

Rest In Practice Hypermedia And Systems Architecture Jim Webber

This volume provides an overview and an understanding of REST (Representational State Transfer). Discussing the constraints of REST the book focuses on REST as a type of web architectural style. The focus is on applying REST beyond Web applications (i.e., in enterprise environments), and in reusing established and well-understood design patterns when doing so. The reader will be able to understand how RESTful systems can be designed and deployed, and what the results are in terms of benefits and challenges encountered in the process. Since REST is relatively new as an approach for designing Web Services, the more advanced part of the book collects a number of challenges to some of the assumptions and constraints of REST, and looks at current research work on how REST can be extended and applied to scenarios that often are considered not to be a good match for REST. This work will help readers to reach a deeper understanding of REST on a practical as well as on an advanced level.

Looking for the big picture of building APIs? This book is for you! Building APIs that consumers love should certainly be the goal of any API initiative. However, it is easier said than done. It requires getting the architecture for your APIs right. This book equips you with both foundations and best practices for API architecture. This book is for you if you want to understand the big picture of API design and development, you want to define an API architecture, establish a platform for APIs or simply want to build APIs your consumers love. This book is NOT for you, if you are looking for a step-by step guide for building APIs, focusing on every detail of the correct application of REST principles. In this case I recommend the book "API Design" of the API-University Series. What is API architecture? Architecture spans the bigger picture of APIs and can be seen from several perspectives: API architecture may refer to the architecture of the complete solution consisting not only of the API itself, but also of an API client such as a mobile app and several other components. API solution architecture explains the components and their relations within the software solution. API architecture may refer to the technical architecture of the API platform. When building, running and exposing not only one, but several APIs, it becomes clear that certain building blocks of the API, runtime functionality and management functionality for the API need to be used over and over again. An API platform provides an infrastructure for developing, running and managing APIs. API architecture may refer to the architecture of the API portfolio. The API portfolio contains all APIs of the enterprise and needs to be managed like a product. API portfolio architecture analyzes the functionality of the API and organizes, manages and reuses the APIs. API architecture may refer to the design decisions for a particular API proxy. To document the design decisions, API description languages are used. We explain the use of API description languages (RAML and Swagger) on many examples. This book covers all of the above perspectives on API architecture. However, to become useful, the architecture needs to be put into practice. This is why this book covers an API methodology for design and development. An API methodology provides practical guidelines for putting API architecture into practice. It explains how to develop an API architecture into an API that consumers love. A lot of the information on APIs is available on the web. Most of it is published by vendors of API products. I am always a bit suspicious of technical information pushed by product vendors. This book is different. In this book, a product-independent view on API architecture is presented. The API-University Series is a modular series of books on API-related topics. Each book focuses on a particular API topic, so you can select the topics within APIs, which are relevant for you.

This book serves as a starting point for people looking for a deeper principled understanding of REST, its applications, its limitations, and current research work in the area and as an architectural style. The authors focus on applying REST beyond Web applications (i.e., in enterprise environments), and in reusing established and well-understood design patterns. The book examines how RESTful systems can be designed and deployed, and what the results are in terms of benefits and challenges encountered in the process. This book is intended for information and service architects and designers who are interested in learning about REST, how it is applied, and how it is being advanced.

Manage and understand the full capabilities of successful REST development. REST API development is a hot topic in the programming world, but not many resources exist for developers to really understand how you can leverage the advantages. This completely updated second edition provides a brief background on REST and the tools it provides (well known and not so well known), then explains how there is more to REST than just JSON and URLs. You will learn about the maintained modules currently available in the npm community, including Express, Restify, Vatican, and Swagger. Finally you will code an example API from start to finish, using a subset of the tools covered. The Node community is currently flooded with modules; some of them are published once and never updated again - cluttering the entire universe of packages. Pro REST API Development with Node.js shines light into that black hole of modules for the developers trying to create an API. Understand REST API development with Node.js using this book today. What You'll Learn Understand how REST and API development mix up with Node.js Create a scalable, technology agnostic, and uniform interface Prepare your services to be consumed by your clients Test and deploy your API Review troubleshooting techniques Who This Book Is For Any Node.js developer who wants to fully understand REST API development. Beginner and Intermediate Node.js developers who are looking to fully understand how to create RESTful microservices.

The surge of interest in the REpresentational State Transfer (REST) architectural style, the Semantic Web, and Linked Data has resulted in the development of innovative, flexible, and powerful systems that embrace one or more of these compatible technologies. However, most developers, architects, Information Technology managers, and platform owners have only been exposed to the basics of resource-oriented architectures. This book is an attempt to catalog and elucidate several reusable solutions that have been seen in the wild in the now increasingly familiar "patterns book" style. These are not turn key implementations, but rather, useful strategies for solving certain problems in the development of modern, resource-oriented systems, both on the public Web and within an organization's firewalls.

