

Google App Engine Documentation

Sybex's proven Study Guide format teaches Google Cloud Architect job skills and prepares you for this important new Cloud exam. The Google Cloud Certified Professional Cloud Architect Study Guide is the essential resource for anyone preparing for this highly sought-after, professional-level certification. Clear and accurate chapters cover 100% of exam objectives—helping you gain the knowledge and confidence to succeed on exam day. A pre-book assessment quiz helps you evaluate your skills, while chapter review questions emphasize critical points of learning. Detailed explanations of crucial topics include analyzing and defining technical and business processes, migration planning, and designing storage systems, networks, and compute resources. Written by Dan Sullivan—a well-known author and software architect specializing in analytics, machine learning, and cloud computing—this invaluable study guide includes access to the Sybex interactive online learning environment, which includes complete practice tests, electronic flash cards, a searchable glossary, and more. Providing services suitable for a wide range of applications, particularly in high-growth areas of analytics and machine learning, Google Cloud is rapidly gaining market share in the cloud computing world. Organizations are seeking certified IT professionals with the ability to deploy and operate infrastructure, services, and networks in the Google Cloud. Take your career to the next level by validating your skills and earning certification. Design and plan cloud solution architecture Manage and provision cloud infrastructure Ensure legal compliance and security standards Understand options for implementing hybrid clouds Develop solutions that meet reliability, business, and technical requirements The Google Cloud Certified Professional Cloud Architect Study Guide is a must-have for IT professionals preparing for certification to deploy and manage Google cloud services.

This book provides a short introduction and easy-to-follow implementation steps of deep learning using Google Cloud Platform. It also includes a practical case study that highlights the utilization of Python and related libraries for running a pre-trained deep learning model. In recent years, deep learning-based modeling approaches have been used in a wide variety of engineering domains, such as autonomous cars, intelligent robotics, computer vision, natural language processing, and bioinformatics. Also, numerous real-world engineering applications utilize an existing pre-trained deep learning model that has already been developed and optimized for a related task. However, incorporating a deep learning model in a research project is quite challenging, especially for someone who doesn't have related machine learning and cloud computing knowledge. Keeping that in mind, this book is intended to be a short introduction of deep learning basics through the example of a practical implementation case. The audience of this short book is undergraduate engineering students who wish to explore deep learning models in their class project or senior design project

without having a full journey through the machine learning theories. The case study part at the end also provides a cost-effective and step-by-step approach that can be replicated by others easily.

Build exciting, scalable web applications quickly and confidently using Google App Engine and this book, even if you have little or no experience in programming or web development. App Engine is perhaps the most appealing web technology to appear in the last year, providing an easy-to-use application framework with basic web tools. While Google's own tutorial assumes significant experience, Using Google App Engine will help anyone get started with this platform. By the end of this book, you'll know how to build complete, interactive applications and deploy them to the cloud using the same servers that power Google applications. With this book, you will: Get an overview of the technologies necessary to use Google App Engine Learn how to use Python, HTML, Cascading Style Sheets (CSS), HTTP, and DataStore, App Engine's database Grasp the technical aspects necessary to create sophisticated, dynamic web applications Understand what's required to deploy your applications Using Google App Engine is also an excellent resource for experienced programmers who want to acquire working knowledge of web technologies. Building web applications used to be for experts only, but with Google App Engine-and this book-anyone can create a dynamic web presence.

Google App Engine is one of the key technologies to emerge in recent years to help you build scalable web applications even if you have limited previous experience. If you are a Java programmer, this book offers you a Java approach to beginning Google App Engine. You will explore the runtime environment, front-end technologies like Google Web Toolkit, Adobe Flex, and the datastore behind App Engine. You'll also explore Java support on App Engine from end to end. The journey begins with a look at the Google Plugin for Eclipse and finishes with a working web application that uses Google Web Toolkit, Google Accounts, and Bigtable. Along the way, you'll dig deeply into the services that are available to access the datastore with a focus on Java Data Objects (JDO), JDOQL, and other aspects of Bigtable. With this solid foundation in place, you'll then be ready to tackle some of the more advanced topics like integration with other cloud platforms such as Salesforce.com and Google Wave. NOTE: The source code files which accompanied this title are no longer available. Neither Apress nor the author is able to supply these files.

Get well-versed with FastAPI features and best practices for testing, monitoring, and deployment to run high-quality and robust data science applications Key Features Cover the concepts of the FastAPI framework, including aspects relating to asynchronous programming, type hinting, and dependency injection Develop efficient RESTful APIs for data science with modern Python Build, test, and deploy high performing data science and machine learning systems with FastAPI Book Description FastAPI is a web framework for building APIs with Python 3.6 and its later versions based on standard Python-type hints. With this

book, you'll be able to create fast and reliable data science API backends using practical examples. This book starts with the basics of the FastAPI framework and associated modern Python programming language concepts. You'll be taken through all the aspects of the framework, including its powerful dependency injection system and how you can use it to communicate with databases, implement authentication and integrate machine learning models. Later, you'll cover best practices relating to testing and deployment to run a high-quality and robust application. You'll also be introduced to the extensive ecosystem of Python data science packages. As you progress, you'll learn how to build data science applications in Python using FastAPI. The book also demonstrates how to develop fast and efficient machine learning prediction backends and test them to achieve the best performance. Finally, you'll see how to implement a real-time face detection system using WebSockets and a web browser as a client. By the end of this FastAPI book, you'll have not only learned how to implement Python in data science projects but also how to maintain and design them to meet high programming standards with the help of FastAPI. What you will learn

- Explore the basics of modern Python and async I/O programming
- Get to grips with basic and advanced concepts of the FastAPI framework
- Implement a FastAPI dependency to efficiently run a machine learning model
- Integrate a simple face detection algorithm in a FastAPI backend
- Integrate common Python data science libraries in a web backend
- Deploy a performant and reliable web backend for a data science application

Who this book is for This Python data science book is for data scientists and software developers interested in gaining knowledge of FastAPI and its ecosystem to build data science applications. Basic knowledge of data science and machine learning concepts and how to apply them in Python is recommended.

