

Learning Python Network Programming | 43f459a278dc4a8293a621504107f724

Artificial Intelligence with Python
Programming in Python 3
Learn Python Programming
Hands-On Enterprise Automation with Python
Python Network Programming Cookbook
Python Programming, Deep Learning
Python Tutorial
Mastering Rust
Practical Network Automation
Networking Fundamentals
Hands-On Network Programming with C
THE GUN RIGHTS WAR
Java Network Programming
Python Cookbook
Mastering Python Networking
The Rust Programming Language (Covers Rust 2018)
Mastering Python Networking
Computer Programming
Python for Everybody
Mastering Python Networking
Twisted Network Programming Essentials
Raspberry Pi: Amazing Projects from Scratch
Network Programmability and Automation
Learning Python
Python Network Programming
Python for Unix and Linux System Administration
Network Programming with Go
Learning Python Network Programming
Violent Python
Learning Python
Foundations of Python Network Programming
Learning Python Networking - Second Edition
Foundations of Python Network Programming
Learning Python Networking
C++ Network Programming, Volume 2
Python Network Programming Cookbook
Hello! Python
Python Scripting for Network Engineers
Mastering Python for Networking and Security
Learning Network Programming with Java

Like sysadmins before them, network engineers are finding that they cannot do their work manually anymore. As the field faces new protocols, technologies, delivery models, and a pressing need for businesses to be more agile and flexible, network automation is becoming essential. This practical guide shows network engineers how to use a range of technologies and tools—including Linux, Python, JSON, and XML—to automate their systems through code. Network programming and automation will help you simplify tasks involved in configuring, managing, and operating network equipment, topologies, services, and connectivity. Through the course of the book, you'll learn the basic skills and tools you need to make this critical transition. This book covers: Python programming basics: data types, conditionals, loops, functions, classes, and modules Linux fundamentals to provide the foundation you need on your network automation journey Data formats and models: JSON, XML, YAML, and YANG for networking Jinja templating and its applicability for creating network device configurations The role of application programming interfaces (APIs) in network automation Source control with Git to manage code changes during the automation process How Ansible, Salt, and StackStorm open source automation tools can be used to automate network devices Key tools and technologies required for a Continuous Integration (CI) pipeline in network operations

Get More from your Network with Automation tools to increase its effectiveness. About This Book Get started with network automation (and different automation tasks) with relevant use cases Apply software design principles such as Continuous Integration and DevOps to your network toolkit Guides you through some best practices in automation Who This Book Is For If you are a network engineer looking for an extensive guide to help you automate and manage your network efficiently, then this book is for you. What You Will Learn Get the detailed analysis of Network automation Trigger automations through available data factors Improve data center robustness and security through specific access and data digging Get an Access to APIs from Excel for dynamic reporting Set up a communication with SSH-based devices using netmiko Make full use of practical use cases and best practices to get accustomed with the various aspects of network automation In Detail Network automation is the use of IT controls to supervise and carry out every-day network management functions. It plays a key role in network virtualization technologies and network functions. The book starts by providing an introduction to network automation, SDN, and its applications, which include integrating DevOps tools to automate the network efficiently. It then guides you through different network automation tasks and covers various data digging and reporting methodologies such as IPv6 migration, DC relocations, and interface parsing, all the while retaining security and improving data center robustness. The book then moves on to the use of Python and the management of SSH keys for machine-to-machine (M2M) communication, all followed by practical use cases. The book also covers the importance of Ansible for network automation including best practices in automation, ways to test automated networks using different tools, and other important techniques. By the end of the book, you will be well acquainted with the various aspects of network automation. Style and approach A clear, concise, and straightforward book that will enable you to automate networks and improve performance.

A guide to developing network programs covers networking fundamentals as well as TCP and UDP sockets, multicasting protocol, content handlers, servlets, I/O, parsing, Java Mail API, and Java Secure Sockets Extension.

Harness the hidden power of Java to build network-enabled applications with lower network traffic and faster processes About This Book Learn to deliver superior server-to-server communication through the networking channels Gain expertise of the networking features of your own applications to support various network architectures such as client/server and peer-to-peer Explore the issues that impact scalability, affect security, and allow applications to work in a heterogeneous environment Who This Book Is For Learning Network Programming with Java is oriented to developers who wish to use network technologies to enhance the utility of their applications. You should have a working knowledge of Java and an interest in learning the latest in network programming techniques using Java. No prior experience with network development or special software beyond the Java SDK is needed. Upon completion of the book, beginner and experienced developers will be able to use Java to access resources across a network and the Internet. What You Will Learn Connect to other applications using sockets Use channels and buffers to enhance communication between applications Access network services and develop client/server applications Explore the critical elements of peer-to-peer applications and current technologies available Use UDP to perform multicasting Address scalability through the use of core and advanced threading techniques Incorporate techniques into an application to make it more secure Configure and address interoperability issues to enable your applications to work in a heterogeneous environment In Detail Network-aware applications are becoming more prevalent and play an ever-increasing role in the world today. Connecting and using an Internet-based service is a frequent requirement for many applications. Java provides numerous classes that have evolved over the years to meet evolving network needs. These range from low-level socket and IP-based approaches to those encapsulated in software services. This book explores how Java supports networks, starting with the basics and then advancing to more complex topics.

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An overview of each relevant network technology is presented followed by detailed examples of how to use Java to support these technologies. We start with the basics of networking and then explore how Java supports the development of client/server and peer-to-peer applications. The NIO packages are examined as well as multitasking and how network applications can address practical issues such as security. A discussion on networking concepts will put many network issues into perspective and let you focus on the appropriate technology for the problem at hand. The examples used will provide a good starting point to develop similar capabilities for many of your network needs. Style and approach Each network technology's terms and concepts are introduced first. This is followed up with code examples to explain these technologies. Many of the examples are supplemented with alternate Java 8 solutions when appropriate. Knowledge of Java 8 is not necessary but these examples will help you better understand the power of Java 8.