Building REST APIs with Flask

Building Microservices

Business Process Model and Notation

Restlet in Action

Robust Web Architecture with Node, HTML5, and Modern JS Libraries

Resource-Oriented Architecture Patterns for Webs of Data

Learners, Contexts, and Cultures

The basic rules of REST APIs - "many nouns, few verbs, stick with HTTP" - seem easy, but that simplicity and power require discipline to work smoothly. This brief guide provides next steps for implementing complex projects on simple and

extensible foundations.

This book constitutes the proceedings of the third workshop on Business Process Model and Notation, BPMN 2011, held in Lucerne, Switzerland, in November 2011. The 8 research papers presented were carefully reviewed and selected from 20 submissions. In addition, 10 short papers are included. The workshop applied a thorough reviewing process, during which each paper was reviewed by three Program Committee members. The BPMN workshop series provides a forum for academics and practitioners who share an interest in business process modeling using the business process modeling notation, which is seen by many as the de facto standard for business process modeling. This year, the workshop lasted two days and consisted of both a scientific and a practitioner event.

REST architecture (style) is a pivot of distributed systems, simplify data integration amongst modern and legacy applications leverages through the RESTful paradigm. This book is fully loaded with many RESTful API patterns, samples, hands-on implementations and also discuss the capabilities of many REST API frameworks for Java, Scala, Python and Go

Hypertext/hypermedia systems and user-model-based adaptive systems in the areas of learning and information retrieval have for a long time been considered as two mutually exclusive approaches to information access. Adaptive systems tailor information to the user and may guide the user in the information space to present the most relevant material, taking into account a model of the user's goals, interests and preferences. Hypermedia systems, on the other hand, are 'user neutral': they provide the user with the tools and the freedom to explore an information space by browsing through a complex network of information nodes. Adaptive hypertext and hypermedia systems attempt to bridge the gap between these two approaches. Adaptation of hypermedia systems to each individual user is increasingly needed. With the growing size, complexity and heterogeneity of current hypermedia systems, such as the World Wide Web, it becomes virtually impossible to impose guidelines on authors concerning the overall organization of hypermedia information. The networks therefore become so complex and unstructured that the existing navigational tools are no longer powerful enough to provide orientation on where to search for the needed information. It is also not possible to identify appropriate pre-defined paths or subnets for users with certain goals and knowledge backgrounds since the user community of hypermedia systems is usually quite inhomogeneous. This is particularly true for Web-based applications which are expected to be used by a much greater variety of users than any earlier standalone application. A possible remedy for the negative effects of the traditional 'one-size-fits-all' approach in the development of hypermedia systems is to equip them with the ability to adapt to the needs of their individual users. A possible way of achieving adaptivity is by modeling the users and tailoring the system's interactions to their goals, tasks and interests. In this sense, the notion of adaptive hypertext/hypermedia comes naturally to denote a hypertext or hypermedia system which reflects some features of the user and/or characteristics of his system usage in a user model, and utilizes this model in order to adapt various behavioral aspects of the system to the user. This book is the first comprehensive publication on adaptive hypertext and hypermedia. It is oriented towards researchers and practitioners in the fields of hypertext and hypermedia, information systems, and personalized systems. It is also an important resource for the numerous developers of Web-based applications. The design decisions, adaptation methods, and experience presented in this book are a unique source of ideas and techniques for developing more usable and more intelligent Web-based systems suitable for a great variety of users. The practitioners will find it important that many of the adaptation techniques presented in this book have proved to be efficient and are ready to be used in various applications.

Learn how to design and develop distributed web services in Java using RESTful architectural principals and the JAX-RS specification in Java EE 6. With this hands-on reference, you'll focus on implementation rather than theory, and discover why the RESTful method is far better than technologies like CORBA and SOAP. It's easy to get started with services based on the REST architecture. RESTful Java with JAX-RS includes a technical guide that explains REST and JAX-RS, how they work, and when to use them. With the RESTEasy workbook that follows, you get step-by-step instructions for installing, configuring, and running several working JAX-RS examples using the JBoss RESTEasy implementation of JAX-RS. Work on the design of a distributed RESTful interface, and develop it in Java as a JAX-RS service Dispatch HTTP requests in JAX-RS, and learn how to extract information from them Deploy your web services within Java Enterprise Edition using the Application class, Default Component Model, EJB Integration, Spring Integration, and JPA Discover several options for securing your web services Learn how to implement RESTful design patterns using JAX-RS Write RESTful clients in Java using libraries and frameworks such as java.net.URL, Apache HTTP Client, and RESTEasy Proxy

Hypermedia and Systems Architecture

Third International Workshop, BPMN 2011, Lucerne, Switzerland, November 21-22, 2011, Proceedings