Discover how Google Cloud services can help you to reduce operational tasks and focus on delivering business value with your applications

Key Features

- Design, develop, and deploy end-to-end cloud-native applications using Google Cloud services
- Prepare for the GCP developer exam with the help of a fictitious business case and a Q&A section
- Get hands-on with implementing code examples of different GCP services in your applications

Book Description

Google Cloud Platform is one of the three major cloud providers in the industry, exhibiting great leadership in application modernization and data management. This book provides a comprehensive introduction for those who are new to cloud development and shows you how to use the tools to create cloud-native applications by integrating the technologies used by Google. The book starts by taking you through the basic programming concepts and security fundamentals necessary for developing in Google Cloud. You'll then discover best practices for developing and deploying applications in the cloud using different components offered by Google Cloud Platform such as Cloud Functions, Google App Engine, Cloud Run, and other GCP technologies. As you advance, you'll learn the basics of cloud storage and choosing the best options for storing different kinds of data

as well as understand what site reliability engineers do. In the last part, you'll work on a sample case study of Hip Local, a community application designed to facilitate communication between people nearby, created by the Google Cloud team. By the end of this guide, you'll have learned how to design, develop, and deploy an end-to-end application on the Google Cloud Platform. What you will learn

Get to grips with the fundamentals of Google Cloud Platform development
Discover security best practices for applications in the cloud
Find ways to create and modernize legacy applications
Understand how to manage data and databases in Google Cloud
Explore best practices for site reliability engineering, monitoring, logging, and debugging
Become well-versed with the practical implementation of GCP with the help of a case study
Who this book is for
This book is for cloud engineers or developers working or starting to work on Google Cloud Platform and looking to take advantage of cloud-native applications. You'll also find this book useful if you are preparing for the GCP developer exam.

The complete guide to developing and deploying fast Google App Engine cloud systems: performance-driven techniques for every Java developer

- * Teaches everything Java programmers need to know to build complex, production quality applications, via a single book-length case study.
- * Introduces a performance-driven approach that also ensures maintainability, and presents practices and principles for improving performance even more
- * For every Java programmer seeking a seamless path to highly-scalable cloud application development.

Cloud computing fundamentally changes the way applications are created and managed. When done right, system administration becomes trivial, and concerns about adequate hardware, capacity planning, or scalability are virtually eliminated. With Google's App Engine, millions of Java developers can quickly begin to develop cost-effective systems to operate in the cloud. However, when Java developers use familiar frameworks and techniques to build these systems, they often encounter surprising, unexpected performance problems. Essential App Engine teaches a start-to-finish approach to performance-driven App Engine development with Java. Through a complete, book-length case study, Java developers master all the concepts and techniques they need, from application design through data storage, task scheduling through security. Coverage includes:

- * Systematically maximizing performance without compromising maintainability -- creating applications that are 10x+ faster on cold startup, and offer quick server response throughout their sessions.
- * Avoiding or minimizing the use of frameworks and libraries that cause performance problems.
- * Improving browser performance through the proper use of HTTP, HTML, CSS, JavaScript, and profiling.
- * Modeling data for App Engine's non-SQL data storage.
- * Ensuring app quality and managing development efficiently, through deployment and beyond.

Learn how to run large-scale, data-intensive workloads with Compute Engine, Google's cloud platform. Written by Google engineers, this tutorial walks you through the details of this Infrastructure as a Service by showing you how to

develop a project with it from beginning to end. You'll learn best practices for using Compute Engine, with a focus on solving practical problems. With programming examples written in Python and JavaScript, you'll also learn how to use Compute Engine with Docker containers and other platforms, frameworks, tools, and services. Discover how this IaaS helps you gain unparalleled performance and scalability with Google's advanced storage and computing technologies. Access and manage Compute Engine resources with a web UI, command-line interface, or RESTful interface Configure, customize, and work with Linux VM instances Explore storage options: persistent disk, Cloud Storage, Cloud SQL (MySQL in the cloud), or Cloud Datastore NoSQL service Use multiple private networks, and multiple instances on each network Build, deploy, and test a simple but comprehensive cloud computing application step-by-step Use Compute Engine with Docker, Node.js, ZeroMQ, Web Starter Kit, AngularJS, WebSocket, and D3.js

How to effectively use BigQuery, avoid common mistakes, and execute sophisticated queries against large datasets Google BigQuery Analytics is the perfect guide for business and data analysts who want the latest tips on running complex queries and writing code to communicate with the BigQuery API. The book uses real-world examples to demonstrate current best practices and techniques, and also explains and demonstrates streaming ingestion, transformation via Hadoop in Google Compute engine, AppEngine datastore integration, and using GViz with Tableau to generate charts of query results. In addition to the mechanics of BigQuery, the book also covers the architecture of the underlying Dremel query engine, providing a thorough understanding that leads to better query results. Features a companion website that includes all code and data sets from the book Uses real-world examples to explain everything analysts need to know to effectively use BigQuery Includes web application examples coded in Python