Learn the fundamentals of Python (3.7) and how to apply it to data science, programming, and web development. Fully updated to include hands-on tutorials and projects. Key Features Learn the fundamentals of Python programming with interactive projects Apply Python to data science with tools such as IPython and Jupyter Utilize Python for web development and build a real-world app using Django Book Description Learn Python Programming is a quick, thorough, and practical introduction to Python - an extremely flexible and powerful programming language that can be applied to many disciplines. Unlike other books, it doesn't bore you with elaborate explanations of the basics but gets you up-and-running, using the language. You will begin by learning the fundamentals of Python so that you have a rock-solid foundation to build upon. You will explore the foundations of Python programming and learn how Python can be manipulated to achieve results. Explore different programming paradigms and find the best approach to a situation; understand how to carry out performance optimization and effective debugging; control the flow of a program; and utilize an interchange format to exchange data. You'll also walk through cryptographic services in Python and understand secure tokens. Learn Python Programming will give you a thorough understanding of the Python language. You'll learn how to write programs, build websites, and work with data by harnessing Python's renowned data science libraries. Filled with real-world examples and projects, the book covers various types of applications, and concludes by building real-world projects based on the concepts you have learned. What you will learn Get Python up and running on Windows, Mac, and Linux Explore fundamental concepts of coding using data structures and control flow Write elegant, reusable, and efficient code in any situation Understand when to use the functional or OOP approach Cover the basics of security and concurrent/asynchronous programming Create bulletproof, reliable software by writing tests Build a simple website in Django Fetch, clean, and manipulate data Who this book is for Learn Python Programming is for individuals with relatively little experience in coding or Python. It's also ideal for aspiring programmers who need to write scripts or programs to accomplish tasks. The book shows you how to create a full-fledged application.

Learn to code like a professional with Python – an open source, versatile, and powerful programming language About This Book Learn the fundamentals of programming with Python – one of the best languages ever created Develop a strong set of programming skills that you will be able to express in any situation, on every platform, thanks to Python's portability Create outstanding applications of all kind, from websites to scripting, and from GUIs to data science Who This Book Is For Python is the most popular introductory teaching language in U.S. top computer science universities, so if you are new to software development, or maybe you have little experience, and would like to start off on the right foot, then this language and this book are what you need. Its amazing design and portability will help you become productive regardless of the environment you choose to work with. What You Will Learn Get Python up and running on Windows, Mac, and Linux in no time Grasp the fundamental concepts of coding, along with the basics of data structures and control flow. Write elegant, reusable, and efficient code in any situation Understand when to use the functional or the object oriented programming approach Create bulletproof, reliable software by writing tests to support your code Explore examples of GUIs, scripting, data science and web applications Learn to be independent, capable of fetching any resource you need, as well as dig deeper In Detail Learning Python has a dynamic and varied nature. It reads easily and lays a good foundation for those who are interested in digging deeper. It has a practical and example-oriented approach through which both the introductory and the advanced topics are explained. Starting with the fundamentals of programming and Python, it ends by exploring very different topics, like GUIs, web apps and data science. The book takes you all the way to creating a fully fledged application. The book begins by exploring the essentials of programming, data structures and teaches you how to manipulate them. It then moves on to controlling the flow of a program and writing reusable and error proof code. You will then explore different programming paradigms that will allow you to find the best approach to any situation, and also learn how to perform performance optimization as well as effective debugging. Throughout, the book steers you through the various types of applications, and it concludes with a complete mini website built upon all the concepts that you learned. Style and approach This book is an easy-to-follow guide that will take you from a novice to the proficient level at a comfortable pace, using a lot of simple but effective examples. Each topic is explained thoroughly, and pointers are left for the more inquisitive readers to dig deeper and expand their knowledge.

* Covers low-level networking in Python —essential for writing a new networked application protocol. * Many working examples demonstrate concepts in action -- and can be used as starting points for new projects. * Networked application security is demystified. * Exhibits and explains multitasking network servers using several models, including forking, threading, and non-blocking sockets. * Features extensive coverage of Web and E-mail. Describes Python's database APIs.

The official book on the Rust programming language, written by the Rust development team at the Mozilla Foundation, fully updated for Rust 2018. The Rust Programming Language is the official book on Rust: an open source systems programming language that helps you write faster, more reliable software. Rust offers control over low-level details (such as memory usage) in combination with high-level ergonomics, eliminating the hassle traditionally associated with low-level languages. The authors of The Rust Programming Language, members of the Rust Core Team, share their knowledge and experience to show you how to take full advantage of Rust's features--from installation to creating robust and scalable programs. You'll begin with basics like creating functions, choosing data types, and binding variables and then move on to more advanced concepts, such as:

- Ownership and borrowing, lifetimes, and traits
- Using Rust's memory safety guarantees to build fast, safe programs
- Testing, error handling, and effective refactoring
- Generics, smart pointers, multithreading, trait objects, and advanced pattern matching
- Using Cargo, Rust's built-in package manager, to build, test, and document your code and manage dependencies
- How best to use Rust's advanced compiler with compiler-led programming techniques

You'll find plenty of code examples throughout the book, as well as three chapters dedicated to building complete projects to test your learning: a number guessing

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game, a Rust implementation of a command line tool, and a multithreaded server. New to this edition: An extended section on Rust macros, an expanded chapter on modules, and appendixes on Rust development tools and editions.

Discover practical solutions for a wide range of real-world network programming tasks About This Book Solve real-world tasks in the area of network programming, system/networking administration, network monitoring, and more. Familiarize yourself with the fundamentals and functionalities of SDN Improve your skills to become the next-gen network engineer by learning the various facets of Python programming Who This Book Is For This book is for network engineers, system/network administrators, network programmers, and even web application developers who want to solve everyday network-related problems. If you are a novice, you will develop an understanding of the concepts as you progress with this book. What You Will Learn Develop TCP/IP networking client/server applications Administer local machines' IPv4/IPv6 network interfaces Write multi-purpose efficient web clients for HTTP and HTTPS protocols Perform remote system administration tasks over Telnet and SSH connections Interact with popular websites via web services such as XML-RPC, SOAP, and REST APIs Monitor and analyze major common network security vulnerabilities Develop Software-Defined Networks with Ryu, OpenDaylight, Floodlight, ONOS, and POX Controllers Emulate simple and complex networks with Mininet and its extensions for network and systems emulations Learn to configure and build network systems and Virtual Network Functions (VNF) in heterogeneous deployment environments Explore various Python modules to program the Internet In Detail Python Network Programming Cookbook - Second Edition highlights the major aspects of network programming in Python, starting from writing simple networking clients to developing and deploying complex Software-Defined Networking (SDN) and Network Functions Virtualization (NFV) systems. It creates the building blocks for many practical web and networking applications that rely on various networking protocols. It presents the power and beauty of Python to solve numerous real-world tasks in the area of network programming, network and system administration, network monitoring, and web-application development. In this edition, you will also be introduced to network modelling to build your own cloud network. You will learn about the concepts and fundamentals of SDN and then extend your network with Mininet. Next, you'll find recipes on Authentication, Authorization, and Accounting (AAA) and open and proprietary SDN approaches and frameworks. You will also learn to configure the Linux Foundation networking ecosystem and deploy and automate your networks with Python in the cloud and the Internet scale. By the end of this book, you will be able to analyze your network security vulnerabilities using advanced network packet capture and analysis techniques. Style and approach This book follows a practical approach and covers major aspects of network programming in Python. It provides hands-on recipes combined with short and concise explanations on code snippets. This book will serve as a supplementary material to develop hands-on skills in any academic course on network programming. This book further elaborates network softwarization, including Software-Defined Networking (SDN), Network Functions Virtualization (NFV), and orchestration. We learn to configure and deploy enterprise network platforms, develop applications on top of them with Python.

