





techniques on a map reduce framework in Hadoop and Spark in Python. This Learning Path will teach you Python machine learning for the real world. The machine learning techniques covered in this Learning Path are at the forefront of commercial practice. This Learning Path combines some of the best that Packt has to offer in one complete, curated package. It includes content from the following Packt products: Python Machine Learning Cookbook by Prateek Joshi Advanced Machine Learning with Python by John Hearty Large Scale Machine Learning with Python by Bastiaan Sjardin, Alberto Boschetti, Luca Massaron

**Style and approach** This course is a smooth learning path that will teach you how to get started with Python machine learning for the real world, and develop solutions to real-world problems. Through this comprehensive course, you'll learn to create the most effective machine learning techniques from scratch and more! Over 90 hands-on recipes to help you learn and master the intricacies of Apache Hadoop 2.X, YARN, Hive, Pig, Oozie, Flume, Sqoop, Apache Spark, and Mahout

**About This Book-** Implement outstanding Machine Learning use cases on your own analytics models and processes.- Solutions to common problems when working with the Hadoop ecosystem.- Step-by-step implementation of end-to-end big data use cases.

**Who This Book Is For** Readers who have a basic knowledge of big data systems and want to advance their knowledge with hands-on recipes.

**What You Will Learn-** Installing and maintaining Hadoop 2.X cluster and its ecosystem.- Write advanced Map Reduce programs and understand design patterns.- Advanced Data Analysis using the Hive, Pig, and Map Reduce programs.- Import and export data from various sources using Sqoop and Flume.- Data storage in various file formats such as Text, Sequential, Parquet, ORC, and RC Files.- Machine learning principles with libraries such as Mahout-Batch and Stream data processing using Apache Spark

**In Detail** Big data is the current requirement. Most organizations produce huge amount of data every day. With the arrival of Hadoop-like tools, it has become easier for everyone to solve big data problems with great efficiency and at minimal cost. Grasping Machine Learning techniques will help you greatly in building predictive models and using this data to make the right decisions for your organization.

**Hadoop Real World Solutions Cookbook** gives readers insights into learning and mastering big data via recipes. The book not only clarifies most big data tools in the market but also provides best practices for using them. The book provides recipes that are based on the latest versions of Apache Hadoop 2.X, YARN, Hive, Pig, Sqoop, Flume, Apache Spark, Mahout and many more such ecosystem tools. This real-world-solution cookbook is packed with handy recipes you can apply to your own everyday issues. Each chapter provides in-depth recipes that can be referenced easily. This book provides detailed practices on the latest technologies such as YARN and Apache Spark. Readers will be able to consider themselves as big data experts on completion of this book.

**This guide is an invaluable tutorial if you are planning to implement a big data warehouse for your business.**

**Style and approach** An easy-to-follow guide that walks you through world of big data. Each

tool in the Hadoop ecosystem is explained in detail and the recipes are placed in such a manner that readers can implement them sequentially. Plenty of reference links are provided for advanced reading.

Use Hadoop to solve business problems by learning from a rich set of real-life case studies

About This Book Solve real-world business problems using Hadoop and other Big Data technologies Build efficient data lakes in Hadoop, and develop systems for various business cases like improving marketing campaigns, fraud detection, and more