Make the most of GCP's offerings to manage your data center workload and optimize deployments Key Features Discover new techniques to administer, manage, and deploy applications on GCP Understand effective solutions for storing, retrieving, and deploying your container images Explore various offerings of GCP for operations and security Book Description On-premise data centers are costly to manage. If you need a data center but don't want to deal with a physical one, Google Cloud Platform (GCP) is the solution. With GCP, you can build, test, and deploy applications on Google's infrastructure. Google Cloud Platform Administration begins with GCP fundamentals, with the help of which you will deploy your first app and gain an understanding of Google Cloud architecture and services. Furthermore, you will learn how to manage Compute, networking, and storage resources. As you make your way through the book, you will learn how to track and manage GCP's usage, monitoring, and billing access control. You will also be able to manage your GCP's access and permissions. In the concluding chapters, you will explore a list of different developer tools for managing and interacting with the GCP platform. By the end of this book, you will have learned how to effectively deploy workloads on GCP. What you will learn Understand all GCP Compute components Deploy and manage multiple GCP storage options Manage and utilize the networking resources offered by GCP Explore the functionalities and features of the GCP Container Understand the workings of GCP operations such as monitoring and error reporting Discover an immune GCP using its identity and security options Who this book is for Google Cloud Platform Administration is for administrators, cloud architects, and engineers who want to leverage the upcoming Google Cloud Platform. Some basic understanding of cloud computing will be useful.

As the Web grows and expands into ever more remote parts of the world, the availability of resources over the Internet increases exponentially. Making use of this widely prevalent tool, organizations and individuals can share and store knowledge like never before. *Cloud Technology: Concepts, Methodologies, Tools, and Applications* investigates the latest research in the ubiquitous Web, exploring the use of applications and software that make use of the Internet's anytime, anywhere availability. By bringing together research and ideas from across the globe, this publication will be of use to computer engineers, software developers, and end users in business, education, medicine, and more.

Proceedings of the Fourth International Conference. This book contains papers from the Fourth International Conference on Human Language Technologies the Baltic Perspective Baltic HLT 2010, held in Riga in October 2010. This conference is the latest in a series which provides a forum for sharing recent

The scope of LNCS, including its subseries LNAI and LNBI, spans the whole range of computer science and information technology including interdisciplinary topics in a variety of application fields. --Book Jacket.

If you are a Python developer, whether you have experience in web applications development or not, and want to rapidly deploy a scalable backend service or a modern web application on Google App Engine, then this book is for you.

This book constitutes the refereed proceedings of the 23rd International Conference on Information and Software Technologies, ICIST 2017, held in Druskininkai, Lithuania, in October 2017. The 51 papers presented were carefully reviewed and selected from 135 submissions. The papers are organized in topical sections on information systems; business intelligence for information and software systems; software engineering; information technology applications. Advancements in medical and healthcare technologies pave the way to improving treatments and diagnoses while also streamlining processes to ensure the highest quality care is given to patients. In the last few decades, revolutionary technology has radically progressed the healthcare industry by increasing life expectancy and reducing human error. *Advanced Methodologies and Technologies in Medicine and Healthcare* provides emerging research on bioinformatics, medical ethics, and clinical science in modern applications and settings. While highlighting the challenges medical practitioners and healthcare professionals face when treating patients and striving to optimize their processes, the book shows how revolutionary technologies and methods are vastly improving how healthcare is implemented globally. This book is an important resource for medical researchers, healthcare administrators, doctors, nurses, biomedical engineers, and students looking for comprehensive research on the advancements in healthcare technologies.

Build cost-effective and robust cloud solutions with Google Cloud Platform (GCP) using these simple and practical recipes **Key Features** Explore the various service offerings of the GCP Host a Python application on Google Compute Engine Securely maintain application states with Cloud Storage, Datastore, and Bigtable **Book Description** GCP is a cloud computing platform with a wide range of products and services that enable you to build and deploy cloud-hosted applications. This Learning Path will guide you in using GCP and designing, deploying, and managing applications on Google Cloud. You will get started by learning how to use App Engine to access Google's scalable hosting and build software that runs on this framework. With the help of Google Compute Engine, you'll be able to host your workload on virtual machine instances. The later chapters will help you to explore ways to implement authentication and security, Cloud APIs, and command-line and deployment management. As you hone your

skills, you'll understand how to integrate your new applications with various data solutions on GCP, including Cloud SQL, Bigtable, and Cloud Storage. Following this, the book will teach you how to streamline your workflow with tools, including Source Repositories, Container Builder, and Stackdriver. You'll also understand how to deploy and debug services with IntelliJ, implement continuous delivery pipelines, and configure robust monitoring and alerts for your production systems. By the end of this Learning Path, you'll be well versed with GCP's development tools and be able to develop, deploy, and manage highly scalable and reliable applications. This Learning Path includes content from the following Packt products: Google Cloud Platform for Developers Ted Hunter and Steven Porter Google Cloud Platform Cookbook by Legorie Rajan PS What you will learn Host an application using Google Cloud Functions Migrate a MySQL database to Cloud Spanner Configure a network for a highly available application on GCP Learn simple image processing using Storage and Cloud Functions Automate security checks using Policy Scanner Deploy and run services on App Engine and Container Engine Minimize downtime and mitigate issues with Stackdriver Monitoring and Debugger Integrate with big data solutions, including BigQuery, Dataflow, and Pub/Sub Who this book is for This Learning Path is for IT professionals, engineers, and developers who want to implement Google Cloud in their organizations. Administrators and architects planning to make their organization more efficient with Google Cloud will also find this Learning Path useful. Basic understanding of GCP and its services is a must.