Java Web Services: Up and Running

Create Python Web Services with MySQL

Pro ASP.NET Web API

Graph Databases

Developing RESTful web APIs in Java

Believe it or not, building an API is the easy part. What is far more challenging is to put together a design that will stand the test of time, while also meeting your developers' needs. After all, no matter how well written your code may be, without a strong foundation, you will find your API quickly failing. Undisturbed REST works to tackle this issue through the use of modern design techniques and technology, showing how to carefully design your API with your users and longevity in-mind, taking advantage of a design-first approach- while incorporating best practices and hard lessons learned. After reading Undisturbed REST, you'll have a strong understanding of APIs, best practices, and

available tooling for designing, prototyping, sharing, documenting, and generating tooling (such as SDKs) around your API. More importantly, you'll be equipped to design and build an API not just for today, but one that can stand the test of time and lead your application into tomorrow. REST continues to gain momentum as the best method for building Web services, and this down-to-earth book delivers techniques and examples that show how to design and implement integration solutions using the REST architectural style.

"Every developer working with the Web needs to read this book." -- David Heinemeier Hansson, creator of the Rails framework "RESTful Web Services finally provides a practical roadmap for constructing services that embrace the Web, instead of trying to route around it." -- Adam Trachtenberg, PHP author and EBay Web Services Evangelist You've built web sites that can be used by humans. But can you also build web sites that are usable by machines? That's where the future lies, and that's what RESTful Web Services shows you how to do. The World Wide Web is the most popular distributed application in history, and Web services and mashups have turned it into a powerful distributed computing platform. But today's web service technologies have lost sight of the simplicity that made the Web successful. They don't work like the Web, and they're missing out on its advantages. This book puts the "Web" back into web services. It shows how you can connect to the programmable web with the technologies you already use every day. The key is REST, the architectural style that drives the Web. This book: Emphasizes the power of basic Web technologies -- the HTTP application protocol, the URI naming standard, and the XML markup language Introduces the Resource-Oriented Architecture (ROA), a common-sense set of rules for designing RESTful web services Shows how a RESTful design is simpler, more versatile, and more scalable than a design based on Remote Procedure Calls (RPC) Includes real-world examples of RESTful web services, like Amazon's Simple Storage Service and the Atom Publishing Protocol Discusses web service clients for popular programming languages Shows how to implement RESTful services in three popular frameworks -- Ruby on Rails, Restlet (for Java), and Django (for Python) Focuses on practical issues: how to design and implement RESTful web services and clients This is the first book that applies the REST design philosophy to real web services. It sets down the best practices you need to make your design a success, and the techniques you need to turn your design into working code. You can harness the power of the Web for programmable applications: you just have to work with the Web instead of against it. This book shows you how.

A developer's guide to designing, testing, and securing production-ready modern APIs with the help of practical ideas to improve your application's functionality Key Features Build resilient software for your enterprises and customers by understanding the complete API development life cycle Overcome the challenges of traditional API design by adapting to a new and evolving culture of modern API development Use Spring and Spring Boot to develop future-proof scalable APIs Book Description The philosophy of API development has evolved over the years to serve the modern needs of enterprise architecture, and developers need to know how to adapt to these modern API design principles. Apps are now developed with APIs that enable ease of integration for the cloud environment and distributed systems. With this Spring book, you'll discover various kinds of production-ready API implementation using REST APIs and explore async using the reactive paradigm, gRPC, and GraphQL. You'll learn how to design evolving REST-based APIs supported by HATEOAS and ETAGs and develop reactive, async, non-blocking APIs. After that, you'll see how to secure REST APIs using Spring Security and find out how the APIs that you develop are consumed by the app's UI. The book then takes you through the process of testing, deploying, logging, and monitoring your APIs. You'll also explore API development using gRPC and GraphQL and design modern scalable architecture with microservices. The book helps you gain practical knowledge of modern API implementation using a sample e-commerce app. By the end of this Spring book, you'll be able to develop, test, and deploy highly scalable, maintainable, and developer-friendly APIs to help your customers to transform their business. What you will learn Understand RESTful API development, its design paradigm, and its best practices Become well versed in Spring's core components for implementing RESTful web services Implement reactive APIs and explore async API development Apply Spring Security for authentication using JWT and authorization of requests Develop a React-based UI to consume APIs Implement gRPC inter-service communication Design GraphQL-based APIs by understanding workflows and tooling Gain insights into how you can secure, test, monitor, and deploy your APIs Who this book is for This book is for inexperienced Java programmers, comp science, or coding boot camp graduates who have knowledge of basic programming constructs, data structures, and algorithms in Java but lack the practical web development skills necessary to start working as a developer. Professionals who've recently joined a startup or a company and are tasked with creating real-world web APIs and services will also find this book helpful. This book is also a good resource for Java developers who are looking for a career move into web development to get started with the basics of web service development.