Python for Everybody is designed to introduce students to programming and software development through the lens of exploring data. You can think of the Python programming language as your tool to solve data problems that are beyond the capability of a spreadsheet. Python is an easy to use and easy to learn programming language that is freely available on Macintosh, Windows, or Linux computers. So once you learn Python you can use it for the rest of your career without needing to purchase any software. This book uses the Python 3 language. The earlier Python 2 version of this book is titled "Python for Informatics: Exploring Information". There are free downloadable electronic copies of this book in various formats and supporting materials for the book at www.pythonlearn.com. The course materials are available to you under a Creative Commons License so you can adapt them to teach your own Python course.

Python 3 is the best version of the language yet: It is more powerful, convenient, consistent, and expressive than ever before. Now, leading Python programmer Mark Summerfield demonstrates how to write code that takes full advantage of Python 3's features and idioms. The first book written from a completely "Python 3" viewpoint, *Programming in Python 3* brings together all the knowledge you need to write any program, use any standard or third-party Python 3 library, and create new library modules of your own. Summerfield draws on his many years of Python experience to share deep insights into Python 3 development you won't find anywhere else. He begins by illuminating Python's "beautiful heart": the eight key elements of Python you need to write robust, high-performance programs. Building on these core elements, he introduces new topics designed to strengthen your practical expertise—one concept and hands-on example at a time. This book's coverage includes Developing in Python using procedural, object-oriented, and functional programming paradigms Creating custom packages and modules Writing and reading binary, text, and XML files, including optional compression, random access, and text and XML parsing Leveraging advanced data types, collections, control structures, and functions Spreading program workloads across multiple processes and threads Programming SQL databases and key-value DBM files Utilizing Python's regular expression mini-language and module Building usable, efficient, GUI-based applications Advanced programming techniques, including generators, function and class decorators, context managers, descriptors, abstract base classes, metaclasses, and more *Programming in Python 3* serves as both tutorial and language reference, and it is accompanied by extensive downloadable example code—all of it tested with the final version of Python 3 on Windows, Linux, and Mac OS X.

Power up your network applications with Python programming Key Features Master Python skills to develop powerful network applications Grasp the fundamentals and functionalities of SDN Design multi-threaded, event-driven architectures for echo and chat servers Book Description This Learning Path highlights major aspects of Python network programming such as writing simple networking clients, creating and deploying SDN and NFV systems, and extending your network with Mininet. You'll also learn how to automate legacy and the latest network devices. As you progress through the chapters, you'll use Python for DevOps and open source tools to test, secure, and analyze your network. Toward the end, you'll develop client-side applications, such as web API clients, email clients, SSH, and FTP, using socket programming. By the end of this Learning Path, you will have learned how to analyze a network's security vulnerabilities using advanced network packet capture and analysis techniques. This Learning Path includes content from the following Packt products: *Practical Network Automation* by Abhishek Ratan *Mastering Python Networking* by Eric Chou *Python Network Programming Cookbook, Second Edition* by Pradeeban Kathiravelu, Dr. M. O. Faruque Sarker What you will learn Create socket-based networks with asynchronous models Develop client apps for web APIs, including S3 Amazon and Twitter Talk to email and remote network servers with different protocols Integrate Python with Cisco, Juniper, and Arista eAPI for automation Use Telnet and SSH connections for remote system monitoring Interact with websites via XML-RPC, SOAP, and REST APIs Build networks with Ryu, OpenDaylight, Floodlight, ONOS, and POX

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Configure virtual networks in different deployment environments Who this book is for If you are a Python developer or a system administrator who wants to start network programming, this Learning Path gets you a step closer to your goal. IT professionals and DevOps engineers who are new to managing network devices or those with minimal experience looking to expand their knowledge and skills in Python will also find this Learning Path useful. Although prior knowledge of networking is not required, some experience in Python programming will be helpful for a better understanding of the concepts in the Learning Path.

Invent your own Python scripts to automate your infrastructure Key Features Make the most of Python libraries and modules to automate your infrastructure Leverage Python programming to automate server configurations and administration tasks Efficiently develop your Python skill set Book Description Hands-On Enterprise Automation with Python starts by covering the set up of a Python environment to perform automation tasks, as well as the modules, libraries, and tools you will be using. We'll explore examples of network automation tasks using simple Python programs and Ansible. Next, we will walk you through automating administration tasks with Python Fabric, where you will learn to perform server configuration and administration, along with system administration tasks such as user management, database management, and process management. As you progress through this book, you'll automate several testing services with Python scripts and perform automation tasks on virtual machines and cloud infrastructure with Python. In the concluding chapters, you will cover Python-based offensive security tools and learn how to automate your security tasks. By the end of this book, you will have mastered the skills of automating several system administration tasks with Python. What you will learn Understand common automation modules used in Python Develop Python scripts to manage network devices Automate common Linux administration tasks with Ansible and Fabric Managing Linux processes Administrate VMware, OpenStack, and AWS instances with Python Security automation and sharing code on GitHub Who this book is for Hands-On Enterprise Automation with Python is for system administrators and DevOps engineers who are looking for an alternative to major automation frameworks such as Puppet and Chef. Basic programming knowledge with Python and Linux shell scripting is necessary.

