

## Building Scalable Web Sites Building Scaling and

Data is at the center of many challenges in system design today. Difficult issues need to be figured out, such as scalability, consistency, reliability, efficiency, and maintainability. In addition, we have an overwhelming variety of tools, including relational databases, NoSQL datastores, stream or batch processors, and message brokers. What are the right choices for your application? How do you make sense of all these buzzwords? In this practical and comprehensive guide, author Martin Kleppmann helps you navigate this diverse landscape by examining the pros and cons of various technologies for processing and storing data. Software keeps changing, but the fundamental principles remain the same. With this book, software engineers and architects will learn how to apply those ideas in practice, and how to make full use of data in modern applications. Peer under the hood of the systems you already use, and learn how to use and operate them more effectively Make informed decisions by identifying the strengths and weaknesses of different tools Navigate the trade-offs around consistency, scalability, fault tolerance, and complexity Understand the distributed systems research on which modern databases are built Peek behind the scenes of major services, and learn from their architectures

This is the book for Gophers who want to learn how to build distributed systems. You know the basics of Go and are eager to put your knowledge to work. Build distributed services that are highly available, resilient, and scalable. This book is just what you need to apply Go to real-world situations. Level up your engineering skills today. Take your Go skills to the next level by learning how to design, develop, and deploy a distributed service. Start from the bare essentials of storage handling, then work your way through understanding a client and server, and finally to distributing server instances, deployment, and testing. All this will make coding in your day job or side projects easier, faster, and more fun. Create your own distributed services and contribute to open source projects. Build networked, secure clients and servers with gRPC. Gain insights into your systems and debug issues with observable services instrumented with metrics, logs, and traces. Operate your own Certificate Authority to authenticate internal web services with TLS. Automatically handle when nodes are added or removed to your cluster with service discovery. Coordinate distributed systems with replicated state machines powered by the Raft consensus algorithm. Lay out your applications and libraries to be modular and easy to maintain. Write CLIs to configure and run your applications. Run your distributed system locally and deploy to the cloud with Kubernetes. Test and benchmark your applications to ensure they're correct and fast. Dive into writing Go and join the hundreds of thousands who are using it to build software for the real world. What You Need: Go 1.13+ and Kubernetes 1.16+

Learn how to build a wide range of scalable real-world web applications using a professional development toolkit. If you already know the basics of Node.js, now is the time to discover how to bring it to production level by leveraging its vast ecosystem of packages.With this book, you'll work with a varied collection of standards and frameworks and see how all those pieces fit together. Practical Node.js takes you from installing all the necessary modules to writing full-stack web applications. You'll harness the power of the Express.js and Hapi frameworks, the MongoDB database with Mongoose and Mongooseto build data from the mongo database and learn from their architectures