Summary A Web API is a platform with a web-style interface developers can use to implement functionality. Well-designed APIs feel like a natural extension of the application, rather than just a new interface into the backend database. Designing Web APIs based on use cases allows an organization to develop irresistible APIs, which developers can consume easily and which support the business values of that organization. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the Technology It takes a village to deliver an irresistible web API. Business stakeholders look for an API that works side-by-side with the main product to enhance the experience for customers. Project managers require easy integration with other products or ways for customers to interact with your system. And, developers need APIs to consistently interoperate with external systems. The trick is getting the whole village together. This book shows you how. About the Book Irresistible APIs presents a process to create APIs that succeed for all members of the team. In it, you'll learn how to capture an application's core business value and extend it with an API that will delight the developers who use it. Thinking about APIs from the business point of view, while also considering the end-user experience, encourages you to explore both sides of the design process and

learn some successful biz-to-dev communication patterns. Along the way, you'll start to view your APIs as part of your product's core value instead of just an add-on. What's Inside Design-driven development Developing meaningful use cases API guiding principles How to recognize successful APIs About the Reader Written for all members of an API design team, regardless of technical level. About the Author Kirsten Hunter is an API evangelist who helps developers and business stakeholders understand, design, and deliver amazing APIs. Table of Contents UNDERSTANDING WEB APIs What makes an API irresistible? Working with web APIs API First Web services explained DESIGNING WEB APIs Guiding principles for API design Defining the value for your API Creating your schema model Design-driven development Empowering your developers

Spring Data

Irresistible APIs

Programming JavaScript Applications

Solutions for Improving Scalability and Simplicity

Computer Graphics

Future Generation Information Technology

REST in Practice Hypermedia and Systems Architecture "O'Reilly Media, Inc."

Annotation Over the past 10 years, distributed systems have become more fine-grained. From the large multi-million line long monolithic applications, we are now seeing the benefits of smaller self-contained services. Rather than heavy-weight, hard to change Service Oriented Architectures, we are now seeing systems consisting of collaborating microservices. Easier to change, deploy, and if required retire, organizations which are in the right position to take advantage of them are yielding significant benefits. This book takes an holistic view of the things you need to be cognizant of in order to pull this off. It covers just enough understanding of technology, architecture, operations and organization to show you how to move towards finer-grained systems.

This three volume set LNCS 12779, 12780, and 12781 constitutes the refereed proceedings of the 10th International Conference on Design, User Experience, and Usability, DUXU 2021, held as part of the 23rd International Conference, HCI International 2021, which took place in July 2021. Due to COVID-19 pandemic the conference was held virtually. The total of 1276 papers and 241 posters included in the 39 HCII 2021 proceedings volumes was carefully reviewed and selected from 5222 submissions. The papers of DUXU 2021, Part I, are organized in topical sections named: UX Design Methods and Techniques; Methods and Techniques for UX Research; Visual Languages and Information Visualization; Design Education and Practice.

Discover how graph databases can help you manage and query highly connected data. With this practical book, you'll learn how to design and implement a graph database that brings the power of graphs to bear on a broad range of problem domains. Whether you want to speed up your response to user queries or build a database that can adapt as your business evolves, this book shows you how to apply the schema-free graph model to real-world problems. Learn how different organizations are using graph databases to outperform their competitors. With this book's data modeling, query, and code examples, you'll quickly be able to implement your own solution. Model data with the Cypher query language and property graph model Learn best practices and common pitfalls when modeling with graphs Plan and implement a graph database solution in test-driven fashion Explore real-world examples to learn how and why organizations use a graph database Understand common patterns and components of graph database architecture Use analytical techniques and algorithms to mine graph database information

A guide to the concepts and applications of computer graphics covers such topics as interaction techniques, dialogue design, and user interface software.

Building Hypermedia APIs with HTML5 and Node

RESTful Web Clients

Manage and Understand the Full Capabilities of Successful REST Development

Aligning Principles, Practices, and Culture

RESTful Web Services

API Architecture

Design, develop, and deploy highly adaptable, scalable, and secure RESTful web APIs

Microservices can have a positive impact on your enterprise—just ask Amazon and Netflix—but you can fall into many traps if you don't approach them in the right way. This practical guide covers the entire microservices landscape, including the principles, technologies, and methodologies of this unique, modular style of system building. You'll learn about the experiences of organizations around the globe that have successfully adopted microservices. In three parts, this book explains how these services work and what it means to build an application the Microservices Way. You'll explore a design-based approach to microservice architecture with guidance for implementing various elements. And you'll get a set of recipes and practices for meeting practical, organizational, and cultural challenges to microservice adoption. Learn how microservices can help you drive business objectives Examine the principles, practices, and culture that define microservice architectures Explore a model for creating complex systems and a design process for building a microservice architecture Learn the fundamental design

concepts for individual microservices Delve into the operational elements of a microservices architecture, including containers and service discovery Discover how to handle the challenges of introducing microservice architecture in your organization