Using the simple, robust, Python-based Django framework, you can build powerful Web solutions with remarkably few lines of code. In Python Web Development with Django®, three experienced Django and Python developers cover all the techniques, tools, and concepts you need to make the most of Django 1.0, including all the major features of the new release. The authors teach Django through in-depth explanations, plus provide extensive sample code supported with images and line-by-line explanations. You'll discover how Django leverages Python's development speed and flexibility to help you solve a wide spectrum of Web development problems and learn Django best practices covered nowhere else. You'll build your first Django application in just minutes and deepen your real-world skills through start-to-finish application projects including Simple Web log (blog) Online photo gallery Simple content management system Ajax-powered live blogger Online source code sharing/syntax highlighting tool How to run your Django applications on the Google App Engine This complete guide starts by introducing Python, Django, and Web development concepts, then dives into the Django framework, providing a deep understanding of its major components (models, views, templates), and how they come together to form complete Web applications. After a discussion of four independent working Django applications, coverage turns to advanced topics, such as caching, extending the template system, syndication, admin customization, and testing. Valuable reference appendices cover using the

command-line, installing and configuring Django, development tools, exploring existing Django applications, the Google App Engine, and how to get more involved with the Django community. Introduction 1 Part I: Getting Started Chapter 1: Practical Python for Django 7 Chapter 2: Django for the Impatient: Building a Blog 57 Chapter 3: Starting Out 77 Part II: Django in Depth Chapter 4: Defining and Using Models 89 Chapter 5: URLs, HTTP Mechanisms, and Views 117 Chapter 6: Templates and Form Processing 135 Part III: Django Applications by Example Chapter 7: Photo Gallery 159 Chapter 8: Content Management System 181 Chapter 9: Liveblog 205 Chapter 10: Pastebin 221 Part IV: Advanced Django Techniques and Features Chapter 11: Advanced Django Programming 235 Chapter 12: Advanced Django Deployment 261 Part V: Appendices Appendix A: Command Line Basics 285 Appendix B: Installing and Running Django 295 Appendix C: Tools for Practical Django Development 313 Appendix D: Finding, Evaluating, and Using Django Applications 321 Appendix E: Django on the Google App Engine 325 Appendix F: Getting Involved in the Django Project 337 Index 339 Colophon 375

Please note that the content of this book primarily consists of articles available from Wikipedia or other free sources online. Pages: 139. Chapters: Google Chrome, YouTube, Google Maps, Gmail, Google Books, Google Street View, List of Google products, Orkut, Chromium, Gmail interface, Satellite map images with missing or unclear data, Google Books Library Project, Apache Wave, AdSense, Google Talk, AdWords, Google Desktop, Google Groups, Google Videos, Google Translate, Google Apps, Google Buzz, Google Translator Toolkit, Google News, Picasa, Google App Engine, Google Docs, Google Web Toolkit, Google Analytics, Google Scholar and academic libraries, Google Answers, Google Calendar, Google Toolbar, Blogger, Sitemaps, Google Image Labeler, Google Code, Gears, Gizmo5, Ad Manager, SketchUp, IGoogle, Vevo, Google Reader, Google Fast Flip, Google Sidewiki, Google Health, Google Map Maker, Google Person Finder, Google Sites, Google Trends, Supplemental Result, Google Pack, Google Apps Script, Google One Pass, History of Google Docs, Jaiku, Google App Inventor, Google eBooks, Google Lively, Google Quick Search Box, Sitemap index, Google Circles, V8, Google Code Search, Google Friend Connect, Chrome Web Store, Google Images, Google Checkout, Dodgeball, Living stories, Google Web Accelerator, Google Notebook, Google Chart API, Google Base, Google Moderator, Google Browser Sync, Google Public DNS, Google Dictionary, Google Personalized Search, Google Questions and Answers, Google Product Search, Google Bookmarks, Google Finance, Google WiFi, Google Alerts, Checker Plus for Google Calendar, Google Real-Time Search, Google Moon, Google Image Swirl, Google Webmaster Tools, Google Cloud Print, Google Current, Google Squared, Google News Archive, Google Offers, Google Mars, Google 3D Warehouse, Google Grants, Google Gadgets, Google Contacts, Google Website Optimizer, Google Insights for Search, Google Labs, Google Data Liberation Front, Google Business Solutions, Google X, ..

Gradle is an open source build automation system that introduces a Groovy-based domain-specific language (DSL) to configure projects. Using Gradle makes it easy for Android developers to manage dependencies and set up the entire build process. This book begins by taking you through the basics of Gradle and how it works with Android Studio. Furthermore, you will learn how to add local and remote dependencies to your project. You will work with build variants, such as debug and release, paid and free, and even combinations of these things. The book will also help you set up unit and integration testing with different libraries and will show how Gradle and Android Studio can make running tests easier. Finally, you will be shown a number of tips and tricks on the advanced customization of your application's build process. By the end of this book, you will be able to customize the entire build process, and create your own tasks and plugins for your Gradle builds.