A comprehensive guide to programming with network sockets, implementing Internet protocols, designing IoT devices, and much more with C Key Features Leverage your C or C++ programming skills to build powerful network applications Get to grips with a variety of network protocols that allow you to load web pages, send emails, and do much more Write portable network code for operating systems such as Windows, Linux, and macOS Book Description Network programming, a challenging topic in C, is made easy to understand with a careful exposition of socket programming APIs. This book gets you started with modern network programming in C and the right use of relevant operating system APIs. This book covers core concepts, such as hostname resolution with DNS, that are crucial to the functioning of the modern web. You'll delve into the fundamental network protocols, TCP and UDP. Essential techniques for networking paradigms such as client-server and peer-to-peer models are explained with the help of practical examples. You'll also study HTTP and HTTPS (the protocols responsible for web pages) from both the client and server perspective. To keep up with current trends, you'll apply the concepts covered in this book to gain insights into web programming for IoT. You'll even get to grips with network monitoring and implementing security best practices. By the end of this book, you'll have experience of working with client-server applications, and be able to implement new network programs in C. The code in this book is compatible with the older C99 version as well as the latest C18 and C++17 standards. Special consideration is given to writing robust, reliable, and secure code that is portable across operating systems, including Winsock sockets for Windows and POSIX sockets for Linux and macOS. What you will learn Uncover cross-platform socket programming APIs Implement techniques for supporting IPv4 and IPv6 Understand how TCP and UDP connections work over IP Discover how hostname resolution and DNS work Interface with web APIs using HTTP and HTTPS Acquire hands-on experience with Simple Mail Transfer Protocol (SMTP) Apply network programming to the Internet of Things (IoT) Who this book is for If you're a developer or a system administrator who wants to enter the world of network programming, this book is for you. Basic knowledge of C programming is assumed.

Summary Hello! Python fully covers the building blocks of Python programming and gives you a gentle introduction to more advanced topics such as object-oriented programming, functional programming, network programming, and program design. New (or nearly new) programmers will learn most of what they need to know to start using Python immediately. About this Book Programmers love Python because it's fast and efficient. Shouldn't learning Python be just the same? Hello! Python starts quickly and simply, with a line of Python code. You'll learn the basics the right way--by writing your own programs. Along the way, you'll get a gentle introduction to more advanced concepts and new programming styles.> No experience with Python needed. Exposure to another programming language is helpful but not required. 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 Makes Hello! Python special Learn Python fast Even if you've never written a line of code before, you'll be writing real Python apps in just an hour or two. Great examples There's something new in every chapter, including games, web programming with Django, databases, and more. User Friendly guides Using lots of illustrations and a down-to-earth writing style, this book invites you to explore Python along with half-a-dozen traveling companions from the User Friendly cartoon strip.

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?== Table of Contents Why Python? Hunt the Wumpus Interacting with theWorld Getting Organized Business-Oriented Programming Classes and Object-oriented Programming Sufficiently Advanced Technology Django! Gaming with Pyglet Twisted Networking Django Revisted! Where to from Here?

Do you need to develop flexible software that can be customized quickly? Do you need to add the power and efficiency of frameworks to your software? The ADAPTIVE Communication Environment (ACE) is an open-source toolkit for building high-performance networked applications and next-generation middleware. ACE's power and flexibility arise from object-oriented frameworks, used to achieve the systematic reuse of networked application software. ACE frameworks handle common network programming tasks and can be customized using C++ language features to produce complete distributed applications. C++ Network Programming, Volume 2, focuses on ACE frameworks, providing thorough coverage of the concepts, patterns, and usage rules that form their structure. This book is a practical guide to designing object-oriented frameworks and shows developers how to apply frameworks to concurrent networked applications. C++ Networking, Volume 1, introduced ACE and the wrapper facades, which are basic network computing ingredients. Volume 2 explains how frameworks build on wrapper facades to provide higher-level communication services. Written by two experts in the ACE community, this book contains: An overview of ACE frameworks Design dimensions for networked services Descriptions of the key capabilities of the most

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important ACE frameworks Numerous C++ code examples that demonstrate how to use ACE frameworks C++ Network Programming, Volume 2, teaches how to use frameworks to write networked applications quickly, reducing development effort and overhead. It will be an invaluable asset to any C++ developer working on networked applications.

55% OFF for bookstores! Get maximum revenue from the sale of this book. Your customers will love this book.

Become an expert in implementing advanced, network-related tasks with Python. About This Book Build the skills to perform all networking tasks using Python with ease Use Python for network device automation, DevOps, and software-defined networking Get practical guidance to networking with Python Who This Book Is For If you are a network engineer or a programmer who wants to use Python for networking, then this book is for you. A basic familiarity with networking-related concepts such as TCP/IP and a familiarity with Python programming will be useful. What You Will Learn Review all the fundamentals of Python and the TCP/IP suite Use Python to execute commands when the device does not support the API or programmatic interaction with the device Implement automation techniques by integrating Python with Cisco, Juniper, and Arista eAPI Integrate Ansible using Python to control Cisco, Juniper, and Arista networks Achieve network security with Python Build Flask-based web-service APIs with Python Construct a Python-based migration plan from a legacy to scalable SDN-based network. In Detail This book begins with a review of the TCP/IP protocol suite and a refresher of the core elements of the Python language. Next, you will start using Python and supported libraries to automate network tasks from the current major network vendors. We will look at automating traditional network devices based on the command-line interface, as well as newer devices with API support, with hands-on labs. We will then learn the concepts and practical use cases of the Ansible framework in order to achieve your network goals. We will then move on to using Python for DevOps, starting with using open source tools to test, secure, and analyze your network. Then, we will focus on network monitoring and visualization. We will learn how to retrieve network information using a polling mechanism. Flow-based monitoring, and visualizing the data programmatically. Next, we will learn how to use the Python framework to build your own customized network web services. In the last module, you will use Python for SDN, where you will use a Python-based controller with OpenFlow in a hands-on lab to learn its concepts and applications. We will compare and contrast OpenFlow, OpenStack, OpenDaylight, and NFV. Finally, you will use everything you've learned in the book to construct a migration plan to go from a legacy to a scalable SDN-based network. Style and approach An easy-to-follow guide packed with hands-on examples of using Python for network device automation, DevOps, and SDN.