You'll also work with Pug and Handlebars template engines, Stylus and LESS CSS languages, OAuth and Everyauth libraries, and the Socket.IO and Derby libraries, and everything in between. This exciting second edition is fully updated for ES6/ES2015 and also covers how to deploy to Heroku and AWS, daemonize apps, and write REST APIs. You'll build full-stack real-world Node.js apps from scratch, and also discover how to write your own Node.js modules and publish them on NPM. You already know what Node.js is; now learn what you can do with it and how far you can take it! What You'll Learn How to build a full-stack application Use the Mongoose and MongoDB libraries Build REST API servers with Express and Hapi Deploy apps to Heroku and AWS Test services with Mocha, Expect and TravisCI Utilize sessions for authentication Implement a third-party OAuth strategy with Everyauth Apply Redis, domains, WebSockets, and clusters Write your own Node.js module, and publish it on NPM Who This Book Is For Web developers who have some familiarity with the basics of Node.js and want to learn how to use it to build apps in a professional environment. As one of today's cloud computing services, Google App Engine does more than provide access to a large system of servers. It also offers you a simple model for building applications that scale automatically to accommodate millions of users. With Programming Google App Engine, you'll get expert practical guidance that will help you make the best use of this powerful platform. Google engineer Dan Sanderson shows you how to design your applications for scalability, including ways to perform common development tasks using App Engine's APIs and scalable services. You'll learn about App Engine's application server architecture, runtime environments, and scalable datastore for distributing data, as well as techniques for optimizing your application. App Engine offers nearly unlimited computing power, and this book provides clear and concise instructions for getting the most from it right from the source. Discover the differences between traditional web development and development with App Engine Learn the details of App Engine's Python and Java runtime environments Understand how App Engine handles web requests and executes application code Learn how to use App Engine's scalable datastore, including queries and indexes, transactions, and data modeling Use task queues to parallelize and distribute work across the infrastructure Deploy and manage applications with ease APIs are transforming the business world at an increasing pace. Gain the essential skills needed to quickly design, build, and deploy quality web APIs that are robust, reliable, and resilient. Go from initial design through prototyping and implementation to deployment of mission-critical APIs for your organization. Test, secure, and deploy your API with confidence and avoid the "release into production" panic. Tackle just about any API challenge with more than a dozen open-source utilities and common programming patterns you can apply right away. Good API design means starting with the API-First principle - understanding who is using the API and what they want to do with it - and applying basic design skills to match customers' needs while solving business-critical problems. Use the Sketch-Design-Build method to create reliable and scalable web APIs quickly and easily without a lot of risk to the day-to-day business operations. Create clear sequence diagrams, accurate specifications, and machine-readable API descriptions all reviewed, tested, and ready to turn into fully-functional NodeJS code. Create reliable test collections with Postman and implement proper identity and access control security with Auth0- without added cost or delay to the company. Deploy all of this to Heroku using a continuous delivery approach that pushes secure, well-tested code to your public servers ready for use by both internal and external developers. From design to code to test and deployment, unlock hidden business value and release stable and scalable web APIs that meet customer needs and solve important business problems in a consistent and reliable manner.

Building Scalable Web Apps and RESTful Services Building the Web of Things Practical Go Designing Data-Intensive Applications A Modern Blueprint for Scalable and Sustainable Websites Building Scalable Network and Non-Network Applications Summary A hands-on guide that will teach how to design and implement scalable, flexible, and open IoT solutions using web technologies. This book focuses on providing the right balance of theory, code samples, and practical examples to enable you to successfully connect all sorts of devices to the web and to expose their services and data over REST APIs. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the Technology Because the Internet of Things is still new, there is no universal application protocol. Fortunately, the IoT can take advantage of the web, where IoT protocols connect applications thanks to universal and open APIs. About the Book Building the Web of Things is a guide to using cutting-edge web technologies to build the IoT. This step-by-step book teaches you how to use web protocols to connect real-world devices to the web, including the Semantic and Social Webs. Along the way you'll gain vital concepts as you follow instructions for making Web of Things devices. By the end, you'll have the practical skills you need to implement your own web-connected products and services. What's Inside Introduction to IoT protocols and devices Connect electronic actuators and sensors (GPIO) to a Raspberry Pi Implement standard REST and Pub/Sub APIs with Node.js in embedded systems Learn about IoT protocols like MQTT and CoAP and integrate them to the Web of Things Use the Semantic Web (JSON-LD, RDFa, etc.) to discover and find Web Things Share Things via Social Networks to create the Social Web of Things Build a web-based smart home with HTTP and WebSocket Compose physical mashups with EVERYTHING, Node-RED, and IFTTT About the Reader For both seasoned programmers and those with only basic programming skills. About the Authors Dominique Guinard and Vlad Trifa pioneered the Web of Things and cofounded EVERYTHING, a large-scale IoT cloud powering billions of Web Things. Table of Contents PART 1 BASICS OF THE IOT AND THE WOT From the Internet of Things to the Web of Things Hello, World Wide Web of Things Node.js for the Web of Things Getting started with embedded systems Building networks of Things PART 2 BUILDING THE WOT Access: Web APIs for Things Implementing Web Things Find: Describe and discover Web Things Share: Securing and sharing Web Things Building Scalable Web Sites O'Reilly Media, Inc. "