The Definitive Guide to Building Web-Centric SOA with REST The World Wide Web is based on the most successful technology architecture in history. It has changed how we view, access, and exchange information and, with the advent of REST, it has also provided us with compelling ways to build and improve automation solutions. REST provides a great deal of guidance to ensure that an architecture and its automation logic are technically sound, though it is still your responsibility to build services that actually add value to your business. SOA with REST is the first comprehensive tutorial and reference for designing and building RESTful services as part of service-oriented solutions and in conjunction with service-oriented architecture (SOA). This book demonstrates that REST is not only a suitable medium for building truly service-oriented solutions, but also that the service-oriented architectural model is a necessary foundation for REST technology architectures to realize their full business potential. The authors provide thorough mapping of REST constraints and architectural goals with service-orientation principles and SOA characteristics. Using real-world examples, they show how to leverage REST's simplicity, flexibility, and low overhead without compromising the power or manageability of service-oriented solutions and architectures. This ebook will be valuable to IT architects, developers, and any practitioner seeking to use SOA and REST together.

The popularity of REST in recent years has led to tremendous growth in almost-RESTful APIs that don't include many of the architecture's benefits. With this practical guide, you'll learn what it takes to design usable REST APIs that evolve over time. By focusing on solutions that cross a variety of domains, this book shows you how to create powerful and secure applications, using the tools designed for the world's most successful distributed computing system: the World Wide Web. You'll explore the concepts behind REST, learn different strategies for creating hypermedia-based APIs, and then put everything together with a step-by-step guide to designing a RESTful Web API. Examine API design strategies, including the collection pattern and pure hypermedia Understand how hypermedia ties representations together into a coherent API Discover how XMDP and ALPS profile formats can help you meet the Web API "semantic challenge" Learn close to two-dozen standardized hypermedia data formats Apply best practices for using HTTP in API implementations Create Web APIs with the JSON-LD standard and other the Linked Data approaches Understand the CoAP protocol for using REST in embedded systems

You can choose several data access frameworks when building Java enterprise applications that work with relational databases. But what about big data? This hands-on introduction shows you how Spring Data makes it relatively easy to build applications across a wide range of new data access technologies such as NoSQL and Hadoop. Through several sample projects, you'll learn how Spring Data provides a consistent programming model that retains NoSQL-specific features and capabilities, and helps you develop Hadoop applications across a wide range of use-cases such as data analysis, event stream processing, and workflow. You'll also discover the features Spring Data adds to Spring's existing JPA and JDBC support for writing RDBMS-based data access layers. Learn about Spring's template helper classes to simplify the use of database-specific functionality Explore Spring Data's repository abstraction and advanced query functionality Use Spring Data with Redis (key/value store), HBase (column-family), MongoDB (document database), and Neo4j (graph database) Discover the GemFire distributed data grid solution Export Spring Data JPA-managed entities to the Web as RESTful web services Simplify the development of HBase applications, using a lightweight object-mapping framework Build example big-data pipelines with Spring Batch and Spring Integration

How can you take advantage of the Django framework to integrate complex client-side interactions and real-time features into your web applications? Through a series of rapid application development projects, this hands-on book shows experienced Django developers how to include REST APIs, WebSockets, and client-side MVC frameworks such as Backbone.js into new or existing projects. Learn how to make the most of Django's decoupled design by choosing the components you need to build the lightweight applications you want. Once you finish this book, you'll know how to build single-page applications that respond to interactions in real time. If you're familiar with Python and JavaScript, you're good to go. Learn a lightweight approach for starting a new Django project Break reusable applications into smaller services that communicate with one another Create a static, rapid prototyping site as a scaffold for websites and applications Build a REST API with django-rest-framework Learn how to use Django with the Backbone.js MVC framework Create a single-page web application on top of your REST API Integrate real-time features with

WebSockets and the Tornado networking library Use the book's code-driven examples in your own projects

Adaptive Hypertext and Hypermedia

Services for a Changing World

Designing web APIs that developers will love

RESTful Java with JAX-RS

Design highly scalable and maintainable APIs with REST, gRPC, GraphQL, and the reactive paradigm

REST: From Research to Practice

Principles, Patterns & Constraints for Building Enterprise Solutions with REST

Learn the basic architectural concepts and step through examples of consuming and creating RESTful web services in PHP.

There are many reasons to be curious about the way people learn, and the past several decades have seen an explosion of research that has important implications for individual learning, schooling, workforce training, and policy. In 2000, *How People Learn: Brain, Mind, Experience, and School: Expanded Edition* was published and its influence has been wide and deep. The report summarized insights on the nature of learning in school-aged children; described principles for the design of effective learning environments; and provided examples of how that could be implemented in the classroom. Since then, researchers have continued to investigate the nature of learning and have generated new findings related to the neurological processes involved in learning, individual and cultural variability related to learning, and educational technologies. In addition to expanding scientific understanding of the mechanisms of learning and how the brain adapts throughout the lifespan, there have been important discoveries about influences on learning, particularly sociocultural factors and the structure of learning environments. *How People Learn II: Learners, Contexts, and Cultures* provides a much-needed update incorporating insights gained from this research over the past decade. The book expands on the foundation laid out in the 2000 report and takes an in-depth look at the constellation of influences that affect individual learning. *How People Learn II* will become an indispensable resource to understand learning throughout the lifespan for educators of students and adults.

