Macrosoft

Vzdelávanie s trvalým efektom

DOCUMENT

Course syllabus

CATEGORY

Computer network, CISCO courses

TRAINING FORMAT

In Bratislava or online with a lecturer

PRICE EXCL. VAT

319,00 €

PRICE INCL. VAT

392,37 €

including 23 % VAT

PDF SYLLABUS

MikroTik I. - Introduction to MikroTik Networks

Clear overview of course topics, training scope and key information.

Gain practical experience with computer network settings on MikroTik devices using RouterOS. In addition to the basics of computer networks, you will learn how a local computer network, protocols, addressing and network services work.

COURSE CONTENT

01 **Basic Network Terms**

Introduction to networks Definition of the term computer network Explanation of the term Internet

02 **Network Classification**

LAN, MAN, WAN VPN Meaning of VPN

03 **Number Systems**

Decimal system Binary system

04 **Network Transmission**

Network speed Data transmission units Bandwidth Throughput Delay

05 **OSI Model**

Description of OSI model layers Peer to peer communication Data encapsulation Network devices

06 **TCP/IP Model**

Application layer Transport layer Internet layer Network access layer Comparison with the OSI model

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07 **Basic Internet Communication Protocols and Their Meaning**

TCP protocol UDP protocol IP protocol ARP protocol

08 **IPv4 Addressing Based on Classes**

IP address structure IP addresses

09 **MikroTik as an Operating System and Device**

RouterBoard RouterOS

10 **Configuration Options**

Configuration tools Winbox and Webfig SSH / Telnet

11 **Configuration Through the Command Line (CLI)**

Command syntax Command auto-completion Safe mode

12 **Basic Configuration**

WAN DHCP client LAN IP address and DHCP server NAT User accounts Limiting access to router configuration

13 **Managing RouterOS**

RouterOS license levels RouterOS reinstallation RouterOS reset Configuration backup and restore

14 **Bridging and Switching**

Bridge mode Modes Switch modes Bridge configuration Creating a new bridge Adding interfaces to a bridge

15 **Routing Basics**

Basic terminology Local interface Differences between static and dynamic routing Static routing Meaning of connected routes Configuration of a static route through an interface Creating a default route (gateway)

16 **Management**

ARP Overview of the ARP table

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17 **DHCP**

DHCP client DHCP Server

18 **RouterOS Tools**

Ping Traceroute Netwatch

19 **Wi-Fi**

Basic concepts 802.11n Frequencies Compatibility and comparison with older versions 802.11a/b/g

20 **Configuration**

Configuration in Access Point mode Station setup Bridging wireless networks

21 **Wi-Fi Security**

MAC address filtering Encryption methods: WPA, WPA2 MikroTik wireless protocols - NV2, TDMA

22 **Conclusion**

The conclusion of every Macrosoft computer networking course also includes discussion with participants and best practices from professional practice, which help participants apply the acquired knowledge directly in a home or enterprise network built on MikroTik devices.

This document serves as an informational overview of the course syllabus. Current dates, venue and availability are listed at Macrosoft.sk.

https://www.macrosoft.sk/en/courses/mikrotik-1