Imagine what a large-scale web project would look like if frontend development were not treated as an add-on, but as an equal partner with backend development and content strategy. This practical book takes experienced web developers through the new discipline of frontend architecture, including the latest tools, standards, and best practices that have elevated frontend web development to an entirely new level. Using real-world examples, case studies, and practical tips and tricks throughout, author Micah Godbolt introduces you to the four pillars of frontend architecture. He also provides compelling arguments for developers who want to embrace the mantle of frontend architect and fight to make it a first-class citizen in their next project. The four pillars include: Code: how to approach the HTML, CSS, and JavaScript of a design system Process: tools and processes for creating an efficient and error-proof workflow Testing: creating a stable foundation on which to build your site Documentation: tools for writing documentation while the work is in progress

50 Powerful, Easy-to-Use Rules for Supporting Hypergrowth in Any Environment Scalability Rules is the easy-to-use scalability primer and reference for every architect, developer, web professional, and manager. Authors Martin L. Abbott and Michael T. Fisher have helped scale more than 200 hypergrowth Internet sites through their consulting practice. Now, drawing on their unsurpassed experience, they present 50 clear, proven scalability rules—and practical guidance for applying them. Abbott and Fisher transform scalability from a "black art" to a set of realistic, technology-agnostic best practices for supporting hypergrowth in nearly any environment, including both frontend and backend systems. For architects, they offer powerful new insights for creating and evaluating designs. For developers, they share specific techniques for handling everything from databases to state. For managers, they provide invaluable help in goal-setting, decision-making, and interacting with technical teams. Whatever your role, you'll find practical risk/benefit guidance for setting priorities—and getting maximum "bang for the buck." • Simplifying architectures and avoiding "over-engineering" • Scaling via cloning, replication, separating functionality, and spitting data sets • Scaling out, not up • Creating more out of databases without compromising scalability • Avoiding unnecessary redirects and redundant double-checking • Using caches and content delivery networks more aggressively, without introducing unacceptable complexity • Designing for fault tolerance, graceful failure, and easy rollback • Striving for statelessness when you can; efficiently handling state when you must • Effectively utilizing asynchronous communication • Learning quickly from mistakes, and much more

This book is the "Hello, World" tutorial for building products, technologies, and teams in a startup environment. It's based on the experiences of the author, Yevgeniy (Jim) Brikman, as well as interviews with programmers from some of the most successful startups of the last decade, including Google, Facebook, LinkedIn, Twitter, GitHub, Stripe, Instagram, AdMob, Pinterest, and many others. Hello, Startup is a practical, how-to guide that consists of three parts: Products, Technologies, and Teams. Although at its core, this is a book for programmers, by programmers, only Part II (Technologies) is significantly technical, while the rest should be accessible to technical and non-technical audiences alike. If you're at all interested in startups—whether you're a programmer at the beginning of your career, a seasoned developer bored with large company politics, or a manager looking to motivate your engineers—this book is for you.

Web Database Applications with PHP and MySQL

Working with REST and Web Sockets on Yaws

Web Scalability for Startup Engineers

The Big Ideas Behind Reliable, Scalable, and Maintainable Systems

Build and Run Scalable Web Apps on Google's Infrastructure

Scalable Web Architecture, Processes, and Organizations for the Modern Enterprise