Take advantage of JavaScript's power to build robust web-scale or enterprise applications that are easy to extend and maintain. By applying the design patterns outlined in this practical book, experienced JavaScript developers will learn how to write flexible and resilient code that's easier—yes, easier—to work with as your code base grows. JavaScript may be the most essential web programming language, but in the real world, JavaScript applications often break when you make changes. With this book, author Eric Elliott shows you how to add client- and server-side features to a large JavaScript application without negatively affecting the rest of your code. Examine the anatomy of a large-scale JavaScript application Build modern web apps with the capabilities of desktop applications Learn best practices for code organization, modularity, and reuse Separate your application into different layers of responsibility Build efficient, self-describing hypermedia APIs with Node.js Test, integrate, and deploy software updates in rapid cycles Control resource access with user authentication and authorization Expand your application's reach through internationalization

Design and build Web APIs for a broad range of clients—including browsers and mobile devices—that can adapt to change over time. This practical, hands-on guide takes you through the theory and tools you need to build evolvable HTTP services with Microsoft's ASP.NET Web API framework. In the process, you'll learn how design and implement a real-world Web API. Ideal for experienced .NET developers, this book's sections on basic Web API theory and design also apply to developers who work with other development stacks such as Java, Ruby, PHP, and Node. Dig into HTTP essentials, as well as API development concepts and styles Learn ASP.NET Web API fundamentals, including the lifecycle of a request as it travels through the framework Design the Issue Tracker API example, exploring topics such as hypermedia support with collection+json Use behavioral-driven development with ASP.NET Web API to implement and enhance the application Explore techniques for building clients that are resilient to change, and make it easy to consume hypermedia APIs Get a comprehensive reference on how ASP.NET Web API works under the hood, including security and testability

Develop RESTful web services using the Flask micro-framework and integrate them using MySQL. Use Flask to develop, deploy, and manage REST APIs with easy-to-read and understand Python code. Solve your problem from a choice of libraries. Learn to use MySQL as the web services database for your Flask API using SQLAlchemy ORM. Building REST APIs with Flask provides a primer on Flask, RESTful services, and working with pip to set up your virtual environment. The key differences between NoSQL and SQL are covered, and you are taught how to connect MySQL and Flask using SQLAlchemy. Author Kunal Relan presents best practices for creating REST APIs and guides you in structuring your app and testing REST endpoints. He teaches you how to set up authentication and render HTML using views. You learn how to write unit tests for your REST APIs, and understand mocks, assertions, and integration testing. You will know how to document your REST APIs, deploy your Flask application on all of the major cloud platforms, and debug and monitor your Flask application. What You'll Learn Use MySQL to create Flask REST APIs Test REST endpoints Create CRUD endpoints with Flask and MySQL Deploy Flask on all of the major cloud platforms Monitor your Flask application Who This Book Is For Python developers interested in REST API development using Flask and web developers with basic programming knowledge who want to learn how Python and REST APIs work together. Readers should be familiar with Python (command line, or at least pip) and MySQL.

JSON at Work

Hands-On RESTful API Design Patterns and Best Practices

RESTful PHP Web Services

4th International Conference, FGIT 2012, Gangneung, Korea, December 16-19, 2012. Proceedings**REST API Design Rulebook****RESTful Web Services Cookbook****Microservice Architecture**

Summary Restlet in Action gets you started with the Restlet Framework and the REST architecture style. You'll create and deploy applications in record time while learning to use popular RESTful Web APIs effectively. This book looks at the many aspects of web development, on both the server and client side, along with cloud computing, mobile Android devices, and Semantic Web applications. About the Technology In a RESTful architecture any component can act, if needed, as both client and server—this is flexible and powerful, but tricky to implement. The Restlet project is a reference implementation with a Java-based API and everything you need to build servers and web clients that integrate with most web and enterprise technologies. About the Book Restlet in Action introduces the Restlet Framework and RESTful web APIs. You'll see how to easily create and deploy your own web API while learning to consume other web APIs effectively. You'll learn about designing, securing, versioning, documentation, optimizing, and more on both the server and client side, as well as about cloud computing, mobile Android devices, and Semantic Web applications. The book requires a basic knowledge of Java and the web, but no prior exposure to REST or Restlet. Purchase of the print book comes with an offer of a free PDF, ePub, and Kindle eBook from Manning. Also available is all code from the book. What's Inside Written by the creators of Restlet! How to create your own web API How to deploy on cloud and mobile platforms Focus on Android, Google App Engine, Google Web Toolkit, and OSGi technologies Table of Contents PART 1 GETTING STARTED Introducing the Restlet Framework Beginning a Restlet application Deploying a Restlet application PART 2 GETTING READY TO ROLL OUT Producing and consuming Restlet representations Securing a Restlet application Documenting and versioning a Restlet application Enhancing a Restlet application with recipes and best practices PART 3 FURTHER USE POSSIBILITIES Using Restlet with cloud platforms Using Restlet in browsers and mobile devices Embracing hypermedia and the Semantic Web The future of Restlet

