

COURSE CONTENT

Module 1 Introduction	• About MikroTik • What is RouterOS • What is RouterBOARD • First time accessing the router • WinBox and MAC-WinBox • WebFig and Quick Set • Default configuration • RouterOS command line interface (CLI) • Null Modem cable • SSH and Telnet • New terminal in WinBox/WebFig • RouterOS CLI principles • <tab> , double , <tab> "?", navigation • Command history and its benefits • Initial configuration (Internet access) • WAN DHCP-client • LAN IP address and default gateway • Basic Firewall - NAT masquerade • Upgrading RouterOS • Package types • Ways of upgrading • RouterBOOT firmware upgrade • Router identity • Manage RouterOS logins • Manage RouterOS services • Managing configuration backups • Saving and restoring the backup • Difference between a backup and an export (.rsc) file • Editing an export file • Resetting a RouterOS device • Reinstalling a RouterOS device (Netinstall) • RouterOS license levels • Sources of additional information • wiki.mikrotik.com • forum.mikrotik.com • mum.mikrotik.com • Distributor and consultant support • support@mikrotik.com • Module 1 laboratory
Module 2 DHCP	• DHCP server and client • DHCP client • DHCP server setup • Leases management • DHCP server network configuration • Address Resolution Protocol (ARP) • ARP modes • RouterOS ARP table • Module 2 laboratory

COURSE CONTENT

Module 3 Bridging	• Bridging overview • Bridge concepts and settings • Creating bridges • Adding ports to bridges • Bridge wireless networks • Station bridge • Module 3 laboratory
Module 4 Routing	• Routing overview • Routing concepts • Route flags • Static routing • Creating routes • Setting default route • Managing dynamic routes • Implementing static routing in a simple network • Module 4 laboratory
Module 5 Wireless	• 802.11a/b/g/n/ac Concepts • Frequencies (bands, channels) data-rates / chains (tx power, rx sensitivity, country regulations) • Setup a simple wireless link • Access Point configuration • Station configuration • Wireless Security and Encryption • Access List • Connect List • Default Authenticate • Default Forward • WPA-PSK, WPA2-PSK • WPS accept, WPS client • Monitoring Tools • Snooper • Registration table • Module 5 laboratory
Module 6 Firewall	• Firewall principles • Connection tracking and states • Structure, chains and actions • Firewall Filter in action • Filter actions • Protecting your router (input) • Protection your customers (forward) • Basic Address-List • Source NAT • Masquerade and src-nat action • Destination NAT • dst-nat and redirect actions • FastTrack • Module 6 laboratory

COURSE CONTENT

Module 7 QoS	• Simple Queue • Target • Destinations • Max-limit and limit-at • Bursting • One Simple queue for the whole network (PCQ) • pcq-rate configuration • pcq-limit configuration • Module 7 laboratory
Module 8 Tunnels	• PPP settings • PPP profile • PPP secret • PPP status • IP pool • Creating pool • Managing ranges • Assigning to a service • Secure local network • PPPoE service-name • PPPoE client • PPPoE server • Point-to-point addresses • Secure remote networks communication • PPTP client and PPTP server (Quick Set) • SSTP client • Module 8 laboratory
Module 9 Misc	• RouterOS tools • E-mail • Netwatch • Ping • Traceroute • Profiler (CPU load) • Monitoring • Interface traffic monitor • Torch • Graphs • SNMP • The Dude • Contacting support@mikrotik.com • supout.rif, autosupout.rif and viewer • System logs, enabling debug logs • Readable configuration (item comments and names) • Network diagrams • Module 9 laboratory