Power packed with six case studies to get you going with Hadoop for Business Intelligence Who This Book Is For If you are interested in building efficient business solutions using Hadoop, this is the book for you This book assumes that you have basic knowledge of Hadoop, Java, and any scripting language. What You Will Learn Learn about the evolution of Hadoop as the big data platform Understand the basics of Hadoop architecture Build a 360 degree view of your customer using Sqoop and Hive Build and run classification models on Hadoop using BigML Use Spark and Hadoop to build a fraud detection system Develop a churn detection system using Java and MapReduce Build an IoT-based data collection and visualization system Get to grips with building a Hadoop-based Data Lake for large enterprises Learn about the coexistence of NoSQL and In-Memory databases in the Hadoop ecosystem In Detail If you have a basic understanding of Hadoop and want to put your knowledge to use to build fantastic Big Data solutions for business, then this book is for you. Build six real-life, end-to-end solutions using the tools in the Hadoop ecosystem, and take your knowledge of Hadoop to the next level. Start off by understanding various business problems which can be solved using Hadoop. You will also get acquainted with the common architectural patterns which are used to build Hadoop-based solutions. Build a 360-degree view of the customer by working with different types of data, and build an efficient fraud detection system for a financial institution. You will also develop a system in Hadoop to improve the effectiveness of marketing campaigns. Build a churn detection system for a telecom company, develop an Internet of Things (IoT) system to monitor the environment in a factory, and build a data lake – all making use of the concepts and techniques mentioned in this book. The book covers other technologies and frameworks like Apache Spark, Hive, Sqoop, and more, and how they can be used in conjunction with Hadoop. You will be able to try out the solutions explained in the book and use the knowledge gained to extend them further in your own problem space.

Style and approach This is an example-driven book where each chapter covers a single business problem and describes its solution by explaining the structure of a dataset and tools required to process it. Every project is demonstrated with a step-by-step approach, and explained in a very easy-to-understand manner.

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If you are ready to dive into the MapReduce framework for processing large datasets, this practical book takes you step by step through the algorithms and tools you need to build distributed MapReduce applications with Apache Hadoop or Apache Spark. Each chapter provides a recipe for solving a massive computational problem, such as building a recommendation system. You'll learn how to implement the appropriate MapReduce solution with code that you can use in your projects. Dr. Mahmoud Parsian covers basic design patterns, optimization techniques, and data mining and machine learning solutions for problems in bioinformatics, genomics, statistics, and social

network analysis. This book also includes an overview of MapReduce, Hadoop, and Spark. Topics include: Market basket analysis for a large set of transactions Data mining algorithms (K-means, KNN, and Naive Bayes) Using huge genomic data to sequence DNA and RNA Naive Bayes theorem and Markov chains for data and market prediction Recommendation algorithms and pairwise document similarity Linear regression, Cox regression, and Pearson correlation Allelic frequency and mining DNA Social network analysis (recommendation systems, counting triangles, sentiment analysis)

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Solve all your Spring 5 problems using complete and real-world code examples. When you start a new project, you'll be able to copy the code and configuration files from this book, and then modify them for your needs. This can save you a great deal of work over creating a project from scratch. The recipes in Spring Recipes cover Spring fundamentals such as Spring IoC container, Spring AOP/ AspectJ, and more. Other recipes include Spring enterprise solutions for topics such as Spring Java EE integration, Spring Integration, Spring Batch, Spring Remoting, messaging, transactions, and working with big data and the cloud using Hadoop and MongoDB. Finally, Spring web recipes cover Spring MVC, other dynamic scripting, integration with the popular Grails Framework (and Groovy), REST/web services, and more. You'll also see recipes on new topics such as Spring Framework 5, reactive Spring, Spring 5 microservices, the functional web framework and much more. This book builds upon the best-selling success of the previous editions and focuses on the latest Spring Framework features for building enterprise Java applications. What You'll Learn Get reusable code recipes and snippets for core Spring, annotations and other development tools Access Spring MVC for web development Work with Spring REST and microservices for web services development and integration into your enterprise Java applications Use Spring Batch, NoSQL and big data for building and integrating various cloud computing services and resources Integrate Java Enterprise Edition and other Java APIs for use in Spring Use Grails code and much more Who This Book Is For Experienced Java and Spring programmers.

