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MikroTik Certified Security Engineer (MTCSE)

Training outline

Duration:	2 days
Outcomes:	By the end of this training session, the participant will be able to plan and implement appropriate security measures suitable for the network at hand.
Target audience:	Network engineers and technicians wanting to deploy and maintain secure MikroTik device based networks.
Course prerequisites:	MTCNA certificate

Title	Objective
<p>Module 1 Introduction</p>	<ul style="list-style-type: none"> • Attacks, mechanisms and services • The most common threats • RouterOS security deployment • Module 1 laboratory
<p>Module 2 Firewall</p>	<ul style="list-style-type: none"> • Packet flow, firewall chains • Stateful firewall • RAW table • SYN flood mitigation using RAW table • RouterOS default configuration • Best practices for management access • Detecting an attack to critical infrastructure services • Bridge filter • Advanced options in firewall filter • ICMP filtering • Module 2 laboratory
<p>Module 3 OSI Layer Attacks</p>	<ul style="list-style-type: none"> • MNDP attacks and prevention • DHCP: rogue servers, starvation attacks and prevention • TCP SYN attacks and prevention • UDP attacks and prevention • ICMP Smurf attacks and prevention • FTP, telnet and SSH brute-force attacks and prevention • Port scan detection and prevention • Module 3 laboratory
<p>Module 4 Cryptography</p>	<ul style="list-style-type: none"> • Introduction to cryptography and terminology • Encryption methods • Algorithms - symmetric, asymmetric • Public key infrastructure (PKI) • Certificates <ul style="list-style-type: none"> • Self-signed certificates • Free of charge valid certificates • Using the certificates in RouterOS • Module 4 laboratory

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Module 5 Securing the Router	<ul style="list-style-type: none">• Port knocking• Secure connections (HTTPS, SSH, WinBox)• Default ports for the services• Tunneling through SSH• Module 5 laboratory
Module 6 Secure Tunnels	<ul style="list-style-type: none">• Introduction to IPsec• L2TP + IPsec• SSTP with certificates• Module 6 laboratory