

# Mikrotik

## MikroTik Scripting

MikroTik Scripting will teach you how to use the power of the MikroTik RouterOS scripting language to extend the functionality and support the administration of your MikroTik device. We'll explore topics such as: - Automation of repetitive configuration tasks - Executing administrative tasks at timed intervals - Creating new functionality customised for your environment - Interrogation and logging of performance and status information The book starts with the basics of scripting and progresses through an extensive range of topics allowing you to build, run and debug scripts on our MikroTik device. We'll explore questions such as: What is scripting, and how can it help me? - How do I create and run scripts on a MikroTik device? - What script creation workflow should I use? - What commands and syntax should I use to create scripts? - How can I debug my scripts? As you explore each topic, you'll create a series of scripts that increase in sophistication to reflect your growing scripting knowledge on your learning journey. All scripts shown in this book are available for download from GitHub. You'll be able to download a copy of each script and run it for yourself to see first-hand how it works. Each of the scripts you'll create is a software program written using the MikroTik scripting language. Although this book isn't intended to teach you how to become a software developer, it covers some of the basic concepts you'll need if you're not familiar with developing code. Who is this book for? This book is for anyone who wishes to learn how to create scripts for the MikroTik platform, including: Network engineers who are familiar with deploying MikroTik hardware and wish to create their own custom features for their network environment. Network and software engineers who are involved with network automation and would like to automate tasks in their MikroTik environment. Network operations departments who would like to automate alerts using self-monitoring scripts on MikroTik devices. If you've been searching for a single resource to teach you how to create your own MikroTik scripts, then you'll find MikroTik Scripting extremely useful. It's also a valuable reference guide to keep on your bookshelf for future scripting work.

## MikroTik MTCNA

The MTCNA (MikroTik Certified Network Associate) is the first step in the MikroTik certification path. It is a foundational certification required before studying any other MikroTik certifications. This book is designed to help you understand the official MTCNA certification syllabus, covering the fundamentals of MikroTik technologies in a simple and clear way. It includes step-by-step explanations, diagrams, and practical examples and labs in both GUI and CLI, using the latest version of RouterOS v7. Whether you are new to MikroTik technology and want to learn it or are aiming to get certified, this guide is the right start. It will help you understand the course content and pass the exam with confidence.

## Best Practice Installing, Configuring, Managing Mikrotik RouterOS

Router adalah sebuah perangkat komputer jaringan yang memiliki fungsi khusus sebagaimana disebutkan diatas. Sebagaimana halnya komputer ini, router juga berjalan diatas sebuah sistem operasi khusus. Salah satu sistem operasi router yang populer digunakan saat ini adalah MikroTik RouterOS. MikroTik, sesuai dengan visinya yaitu "ROUTING THE WORLD", saat ini benar-benar telah diakui sebagai Router yang sangat handal dan sangat lengkap fiturnya serta sangat mudah konfigurasinya. Namun tidak sedikit dari pengguna MikroTik ini menanggalkan MikroTik dan kembali ke Jaringan NATURAL, bukan karena MikroTik-nya yang tidak handal atau MikroTik-nya yang "Bego" melainkan SDM mereka sendiri yang masih kurang dalam memahami dan mendalami fungsi serta teknis konfigurasi MikroTik itu sendiri. So... belajarlah agar anda lebih expert menguasai MikroTik ini. Termasuk rekan-rekan yang ingin profesional

dibidang IT Networking System, kerja di ISP maupun di Telco. Siapkan skill anda dengan keahlian MikroTik Administrator yang handal.

## **RouterOS by Example**

Networking with MikroTik: An MTCNA Study Guide is an introduction to the MikroTik network platform and an exploration of the MTCNA certification topics. Written by the author of the MikroTik Security Guide and the leading English-language MikroTik blog at ManitoNetworks.com, this book covers everything you need to get started with RouterOS. Topics include the following: Introduction to MikroTik RouterOS Software MikroTik Defaults Accessing MikroTik Routers Managing Users in RouterOS Configuring Interfaces Network Addresses Routing and Configuring Routes VPNs and Tunnels Queues Firewalls NAT Wireless and Wireless Security Troubleshooting Tools RouterOS Monitoring The Dude For any network administrators getting started with MikroTik, preparing to sit for the MTCNA exam, or just wanting to learn more of the ins-and-outs of RouterOS this is the book to get you started.

## **Networking with MikroTik**

Do you want to learn Mikrotik RouterOS from Scratch and by easy to follow examples? The Mikrotik RouterOS is here for you to achieve that, just by reading the description and short description of the topic and then practice with laboratories. Do you have a Mikrotik lying around and want to know what all the noise about this excellent and affordable networking equipment brand is all about? Want to get comfortable with the Operating System and learn it from the inside out to then take any of the Mikrotik training classes and get certified? Learn from the very basic such as accessing the device for the first time and build up knowledge and expertise, create a MikroTik based network for home or office, learn and deploy DHCP Server and Client services, implement a firewall to secure your network, setup a Wireless Access Point or client device, learn and implement static and dynamic routing, setup you own VPN (client and server), The Mikrotik RouterOS Workbook will fill the gaps that you might have, it will become your companion when setting up or diagnosing Mikrotik networks. No need to have a physical RouterBOARD at hand, you can even learn using virtual environments (except wireless section).