This example-driven book offers a thorough introduction to Java's APIs for XML Web Services (JAX-WS) and RESTful Web Services (JAX-RS). Java Web Services: Up and Running takes a clear, pragmatic approach to these technologies by providing a mix of architectural overview, complete working code examples, and short yet precise instructions for compiling, deploying, and executing an application. You'll learn how to write web services from scratch and integrate existing services into your Java applications. With Java Web Services: Up and Running, you will: Understand the distinction between SOAP-based and REST-style services Write, deploy, and consume SOAP-based services in core Java Understand the Web Service Definition Language (WSDL) service contract Recognize the structure of a SOAP message Learn how to deliver Java-based RESTful web services and consume commercial RESTful services Know security requirements for SOAP- and REST-based web services Learn how to implement JAX-WS in various application servers Ideal for students as well as experienced programmers, Java Web Services: Up and Running is the concise guide you need to start working with these technologies right away.

While the REST design philosophy has captured the imagination of web and enterprise developers alike, using this approach to develop real web services is no picnic. This cookbook includes more than 100 recipes to help you take advantage of REST, HTTP, and the infrastructure of the Web. You'll learn ways to design RESTful web services for client and server applications that meet performance, scalability, reliability, and security goals, no matter what programming language and development framework you use. Each recipe includes one or two problem statements, with easy-to-follow, step-by-step instructions for solving them, as well as examples using HTTP requests and responses, and XML, JSON, and Atom snippets. You'll also get implementation guidelines, and a discussion of the pros, cons, and trade-offs that come with each solution. Learn how to design resources to meet various application scenarios Successfully design representations and URIs Implement the hypertext constraint using links and link headers Understand when and how to use Atom and AtomPub Know what and what not to do to support caching Learn how to implement concurrency control Deal with advanced use cases involving copying, merging, transactions, batch processing, and partial updates Secure web services and support OAuth

Pro ASP.NET Web API shows you how to build flexible, extensible web services that run seamlessly on a range of operating systems and devices, from desktops to tablets to smart phones—even the ones we don't know today. ASP.NET Web API is a new framework designed to simplify web service architecture. So if you're tired of interoperability issues between inflexible web services and clients tied to specific platforms or programming languages, or if you've ever struggled with WCF, this book is for you. To start with, you'll get up to speed on Web API's modern HTTP programming model, REST and your hosting options. You'll then dive into building a real application over a series of three chapters, so you can get an immediate feel for how this technology works in practice. The second half of the book features dedicated chapters on topics like routing, controllers, validation and tracing, and the authors close with discussions on performance, hosting and an all-important look at unit testing to help you prepare your application for the real world. ASP.NET Web API makes HTTP a first-class citizen of .NET. With Pro ASP.NET Web API, you can build HTTP-based web services for your company or business, expose your data to the world across different formats and devices and gain the best possible global reach for your application.

Why don't typical enterprise projects go as smoothly as projects you develop for the Web? Does the REST architectural style really present a viable alternative for building distributed systems and enterprise-class applications? In this insightful book, three SOA experts provide a down-to-earth explanation of REST and demonstrate how you can develop simple and elegant distributed hypermedia systems by applying the Web's guiding principles to common enterprise computing problems. You'll learn techniques for implementing specific Web technologies and patterns to solve the needs of a typical

company as it grows from modest beginnings to become a global enterprise. Learn basic Web techniques for application integration Use HTTP and the Web's infrastructure to build scalable, fault-tolerant enterprise applications Discover the Create, Read, Update, Delete (CRUD) pattern for manipulating resources Build RESTful services that use hypermedia to model state transitions and describe business protocols Learn how to make Web-based solutions secure and interoperable Extend integration patterns for event-driven computing with the Atom Syndication Format and implement multi-party interactions in AtomPub Understand how the Semantic Web will impact systems design