Develop, deploy, and scale your applications with Google Cloud Platform Key Features Create and deploy your applications on Google Cloud Platform Store and manage source code and debug Cloud-hosted apps with plugins and IDEs Streamline developer workflows with tools for alerting and managing deployments Book Description Google Cloud Platform (GCP) provides autoscaling compute power and distributed in-memory cache, task queues, and datastores to write, build, and deploy Cloud-hosted applications. With Google Cloud Platform for Developers, you will be able to develop and deploy scalable applications from scratch and make them globally available in almost any language. This book will guide you in designing, deploying, and managing applications running on Google Cloud. You'll start with App Engine and move on to work with Container Engine, compute engine, and cloud functions. You'll learn how to integrate your new applications with the various data solutions on GCP, including Cloud SQL, Bigtable, and Cloud Storage. This book will teach you how to streamline your workflow with tools such as Source Repositories, Container Builder, and StackDriver. Along the way, you'll see how to deploy and debug services with IntelliJ, implement continuous delivery pipelines, and configure robust monitoring and alerting for your production systems. By the end of this book, you'll be well-versed with all the development tools of Google Cloud Platform, and you'll develop, deploy, and manage highly scalable and reliable applications. What you will learn Understand the various service offerings on GCP Deploy and run services on managed platforms such as App Engine and Container Engine Securely maintain application states with Cloud Storage, Datastore, and Bigtable Leverage StackDriver monitoring and debugging to minimize downtime and mitigate issues without impacting users Design and implement complex software solutions utilizing Google Cloud Integrate with best-in-class big data solutions such as Bigquery, Dataflow, and Pub/Sub Who this book is for Google Cloud Platform for Developers is for application developers. This book will enable you to fully leverage the power of Google Cloud Platform to build resilient and intelligent software solutions.

This practical guide shows intermediate and advanced web and mobile app developers how to build highly scalable Java applications in the cloud with Google App Engine. The flagship of Google's Cloud Platform, App Engine hosts your app on infrastructure that grows automatically with your traffic, minimizing up-front costs and accommodating unexpected visitors. You'll learn hands-on how to perform common development tasks with App Engine services and development tools, including deployment and maintenance. For Java applications, App Engine provides a J2EE standard servlet container with a complete Java 7 JVM and standard library. Because App Engine supports common Java API standards, your code stays clean and portable. Get a hands-on introduction to App Engine's tools and features, using an example application

Simulate App Engine on your development machine directly from Eclipse

Structure your app into individually addressable modules, each with its own scaling configuration

Exploit the power of the scalable Cloud Datastore, using queries, transactions, and data modeling with JPA

Use Cloud SQL for standard relational databases with App Engine applications

Learn how to deploy, manage, and inspect your application on Google infrastructure

Build rich and collaborative applications using client-side code with React, Redux, and Firebase

Key Features

- 1) A practical guide covering the full stack for web development with React 16 and Firebase
- 2) Leverage the power of Firebase Cloud Storage, messaging, functions, OAuth, and database security to develop serverless web applications.
- 3) Develop high-performance applications without the hassle of setting up complex web infrastructure.

Book Description

ReactJS is a wonderful framework for UI development. Firebase as a backend with React is a great choice as it is easy, powerful, and provides great developer experience. It removes a lot of boilerplate code from your app and allows you to focus on your app to get it out quickly to users. Firebase with React is also a good choice for Most Viable Product (MVP) development. This book provides more practical insights rather than just theoretical concepts and includes basic to advanced examples – from hello world to a real-time seat booking app and Helpdesk application

This book will cover the essentials of Firebase and React.js and will take you on a fast-paced journey through building real-time applications with Firebase features such as Cloud Storage, Cloud Function, Hosting and the Realtime Database. We will learn how to secure our application by using Firebase authentication and database security rules. We will leverage the power of Redux to organize data in the front-end, since Redux attempts to make state mutations predictable by imposing certain restrictions on how and when updates can happen. Towards the end of the book you will have improved your React skills by realizing the potential of Firebase to create real-time serverless web applications. What you will learn

- Install powerful React.js and Firebase tools to make development much more efficient
- Create React components with Firebase to save and retrieve the data in real-time
- Use Firebase Authentication to make your React user interface secure
- Develop React and Firebase applications with

Redux integration
Firebase database security rules
Firebase Cloud Storage Integration to upload and store data on the cloud
Create a complete real-time application with React and firebase
Using Firebase Cloud messaging and Cloud functions with React
Firebase Cloud Storage integration with React
Who this book is for
This book is for JavaScript developers who have some previous knowledge of React and want to develop serverless, full-stack applications but without the hassle of setting up a complex infrastructure.

I introduce the cloud computing fundamentals, architecture of layers, and scientific services on the cloud firstly. Then, I introduce several typical commercial cloud computing platforms, such as Amazon Cloud Computing, Microsoft Azure, and Google Cloud Platform. Lastly, I discuss the scientific cloud computing based on these three commercial cloud computing platforms.

Developing with Google App Engine introduces development with Google App Engine, a platform that provides developers and users with infrastructure Google itself uses to develop and deploy massively scalable applications.
Introduction to concepts
Development with App Engine
Deployment into App Engine