**The Comprehensive, Proven Approach to IT Scalability—Updated with New Strategies, Technologies, and Case Studies In The Art of Scalability, Second Edition, leading scalability consultants Martin L. Abbott and Michael T. Fisher cover everything you need to know to smoothly scale products and services for any requirement. This extensively revised edition reflects new technologies, strategies, and lessons, as well as new case studies from the authors' pioneering consulting practice, AKF Partners. Writing for technical and nontechnical decision-makers, Abbott and Fisher cover everything that impacts scalability, including architecture, process, people, organization, and technology. Their insights and recommendations reflect more than thirty years of experience at companies ranging from eBay to Visa, and Salesforce.com to Apple. You'll find updated strategies for structuring organizations to maximize agility and scalability, as well as new insights into the cloud (IaaS/PaaS) transition, NoSQL, DevOps, business metrics, and more. Using this guide's tools and advice, you can systematically clear away obstacles to scalability—and achieve unprecedented IT and business performance. Coverage includes • Why scalability problems start with organizations and people, not technology, and what to do about it • Actionable lessons from real successes and failures • Staffing, structuring, and leading the agile, scalable organization • Scaling processes for hyper-growth environments • Architecting scalability: proprietary models for clarifying needs and making choices—including 15 key success principles • Emerging technologies and challenges: data cost, datacenter planning, cloud evolution, and customer-aligned monitoring • Measuring availability, capacity, load, and performance**

**Ultra-Fast ASP.NET 4.5 presents a practical approach to building fast and scalable web sites using ASP.NET and SQL Server. In addition to a wealth of tips, tricks and secrets, you'll find advice and code examples for all tiers of your application, including the client, caching, IIS 7.5, ASP.NET 4.5, threads, session state, SQL Server 2012 (otherwise known as Denali), Analysis Services, infrastructure and operations. By applying author Rick Kiessig's ultra-fast approach to your projects, you'll squeeze every last ounce of performance out of your code and infrastructure—giving your site unrivaled speed. Rather than drowning you in options, Ultra-Fast ASP.NET 4.5 presents and explains specific high-impact recommendations and demonstrates them with detailed examples. Using this knowledge, you will soon be building high-performance web sites that scale easily as your site grows. Apply the key principles that will help you build Ultra-Fast and Ultra-Scalable web sites. Identify performance traps (such as with session state) and learn how to avoid them. Put into practice an end-to-end systems-based approach to web site performance and scalability, which includes everything from the browser and the network to caching, back-end operations, hardware infrastructure, and your software development process.**

**Architecting High Performing, Scalable and Available Enterprise Web Applications provides in-depth insights into techniques for achieving desired scalability, availability and performance quality goals for enterprise web applications. The book provides an integrated 360-degree view of achieving and maintaining these attributes through practical, proven patterns, novel models, best practices, performance strategies, and continuous improvement methodologies and case studies. The author shares his years of experience in application security, enterprise application testing, caching techniques, production operations and maintenance, and efficient project management techniques. Delivers holistic view of scalability, availability and security, caching, testing and project management Includes patterns and frameworks that are illustrated with end-to-end case studies Offers tips and troubleshooting methods for enterprise application testing, security, caching, production operations and project management Exploration of synergies between techniques and methodologies to achieve end-to-end availability, scalability, performance and security quality attributes 360-degree viewpoint approach for achieving overall quality Practitioner viewpoint on proven patterns, techniques, methodologies, models and best practices. Bulleted summary and tabular representation of concepts for effective understanding Production operations and troubleshooting tips**

Combines language tutorials with application design advice to cover the PHP server-side scripting language and the MySQL database engine.

This invaluable roadmap for startup engineers reveals how to successfully handle web application scalability challenges to meet increasing product and traffic demands. Web Scalability for Startup Engineers shows engineers working at startups and small companies how to plan and implement a comprehensive scalability strategy. It presents broad and holistic view of infrastructure and architecture of a scalable web application. Successful startups often face the challenge of scalability, and the core concepts driving a scalable architecture are language and platform agnostic. The book covers scalability of HTTP-based systems (websites, REST APIs, SaaS, and mobile application backends), starting with a high-level perspective before taking a deep dive into common challenges and issues. This approach builds a holistic view of the problem, helping you see the big picture, and then introduces different technologies and best practices for solving the problem at hand. The book is enriched with the author's real-world experience and expert advice, saving you precious time and effort by learning from others' mistakes and successes. Language-agnostic approach addresses universally challenging concepts in Web development/scalability—does not require knowledge of a particular language Fills the gap for engineers in startups and smaller companies who have limited means for getting to the next level in terms of accomplishing scalability Strategies presented help to decrease time to market and increase the efficiency of web applications