Build real-world Artificial Intelligence applications with Python to intelligently interact with the world around you About This Book Step into the amazing world of intelligent apps using this comprehensive guide Enter the world of Artificial Intelligence, explore it, and create your own applications Work through simple yet insightful examples that will get you up and running with Artificial Intelligence in no time Who This Book Is For This book is for Python developers who want to build real-world Artificial Intelligence applications. This book is friendly to Python beginners, but being familiar with Python would be useful to play around with the code. It will also be useful for experienced Python programmers who are looking to use Artificial Intelligence techniques in their existing technology stacks. What You Will Learn Realize different classification and regression techniques Understand the concept of clustering and how to use it to automatically segment data See how to build an intelligent recommender system Understand logic programming and how to use it Build automatic speech recognition systems Understand the basics of heuristic search and genetic programming Develop games using Artificial Intelligence Learn how reinforcement learning works Discover how to build intelligent applications centered on images, text, and time series data See how to use deep learning algorithms and build applications based on it In Detail Artificial Intelligence is becoming increasingly relevant in the modern world where everything is driven by technology and data. It is used extensively across many fields such as search engines, image recognition, robotics, finance, and so on. We will explore various real-world scenarios in this book and you'll learn about various algorithms that can be used to build Artificial Intelligence applications. During the course of this book, you will find out how to make informed decisions about what algorithms to use in a given context. Starting from the basics of Artificial Intelligence, you will learn how to develop various building blocks using different data mining techniques. You will see how to implement different algorithms to get the best possible results, and will understand how to apply them to real-world scenarios. If you want to add an intelligence layer to any application that's based on images, text, stock market, or some other form of data, this exciting book on Artificial Intelligence will definitely be your guide! Style and approach This highly practical book will show you how to implement Artificial Intelligence. The book provides multiple examples enabling you to create smart applications to meet the needs of your organization. In every chapter, we explain an algorithm, implement it, and then build a smart application.

Explore the powers of Raspberry Pi and build your very own projects right out of the box About This Book From robotics to gaming, this Learning Path will unlock your creativity! Build your own impressive IoT projects to transform your home Featuring some of Packt's very best Raspberry Pi content, this Learning Path doesn't just get you to your destination – it opens up a whole horizon of possibilities! Who This Book Is For Want new ideas for your next Raspberry Pi project? Got one lying around gathering dust? This Learning Path gets you straight into the creative dirty work of programming and playing with your pi. Whether your new to Raspberry Pi, or an experienced maker, we think this Learning Path will inspire you and get your creative juices flowing! What You Will Learn Discover an awesome range of Raspberry Pi projects Bridge the gap between software and hardware through your Pi and find out how to make an operating system interact with cameras and other hardware Find out how to use your Raspberry Pi for gaming Secure your home with this tiny computer! Make science fiction a reality – build a walking robot In Detail Looking for inspiration for your next Raspberry Pi project? Not sure where to begin? This Learning Path is the perfect place to begin, providing you with an accessible yet comprehensive journey through Raspberry Pi. Following three modules, you'll soon be confident and prepared to get creative with your microcomputer. Raspberry Pi by Example is the first module in this Learning Path – and it does exactly what it says. It doesn't just teach, it shows you how to go and build some awesome Raspberry Pi projects immediately. Build and play your own games with the Pi, build a complete Internet of Things home automation system that controls your house through Twitter let your imagination run wild! In the next module we'll look in more depth at building a home security system. You'll be using some of the skills you devoped through the first module, but apply them to something more intricate and impressive. Using a Linux based operating system as the foundations, you'll gradually build up an entire security infrastructure adding cameras, remote controls, and even intrusion alerts! In the final module, we'll take you into the world of Raspberry Pi robotics. By the end of it, you'll have built a biped robot that can interact with its environment! This Learning Path combines some of the

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best that Packt has to offer in one complete, curated package. It includes content from the following Packt products: Raspberry Pi By Example by Ashwin Pajankar and Arush Kakkar Building a Home Security System with Raspberry Pi by Matthew Pole Raspberry Pi Robotics Essentials by Richard Grimmett Style and approach It's not every day you build a home automation system. It's not every day you build a walking robot. But with this Learning Path you'll do just that. So get started and let this tiny computer expand your imagination.

Written for developers who want build applications using Twisted, this book presents a task-oriented look at this open source, Python-based technology.

New edition of the bestselling guide to mastering Python Networking, updated to Python 3 and including the latest on network data analysis, Cloud Networking, Ansible 2.8, and new libraries Key Features Explore the power of Python libraries to tackle difficult network problems efficiently and effectively, including pyATS, Nornir, and Ansible 2.8 Use Python and Ansible for DevOps, network device automation, DevOps, and software-defined networking Become an expert in implementing advanced network-related tasks with Python 3 Book Description Networks in your infrastructure set the foundation for how your application can be deployed, maintained, and serviced. Python is the ideal language for network engineers to explore tools that were previously available to systems engineers and application developers. In Mastering Python Networking, Third edition, you'll embark on a Python-based journey to transition from traditional network engineers to network developers ready for the next-generation of networks. This new edition is completely revised and updated to work with Python 3. In addition to new chapters on network data analysis with ELK stack (Elasticsearch, Logstash, Kibana, and Beats) and Azure Cloud Networking, it includes updates on using newer libraries such as pyATS and Nornir, as well as Ansible 2.8. Each chapter is updated with the latest libraries with working examples to ensure compatibility and understanding of the concepts. Starting with a basic overview of Python, the book teaches you how it can interact with both legacy and API-enabled network devices. You will learn to leverage high-level Python packages and frameworks to perform network automation tasks, monitoring, management, and enhanced network security followed by Azure and AWS Cloud networking. Finally, you will use Jenkins for continuous integration as well as testing tools to verify your network. What you will learn Use Python libraries to interact with your network Integrate Ansible 2.8 using Python to control Cisco, Juniper, and Arista network devices Leverage existing Flask web frameworks to construct high-level APIs Learn how to build virtual networks in the AWS & Azure Cloud Learn how to use Elastic Stack for network data analysis Understand how Jenkins can be used to automatically deploy changes in your network Use PyTest and Unittest for Test-Driven Network Development in networking engineering with Python Who this book is for Mastering Python Networking, Third edition is for network engineers, developers, and SREs who want to use Python for network automation, programmability, and data analysis. Basic familiarity with Python programming and networking-related concepts such as Transmission Control Protocol/Internet Protocol (TCP/IP) will be useful.