Building Your Next Big Thing with Google Cloud Platform shows you how to take advantage of the Google Cloud Platform technologies to build all kinds of cloud-hosted software and services for both public and private consumption. Whether you need a simple virtual server to run your legacy application or you need to architect a sophisticated high-traffic web application, Cloud Platform provides all the tools and products required to create innovative applications and a robust infrastructure to manage them. Google is known for the scalability, reliability, and efficiency of its various online products, from Google Search to Gmail. And, the results are impressive. Google Search, for example, returns results literally within fractions of second. How is this possible? Google custom-builds both hardware and software, including servers, switches, networks, data centers, the operating system's stack, application frameworks, applications, and APIs. Have you ever imagined what you could build if you were able to tap the same infrastructure that Google uses to create and manage its products? Now you can! Building Your Next Big Thing with Google Cloud Platform shows you how to take advantage of the Google Cloud Platform technologies to build all kinds of cloud-hosted software and services for both public and private consumption. Whether you need a simple virtual server to run your legacy application or you need to architect a sophisticated high-traffic web application, Cloud Platform provides all the tools and products required to create innovative applications and a robust infrastructure to manage them. Using this book as your compass, you can navigate your way through the Google Cloud Platform and turn your ideas into reality. The authors, both Google Developer Experts in Google Cloud Platform, systematically introduce various Cloud Platform products one at a time and discuss their strengths and scenarios where they are a suitable fit. But rather than a manual-like "tell all" approach, the emphasis is on how to Get Things Done so that you get up to speed with Google Cloud Platform as quickly as possible. You will learn how to use the following technologies, among others: Google Compute Engine Google App Engine Google Container Engine Google App Engine Managed VMs Google Cloud SQL Google Cloud Storage Google Cloud Datastore Google BigQuery Google Cloud Dataflow Google Cloud DNS Google Cloud Pub/Sub Google Cloud Endpoints Google Cloud Deployment Manager
Author on Google Cloud Platform
Google APIs and Translate API
Using real-world examples, the authors first walk you through the basics of cloud computing, cloud terminologies and public cloud services. Then they dive right into Google Cloud Platform and how you can use it to tackle your challenges, build new products, analyze big data, and much more. Whether you're an independent developer, startup, or Fortune 500 company, you

have never had easier to access to world-class production, product development, and infrastructure tools. Google Cloud Platform is your ticket to leveraging your skills and knowledge into making reliable, scalable, and efficient products—just like how Google builds its own products.

Many SaaS providers nowadays want to leverage the cloud's capabilities also for their existing applications, for example, to enable sound scalability and cost-effectiveness. This thesis provides the approach CloudMIG that supports SaaS providers to migrate those applications to IaaS and PaaS-based cloud environments. CloudMIG consists of a step-by-step process and focuses on two core components. (1) Restrictions imposed by specific cloud environments (so-called cloud environment constraints (CECs)), such as a limited file system access or forbidden method calls, can be validated by an automatic conformance checking approach. (2) A cloud deployment option (CDO) determines which cloud environment, cloud resource types, deployment architecture, and runtime reconfiguration rules for exploiting a cloud's elasticity should be used. The implied performance and costs can differ in orders of magnitude. CDOs can be automatically optimized with the help of our simulation-based genetic algorithm CDOXplorer. Extensive lab experiments and an experiment in an industrial context show CloudMIG's applicability and the excellent performance of its two core components.

The Web changes how people use content; not just content on the Web, but all content. If your content is not easy to find and immediately helpful, readers will move on almost at once. We are all children of the Web, and we come to any information system, including product documentation, looking for the search box and expecting every search to work like Google. There is no first, last, previous, next, up, or back anymore. Every Page is Page One. In this ground-breaking book, Mark Baker looks beyond the usual advice on writing for the Web, and beyond the idea of topic-based writing merely as an aid to efficiency and reuse, to explore how readers really use information in the age of the Web and to lay out an approach to planning, creating, managing, and organizing topic-based documentation that really works for the reader. The definitive guide to building data-driven Android applications for enterprise systems Android devices represent a rapidly growing share of the mobile device market. With the release of Android 4, they are moving beyond consumer applications into corporate/enterprise use. Developers who want to start building data-driven Android applications that integrate with enterprise systems will learn how with this book. In the tradition of Wrox Professional guides, it thoroughly covers sharing and displaying data, transmitting data to enterprise applications, and much more. Shows Android developers who are not familiar with database development how to design and build data-driven applications for Android devices and integrate them with existing enterprise systems Explores how to collect and store data using SQLite, share data using content providers, and display data using adapters Covers migrating data using various methods and tools; transmitting data to the enterprise using web services; serializing, securing, and synchronizing data Shows how to take advantage of the built-in capabilities of the Android OS to integrate applications into enterprise class systems Enterprise Android prepares any Android developer to start creating data-intensive applications that today's businesses demand.

Beginning Django E-Commerce guides you through producing an e-commerce site using Django, the most popular Python web development framework. Topics covered include how to make a shopping cart, a checkout, and a payment processor; how to make the most of Ajax; and search engine optimization best practices. Throughout the book, you'll take each topic and apply it to build a single example site, and all the while you'll learn the theory behind what you're architecting. Build a fully functional e-commerce site. Learn to architect your site properly to survive in an increasingly competitive online landscape with good search engine optimization techniques. Become versed in the Django web framework and learn how you can put it to use to drastically reduce the amount of work you need to do to get a site up and

running quickly.

Jython is an open source implementation of the high-level, dynamic, object-oriented scripting language Python seamlessly integrated with the Java platform. The predecessor to Jython, JPython, is certified as 100% Pure Java. Jython is freely available for both commercial and noncommercial use and is distributed with source code. Jython is complementary to Java. The Definitive Guide to Jython, written by the official Jython team leads, covers Jython 2.5 (or 2.5.x)—from the basics to more advanced features. This book begins with a brief introduction to the language and then journeys through Jython's different features and uses. The Definitive Guide to Jython is organized for beginners as well as advanced users of the language. The book provides a general overview of the Jython language itself, but it also includes intermediate and advanced topics regarding database, web, and graphical user interface (GUI) applications; Web services/SOA; and integration, concurrency, and parallelism, to name a few.