The Art of Scalability

Building Scalable PHP Web Applications Using the Cloud

Web Development with Go

Building, Scaling, and Optimizing the Next Generation of Web Applications

Building Serverless Web Applications

Programming Google App Engine

Scaling Java enterprise applications beyond just programming techniques—this is the next level. This volume covers all the technologies Java developers need to build scalable, high-performance Web applications. The book also covers servlet-based session management, EJB application logic, database design and integration, and more.

In the race to compete in today's fast-moving markets, large enterprises are busy adopting new technologies for creating new products, processes, and business models. But one obstacle on the road to digital transformation is placing too much emphasis on technology, and not enough on the types of processes technology enables. What if different lines of business could build their own services and applications—and decision-making was distributed rather than centralized? This report explores the concept of a digital business platform as a way of empowering individual business sectors to act on data in real time. Much innovation in a digital enterprise will increasingly happen at the edge, whether it involves business users (from marketers to data scientists) or IoT devices. To facilitate the process, your core IT team can provide these sectors with the digital tools they need to innovate quickly. This report explores: Key cultural and organizational changes for developing business capabilities through cross-functional product teams A platform for integrating applications, data sources, business partners, clients, mobile apps, social networks, and IoT devices Creating internal API programs for building innovative edge services in low-code or no-code environments Tools including Integration Platform as a Service, Application Platform as a Service, and Integration Software as a Service The challenge of integrating microservices and serverless architectures Event-driven architectures for processing and reacting to events in real time You'll also learn about a complete pervasive integration solution as a core component of a digital business platform to serve every audience in your organization.

While there is a lot of appreciation for backend and distributed systems challenges, there tends to be less empathy for why mobile development is hard when done at scale. This book collects challenges engineers face when building iOS and Android apps at scale, and common ways to tackle these. By scale, we mean having numbers of users in the millions and being built by large engineering teams. For mobile engineers, this book is a blueprint for modern app engineering approaches. For non-mobile engineers and managers, it is a resource with which to build empathy and appreciation for the complexity of world-class mobile engineering. The book covers iOS and Android mobile app challenges on these dimensions: Challenges due to the unique nature of mobile applications compared to the web, and to the backend. App complexity challenges. How do you deal with increasingly complicated navigation patterns? What about non-deterministic event combinations? How do you localize across several languages, and how do you scale your automated and manual tests? Challenges due to large engineering teams. The larger the mobile team, the more challenging it becomes to ensure a consistent architecture. If your company builds multiple apps, how do you balance not rewriting everything from scratch while moving at a fast pace, over waiting on "centralized" teams? Cross-platform approaches. The tooling to build mobile apps keeps changing. New languages, frameworks, and approaches that all promise to address the pain points of mobile engineering keep appearing. But which approach should you choose? Flutter, React Native, Cordova? Native apps? Reuse business logic written in Kotlin, C#, C++ or other languages? What engineering approaches do "world-class" mobile engineering teams choose in non-functional aspects like code quality, compliance, privacy, compliance, or with experimentation, performance, or app size? Eliminate the guesswork involved in writing and deploying a cloud application. This step-by-step guide uses PHP to minimize the complexity of the code and setup, but the tools and techniques can be applied on any platform using any language. Everything that you need to jumpstart your application on the cloud is right here. Clear diagrams, step-by-step configuration information, and complete code listings tell you everything you need to get off the ground and start developing your cloud application today. This book introduces several cloud architectures and technologies that will help you accelerate your application in the cloud. Chapters cover load-balanced clusters, database replication, caching configuration, content delivery networks, infinite-scale file storage, and cloud system administration. Cloud computing has dramatically changed the landscape of web hosting. Instead of spending weeks negotiating contracts for servers, new servers can be deployed with the push of a button, and your application can be resized almost instantly to meet today's needs. No matter what size of web application you are developing, you can benefit from modern cloud servers, and this is the guide to tell you how. What You'll LearnUse the cloud and its various platforms with Docker management toolsBuild a simple PHP-based scalable web applicationCreate a basic cloud clusterWork with Amazon and Google Cloud Platform in your PHP web application development Who This Book Is For Developers who have some prior programming experience, including PHP, and who are new to building applications