## **The Mikrotik RouterOS WorkBook**

RouterOS is an operating system that can turn a standard PC or X86 embedded board into a dedicated router, a bandwidth shaper, a transparent packet filter, or a wireless enabled device. It is also the operating system of the RouterBOARD, a hardware platform manufactured by MikroTik. The product can range from a very small home router to a carrier class access concentrator. If you need features and power on a budget, then read on. If you are new to MikroTik or RouterOS, this is going to astound you. In this Second Edition, the author has updated the book for RouterOS Version 6, expanded the examples, and added an important new chapter on MikroTik's Cloud Router Switches.

## **RouterOS by Example**

This self-study guide delivers complete coverage of every topic on the GIAC Certified Incident Handler exam Prepare for the challenging GIAC Certified Incident Handler exam using the detailed information contained in this effective exam preparation guide. Written by a recognized cybersecurity expert and seasoned author, GCIH GIAC Certified Incident Handler All-in-One Exam Guide clearly explains all of the advanced security incident handling skills covered on the test. Detailed examples and chapter summaries throughout demonstrate real-world threats and aid in retention. You will get online access to 300 practice questions that match those on the live test in style, format, and tone. Designed to help you prepare for the exam, this resource also serves as an ideal on-the-job reference. Covers all exam topics, including: Intrusion analysis and incident handling Information gathering Scanning, enumeration, and vulnerability identification Vulnerability exploitation Infrastructure and endpoint attacks Network, DoS, and Web application attacks

Maintaining access Evading detection and covering tracks Worms, bots, and botnets Online content includes:  
300 practice exam questions Test engine that provides full-length practice exams and customizable quizzes

## **GCIH GIAC Certified Incident Handler All-in-One Exam Guide**

RouterOS by Example covers all of the subjects presented in the MikroTik Certified Network Associate certification course, each explained through real life examples. This second edition is an update, with new examples created from Version 6 of RouterOS, and new material including a chapter on the switching functions of the Cloud Router Switches.

### **Learn RouterOS**

Multicast is a topic that was never clear to many network engineers when deploying it on MikroTik RouterOS. As this topic is very important, I have decided to write a book about Multicast where I explain in details about it and I apply it directly on LABS. You may have already noticed that there is a lack of resources about Multicast on MikroTik if you search on the web, that is why my book can be a reference for anyone who would like to implement Multicast using MikroTik products. I hope you will enjoy the book, and in case you have any suggestion(s) please feel free to contact me on my email address available in my book.

### **OnTheInternet**

|  |  |   |
|--|--|---|
| BAB 1 APA ITU MIKROTIK? .....            | 1 A. PENGERTIAN MIKROTIK .....   | 1 B. SEJARAH MIKROTIK .....   |
| .....                                    | 1 C. JENIS - JENIS ROUTER MIKROTIK .....                               | 2 D. FUNGSI MIKROTIK .....  |
| .....                                    | 3 E. MACAM - MACAM FITUR MIKROTIK .....                                | 4 F. KELEBIHAN DAN KEKURANGAN MIKROTIK .....                          |
| .....                                    | 6 G. MIKROTIK ACADEMY .....  | 6   |
| BAB 2 BASIC CONFIGURATION MIKROTIK ..... | 8 A. PENDAHULUAN .....   | 8 B. STEP BY STEP .....   |
| .....                                    | 8 BAB 3 KONFIGURASI MIKROTIK MENJADI WIRELESS ACCESS POINT (WAP) ..... | 26 A. PENDAHULUAN .....   |
| .....                                    | 26 B. STEP BY STEP .....   | 26 BAB 4 KONFIGURASI MIKROTIK HOTSPOT 5GHZ DENGAN SIMPLE MODE .....   |
| .....                                    | 35 A. PENDAHULUAN .....  | 35 B. JENIS – JENIS HOTSPOT .....                                     |
| .....                                    | 35 C. STEP BY STEP .....   | 36 BAB 5 KONFIGURASI MIKROTIK HOTSPOT 2.4GHZ DENGAN SIMPLE MODE ..... |
| .....                                    | 51 A. PENDAHULUAN .....  | 51 B. STEP BY STEP .....  |
| .....                                    | 51 BAB 6 KONFIGURASI MIKROTIK HOTSPOT DENGAN USER MANAGER ....         | 66 A. PENDAHULUAN .....   |
| .....                                    | 66 B. STEP BY STEP .....   | 67 BAB 7 KONFIGURASI PPPOE SERVER .....                               |
| .....                                    | 88 A. PENDAHULUAN .....  | 88 B. STEP BY STEP .....  |
| .....                                    | 89 BAB 8 KONFIGURASI VPN PPTP .....                                    | 107 A. PENDAHULUAN .....  |
| .....                                    | 107 B. STEP BY STEP .....  | 108 BAB 9 BANDWIDTH MANAGEMENT .....                                  |
| .....                                    | 116 A. PENDAHULUAN .....   | 116 B. STEP BY STEP BANDWIDTH .....                                   |