Use Java and Deeplearning4j to build robust, scalable, and highly accurate AI models from scratch

Key Features

- Install and configure Deeplearning4j to implement deep learning models from scratch
- Explore recipes for developing, training, and fine-tuning your neural network models in Java
- Model neural networks using datasets containing images, text, and time-series data

Book Description

Java is one of the most widely used programming languages in the world. With this book, you will see how to perform deep learning using Deeplearning4j (DL4J) – the most popular Java library for training neural networks efficiently. This book starts by showing you how to install and configure Java and DL4J on your system. You will then gain insights into deep learning basics and use your knowledge to create a deep neural network for binary classification from scratch. As you progress, you will discover how to build a convolutional neural network (CNN) in DL4J, and understand how to construct numeric vectors from text. This deep learning book will also guide you through performing anomaly detection on unsupervised data and help you set up neural networks in distributed systems effectively. In addition to this, you will learn how to import models from Keras and change the configuration in a pre-trained DL4J model. Finally, you will explore benchmarking in DL4J and optimize neural networks for optimal results. By the end of this book, you will have a clear understanding of how you can use DL4J to build robust deep learning applications in Java. What you will learn

- Perform data normalization and wrangling using DL4J
- Build deep neural networks using DL4J
- Implement CNNs to solve image classification problems
- Train autoencoders to solve anomaly detection problems using DL4J
- Perform benchmarking and optimization to improve your model's performance
- Implement reinforcement learning for real-world use cases using RL4J
- Leverage the capabilities of DL4J in distributed systems

Who this book is for

If you are a data scientist, machine learning developer, or a deep learning enthusiast who wants to implement deep learning models in Java, this book is for you. Basic understanding of Java programming as well as some experience with machine learning and neural networks is required to get the most out of this book.

In recent years, cloud computing has gained a significant amount of attention by providing more flexible ways to store applications remotely. With software testing continuing to be an important part of the software engineering life cycle, the emergence of software testing in the cloud has the potential to change the way software testing is performed. *Software Testing in the Cloud: Perspectives on an Emerging Discipline* is a comprehensive collection of research by leading experts in the field providing an overview of cloud computing and current issues in software testing and system migration. Deserving the attention of researchers, practitioners, and managers, this book aims to raise awareness about this new field of study.

Build robust and highly scalable web applications with Google App Engine About This Book Get an in-depth look at how Google App Engine works under the hood Design and model your application around Google's highly scalable distributed NoSQL datastore to unlock its full potential A comprehensive guide to ensure your mastery of Google App Engine Who This Book Is For If you have been developing web applications in Python or any other dynamic language but have always wondered how to write highly scalable web applications without getting into system administration and other plumbing, then this is the book for you. No experience in writing scalable applications is required. What You Will Learn Scale and develop your applications with Google App Engine's runtime environment Get to grips with request handling mechanism and write request handlers Deep dive into Google's distributed NoSQL and highly scalable datastore and design your application around it Implement powerful search with scalable datastore Perform long-running tasks in the background using task queues Write compartmentalized apps using multi tenancy, memcache, and other Google App Engine runtime services Handle web requests using the CGI, WSGI, and multi-threaded configurations Deploy, tweak, and manage apps in production on Google App Engine In Detail Developing web applications that serve millions of users is no easy task, as it involves a number of configurations and administrative tasks for the underlying software and hardware stack. This whole configuration requires not only expertise, but also a fair amount of time as well. Time that could have been spent on actual application functionality. Google App Engine allows you develop highly scalable web applications or backends for mobile applications without worrying about the system administration plumbing or hardware provisioning issues. Just focus writing on your business logic, the meat of the application, and let Google's powerful infrastructure scale it to thousands of requests per second and millions of users without any effort on your part. This book takes you from explaining how scalable applications work to designing and developing robust scalable web applications of your own, utilizing services available on Google App Engine. Starting with a walkthrough of scalability is and how scalable web applications work, this book introduces you to the environment under which your applications exist on Google App Engine. Next, you will learn about Google's datastore, which is a massively scalable distributed NoSQL solution built on top of BigTable. You will examine the BigTable concepts and operations in detail and reveal how it is used to build Google datastore. Armed with this knowledge, you will then advance towards how to best model your data and query that along with transactions. To augment the powerful distributed dataset, you will deep dive into search functionality offered on Google App Engine. With the search and storage sorted out, you will get a look into performing long running tasks in the background using Google App Engine task queues along with sending and receiving emails. You will also examine the memcache to boost web application performance, image processing for common image manipulation tasks. You will then explore uploading, storing, and serving

large files using Blobstore and Cloud storage. Finally, you will be presented with the deployment and monitoring of your applications in production along with a detailed look at dividing applications into different working modules. Style and approach This book is an in-depth guide where you will examine the problems in the context of highly scalable web applications. This book will take you through the libraries, services, and required configuration and finally puts everything together into a small web application that showcases all the capabilities of Google App Engine.

Google App Engine makes it easy to create a web application that can serve millions of people as easily as serving hundreds, with minimal up-front investment. With *Programming Google App Engine*, Google engineer Dan Sanderson provides practical guidance for designing and developing your application on Google's vast infrastructure, using App Engine's scalable services and simple development model. Through clear and concise instructions, you'll learn how to get the most out of App Engine's nearly unlimited computing power. This second edition is fully updated and expanded to cover Python 2.7 and Java 6 support, multithreading, asynchronous service APIs, and the use of frameworks such as Django 1.3 and webapp2. Understand how App Engine handles web requests and executes application code Learn about new datastore features for queries and indexes, transactions, and data modeling Create, manipulate, and serve large data files with the Blobstore Use task queues to parallelize and distribute computation across the infrastructure Employ scalable services for email, instant messaging, and communicating with web services Track resource consumption, and optimize your application for speed and cost effectiveness

