunk of data in minimum time using advanced concepts in spark master the art of real time processing with the help of apache spark 2 xwho this book is forif you are a developer with some experience with spark and want to strengthen your knowledge of how to get around in the world of spark then this book is ideal for you basic knowledge of linux hadoop and spark is assumed reasonable knowledge of scala is expected what you will learn examine advanced machine learning and deeplearning with mllib sparkml systemml h2o and deeplearning4j study highly optimised unified batch and real time data processing using sparksql and structured streaming evaluate large scale graph processing and analysis using graphx and graphframes apply apache spark in elastic deployments using jupyter and zeppelin notebooks docker kubernetes and the ibm cloud understand internal details of cost based optimizers used in catalyst systemml and graphframes learn how specific parameter settings affect overall performance of an apache spark cluster leverage scala r and

python for your data science projectsin detailapache spark is an in memory cluster based parallel processing system that provides a wide range of functionalities such as graph processing machine learning stream processing and sql this book aims to take your knowledge of spark to the next level by teaching you how to expand spark s functionality and implement your data flows and machine deep learning programs on top of the platform the book commences with an overview of the spark ecosystem it will introduce you to project tungsten and catalyst two of the major advancements of apache spark 2 x you will understand how memory management and binary processing cache aware computation and code generation are used to speed things up dramatically the book extends to show how to incorporate h20 systemml and deeplearning4j for machine learning and jupyter notebooks and kubernetes docker for cloud based spark during the course of the book you will learn about the latest enhancements to apache spark 2 x such as interactive querying of live data and unifying dataframes and datasets you will also learn about the updates on the apis and how dataframes and datasets affect sql machine learning graph processing and streaming you will learn to use spark as a big data operating system understand how to implement advanced analytics on the new apis and explore how easy it is to use spark in day to day tasks style and approachthis book is an extensive guide to apache spark modules and tools and shows how spark s functionality can be extended for real time processing and storage with worked examples

gain the key language concepts and programming techniques of scala in the context of big data analytics and apache spark the book begins by introducing you to scala and establishes a firm contextual understanding of why you should learn this language how it stands in comparison to java and how scala is related to apache spark for big data analytics next you ll set up the scala environment ready for examining your first scala programs this is followed by sections on scala fundamentals including mutable immutable variables the type hierarchy system control flow expressions and code blocks the author

discusses functions at length and highlights a number of associated concepts such as functional programming and anonymous functions the book then delves deeper into scala s powerful collections system because many of apache spark s apis bear a strong resemblance to scala collections along the way you ll see thedevelopment life cycle of a scala program this involves compiling and building programs using the industry standard scala build tool sbt you ll cover guidelines related to dependency management using sbt as this is critical for building large apache spark applications scala programming for big data analytics concludes by demonstrating how you can make use of the concepts to write programs that run on the apache spark framework these programs will provide distributed and parallel computing which is critical for big data analytics what you will learn see the fundamentals of scala as a general purpose programming language understand functional programming and object oriented programming constructs in scala use scala collections and functions develop package and run apache spark applications for big data analytics who thisbook is for data scientists data analysts and data engineers who intend to use apache spark for large scale analytics div

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