Over 80 recipes to help you breeze through your data analysis projects using R About This Book\* Analyse your data using the popular R packages like ggplot2 with ready-to-use and customizable recipes\* Find meaningful insights from your data and generate dynamic reports\* A practical guide to help you put your data analysis skills in R to practical use Who This Book Is For This book is for data scientists, analysts and even enthusiasts who want to learn and implement the various data analysis techniques using R in a practical way. Those looking for quick, handy solutions to common tasks and challenges in data analysis will find this book to be very useful. Basic knowledge of statistics and R programming is assumed. What You Will Learn\* Acquire, format and visualize your data using R\* Using R to perform an Exploratory data analysis\* Introduction to machine learning algorithms such as classification and regression\* Get started with social network analysis\* Generate dynamic reporting with Shiny\* Get started with geospatial analysis\* Handling large data with R using Spark and MongoDB\* Build Recommendation system- Collaborative Filtering, Content based and Hybrid\* Learn real world dataset examples- Fraud Detection and Image Recognition In Detail Data analytics with R has emerged as a very important focus for organizations of

all kinds. R enables even those with only an intuitive grasp of the underlying concepts, without a deep mathematical background, to unleash powerful and detailed examinations of their data. This book will show you how you can put your data analysis skills in R to practical use, with recipes catering to the basic as well as advanced data analysis tasks. Right from acquiring your data and preparing it for analysis to the more complex data analysis techniques, the book will show you how you can implement each technique in the best possible manner. You will also visualize your data using the popular R packages like ggplot2 and gain hidden insights from it. Starting with implementing the basic data analysis concepts like handling your data to creating basic plots, you will master the more advanced data analysis techniques like performing cluster analysis, and generating effective analysis reports and visualizations. Throughout the book, you will get to know the common problems and obstacles you might encounter while implementing each of the data analysis techniques in R, with ways to overcoming them in the easiest possible way. By the end of this book, you will have all the knowledge you need to become an expert in data analysis with R, and put your skills to test in real-world scenarios. Style and Approach\* Hands-on recipes to walk through data science challenges using R\* Your one-stop solution for common and not-so-common pain points while performing real-world problems to execute a series of tasks.\* Addressing your common and not-so-common pain points, this is a book that you must have on the shelf

This book constitutes the proceedings of the 4th Conference on Creativity in Intellectual Technologies and Data Science, CIT&DS 2021, held in Volgograd, Russia, in September 2021. The 39 full papers, 7 short papers, and 2 keynote papers presented were carefully reviewed and selected from 182 submissions. The papers are organized in the following topical sections: Artificial intelligence and deep learning technologies; knowledge discovery in patent and open sources; open science semantic technologies; IoT and computer vision in knowledge-based control; Cyber-physical systems and big data-driven control: pro-active modeling in intelligent decision making support; design creativity in CASE/CAI/CAD/PDM; intelligent technologies in urban design and computing; Intelligent technologies in social engineering: data science in social networks analysis and cyber security; educational creativity and game-based learning; intelligent assistive technologies: software design and application.

Create interactive cross-platform reports and dashboards using SQL Server 2016 Reporting Services About This Book Get up to speed with the newly-introduced enhancements and the more advanced query and reporting features Easily access your important data by creating visually appealing dashboards in the Power BI practical recipe Create cross-browser and cross-platform reports using SQL Server 2016 Reporting Services Who This Book Is For This book is for software professionals who develop and implement reporting solutions using Microsoft SQL Server. It is especially relevant for professionals who are software engineers, software architects, DW/BI engineers, and DW/BI architects who perform simple to complex report authoring implementations. This book is also suitable for those who develop software solutions that integrate reporting solutions and are keen to learn about Microsoft SQL Server 2016's features and capabilities. What You Will Learn Key capabilities, architecture, and components of Reporting Services New features that have been added to Reporting Services Design the architecture for reporting solutions Design the