This practical guide shows intermediate and advanced web and mobile app developers how to build highly scalable Python applications in the cloud with Google App Engine. The flagship of Google's Cloud Platform, App Engine hosts your app on infrastructure that grows automatically with your traffic, minimizing up-front costs and accommodating unexpected visitors. You'll learn hands-on how to perform common development tasks with App Engine services and development tools, including deployment and maintenance. App Engine's Python support includes a fast Python 2.7 interpreter, the standard library, and a WSGI-based runtime environment. Choose from many popular web application frameworks, including Django and Flask. Get a hands-on introduction to App Engine's tools and features, using an example application Simulate App Engine on your development machine with tools from Google Cloud SDK Structure your app into individually addressable modules, each with its own scaling configuration Exploit the power of the scalable Cloud Datastore, using queries, transactions, and data modeling with the `ndb` library Use Cloud SQL for standard relational databases with App Engine applications Learn how to deploy, manage, and inspect your application on Google infrastructure

Achieve your infrastructure goals and optimize business processes by designing

robust, highly available, and dynamic solutions

Key Features

- Gain hands-on experience in designing and managing high-performance cloud solutions
- Leverage Google Cloud Platform to optimize technical and business processes using cutting-edge technologies and services
- Use Google Cloud Big Data, AI, and ML services to design scalable and intelligent data solutions

Book Description

Google has been one of the top players in the public cloud domain thanks to its agility and performance capabilities. This book will help you design, develop, and manage robust, secure, and dynamic solutions to successfully meet your business needs. You'll learn how to plan and design network, compute, storage, and big data systems that incorporate security and compliance from the ground up. The chapters will cover simple to complex use cases for devising solutions to business problems, before focusing on how to leverage Google Cloud's Platform-as-a-Service (PaaS) and Software-as-a-Service (SaaS) capabilities for designing modern no-operations platforms. Throughout this book, you'll discover how to design for scalability, resiliency, and high availability. Later, you'll find out how to use Google Cloud to design modern applications using microservices architecture, automation, and Infrastructure-as-Code (IaC) practices. The concluding chapters then demonstrate how to apply machine learning and artificial intelligence (AI) to derive insights from your data. Finally, you will discover best practices for operating and monitoring your cloud solutions, as well as performing troubleshooting and quality assurance. By the end of this Google Cloud book, you'll be able to design robust enterprise-grade solutions using Google Cloud Platform.

What you will learn

- Get to grips with compute, storage, networking, data analytics, and pricing
- Discover delivery models such as IaaS, PaaS, and SaaS
- Explore the underlying technologies and economics of cloud computing
- Design for scalability, business continuity, observability, and resiliency
- Secure Google Cloud solutions and ensure compliance
- Understand operational best practices and learn how to architect a monitoring solution
- Gain insights into modern application design with Google Cloud
- Leverage big data, machine learning, and AI with Google Cloud

Who this book is for

This book is for cloud architects who are responsible for designing and managing cloud solutions with GCP. You'll also find the book useful if you're a system engineer or enterprise architect looking to learn how to design solutions with Google Cloud. Moreover, cloud architects who already have experience with other cloud providers and are now beginning to work with Google Cloud will benefit from the book. Although an intermediate-level understanding of cloud computing and distributed apps is required, prior experience of working in the public and hybrid cloud domain is not mandatory.

Summary

Google Cloud Platform in Action teaches you to build and launch applications that scale, leveraging the many services on GCP to move faster than ever. You'll learn how to choose exactly the services that best suit your needs, and you'll be able to build applications that run on Google Cloud Platform and start more quickly, suffer fewer disasters, and require less maintenance.

Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the Technology Thousands of developers worldwide trust Google Cloud Platform, and for good reason. With GCP, you can host your applications on the same infrastructure that powers Search, Maps, and the other Google tools you use daily. You get rock-solid reliability, an incredible array of prebuilt services, and a cost-effective, pay-only-for-what-you-use model. This book gets you started. About the Book Google Cloud Platform in Action teaches you how to deploy scalable cloud applications on GCP. Author and Google software engineer JJ Geewax is your guide as you try everything from hosting a simple WordPress web app to commanding cloud-based AI services for computer vision and natural language processing. Along the way, you'll discover how to maximize cloud-based data storage, roll out serverless applications with Cloud Functions, and manage containers with Kubernetes. Broad, deep, and complete, this authoritative book has everything you need. What's inside The many varieties of cloud storage and computing How to make cost-effective choices Hands-on code examples Cloud-based machine learning About the Reader Written for intermediate developers. No prior cloud or GCP experience required. About the Author JJ Geewax is a software engineer at Google, focusing on Google Cloud Platform and API design. Table of Contents PART 1 - GETTING STARTED What is "cloud"? Trying it out: deploying WordPress on Google Cloud The cloud data center PART 2 - STORAGE Cloud SQL: managed relational storage Cloud Datastore: document storage Cloud Spanner: large-scale SQL Cloud Bigtable: large-scale structured data Cloud Storage: object storage PART 3 - COMPUTING Compute Engine: virtual machines Kubernetes Engine: managed Kubernetes clusters App Engine: fully managed applications Cloud Functions: serverless applications Cloud DNS: managed DNS hosting PART 4 - MACHINE LEARNING Cloud Vision: image recognition Cloud Natural Language: text analysis Cloud Speech: audio-to-text conversion Cloud Translation: multilanguage machine translation Cloud Machine Learning Engine: managed machine learning PART 5 - DATA PROCESSING AND ANALYTICS BigQuery: highly scalable data warehouse Cloud Dataflow: large-scale data processing Cloud Pub/Sub: managed event publishing

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