This second edition of Foundations of Python Network Programming targets Python 2.5 through Python 2.7, the most popular production versions of the language. Python has made great strides since Apress released the first edition of this book back in the days of Python 2.3. The advances required new chapters to be written from the ground up, and others to be extensively revised. You will learn fundamentals like IP, TCP, DNS and SSL by using working Python programs; you will also be able to familiarize yourself with infrastructure components like memcached and message queues. You can also delve into network server designs, and compare threaded approaches with asynchronous event-based solutions. But the biggest change is this edition's expanded treatment of the web. The HTTP protocol is covered in extensive detail, with each feature accompanied by sample Python code. You can use your HTTP protocol expertise by studying an entire chapter on screen scraping and you can then test lxml and BeautifulSoup against a real-world web site. The chapter on web application programming now covers both the WSGI standard for component interoperability, as well as modern web frameworks like Django. Finally, all of the old favorites from the first edition are back: E-mail protocols like SMTP, POP, and IMAP get full treatment, as does XML-RPC. You can still learn how to code Python network programs using the Telnet and FTP protocols, but you are likely to appreciate the power of more modern alternatives like the paramiko SSH2 library. If you are a Python programmer who needs to learn the network, this is the book that you want by your side.

An easy-to-follow guide full of hands-on examples on real-world networking tasks. It covers the advanced topics of network programming in Python using a set of selected recipes. If you are a network programmer, system/network administrator, or a web application developer, this book is ideal for you. You should have a basic familiarity with the Python programming language and TCP/IP networking concepts. However if you are a novice, you will develop an understanding of the concepts as you progress with this book. This book will serve as a supplementary material for developing hands-on skills in any academic course on network programming.

Today Network Automation can be used for provisioning, configurations, identifying rogue devices, mitigating security attacks, compliance, audits, capacity planning and scores of other network deployment activities. It has helped in enhancing network visibility and has empowered the network engineers to make faster, smarter network decisions, optimize uptime and performance, enhance security, and enable innovation instead of spending endless cycles in managing the network. This book has been written for Network Engineers and Network Managers who are starting to explore network automation. This book is a good starting point for Network Engineers who learnt Programming in their earlier academic or work career and haven't used it in a long time or those Network Engineers who are learning Programming and Automation for the first time. The book has example Python Scripts which readers can practice and improve their job potential and make the networks more resilient and scalable.

Achieve improved network programmability and automation by leveraging powerful network programming concepts, algorithms, and tools Key Features Deal with remote network servers using SSH, FTP, SNMP and LDAP protocols. Design multi threaded and event-driven architectures for asynchronous servers programming. Leverage your Python programming skills to build powerful network applications Book Description Network programming has always been a demanding task. With full-featured and well-documented libraries all the way up the stack, Python makes network programming the enjoyable experience it should be. Starting with a walk through of today's major networking protocols, through this book, you'll learn how to employ Python for network programming, how to request and retrieve web resources, and how to extract data in major formats over the web. You will utilize Python for emailing using different protocols, and you'll interact with remote systems and IP and DNS networking. You will cover the connection of networking devices and configuration using

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Python 3.7, along with cloud-based network management tasks using Python. As the book progresses, socket programming will be covered, followed by how to design servers, and the pros and cons of multithreaded and event-driven architectures. You'll develop practical clientside applications, including web API clients, email clients, SSH, and FTP. These applications will also be implemented through existing web application frameworks. What you will learn Execute Python modules on networking tools Automate tasks regarding the analysis and extraction of information from a network Get to grips with asynchronous programming modules available in Python Get to grips with IP address manipulation modules using Python programming Understand the main frameworks available in Python that are focused on web application Manipulate IP addresses and perform CIDR calculations Who this book is for If you're a Python developer or a system administrator with Python experience and you're looking to take your first steps in network programming, then this book is for you. If you're a network engineer or a network professional aiming to be more productive and efficient in networking programmability and automation then this book would serve as a useful resource. Basic knowledge of Python is assumed. Downloading the example code for this book You can download the example code files for all Packt books you have purchased from your accou

Master the art of using Python for a diverse range of network engineering tasks Key Features Explore the power of Python libraries to tackle difficult network problems efficiently and effectively Use Python for network device automation, DevOps, and software-defined networking Become an expert in implementing advanced network-related tasks with Python Book Description Networks in your infrastructure set the foundation for how your application can be deployed, maintained, and serviced. Python is the ideal language for network engineers to explore tools that were previously available to systems engineers and application developers. In this second edition of Mastering Python Networking, you'll embark on a Python-based journey to transition from traditional network engineers to network developers ready for the next-generation of networks. This book begins by reviewing the basics of Python and teaches you how Python can interact with both legacy and API-enabled network devices. As you make your way through the chapters, you will then learn to leverage high-level Python packages and frameworks to perform network engineering tasks for automation, monitoring, management, and enhanced security. In the concluding chapters, you will use Jenkins for continuous network integration as well as testing tools to verify your network. By the end of this book, you will be able to perform all networking tasks with ease using Python. What you will learn Use Python libraries to interact with your network Integrate Ansible 2.5 using Python to control Cisco, Juniper, and Arista eAPI network devices Leverage existing frameworks to construct high-level APIs Learn how to build virtual networks in the AWS Cloud Understand how Jenkins can be used to automatically deploy changes in your network Use PyTest and Unittest for Test-Driven Network Development Who this book is for Mastering Python Networking is for network engineers and programmers who want to use Python for networking. Basic familiarity with Python programming and networking-related concepts such as Transmission Control Protocol/Internet Protocol (TCP/IP) will be useful.