architecture for BI solutions Implement reporting solutions using Reporting Services Improve the performance, availability, and scalability of the reporting solution Enhance reporting solutions with custom programming and improved security In Detail Microsoft SQL Server 2016 Reporting Services comes with many new features. It offers different types of reporting such as Production, Ad-hoc, Dashboard, Mash-up, and Analytical. SQL Server 2016 also has a surfeit of new features including Mobile Reporting, and Power BI integration. This book contains recipes that explore the new and advanced features added to SQL Server 2016. The first few chapters cover recipes on configuring components and how to explore these new features. You'll learn to build your own reporting solution with data tools and report builder, along with learning techniques to create visually appealing reports. This book also has recipes for enhanced mobile reporting solutions, accessing these solutions effectively, and delivering interactive business intelligence solutions. Towards the end of the book, you'll get to grips with running reporting services in SharePoint integrated mode and be able to administer, monitor, and secure your reporting solution. This book covers about the new offerings of Microsoft SQL Server 2016 Reporting Services in comprehensive detail and uses examples of real-world problem-solving business scenarios. Style and approach This comprehensive cookbook follows a problem-solution approach to help you overcome any obstacle when creating interactive, visually-appealing reports using SQL Server 2016 Reporting Services. Each recipe focuses on a specific task and is written in a clear, solution-focused style.

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Over 80 recipes to help you breeze through your data analysis projects using R About This Book Analyse your data using the popular R packages like ggplot2 with ready-to-use and customizable recipes Find meaningful insights from your data and generate dynamic reports A practical guide to help you put your data analysis skills in R to practical use Who This Book Is For This book is for data scientists, analysts and even enthusiasts who want to learn and implement the various data analysis techniques using R in a practical way. Those looking for quick, handy solutions to common tasks and challenges in data analysis will find this book to be very useful. Basic knowledge of statistics and R programming is assumed. What You Will Learn Acquire, format and visualize your data using R Using R to perform an Exploratory data analysis Introduction to machine learning algorithms such as classification and regression Get started with social network analysis Generate dynamic reporting with Shiny Get started with geospatial analysis Handling large data with R using Spark and MongoDB Build Recommendation system- Collaborative Filtering, Content based and Hybrid Learn real world dataset examples- Fraud Detection and Image Recognition In Detail Data analytics with R has emerged as a very important focus for organizations of all kinds. R enables even those with only an intuitive grasp of the underlying concepts, without a deep mathematical background, to unleash powerful and detailed examinations of their data. This book will show you how you can put your data analysis skills in R to practical use, with recipes catering to the basic as well as advanced data analysis tasks. Right from acquiring your data and preparing it for analysis to the more complex data analysis techniques, the book will show you how you can implement each technique in the best possible manner. You will also visualize your data using the popular R packages like



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Over 90 hands-on recipes to help you learn and master the intricacies of Apache Hadoop 2.X, YARN, Hive, Pig, Oozie, Flume, Sqoop, Apache Spark, and Mahout About This Book Implement outstanding Machine Learning use cases on your own analytics models and processes. Solutions to common problems when working with the Hadoop ecosystem. Step-by-step implementation of end-to-end big data use cases. Who This Book Is For Readers who have a basic knowledge of big data systems and want to advance their knowledge with hands-on recipes. What You Will Learn Installing and maintaining Hadoop 2.X cluster and its ecosystem. Write advanced Map Reduce programs and understand design patterns. Advanced Data Analysis using the Hive, Pig, and Map Reduce programs. Import and export data from various sources using Sqoop and Flume. Data storage in various file formats such as Text, Sequential, Parquet, ORC, and RC Files. Machine learning principles with libraries such as Mahout Batch and Stream data processing using Apache Spark In Detail Big data is the current requirement. Most organizations produce huge amount of data every day. With the arrival of Hadoop-like tools, it has become easier for everyone to solve big data problems with great efficiency and at minimal cost. Grasping Machine Learning techniques will help you greatly in building predictive models and using this data to make the right decisions for your organization. Hadoop Real World Solutions Cookbook gives readers insights into learning and mastering big data via recipes. The book not only clarifies most big data tools in the market but also provides best practices for using them. The book provides recipes that are based on the latest versions of Apache Hadoop 2.X, YARN, Hive, Pig, Sqoop, Flume, Apache Spark, Mahout and many more such ecosystem tools. This real-world-solution cookbook is packed with handy recipes you can apply to your own everyday issues. Each chapter provides in-depth recipes that can be referenced easily. This book provides detailed practices on the latest technologies such as YARN and Apache Spark. Readers will be able to consider themselves as big data experts on completion of this book. This guide is an invaluable tutorial if you are planning to implement a big data warehouse for your business. Style and approach An easy-to-follow guide that walks you through world of big data. Each tool in the Hadoop ecosystem is explained in detail and the recipes are placed in such a manner that readers can implement them sequentially. Plenty of reference links are provided for advanced reading.