Build a scalable, efficient, and highly available web apps using AWS About This Book Get an in-depth understanding of the serverless model Build a complete serverless web application end to end Learn how to use the Serverless Framework to improve your productivity Who This Book Is For If you're looking to learn more about scalable and cost-efficient architectures, this book is for you. Basic knowledge of Node.js skills or familiarity with cloud services is required. For other topics, we cover the basics. What You Will Learn Get a grasp of the pros and cons of going serverless and its use cases Discover how you can use the building blocks of AWS to your advantage Set up the environment and create a basic app with the Serverless Framework Host static files on S3 and CloudFront with HTTPS support Build a sample application with a frontend using React as an SPA Develop the Node.js backend to handle requests and connect to a SimpleDB database Secure your applications with authentication and authorization Implement the publish-subscribe pattern to handle notifications in a serverless application Create tests, define the workflow for deployment, and monitor your app In Detail This book will equip you with the knowledge needed to build your own serverless apps by showing you how to set up different services while making your application scalable, highly available, and efficient. We begin by giving you an idea of what it means to go serverless, exploring the pros and cons of the serverless model and its use cases. Next, you will be introduced to the AWS services that will be used throughout the book, how to estimate costs, and how to set up and use the Serverless Framework. From here, you will start to build an entire serverless project of an online store, beginning with a React SPA frontend hosted on AWS followed by a serverless backend with API Gateway and Lambda functions. You will also learn to access data from a SimpleDB database, secure the application with authentication and authorization, and implement serverless notifications for browsers using AWS IoT. This book will describe how to monitor the performance, efficiency, and errors of your apps and conclude by teaching you how to test and deploy your applications. Style and approach This book takes a step-by-step approach on how to use the Serverless Framework and AWS services to build Serverless Applications. It will give you a hands-on feeling, allowing you to practice while reading. It provides a brief introduction of concepts while keeping the focus on the practical skills required to develop applications.

Go Web Programming

Building Large-Scale Web Applications with Angular

39 Engineering Challenges

Scalability Rules

Architecting High Performing, Scalable and Available Enterprise Web Applications

Ultra-Fast ASP.NET 4.5

"Working with REST and Web-Sockets on Yaws"—Cover.

Front-End Development Projects with Vue.js introduces you to Vue 2 and helps you get started with web application development using this popular framework. You'll master the knowledge and skills needed to become an effective front-end developer and apply them to tackle real-world development challenges.

If the phrase scalability sounds alien to you, then this is an ideal book for you. You will not need much Node.js experience as each framework is demonstrated in a way that requires no previous knowledge of the framework. You will be building scalable Node.js applications in no time! Knowledge of JavaScript is required.

As a developer, you are aware of the increasing concern among developers and site architects that websites be able to handle the vast number of visitors that flooded the Internet on a daily basis. Scalable Internet Architectures addresses these concerns by teaching you both good and bad design methodologies for building new sites and how to scale existing websites to robust, high-availability websites. Primarily example-based, the book discusses major topics in web architectural design, presenting existing solutions and how they work. Technology budget tight? This book will work for you, too, as it introduces new and innovative concepts to solving traditionally expensive problems without a large technology budget. Using open source and proprietary examples, you will be engaged in best practice design methodologies for building new sites, as well as appropriately scaling both growing and shrinking sites. Website development help has arrived in the form of Scalable Internet Architectures.