|                                       |     |  |
|---------------------------------------|-----|--|
| MANAGEMENT DENGAN SIMPLE QUEUES ..... | 117 | C. STEP BY STEP BANDWIDTH                    |
| MANAGEMENT DENGAN QUEUE TREE .....    | 122 | D. STEP BY STEP MEMISAHKAN TRAFFIC           |
| SESUAI KEBUTUHAN .....                | 127 | BAB 10 BLOCKING                              |
| .....                                 | 138 | A. PENDAHULUAN                               |
| .....                                 | 138 | B. STEP BY STEP BLOCKING SITE                |
| .....                                 | 139 | C. STEP BY STEP BLOCKING FILE                |
| .....                                 | 147 | D. STEP BY STEP BLOCKING GAME                |
| .....                                 | 151 | BAB 11 BACKUP & RESTORE KONFIGURASI MIKROTIK |
| .....                                 | 158 | A. PENDAHULUAN                               |
| .....                                 | 158 | B. STEP BY STEP BACKUP MANUAL                |
| .....                                 | 159 | C. STEP BY STEP                              |
| BACKUP OTOMATIS .....                 | 161 | D. STEP BY STEP RESTORE                      |
| KONFIGURASI .....                     | 170 | DAFTAR PUSTAKA                               |

..... 171

Kebutuhan akan internet menjadi hal yang sangat lumrah untuk ditemui pada kehidupan masyarakat di era teknologi digital saat ini. Banyak sekali opsi atau cara untuk membuat konfigurasi sistem operasi jaringan pada perangkat komputer. MikroTik adalah salah satu cara untuk dapat mengembangkan paket layanan internet agar dapat digunakan dalam berbagai perangkat komputer yang tersedia. MikroTik merupakan salah satu teknologi yang biasa digunakan untuk mengembangkan layanan internet yang ada menjadi beberapa paket, sehingga bisa digunakan oleh berbagai perangkat komputer. MikroTik adalah teknologi jaringan yang dipakai untuk menyediakan layanan internet dengan menjadikan suatu komputer sebagai router jaringan (admin). Sebagian besar layanan ini dipakai oleh perusahaan yang memberikan layanan pembuatan jaringan komputer, baik skala kecil maupun skala yang lebih besar. Buku ini sangat direkomendasikan untuk pembelajaran bagi siswa-siswi, mahasiswamahasiswa ataupun juga rekan rekan Administrasi Infrastruktur Jaringan yang akan mempelajari tentang MikroTik untuk mempermudah dalam proses Implementasi di dalam perusahaan maupun instansi, dikarenakan penulis berusaha semaksimal mungkin agar bahasa dalam buku ini mudah dipahami.

## Linux Journal

MikroTik Security Guide, Second Edition, is the definitive guide to securing MikroTik RouterOS and RouterBOARD devices. It's built around industry best practices, legal and compliance standards, and lessons learned by the author during years of auditing and consulting engagements. Links to industry-standard best practices and STIG documentation are included to help enhance your MikroTik network security program. Topics include physical and wireless security, locking down IP services, managing users, configuring firewalls, segmentation with VLANs, and more. Chapters include simple to follow descriptions of how and why steps are performed, and easy copy-paste commands you can run directly on your RouterOS devices. Many of the topics included in the guide also correspond with MikroTik's MTCNA certification outline, so it's great for on-the-job use and professional development.

## Routers by Example, 2nd Edition

Publisher's Note: Products purchased from Third Party sellers are not guaranteed by the publisher for quality, authenticity, or access to any online entitlements included with the product. Hundreds of accurate practice questions and in-depth answer explanations to use in preparation for the SSCP exam. This highly effective self-study guide covers all seven domains of the Systems Security Certified Practitioner (SSCP) exam as developed by the International Information Systems Security Certification Consortium (ISC)<sup>2</sup>, including updated exam objectives effective November 1, 2018. To reinforce important skills and facilitate retention, every question is accompanied by explanations for both correct and incorrect answers. Designed to help you pass the test with ease, this book is also an ideal companion to the bestselling SSCP® Systems Security Certified Practitioner All-in-One Exam Guide, Third Edition. Covers all seven exam domains: • Access Controls • Security Operations and Administration • Risk Identification, Monitoring, and Analysis • Incident Response and Recovery • Cryptography • Network and Communications Security • Systems and Application Security. Online content includes: • 250 practice questions • Test engine that provides full-length practice exams