Python is an easy to learn, powerful programming language. It has efficient high-level data structures and a simple but effective approach to object-oriented programming. Python's elegant syntax and dynamic typing, together with its interpreted nature, make it an ideal language for scripting and rapid application development in many areas on most platforms. The Python interpreter and the extensive standard library are freely available in source or binary form for all major platforms from the Python Web site, <https://www.python.org/>, and may be freely distributed. The same site also contains distributions of and pointers to many free third party Python modules, programs and tools, and additional documentation. The Python interpreter is easily extended with new functions and data types implemented in C or C++ (or other languages callable from C). Python is also suitable as an extension language for customizable applications. This tutorial introduces the reader informally to the basic concepts and features of the python language and system. It helps to have a Python interpreter handy for hands-on experience, but all examples are self contained, so the tutorial can be read off-line as well. For a description of standard objects and modules, see [library-index](#). [reference-index](#) gives a more formal de?nition of the language. To write extensions in C or C++, read [extending-index](#) and [c-api-index](#). There are also several books covering Python in depth. This tutorial does not attempt to be comprehensive and cover every single feature, or even every commonly used feature. Instead, it introduces many of Python's most noteworthy features, and will give you a good idea of the language's ?avor and style. After reading it, you will be able to read and write Python modules and programs, and you will be ready to learn more about the various Python library modules described in [library-index](#). The Glossary is also worth going through.

Become well-versed with basic networking concepts such as routing, switching, and subnetting, and prepare for the Microsoft 98-366 exam Key Features Build a strong foundation in networking concepts Explore both the hardware and software aspects of networking Prepare by taking mock tests with up-to-date exam questions Book Description A network is a collection of computers, servers, mobile devices, or other computing devices connected for sharing data. This book will help you become well versed in basic networking concepts and prepare to pass Microsoft's MTA Networking Fundamentals Exam 98-366. Following Microsoft's official syllabus, the book starts by covering network infrastructures to help you differentiate intranets, internets, and extranets, and learn about network topologies. You'll then get up to date with common network hardware devices such as routers and switches and the media types used to connect them together. As you advance, the book will take you through different protocols and services and the requirements to follow a standardized approach to networking. You'll get to grips with the OSI and TCP/IP models as well as IPv4 and IPv6. The book also shows you how to recall IP addresses through name resolution. Finally, you'll be able to practice everything you've learned and take the exam confidently with the help of mock tests. By the end of this networking book, you'll have developed a strong foundation in the essential networking concepts needed to pass Exam 98-366. What you will learn Things you will learn: Become well versed in networking topologies and concepts Understand network infrastructures such as intranets, extranets, and more Explore network switches, routers, and other network hardware devices Get to grips with different network protocols and models such as OSI and TCP/IP Work with a variety of network services such as DHCP, NAT, firewalls, and remote access Apply networking concepts in different real-world scenarios Who this book is for If you're new to the IT industry or simply want to gain a thorough understanding of networking, this book is for you. A basic understanding of the Windows operating system and your network environment will be helpful.

Network Programming with Go teaches you how to write clean, secure network software with the programming language designed to make it seem easy. Go combines the best parts of many other programming languages. It's fast, scalable, and designed for high-performance networking and multiprocessing—in other words, it's perfect for network programming. Network Programming with Go is for developers ready to start leveraging Go's ease of use for writing secure, readable, production-ready network code. Early chapters establish a

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foundation of networking and traffic-routing know-how upon which the rest of the book builds. You'll put that knowledge to use as author Adam Woodbeck guides you through writing programs that communicate using TCP, UDP, Unix sockets, and other features that ensure reliable data transmission. As you progress, you'll explore higher-level network protocols like HTTP and HTTP/2, then build applications that securely interact with servers, clients, and APIs over a network using TLS. In addition, Woodbeck shows you how to create a simple messaging protocol, develop tools for monitoring network traffic, craft a custom web server, and implement best practices for interacting with cloud providers using their SDKs. Along the way, you'll learn:

- IP basics for writing effective network programs, such as IPv4 and IPv6 multicasting, ports, and network address translation
- How to use handlers, middleware, and multiplexers to build capable HTTP-based applications with minimal code
- The OSI and TCP/IP models for layered data architectures
- Methods for reading data from/writing data to a network connection, like the type-length-value encoding scheme
- Tools for incorporating authentication and encryption into your applications using TLS, like mutual authentication
- How to serialize data for storage or transmission in Go-friendly formats like JSON, Gob, XML, and protocol buffers
- How to Leverage Go's code generation support to efficiently communicate with gRPC-based network services

So get ready to take advantage of Go's built-in concurrency, rapid compiling, and rich standard library. Because when it comes to writing robust network programs, it's Go time.

Network programming has always been a demanding task. With full-featured and well documented libraries all the way up the stack, Python makes network programming the enjoyable experience it should be. Starting with a walkthrough of today's major networking protocols, with this book you'll learn how to employ Python for network programming, how to request and retrieve web resources, and how to extract data in major formats over the Web. You'll utilize Python for e-mailing using different protocols and you'll interact with remote systems and IP and DNS networking. As the book progresses, socket programming will be covered, followed by how to design servers and the pros and cons of multithreaded and event-driven architectures. You'll develop practical client-side applications, including web API clients, e-mail clients, SSH, and FTP. These applications will also be implemented through existing web application frameworks.

Python is an ideal language for solving problems, especially in Linux and Unix networks. With this pragmatic book, administrators can review various tasks that often occur in the management of these systems, and learn how Python can provide a more efficient and less painful way to handle them. Each chapter in Python for Unix and Linux System Administration presents a particular administrative issue, such as concurrency or data backup, and presents Python solutions through hands-on examples. Once you finish this book, you'll be able to develop your own set of command-line utilities with Python to tackle a wide range of problems. Discover how this language can help you:

- Read text files and extract information
- Run tasks concurrently using the threading and forking options
- Get information from one process to another using network facilities
- Create clickable GUIs to handle large and complex utilities
- Monitor large clusters of machines by interacting with SNMP programmatically
- Master the IPython Interactive Python shell to replace or augment Bash, Korn, or Z-Shell
- Integrate Cloud Computing into your infrastructure, and learn to write a Google App Engine Application
- Solve unique data backup challenges with customized scripts
- Interact with MySQL, SQLite, Oracle, Postgres, Django ORM, and SQLAlchemy

With this book, you'll learn how to package and deploy your Python applications and libraries, and write code that runs equally well on multiple Unix platforms. You'll also learn about several Python-related technologies that will make your life much easier.