Over 100 hands-on recipes to effectively solve real-world data problems using the most popular R packages and techniques About This Book Gain insight into how data scientists collect, process, analyze, and visualize data using some of the most popular R packages Understand how to apply useful data analysis techniques in R for real-world applications An easy-to-follow guide to make the life of data scientist easier with the problems faced while performing data analysis Who This Book Is For This book is for those who are already familiar with the basic operation of R, but want to learn how to efficiently and effectively analyze real-

world data problems using practical R packages. What You Will Learn Get to know the functional characteristics of R language Extract, transform, and load data from heterogeneous sources Understand how easily R can confront probability and statistics problems Get simple R instructions to quickly organize and manipulate large datasets Create professional data visualizations and interactive reports Predict user purchase behavior by adopting a classification approach Implement data mining techniques to discover items that are frequently purchased together Group similar text documents by using various clustering methods In Detail This cookbook offers a range of data analysis samples in simple and straightforward R code, providing step-by-step resources and time-saving methods to help you solve data problems efficiently. The first section deals with how to create R functions to avoid the unnecessary duplication of code. You will learn how to prepare, process, and perform sophisticated ETL for heterogeneous data sources with R packages. An example of data manipulation is provided, illustrating how to use the “dplyr” and “data.table” packages to efficiently process larger data structures. We also focus on “ggplot2” and show you how to create advanced figures for data exploration. In addition, you will learn how to build an interactive report using the “ggvis” package. Later chapters offer insight into time series analysis on financial data, while there is detailed information on the hot topic of machine learning, including data classification, regression, clustering, association rule mining, and dimension reduction. By the end of this book, you will understand how to resolve issues and will be able to comfortably offer solutions to problems encountered while performing data analysis. Style and approach This easy-to-follow guide is full of hands-on examples of data analysis with R. Each topic is fully explained beginning with the core concept, followed by step-by-step practical examples, and concluding with detailed explanations of each concept used.

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Realistic, simple code examples to solve problems at scale with Hadoop and related technologies.

Cookbook recipes demonstrate Hadoop in action and then explain the concepts behind the code. This book is ideal for developers who wish to have a better understanding of Hadoop application development and associated tools, and developers who understand Hadoop conceptually but want practical examples of real world applications.

Definitive guide to lightning fast data processing for distributed systems with Apache FlinkAbout This Book\* Build your expertise in processing realtime data with Apache Flink and its ecosystem\* Gain insights into the working of all components of Apache Flink such as FlinkML, Gelly, and Table APIFilled with real world use cases,\* Your guide to take advantage of Apache Flink for solving real world problemsWho This Book Is ForBig data developers who are looking to process batch and real-time data on distributed systems. Basic knowledge of Hadoop and big data is assumed. Reasonable knowledge of Java or Scala is expected.What You Will Learn\* Learn how to build end to end real time analytics projects\* Integrate with existing big data stack and utilize existing infrastructure.\* Build predictive analytics applications using FlinkML\* Use graph library to perform graph querying and search.In DetailWith the advent of massive computer systems, organizations in different domains generate large amounts of data at a realtime basis. The latest entrant to big data processing, Apache Flink, is designed to process continuous streams of data at a lightning fast pace.This book will be your definitive guide to batch and stream data processing with Apache Flink. The book begins with introducing the Apache Flink ecosystem, setting it up and using the DataSet and DataStream API for processing batch and streaming datasets. Bringing the power of SQL to Flink, this book will then explore the Table API for querying and manipulating data. In the latter half of the book, readers will get to learn the remaining ecosystem of Apache Flink to achieve complex tasks such as event processing, machine learning, and graph processing. The final part of the



