

Title	Objective
<p><b>Module 1</b> Introduction</p>	<ul style="list-style-type: none"> <li>• About MikroTik <ul style="list-style-type: none"> <li>• What is RouterOS</li> <li>• What is RouterBOARD</li> </ul> </li> <li>• First time accessing the router <ul style="list-style-type: none"> <li>• WinBox and MAC-WinBox</li> <li>• WebFig and Quick Set</li> <li>• <a href="#">Default configuration</a></li> </ul> </li> <li>• RouterOS command line interface (CLI) <ul style="list-style-type: none"> <li>• Null Modem cable</li> <li>• SSH and Telnet</li> <li>• New terminal in WinBox/WebFig</li> </ul> </li> <li>• RouterOS CLI principles <ul style="list-style-type: none"> <li>• &lt;tab&gt;, double &lt;tab&gt;, “?” navigation</li> <li>• Command history and its benefits</li> </ul> </li> <li>• Initial configuration (Internet access) <ul style="list-style-type: none"> <li>• WAN DHCP-client</li> <li>• LAN IP address and default gateway</li> <li>• Basic Firewall - NAT masquerade</li> </ul> </li> <li>• Upgrading RouterOS <ul style="list-style-type: none"> <li>• Package types</li> <li>• Ways of upgrading</li> <li>• RouterBOOT firmware upgrade</li> </ul> </li> <li>• Router identity</li> <li>• Manage RouterOS logins</li> <li>• Manage RouterOS services</li> <li>• Managing configuration backups <ul style="list-style-type: none"> <li>• Saving and restoring the backup</li> <li>• Difference between a backup and an export (.rsc) file</li> <li>• Editing an export file</li> </ul> </li> <li>• <a href="#">Resetting a RouterOS device</a></li> <li>• Reinstalling a RouterOS device (Netinstall)</li> <li>• <a href="#">RouterOS license levels</a></li> <li>• Sources of additional information <ul style="list-style-type: none"> <li>• <a href="http://wiki.mikrotik.com">wiki.mikrotik.com</a></li> <li>• <a href="http://forum.mikrotik.com">forum.mikrotik.com</a></li> <li>• <a href="http://mum.mikrotik.com">mum.mikrotik.com</a></li> <li>• Distributor and consultant support</li> <li>• <a href="mailto:support@mikrotik.com">support@mikrotik.com</a></li> </ul> </li> <li>• <b>Module 1 laboratory</b></li> </ul>

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

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

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