Undisturbed Rest

Lightweight Django

Designing Evolvable Web APIs with ASP.NET

Design, Build and Integrate with REST, JSON, XML and JAX-RS

Practical Data Integration for the Web

Pro RESTful APIs

Enabling Reuse Through Hypermedia

JSON is becoming the backbone for meaningful data interchange over the internet. This format is now supported by an entire ecosystem of standards, tools, and technologies for building truly elegant, useful, and efficient applications. With this hands-on guide, author and architect Tom Marrs shows you how to build enterprise-class applications and services by leveraging JSON tooling and message/document design. JSON at Work provides application architects and developers with guidelines, best practices, and use cases, along with lots of real-world examples and code samples. You'll start with a comprehensive JSON overview, explore the JSON ecosystem, and then dive into JSON's use in the enterprise. Get acquainted with JSON basics and learn how to model JSON data Learn how to use JSON with Node.js, Ruby on Rails, and Java Structure JSON documents with JSON Schema to design and test APIs Search the contents of JSON documents with JSON Search tools Convert JSON documents to other data formats with JSON Transform tools Compare JSON-based hypermedia formats, including HAL and jsonapi Leverage MongoDB to store and access JSON documents Use Apache Kafka to exchange JSON-based messages between services

REST continues to gain momentum as the best method for building web services, leaving many web architects to consider whether and how to include this approach in their SOA and SOAP-dominated world. This book offers a down-to-earth explanation of REST, with techniques and examples that show you how to design and implement integration solutions using the REST architectural style. Explore several web communications approaches, and discover what makes REST different Walk through the pros and cons of the RESTful approach Learn how the underlying architecture of the Web can drastically simplify programming built on top of it View REST in the context of cloud computing and the Semantic Web Understand how hypermedia serves as a model for computers to process data.

Discover the RESTful technologies, including REST, JSON, XML, JAX-RS web services, SOAP and more, for building today's microservices, big data applications, and web service applications. This book is based on a course the Oracle-based author is teaching for UC Santa Cruz Silicon Valley which covers architecture, design best practices and coding labs. Pro RESTful APIs: Design gives you all the fundamentals from the top down: from the top (architecture) through the middle (design) to the bottom (coding). This book is a must have for any microservices or web services developer building applications and services. What You'll Learn Discover the key RESTful APIs, including REST, JSON, XML, JAX, SOAP and more Use these for web services and data exchange, especially in today's big data context Harness XML, JSON, REST, and JAX-RS in examples and case studies Apply best practices to your solutions' architecture Who This Book Is For Experienced web programmers and developers.

This book comprises selected papers of the 4th International Conference on Future Generation Information Technology, FGIT 2012, held in Gangneung, Korea, in December 2012. The papers presented were carefully reviewed and selected from numerous submissions and focus on the various aspects of advances in information technology. They were selected from the following 11 conferences: BSBT 2012, CGAG 2012, DCA 2012, DTA 2012, EL 2012, FGCN 2012, GDC 2012, IESH 2012, IUrc 2012, MulGraB 2012, and UNESST 2012. Powerful web-based REST and hypermedia-style APIs are becoming more common every day, but instead of applying the same techniques and patterns to hypermedia clients, many developers rely on custom client code. With this practical guide, you'll learn how to move from one-off implementations to general-purpose client apps that are stable, flexible, and reusable. Author Mike Amundsen provides extensive background, easy-to-follow examples, illustrative dialogues, and clear recommendations for building effective hypermedia-based client applications. Along the way, you'll learn how to harness many of the basic principles that underpin the Web. Convert HTML-only web apps into a JSON API service Overcome the challenges of maintaining plain JSON-style client apps Decouple the output format from the internal object model with the representor pattern Explore client apps built with HAL—Hypertext Application Language Tackle reusable clients with the Request, Parse, Wait Loop (RPW) pattern Learn the pros and cons of building client apps with the Siren content type Deal with API versioning by adopting a change-over-time aesthetic Compare how JSON, HAL, Siren, and Collection+JSON clients handle the Objects/Addresses/Actions Challenge Craft a single client application that can consume multiple services

HTTP Web Services in ASP.NET

A Guide to Designing the Perfect API

SOA with REST

REST API Development with Node.js

Up and Running

10th International Conference, DUXU 2021, Held as Part of the 23rd HCI International Conference, HCII 2021, Virtual Event, July 24-29, 2021, Proceedings, Part I

Designing Fine-Grained Systems

With this concise book, you'll learn the art of building hypermedia APIs that don't simply run on the Web, but that actually exist in the Web. You'll start with the general principles and technologies behind this architectural approach, and then dive hands-on into three fully-functional API examples. Too many APIs rely on concepts rooted in desktop and local area network patterns that don't scale well—costly solutions that are difficult to maintain over time. This book shows system architects and web developers how to design and implement human- and machine-readable web services that remain stable and flexible as they scale. Learn the H-Factors for representing application metadata across all media types and formats Understand the four basic design elements for authoring hypermedia types Convert a simple read-only XML-based media type into a successful API design Examine the challenges and advantages of designing a hypermedia type with JSON Use HTML5's rich set of hypermedia controls in the API design process Learn the details of documenting, publishing, and registering media type designs and link-relation types Design, User Experience, and Usability: UX Research and Design

How People Learn II

Modern API Development with Spring and Spring Boot

REST: Advanced Research Topics and Practical Applications

Principles and Practice

RESTful Web APIs

REST in Practice