you will start exploring the third module, Mastering Hadoop. So, now the question is if you need to broaden your Hadoop skill set to the next level after you nail the basics and the advance concepts, then this course is indispensable. When you finish this course, you will be able to tackle the real-world scenarios and become a big data expert using the tools and the knowledge based on the various step-by-step tutorials and recipes. Style and approach This course has covered everything right from the basic concepts of Hadoop till you master the advance mechanisms to become a big data expert. The goal here is to help you learn the basic essentials using the step-by-step tutorials and from there moving toward the recipes with various real-world solutions for you. It covers all the important aspects of Hadoop from system designing and configuring Hadoop, machine learning principles with various libraries with chapters illustrated with code fragments and schematic diagrams. This is a compendious course to explore Hadoop from the basics to the most advanced techniques available in Hadoop 2.X.

Prentice Hall  
C++11  
Bjarne Stroustrup  
C++ Programming Language, Fourth Edition  
C++11  
ISO

## C++11

for move Unicode  
Lambda (variadic template) (template alias)

## Scope

(scope) (storage)  
(modularity) (namespace) (exception handling)  
C++ (class) (template) (generic programming) (container) (iterator) (utility) I/O locale  
(numerics) C++98 C++11 # GOTOP Information Inc.

Discover how to make your business data more interactive and engaging with SAP Lumira About This Book Create a powerful data discovery experience with the advanced capabilities of SAP Lumira Find business insights in your data through data blending, wrangling, transformation, and visualization A fast-paced guide packed with hands-on practical examples, real-world solutions, and best practices to get you started with SAP Lumira Who This Book Is For If you are a SAP user, business analyst, BI developer, or a junior data engineer who wants to use SAP Lumira to build creative visualizations, this book is for you. You should have a reasonable level of knowledge of SAP Business Objects and its components. What You Will Learn Deploy SAP Lumira on your computer and learn more about the SAP Lumira interface Extract data from different sources using SAP Lumira's data connectors Prepare, filter, clean, and format your data Discover visualization techniques and data discovery methods Administrate

and customize SAP Lumira to get basic knowledge of its SDK Create various charts to deliver fantastic data visualizations Connect to SAP BusinessObjects BI Platform and SAP HANA to extract, prepare, and visualize data In Detail SAP Lumira allows you to combine data from multiple sources into a single view and create engaging visualizations quickly and easily. It is a reporting platform that helps users access data and independently perform analysis. With the increasing interest in data discovery, self-service BI, and visualization around the world, tools like SAP Lumira help to eliminate the complexities of analyzing and discovering data. Learn data discovery techniques, build amazing visualizations, create fantastic stories, and share your visualizations through an electronic medium with one of the most powerful tools around—SAP Lumira. You will begin with an overview of the SAP Lumira family of products. You will then go through various data discovery techniques using real-world scenarios of an online e-commerce retailer through detailed recipes on the installation, administration, and customization of SAP Lumira. Next, you will work with data, starting from acquiring data from various data sources, then preparing and visualizing it using the rich functionality of SAP Lumira. Finally, you will present data via a data story or infographic and publish it across your organization or on the World Wide Web. Style and approach This is a step-by-step guide to learning SAP Lumira essentials packed with examples on real-world problems and solutions.

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