A Comprehensive, Proven Approach to IT Scalability, and Business Executives In The Art of Scalability, AKF Partners cofounders Martin L. Abbott and Michael T. Fisher cover everything IT and business leaders must know to build technology infrastructures that can scale smoothly to meet any business requirement. Drawing on their unparalleled experience managing some of the world's highest-transaction-volume Web sites, the authors provide detailed models and best-practice approaches available in no other book. Unlike previous books on scalability, The Art of Scalability doesn't limit its coverage to technology. Writing for both technical and nontechnical decision-makers, this book covers everything that impacts scalability, including architecture, processes, people, and organizations. Throughout, the authors address a broad spectrum of real-world challenges, from performance testing to IT governance. Using their tools and guidance, organizations can systematically overcome obstacles to scalability and achieve unprecedented levels of technical and business performance. Coverage includes Staffing the scalable organization: essential organizational, management, and leadership skills for technical leaders Building processes for scale: process lessons from hyper-growth companies, from technical issue resolution to crisis management Making better "build versus buy" decisions Architecting scalable solutions: powerful proprietary models for identifying scalability needs and choosing the best approaches to meet them Optimizing performance through caching, application and database splitting, and asynchronous design Scalability techniques for emerging technologies, including clouds and grids Planning for rapid data growth and new data centers Evolving monitoring strategies to tightly align with customer requirements

Designing Distributed Systems

Building Mobile Apps at Scale

With examples in Node.js and Raspberry Pi

Building Scalable Apps with Redis and Node.js

Building Scalable and High-Performance Java Web Applications Using J2EE Technology

Real-Time Phoenix

*Whether you're starting a small web site with hopes of growing big or you already have a large system that needs maintenance, you'll find Building Scalable Web Sites to be a library of ideas for making things work.Creating popular sites requires much more than fast hardware with lots of memory and hard drive space. It requires thinking about how to grow over time, how to make the same resources accessible to audiences with different expectations, and how to have a team of developers work on a site without creating new problems for visitors and for each other.*

*Learn the tricks of the trade so you can build and architect applications that scale quickly—without all the high-priced headaches and service-level agreements associated with enterprise app servers and proprietary programming and database products. Culled from the experience of the Flickr.com lead developer, Building Scalable Web Sites offers techniques for creating fast sites that your visitors will find a pleasure to use. Creating popular sites requires much more than fast hardware with lots of memory and hard drive space. It requires thinking about how to grow over time, how to make the same resources accessible to audiences with different expectations, and how to have a team of developers work on a site without creating new problems for visitors and for each other. Presenting information to visitors from all over the world Integrating email with your web applications Planning hardware purchases and hosting options to have as much as you need without breaking your wallet Partitioning and distributing databases to support large datasets and simultaneous transactions Monitoring your applications to find and clear bottlenecks \* Providing services APIs and using services from other providers to increase your site's reach and capabilities Whether you're starting a small web site with hopes of growing big or you already have a large system that needs maintenance, you'll find Building Scalable Web Sites to be a library of ideas for making things work.*

*This is the only book on the market to focus on addressing issues of building highly scalable database applications with .NET technologies. Comprehensive coverage includes building .NET applications for all the major RDBMSs: SQL Server, Oracle, DB2, and MySQL.*

*Learn to build fast and stable software with JavaScript and Node.js. Node.js is a powerful and popular new framework for writing scalable network programs using JavaScript. This no nonsense book begins with an overview of Node.js and then quickly dives into the code, core concepts, and APIs. In-depth coverage pares down the essentials to cover debugging, unit testing, and flow control so that you can start building and testing your own modules right away. Covers node and asynchronous programming main concepts Addresses the basics: modules, buffers, events, and timers Explores streams, file systems, networking, and automated unit testing Goes beyond the basics, and shares techniques and tools for debugging, unit testing, and flow control If you already know JavaScript and are curious about the power of Node.js, then this is the ideal book for you.*