Achieve improved network programmability and automation by leveraging powerful network programming concepts, algorithms, and tools

Key Features

- Deal with remote network servers using SSH, FTP, SNMP and LDAP protocols.
- Design multi threaded and event-driven architectures for asynchronous servers programming.
- Leverage your Python programming skills to build powerful network applications

Book Description

Network programming has always been a demanding task. With full-featured and well-documented libraries all the way up the stack, Python makes network programming the enjoyable experience it should be. Starting with a walk through of today's major networking protocols, through this book, you'll learn how to employ Python for network programming, how to request and retrieve web resources, and how to extract data in major formats over the web. You will utilize Python for emailing using different protocols, and you'll interact with remote systems and IP and DNS networking. You will cover the connection of networking devices and configuration using Python 3.7, along with cloud-based network management tasks using Python. As the book progresses, socket programming will be covered, followed by how to design servers, and the pros and cons of multithreaded and event-driven architectures. You'll develop practical clientside applications, including web API clients, email clients, SSH, and FTP. These applications will also be implemented through existing web application frameworks. What you will learn

- Execute Python modules on networking tools
- Automate tasks regarding the analysis and extraction of information from a network
- Get to grips with asynchronous programming modules available in Python
- Get to grips with IP address manipulation modules using Python programming
- Understand the main frameworks available in Python that are focused on web application
- Manipulate IP addresses and perform CIDR calculations

Who this book is for

If you're a Python developer or a system administrator with Python experience and you're looking to take your first steps in network programming, then this book is for you. If you're a network engineer or a network professional aiming to be more productive and efficient in networking programmability and automation then this book would serve as a useful resource. Basic knowledge of Python is assumed.

Mastering Rust, Second Edition covers a comprehensive list of topics that will help you gain deeper insights into the language. It will allow you how to create high performing applications effortlessly.

Nowadays, configuring a network and automating security protocols are quite difficult to implement. However, using Python makes it easy to automate this whole process. This book explains the process of using Python for building networks, detecting network errors, and performing different security protocols using Python Scripting.

Are you searching for the fastest way to master the fascinating world of Computer Science? For a very limited time you have the opportunity to get four best-selling guides in a single phenomenal mega bundle: if you are a student or a professional looking for more technical skills, then this is definitely the audiobook for you. In this complete crash course Jason Callaway has condensed everything you need in clear and beginner-friendly language, with practical examples, detailed explanations, tips and tricks from his experience. His revolutionary approach will speed up your learning, allowing you to master the Python language and its powerful applications in an extremely short time, even if you are a complete beginner. Moreover, you are about to begin a journey into the deepest areas of the web,

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which will lead you to understand perfectly the most effective strategies to hack any system you want. Don't forget that ETHICAL HACKING is becoming one of the most requested and well-paid positions in every big company all around the world. Here is just a tiny fraction of what you will learn: The basics of Python programming variables, data types, basic and advanced operations Essential Python libraries such as NumPy, Pandas, Matplotlib The most up-to-date computational methods and visualization techniques for data science Real-world applications of machine learning and artificial intelligence How to build statistical and machine learning models Neural networks and predictive modeling Computer Network Communication systems and their applications Wireless technologies and their vulnerabilities How to master the Linux operating system and its command line How to use Kali Linux for hacking and penetration testing Step-by-step exercises, practical examples, tips and tricks You will be amazed by the large number of programs that you will be able to create in no time. If you are ready to develop a successful career in this growing industry, then click the BUY button and get your copy!

Get a comprehensive, in-depth introduction to the core Python language with this hands-on book. Based on author Mark Lutz's popular training course, this updated fifth edition will help you quickly write efficient, high-quality code with Python. It's an ideal way to begin, whether you're new to programming or a professional developer versed in other languages. Complete with quizzes, exercises, and helpful illustrations, this easy-to-follow, self-paced tutorial gets you started with both Python 2.7 and 3.3—the latest releases in the 3.X and 2.X lines—plus all other releases in common use today. You'll also learn some advanced language features that recently have become more common in Python code. Explore Python's major built-in object types such as numbers, lists, and dictionaries Create and process objects with Python statements, and learn Python's general syntax model Use functions to avoid code redundancy and package code for reuse Organize statements, functions, and other tools into larger components with modules Dive into classes: Python's object-oriented programming tool for structuring code Write large programs with Python's exception-handling model and development tools Learn advanced Python tools, including decorators, descriptors, metaclasses, and Unicode processing

Portable, powerful, and a breeze to use, Python is the popular open source object-oriented programming language used for both standalone programs and scripting applications. It is now being used by an increasing number of major organizations, including NASA and Google. Updated for Python 2.4, The Python Cookbook, 2nd Edition offers a wealth of useful code for all Python programmers, not just advanced practitioners. Like its predecessor, the new edition provides solutions to problems that Python programmers face everyday. It now includes over 200 recipes that range from simple tasks, such as working with dictionaries and list comprehensions, to complex tasks, such as monitoring a network and building a templating system. This revised version also includes new chapters on topics such as time, money, and metaprogramming. Here's a list of additional topics covered: Manipulating text Searching and sorting Working with files and the filesystem Object-oriented programming Dealing with threads and processes System administration Interacting with databases Creating user interfaces Network and web programming Processing XML Distributed programming Debugging and testing Another advantage of The Python Cookbook, 2nd Edition is its trio of authors—three well-known Python programming experts, who are highly visible on email lists and in newsgroups, and speak often at Python conferences. With scores of practical examples and pertinent background information, The Python Cookbook, 2nd Edition is the one source you need if you're looking to build efficient, flexible, scalable, and well-integrated systems.

Violent Python shows you how to move from a theoretical understanding of offensive computing concepts to a practical implementation. Instead of relying on another attacker's tools, this book will teach you to forge your own weapons using the Python programming language. This book demonstrates how to write Python scripts to automate large-scale network attacks, extract metadata, and investigate forensic artifacts. It also shows how to write code to intercept and analyze network traffic using Python, craft and spoof wireless frames to attack wireless and Bluetooth devices, and how to data-mine popular social media websites and evade modern anti-virus. Demonstrates how to write Python scripts to automate large-scale network attacks, extract metadata, and investigate forensic artifacts Write code to intercept and analyze network traffic using Python. Craft and spoof wireless frames to attack wireless and Bluetooth devices Data-mine popular social media websites and evade modern anti-virus

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