



Certified Network Associate (MTCNA)
Training outline

Durasi:	2 hari
Hasil yang dicapai:	<p>Pada akhir sesi pelatihan ini, peserta akan memahami perangkat lunak RouterOS dan produk RouterBOARD, serta mampu menghubungkan klien ke Internet. Peserta juga akan mampu mengonfigurasi, mengelola, dan melakukan pemecahan masalah dasar pada router MikroTik, serta menyediakan layanan dasar kepada klien.</p>
Target peserta:	<p>Teknisi dan Insiyur Jaringan yang ingin menerapkan dan mendukung:</p> <ul style="list-style-type: none">• Jaringan korporat• CPE pelanggan (WISP and ISP)
Prasyarat Khusus:	<p>Peserta harus memiliki pemahaman yang baik tentang TCP/IP dan subnetting.</p>
Bacaan yang disarankan:	<p>Cari "ipv4 tutorial"</p>

Uji kemampuan Anda dengan 'contoh tes' di
<https://www.mikrotik.com/client/trainingSessions>

Judul	Tujuan
Modul 1 Pengantar	<ul style="list-style-type: none"> • Tentang MikroTik <ul style="list-style-type: none"> • Apa itu RouterOS • Apa itu RouterBOARD • Mengakses router untuk pertama kali <ul style="list-style-type: none"> • WinBox dan MAC-WinBox • WebFig dan Quick Set • Konfigurasi default • RouterOS command line interface (CLI) <ul style="list-style-type: none"> • Kabel Null Modem • SSH dan Telnet • Terminal baru di WinBox/WebFig • Prinsip-prinsip RouterOS CLI <ul style="list-style-type: none"> • <tab>, double <tab>, “?”, navigation • Riwayat command dan benefitnya • Konfigurasi awal (akses Internet) <ul style="list-style-type: none"> • WAN DHCP-client • LAN IP address dan default gateway • Firewall Dasar - NAT masquerade • Upgrading RouterOS <ul style="list-style-type: none"> • Jenis-jenis Package • Cara-cara melakukan upgrade • RouterBOOT firmware upgrade • Identitas router • Mengelola login RouterOS • Mengelola layanan RouterOS • Mengelola cadangan (backup) konfigurasi <ul style="list-style-type: none"> • Menyimpan dan memulihkan backup • Perbedaan antara file backup dan file export (.rsc) • Mengedit file export • Mereset perangkat RouterOS • Menginstal ulang perangkat RouterOS (Netinstall) • Tingkatan lisensi RouterOS • Sumber informasi tambahan <ul style="list-style-type: none"> • wiki.mikrotik.com • forum.mikrotik.com • mum.mikrotik.com • Dukungan distributor dan konsultan • support@mikrotik.com • Laboratorium Modul 1

Modul 2 DHCP	<ul style="list-style-type: none"> • DHCP server and client <ul style="list-style-type: none"> • DHCP client • DHCP server setup • Leases management • DHCP server network configuration • Address Resolution Protocol (ARP) <ul style="list-style-type: none"> • ARP modes • RouterOS ARP table • Laboratorium Modul 2
Modul 3 Bridging	<ul style="list-style-type: none"> • Bridging overview <ul style="list-style-type: none"> • Bridge concepts and settings • Creating bridges • Adding ports to bridges • Bridge wireless networks <ul style="list-style-type: none"> • Station bridge • Laboratorium Modul 3
Modul 4 Routing	<ul style="list-style-type: none"> • Routing overview <ul style="list-style-type: none"> • Routing concepts • Route flags • Static routing <ul style="list-style-type: none"> • Creating routes • Setting default route • Managing dynamic routes • Implementing static routing in a simple network • Laboratorium Modul 4
Modul 5 Wireless	<ul style="list-style-type: none"> • 802.11a/b/g/n/ac Concepts <ul style="list-style-type: none"> • Frequencies (bands, channels) data-rates / chains (tx power, rx sensitivity, country regulations) • Setup a simple wireless link <ul style="list-style-type: none"> • Access Point configuration • Station configuration • Wireless Security and Encryption <ul style="list-style-type: none"> • Access List • Connect List • Default Authenticate • Default Forward • WPA-PSK, WPA2-PSK • WPS accept, WPS client • Monitoring Tools <ul style="list-style-type: none"> • Snooper • Registration table • Laboratorium Modul 5

<p>Modul 6 Firewall</p>	<ul style="list-style-type: none"> • Firewall principles <ul style="list-style-type: none"> • Connection tracking and states • Structure, chains and actions • Firewall Filter in action <ul style="list-style-type: none"> • Filter actions • Protecting your router (input) • Protection your customers (forward) • Basic Address-List • Source NAT <ul style="list-style-type: none"> • Masquerade and src-nat action • Destination NAT <ul style="list-style-type: none"> • dst-nat and redirect actions • FastTrack • Laboratorium Modul 6
<p>Modul 7 QoS</p>	<ul style="list-style-type: none"> • Simple Queue <ul style="list-style-type: none"> • Target • Destinations • Max-limit and limit-at • Bursting • One Simple queue for the whole network (PCQ) <ul style="list-style-type: none"> • pcq-rate configuration • pcq-limit configuration • Laboratorium Modul 7
<p>Modul 8 Tunnels</p>	<ul style="list-style-type: none"> • PPP settings <ul style="list-style-type: none"> • PPP profile • PPP secret • PPP status • IP pool <ul style="list-style-type: none"> • Creating pool • Managing ranges • Assigning to a service • Secure local network <ul style="list-style-type: none"> • PPPoE service-name • PPPoE client • PPPoE server • Point-to-point addresses • Secure remote networks communication <ul style="list-style-type: none"> • PPTP client and PPTP server (Quick Set) • SSTP client • Laboratorium Modul 8

Modul 9 Misc	<ul style="list-style-type: none">• RouterOS tools<ul style="list-style-type: none">• E-mail• Netwatch• Ping• Traceroute• Profiler (CPU load)• Monitoring<ul style="list-style-type: none">• Interface traffic monitor• Torch• Graphs• SNMP• The Dude• Contacting support@mikrotik.com<ul style="list-style-type: none">• supout.rif, autosupout.rif and viewer• System logs, enabling debug logs• Readable configuration (item comments and names)• Network diagrams• Laboratorium Modul 9
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