*A guide to developing Web sites using scalable applications.*

*Building Web Applications with Erlang*

*Building a Scalable Data Warehouse with Data Vault 2.0*

*Distributed Services with Go*

*Professional Node.js*

*Design and Build Great Web APIs*

**A definitive guide on frontend development with Angular from design to deployment Key Features Develop web applications from scratch using Angular and TypeScript Explore reactive programming principles and RxJS to develop and test apps easily Study continuous integration and deployment on the AWS cloud Book Description If you have been burnt by unreliable JavaScript frameworks before, you will be amazed by the maturity of the Angular platform. Angular enables you to build fast, efficient, and real-world web apps. In this Learning Path, you'll learn Angular and to deliver high-quality and production-grade Angular apps from design to deployment. You will begin by creating a simple fitness app, using the building blocks of Angular, and make your final app, Personal Trainer, by morphing the workout app into a full-fledged personal workout builder and runner with an advanced directive building - the most fundamental and powerful feature of Angular. You will learn the different ways of architecting Angular applications using RxJS, and some of the patterns that are involved in it. Later you'll be introduced to the router-first architecture, a seven-step approach to designing and developing mid-to-large line-of-business apps, along with popular recipes. By the end of this book, you will be familiar with the scope of web development using Angular, Swagger, and Docker, learning patterns and practices to be successful as an individual developer on the web or as a team in the Enterprise. This Learning Path includes content from the following Packt products: Angular 6 by Example by Chandermani Arora, Kevin Hennessy Architecting Angular Applications with Redux, RxJS, and NgRx by Christopher Noring Angular 6 for Enterprise-Ready Web Applications by Doguhan Ulucu What you will learn Develop web applications from scratch using Angular and TypeScript Explore reactive programming principles, RxJS to develop and test apps efficiently Study continuous integration and deployment your Angular app on the AWS cloud Who this book is for If you're a JavaScript or frontend developer looking to gain comprehensive experience of using Angular for end-to-end enterprise-ready applications, this Learning Path is for you. Give users the real-time experience they expect, by using Elixir and Phoenix Channels to build applications that instantly react to changes and reflect the application's true state. Learn how Elixir and Phoenix make it easy and enjoyable to create real-time applications that scale to a large number of users. Apply system design and development best practices to create applications that are easy to maintain. Gain confidence by learning how to break your applications before your users do. Deploy applications with minimized resource use and maximized performance. Real-time applications come with real challenges - persistent connections, multi-server deployment, and strict performance requirements are just a few. Don't try to solve these challenges by yourself - use a framework that handles them for you. Elixir and Phoenix Channels provide a solid foundation on which to build stable and scalable real-time applications. Build applications that thrive for years to come with the best-practices found in this book. Understand the magic of real-time communication by inspecting the WebSocket protocol in action. Avoid performance pitfalls early in the development lifecycle with a catalog of common problems and their solutions. Leverage GenStage to build a data pipeline that improves scalability. Break your application before your users do and confidently deploy them. Build a real-world project using solid application design and testing practices that help make future changes a breeze. Create distributed apps that can scale to many users with tools like Phoenix Tracker. Deploy and monitor your application with confidence and reduce outages. Deliver an exceptional real-time experience to your users, with easy maintenance, reduced operational costs, and maximized performance, using Elixir and Phoenix Channels. What You Need: You'll need Elixir 1.9+ and Erlang/OTP 22+ installed on a Mac OS X, Linux, or Windows machine.**

**Tim EWald, COM columnist for DOC Magazine, explains how COM+ works, and then sets out specific rules intended as concrete guidelines to help developers build COM+ systems.**

